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PREFERRED SCHEMATIC REPORT

ESSEX ELEMENTARY SCHOOL

ESSEX, MASSACHUSETTS

MSBA PROJECT NO. 202306980020

SUBMITTED: APRIL 29, 2026

JCJARCHITECTURE

April 28, 2026

Veatriki Dagkalakou
MSBA Project Manager
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

RE: Essex Elementary School
Preferred Schematic Report Submission

Dear Veatriki,

Please find enclosed the Module 3 Preferred Schematic Report (PSR) submission for the Essex Elementary School project. The consultant team, along with the Manchester Essex Regional School District has followed current PSR guidelines to develop this submission over the last several months.

As Owner's Project Manager, we have reviewed the submittal and certify that it has been reviewed and approved by the School Building Committee for submission to the MSBA.

Please note that we have enclosed a copy of the draft meeting minutes of the SBC meeting held on April 28, 2026, at which the committee approved the PSR submittal to the MSBA. The vote of the final approved minutes will be at our SBC meeting on May 12th and will be submitted directly to the MSBA.

We look forward to our continued collaboration with the MSBA and the Manchester Essex Regional School District on this very important project.

Sincerely,

Christina Dell Angelo
DORE + WHITTIER

ACKNOWLEDGEMENTS

Thank you to these individuals and organizations for their contributions to this Feasibility Study.

Massachusetts School Building Authority

Veatriki Dagkalakou, Project Manager
Claire Lerner, Senior Project Coordinator
Emily Udy, Project Manager - FS/SD

Manchester Essex Regional School District - School Building Committee

Pam Beaudoin, Superintendent of Schools/SBC

Michelle Cresta, Director of Finance & Ops/SBC

Kim Provost, Essex Elementary School Principal/SBC

Theresa Whitman, SC/SBC Co-Chair

John Binieris, SC/SBC Co-Chair

Annie Cameron, Essex Select Board/SBC

Tyler Virden, Project Executive/SBC

Gordon Brewster, OPM/SBC

Charlie Hay, Architect/SBC

Henry Oettinger, Manchester ConCom/SBC

Tim McDonald, Architect/SBC

Andy Oldeman, Manchester Finance Committee/SBC

Lisa O'Donnell, Essex Planning Board/SBC Advisor

Ariel Fernando Brain, Architect/SBC

Jen Hocherman, Architect/SBC

Michael Gerhardt, Civil Engineer/SBC

David Pereen, Plumbing/Fire Design/SBC Advisor

Emily Dwyer, Essex ES Teacher Rep

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Kim Field, Essex ES Teacher Rep/SBC Advisor

Steve Hunt, Facilities Director/SBC Advisor

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INTRODUCTION

SECTION 3.3.1

3.3.1 – INTRODUCTION

3.3.1.1 Process Overview

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3.3.1 – INTRODUCTION

The purpose of the Feasibility Study is to define the programmatic, functional, spatial, and environmental requirements of the educational facility necessary to meet the Manchester Essex Regional School District's (MERSD) educational program and perform the review and investigation required to clearly define the building and site deficiencies of the existing Essex Elementary School. The Project team explored potential solutions with the District, reviewing educational appropriateness and cost effectiveness for a preferred solution identified in this Preferred Schematic Report (PSR) for MSBA Board of Directors' consideration.

Based on the District's educational program we identified the programmatic space needs for the Essex Elementary School project. The space needs, along with an evaluation of existing conditions and site development requirements, formed the evaluation of alternatives upon which an educationally appropriate and cost-effective solution will be recommended. With that information in-hand, the Preferred Solution has been approved by the Manchester Essex Elementary School Building Committee (School Building Committee) and is being submitted to the Massachusetts School Building Authority (MSBA) for review and comment prior to going to the MSBA Board of Directors approval to proceed with the Schematic Design.

The Manchester Essex Regional School District (MERSD) submitted their Statement of Interest (SOI) for Essex Elementary School on or about April 13, 2023. At their, December 13, 2023, meeting the Board of Directors (Board) of the Massachusetts School Building Authority (MSBA) voted to invite the MERSD into the MSBA's Eligibility Period. On March 4, 2024, the Board of Directors of the Authority voted to invite the District to commence the Eligibility Period thereby, initiating a 270-day period for the District to complete preliminary requirements including, but not limited to, the formation of a School Building Committee and the certification of a design enrollment agreed upon with the MSBA. At their December 13, 2024, meeting, the Board voted to invite the District to partner with the MSBA to conduct a Feasibility Study for Essex Elementary School. The SOI identified and detailed the building's deficiencies. A copy of the SOI is provided in the Appendix of the previously submitted Preliminary Design Program (PDP).

3.3.1.1 PROCESS OVERVIEW

The Preliminary Design Program (PDP was submitted to the MSBA on January 8, 2026. MSBA PDP Review comments were issued to the MERSD on March 11, 2026. The District responded to the MSBA PDP review comments on March 25, 2026, the date mutually agreed upon by the MSBA and the District. A copy of the MSBA PDP Review Comments Response Letter is in Section 3.3.1.6 of this report.

Beginning in February, the Design team met one to three times a month with the School Building Committee over the duration of the Preferred Schematic Report (PSR) phase. During School Building Committee meetings, the design parameters, site configurations, building layouts, building systems and sustainability goals were presented and discussed. Copies of the meeting minutes are provided in Appendix 3.3.6.1 of this report.

Working with the project team, the School Building Committee worked diligently to further develop the seven (7) options in the PSR. The alternatives were located at the 12 Story Street, Essex, MA and 43 Lincoln Street, Manchester-by-the-Sea, MA sites that included: three (3) construction options Code Upgrade/Base Repair, Addition/Renovation and New Construction as well as studying three (3) enrollment options (165 students K-3 + 30 PreK Students, 250 students K-5 + 30 PreK Students, and 515 students + 60 PreK Students) The seven (7)

options evaluated during the PSR are as follows:

- Code Upgrade Options:
  - Option A0.2 – 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
- Renovation and Addition Options:
  - Option A1.1 – 12 Story Street, Essex, MA, Grades PreK-3, 165 + 30 students
  - Option A1.2-B - 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
  - Option B1.1 43 Lincoln Street, Manchester-by-the-Sea, MA, Grades PreK-5, 515 + 60 students
- New Construction Options:
  - Option A2.2-A 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
  - Option A2.2-B 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
  - Option A2.2-F 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students

The School Building Committee (SBC) evaluated each option based on an agreed upon set of criteria organized in the following categories: Education, Community, Site, Building, Cost & Schedule. Estimates of probable construction costs were prepared for each option. On April 16, 2026, the Building Committee voted to approve Option A2.2-F as the Preferred Solution for the PSR. The SBC authorized the PSR submission to the MSBA on April 28, 2026.

The School Building Committee and project team have implemented an extremely open, transparent and comprehensive design review process. In addition to the open, public meetings identified in the Local Actions and Approvals Section 3.3.5 of this report and noted below, the project public outreach includes a web-site hosted by MERSD, www.mersdessexelementaryproject.com, that provides public access to project documents, meeting agenda, meeting minutes, meeting presentation and MSBA submissions.

3.3.1.2 PROJECT SCHEDULE UPDATE

An updated project schedule is included in Appendix 3.3.6.2 of this report. In summary, the critical milestone dates currently proposed are as follows:

- SBC vote to submit Preferred Schematic Report (PSR): April 28, 2026
- Project Team submits Preferred Schematic Report to the MSBA: April 29,2026
- MSBA Facilities Assessment Subcommittee Presentation: May 13, 2026, or May 20, 2026
- MSBA Board meeting to authorize Schematic Design: June 24, 2026
- SBC vote to submit to the Schematic Design submittal to the MSBA: October 13, 2026
- Project Team submits the DESE submittal to the MSBA: October 14, 2026
- Project Team submits the Schematic Design submittal to the MSBA: October 14, 2026
- MSBA Board meeting to approve Project Scope and Budget Agreement: TBD Nov/Dec 2026
- Manchester -by-the Sea - Town Meeting November 16, 2026
- Essex - Town Meeting November 16, 2026

- Projected Town vote for PS&BA and full funding of the project: December 2026
- Anticipated start of construction: May 2028
- Target Move in Date: July 2030

3.3.1.3 FINAL EVALUATION OF EXISTING CONDITIONS SUMMARY

The Essex Elementary School, located at 12 Story Street Essex, Massachusetts, was originally constructed circa 1958. A southern addition consisting of a media center and gymnasium with locker rooms was added in 1975. The total facility as it stands today is approximately 53,036 gross square feet and is located on the site of approximately 9.75 acres. The school is a single-story courtyard building with a half-level change accessible via ramps between the 1958 and 1975 portions of the school. There is a portion of the basement that is occupied for school activities that has level access discharge due to site topography.

Essex Elementary School is the only elementary school in Essex, MA and one of two elementary schools in the Manchester Essex Regional School District. The school's current enrollment is +/-200 students from grades Kindergarten through 5th grade with an average class size of 17 students. During the fall of 2025, representatives from the architect, civil engineer, landscape architect, structural engineer, mechanical engineer, electrical engineer, plumbing engineer, audio/visual, theatre, foodservice, technology, hazardous materials and geoenvironmental consultants toured the site and building to complete a visual assessment of the site, building structure, envelope, and systems; there was no destructive testing conducted as part of this assessment.

The building is mostly a single story rectangular shaped footprint with a central courtyard. The site is mostly flat except for the east side of the building which steps down to reveal an at grade occupied portion of the basement. There is a central main entrance at the northern side of the building facing Story Street, to the east is the main office and admin space and to the west is the cafetorium and kitchen. Corridors on both the east and west side of the building wrap around the courtyard and house the two academic wings of the building. At the southern end of the building the corridors ramp down to the 1975 addition that houses both the media center and gymnasium.

The lower-level houses classrooms that once functioned as the art room but in recent years have been converted to project rooms and OT / PT spaces. There is also storage as well as the building's server room located in the basement. The northeast corner of the basement houses the electrical rooms as well as building maintenance storage. Beyond the electrical rooms is a subbasement that houses the buildings boiler room. There is no accessible access to the boiler room. The rest of the basement is mostly unoccupied space that houses mechanical equipment as well as pipe chase for sanitary and HVAC piping.

Most of the egress doors have stairs or ramps and do not satisfy accessibility. Where exterior ramps are provided, they are mostly wood and are nearing the end of their useful life

While many accommodations were made over the years, many aspects of the existing building are not accessible or code compliant. Toilet rooms have been moderately adapted for accessibility; however, this effort is not comprehensive due to building limitations. Many of the smaller in-room toilets do not meet modern accessibility requirements and do not have the space to accommodate such alterations.

The existing building envelope exhibits signs of distress with cracked masonry and deteriorating soffits and

overhangs. The 1958 portion of the building has original windows that are well past their useful life and should be replaced with modern energy-efficient windows systems. Repeated issues with the exterior walls in the 1975 additions, most notable the southern gym wall, have resulted in water infiltration and years of constant repairs to interior paint and other finishes. Multiple past repairs have been unsuccessful in addressing these wall issues.

The existing interior finishes are mostly original. Although the District custodians have maintained the facility well, the finishes show signs of their age and in most locations are at the end of their useful life. Suspected Asbestos Containing Materials and Lead Base Paint have been identified within the building complex. These conditions are documented within this Hazardous Materials Consultant's report. This report is included within the Appendix.

The existing HVAC system has been well maintained over the years, though a majority of the building HVAC indoor air handling unit, terminal equipment and ductwork distribution systems are originally installed equipment that's approaching their life expectancy.

Most of the electrical distribution systems are original to the building and although functioning, have far outlived their intended useful life. Upgrades such as an emergency generator and fire alarm system have been completed and are in fair condition. The power distribution system has had some upgrades, but the majority is original and in poor condition. The interior lighting fixtures have been upgraded since the renovation in 1975 and at present are mostly LED sourced linear utility type strip lighting that are high glare and not ideal for classroom or office installations. All exterior lighting are new LED type fixtures, however products installed vary from door to door and are low quality, high glare fixtures for which the existing wiring was also reused.

The plumbing systems are mostly original to the building and approaching 70 years of use rendering the systems obsolete and beyond their useful life. The building is not protected by a fully automatic sprinkler system. The existing kitchen hood is not equipped with an integral fire suppression system.

Information regarding additional existing conditions investigation performed during the Preferred Schematic Report including Geotechnical investigations, Hazardous Material Testing and Phase II ESA included in Section 3.3.2 of this report.

3.3.1.4 FINAL EVALUATION OF ALTERNATIVES SUMMARY

Five (5) options advanced from the Preliminary Design Program (PDP) and the two (2) additional options requested by the school building committee, led to the development of seven (7) options for consideration for the preferred solution. In summary, the options include:

- **Code Upgrade Options:**
  - Option A0.2 – 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
    - This option was limited to addressing accessibility and code issues, removal of asbestos containing materials, replacement of major building systems that are beyond their useful life, upgrading the automatic sprinkler system, upgrading exterior building envelope and providing an accessible route through the site.
- **Renovation and Addition Options:**
  - Option A1.1 – 12 Story Street, Essex, MA, Grades PreK-3, 165 + 30 students

    - This option explored a grade reconfiguration and full renovation of the existing school building including all major building systems and exterior envelope upgrade. This option includes the addition of a new gym, stage and support spaces.
  - Option A1.2-B - 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
    - This option explored full renovation of the existing school building including all major building systems and exterior envelope upgrade. This option includes the addition of a new gym, stage and support spaces as well as new academic wing with multiple classrooms, breakout space and resource rooms.
  - Option B1.1 43 Lincoln Street, Manchester-by-the-Sea, MA, Grades PreK-5, 515 + 60 students
    - This option explored changing the district's regional agreement to eliminate the existing Essex Elementary School and move the entire elementary school population to the Manchester Memorial Elementary School. Little to no renovation work would be required at Manchester Memorial as the facility was recently constructed in 2022. This option explored the effects of a large addition on the existing school to allow for the entire district's population to be consolidated into one facility. This option includes the addition of a large academic wing, expanded PreK wing, and increasing the size of the cafeteria.
- **New Construction Options:**
  - Option A2.2-A 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
    - This option proposed building a new single phase 2-level building on the location of the existing playing fields.
  - Option A2.2-B 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
    - This option proposed building a new multiphase 2-level building on the location of the existing playing fields.
  - Option A2.2-F 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
    - This option proposed building a new multiphase 3-level (with grade access at 2 of the levels) building on the location of the existing parent drop-off and parking at the front of the existing school.

These options are described in further detail in Section 3.3.3 of this report.

3.3.1.5 DISTRICT'S PREFERRED SOLUTION SUMMARY

After careful consideration of the seven (7) options for the support of the Educational Program, probable total project and construction cost, construction phasing, construction schedule and need for swing space, the Building Committee section Option A2.2-F as the Preferred Solution.

Option A2.2-F is proposed to occupy site of the existing Essex Elementary School at 12 Story St., Essex, MA. The proposed building is approximately 72,443 gross square feet, 3-level (with grade access at 2 of the levels) to serve 250 students in Grades K-5 plus an additional 30 PreK students.

Section 3.3.4 Preferred Solution of this report provides a detailed description of this option.

3.3.1.6 COPY OF MSBA PDP REVIEW/DISTRICT RESPONSE

A copy of the MSBA PDP Review comments annotated with the District's response is provided on the following pages of this report.

Massachusetts School Building Authority

Deborah B. Goldberg
Chair, State Treasurer

James A. MacDonald
Chief Executive Officer

Mary L. Pichetti
Executive Director / Deputy CEO

March 11, 2026

Ms. Pamela Beaudoin, Superintendent
Manchester-Essex Regional School District
36 Lincoln Street
Manchester-by-the-Sea, MA 01944

Re: Manchester-Essex Regional School District, Essex Elementary School

Dear Superintendent Beaudoin:

The Massachusetts School Building Authority (the "MSBA") is forwarding review comments for the Module 3 Feasibility Study Preliminary Design Program submission for the Essex Elementary School project in the Manchester-Essex Regional School District, received by the MSBA on January 8, 2026.

Responses to the attached comments shall be forwarded to the assigned Project Coordinator, Claire Lerner (Claire.Lerner@MassSchoolBuildings.org), through the Owner's Project Manager. Please review and return responses within 14 days of receipt of this letter.

Please also note that as part of the upcoming Preferred Schematic submittal process, districts and their consultants are required to provide a summary overview of the proposed project to the MSBA Facilities Assessment Subcommittee (the "FAS"). In preparation, the MSBA requests that the District submit a complete PowerPoint of the FAS presentation with the Preferred Schematic Report. For your reference, the guidance memorandum for preparing an FAS presentation is attached.

If you have any questions or comments, please do not hesitate to contact Emily Udy (Emily.Udy@MassSchoolBuildings.org) and Claire Lerner.

Sincerely,

Michael P McGurl

Michael McGurl
Director of Capital Planning

Attachments: Attachment 'A' – Preliminary Design Program Review Comments

Attachment 'B' – Preliminary Design Program Space Summary Review
Facilities Assessment Subcommittee Guidance Memorandum
Space Summary Guidelines for Auditoriums and Gymnasiums
Science, Technology, Engineering (STE) Area Guidelines

Cc: Legislative Delegation
Chris Reed, Chair, Manchester-Essex Regional School Committee
Kate Koch-Sundquist, Vice Chair, Manchester-Essex Regional School Committee
John Binieris, Co-Chair, School Building Committee
Theresa Whitman, Co-Chair, School Building Committee
Michelle Cresta, Director of Finance and Operations, Manchester-Essex Regional School District
Brendhan Zubricki, Town Administrator, Town of Essex
Antonio Barletta, Town Administrator, Town of Manchester-by-the-Sea
Christina Dell Angelo, Owner's Project Manager, Dore and Whittier Management Partners, LLC
Jacob Greco, Owner's Project Manager, Dore and Whittier Management Partners, LLC
James LaPosta, Designer, JCJ Architecture PC
Fawn Pellegrini, Designer, JCJ Architecture PC
Jeff Elliott, Designer, JCJ Architecture PC
File: Letters 10.2 (Region 3)

ATTACHMENT A
MODULE 3 – PRELIMINARY DESIGN PROGRAM REVIEW COMMENTS

District: Manchester-Essex Regional School District
School: Essex Elementary School
Owner's Project Manager: Dore and Whittier Management Partners, Inc.
Designer Firm: JCJ Architecture, PC
Submittal Due Date: February 5, 2026
Submittal Received Date: January 8, 2026
Review Date: January 8, 2026 **-** March 2, 2026
Reviewed by: E. Udy, V. Dagkalakou, C. Forde, C. Alles

MSBA REVIEW COMMENTS

The following comments[1] on the Preliminary Design Program ("PDP") submittal are issued pursuant to a review of the project submittal document for the proposed project presented as a part of the Feasibility Study submission in accordance with the MSBA Module 3 Guidelines.

3.1 PRELIMINARY DESIGN PROGRAM

Overview of the Preliminary Design Program Submittal	Complete	Provided; *Refer to comments following each section*	Not Provided; *Refer to comments following each section*	Receipt of District's Response; *To be filled out by MSBA Staff*
OPM Certification of Completeness and Conformity	☒	☐	☐	☐
Table of Contents	☒	☐	☐	☐
3.1.1 Introduction	☐	☒	☐	☐
3.1.2 Educational Program	☐	☒	☐	☐
3.1.3 Initial Space Summary	☐	☒	☐	☐
3.1.4 Evaluation of Existing Conditions	☐	☒	☐	☐
3.1.5 Site Development Requirements	☐	☒	☐	☐
3.1.6 Preliminary Evaluation of Alternatives	☐	☒	☐	☐
3.1.7 Local Actions and Approvals Certification(s)	☐	☒	☐	☐
3.1.8 Appendices	☐	☒	☐	☐

[1] The written comments provided by the MSBA are solely for purposes of determining whether the submittal documents, analysis process, proposed planning concept and any other design documents submitted for MSBA review appear consistent with the MSBA's guidelines and requirements, and are not for the purpose of determining whether the proposed design and its process may meet any legal requirements imposed by federal, state or local law, including, but not limited to, zoning ordinances and by-laws, environmental regulations, building codes, sanitary codes, safety codes and public procurement laws or for the purpose of determining whether the proposed design and process meet any applicable professional standard of care or any other standard of care. Project designers are obligated to implement detailed planning and technical review procedures to effect coordination of design criteria, buildability, and technical adequacy of project concepts. Each city, town and regional school district shall be solely responsible for ensuring that its project development concepts comply with all applicable provisions of federal, state, and local law. The MSBA recommends that each city, town and regional school district have its legal counsel review its development process and subsequent bid documents to ensure that it is in compliance with all provisions of federal, state and local law, prior to bidding. The MSBA shall not be responsible for any legal fees or costs of any kind that may be incurred by a city, town or regional school district in relation to MSBA requirements or the preparation and review of the project's planning process or plans and specifications.

3.1.1 INTRODUCTION

Provide the following Items		Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Summary of the Facility Deficiencies and Current S.O.I.	☒	☐	☐	☐
2	Date of invitation to conduct a Feasibility Study and MSBA Board Action Letter	☒	☐	☐	☐
3	Executed Design Enrollment Certification	☐	☒	☐	☐
4	Narrative of the Capital Budget Statement and Target Budget	☐	☒	☐	☐
5	Project Directory with contact information	☐	☒	☐	☐
6	Updated Project Schedule	☐	☒	☐	☐

MSBA Review Comments:

3) A copy of the signed Study Enrollment Certification was not provided with the PDP submittal. As part of the cursory review, MSBA staff requested a signed copy on January 20, 2026, and a signed copy was received on January 21, 2026.

Also, please note that the District will be required to execute a Design Enrollment Certification subsequent to selecting a Preferred Schematic. The MSBA will prepare a certification to be forwarded for signature upon approval by the MSBA Board of Directors of the Preferred Schematic. Please acknowledge.

Project Team Response: Acknowledged.

4) The information provided on page 11, as part of the 'Capital Budget Statement' narrative states:

> *"The preliminary design program comparative total project cost estimates range from $45 million to $95 million."*

Additionally, the information provided on page 12 states:

> *"Although a budget has not been formally approved, the School Building Committee has reviewed and approved the PDP comparative cost estimates for a total project budget in the range of $45 million to $95 million based on the different student enrollments and design options that meet the educational program."*

For reference, the OPM Request for Services indicated an estimated total project cost range of $66-$74 million, and the Designer Request for Services indicated a total construction cost range of $50-$55 million. In response to these review comments, describe this variation and confirm that the District has discussed with local officials and acknowledges the increase in estimated costs. Also, please provide the District's not-to-exceed budget and indicate how the District and the design team intend to maintain the District's project budget through schematic design.

Furthermore, the information provided on page 12 of the submittal indicates the District's reimbursement rate and potential incentive points. Please note that the MSBA updates district

reimbursement rates annually and applies the reimbursement in accordance with MSBA Reimbursement Rate Policy, effective June 1, 2025. Please acknowledge.

Project Team Response: We acknowledge the PDP cost estimates are within the range of $45 million to $95 million, outside the range noted in the Designer Request for Services ($50-$55 million). The PDP costs are based on total project budget, including construction. The Designer Request for Services listed $50-55 million based on construction cost.

The reviews of site and the existing school facility coupled with needs per the Educational Program guided the team's design Alternatives presented for cost estimating.

Contributing to the variation include, but are not limited to, extent of repairs, renovation, addition or new construction; the number of construction phases affecting total length of construction; if modulars are required for phased construction, and the time & cost (escalation) if an Alternative requires a change to the MERSD Regional Agreement.

The team reviewed on the MSBA website posted information regarding the construction cost per SF averages compared to common economic indicators. The project cost range appeared to be within reason during this early phase of PDP cost estimating.

The PDP cost estimate range was reviewed with the SBC during our December 15, 2025 SBC meeting.

The PDP cost estimate range was shared with the community during our Community Meeting on January 28, 2026.

The team believes cost estimates will be refined as the information provided in the PSR and SD phases becomes more detailed. With a Preferred Alternative selected at end of PSR Phase, the team will work diligently with the MERSD and the OPM to find efficiencies for value savings while maintaining their educational program.

The District will evaluate and determine a not to exceed value once PSR estimates are received and reconciled.

Also, please note that the MSBA does not calculate a potential grant until the conclusion of Schematic Design, and the District should take caution in communicating this information as the potential project develops. Please acknowledge.

Project Team Response: Acknowledged.

5) The Project Directory provided does not include information regarding MSBA staff assigned to the Essex Elementary School project. Please note that Emily Udy is the assigned MSBA project manager and Claire Lerner is the assigned project coordinator. Please acknowledge and update the Project Directory in future submittals.

Project Team Response: Acknowledged and revised is attached.

Also, please note that the information provided on page 548 lists the owner as the Town of Lexington. To ensure consistency and accuracy, please coordinate and provide the correct information in response to these review comments and, as well as in all future submissions.

Project Team Response: Acknowledged and revised is attached.

6) In response to these review comments, please provide an updated schedule that includes an overview of the milestone dates from the Schematic Design phase through project completion and include any required/anticipated permitting reviews and approvals, and site testing and analysis.

Project Team Response: Revised SD Schedule is attached.

No further review comments for this section.

3.1.2 EDUCATIONAL PROGRAM

Provide a summary and description of the existing educational program, and the new or expanded educational vision, specifications, process, teaching philosophy statement, as well as the District's curriculum goals and objectives of the program. Include description of the following items:

	Provide the following Items	Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Grade and School Configuration Policies	☒	☐	☐	☐
2	Class Size Policies	☐	☒	☐	☐
3	School Scheduling Method	☐	☒	☐	☐
4	Teaching Methodology and Structure				
	a) Administrative and Academic Organization/Structure	☐	☒	☐	☐
	b) Curriculum Delivery Methods and Practices	☒	☐	☐	☐
	c) English Language Arts/Literacy	☐	☒	☐	☐
	d) Mathematics	☒	☐	☐	☐
	e) Science	☐	☒	☐	☐
	f) Social Studies	☒	☐	☐	☐
	g) World Languages	☐	☒	☐	☐
	h) Academic Support Programming Spaces	☒	☐	☐	☐
	i) Student Guidance and Support Services	☒	☐	☐	☐
5	Teacher Planning	☐	☒	☐	☐
6	Professional Development	☐	☒	☐	☐
7	Pre-kindergarten	☐	☒	☐	☐
8	Kindergarten	☒	☐	☐	☐
9	Lunch Programs	☐	☒	☐	☐
10	Technology Instruction Policies and Program Requirements	☐	☒	☐	☐
11	Media Center/Library	☒	☐	☐	☐
12	Visual Arts Programs	☐	☒	☐	☐
13	Performing Arts Programs	☒	☐	☐	☐
14	Physical Education Programs	☐	☒	☐	☐
15	Special Education Programs	☐	☒	☐	☐
16	Vocation and Technology Programs				
	a) Non-Chapter 74 Programming	☐	☐	☐	☐
	b) Chapter 74 Programming	☐	☐	☐	☐
17	Transportation Policies	☒	☐	☐	☐
18	Functional and Spatial Relationships	☒	☐	☐	☐
19	Security and Visual Access Requirements	☐	☒	☐	☐
20	Typical Day and Week in the Life of a Student	☒	☐	☐	☐

MSBA Review Comments:

In response to these review comments, address the comments below. Additionally, as part of the District's Preferred Schematic Report ("PSR") submittal, include (2) copies of the updated educational program, (1) redlined copy and (1) clean copy. The updated educational program must address the comments below, include District updates, provide a Designer response for each component of the educational program, and align with the District's Preferred Schematic. Please acknowledge.

> Project Team Response: Acknowledged and requested updated content will be within the PSR Submission.

2) The information provided on page 24 indicates that class size benchmarks for the District are 17-19 students for Kindergarten and grade 1; 18-20 students for grades 2-3; and 19-22 for grades 4-5. Please note and acknowledge that the MSBA guidelines are based on 18 students per classroom for Kindergarten and 23 students per classroom for grades 1-5.

> Project Team Response: Acknowledged and requested updated content will be within the PSR Submission.

3) The information provided on page 25, as part of the 'Instructional Coherence and Collaboration' narrative states:

> *"The EES schedule balances student learning needs with teacher collaboration. By aligning specialist blocks across grade levels, teams share common planning periods to analyze data, coordinate MTSS supports, and plan interdisciplinary instruction."*

In response to these review comments, please describe if the schedule provides any regular common meeting/planning time for the grade-level teachers to collaborate with specialists. If yes, please provide additional details and a model schedule that shows the staff that are included, common planning time, and frequency of the meetings.

> Project Team Response: Acknowledged and requested updated content will be within the PSR Submission.

4a) As part of the PSR submittal, please provide diagrams that identify the proposed features of each learning neighborhood and identify where each grade will be located within the building. Please acknowledge.

> Project Team Response: Acknowledged and requested updated content will be within the PSR Submission.

4c) The information provided on page 33 as part of the 'English Language Arts/Literacy' narrative states:

> *"Students engage in authentic literacy tasks that develop comprehension, written expression, oral language, and academic vocabulary."*

In response to these review comments, please provide examples of 'authentic literacy tasks'.

> Project Team Response: Acknowledged and requested updated content will be within the PSR Submission.

4e) The information provided on page 22 as part of the 'Science' narrative states:

"At Essex Elementary, gardens, a greenhouse, and outdoor learning areas provide opportunities for interdisciplinary projects. Partnerships with local organizations expand field based learning and connect students to authentic environmental stewardship. Additional outdoor spaces support both science instruction and social-emotional well-being, offering settings for quiet reflection, observation, and nature-based exploration."

In response to these review comments, please describe if there are any plans to integrate a greenhouse and other outdoor learning spaces into the science curriculum in the proposed facility. If yes, in response to these review comments, provide additional information that describes the location of the proposed greenhouse as well as how these spaces will be scheduled, and staffed and the overall utilization.

In addition, please note and acknowledge that outdoor spaces should be accessible to all students and instructors, including but not limited to accommodations for those with mobility, hearing, sight, and emotional impartments.

Also, please note and acknowledge that the MSBA's STE Guidelines require all elementary school general classrooms have a minimum of (2) sinks to facilitate STE exploration and project-based learning within the classrooms. One sink must be accessible, and one must be deep and wide to accommodate buckets or containers. In addition, MSBA guidelines encourage science and STEM activities for grades K-2 to be undertaken in the classroom setting.

Project Team Response: There is an existing pond and an area of wetland on the existing Essex Elementary School site. The intent is to respect these natural amenities in the proposed Alternatives so the MERSD can incorporate into their teachings as appropriate to support their educational program. For safety purposes, the pond will have a fence. The MERSD will maintain adequate teachers and staff for programs outside. A greenhouse is not currently in the project scope.

We acknowledge that outdoor spaces will be accessible.

The project team acknowledges the requirements for sinks in all elementary school general classrooms.

4g) The information provided on page 14 states:

"With the planned reintroduction of World Language (projected Fall 2027) the Specialist subject rotation will be reevaluated with the intent of maintaining six blocks per week."

Additionally, the information provided on page 24 states:

"Although elementary World Language instruction is not currently offered due to historic budget constraints, the district is committed to restoring this specialist course at the elementary level as part of the long-term academic program. When implemented, instruction will be delivered by a certified World Language teacher and scheduled as part of the specialist rotation."

In response to these review comments, please describe specific budget and hiring actions the District is taking to reintroduce World Language to the curriculum.

Project Team Response: MERSD has recently completed a redevelopment of its K–12 World Language curriculum to ensure alignment with the Massachusetts Curriculum

Frameworks and to strengthen vertical coherence across grade spans. As part of the District's multi-year planning, the reintroduction of elementary World Language has been identified as a priority initiative targeted for implementation beginning in Fall 2027.

To support this work, the District is taking the following actions:

- Incorporating a phased staffing plan into long-range financial projections to fund a certified elementary World Language teacher;
- Evaluating current staffing assignments and scheduling structures to identify opportunities for reorganization within the existing specialist model;
- Aligning the elementary program with established middle and high school pathways to ensure program continuity and efficient use of staffing; and
- Prioritizing this position within future budget development cycles as part of restoring previously reduced programming.

World Language will be delivered as part of the specialist rotation, consistent with art, music, physical education, and library, allowing for efficient scheduling and integration into the existing instructional model.

Additionally, please describe whether the student population includes those for whom English is not the primary or initial language, how this capability can be integrated into the instruction and if these families have been or will be included in planning discussions. Also, please describe if any services for English Language learners are provided in the District.

Project Team Response: Yes—while Essex does have a Multilingual Learner (MLL) population, MERSD is a low-incidence district, and the number of students fluctuates from year to year. Currently, there are 9 English Learners (approximately 0.8% of total District enrollment). This is a District-wide statistic.

To support these students, the District employs a full-time MLL teacher/coordinator who:

- Provides direct instructional support aligned with WIDA standards;
- Consults with classroom teachers to ensure language development is integrated into core instruction; and
- Facilitates home–school communication, ensuring strong family engagement and access to services.

MLL services are delivered through a combination of push-in and small-group instruction, aligned with the District's Multi-Tiered System of Supports (MTSS), ensuring students remain connected to core instruction while receiving targeted language development.

5) The information provided on page 30 as part of the 'Collaborative Planning & Professional Practice' narrative states the following:

- *"EES teachers engage in collaborative planning cycles that bring together classroom teachers, specialists, and interventionists to analyze data, design instruction, and monitor student progress."*
- *"Every teacher has common planning time five days per week, providing the opportunity for regular collaboration within and across grade levels. In addition, extended*

Wednesdays are built into the district calendar to allow for professional learning, curriculum development, and interdisciplinary collaboration."

- *"Through these structures, teachers work in grade-level and cross-disciplinary teams to design flexible grouping models, intervention cycles, and project-based learning experiences."*

In response to these review comments, please provide the following:

- *Description of how the schedule supports collaboration between general classroom teachers, specialists, and interventionists.*

  Project Team Response: Common planning time at each grade level is provided 5 times per week (45-minute blocks), along with an additional 45-minute personal planning time one time per week. During these common planning blocks, grade level classrooms teachers can meet together to analyze student data and co-design instruction. In addition, extended Wednesdays create dedicated time for deeper professional collaboration beyond daily planning. During this time, staff engage in professional learning, curriculum development and alignment, and interdisciplinary planning.

- *Description of how much time per week is spent in collaborative planning, including length of individual planning sessions.*

  Project Team Response: 225 minutes per week are provided for teachers to utilize common planning times, along with an additional 45-minute block for personal planning. There is also a 60-minute extended Wednesday 1 time per month for additional collaboration.

- *Description of how students are supervised during common planning times.*

  Project Team Response: Students are supervised by certified specialist teachers (e.g., art, music, physical education, library, technology, and future world language) during planning periods. These specialists provide structured instructional programming aligned to the district curriculum, ensuring that student learning continues uninterrupted while classroom teachers engage in collaboration)

- *Information on how the dedicated teacher planning spaces are scheduled and utilized.*

  Project Team Response: Dedicated teacher planning and collaboration spaces are located within or adjacent to grade-level learning neighborhoods. These spaces are used throughout the day for:

  - Grade-level team meetings
  - Data analysis and MTSS planning
  - Co-planning between general educators, specialists, and interventionists
  - Instructional coaching and feedback sessions

  Their proximity to classrooms allows for efficient transitions and ongoing collaboration tied directly to instructional practice.

- *Potential uses of the planning spaces when not scheduled for collaboration tasks.*

  Project Team Response: When not in use for formal collaboration, planning spaces may be used for:

  - Individual teacher preparation
  - Small-group staff meetings or conferencing
  - Virtual meetings or professional learning
  - Quiet workspace for curriculum development or assessment design

  This flexible use ensures that the spaces remain active, functional, and aligned to professional practice throughout the day.

6) In response to these review comments, please describe the District's plan to participate and include model lessons and spaces with furniture and materials that will help the educators to learn and understand how they can optimize learning in collaborative spaces.

Project Team Response: MERSD is committed to supporting educators in effectively utilizing flexible, collaborative learning environments through a combination of professional development, coaching, and embedded practice.

The District's instructional coaching model provides:

- In-class modeling of instructional strategies in flexible learning spaces
- Opportunities for teachers to observe and participate in demonstration lessons
- Ongoing feedback cycles to refine practice

In addition, professional learning sessions (including extended Wednesdays) will incorporate:

- Use of model classrooms and shared learning spaces
- Exploration of furniture, layout, and grouping strategies
- Application of Universal Design for Learning (UDL) and project-based learning approaches

The goal is to ensure that educators not only have access to flexible environments, but also develop the instructional practices needed to fully leverage them.

Also, please describe whether the District has considered providing staff flexibility in modifying their schedules in conjunction with their colleagues as they develop and try out project-based and multi-disciplinary instruction to promote skills through investigation, hands-on and applied experiences.

Project Team Response: Grade-level teams, specialists, instructional coaches, and interventionists work together to adjust blocks of time, groupings, and instructional roles in order to support deeper learning experiences. This may include extending instructional periods for project work, co-teaching across classrooms or content areas, and embedding intervention and enrichment within project-based contexts)

7) The information provided on page 32 as part of the 'Pre-Kindergarten' narrative states:

> *"The preschool program serves approximately 30–40 students, including both tuition-paying peers and students with disabilities, fostering an inclusive environment that supports social, emotional, and academic growth for all learners. Enrollment is currently limited by space; however, demographic projections indicate a potential capacity of 45–75 students once the additional classrooms become available. The district has transitioned to a five-day, full-day model for three- and four-year-olds (8:30 AM – 2:55 PM) to better meet family needs and to provide extended opportunities for play-based learning, early literacy, and social development."*

In response to these review comments, please describe steps the District will take to increase enrollment in the Pre-Kindergarten program from the current level to the capacity of 45-75 students to fully utilize the proposed space.

> Project Team Response: The District's Pre-Kindergarten program currently serves approximately 30–40 students and is limited by available classroom space rather than family demand. At present, three integrated preschool classrooms are housed at Memorial Elementary School, with demonstrated interest sufficient to support expansion to a fourth classroom once space is available.
>
> The proposed project is designed to address this constraint and support enrollment growth to the projected capacity of 45–75 students. Based on historical kindergarten enrollment of approximately 80 students per grade level, along with local census data, the District anticipates that enrolling approximately 50–75% of eligible three- and four-year-olds is both reasonable and sustainable within a four-classroom model.
>
> To achieve this expansion, the District will increase classroom capacity from three to four sections as space becomes available, while continuing to implement its integrated preschool model, which includes both students with disabilities and tuition-based peer participants. This model supports both program quality and enrollment growth and will be strengthened through targeted outreach to families not currently participating in district programming.
>
> While the program is currently centralized at Memorial Elementary School due to space limitations, the District's long-term plan is to return Pre-K classrooms to both elementary school sites in Manchester and Essex. This will improve geographic access for families and support increased participation over time.
>
> The District's current projections assume continuation of the integrated tuition-based model. In the event that universal Pre-K is implemented at the state level, the district will reassess enrollment assumptions and develop a plan to expand classroom capacity accordingly.

Additionally, please confirm if the 30-40 students Pre-Kindergarten program includes only the students from the Town of Essex for a full-day programming.

> Project Team Response: No, the current Pre-Kindergarten enrollment of 30–40 students does not include only students from the Town of Essex. The program is a district-wide program, serving students from both Manchester and Essex, and is currently centralized at Memorial Elementary School due to space constraints.

The program includes a mix of enrollment options—two-, three-, and five-day per week schedules, as well as both full-day and half-day programming—designed to meet a range of family needs. The District has transitioned to offering full-day programming (8:30 AM – 2:55 PM) for three- and four-year-olds, while maintaining flexible scheduling options to support access and participation.

Consistent with the enrollment projections outlined above, participation reflects broader district trends, including historical kindergarten enrollment and local demographic data. These same projections indicate that, as the program is decentralized in the future, enrollment in Essex alone would support approximately two Pre-K classrooms, further reinforcing the District's overall capacity planning assumptions.

9) In response to these review comments please provide the following information:

- *The number of breakfast and lunch seatings desired by the District.*
- *The number of students that each seating is expected to accommodate.*

Project Team Response: Breakfast is available to all students before school from 7:45-8:25am. Participation in breakfast varies on a day-to-day basis and students are not required to stay for the entire time. For example, a student may come to breakfast at 7:45, and then go outside to morning recess at 8:05am.

There are three lunch seatings each day; each seating should have the capacity to accommodate at least 100 students.

Additionally, please confirm that the kitchen staff will be included in the review of design and equipment for the kitchen. Also, please note that the MSBA guidelines are based on two lunch servings.

Project Team Response: Yes, the MERSD kitchen staff have been and will be included in the food service design process. The design team met with MERSD and one kitchen staff representative last October 2025. Once the Preferred Alternative is selected, there will be a Food Service Program meeting scheduled with the kitchen staff and MERSD.

10) In response to these review comments, please provide the following information:

- *Describe the District's plan for students to use their technology devices at home, if any.*
- *If yes, describe whether the District has a regular program to ensure that all students have access to the internet at home.*
- *Additionally, please describe any arrangements that are in place to ensure all the devices are properly licensed to use the software required by the curriculum.*

Project Team Response: Elementary students do not have take home devices.

12) Please note that art storage should include secure and appropriately ventilated space for toxic and hazardous materials as well as an accessible file of SDS (safety data sheets). Please acknowledge.

Project Team Response: Acknowledged

Please also note and acknowledge that kiln rooms should be secure but also include a window or external "in-use" light.

Project Team Response: Acknowledged

14) In response to these review comments, please describe the District's commitment to supporting the training and certification of instructors for the climbing elements and rope activities described.

Additionally, please describe any other school buildings within the District that currently have regulation-sized basketball court(s).

Project Team Response: MERSD is committed to ensuring that all staff responsible for climbing elements and ropes course activities are appropriately trained and certified in accordance with applicable safety standards and best practices. The District maintains a partnership with Project Adventure and provides regular access to training for Physical Education personnel, including certification and ongoing professional development in ropes course facilitation and safety. In addition, the District currently maintains Project Adventure elements at Memorial Elementary School, and has established protocols for safe use, supervision, maintenance, and periodic inspection of all equipment.

With respect to athletic facilities, the District currently has regulation-sized basketball courts at both Manchester Essex Regional Middle/High School and Memorial Elementary School. Essex Elementary School does not have a regulation-sized court.

15) The information provided states the following:

> *"To effectively meet student needs, separate instructional spaces are required for teachers to deliver targeted instruction in quiet, acoustically controlled environments. At least two of these spaces should accommodate up to eight students, a teacher workstation, and technology access, while two additional rooms should support small groups of up to four students."*

In response to these review comments, please describe the schedule and staffing of the larger and smaller spaces described above. Include information on what activities will occur in each space, if they will be home to any of the named programs (ACE or RISE) that the District operates in the school and if they will operate as a home room for students or have a rotating occupancy.

Project Team Response: The District's educational program includes shared small-group instructional spaces that support flexible, targeted instruction across general education, special education, and MTSS. These spaces are not offices or homerooms, but are scheduled and used throughout the day based on student need.

Larger small-group spaces (up to eight students) are used for Tier 2 and Tier 3 instruction, including small-group literacy and math support, as well as group-based related services. Smaller spaces (up to four students) provide quieter settings for more intensive or individualized instruction, including specialized interventions and related services.

These spaces operate on a rotating schedule coordinated by grade-level teams and support staff, with use by general educators, special educators, interventionists, and related service providers.

Programs such as ACE and RISE are based in their primary classrooms; however, students may access these spaces as needed for targeted instruction or support. The rooms are not assigned to specific programs and do not function as homerooms, allowing for flexible use and equitable access throughout the day.

19) In response to these review comments, please describe the discussions with classroom educators regarding their comfort level with transparency and visual connection between classroom spaces and other instructional spaces.

Project Team Response: A representative group from MERSD and EES attended interactive workshops; attended in person and virtual meetings; and visited other schools in Massachusetts as part of their educational visioning conversations. Through this process, participants developed Guiding Principles, some specific to the school's physical environment. One of the six Guiding Principles is "Seamless Connections Between Indoor and Outdoor Learning". Sufficient glazing along exterior walls and interior walls was discussed for visual connections to the exterior and sharing of natural lighting throughout.

To refer to the full list of Guiding Principles and the visioning process, please refer to the EES, Educational Visioning Report dated November 2025 that was included in the PDP submission.

Additionally, for security reasons and supportive staff observations, open sight lines are favored by the staff and district.

Additionally, please confirm that the first responding emergency representatives will be consulted in the planning process and associated requirements will be incorporated into the Preferred Schematic Report.

Project Team Response: Acknowledged. Our initial First Responder meeting occurred February 27, 2026 with MERSD and the Essex and Manchester-by-the-Sea fire and police. Our first Site, Safety and Security Working Group meeting occurred a week later on March 6, 2026 so the first responder comments could be shared and incorporated into our design discussions. Additional meetings with first responders will occur once a Preferred Alternative is selected, enabling the design team to refine.

Additional comments:

- *The information provided on pages 68-70 describes a large-group movement room. In response to these review comments, please describe which spaces in the space summary spreadsheet accommodate this programmed space and update the documents accordingly for each enrollment option.*

  Project Team Response: The large-group movement room function is accommodated in the Physical Therapy (PT) room included in the Space Summaries for all three enrollment options.

No further review comments for this section.

3.1.3 INITIAL SPACE SUMMARY

Provide the following Items		Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Space summary; one per approved design enrollment	☐	☒	☐	☐
2	Floor plans of the existing facility	☐	☒	☐	☐
3	Narrative description of reasons for all variances (if any) between proposed net and gross areas as compared to MSBA guidelines	☒	☐	☐	☐

MSBA Review Comments:

1) Please refer to "Attachment B" for detailed review comments.

2) In response to these review comments, please provide floor plans for the existing Manchester Memorial Elementary School.

Project Team Response: Please refer to Project Team responses on attached Attachment B.

Colored floor plans for the Existing Manchester Memorial Elementary School (MMES) are attached.

No further review comments for this section.

3.1.4 EVALUATION OF EXISTING CONDITIONS

	Provide the following Items	Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Confirmation of legal title to the property.	☐	☒	☐	☐
2	Determination that the property is available for development.	☐	☒	☐	☐
3	Existing historically significant features and any related effect on the project design and/or schedule.	☒	☐	☐	☐
4	Determination of any development restrictions that may apply.	☐	☒	☐	☐
5	Initial Evaluation of building code compliance for the existing facility.	☐	☒	☐	☐
6	Initial Evaluation of Architectural Access Board rules and regulations and their application to a potential project.	☐	☒	☐	☐
7	Preliminary evaluation of significant structural, environmental, geotechnical, or other physical conditions that may impact the cost and evaluations of alternatives.	☐	☒	☐	☐
8	Determination for need and schedule for soils exploration and geotechnical evaluation.	☐	☒	☐	☐
9	Environmental site assessments minimally consisting of a Phase I: Initial Site Investigation performed by a licensed site professional.	☐	☒	☐	☐
10	Assessment of the school for the presence of hazardous materials.	☐	☒	☐	☐
11	Previous existing building and/or site reports, studies, drawings, etc. provided by the district, if any.	☐	☐	☒	☐

MSBA Review Comments:

2, 4) The Lease Amendment Number 2 provided on page 636 states:

> *"The amended Lease is extended for a period of twenty (20) years, from July 1, 2021 through June 30, 2041 under the same terms and conditions of the Lease incorporated into this Amendment Number 2, and are by this Amendment Number 2 modified or supplemented to conform with this Amendment Number 2 except as otherwise altered by this Amendment."*

Per MSBA regulatory requirements, MSBA projects must certify that any project for the construction of a new school facility, or for the addition to or renovation of an existing school facility for which an eligible applicant is seeking partial funding from the MSBA, shall have an anticipated useful life of at least 50 years as a public school in the Eligible Applicant's School District. The Board's approval of a Project Scope and Budget Agreement and a Project Funding

Agreement may be contingent upon the District meeting the MSBA requirements for ownership, control and use of the proposed site, unless this condition is met prior to such vote.

In response to these review comments, please consult with counsel regarding the District's ability to comply with these requirements, and please describe how the District will be proceeding.

Project Team Response: The District has reviewed the MSBA regulatory requirements related to anticipated useful life, ownership, control, and use of the proposed site, and will consult with legal counsel to confirm compliance.

The proposed project will be located on the existing Essex Elementary School site, which is owned by the Town of Essex and has served as a public school site since 1955. The Town has put forward this site for the project. The District's use and operational control of the site are well established through longstanding practice and are supported by the Regional Agreement.

Based on this history and governance structure, the District is confident in its ability to meet the MSBA requirement that the facility have an anticipated useful life of at least 50 years as a public school within the District.

The District will confirm with counsel whether any additional documentation is necessary to satisfy MSBA requirements related to site ownership, control, and use, and will take any such steps in coordination with the Town in advance of the Board's consideration of the Project Scope and Budget Agreement and Project Funding Agreement.

4) In future submittals the schedule should include the timeline for the following:

- *Planning Board site plan review including utilities and stormwater permit review;*
- *Conservation commission review; and,*
- *EPA NPDES Construction General Permit and Stormwater Pollution Prevention Plan.*

Project Team Response: Acknowledged

In addition, the information provided on page 451 describes potential thresholds for MEPA review and states:

"A full review of thresholds shall be completed once a design option is chosen, and the project moves into Schematic Design. Additionally, if a Project requires MEPA review in accordance with 301 CMR 11.01(2) and one or more Environmental Justice Populations are located within the Designated Geographic Area around the Project (within one mile of the project), measures shall be undertaken to provide public involvement opportunities for Environmental Justice Populations.

Project Team Response: This is acknowledged. Once the Preferred Alternative is selected, then the threshold review will be conducted on the preferred design as the project moves into Schematic Design.

As part of the District's PSR submittal, please reevaluate the potential thresholds in relationship to the selected Preferred Schematic and provide updated information on potential need for MEPA permitting. Please acknowledge.

Project Team Response: Acknowledged.

5) In response to these review comments, please provide information regarding building code compliance for the Manchester Memorial Elementary School.

Project Team Response: MMES construction was recently completed (2022) and Code approvals were achieved at this time. Should the Preferred Alternative be the consolidated school alternative at MMES, then the team will further refine the code upgrades to address the enlarged school facility maintain building code compliance.

6) In response to these review comments, please provide information regarding MAAB compliance for the Manchester Memorial Elementary School.

Project Team Response: Building construction for MMES was completed in 2022 in full compliance with MAAB. Any alterations will continue to meet the requirements should the MMES Alterative become the Preferred Option.

7) In response to these review comments, please provide structural, environmental, geotechnical, or other physical conditions that may impact the cost and evaluations at the Manchester Memorial Elementary School.

Project Team Response: During PDP phase, an Environmental (Phase I) study was conducted for the three sites being considered. Environmental Phase I study of MMES is provided in our PDP submission. Traffic study of MMES was provided in the PDP phase. LEED scorecard was also evaluated for the ability to achieve LEED Silver at the sites. MMES site evaluation is included starting on page 467 of our PDP submission. Also refer to pages 499 and 500. Given MMES was completed in 2022 it was helpful for the design team to additionally review the MMES construction document set and as-built conditions. The existing facility and site are in very good condition.

Geotechnical reports will be provided in the PSR Submission. Given MMES was a recent build (completed 2022), the geotechnical consultants reviewed the recent project geotechnical report for information, which was very informative. In order to gain information at EES, initial geotechnical bores were provided at EES during the PSR phase. Additional bores for structural engineer use will be provided in SD Phase for either EES or MMES based upon SBC selection of Preferred Alternative site and specific proposed new construction location.

Also, provide a summary describing the impact an addition/renovation would have on existing building systems and structure at the Manchester Memorial Elementary School. This should include an evaluation of upgrades that would allow the building to function adequately for fifty years.

Project Team Response: MMES was completed in 2022 and existing structure and systems reviewed are in very good condition. Any additions and alterations will be compliant with current building codes and MAAB with thoughtfulness to allow the facility to function adequately for fifty years. Intent is to have fire walls and to keep systems separate or tie in only as necessary to minimize impacts to the existing MMES.

No upgrades are anticipated to the existing building except those that are required for compliance with the MA Existing Building Code.

8, 9) Please note and acknowledge that if the District selects an enrollment option that utilizes the Manchester Memorial Elementary School additional information will be required associated with evaluating geotechnical, environmental, soil conditions, and assessment of hazardous conditions.

Project Team Response: Acknowledged.

10) The information provided on page 1,344 and 1,351 describes a data gap related to the removal of an underground heating oil storage tank (UST) at the Essex Elementary School site. In response to these review comments, please provide information on how conditions related to this data gap will be addressed, including a timeline.

Project Team Response: Information was found confirming successful removal of the underground heating oil storage tank (UST) at the Essex Elementary School. This information is included within our Environmental Phase II report. Full report is part of our pending PSR submission for MSBA review.

Please note and acknowledge that cost associated with the removal of fuel storage tanks and associated contaminated soil are considered ineligible for reimbursement.

Project Team Response: Acknowledged.

Also, the information indicates the potential presence of asbestos containing material and urban fill on the Essex Elementary site. Please provide information and a timeline for how these conditions will be evaluated and what impact they may have on the evaluation of alternatives.

Project Team Response: During the PDP phase, a Phase I study was performed of the sites being evaluated. These studies were included with the PDP Submission. The Phase I results for the EES site and school building necessitated a Phase II study during the PSR Phase for continued evaluation.

The environmental consultant performed a Phase II study in February 2026 and this report will be included in the PSR Submission. Additionally, the environmental consultant performed a hazardous building survey of the existing Essex Elementary School to confirm and update existing reports on file with the MERSD. Findings will be provided in the PSR Submission.

Once there is a Preferred Alternative, the design team will develop the specific abatement drawings and specifications with our documentation development for construction documents.

All Alternatives require the abatement to occur. A code upgrade/repair option, a renovation/addition and a complete removal of existing school for new construction (regardless of enrollment), will require abatement. A cost for this is currently included in the PDP cost estimate and will be reevaluated for the PSR cost estimate.

11) In response to these review comments, please provide existing building and site information related to the Manchester Memorial Elementary School.

> Project Team Response: Given MMES is a recently completed construction (2022), the existing facility conditions were reviewed as very good, current, and not necessary for upgrades unless impacted by the Alternative B1.1 additions to MMES. The intent is to have stand alone systems or only tie-in to existing systems under limited situations. Fire walls are planned. Given the limited site at MMES, the site evaluation and impacts were the focus of Alternative B1.1 in PDP phase. Please refer to the existing site evaluation within our PDP submission that starts on page 467 and also refer to pages 499 and 500. Further development of Alternative B1.1 building and site is included in our pending PSR submission in April 2026.

No further review comments for this section.

3.1.5 SITE DEVELOPMENT REQUIREMENTS

Provide the following Items		Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	A narrative describing project requirements related to site development to be considered during the preliminary and final evaluation of alternatives.	☒	☐	☐	☐
2	Existing site plan(s)	☐	☐	☒	☐

MSBA Review Comments:

2) As part of the District's PSR submittal, provide site plan(s) that clearly identify the following features for the site of the Preferred Schematic:

- *Structures and fences;*
- *Parking and paving;*
- *Accessibility requirements;*
- *Easements;*
- *Wetlands and/or flood restrictions;*
- *Emergency vehicle access;*
- *Safety and security requirements;*
- *Utilities and drainage; and,*
- *Site orientation and other location considerations.*
- *Circulation diagrams that identify the existing:*
    - *Bus and parent drop-off/pick-up locations;*
    - *Vehicular and pedestrian circulation; and*
    - *Emergency vehicle access.*

Also, provide diagram(s) and a narrative that describes how a physically challenged individual currently accesses the existing building.

As part of the District's PSR submittal, please provide circulation diagrams for all options explored as part of the Final Evaluation of Alternatives. Please acknowledge.

Project Team Response: Acknowledge this will be provided for the PSR Submission

No further review comments for this section.

3.1.6 PRELIMINARY EVALUATION OF ALTERNATIVES

Provide the following Items		Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Analysis of school district student school assignment practices and available space in other schools in the district	☒	☐	☐	☐
2	Tuition agreement with adjacent school districts	☒	☐	☐	☐
3	Rental or acquisition of existing buildings that could be made available for school use	☒	☐	☐	☐
4	Code Upgrade option that includes repair of systems and/or scope required for purposes of code compliance; with no modification of existing spaces or their function	☒	☐	☐	☐
5	Renovation(s) and/or addition(s) of varying degrees to the existing building(s)	☒	☐	☐	☐
6	Construction of new building and the evaluation of potential locations	☒	☐	☐	☐
7	List of 3 distinct alternatives (including at least 1 renovation and/or addition option) are recommended for further development and evaluation.	☐	☒	☐	☐

MSBA Review Comments:

As part of the Preliminary Evaluation of Alternatives, the District explored the following (6) options at the existing Essex Elementary School site and (1) option at the Manchester Memorial Elementary School site. The information provided in the submittal indicates that the District intends to further evaluate all (7) options as part of its PSR submittal. However, subsequent to receiving the PDP submittal, the District voted to eliminate 2 of the 7 options and shared the updated information via email on February 10, 2026.

Please note the (5) options denoted with an asterisk (*) are the options the District intends to further evaluate as part of its PSR submittal:

- *Option A0.1: Code Upgrade/Base Repair for Kindergarten through grade 3 with an enrollment of 165 students, plus Pre-Kindergarten, at the existing Essex Elementary School; with an estimated project cost of $45-50 million. This option results in district-wide grades 4 through 5 enrollments attending the MSBA-funded Manchester Memorial Elementary School.*
- ***Option A0.2****: Code Upgrade/Base Repair for Kindergarten through grade 5 with an enrollment of 250 students, plus Pre-Kindergarten, at the existing Essex Elementary School; with an estimated project cost of $45-50 million.*
- ***Option A1.1*:** Addition/Renovation for Kindergarten through grade 3 with an enrollment of 165 students, plus Pre-Kindergarten, at the existing Essex Elementary School; with an estimated project cost of $75-80 million. This option results in district-wide grades 4*

through 5 enrollments attending the MSBA-funded Manchester Memorial Elementary School.

- ***Option A1.2****: Addition/Renovation for Kindergarten through grade 5 with an enrollment of 250 students, plus Pre-Kindergarten, at the existing Essex Elementary School; with an estimated project cost of $90-95 million.*
- ***Option B1.1*:** Addition/Renovation for Kindergarten through grade 5 with an enrollment of 515 students, plus Pre-Kindergarten, at the existing MSBA-funded Manchester Memorial Elementary School; with an estimated project cost of $70-80 million.*
- *Option A2.1: New Construction for Kindergarten through grade 3 with an enrollment of 165 students, plus Pre-Kindergarten, at the existing Essex Elementary School site; with an estimated project cost of $80-85 million. This option results in district-wide grades 4 through 5 enrollments attending the MSBA-funded Manchester Memorial Elementary School.*
- ***Option A2.2*:** New Construction for Kindergarten through grade 5 with an enrollment of 250 students, plus Pre-Kindergarten, at the existing Essex Elementary School site; with an estimated project cost of $90-95 million.*

7) Please note that the PSR submittal should include a thorough evaluation of each option the District has chosen to move forward with as part of its Final Evaluation of Alternatives, including cost estimates and detailed rationale for why options were eliminated from consideration. Please acknowledge.

Project Team Response: Acknowledged

Please also note that the MSBA expects to receive complete and thorough evaluations of all (5) options identified for further evaluation. The Owner's Project Manager should ensure that this work is complete and aligns with the options that the District identified prior to submitting the Preferred Schematic Report to the MSBA.

Please note any potential grant associated with a Proposed Project that includes a grade Pre-K through 3 configuration at the existing Essex Elementary School, resulting in district-wide grades 4 through 5 enrollments attending the MSBA-funded Manchester Memorial Elementary School, will be limited to the work at the Essex Elementary School. This was previously shared in the Enrollment Letter issued by the MSBA dated August 16, 2024. Please acknowledge.

Project Team Response: Acknowledged

Adjustments and/or the addition of individual options should be identified in the conclusion of the PDP and must be communicated in writing to the assigned MSBA project team well in advance of the District's PSR submission. The MSBA will review any adjustments to this list and will communicate appropriate actions. Please acknowledge.

Project Team Response: Acknowledged

Additionally, as part of the District's PSR submittal please provide the following information:

- *Floor plan diagrams that include a key/legend for clarity that identify all the spaces with adjacencies to further understand the connections of the proposed spaces.*

- *Ensure that further detail is provided in the subsequent phases of the project that clearly describes and illustrates the separation, safety provisions, and possible construction laydown areas that will be applied during construction on the occupied site. Please acknowledge.*

  Project Team Response: Acknowledged

- *Continue to use the same naming convention of options for clarity and consistency. Please acknowledge.*

  Project Team Response: Acknowledged

- *For all options and sites that are not selected by the District, provide detailed narratives with 3-4 reasons that describe why these options were eliminated from further consideration.*

  Project Team Response: Acknowledged.

No further review comments for this section.

3.1.7 LOCAL ACTIONS AND APPROVAL

Provide the following Items		Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Signed Local Actions and Approvals Certification: (original)	☐	☒	☐	☐
2	Certified copies of the School Building Committee meeting notes showing specific submittal approval vote language and voting results, and a list of associated School Building Committee meeting dates, agenda, attendees and description of the presentation materials	☐	☒	☐	☐

MSBA Review Comments:

1) As part of the cursory review, the MSBA requested, on January 20, 2026, that the District provides signatories of the certification and confirm their names via email and this information was received via email on January 20, 2026.

2) As part of the cursory review the MSBA requested, on January 20, 206 the MSBA requested the District provide a certified copy of the meeting minutes when available. This information was received via email on March 4, 2026.

No further review comments for this section.

3.1.8 APPENDICES

	Provide the following Items	Complete; *No response required*	Provided; *District's response required*	Not Provided; *District's response required*	Receipt of District's Response; *To be filled out by MSBA Staff*
1	Current Statement of Interest	☒	☐	☐	☐
2	MSBA Board Action Letter including the invitation to conduct a Feasibility Study	☒	☐	☐	☐
3	Design Enrollment Certification	☐	☒	☐	☐

MSBA Review Comments:

3) Please see comment above in Section 3.1.1, Item 3.

No further review comments for this section.

Additional Comments:

- *Please note that as part of the upcoming PSR submittal process, districts and their consultants are required to provide a summary overview of the proposed project to the MSBA Facilities Assessment Subcommittee (the "FAS"). In preparation, the MSBA requests that the District submit a complete PowerPoint of the FAS presentation with the PSR submittal. For your reference, the guidance memorandum for preparing an FAS presentation is attached. Please acknowledge.*

  Project Team Response: Acknowledged

- *The MSBA would like to inform you of MSBA's Project Advisory #88, posted on July 1, 2024, and linked here which describes changes to the MSBA submittal documents relating to required state site approvals and site resiliency including a MEPA guideline checklist. We ask you to review this Project Advisory and forward any questions you may have about these requirements to your MSBA Project Coordinator. These documents will assist your client and the MSBA to understand your project's status relating to the various required state site approvals and any design considerations pertaining to resiliency for your selected project site.*

  We ask that all members of your design team use the information indicated in Project Advisory #88 for your project, including the following updated MSBA documents:

  - *Module 3 Feasibility Study Guidelines*
  - *Module 4 Schematic Design Guidelines*
  - *Module 6 (Design Development, 60%, and 90% Construction Documents)*

  Incomplete submittals or submittals not reviewed by the OPM will not be accepted. This includes the information described in Project Advisory #88. Please acknowledge.

  Project Team Response: Acknowledged

Regarding Past Projects:

Both the MSBA's enabling legislation, M.G.L. c. 70B, and the MSBA's regulations, 963 CMR 2.00 et seq. specifically address the issue of past projects. MSBA records show a total MSBA payment to-date of $11,702,124 for the Manchester Memorial Elementary School Core Project #201506980010 completed in August 2021 and currently in the close-out phase.

Pursuant to these requirements and depending on the School District's ultimate plan for the School, the MSBA may recover a pro-rated portion of the financial assistance that the School District has received for previous renovation grants. The exact amount recovered will be established at the conclusion of the Schematic Design / Total Project Budget phase. Please see the MSBA website to view the MSBA's regulations, statute, and closed school bulletin for additional information.

End

ATTACHMENT B
MODULE 3 – PRELIMINARY DESIGN PROGRAM SPACE SUMMARY REVIEW

District: Manchester-Essex Regional School District
School: Essex Elementary School
Owner's Project Manager: Dore and Whittier Management Partners, Inc.
Designer Firm: JCJ Architecture, PC
Submittal Due Date: February 5, 2026
Submittal Received Date: January 8, 2026
Review Date: January 8, 2026 – March 2, 2026
Reviewed by: E. Udy, V. Dagkalakou, C. Forde, C. Alles

The Massachusetts School Building Authority (the "MSBA") has completed a preliminary review of the proposed space summary as produced by JCJ Architecture, PC and its consultants. This review involved evaluating the extent to which the Essex Elementary School's proposed space summary conforms to the MSBA guidelines and regulations.

The MSBA considers it critical that the Districts and their Designers aggressively pursue design strategies to achieve compliance with the MSBA guidelines for all proposed projects in the new program and strive to meet the gross square footage allowed per student and the core classroom space standards, as outlined in the guidelines. The MSBA also considers its stance on core classroom space critical to its mission of supporting the construction of successful school projects throughout the Commonwealth that meet current and future educational demands. The MSBA does not want to see this critical component of education suffer at the expense of larger or grander spaces that are not directly involved in the education of students.

Please note that any spaces in new construction or substantially renovated spaces must be compliant with MSBA space standards for both allotted area and room quantity unless otherwise approved in writing by the MSBA.

The following preliminary review is based on the following:

- New construction project space summaries for the following (2) study enrollment options:
    - **Enrollment 1:** 165 students in Kindergarten through grade 3, plus Pre-Kindergarten at Essex Elementary School; and,
    - **Enrollment 2:** 250 students in Kindergarten through grade 5, plus Pre-Kindergarten at Essex Elementary School.
- Addition/renovation option for the following (1) study enrollment option:
    - **Enrollment 3:** 515 students in Kindergarten through grade 5, plus-Pre Kindergarten for an expansion to the MSBA-funded Manchester Memorial Elementary School.

In response to these review comments, please note and acknowledge that the Enrollment Letter, issued on August 16, 2024, states the following:

> *"If the current grade K-5 enrollment configuration in the Town of Essex is not determined to be the Preferred Solution, the District will be required to document in the Preferred Schematic Report that the Preferred Solution has been approved by the School Committee and necessary District officials. Further, the MSBA will require a written plan from the District describing the process for determining local support for preferred grade reconfiguration. Please note any potential grant associated with a Proposed Project that includes a grade Pre-K through 3 configuration at the existing Essex Elementary School, resulting in district-wide grades 4 through 5 enrollments attending the MSBA-funded Manchester Memorial Elementary School, will be limited to the work at the Essex Elementary School. Upon approval of the District's Preferred Solution, the MSBA will forward a design enrollment certification that is specific to the grade configuration associated with the approved Preferred Solution."*

The MSBA review comments are as follows:

- **Core Academic** – For Enrollment 1, the District is proposing a total of 12,000 net square feet ("nsf") which exceeds the MSBA guidelines by 4,850 nsf. For Enrollment 2, the District is proposing a total of 17,050 nsf which exceeds the MSBA guidelines by 6,100 nsf. For Enrollment 3, the District is proposing a total of 33,970 nsf which exceeds the MSBA guidelines by 9,920 nsf.

  The District is proposing the following spaces:

  - **Kindergarten Classrooms (with Toilet)** – For Enrollments 1 and 2, the District is proposing (2) 1,200 nsf Kindergarten Classrooms totaling 2,400 nsf, which meets MSBA guidelines.

    For Enrollment 3, the District is proposing (2) 1,200 nsf new Kindergarten Classrooms and maintaining (3) 1,200 nsf existing Kindergarten Classrooms. This results in (5) Kindergarten Classrooms totaling 6,000 nsf, which meets MSBA guidelines.

    In response to these review comments, please review and respond to the following items:

    - As the project further develops, please note and acknowledge that 1,100 nsf is the minimum size and 1,300 nsf is the maximum for all newly constructed Kindergarten Classrooms.

      Project Team Response: Acknowledged.

    - Please confirm that the proposed project will provide a minimum of two sinks in each Kindergarten Classroom. Please refer to the MSBA's STE Guidelines.

      Project Team Response: Acknowledged.

- **General Classrooms (Grades 1-5)** – For Enrollment 1, the District is proposing (6) 950 nsf General Classrooms totaling 5,700 nsf, which exceeds the MSBA guidelines by (1) General Classroom and 950 nsf. For Enrollment 2, the District is proposing (10) 950 nsf General Classrooms totaling 9,500 nsf, which exceeds the MSBA guidelines by (1) General Classroom and 950 nsf.

  For Enrollment 3, the District is proposing (8) 950 nsf new General Classrooms and maintaining (15) 950 nsf existing General Classrooms. This results in (23) General Classrooms totaling 21,850 nsf, which exceeds the MSBA guidelines by (4) General Classrooms and 3,800 nsf.

  In response to these review comments, please review and respond to the following items:

  - As the project further develops, please note and acknowledge that 900 nsf is the minimum size and 1,000 nsf is the maximum for all newly constructed General Classrooms in an elementary school.

    Project Team Response: Acknowledged.

  - Please note and acknowledge that the MSBA's STE Guidelines require all elementary school General Classrooms have a minimum of (2) sinks to facilitate STE exploration and project-based learning within the classrooms. One sink must be accessible, and one must be deep and wide to accommodate buckets or containers.

    Project Team Response: Acknowledged.

- **Science, Technology, Engineering ("STE") Room** – For Enrollments 1 and 2, the District is proposing (1) 1,080 nsf STE Room which exceeds MSBA guidelines.

  For Enrollment 3, the District is proposing (1) 1,000 nsf new STE Room and (2) 1,000 nsf existing STE Rooms. This results in (3) 1,000 nsf STE Rooms, which exceeds the MSBA guidelines.

  In response to these review comments, please review and respond to the following items regarding the proposed number and size of the STE Rooms:

  - For Enrollment 3, the District is proposing (1) new 1,000 nsf STE Room. The current version of MSBA's space summary template includes provisions, which the project team should become familiar with, for such spaces provided these spaces align and conform to MSBA guidelines for STE spaces and with the District's educational program.

    Project Team Response: Acknowledged.

- The MSBA will not accept newly constructed STE Rooms that are below the minimum of 1,080 nsf. Please acknowledge.

  Project Team Response: For Enrollment 3, the two existing STE Project Rooms remain at 1,000 NSF as constructed in the previous MSBA project. The one new STE Project Room has been increased to 1,080 NSF to comply with current MSBA guidelines.

- An updated space summary, for Enrollment 3, is required in order for MSBA to complete review of this category.

  Project Team Response: Acknowledged and revised is attached.

- Additionally, please provide scheduling, overall utilization, and any other supporting information that further documents the District's need for the proposed number of STE Rooms for all 3 enrollments.

  Project Team Response: The number of STE rooms will vary for each enrollment scenario dues to reflect size of enrollment and/or the existence of existing spaces in enrollment.

- For the MSBA to determine eligibility of the proposed (1) STE Room for Enrollments 1, 2 and 3, in response to these review comments, please describe the proposed staffing associated with each STE Room and confirm whether the District will provide dedicated staff for this space.

  Project Team Response: It is envisioned that this space will be a space utilized and available to all faculty and staff on a reservation basis and will be overseen by the dedicated technology teacher and/or the Media Library Specialist.

- In addition, provide an example of activities that will occur in this area that cannot be delivered within an appropriately sized and fit-out General Classroom and describe why these activities are better suited in a separate area rather than in a larger General Classroom.

  Project Team Response: As described in the Educational Program, project/STE spaces are designed to support hands-on, inquiry-based learning that extends beyond what can be delivered in a general classroom. While general classrooms support foundational STE experiences, these spaces allow for more complex, multi-day projects that require specialized materials, equipment, and setup.

  For example, students may engage in engineering design projects in which they build, test, and revise prototypes over multiple days. These activities require durable work surfaces, access to water and power, dedicated storage, and the ability to leave work in progress—conditions that cannot be accommodated within a general classroom without disrupting daily instruction

.

- Also, please refer to the MSBA's STE Guidelines for additional information.

  Project Team Response: Acknowledged.

- **STE Storage Room** – For Enrollments 1 and 2, the District is proposing (1) 120 nsf STE Storage Room, which exceeds MSBA guidelines.

  For Enrollment 3, the District is proposing (1) 120 nsf new STE Storage Room which exceeds MSBA guidelines. Please refer to the comments above.

  Project Team Response: Acknowledged.

  Also, please provide additional information that describes storage provisions for proposed existing STE spaces.

  Project Team Response: The two (2) existing STE Project Rooms have built-in millwork storage that was included in the previous MSBA project.

- **World Language Classroom** – For Enrollments 1 and 2, the District is proposing (1) 950 nsf World Language Classroom, which exceeds MSBA guidelines.

  For Enrollment 3, the District is not proposing any dedicated World Language Classrooms. In response to these review comments, please provide the following:

  - Provide additional information that describes how these spaces will be scheduled and staffed during the school day.

    Project Team Response: It is envisioned that this space will be a space utilized and available to all faculty and staff on a reservation basis and will be overseen by the dedicated technology teacher and/or the Media Library Specialist.

  - Confirm that Enrollments 1 and 2 will require an equal number of World Language spaces.

    Project Team Response: Enrollment 2 has been confirmed. Enrollment 1 remains under consideration, as Enrollment 2 serves grades PK–5, while Enrollment 1 is limited to PK–3. Given the projected enrollment and grade configuration, the District may be able to forgo a dedicated world language classroom.

- Describe why a dedicated World Language Classroom is not required for Enrollment 3 and how it would be scheduled with the STE Rooms.

  Project Team Response: Enrollment 3 assumes building an addition to the existing Memorial School which already has a World Language classroom

- **Multi-Tiered System of Supports ("MTSS") Interventionist Office** – For Enrollment 1, the District is proposing (1) 500 nsf MTSS Interventionist Office, which exceeds MSBA guidelines. For Enrollments 2 and 3, the District is proposing (2) 500 nsf MTSS Interventionist Offices totaling 1,000 nsf, which exceeds MSBA guidelines. In response to these review comments please provide the following:

  - Describe the anticipated adjacencies.

    Project Team Response: MTSS is desired to be in close proximity to the Learning Neighborhoods.

  - Provide additional information that describes how these spaces will be scheduled and staffed during the school day.

    Project Team Response: As described in the Educational Program, MTSS small-group spaces are integrated into the daily schedule and utilized throughout the school day to support Tier 2 and Tier 3 interventions, assessment, progress monitoring, and student conferencing.

    These spaces are shared across interventionists, special educators, MLL staff, and related service providers and are scheduled through a flexible, rotating model to ensure equitable access and responsiveness to student need. When not in use with students, they support planning and coordination of services aligned to the District's MTSS framework.

    Students are actively supervised at all times when receiving services. The proposed square footage reflects the need to accommodate small-group instruction, appropriate furnishings, and confidentiality, while maximizing utilization and minimizing downtime.

  - Confirm that enrollment options 2 and 3 require an equal number of MTSS Interventionist Offices.

    Project Team Response: Confirmed.

- **MTSS Interventionist Small Group Room** – For Enrollment 1, the District is proposing (1) 250 nsf MTSS Interventionist Small Group Room, which exceeds MSBA guidelines. For Enrollments 2 and 3, the

District is proposing (2) 250 nsf MTSS Interventionist Small Group Rooms totaling 500 nsf, which exceed MSBA guidelines. In response to these review comments please provide the following:

- Describe the anticipated adjacencies.

  Project Team Response: MTSS is desired to be in close proximity to the Learning Neighborhoods. The MTSS dedicated Small Group rooms have been eliminated as the Learning Neighborhoods are provided with breakout space.

- Provide additional information that describes how these spaces will be scheduled and staffed during the school day.

  Project Team Response: Breakout spaces will be scheduled through a flexible, rotating model that allows teams to adjust use based on student needs throughout the day. Rather than being assigned to a single class or purpose, these areas will be shared spaces that support a variety of instructional and social-emotional activities, including small-group instruction, interventions, and collaborative learning. Grade-level teams and support staff will coordinate schedules to ensure equitable access while maintaining the ability to respond in real time to student needs.

  At all times, students utilizing breakout areas will be actively supervised by a staff member, including interventionists, specialists, support staff, or the classroom teacher. This flexible approach ensures that spaces are used efficiently; staff can provide targeted support when and where it is needed most, and students receive appropriate supervision and guidance in a safe and structured environment.

- Confirm that enrollment options 2 and 3 will require an equal number of MTSS Interventionist Small Group Rooms.

  Project Team Response: Confirmed

- **Break-Out Spaces** – For Enrollment 1, the District is proposing (2) 500 nsf Break-out spaces totaling 1,000 nsf, which exceeds MSBA guidelines. For Enrollments 2 and 3, the District is proposing (3) 500 nsf Break-out spaces totaling 1,500 nsf, which exceed MSBA guidelines. In response to these review comments, please provide the following:

  - Describe the anticipated adjacencies.

    Project Team Response: Break-Out is desired to be integrated within Learning Neighborhoods, in close proximity to Core Classrooms, MTSS, and Small Group rooms.

  - Describe the types of activities that will occur in this area that cannot be delivered within an appropriately sized and fit-out

General Classroom and describe why these activities are better suited in a separate area rather than in a larger General Classroom.

Project Team Response: As outlined in the Educational Program, breakout spaces are essential to the District's instructional model and support small-group instruction, MTSS interventions, MLL services, special education, assessment, and conferencing—activities that require reduced distractions and increased privacy not achievable within a general classroom.

Located adjacent to classrooms, these spaces minimize transition time and allow multiple instructional groupings to occur simultaneously while maintaining continuity with core instruction.

The additional breakout spaces reflect the District's emphasis on differentiated, inclusive, and student-centered learning. As such, exceeding MSBA guidelines is intentional and necessary to effectively deliver the educational program.

- Provide additional information that describes how these spaces will be scheduled and staffed during the school day.

  Project Team Response: Breakout spaces will be scheduled through a flexible, rotating model that allows teams to adjust use based on student needs throughout the day. Rather than being assigned to a single class or purpose, these areas will be shared spaces that support a variety of instructional and social-emotional activities, including small-group instruction, interventions, and collaborative learning. Grade-level teams and support staff will coordinate schedules to ensure equitable access while maintaining the ability to respond in real time to student needs.

  At all times, students utilizing breakout areas will be actively supervised by a staff member, including interventionists, specialists, support staff, or the classroom teacher. This flexible approach ensures that spaces are used efficiently; staff can provide targeted support when and where it is needed most, and students receive appropriate supervision and guidance in a safe and structured environment.

- **Special Education** – For Enrollment 1, the District is proposing a total of 6,085 nsf which exceeds the MSBA guidelines by 3,065 nsf. For Enrollment 2, the District is proposing a total of 8,345 nsf which exceeds MSBA guidelines by 5,325 nsf. For Enrollment 3, the District is proposing a total of 14,895 nsf, which exceeds MSBA guidelines by 8,795 nsf. The information provided indicates that the District is proposing the following spaces:
  - (1) 600 nsf Self-Contained Special Education Classroom for the Academic and Communication Enhancement ("ACE") Program for Enrollment 1;

- (2) 600 nsf Self-Contained Special Education Classroom for the ACE Program for Enrollment 2; and,
- (2) 600 nsf Self-Contained Special Education Classrooms for the ACE Program for Enrollment 3.

In response to these review comments, please provide the following:

- Please note and acknowledge that 900 nsf is the minimum size for all newly constructed Special Education Classrooms in an elementary school.

  Project Team Response: Acknowledged – ACE rooms have been increased from 600 NSF to 900 NSF.

- In response to these review comments, please provide an updated space summary for each enrollment with all Self-Contained Special Education Classrooms meeting the minimum guidelines.

  Project Team Response: Acknowledged and revised is attached.

Additionally, in response to these review comments, please review and confirm whether the following space for all 3 enrollments is exclusive to the use of the Special Education Program.

- (1) 150 nsf School Psychologist. If services are not exclusive to students receiving special educational services, relocate to the 'Administration and Guidance' category below.

  Project Team Response: School Psychologist has been recategorized as 'Administration and Guidance.'

Furthermore, the District is proposing is proposing the following spaces:

- (1) 150 nsf Equipment Storage area and (1) 250 nsf PT Storage area for Enrollment 1; and,
- (2) 150 nsf Equipment Storage areas and (1) 250 nsf PT Storage area for Enrollments 2 and 3.

In response to these review comments, provide updated space summaries for each enrollment that relocates the spaces above to the 'Non- Programmed Spaces' category. As a reminder, the Designer must coordinate a space planning scenario where the grossing factor does not exceed 1.50.

Project Team Response: Storage areas have been recategorized as 'Non-Programmed Spaces.' MSBA limit on grossing factor is acknowledged.

Please note that the Special Education program is subject to approval by the Department of Elementary and Secondary Education ("DESE"). The District should provide this information for this submittal with the Schematic Design Submittal. Formal approval of the District's proposed Special Education program by the DESE is a prerequisite for executing a Project Funding Agreement with the MSBA. Please acknowledge.

Project Team Response: Acknowledged.

- **Art & Music** – For Enrollment 1, the District is proposing a total of 2,100 nsf which is below the MSBA guidelines by 325 nsf. For Enrollment 2, the District is proposing a total of 2,500 nsf which meets the MSBA guidelines.

  For Enrollment 3, the District is proposing a total of 2,550 nsf, which is below MSBA guidelines by 25 nsf; however, this square footage is existing to remain.

  In response to these review comments, please provide additional information that describes and verifies the proposed square footage for Enrollments 1 and 3 is sufficient to meet the requirements of the District's educational program and overall schedule.

  Project Team Response: The District has reviewed the proposed Art and Music allocations in relation to enrollment, program design, and scheduling, and confirms that the proposed square footage for Enrollments 1 and 3 is sufficient.

  For Enrollment 1 (K–5, 165 students), the reduced square footage reflects the smaller student population and sectioning. The schedule allows for efficient rotation with one section at a time, and class sizes support effective instruction within the proposed spaces.

  For Enrollment 3 (K–5, 515 students), the proposed 2,550 nsf closely aligns with MSBA guidelines and reflects existing space to remain. The minimal variance does not impact program delivery, and the design supports concurrent sections and full-class instruction.

  In both cases, the proposed spaces support the District's Art and Music program and overall schedule.

- **Health & Physical Education** – For Enrollments 1, 2 and 3, the District is proposing a total of 7,150 nsf, which exceeds the MSBA guidelines by 850 nsf. Please note and acknowledge that the MSBA does not object to the additional square footage in this category; however the MSBA will consider this square footage ineligible for reimbursement. For additional guidance, please review the linked memo regarding MSBA's policy on physical education spaces exceeding MSBA guidelines.

  Project Team Response: Acknowledged.

- **Media Center** – For Enrollments 1 and 2, the District is proposing a total of 2,020 nsf, which meets the MSBA guidelines. For Enrollment 3, the District is proposing a total of 3,288 nsf which exceeds the MSBA guidelines by 300 nsf.

Please note and acknowledge that MSBA does not object to the additional square footage proposed in Enrollment 3; however, square footage exceeding the MSBA guidelines will be considered ineligible for reimbursement.

In response to these review comments, please provide information describing the "Dispersed Library" included in the Space Summary for Enrollment 3.

Project Team Response: The Enrollment 3 scenario has been adjusted to reduce the Dispersed Library from 810 NSF to 510 NSF, bringing the total Media Center area in line with MSBA guidelines. As an addition to the existing Media Center is not practical due to the second-floor location, the 510 NSF of additional program area would be dispersed into the Learning Neighborhoods. Age-specific resources would be located in the associated Learning Neighborhoods.

- **Dining & Food Service** – For Enrollment 1, the District is proposing a total of 4,238 nsf which meets the MSBA guidelines. For Enrollment 2, the District is proposing a total of 4,875 nsf which meets the MSBA guidelines. For Enrollment 3, the District is proposing a total of 7,070 nsf, which is below the MSBA guidelines by 208 nsf.

  In response to these review comments, please provide additional information that describes and verifies the proposed square footage for Enrollment 3 is sufficient to meet the requirements of the District's educational program and overall schedule.

  Project Team Response: The Enrollment 3 scenario has been adjusted to increase Kitchen area by 180 NSF and Staff Lunch area by 29 NSF, aligning total Dining & Food Service area with MSBA guidelines.

- **Medical** – For Enrollments 1 and 2, the District is proposing a total of 410 nsf which meets MSBA guidelines. For Enrollment 3, the District is proposing a total of 510 nsf, which is below MSBA guidelines by 100 nsf; however, this square footage is existing to remain.

  In response to these review comments, please provide additional information that describes and verifies the proposed square footage for Enrollment 3 is sufficient to meet the requirements of the District's educational program and overall schedule.

  Project Team Response: The District has reviewed the proposed allocation for Enrollment 3 (K–5, 515 students) and confirms that the 510 nsf is sufficient to support the program and schedule. This space reflects existing square footage to remain and has been evaluated based on actual use, student group size, and how the space is scheduled throughout the day.

- **Administration & Guidance** – For Enrollments 1 and 2, the District is proposing a total of 2,095 nsf, which exceeds the MSBA guidelines by 80 nsf. For Enrollment 3, the District is proposing a total of 2,486 nsf, which exceeds the MSBA guidelines by 106 nsf.

Please note and acknowledge that MSBA does not object to the additional square footage proposed in all enrollments. However, square footage exceeding the MSBA guidelines will be considered ineligible for reimbursement.

Project Team Response: Acknowledged.

- **Custodial & Maintenance** – For Enrollments 1 and 2, the District is proposing a total of 1,900 nsf which meets the MSBA guidelines. For Enrollment 3, the District is proposing a total of 2,055 nsf, which is below MSBA guidelines by 60 nsf.

  In response to these review comments, please provide additional information that describes and verifies the proposed square footage for Enrollment 3, is sufficient to meet the requirements of the District's maintenance staff.

  Project Team Response: The Enrollment 3 scenario has been adjusted to increase Receiving and General Supply area by 60 NSF, aligning total Custodial and Maintenance area with MSBA guidelines.

- **Other** – For Enrollments 1 and 2, the District is proposing a total of 2,770 nsf, which exceeds MSBA guidelines. The District is proposing the following spaces:

  - **Pre-Kindergarten Classrooms (w/Toilets)** – The District is proposing (2) 1,200 nsf Pre-Kindergarten Classrooms totaling 2,400 nsf, which exceeds the MSBA guidelines. In response to these review comments, please review and respond to the following items:

    - As the project becomes further developed, please note and acknowledge that 1,100 nsf is the minimum size and 1,300 nsf is the maximum size for all newly constructed Pre-Kindergarten Classrooms.

      Project Team Response: Acknowledged.

    - Provide further information that clarifies how the District calculates the number of classrooms needed for the Pre-Kindergarten.

      Project Team Response: The District determines the number of Pre-Kindergarten classrooms based on a combination of current program capacity, historical enrollment patterns, and projected cohort sizes derived from both kindergarten enrollment trends and census data.

      At present, the District operates three integrated Pre-K classrooms at Memorial Elementary School, with demonstrated student interest and demand sufficient to support a fourth classroom. Due to current space limitations, expansion beyond three classrooms is not feasible at this time.

      To project future Pre-K needs, the District analyzes average kindergarten cohort sizes, which have historically been

approximately 80 students per grade level. Based on this data, the District estimates that approximately 50–75% of eligible three- and four-year-old children would participate in the Pre-K program. This projection supports the need for four Pre-K classrooms to adequately serve anticipated enrollment.

During the planning process for the Memorial Elementary School project, the District evaluated the potential to include four Pre-K classrooms at that site. While enrollment projections indicated that four classrooms could be filled, the District determined that a more sustainable, long-term approach would be to return Pre-K programming to both town-based elementary school sites. As a result, two Pre-K classrooms were incorporated into the Memorial Elementary School project, with the remaining capacity planned for inclusion at Essex Elementary School.

The District's current model assumes the continuation of an integrated Pre-K program that includes both students with disabilities and tuition-based peers, which supports both programmatic and financial sustainability.

The District also recognizes that, in the event of a transition to universal Pre-K at the state level, additional classroom capacity may be required. Should that occur, and assuming stable cohort sizes (approximately 80 students per grade level), the District would anticipate the need to expand Pre-K programming to accommodate full participation of Pre-K 3 and Pre-K 4 students.

- **Pre-Kindergarten Storage** – The District is proposing (1) 250 nsf Pre-Kindergarten Storage area, which exceeds the MSBA guidelines. In response to these review comments, provide an updated space summary that relocates this space to the 'Non- Programmed Spaces' category. As a reminder, the Designer must coordinate a space planning scenario where the grossing factor does not exceed 1.50.

  Project Team Response: Storage area has been recategorized as 'Non-Programmed Spaces.' MSBA limit on grossing factor is acknowledged.

- **Mother's Room** – The District is proposing (1) 120 nsf Mother's Room, which exceeds the MSBA guidelines. In response to these review comments, provide an updated space summary that relocates this space to the 'Non- Programmed Spaces' category. As a reminder, the Designer must coordinate a space planning scenario where the grossing factor does not exceed 1.50.

  Project Team Response: Mother's Room has been recategorized as 'Non-Programmed Spaces.' MSBA limit on grossing factor is acknowledged.

For Enrollment 3, the District is proposing a total of 5,420 nsf which exceeds the MSBA guidelines. The District is proposing the following spaces:

- **Pre-Kindergarten Classrooms with Toilets** – The District is proposing (2) 1,200 nsf new Pre-Kindergarten Classrooms and maintaining (2) 1,200 nsf existing Pre-Kindergarten Classrooms. This results in (4) 1,200 nsf Pre-Kindergarten Classrooms, totaling 4,800 nsf. In response to these review comments, please review and respond to the following items:
  - As the project becomes further developed, please note and acknowledge that 1,100 nsf is the minimum size and 1,300 nsf is the maximum size for all newly constructed Pre-Kindergarten Classrooms.

    Project Team Response: Acknowledged.

  - Provide further information that clarifies how the District calculated the number of classrooms needed for the Pre-Kindergarten.

    Project Team Response: The District determines the number of Pre-Kindergarten classrooms based on a combination of current program capacity, historical enrollment patterns, and projected cohort sizes derived from both kindergarten enrollment trends and census data.

    At present, the District operates three integrated Pre-K classrooms at Memorial Elementary School, with demonstrated student interest and demand sufficient to support a fourth classroom. Due to current space limitations, expansion beyond three classrooms is not feasible at this time.

    To project future Pre-K needs, the District analyzes average kindergarten cohort sizes, which have historically been approximately 80 students per grade level. Based on this data, the District estimates that approximately 50–75% of eligible three- and four-year-old children would participate in the Pre-K program. This projection supports the need for four Pre-K classrooms to adequately serve anticipated enrollment.

    During the planning process for the Memorial Elementary School project, the District evaluated the potential to include four Pre-K classrooms at that site. While enrollment projections indicated that four classrooms could be filled, the District determined that a more sustainable, long-term approach would be to return Pre-K programming to both town-based elementary school sites. As a result, two Pre-K classrooms were incorporated into the Memorial Elementary School project, with the remaining capacity planned for inclusion at Essex Elementary School.

The District's current model assumes the continuation of an integrated Pre-K program that includes both students with disabilities and tuition-based peers, which supports both programmatic and financial sustainability.

The District also recognizes that, in the event of a transition to universal Pre-K at the state level, additional classroom capacity may be required. Should that occur, and assuming stable cohort sizes (approximately 80 students per grade level), the District would anticipate the need to expand Pre-K programming to accommodate full participation of Pre-K 3 and Pre-K 4 students.

- **Pre-Kindergarten Storage** – The District is proposing (2) 250 nsf Pre-Kindergarten Storage spaces, totaling 500 nsf, which exceeds the MSBA guidelines. In response to these review comments, provide an updated space summary that relocates this space to the 'Non- Programmed Spaces' category. As a reminder, the Designer must coordinate a space planning scenario where the grossing factor does not exceed 1.50.

  Project Team Response: Storage areas have been recategorized as 'Non-Programmed Spaces.' MSBA limit on grossing factor is acknowledged.

- **Mother's Room** – The District is proposing (1) 120 nsf Mother's Room, which exceeds the MSBA guidelines. In response to these review comments, provide an updated space summary that relocates this space to the 'Non- Programmed Spaces' category. As a reminder, the Designer must coordinate a space planning scenario where the grossing factor does not exceed 1.50.

  Project Team Response: Mother's Room has been recategorized as 'Non-Programmed Spaces.' MSBA limit on grossing factor is acknowledged.

- **Non-Programmed Spaces** – Please note this section must be completed as part of the Schematic Design submittal. Please acknowledge.

  Project Team Response: Acknowledged.

- **Total Building Net Floor Area** – For Enrollment 1, the District is proposing to provide a total of 40,768 nsf, which exceeds the MSBA guidelines by 11,291 nsf. For Enrollment 2, the District is proposing to provide a total of 49,115 nsf, which exceeds the MSBA guidelines by 15,125 nsf. For Enrollment 3, the District is proposing a total of 79,334 nsf, which exceeds the MSBA guidelines by 24,999 nsf. Please address all comments provided in the categories above as part of the District's response to these comments.

  Project Team Response: Acknowledged.

- **Total Building Gross Floor Area** – For Enrollment 1, the District is proposing to provide a total of 60,777 gross square feet ("gsf"), which exceeds MSBA

guidelines by 16,561 gsf. For Enrollment 2, the District is proposing to provide a total of 73,673 gsf which exceeds MSBA guidelines by 22,688 gsf. For Enrollment 3, the District is proposing to provide a total of 119,001 gsf, which exceeds the MSBA guidelines by 37,498 gsf. Please address the comments provided in the categories above as part of the District's response to these comments.

Project Team Response: Acknowledged.

Please note that upon moving forward into subsequent phases of the proposed project, the Designer will be required to provide, with each submission, a signed, updated space summary that reflects the design and demonstrates that the design remains, except as agreed to in writing by the MSBA, in accordance with the guidelines, rules, regulations and policies of the MSBA. Should the updated space summary demonstrate changes to the previous space summary include a narrative description of the change(s) and the reason for the proposed changes to the project.

Project Team Response: Acknowledged.

PROJECT CONTACTS

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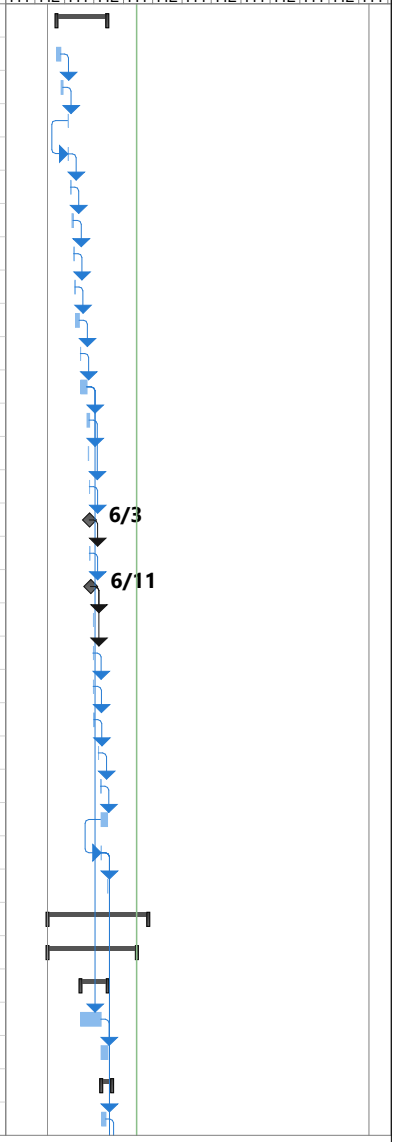
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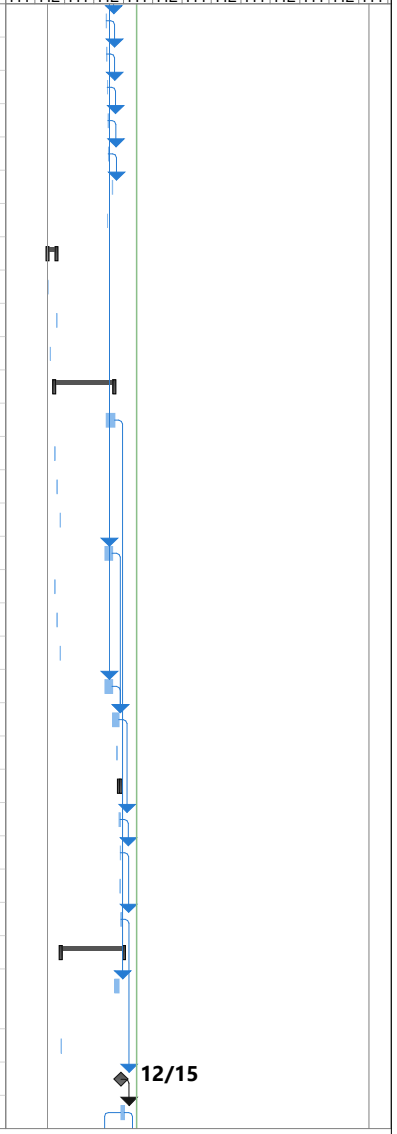
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1		**Module 2 - Forming the Team**	**227 days**	**Mon 11/11/24**	**Tue 9/23/25**		
2		Develop OPM RFS	20 days	Mon 11/11/24	Fri 12/6/24		
3		Submit to MSBA for comment	10 days	Mon 12/9/24	Fri 12/20/24	2	
4		Upload to CR	1 day	Mon 1/20/25	Mon 1/20/25	3FS+20 days	
5		Public advertisement	1 day	Mon 1/20/25	Mon 1/20/25	4SS	
6		**Proposals due**	**1 day**	**Thu 2/6/25**	**Thu 2/6/25**	5FS+12 days	
7		Shortlist	6 days	Fri 2/14/25	Fri 2/21/25	6FS+5 days	
8		interviews	1 day	Wed 2/26/25	Wed 2/26/25	7FS+2 days	
9		SBC approval for OPM	1 day	Tue 3/4/25	Tue 3/4/25	8FS+3 days	
10		Submit to OPM info to MSBA	18 days	Fri 3/7/25	Tue 4/1/25	9FS+2 days	
11		**MSBA OPM Panel**	**1 day**	**Tue 4/8/25**	**Tue 4/8/25**	10FS+4 days	
12		OPM Finalize contract	27 days	Fri 4/11/25	Mon 5/19/25	11FS+2 days	
13		OPM Develop designer RFS	10 days	Tue 5/20/25	Mon 6/2/25	12	
14		Kickoff meeting w/ MERSD and SBC	1 day	Tue 5/27/25	Tue 5/27/25	12FS+5 days	
15		Submit RFS to MSBA for review	1 day	Tue 6/3/25	Tue 6/3/25	13	
16		SBC Review / approve Designer RFS	0 days	Tue 6/3/25	Tue 6/3/25	15	
17		Submit "ad" to central register	1 day	Wed 6/4/25	Wed 6/4/25	16	
18		**Designer RFS available**	**0 days**	**Wed 6/11/25**	**Wed 6/11/25**	17FS+5 days	
19		Designer Walkthrough	1 day	Thu 6/26/25	Thu 6/26/25	18FS+10 days	
20		Proposals Due	1 day	Thu 6/26/25	Thu 6/26/25	18FS+10 days	
21		Submit package to MSBA	1 day	Fri 6/27/25	Fri 6/27/25	20	
22		Submit package to DSP Panel Members	1 day	Mon 6/30/25	Mon 6/30/25	21	
23		**DSP Meeting**	**1 day**	Tue 7/29/25	Tue 7/29/25	22FS+20 days	
24		**Designer interviews (If required)**	**1 day**	Tue 8/12/25	Tue 8/12/25	23FS+9 days	
25		Finalize contract with Architect	30 days	Wed 8/13/25	Tue 9/23/25	24	
26		Hold Kickoff Meeting w/ OPM & District	1 day	Fri 8/15/25	Fri 8/15/25	25SS+2 days	
27		MSBA Kickoff Meeting	1 day	Tue 9/23/25	Tue 9/23/25	26FS+26 days	
28		**Module 3 - Feasibility**	**449 days?**	**Mon 9/16/24**	**Thu 6/4/26**		
29		**Preliminary Design Program (PDP)**	**397 days?**	**Mon 9/16/24**	**Tue 3/24/26**		
30		**Educational Program**	**120 days**	**Thu 4/10/25**	**Wed 9/24/25**		
31		District Drafts Educational Plan	90 days	Thu 4/10/25	Wed 8/13/25	12	
32		JCJ to Review Districts Ed Plan	30 days	Thu 8/14/25	Wed 9/24/25	31	
33		**Educational Visioning Meetings**	**48 days**	**Mon 8/18/25**	**Wed 10/22/25**		
34		Visioning Kick off	20 days	Mon 8/18/25	Fri 9/12/25	26	



Project: 20260325 Essex ES Pro
Date: Wed 3/25/26

Task	Inactive Task	Manual Summary Rollup	External Milestone
Split	Inactive Milestone	Manual Summary	Deadline
Milestone	Inactive Summary	Start-only	Progress
Summary	Manual Task	Finish-only	Manual Progress
Project Summary	Duration-only	External Tasks	

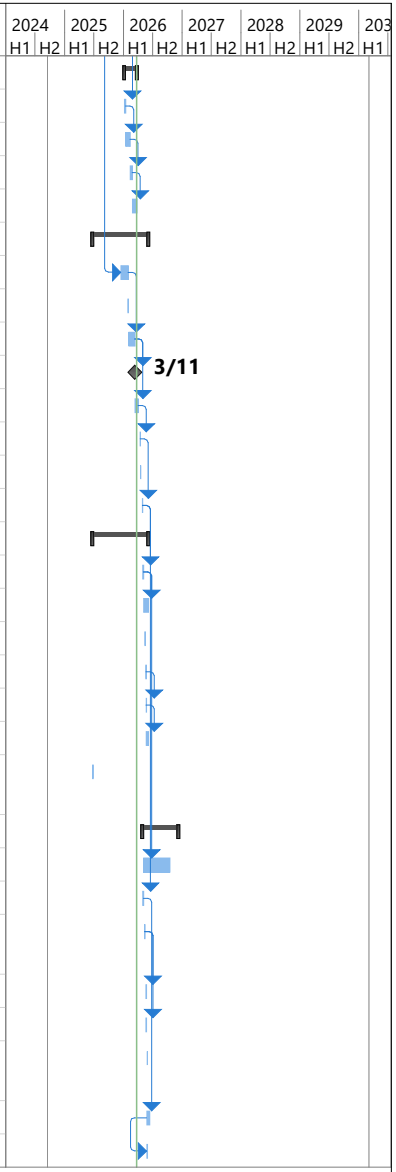
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
35		Ed Visioning #1: Launch & Priorites	1 day	Tue 9/16/25	Tue 9/16/25	34FS+1 day	
36		Ed Visioning #2: Shadow Day	1 day	Wed 9/17/25	Wed 9/17/25	35	
37		Ed Visioning #3: Grade Configuration	1 day	Mon 9/22/25	Mon 9/22/25	36FS+2 days	
38		Ed Visioning #4: School Tours	1 day	Fri 9/26/25	Fri 9/26/25	37FS+3 days	
39		Ed Visioning #5: Workshop program needs	1 day	Mon 9/29/25	Mon 9/29/25	38	
40		Ed Visioning #6: Teaching and Learning Spaces	1 day	Wed 10/22/25	Wed 10/22/25	39FS+16 days	
41		Ed Visioning #7: SPED	1 day	Mon 9/22/25	Mon 9/22/25		
42		**Educational Programming Meetings**	**41 days**	**Mon 9/16/24**	**Mon 11/11/24**		
43		Educational Programming Meeting 1	1 day	Mon 9/16/24	Mon 9/16/24		
44		Educational Programming Meeting 2	1 day	Mon 11/11/24	Mon 11/11/24		
45		Educational Programming Meeting 3	1 day	Tue 10/1/24	Tue 10/1/24		
46		**Approve Educational Plan**	**267 days?**	**Wed 10/30/24**	**Thu 11/6/25**		
47		District Review of Educational Plan	38 days	Tue 9/16/25	Thu 11/6/25		
48		SBC Review and Acceptance of Educational Plan	1 day?	Wed 10/30/24	Wed 10/30/24		
49		School Committee review draft Educational Plan	1 day	Wed 11/13/24	Wed 11/13/24		
50		School Committee approve Educational Plan	1 day	Mon 12/2/24	Mon 12/2/24		
51		**Initial Space Summary**	33 days	Mon 9/8/25	Wed 10/22/25	26FS+15 days	
52		SBC Review and Acceptance of Space Summary	1 day?	Wed 10/30/24	Wed 10/30/24		
53		School Committeee Reivew of Space Summary	1 day?	Wed 11/13/24	Wed 11/13/24		
54		School Committee Acceptance of Space Summary	1 day?	Mon 12/2/24	Mon 12/2/24		
55		**Existing Conditions Evaluation**	33 days	Mon 9/8/25	Wed 10/22/25	26FS+15 days	
56		**Preliminary Evaluation of Alternatives**	30 days	Thu 10/23/25	Wed 12/3/25	51,55	
57		Community Meeting #2	1 day?	Thu 11/20/25	Thu 11/20/25		
58		**PDP Estimating**	**8 days?**	**Thu 12/4/25**	**Mon 12/15/25**		
59		Submit PDP Package to Estimators	6 days	Thu 12/4/25	Thu 12/11/25	56	
60		Reconciliation	1 day	Fri 12/12/25	Fri 12/12/25	59	
61		Community Meeting #3	1 day?	Tue 12/9/25	Tue 12/9/25		
62		Publish PDP Costs	1 day	Mon 12/15/25	Mon 12/15/25	60	
63		**District Approvals**	**282 days?**	**Mon 12/9/24**	**Tue 1/6/26**		
64		SC Vote to approved Ed Program and Space Summary	18 days	Fri 11/7/25	Tue 12/2/25	47	
65		Community Meeting #3	1 day?	Mon 12/9/24	Mon 12/9/24		
66		SBC Present PDP Costs	0 days	Mon 12/15/25	Mon 12/15/25	62	
67		SBC Vote to approved PDP Submission	17 days	Mon 12/15/25	Tue 1/6/26	66	



Project: 20260325 Essex ES Pro
Date: Wed 3/25/26

Task	Inactive Task	Manual Summary Rollup	External Milestone
Split	Inactive Milestone	Manual Summary	Deadline
Milestone	Inactive Summary	Start-only	Progress
Summary	Manual Task	Finish-only	Manual Progress
Project Summary	Duration-only	External Tasks	

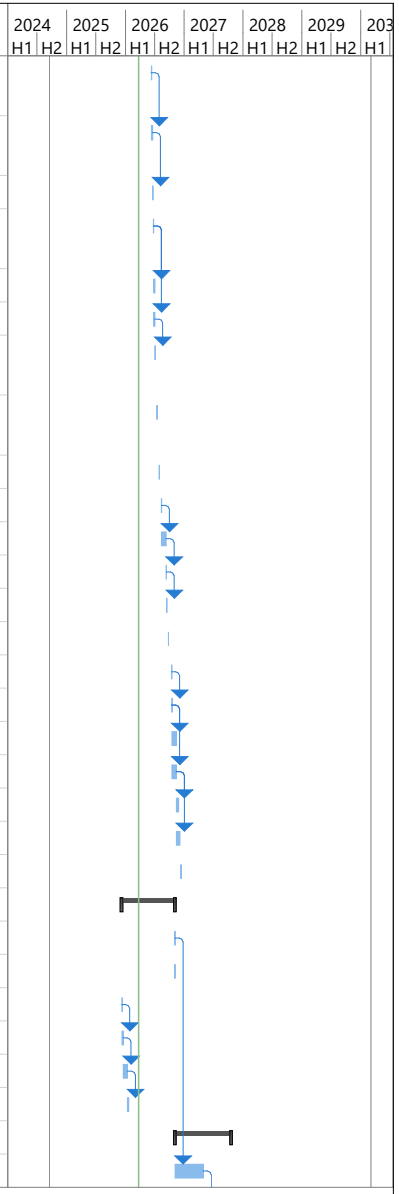
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
68		**MSBA Submission and approvals**	**55 days**	**Wed 1/7/26**	**Tue 3/24/26**		
69		Submit PDP	5 days	Wed 1/7/26	Tue 1/13/26	67	
70		MSBA Review period	20 days	Wed 1/14/26	Tue 2/10/26	69	
71		District Response to MSBA Comments	10 days	Wed 2/11/26	Tue 2/24/26	70	
72		MSBA Accept PDP	20 days	Wed 2/25/26	Tue 3/24/26	71	
73		**Preferred Schematic Report (PSR)**	**248 days?**	**Tue 6/24/25**	**Thu 6/4/26**		
74		Further Development of Alternatives	35 days	Mon 12/15/25	Fri 1/30/26	67SS	
75		Community Meeting #4	1 day?	Wed 1/28/26	Wed 1/28/26		
76		Development of Preferred solution	28 days	Mon 2/2/26	Wed 3/11/26	74	
77		Cost Estimate Documentation to Estimator	0 days	Wed 3/11/26	Wed 3/11/26	76	
78		Cost Estimates and Reconcilation	15 days	Thu 3/12/26	Wed 4/1/26	76	
79		SBC Present PSR Costs	1 day	Tue 4/14/26	Tue 4/14/26	78	
80		Community Meeting #5	1 day?	Thu 4/16/26	Thu 4/16/26		
81		SBC Approve PSR	1 day?	Tue 4/28/26	Tue 4/28/26	79FS+9 days	
82		**MSBA submission and approvals**	**248 days?**	**Tue 6/24/25**	**Thu 6/4/26**		
83		Submit PSR	5 days	Wed 4/29/26	Tue 5/5/26	81	
84		MSBA Review period	20 days	Wed 5/6/26	Tue 6/2/26	83	
85		Facilities Assessment Subcommittee (FAS)	1 day?	Wed 5/13/26	Wed 5/13/26		
86		Facilities Assessment Subcommittee (FAS)	1 day	Wed 5/20/26	Wed 5/20/26		
87		MSBA issue Comments	1 day	Thu 5/21/26	Thu 5/21/26	86	
88		District response to MSBA Comments	10 days	Fri 5/22/26	Thu 6/4/26	87	
89		MSBA Board Meeting to Approve PSR and proceed into SD	1 day	Tue 6/24/25	Tue 6/24/25		
90		**Module 4 - Schematic**	**161 days?**	**Wed 4/29/26**	**Wed 12/9/26**		
91		Schematic Design Development	116 days	Wed 5/6/26	Wed 10/14/26	83	
92		MEP Working Group #2	5 days	Wed 4/29/26	Tue 5/5/26	81	
93		SBC Meeting #20: Preferred Option Development, Confirmation of Systems	1 day?	Tue 5/12/26	Tue 5/12/26		
94		Site Safety and Security Working Group #2	5 days	Mon 5/18/26	Fri 5/22/26	93	
95		Exterior Design Working Group #1	5 days	Mon 5/18/26	Fri 5/22/26	93	
96		SBC Meeting #21: Preferred Option Development, Site Safety Security and Exterior Design RO	1 day?	Tue 5/26/26	Tue 5/26/26		
97		Mech Lifecylce Studies	15 days	Mon 5/25/26	Fri 6/12/26	92	
98		Interior Design WG: Intro	5 days	Mon 5/25/26	Fri 5/29/26	97SS	



Project: 20260325 Essex ES Pro
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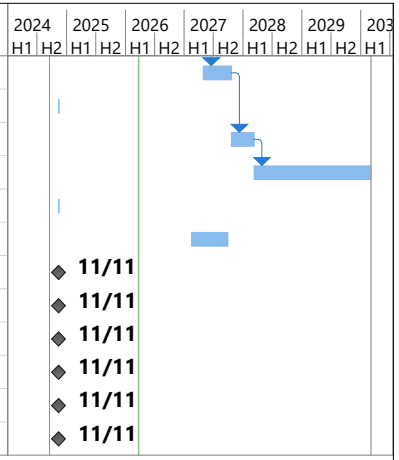
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
99		SBC Meeting #22: Preferred Alternative Development, RO Interior WG	1 day?	Tue 6/9/26	Tue 6/9/26		
100		MEP Working Group #3: Share lifecyle studies, final selection of MEP systems	5 days	Wed 6/10/26	Tue 6/16/26	99	
101		Facilities Meeting to Review MEP/FP Systems	2 days	Wed 6/17/26	Thu 6/18/26	100	
102		SBC Meeting #23: Preferred Alternative Development, RO MEP and Lifecycle Systems	1 day?	Tue 6/23/26	Tue 6/23/26		
103		Exterior Design WG #2 Progress Update	5 days	Wed 6/24/26	Tue 6/30/26	102	
104		Interior Design WG #2 Progress Update	5 days	Wed 6/24/26	Tue 6/30/26	102	
105		Sustainability WG #3: Updates per preferred Alternatives Design Progress	2 days	Wed 7/1/26	Thu 7/2/26	104	
106		SBC Meeting #24: Preferred Alts Update, RO Exterior, Interior, and Sustainability WG's	1 day?	Tue 7/14/26	Tue 7/14/26		
107		SBC Meeting #25: Preferred Alts Updates	1 day?	Tue 7/28/26	Tue 7/28/26		
108		Submit Cost Estimate Package to Estimators	1 day?	Tue 8/11/26	Tue 8/11/26		
109		Cost Estimating	20 days	Wed 8/12/26	Tue 9/8/26	108	
110		Reconciliation	2 days	Wed 9/9/26	Thu 9/10/26	109	
111		Provide SD Package to client	3 days	Fri 9/11/26	Tue 9/15/26	110	
112		SBC Meeting #29 Review Cost Estimates	1 day?	Tue 9/22/26	Tue 9/22/26		
113		SBC vote to approve SD	1 day	Tue 10/13/26	Tue 10/13/26		
114		Submit SD to MSBA	1 day	Wed 10/14/26	Wed 10/14/26	113	
115		DESE Submittal Review	20 days	Thu 10/15/26	Wed 11/11/26	114	
116		MSBA Review period	20 days	Thu 10/15/26	Wed 11/11/26	114	
117		District Response to comments	10 days	Thu 11/12/26	Wed 11/25/26	116	
118		Project Scope and Budget Conference (PS&B)	15 days	Thu 11/12/26	Wed 12/2/26	116	
119		MSBA Board approval of SD Submission	1 day	Wed 12/9/26	Wed 12/9/26		
120		**Module 5 - Local Actions and Approvals**	**237 days?**	**Mon 12/8/25**	**Tue 11/3/26**		
121		Manchester by The Sea Town Meeting Approval	1 day	Tue 11/3/26	Tue 11/3/26		
122		Town of Essex Town Meeting Approval	1 day	Tue 11/3/26	Tue 11/3/26		
123		Projected Town vote for PS&B and full funding of proj	1 day	Mon 12/8/25	Mon 12/8/25		
124		Certifications of Votes sent to MSBA	5 days	Tue 12/9/25	Mon 12/15/25	123	
125		Project Funding Agreement Sent	20 days?	Tue 12/16/25	Mon 1/12/26	124	
126		Project Funding Agreement Executed	5 days	Tue 1/13/26	Mon 1/19/26	125	
127		**Module 6 - Detailed Design**	**250 days**	**Wed 11/4/26**	**Tue 10/19/27**		
128		DD	25 wks	Wed 11/4/26	Tue 4/27/27	121	



Project: 20260325 Essex ES Pro
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Task
Split
Milestone
Summary
Project Summary
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Manual Summary
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Finish-only
External Tasks
External Milestone
Deadline
Progress
Manual Progress

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
129		CD	25 wks	Wed 4/28/27	Tue 10/19/27	128	
130		**Module 7 - Construction**	1 day?	Mon 11/11/24	Mon 11/11/24		
131		Bidding / Procurement	20 wks	Wed 10/20/27	Tue 3/7/28	129	
132		Construction	104 wks	Wed 3/8/28	Tue 3/5/30	131	
133		**Permitting**	1 day	Mon 11/11/24	Mon 11/11/24		
134		ConCom	160 days	Tue 2/16/27	Mon 9/27/27		
135		Mass Historical Commission N/A	0 days	Mon 11/11/24	Mon 11/11/24		
136		MA-DOT N/A	0 days	Mon 11/11/24	Mon 11/11/24		
137		MA-DEP Not Anticipated	0 days	Mon 11/11/24	Mon 11/11/24		
138		NHESP	0 days	Mon 11/11/24	Mon 11/11/24		
139		MAAB Not sure at this phase	0 days	Mon 11/11/24	Mon 11/11/24		
140		EEA Not Anticipated	0 days	Mon 11/11/24	Mon 11/11/24		



Project: 20260325 Essex ES Pro
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Project Summary	Duration-only	External Tasks	

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 165 STUDENT K-3 OPTION	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
CORE ACADEMIC			**14,301**			**0**			**11,750**			**11,750**			**4,600**			**7,150**	STE Guidelines Policy
(List rooms of different sizes separately)																			
Kindergarten Classroom with Toilet	857	2	1,714			0	1,200	2	2,400	1,200	2	2,400	0	0	0	1,200	2	2,400	1,100 NSF (minimum size) - 1,300 NSF (maximum size); Minimum of (2) sinks required per Kindergarten Classroom
General Classroom (Two per grade 1-3)	866	10	8,660			0	950	6	5,700	950	6	5,700	0	1	950	950	5	4,750	900 NSF (minimum size) - 1,000 NSF (maximum size); Minimum of (2) sinks required per General Classroom
Project Room (STE)	1,178	2	2,356			0	1,080	1	1,080	1,080	1	1,080	0	1	1,080	1,080	0	-	1,080 NSF (minimum size); Refer to the 2018 STE Guidelines for additional information.
Project Storage Room			0			0	120	1	120	120	1	120	0	1	120	120	0	-	Minimum of (1) 120 NSF STE Storage Room required per STE Room; Refer to the 2018 STE Guidelines for additional information.
World Language			0			0	950	1	950	950	1	950	950	1	950				
MTSS Interventionists Office	857	1	857			0	500	1	500	500	1	500	500	1	500				
MTSS Interventionists Small Group			0			0	250	0	0	250	0	0	250	0	0				
Break-Out			0			0	500	2	1,000	500	2	1,000	500	2	1,000				
Book Storage	238	3	714			0			0	0	0	0	0	0	0				
SPECIAL EDUCATION			**4,718**			**0**			**5,835**			**5,835**			**2,815**			**3,020**	Special Education spaces require DESE review and approval.
(List rooms of different sizes separately)																			
Self-Contained Special Education Classroom (RISE, Gr. K-3)	871	1	871			0	950	1	950	950	1	950	0	-1	-950	950	2	1,900	900 NSF (minimum size) - 1,300 NSF; equal to the size of the proposed General Classrooms that serve the same student population.
Self-Contained Special Education Toilet Room (RISE, Gr. K-3)			0			0	60	1	60	60	1	60	0	-1	-60	60	2	120	
Self-Contained Special Education Classroom (ACE, Gr. K-3)			0			0	900	1	900	900	1	900	900	1	900				
Resource Room	795	2	1,590			0	500	1	500	500	1	500	0	0	0	500	1	500	1/2 size of a General Classroom
Small Group Room			0			0	250	4	1,000	250	4	1,000	-250	3	500	500	1	500	1/2 size of a General Classroom
Speech and Language	128	1	128			0	150	1	150	150	1	150	150	1	150				
Occupational Therapy (OT)	225	2	450			0	475	1	475	475	1	475	475	1	475				
Physical Therapy (PT)	1,191	1	1,191			0	1,200	1	1,200	1,200	1	1,200	1,200	1	1,200				
Sensory Room (Calming Corner)	163	1	163			0	250	1	250	250	1	250	250	1	250				
Special Education Team Chair Office	325	1	325			0	150	1	150	150	1	150	150	1	150				
Special Education Conference			0			0	200	1	200	200	1	200	200	1	200				
ART & MUSIC			**1,750**			**0**			**2,100**			**2,100**			**2,025**			**75**	
Art Classroom (25 seats)	1,035	1	1,035			0	1,000	1	1,000	1,000	1	1,000	0	1	1,000	1,000	0	-	Assumed schedule: 2 times per week per student
Art Workroom with Storage and Kiln			0			0	150	1	150	150	1	150	0	1	150	150	0	-	
Music Classroom / Large Group (25-50 seats)	715	1	715			0	950	1	950	950	1	950	-250	1	950	1,200	0	-	Assumed schedule: 2 times per week per student
Music Practice / Ensemble			0			0			0	0	0	0	-75	-1	-75	75	1	75	
HEALTH & PHYSICAL EDUCATION			**6,154**			**0**			**7,150**			**7,150**			**850**			**6,300**	Excess Physical Education Spaces Policy
Gymnasium (w/ bleachers)	4,782	1	4,782			0	6,850	1	6,850	6,850	1	6,850	850	0	850	6,000	1	6,000	
Gym Storeroom	435	1	435			0	150	1	150	150	1	150	0	0	0	150	1	150	
Health Instructor's Office with Shower and Toilet	75	1	75			0	150	1	150	150	1	150	0	0	0	150	1	150	
Boys Locker	574	1	574			0			0	0	0	0	0	0	0				
Girls Locker	288	1	288			0			0	0	0	0	0	0	0				
MEDIA CENTER			**1,926**			**0**			**2,020**			**2,020**			**0**			**2,020**	
Media Center / Reading Room	1,775	1	1,775			0	2,020	1	2,020	2,020	1	2,020	0	0	0	2,020	1	2,020	
Media Office / Work	151	1	151			0			0	0	0	0	0	0	0				

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 165 STUDENT K-3 OPTION	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
DINING & FOOD SERVICE			**5,244**			**0**			**4,238**			**4,238**			**0**			**4,238**	
Cafeteria / Dining	3,035	1	3,035			0	1,238	1	1,238	1,238	1	1,238	0	0	0	1,238	1	1,238	Based on 2 lunch seatings - 15 NSF per seat
Stage	877	1	877			0	1,000	1	1,000	1,000	1	1,000	0	0	0	1,000	1	1,000	
Chair / Table / Equipment Storage			0			0	200	1	200	200	1	200	0	0	0	200	1	200	
Kitchen	1,332	1	1,332			0	1,600	1	1,600	1,600	1	1,600	0	0	0	1,600	1	1,600	1,600 NSF for first 300 students + 1 NSF per additional student
Staff Lunch Room			0			0	200	1	200	200	1	200	0	0	0	200	1	200	20 NSF per student
MEDICAL			**341**			**0**			**410**			**410**			**0**			**410**	
Medical Suite Toilet	27	1	27			0	60	1	60	60	1	60	0	0	0	60	1	60	
Nurses' Office / Waiting Room	157	1	157			0	250	1	250	250	1	250	0	0	0	250	1	250	
Examination Room / Resting	157	1	157			0	100	1	100	100	1	100	0	0	0	100	1	100	
ADMINISTRATION & GUIDANCE			**1,424**			**0**			**2,245**			**2,245**			**230**			**2,015**	
General Office / Waiting Room with Toilet	111	1	111			0	300	1	300	300	1	300	0	0	0	300	1	300	
Teachers' Mail and Time Room			0			0	100	1	100	100	1	100	0	0	0	100	1	100	
Copy Room			0			0	150	1	150	150	1	150	0	0	0	150	1	150	
Records Room			0			0	110	1	110	110	1	110	0	0	0	110	1	110	
Principal's Office with Conference Area	184	1	184			0	375	1	375	375	1	375	0	0	0	375	1	375	
Principal's Secretary / Waiting			0			0	125	1	125	125	1	125	0	0	0	125	1	125	
Assistant Principal's Office			0			0			0	0	0	0	-120	0	0	120	0	-	
Supervisory / Spare Office			0			0			0	0	0	0	-120	-1	-120	120	1	120	
Conference Room	342	1	342			0	250	1	250	250	1	250	0	0	0	250	1	250	
School Counselor Office	424	1	424			0	150	1	150	150	1	150	0	0	0	150	1	150	
School Counselor Storeroom			0			0			0	0	0	0	-35	-1	-35	35	1	35	
Teachers' Work Room	718		0			0	300	1	300	300	1	300	0	0	0	300	1	300	
Tech Office	235	1	235			0	235	1	235	235	1	235	235	1	235				
School Psychologist	128	1	128			0	150	1	150	150	1	150	150	1	150				
CUSTODIAL & MAINTENANCE			**546**			**0**			**1,900**			**1,900**			**0**			**1,900**	
Custodian's Office	73	1	73			0	150	1	150	150	1	150	0	0	0	150	1	150	
Custodian's Workshop			0			0	375	1	375	375	1	375	0	0	0	375	1	375	
Custodian's Storage	114	1	114			0	375	1	375	375	1	375	0	0	0	375	1	375	
Recycling Room / Trash			0			0	400	1	400	400	1	400	0	0	0	400	1	400	
Receiving and General Supply			0			0	200	1	200	200	1	200	0	0	0	200	1	200	
Storeroom	132	2	264			0	200	1	200	200	1	200	0	0	0	200	1	200	
Network / Telecom Room	95	1	95			0	200	1	200	200	1	200	0	0	0	200	1	200	
OTHER			**0**			**0**			**2,400**			**2,400**			**2,400**			**0**	
(List rooms separately below)																			
Pre-Kindergarten Classroom with Toilet			0			0	1,200	2	2,400	1,200	2	2,400	0	2	2,400	1,200	0	-	1,100 NSF (minimum size) - 1,300 NSF (maximum size)
Total Building Net Floor Area (NFA)			**36,404**			**0**			**40,048**			**40,048**			**12,920**			**27,128**	**Total Building Net Floor Area (NFA)**
Proposed Student Capacity / Enrollment																# of Grades	4	**165**	**Total Enrollment (Enter Design Enrollment)**
																K	1	**41**	Kindergarten Enrollment
																Grade 1	1	**83**	Lower Elementary School Enrollment (Grades 1-2)
																Grade 2	1	**41**	Upper Elementary School Enrollment (Grades 3-6)
																Grade 3	1		
																Grade 4	0		
																Grade 5	0		
																Grade 6	0		

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 165 STUDENT K-3 OPTION	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
NON-PROGRAMMED SPACES					% of GFA	**0**		% of GFA	**20,024**		% of GFA	**20,024**							Complete this category with Schematic Design Submittal
Other Occupied Rooms (List rooms separately below)																			
Mothers' Room			0			0	120	1	120	120	1	120	120	1	120				
[Enter room type here]				-	#DIV/0!		-	0.0%		-	0.0%	0							
Unoccupied MEP / FP Spaces	2,358	4.4%	2,358	-	#DIV/0!		-	0.0%		-	0.0%	0							
Unoccupied Closets, Supply Rooms, and Storage Rooms	875	1.6%	875	-	#DIV/0!		650	1.1%	650	650	1.1%	650							
Toilet Rooms	1,133	2.1%	1,133	-	#DIV/0!		-	0.0%		-	0.0%	0							
Circulation (corridors, stairs, ramps and elevators)	6,813	12.8%	6,813	-	#DIV/0!		-	0.0%		-	0.0%	0							
Remaining[3]	5,453	10.3%	5,453	-	#DIV/0!	**0**	-	32.1%	**19,254**	-	32.1%	**19,254**							
Total Building Gross Floor Area (GFA)[2]			**53,036**			**0**			**60,072**			**60,072**			**30,372**			**29,700**	**Total Building Gross Floor Area (GFA)[2]**
Grossing Factor (GFA / NFA)			**1.46**			**#DIV/0!**			**1.50**			**1.50**			**0.41**			**1.09**	**Grossing Factor (GFA / NFA)**

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls.

[3] **Remaining** Includes exterior walls, interior partitions, chases, and other areas not listed above. Do not calculate this area, it is assumed to equal the difference between the Total Building Gross Floor Area and area not accounted for above.

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architecture Firm: JCJ Architecture

Name of Principal Architect: James E. LaPosta Jr., FAIA, LEED AP

Signature of Principal Architect:

Date: 03/24/25

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 250 STUDENT K-5 OPTION	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
CORE ACADEMIC			**14,301**			**0**			**16,550**			**16,550**			**5,600**			**10,950**	STE Guidelines Policy
(List rooms of different sizes separately)																			
Kindergarten Classroom with Toilet	857	2	1,714			0	1,200	2	2,400	1,200	2	2,400	0	0	0	1,200	2	2,400	1,100 NSF (minimum size) - 1,300 NSF (maximum size); Minimum of (2) sinks required per Kindergarten Classroom
General Classroom (Two per grade 1-5)	866	10	8,660			0	950	10	9,500	950	10	9,500	0	1	950	950	9	8,550	900 NSF (minimum size) - 1,000 NSF (maximum size); Minimum of (2) sinks required per General Classroom
Project Room (STE)	1,178	2	2,356			0	1,080	1	1,080	1,080	1	1,080	0	1	1,080	1,080	0	-	1,080 NSF (minimum size); Refer to the 2018 STE Guidelines for additional information.
Project Storage Room			0			0	120	1	120	120	1	120	0	1	120	120	0	-	Minimum of (1) 120 NSF STE Storage Room required per STE Room; Refer to the 2018 STE Guidelines for additional information.
World Language			0			0	950	1	950	950	1	950	950	1	950				
MTSS Interventionists Office	857	1	857			0	500	2	1,000	500	2	1,000	500	2	1,000				
MTSS Interventionists Small Group			0			0	250	0	0	250	0	0	250	0	0				
Break-Out			0			0	500	3	1,500	500	3	1,500	500	3	1,500				
Book Storage	238	3	714			0			0	0	0	0	0	0	0				
SPECIAL EDUCATION			**4,718**			**0**			**8,245**			**8,245**			**5,225**			**3,020**	Special Education spaces require DESE review and approval.
(List rooms of different sizes separately)																			
Self-Contained Special Education Classroom (RISE, Gr. K-2)	871	1	871			0	950	1	950	950	1	950	0	-1	-950	950	2	1,900	900 NSF (minimum size) - 1,300 NSF; equal to the size of the proposed General Classrooms that serve the same student population.
Self-Contained Special Education Classroom (RISE, Gr. 3-5)			0			0	950	1	950	950	1	950	950	1	950				
Self-Contained Special Education Toilet Room (RISE)			0			0	60	2	120	60	2	120	0	0	0	60	2	120	
Self-Contained Special Education Classroom (ACE, Gr. K-2)			0			0	900	1	900	900	1	900	900	1	900				
Self-Contained Special Education Classroom (ACE, Gr. 3-5)			0			0	900	1	900	900	1	900	900	1	900				
Resource Room	795	2	1,590			0	500	1	500	500	1	500	0	0	0	500	1	500	1/2 size of a General Classroom
Small Group Room			0			0	250	6	1,500	250	6	1,500	-250	5	1,000	500	1	500	1/2 size of a General Classroom
Speech and Language	128	1	128			0	150	1	150	150	1	150	150	1	150				
Sensory Room (Calming Corner)	163	1	163			0	250	1	250	250	1	250	250	1	250				
Occupational Therapy (OT)	225	2	450			0	475	1	475	475	1	475	475	1	475				
Physical Therapy (PT)	1,191	1	1,191			0	1,200	1	1,200	1,200	1	1,200	1,200	1	1,200				
Special Education Team Chair Office	325	1	325			0	150	1	150	150	1	150	150	1	150				
Special Education Conference			0			0	200	1	200	200	1	200	200	1	200				
ART & MUSIC			**1,750**			**0**			**2,500**			**2,500**			**0**			**2,500**	
Art Classroom (25 seats)	1,035	1	1,035			0	1,000	1	1,000	1,000	1	1,000	0	0	0	1,000	1	1,000	Assumed schedule: 2 times per week per student
Art Workroom with Storage and Kiln			0			0	150	1	150	150	1	150	0	0	0	150	1	150	
Music Classroom / Large Group (25-50 seats)	715	1	715			0	1,200	1	1,200	1,200	1	1,200	0	0	0	1,200	1	1,200	Assumed schedule: 2 times per week per student
Music Practice / Ensemble			0			0	75	2	150	75	2	150	0	0	0	75	2	150	
HEALTH & PHYSICAL EDUCATION			**6,154**			**0**			**7,150**			**7,150**			**850**			**6,300**	Excess Physical Education Spaces Policy
Gymnasium (w/ bleachers)	4,782	1	4,782			0	6,850	1	6,850	6,850	1	6,850	850	0	850	6,000	1	6,000	
Gym Storeroom	435	1	435			0	150	1	150	150	1	150	0	0	0	150	1	150	
Health Instructor's Office with Shower and Toilet	75	1	75			0	150	1	150	150	1	150	0	0	0	150	1	150	
Boys Locker	574	1	574			0			0	0	0	0	0	0	0				
Girls Locker	288	1	288			0			0	0	0	0	0	0	0				
MEDIA CENTER			**1,926**			**0**			**2,020**			**2,020**			**0**			**2,020**	
Media Center / Reading Room	1,775	1	1,775			0	2,020	1	2,020	2,020	1	2,020	0	0	0	2,020	1	2,020	
Media Office / Work	151	1	151			0			0	0	0	0	0	0	0				

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 250 STUDENT K-5 OPTION	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
DINING & FOOD SERVICE			**5,244**			**0**			**4,875**			**4,875**			**0**			**4,875**	
Cafeteria / Dining	3,035	1	3,035			0	1,875	1	1,875	1,875	1	1,875	0	0	0	1,875	1	1,875	Based on 2 lunch seatings - 15 NSF per seat
Stage	877	1	877			0	1,000	1	1,000	1,000	1	1,000	0	0	0	1,000	1	1,000	
Chair / Table / Equipment Storage			0			0	200	1	200	200	1	200	0	0	0	200	1	200	
Kitchen	1,332	1	1,332			0	1,600	1	1,600	1,600	1	1,600	0	0	0	1,600	1	1,600	1,600 NSF for first 300 students + 1 NSF per additional student
Staff Lunch Room			0			0	200	1	200	200	1	200	0	0	0	200	1	200	20 NSF per student
MEDICAL			**341**			**0**			**410**			**410**			**0**			**410**	
Medical Suite Toilet	27	1	27			0	60	1	60	60	1	60	0	0	0	60	1	60	
Nurses' Office / Waiting Room	157	1	157			0	250	1	250	250	1	250	0	0	0	250	1	250	
Examination Room / Resting	157	1	157			0	100	1	100	100	1	100	0	0	0	100	1	100	
ADMINISTRATION & GUIDANCE			**1,424**			**0**			**2,245**			**2,245**			**230**			**2,015**	
General Office / Waiting Room with Toilet	111	1	111			0	300	1	300	300	1	300	0	0	0	300	1	300	
Teachers' Mail and Time Room			0			0	100	1	100	100	1	100	0	0	0	100	1	100	
Copy Room			0			0	150	1	150	150	1	150	0	0	0	150	1	150	
Records Room			0			0	110	1	110	110	1	110	0	0	0	110	1	110	
Principal's Office with Conference Area	184	1	184			0	375	1	375	375	1	375	0	0	0	375	1	375	
Principal's Secretary / Waiting			0			0	125	1	125	125	1	125	0	0	0	125	1	125	
Assistant Principal's Office			0			0			0	0	0	0	-120	0	0	120	0	-	
Supervisory / Spare Office			0			0			0	0	0	0	-120	-1	-120	120	1	120	
Conference Room	342	1	342			0	250	1	250	250	1	250	0	0	0	250	1	250	
School Counselor Office	424	1	424			0	150	1	150	150	1	150	0	0	0	150	1	150	
School Counselor Storeroom			0			0			0	0	0	0	-35	-1	-35	35	1	35	
Teachers' Work Room	718		0			0	300	1	300	300	1	300	0	0	0	300	1	300	
Tech Office	235	1	235			0	235	1	235	235	1	235	235	1	235				
School Psychologist	128	1	128			0	150	1	150	150	1	150	150	1	150				
CUSTODIAL & MAINTENANCE			**546**			**0**			**1,900**			**1,900**			**0**			**1,900**	
Custodian's Office	73	1	73			0	150	1	150	150	1	150	0	0	0	150	1	150	
Custodian's Workshop			0			0	375	1	375	375	1	375	0	0	0	375	1	375	
Custodian's Storage	114	1	114			0	375	1	375	375	1	375	0	0	0	375	1	375	
Recycling Room / Trash			0			0	400	1	400	400	1	400	0	0	0	400	1	400	
Receiving and General Supply			0			0	200	1	200	200	1	200	0	0	0	200	1	200	
Storeroom	132	2	264			0	200	1	200	200	1	200	0	0	0	200	1	200	
Network / Telecom Room	95	1	95			0	200	1	200	200	1	200	0	0	0	200	1	200	
OTHER			**0**			**0**			**2,400**			**2,400**			**2,400**			**0**	
(List rooms separately below)																			
Pre-Kindergarten Classroom with Toilet			0			0	1,200	2	2,400	1,200	2	2,400	0	2	2,400	1,200	0	-	1,100 NSF (minimum size) - 1,300 NSF (maximum size)
Total Building Net Floor Area (NFA)			**36,404**			**0**			**48,295**			**48,295**			**14,305**			**33,990**	**Total Building Net Floor Area (NFA)**
Proposed Student Capacity / Enrollment																# of Grades	6	**250**	**Total Enrollment (Enter Design Enrollment)**
																K	1	**42**	Kindergarten Enrollment
																Grade 1	1	**83**	Lower Elementary School Enrollment (Grades 1-2)
																Grade 2	1	**125**	Upper Elementary School Enrollment (Grades 3-6)
																Grade 3	1		
																Grade 4	1		
																Grade 5	1		
																Grade 6	0		

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 250 STUDENT K-5 OPTION	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
NON-PROGRAMMED SPACES					% of GFA	0		% of GFA	24,148		% of GFA	24,148							Complete this category with Schematic Design Submittal
Other Occupied Rooms (List rooms separately below)																			
Mothers' Room			0			0	120	1	120	120	1	120	120	1	120				
[Enter room type here]				-	#DIV/0!		-	0.0%		-	0.0%	0							
Unoccupied MEP / FP Spaces	2,358	4.4%	2,358	-	#DIV/0!		-	0.0%		-	0.0%	0							
Unoccupied Closets, Supply Rooms, and Storage Rooms	875	1.6%	875	-	#DIV/0!		800	1.1%	800	800	1.1%	800							
Toilet Rooms	1,133	2.1%	1,133	-	#DIV/0!		-	0.0%		-	0.0%	0							
Circulation (corridors, stairs, ramps and elevators)	6,813	12.8%	6,813	-	#DIV/0!		-	0.0%		-	0.0%	0							
Remaining[3]	5,453	10.3%	5,453	-	#DIV/0!	0	23,228	32.1%	23,228	-	32.1%	23,228							
Total Building Gross Floor Area (GFA)[2]			53,036			0			72,443			72,443			27,443			45,000	Total Building Gross Floor Area (GFA)[2]
Grossing Factor (GFA / NFA)			1.46			#DIV/0!			1.50			1.50			0.18			1.32	Grossing Factor (GFA / NFA)

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls.

[3] **Remaining** Includes exterior walls, interior partitions, chases, and other areas not listed above. Do not calculate this area, it is assumed to equal the difference between the Total Building Gross Floor Area and area not accounted for above.

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architecture Firm: JCJ Architecture

Name of Principal Architect: James F. LaPosta Jr., FAIA, LEED AP

Signature of Principal Architect:

Date: 03/24/25

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 515 STUDENT K-5 CONSOLIDATION OPTION	EXISTING CONDITIONS (@ MMES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
CORE ACADEMIC			**19,850**			**19,850**			**13,700**			**33,550**			**9,500**			**24,050**	STE Guidelines Policy
(List rooms of different sizes separately)																			
Kindergarten Classroom with Toilet	1,200	3	3,600	1,200	3	3,600	1,200	2	2,400	1,200	5	6,000	0	0	0	1,200	5	6,000	1,100 NSF (minimum size) - 1,300 NSF (maximum size); Minimum of (2) sinks required per Kindergarten Classroom
General Classroom (Five per grade 1-3, Four per grade 4-5)	950	15	14,250	950	15	14,250	950	8	7,600	950	23	21,850	0	4	3,800	950	19	18,050	900 NSF (minimum size) - 1,000 NSF (maximum size); Minimum of (2) sinks required per General Classroom
Project Room w/ storage (STE, World Language)	1,000	2	2,000	1,000	2	2,000	1,080	1	1,080	1,027	3	3,080	-53	3	3,080	1,080	0	-	1,080 NSF (minimum size); Refer to the 2018 STE Guidelines for additional information.
Project Room Storage			0			0	120	1	120	120	1	120	0	1	120	120	0	-	Minimum of (1) 120 NSF STE Storage Room required per STE Room; Refer to the 2018 STE Guidelines for additional information.
MTSS Interventionists Office			0			0	500	2	1,000	500	2	1,000	500	2	1,000				
MTSS Interventionists Small Group			0			0	250	0	0	250	0	0	250	0	0				
Break-Out			0			0	500	3	1,500	500	3	1,500	500	3	1,500				
SPECIAL EDUCATION			**6,480**			**6,480**			**8,255**			**14,735**			**8,935**			**5,800**	Special Education spaces require DESE review and approval.
(List rooms of different sizes separately)																			
Self-Contained Special Education Classroom	950	4	3,800	950	4	3,800	950	1	950	950	5	4,750	0	1	950	950	4	3,800	900 NSF (minimum size) - 1,300 NSF; equal to the size of the proposed General Classrooms that serve the same student population.
Self-Contained Special Education Toilet Room	60	3	180	60	3	180	60	1	60	60	4	240	0	4	240	60	0	-	
Self-Contained Special Education Classroom (ACE, Gr. K-2)			0			0	900	1	900	900	1	900	900	1	900				
Self-Contained Special Education Classroom (ACE, Gr. 3-5)			0			0	900	1	900	900	1	900	900	1	900				
Self-Contained Special Education Classroom (RISE, Gr. K-2)			0			0	950	1	950	950	1	950	950	1	950				
Self-Contained Special Education Classroom (RISE, Gr. 3-5)			0			0	950	1	950	950	1	950	950	1	950				
Self-Contained Special Education Toilet Room (RISE)			0			0	60	2	120	120	2	120	120	2	120				
Resource Room	500	4	2,000	500	4	2,000	500	1	500	500	5	2,500	0	2	1,000	500	3	1,500	1/2 size of a General Classroom
Small Group Room	500	1	500	500	1	500	500	1	500	500	2	1,000	0	1	500	500	1	500	1/2 size of a General Classroom
Speech and Language			0			0	150	1	150	150	1	150	150	1	150				
Sensory Room (Calming Corner)			0			0	250	1	250	250	1	250	250	1	250				
Occupational Therapy (OT)			0			0	475	1	475	475	1	475	475	1	475				
Physical Therapy (PT)			0			0	1,200	1	1,200	1,200	1	1,200	1,200	1	1,200				
Special Education Team Chair Office			0			0	150	1	150	150	1	150	150	1	150				
Special Education Conference			0			0	200	1	200	200	1	200	200	1	200				
ART & MUSIC			**2,550**			**2,550**			**0**			**2,550**			**-25**			**2,575**	
Art Classroom (25 seats)	1,000	1	1,000	1,000	1	1,000			0	1,000	1	1,000	0	0	0	1,000	1	1,000	Assumed schedule: 2 times per week per student
Art Workroom with Storage and Kiln	150	1	150	150	1	150			0	150	1	150	0	0	0	150	1	150	
Music Classroom / Large Group (25-50 seats)	1,200	1	1,200	1,200	1	1,200			0	1,200	1	1,200	0	0	0	1,200	1	1,200	Assumed schedule: 2 times per week per student
Music Practice / Ensemble	200	1	200	200	1	200			0	200	1	200	125	-2	-25	75	3	225	
HEALTH & PHYSICAL EDUCATION			**7,150**			**7,150**			**0**			**7,150**			**850**			**6,300**	Excess Physical Education Spaces Policy
Gymnasium (w/ bleachers)	6,850	1	6,850	6,850	1	6,850			0	6,850	1	6,850	850	0	850	6,000	1	6,000	
Gym Storeroom	150	1	150	150	1	150			0	150	1	150	0	0	0	150	1	150	
Health Instructor's Office with Shower and Toilet	150	1	150	150	1	150			0	150	1	150	0	0	0	150	1	150	
			0			0			0	0	0	0	0	0	0				
MEDIA CENTER			**2,478**			**2,478**			**510**			**2,988**			**0**			**2,988**	
Media Center / Reading Room	2,178	1	2,178	2,178	1	2,178			0	2,178	1	2,178	-810	0	-810	2,988	1	2,988	
Leveled Library	300	1	300	300	1	300			0	300	1	300	300	1	300				
Dispersed Library			0			0	510	1	510	510	1	510	510	1	510				

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 515 STUDENT K-5 CONSOLIDATION OPTION	EXISTING CONDITIONS (@ MMES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
DINING & FOOD SERVICE			**5,660**			**5,660**			**1,619**			**7,279**			**0**			**7,279**	
Cafeteria / Dining	2,513	1	2,513	2,513	1	2,513	1,350	1	1,350	3,863	2	3,863	0	1	0	3,863	1	3,863	Based on 2 lunch seatings - 15 NSF per seat
Stage	1,000	1	1,000	1,000	1	1,000			0	1,000	1	1,000	0	0	0	1,000	1	1,000	
Chair / Table / Equipment Storage	312	1	312	312	1	312	60	1	60	372	2	372	0	1	0	372	1	372	
Kitchen	1,635	1	1,635	1,635	1	1,635	180	1	180	1,815	2	1,815	0	1	0	1,815	1	1,815	1,600 NSF for first 300 students + 1 NSF per additional student
Staff Lunch Room	200	1	200	200	1	200	29	1	29	229	2	229	0	1	0	229	1	229	20 NSF per student
MEDICAL			**510**			**510**			**0**			**510**			**-100**			**610**	
Medical Suite Toilet	60	1	60	60	1	60			0	60	1	60	0	0	0	60	1	60	
Nurses' Office / Waiting Room	250	1	250	250	1	250			0	250	1	250	0	0	0	250	1	250	
Examination Room / Resting	100	2	200	100	2	200			0	100	2	200	0	-1	-100	100	3	300	
ADMINISTRATION & GUIDANCE			**2,101**			**2,101**			**535**			**2,636**			**256**			**2,380**	
General Office / Waiting Room with Toilet	318	1	318	318	1	318			0	318	1	318	-90	0	-90	408	1	408	
Teachers' Mail and Time Room	100	1	100	100	1	100			0	100	1	100	0	0	0	100	1	100	
Copy Room	150	1	150	150	1	150			0	150	1	150	0	0	0	150	1	150	
Records Room	110	1	110	110	1	110			0	110	1	110	0	0	0	110	1	110	
Principal's Office with Conference Area	375	1	375	375	1	375			0	375	1	375	0	0	0	375	1	375	
Principal's Secretary / Waiting	125	1	125	125	1	125			0	125	1	125	0	0	0	125	1	125	
Assistant Principal's Office			0			0			0	0	0	0	-120	0	0	120	0	-	
Supervisory / Spare Office	120	1	120	120	1	120			0	120	1	120	0	0	0	120	1	120	
Conference Room	300	1	300	300	1	300			0	300	1	300	50	0	50	250	1	250	
School Counselor Office	150	1	150	150	1	150	150	1	150	150	2	300	0	0	0	150	2	300	
School Counselor Storeroom	35	1	35	35	1	35			0	35	1	35	0	0	0	35	1	35	
Teachers' Work Room	318	1	318	318	1	318			0	318	1	318	-90	0	-90	408	1	408	
Tech Office			0			0	235	1	235	235	1	235	235	1	235				
School Psychologist			0			0	150	1	150	150	1	150	150	1	150				
CUSTODIAL & MAINTENANCE			**1,935**			**1,935**			**180**			**2,115**			**0**			**2,115**	
Custodian's Office	150	1	150	150	1	150			0	150	1	150	0	0	0	150	1	150	
Custodian's Workshop	375	1	375	375	1	375			0	375	1	375	0	0	0	375	1	375	
Custodian's Storage	375	1	375	375	1	375			0	375	1	375	0	0	0	375	1	375	
Recycling Room / Trash	400	1	400	400	1	400			0	400	1	400	0	0	0	400	1	400	
Receiving and General Supply	212	1	212	212	1	212	60	1	60	272	2	272	0	1	0	272	1	272	
Storeroom	223	1	223	223	1	223	120	1	120	343	2	343	0	1	0	343	1	343	
Network / Telecom Room	200	1	200	200	1	200			0	200	1	200	0	0	0	200	1	200	
OTHER			**2,400**			**2,400**			**2,400**			**4,800**			**4,800**			**0**	
(List rooms separately below)																			
Pre-Kindergarten Classroom with Toilet	1,200	2	2,400	1,200	2	2,400	1,200	2	2,400	1,200	4	4,800	0	4	4,800	1,200	0	-	1,100 NSF (minimum size) - 1,300 NSF (maximum size)
Total Building Net Floor Area (NFA)			**51,114**			**51,114**			**27,199**			**78,313**			**24,216**			**54,097**	**Total Building Net Floor Area (NFA)**
Proposed Student Capacity / Enrollment																# of Grades	6	**515**	**Total Enrollment (Enter Design Enrollment)**
																K	1	**86**	Kindergarten Enrollment
																Grade 1	1	**172**	Lower Elementary School Enrollment (Grades 1-2)
																Grade 2	1	**258**	Upper Elementary School Enrollment (Grades 3-6)
																Grade 3	1		
																Grade 4	1		
																Grade 5	1		
																Grade 6	0		

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 515 STUDENT K-5 CONSOLIDATION OPTION	EXISTING CONDITIONS (@ MMES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
NON-PROGRAMMED SPACES					% of GFA	25,988		% of GFA	13,600		% of GFA	39,157							Complete this category with Schematic Design Submittal
Other Occupied Rooms (List rooms separately below)																			
Mothers' Room			0			0	120	1	120	120	1	120	120	1	120				
[Enter room type here]				-	0.0%		-	0.0%		-	0.0%	0							
Unoccupied MEP / FP Spaces	1,174	1.5%	1,174	-	0.0%		-	0.0%		-	0.0%	0							
Unoccupied Closets, Supply Rooms, and Storage Rooms	994	1.3%	994	-	0.0%		800	2.0%	800	800	0.7%	800							
Toilet Rooms	2,124	2.8%	2,124	-	0.0%		-	0.0%		-	0.0%	0							
Circulation (corridors, stairs, ramps and elevators)	13,322	17.3%	13,322	-	0.0%		-	0.0%		-	0.0%	0							
Remaining[3]	8,124	10.5%	8,124	-	33.7%	**25,988**	-	31.1%	**12,680**	-	32.6%	**38,237**							
Total Building Gross Floor Area (GFA)[2]			**77,102**			**77,102**			**40,799**			**117,470**			**37,687**			**79,782**	**Total Building Gross Floor Area (GFA)[2]**
Grossing Factor (GFA / NFA)			**1.5**			**1.5**			**1.50**			**1.50**			**0.03**			**1.47**	**Grossing Factor (GFA / NFA)**

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls.

[3] **Remaining** Includes exterior walls, interior partitions, chases, and other areas not listed above. Do not calculate this area, it is assumed to equal the difference between the Total Building Gross Floor Area and area not accounted for above.

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architecture Firm: JCJ Architecture

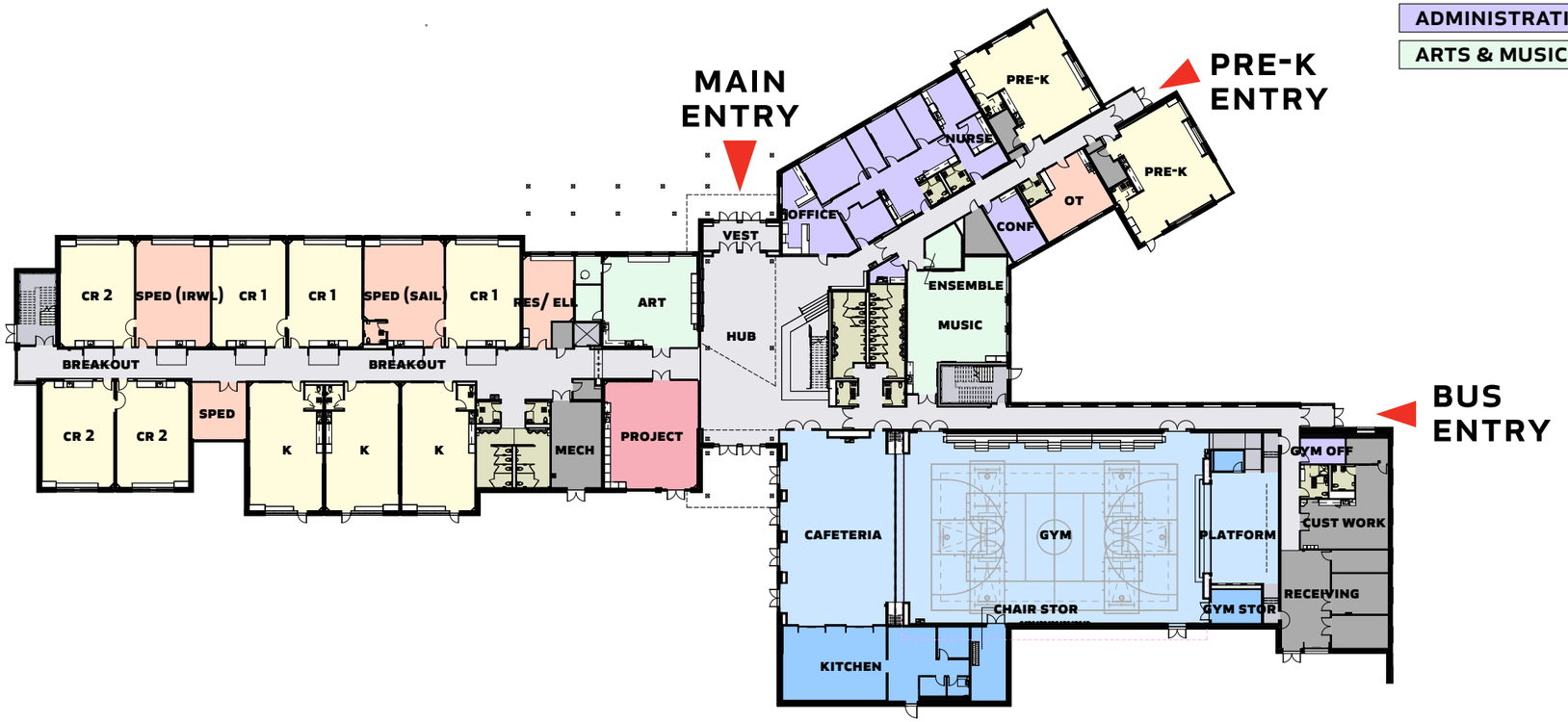
Name of Principal Architect: James F. LaPosta Jr., FAIA, LEED AP

Signature of Principal Architect:

Date: 03/24/25

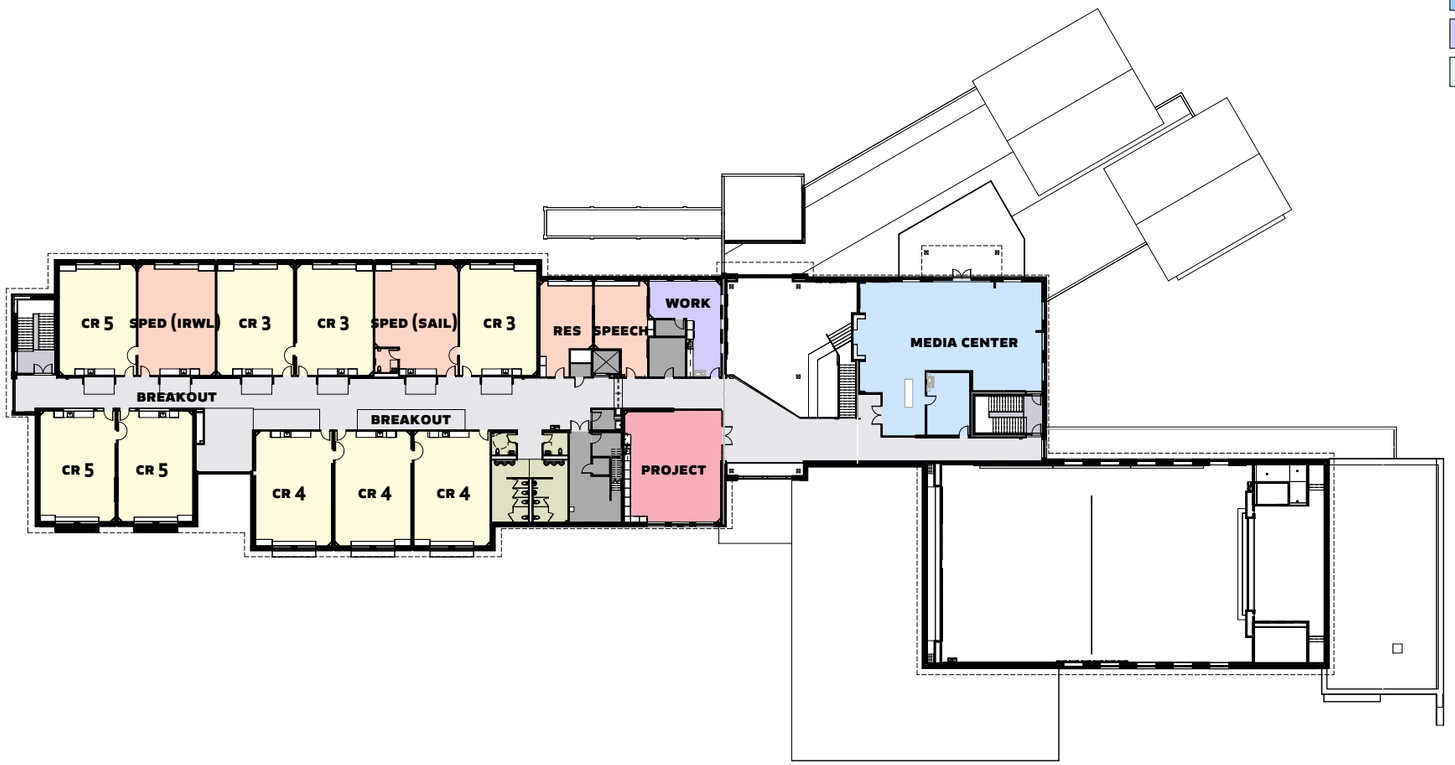
EXISTING MANCHESTER MEMORIAL ELEMENTARY SCHOOL

MAIN LEVEL



EXISTING MANCHESTER MEMORIAL ELEMENTARY SCHOOL

UPPER LEVEL



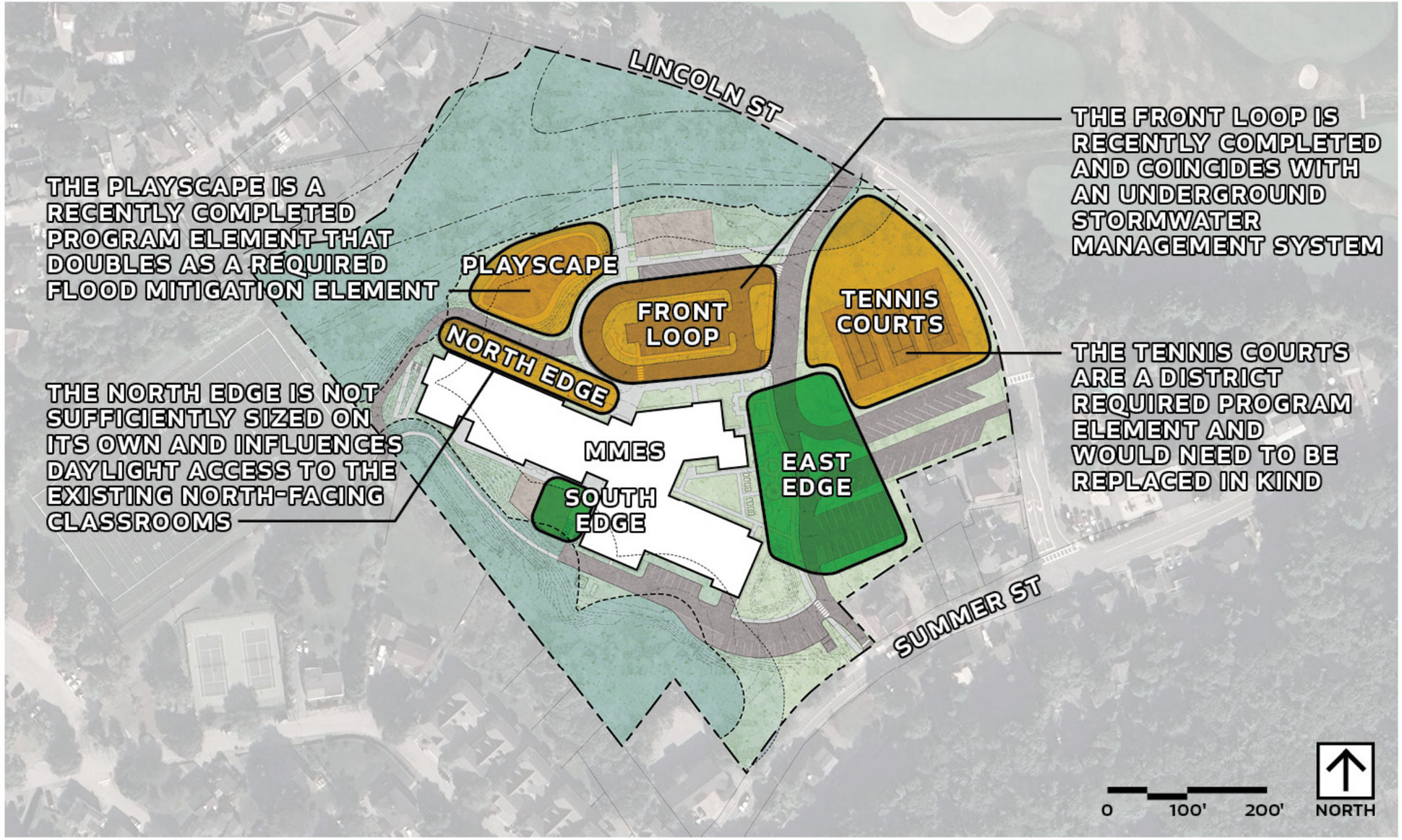
CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

0 50' 100'

NORTH

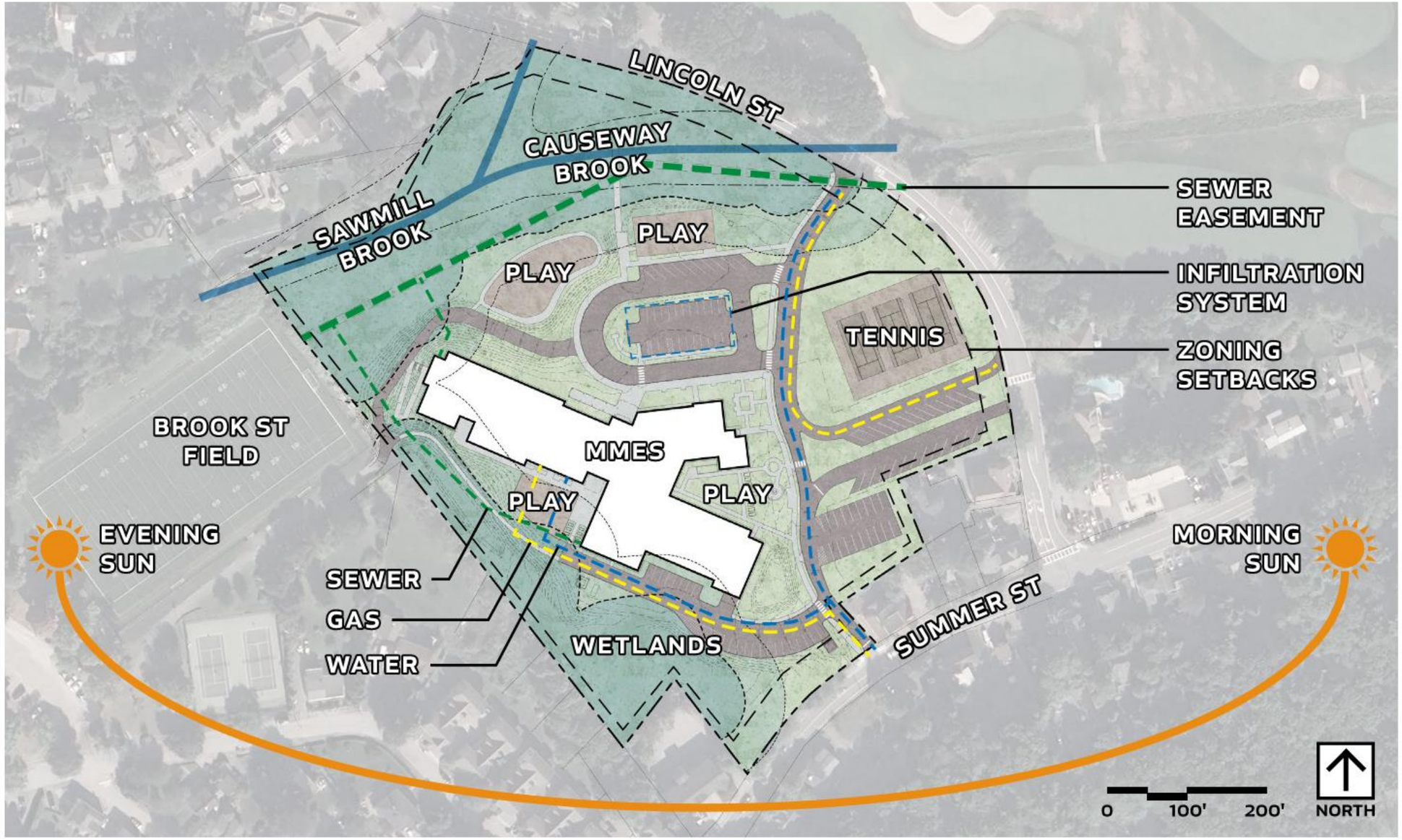
EXISTING MANCHESTER MEMORIAL ELEMENTARY SITE

BUILDABLE AREA



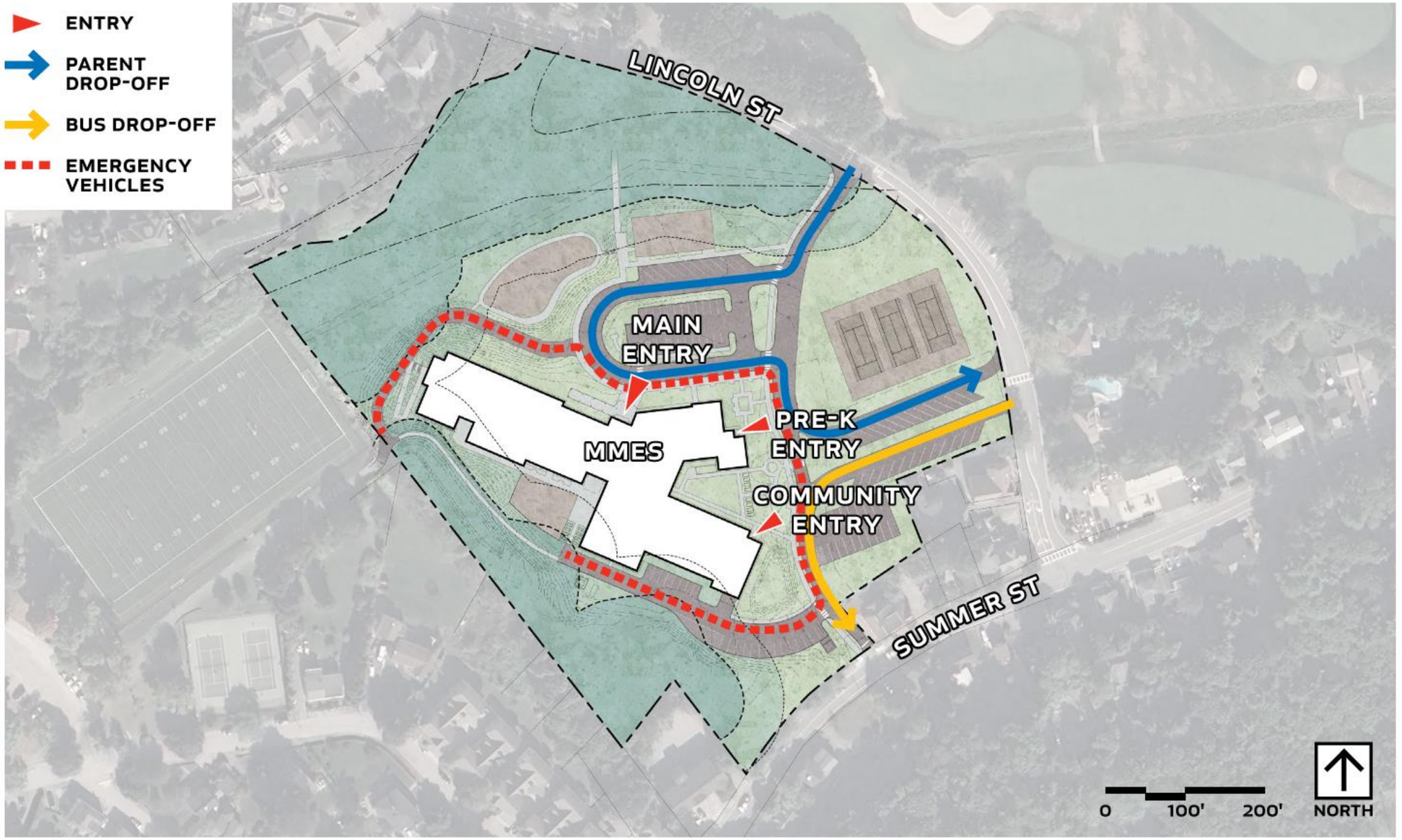
EXISTING MANCHESTER MEMORIAL ELEMENTARY SITE

CONSIDERATIONS



EXISTING MANCHESTER MEMORIAL ELEMENTARY SITE

SITE CIRCULATION



EVALUATION OF EXISTING CONDITIONS

SECTION 3.3.2

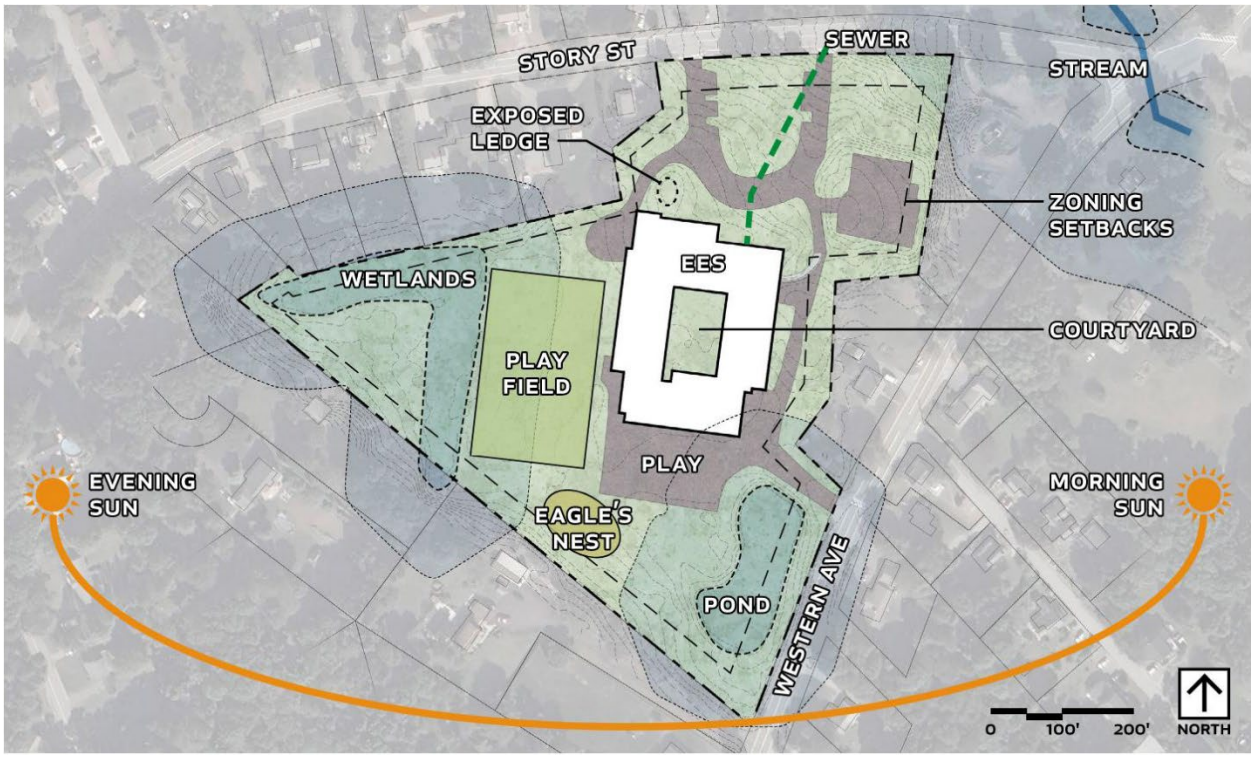
3.3.2 EVALUATION OF EXISTING CONDITIONS

3.3.2.1 PSR Updates
3.3.2.2 Additional Testing Summary
3.3.2.3 Lincoln Street – Existing Conditions Update

3.3.2.1 PSR UPDATES

Additional testing of the existing conditions for the 12 Story Street property in Essex was completed after the issuance of the Preliminary Design Program (PDP) to the Massachusetts School Building Authority (MSBA) on January 8, 2026. While the new information generated by the additional testing expanded upon known site characteristics identified in the PDP, it did not alter the conclusions of the PDP evaluation of the existing sites.

The additional Preferred Schematic Report (PSR) testing combined with the PDP tests provided a comprehensive assessment of the existing conditions for the target property that has informed the recommendations of this report including, but not limited to, the probable Total Project Cost and probable Construction Costs.



12-STORY ST. EXISTING CONDITIONS - CONSIDERATIONS

3.3.2.2 ADDITIONAL TESTING SUMMARY

Additional testing completed after the PDP submission was issued to the MSBA includes the following:

GEOTECHNICAL

The preliminary geotechnical report prepared by McPhail Associates, dated January 20, 2026, for the 12 Story Street site offers the following recommendations:

- **FOUNDATION DESIGN RECOMMENDATIONS:**
  Based on the scope of the proposed construction and the subsurface conditions encountered at the site, it is recommended that the proposed addition or new building structure be founded on conventional spread footing foundations. The following parameters are recommended for the design of the new foundations:
  - Footings, along with haunched or thickened slabs supporting structural load, should bear directly on the intact bedrock, natural undisturbed glacial soil deposit or on compacted structural fill placed directly over the natural bearing strata.
    - Existing site improvements, buried foundation remnants, topsoil, subsoil, fill, and fractured or weathered bedrock should be removed from within the footings' zone of influence as described herein.
    - Where foundations are to be supported on the intact, sound bedrock surface, loose and displaced rock should be removed.
      - The intact sound bedrock should be leveled such that the surface slopes at no more than a rate of 12 horizontal to 1 vertical.
      - A minimum 6-inch thickness of crushed stone should be placed between the bottom of footing and the sound bedrock surface to provide a cushion for the footing.
  - In consideration of the anticipated varying footing bearing conditions, footings should be proportioned utilizing an allowable design net bearing pressure of two (2) tons per square foot.
  - The minimum footing width for continuous footings and isolated footings should be 24 inches and 36 inches, respectively.

- Frost Protection:
    - Soil-supported perimeter foundations and interior foundations below unheated areas should be provided with a minimum 4-foot thickness of soil cover as frost protection.
    - Bedrock-supported perimeter foundations may be found at a minimum of feet below exterior grades. However, due to the complex topography of the bedrock surface, it is recommended that footings be designed to maintain 4 feet of soil cover regardless of the bearing stratum. If a large, contiguous area of footings is identified during construction where bedrock is consistently located 2 feet or less below the proposed finished grades and the Contractor determines that reducing the soil cover to 2 feet would result in cost and/or schedule savings, the Project Structural Engineer should be notified to determine whether reducing the soil cover to 2 feet is acceptable for the foundation design.
    - Interior foundations below heated areas should be located such that the top of foundation concrete is a minimum of 6 inches below the underside of the lowest level slab.
- Foundations should be located such that they bear below a theoretical line drawn upward and outward at 2 to 1 (horizontal to vertical) from the bottom exterior edge adjacent existing or proposed footings, structures, and/or utilities.
    - Proposed footings for the addition option to be located directly adjacent to existing foundations should be founded at the same elevation as the existing foundations.
- Foundations supported on bedrock may be located such that they bear below a theoretical line drawn upward and outward at 1 to 1 (horizontal to vertical) from the bottom exterior edge of adjacent existing or proposed foundations, structures, and/or utilities.
- Foundations should be designed in accordance with the Code.

- **PREPARATION OF THE BUILDING PAD**

  Within the explorations, the surface of the natural glacial deposit or bedrock generally ranged from approximately 1.4 to 4 feet below the existing ground surface and to between approximate Elevation +75.4 to Elevation +72.4. Preparation of the building pad for the addition or new building should include the removal of existing topsoil, subsoil, and fill material. Following the removal of topsoil, subsoil and existing uncontrolled fill, structural fill should be placed and compacted over the natural soil subgrade or bedrock, to raise the grade as further described herein.

  The following parameters are recommended for the use of structural fill for support of proposed footings:

  - Structural Fill
    - The plan limits of the placement of structural fill should extend laterally beyond the outside edges of the perimeter footings for a horizontal distance equal to the depth measured from the design bottom of footing elevation to the surface of the natural, glacial till deposit or bedrock, whichever is higher, plus 2 feet.
    - Structural fill may consist of on-site excavated granular fill or glacial soil, provided it is excavated and maintained in a suitably dry condition and oversized material is

removed or crushed to a maximum particle size of 3 inches. However, for preliminary cost considerations, imported gravel borrow should be assumed to be required.

- Imported gravel borrow used as structural fill should consist of imported well graded sand and gravel with less than 8 % by weight passing the No. 200 sieve and otherwise meeting the requirements of MassDOT material specification M1.03 Type B.
- Fill placed within the building footprint and footings' zone of influence should be placed in lifts and be compacted to a minimum of 95 percent of its modified Proctor maximum dry density.
- Structural fill and/or gravel borrow compacted with a minimum 10-ton vibratory drum roller should be placed in maximum 12-inch (loose) lifts.
- Structural fill and/or gravel borrow compacted with smaller equipment should be placed in maximum 6-inch (loose) lifts.

- **LOWEST LEVEL SLAB RECOMMENDATIONS**

  The lowest level slabs to be located at or above finished grade are recommended to consist of conventional soil-supported slabs-on-grade. The slabs-on-grade should be spread across the surface of a minimum 10-inch thickness of compacted 3/4-inch crushed stone placed over a layer of filter fabric that is spread across the subgrade. It is anticipated that slabs that are located above grade can be underlain by a polyethylene vapor barrier (minimum thickness of 15-mil), or if a higher degree of protection is desired, be waterproofed.

  Slab subgrade preparation should be performed according to the requirements for building pad preparation, including the removal of topsoil, subsoil and fill material to expose the undisturbed surface of natural glacial deposit or bedrock and the placement of structural fill up to the subgrade of the required 10-inch thickness of ¾-inch crushed stone.

- **SUBSLAB VENTILATION SYSTEM**

  Pursuant to the current American Association of Radon Scientists and Technologists (AARST) guidelines for new construction, the installation of passive radon system(s) is recommended for portions of foundation systems where there is enclosed space immediately above crawl spaces or lowest level slabs. In general, the passive radon mitigation system(s) should consist of a layer of ¾-inch crushed stone and a minimum 15-mil thick polyethylene vapor barrier installed below the slab with a to-be-specified number of solid 4-inch PVC vertical risers installed through the slab that exhaust above the roof line of the proposed building. Pipe sleeve(s) should be constructed to traverse sub-slab structural elements such as footings or grade beams if the crushed stone layer is discontinuous and does not extend below structural elements. McPhail can be engaged upon request to provide passive radon system design services.

- **GROUNDWATER CONSIDERATIONS**

  Based on the observed shallow depth to groundwater, it is recommended that underslab and perimeter foundation drainage, consisting of the above-described layer of crushed stone with a network of horizontal perforated PVC pipes, be provided for the proposed addition and new building. The drainage systems are intended to minimize groundwater intrusion into the proposed building due to conditions when groundwater may become temporarily elevated due to precipitation events,

surface water run-off, and/or seasonal groundwater changes. The systems are not intended to lower the existing groundwater level. The proposed finish grading plan should be provided to McPhail for review to determine where foundation drainage is required. Recommendations for foundation drainage would be contained in the FGER.

To minimize the amount of water that is introduced into the foundation drainage system, it is recommended that area drains, roof drains, and down sprouts be tied into a dedicated solid pipe that has a separate connection with the storm drain system. No area drains or roof drains should be directly connected with the foundation drainpipe or tied into the surrounding crushed stone layer.

Below-grade walls adjacent to occupied space (i.e. the perimeter walls of the basement level) should receive exterior membrane waterproofing. Elsewhere, damp proofing should be applied to foundations. A prefabricated drainage product, such as Miradrain 6000, should be installed directly against the below-grade perimeter foundation walls and be tied into the perimeter drainage system. Backfill against the perimeter foundation walls may consist of ordinary fill except as otherwise required by the Project Site/Civil Engineer (e.g., for pavement support).

Additionally, the exterior site grades should be sloped away from the perimeter of the proposed addition or new building where feasible to minimize surface water infiltration. If proposed site grades are required to slope towards the building, it is recommended that the site design incorporate provisions to collect and/or divert surface water run-off away from the building.

Pits and depressions extending below the slab should be provided with properly tied continuous waterstops in construction joints and be waterproofed. Also, pits and depressions below the slab should be designed for hydrostatic uplift pressures corresponding to the groundwater being present 1 foot below the proposed slab in consideration that groundwater could be locally perched on the relatively impervious bedrock.

If the proposed addition or new building is to contain a below-grade level, depending on the proximity of the slab elevation to groundwater, it may be advantageous to design and construct the below-grade slab as a thickened waterproofed slab to resist hydrostatic uplift pressure in lieu of relying on a foundation drainage system to maintain groundwater levels below the slab.

- **RESISTANCE TO LATERAL FORCES**
  Below-grade foundation walls receiving lateral support at the top and bottom (i.e., restrained walls) that are provided with positive drainage should be designed for a lateral earth pressure corresponding to an equivalent fluid density of 60 pounds per cubic foot. Drained cantilevered or unrestrained site walls should be designed utilizing a lateral earth pressure corresponding to a equivalent fluid density of 40 pcf. To these values must be added the pressures attributable to earthquake forces per Section 1610.2 of the Code.

  Lateral forces can be transmitted from the structure to the soil by passive pressure on the footings and foundation walls utilizing an equivalent fluid density of 120 pounds per cubic foot providing that these structural elements are designed to resist these pressures. Lateral forces can also be

considered to be transmitted from the structure to the soil by friction on the base of the footings using a frictional coefficient of 0.45 to which a factor of safety of 1.5 should be applied.

- **SEISMIC DESIGN CONSIDERATIONS**
  For the purposes of determining parameters for structural seismic design, this site is considered to be a Site Class C based on Section 1613.2.2 of the Code which references Chapter 20 of American Society of Civil Engineers (ASCE) Standard 7-16 "Minimum Design Loads and Associated Criteria for Buildings and Other Structures". Further, the bearing strata at the proposed site are not considered to be subject to liquefaction during a design earthquake based on the liquefaction screening criterion of Section 1806.4 of the Code.

- **GEOTECHNICAL SITE CONSIDERATIONS**
  As part of the civil and landscape designs, it is anticipated that there may be new site features which require foundation support. Preliminary geotechnical-related recommendations for these site design aspects are contained below.
    - Landscape Retaining Walls, Ramps and Stairs
        - It is recommended that foundations for the proposed landscaping retaining walls, ramps and stairs bear on the existing fill, glacial deposit or bedrock. Preparation of bearing surfaces should consist of removing surface treatments and improvements in their entirety and topsoil, using a smooth-edged excavator bucket to avoid disturbance of the bearing surface or hand-clearing loose and disturbed material, and proof-compaction of the exposed subgrade.
    - Preparation of Hardscaped Areas
        - Preparation of subgrades for hardscape areas such as bituminous asphalt paved areas, unit pavers or concrete walkways should include the removal of existing site improvements and the surficial deposit of topsoil and underlying subsoil. The exposed fill subgrade, if present, should be proof-compacted. Specific recommendations regarding subbase materials below sidewalks, bituminous concrete, and landscaped areas should be provided by the Project Site/Civil Engineer or Landscape Architect.
    - Proof Compaction of Subgrades
        - Existing topsoil and subsoil should be entirely stripped from within proposed paved areas, hardscape areas, and other site improvements. For preparation of the subgrade soils consisting of the existing fill, the exposed subgrade should be proof-compacted with at least four passes of a double-drum vibratory roller or large vibratory plate compactor. Soft and/or compressible areas detected by the proof-compaction should be excavated and replaced with compacted structural fill.

The report contains additional details and recommendations regarding existing site and subsurface conditions, design recommendations, construction considerations, and recommendations for future geotechnical engineering work.

A copy of the referenced Geotechnical Report is included in Appendix 3.3.6.3 of this report.

HAZARDOUS BUILDING MATERIALS TESTING

The preliminary hazardous building materials testing report prepared by Mabbett & Associates, Inc., dated March 11, 2026, for the 12 Story Street site yielded the following results:

- Two hundred and ninety-nine (299) bulk samples for suspect ACM were collected for laboratory analysis and reporting. Nine (9) of the materials were determined to contain asbestos. One (1) material was assumed to contain asbestos. Ten (10) materials were previously determined to contain asbestos.
- Twenty (20) paint chip samples were collected from painted building surfaces collected during this survey effort. None of the samples revealed concentrations of lead in paint that exceed the U.S. Department of Housing and Urban Development (HUD) threshold of 0.5 percent by weight and 1.0 mg/cm^2 by XRF.
- Five (5) suspect PCB building material samples were collected and submitted for laboratory analysis as part of this survey. Based on laboratory analysis, the materials were non-detect for PCBs and below the TSCA regulated PCB Bulk Product Waste threshold.
- An inventory of universal waste and other hazardous materials was developed and provided in this inspection report. An inventory of other hazardous materials can be found in the full report, Inventory of OHMs.

The preliminary hazardous building materials testing report offers the following recommendations:

- **ASBESTOS**
  The planned renovation of the areas may disturb Asbestos Containing Materials (ACM) and will require removal of these materials by a licensed asbestos abatement contractor prior to being disturbed. Any suspect ACM encountered during demolition or renovation activities, which are not identified in the full report, should be assumed to contain asbestos and handled as ACM or be professionally analyzed. All abatements must be performed in accordance with federal, state, and local requirements.

- **LEAD CONTAINING PAINT**
  The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey a limited amount of representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers involved with paint-disturbing activities and related waste-disposal activities.

  Occupational exposure to lead in construction is regulated by OSHA regulation 29 CFR 1926.62 “Lead I Construction”, as well as other applicable state and local regulations. These regulations involve the air monitoring of workers to determine exposure levels when disturbing paint containing measurable concentrations of lead. A LCP survey cannot determine the safe level of lead for the purpose of paint-disturbing activities but is intended to provide guidance as to the locations of LCP. Employers and contractors may use this information to better determine where worker exposures to airborne lead may occur and, through the interpretation of LCP concentration data, assess the potential magnitude of exposure to their employees and identify the controls necessary to limit health risks.

A concentration of lead greater than or equal to 0.5 mg/Kg percent by weight or 1.0 mg/cm2 exceeds EPA and HUD residential standards is considered an indicator of risk. Representative samples of LCP waste to be generated during building renovation, or following demolition but prior to disposal, should be collected and analyzed using toxicity characteristic leaching procedure (TCLP) in accordance with 40 CFR Part 261. Management and disposal of lead containing waste must be done in accordance with all applicable local, state, and federal regulations. OSHA regulations may require certain procedures for any paint that contains lead, even if it is below these levels. All LCP identified, regardless of the lead content, should either be sampled and analyzed by TCLP and then handled/disposed of accordingly, or segregated from other large-scale debris and then managed as hazardous waste in accordance with federal, state, and local hazardous waste disposal regulations.

- **POLYCHLORINATED BIPHENYLS**
  The suspect PCB building material sampling results determined the materials to be non-detect for PCBs and meet the TSCA Excluded PCB Product definition. Excluded PCB Product waste can be managed as solid waste at any landfill permitted to accept waste with PCB levels up to those observed.

- **OTHER HAZARDOUS MATERIALS**
  The purpose of the inventory for other hazardous materials as completed by Mabbett was to identify potential hazardous, non-building material substances that may require special handling consideration prior to any planned building demolition. Mabbett identified items, that if removed, should be disposed of or recycled in accordance with applicable federal and state rules for regulated materials. Examples of such materials are light ballasts, fluorescent light tubes, and air conditioning units.

The full report contains additional details on sampling and testing.

A copy of the referenced Hazardous Building Materials Survey Report is included in Appendix 3.3.6.4 of this report.

PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

The Phase II Environmental Site Assessment (Phase II ESA) report prepared by Mabbett & Associates, Inc., dated March 24, 2026, for the 12 Story Street site yielded the following results:

The laboratory-reported analytical results for the collected soil and groundwater samples were compared to the applicable screening criteria established by the MCP. Soil analytical results were compared to the reportable concentrations (RCs) for the RCS-1 Reporting Category, which is applicable because the samples were obtained from a school. Groundwater analytical results were compared to the RCs for the RCGW-2 Reporting Category, which is applicable as the subject property is not located within a current or potential drinking water source area.

- **SOIL ANALYTICAL RESULTS**
  Mabbett's scientist visually observed each boring for evidence of contamination. No visual or olfactory evidence of contamination was observed at any of the soil borings. Soil analytical data compared to MCP RCS-1 soil standards are summarized in Table 2. The soil laboratory analytical data report is provided in Appendix D.

    - **VOLATILE ORGANIC COMPOUNDS**
      No VOCs were detected at concentrations above laboratory method reporting limits in the samples submitted from SB-01 or SB-02. The laboratory reporting limit for each VOC compound was significantly below the corresponding MCP RCS-1 standard.

    - **VOLATILE PETROLEUM HYDROCARDONS**
      No VPH constituent compounds were detected at concentrations above laboratory method reporting limits in any of the three soil samples submitted for laboratory analysis. The laboratory reporting limit for each VPH constituent compound was significantly below the corresponding MCP RCS-1 standard.

    - **EXTRACTABLE PETROLEUM HYDORCARBONS**
      No EPH constituent compounds were detected at concentrations above laboratory method reporting limits in any of the three soil samples submitted for laboratory analysis. The laboratory reporting limit for each EPH constituent compound was significantly below the corresponding MCP RCS-1 standard.

- **GROUNDWATER ANALYTICAL RESULTS**
  Groundwater analytical data compared to MCP RCGW-2 standards is summarized in the full report. The groundwater laboratory analytical report is provided in Appendix D.

    - **VOLATILE ORGANIC COMPOUNDS**
      No VOCs were detected at concentrations above laboratory method reporting limits in MW-01 or MW-02. The laboratory reporting limit for each VOC constituent compound was significantly below the corresponding MCP RCGW-2 standard.

- **VOLATILE PETROLEUM HYDROCARDONS**
  No VPH constituent compounds were detected above laboratory method reporting limits in any of the groundwater samples. The laboratory reporting limit for each VPH constituent compound was significantly below the corresponding MCP RCGW-2 standard.

- **EXTRACTABLE PETROLEUM HYDORCARBONS**
  Four EPH constituent compounds (Benzo[ghi]perylene, Chrysene, Dibenz[a,h]anthracene, and Pyrene) were detected in the groundwater sample collected from MW-03, each of which were at least one order of magnitude below the applicable RCGW-2 standards. No other EPH constituent compounds were detected at concentrations above laboratory method reporting limits in any of the three groundwater samples submitted for laboratory analysis

- **UST REMOVAL RECORDS**
  According to records, two USTs, a 400-gallon #2 fuel oil tank and a 10,000-gallon #4 fuel oil tank, were removed from the Site in July 2002. The tanks were approximately 16–25 years old at the time of removal and were taken out under applicable local and state permits.

  Decoulos & Company (Decoulos) oversaw the UST removals. Wright Industries, Inc. and Cyn Environmental personnel pumped, purged, and cleaned the tanks. Approximately 1,040 gallons of virgin #4 fuel oil, water, and tank bottoms were removed and transported by licensed hazardous-waste transporter Cyn Oil Corporation under Hazardous Waste Manifest MAM724197.

  Upon removal, both tanks were observed to be mildly corroded but structurally intact, with no visible holes, staining, or evidence of leakage in the tanks, piping, surrounding soils, or concrete.

  Decoulos personnel collected five soil screening samples from each UST excavation and screened them using a field-calibrated photoionization detector (PID) following MassDEP jar headspace screening methodology. These samples were not submitted for laboratory analysis.

  In the 400-gallon UST excavation, PID readings were ≤ 4.3 ppmv, consistent with background organics from vehicle exhaust and asphalt.

  In the 10,000-gallon UST excavation, the highest PID reading was 18.1 ppmv.

  An additional sample collected beneath piping associated with a previously removed 1,000-gallon UST showed no detectable VOCs by PID.

  The tanks were transported to the Grant Steel certified UST recycling facility in Readville, MA, in accordance with the Essex Fire Department's approved UST removal and transportation permits. No further action was deemed necessary, and UST removal documentation is included in the full report.

The Phase II Environmental Site Assessment (Phase II ESA) report offers the following recommendations:

- **UST**
  No evidence of a current UST or UST grave was observed during the GPR survey of the paved exterior area near the boiler room. Mabbett was unable to survey the grass areas outside of the boiler room due to the snow present during the Phase II investigation.

  Following completion of the Phase II ESA, JCJ and the Town of Essex provided Mabbett with documentation for the removal of two USTs in July 2002. Although no soil samples were submitted for laboratory analysis of petroleum compounds, the UST removal records indicate that the tanks were removed under appropriate local and state permits and that the work appears to have been conducted in accordance with Massachusetts UST closure regulations. Field observations documented at the time of removal, including the absence of staining, odors, structural breaches, or elevated PID readings, support the conclusion that no reportable release occurred during or prior to the 2002 removals.

  Based on the available documentation and the lack of evidence of a release, the risk of environmental contamination associated with the former USTs is considered low, and no further investigation is warranted at this time.

- **SOILS**
  Based on the soil sample analytical results collected during the Phase II Environmental Site Assessment, no EPH, VPH or VOC contamination is present in soils underlying the boiler room and the eastern adjacent exterior area where the UST location was indicated by the documents reviewed in the Phase I ESA. Based on the analytical results obtained during this Phase II ESA, soil concentrations at the subject property do not warrant further assessment under the Massachusetts Contingency Plan (MCP).

  Soils generated during construction activities are not expected to be regulated under the MCP because they do not contain oil or hazardous materials (OHM) concentrations in excess of RCS-1; however, additional characterization sampling of Site soils would be required in order to obtain future approval to move soils off-Site to an approved receiving facility.

  Soils that do not contain any contaminants above RCS-1 may be transported under a MassDEP Material Shipping Record (MSR). The MSR process may be certified by an LSP but can also be certified by a Qualified Environmental Professional (QEP), which is defined on the MSR form as an environmental professional that is “licensed or certified in a discipline related to environmental assessment (i.e., engineering, geology, soil science, or environmental science) by a state or recognized professional organization.

- **GROUNDWATER**
  Based on the analytical results obtained during this Phase II ESA, groundwater concentrations do not warrant further assessment under the MCP underlying the boiler room and the eastern adjacent

exterior area where the UST location was indicated by the documents reviewed in the Phase I ESA. Detected concentrations do not indicate the presence of a reportable condition, nor do they suggest the need for additional characterization or monitoring as part of MCP compliance activities.

Although no further MCP-related groundwater assessment is recommended, Mabbett wishes to make the project team aware that subsurface construction activities, particularly if undertaken during high groundwater seasons, are likely to require dewatering due to the shallow groundwater conditions and overall hydrogeologic setting. While this consideration falls outside the scope of ASTM E1527-21 requirements, anticipated dewatering needs should be incorporated into project planning, including construction means and methods, management of dewatering effluent, permitting requirements (if applicable), and potential schedule implications.

The full report contains additional details on sampling and testing.

A copy of the referenced Phase II Environmental Site Assessment (Phase II ESA) report is included in Appendix 3.3.6.5 of this report.

FUTURE TESTING RECOMMENDATIONS

The following future testing is recommended for the Preferred Solution to be conducted during Schematic Design:

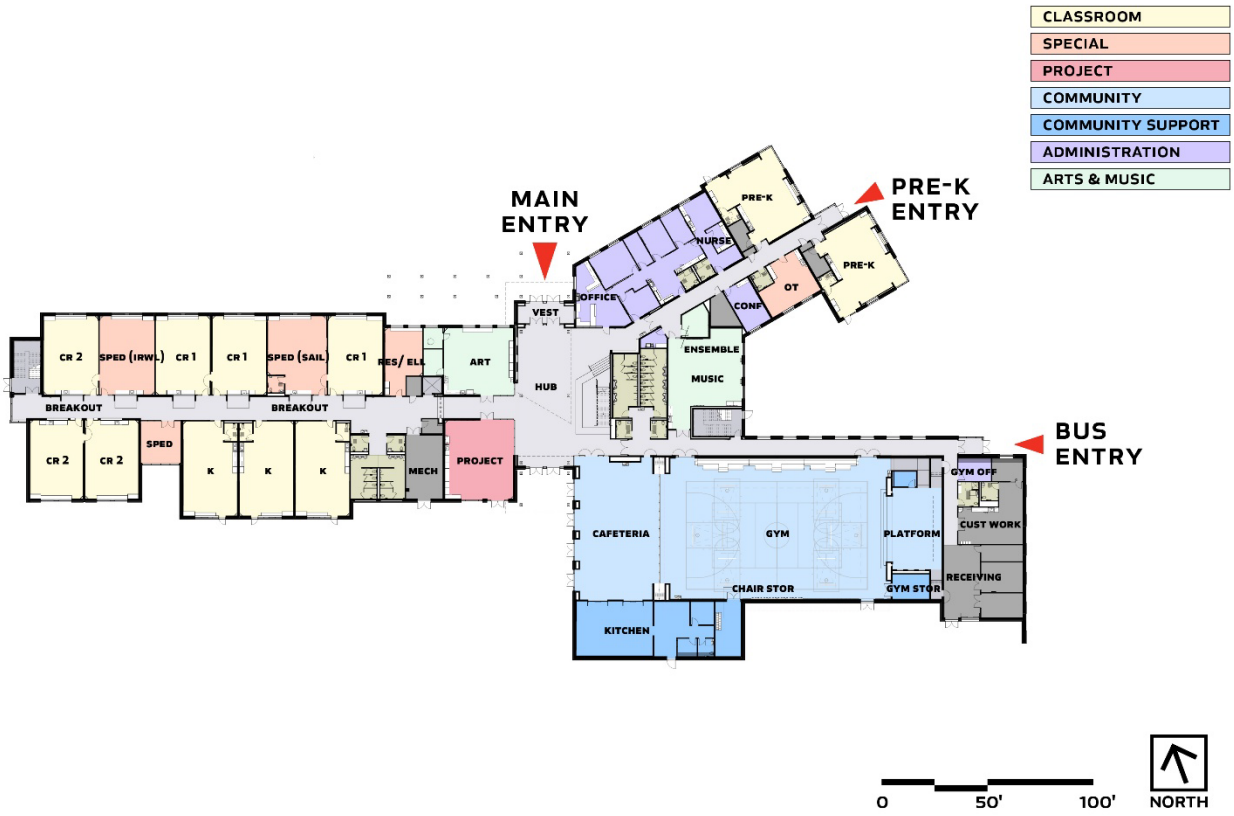
- Geotechnical additional bores specific to the Preferred Alternative.
- Soil Testing /Board of Health Application.
- Environmental Permitting
- Hydrant Flow Test

3.3.2.3 LINCOLN STREET – EXISTING CONDITIONS UPDATE

Per review of MSBA PDP comments additional information that was reviewed but not presented in the PDP report is included here for review.

Based on the recent completion of the Manchester Memorial Elementary School there is no anticipated architectural work planned for the existing building outside the scope of the work required for the additions in scheme B1.1. The current roofing, windows, doors, exterior envelope and interior finishes are all still in like new condition and require no alterations or upgrades at this time.

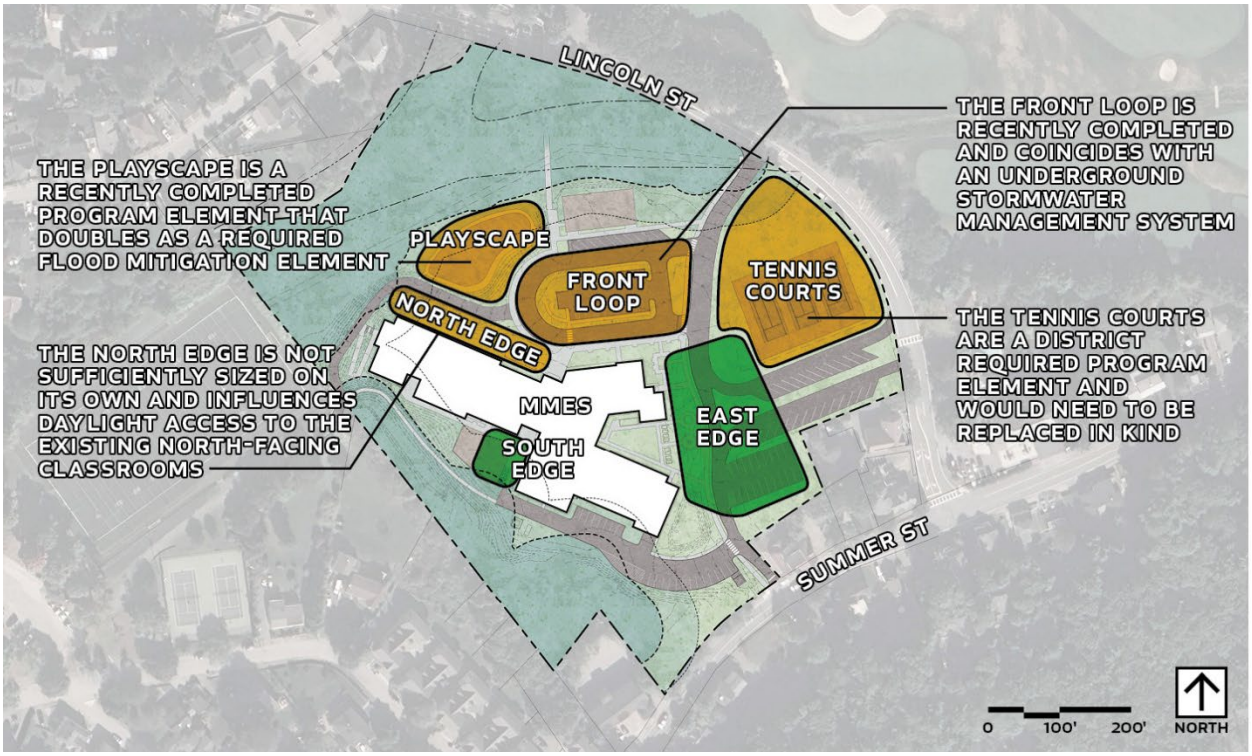
EXISTING FIRST FLOOR PLAN



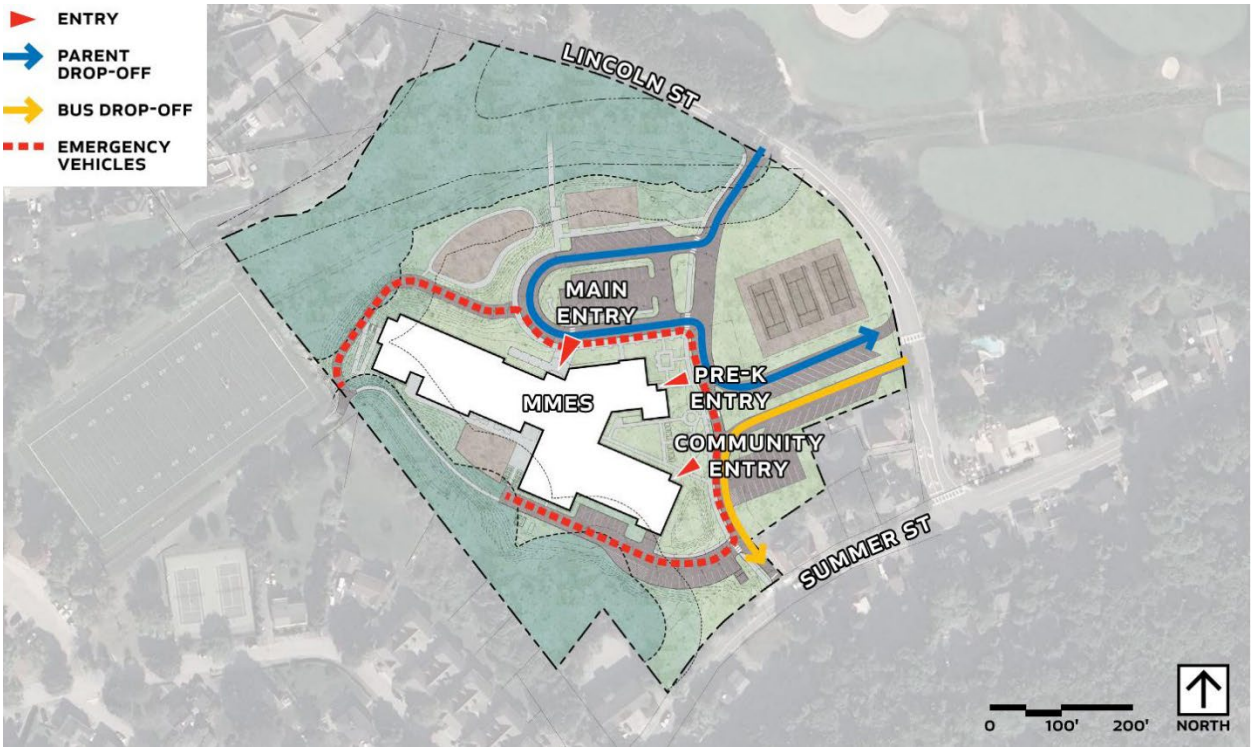
EXISTING SECOND FLOOR PLAN



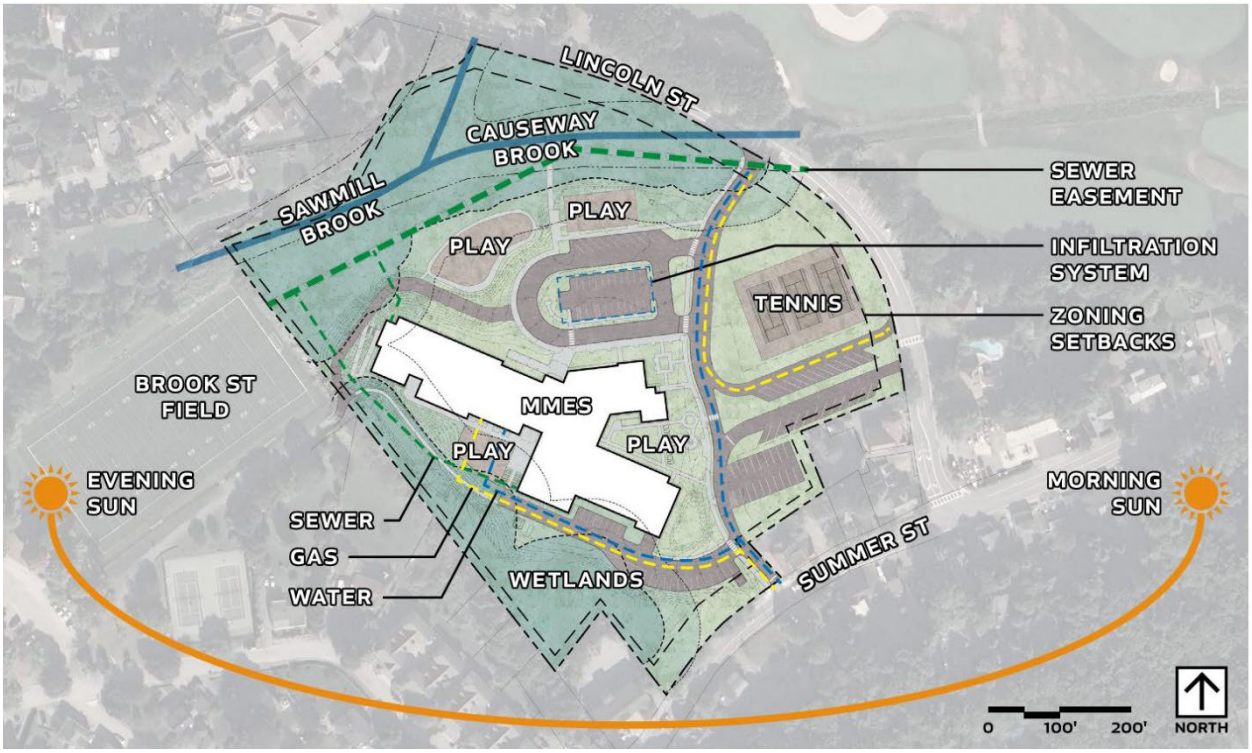
EXISTING BUILDABLE AREA



EXISTING SITE CIRCULATION



EXISTING SITE CONSIDERATIONS



EVALUATION OF EXISTING CONDITIONS – STRUCTURE
Prepared by RSE Associates, Inc.

RSE reviewed and evaluated the structural design at Manchester Memorial, which was built in 2020. The existing structure was designed based on the 9th edition of the Massachusetts State Building Code. The structure consists of steel framing with concrete on metal deck for floors and metal roof deck for the roof. The foundations consist of reinforced concrete spread footings. The lateral system consists of ordinary steel braced frames. Given the age of the building, it is reasonable to assume that any proposed renovation can be easily accommodated as long as the proposed work does not affect more than 30% of the total building structural area. At that point, the work would be classified as substantial structural alteration, and the entire building structure would need to be upgraded to the 10th edition of the MA State Building Code with higher seismic loads. Any addition will be seismically separate from the existing building.

EVALUATION OF EXISTING CONDITIONS – HVAC
Prepared by GGD Consulting Engineers, Inc.

The primary heat source for the existing Manchester Memorial Elementary School is by a high-efficiency, gas-fired, condensing boiler plant consisting of two boilers each with an input of 2500 MBH. Hot water is circulated to rooftop air handling units and terminal heating equipment located throughout the building by two base mounted end-suction pumps piped in a primary/standby fashion. There is also a small chiller plant that serves induction units in the media center and administration office areas. The chiller has a capacity of approximately 20 tons. Chilled water is distributed to terminal cooling units in the media center and administrative office areas by two inline pumps piped in a primary/standby configuration. Rooftop units are equipped with hot water heating coils, Direct Expansion (DX) cooling coils, hot gas reheat, energy recovery wheel, filtration, supply fans, and exhaust fans.

The classrooms, gymnasium, and cafeteria are provided with ventilation and air conditioning by a displacement ventilation system, with space heating provided by hot water radiant heating equipment (radiant ceiling panels, wall mounted radiant panels, etc.). Each occupied space is provided with a variable air volume box which modulates the airflow to the associated space based on space temperature and CO2 levels. The media center and administration areas are served by two-pipe induction units to provide heating, ventilation, and air conditioning. The kitchen and back of house areas are served by overhead air distribution systems provided by roof mounted Heating & Ventilation units. The building is also equipped with a Building Management System (BMS) and a DDC automatic temperature controls system manufactured by Delta Controls. All HVAC equipment, controls, and associated ductwork, piping, and all related accessories are new and in good condition.

EVALUATION OF EXISTING CONDITIONS – ELECTRICAL
Prepared by GGD Consulting Engineers, Inc

The existing electrical infrastructure at Manchester Memorial Elementary School is centered around a 1200-amp, 277/480V, 3-phase, 4-wire main service gear that distributes power throughout the facility. Standby power is provided by a 200 kW diesel generator equipped with a 75 kW load bank and a 48-hour base fuel tank, ensuring extended operation during utility outages. The generator supports both a 300-amp optional standby transfer switch and a 100-amp life safety transfer switch, providing reliable backup power to critical and code-required systems. In addition, a 24 kW uninterruptible power supply (UPS) system is installed to maintain continuity of technology systems and sensitive electronic equipment.

The facility is equipped with a fully addressable Notifier fire alarm system, providing code required detection and notification coverage throughout the building. Lighting control is achieved through a fully addressable and programmable nLight lighting control system, allowing for efficient energy management and operational flexibility. All interior and exterior lighting fixtures are LED 0-10V dimming type and are considered to be in new to good condition. Electrical distribution throughout the building is supported by panelboards that are in like-new condition.

EVALUATION OF EXISTING CONDITIONS – PLUMBING
Prepared by CA Crowley Engineering

With the building being relatively new (7 years), we would expect the plumbing equipment, fixtures, and piping to be in good condition. Upon review of the original drawings, it appears that the storm and sanitary piping systems would be undersized to accommodate a new addition, and separate new sanitary and storm building drains would be needed. The existing water piping is also undersized, but new express mains piping and a hot water recirculation pump could be installed to serve a new addition. The existing water heaters and storage tank appear to have sufficient capacity to serve a new addition.

EVALUATION OF EXISTING CONDITIONS – FIRE PROTECTION
Prepared by CA Crowley Engineering

With the building being relatively new (7 years), we would expect the fire sprinkler equipment and systems to be in good condition. Upon review of the original drawings and calculations, it appears that the existing fire sprinkler system is of sufficient size and capacity and could be expanded to serve a new addition.

EVALUATION OF EXISTING CONDITIONS – AUDIO VISUAL
Prepared by Newcomb & Boyd

Audio-Visual

The existing Cafeteria, and Gymnasium with adjacent Platform, are equipped with Audio Visual systems designed for large-group presentations. The expected useful life of these types of Audio-Visual systems is 10-12 years, so it is anticipated that the currently installed systems will serve the school for several more years before upgrades may be desired.

In the Gymnasium with the adjacent Platform, there is a rear-projection projector with A/V inputs located in the floor of the platform. Pendant mounted speakers are located throughout the Gymnasium for audio. Wireless microphones are available. A Touch panel for A/V Control is located on the wall at the Platform. The space is also equipped with an Assisted Listening system for ADA compliance.

The Cafeteria has an audio input plate for wired microphones, as well as capability for wireless microphones. Audio is broadcast to pendant speakers throughout the space. A Touch panel for A/V Control is located on the wall at the Platform. The space is also equipped with an Assisted Listening system for ADA compliance.

Classrooms in the proposed Addition would receive new A/V equipment (i.e. Interactive Displays, Sound Reinforcement, etc.) and would be independent of any existing classroom A/V equipment.

FINAL EVALUATION OF ALTERNATIVES

SECTION 3.3.3

3.3.3 FINAL EVALUATION OF ALTERNATIVES

3.3.3.1 Analysis of Alternatives

- Code Upgrade Options:
  - Option A0.2 – 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
- Renovation and Addition Options:
  - Option A1.1 – 12 Story Street, Essex, MA, Grades PreK-3, 165 + 30 students
  - Option A1.2-B - 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
  - Option B1.1 43 Lincoln Street, Manchester-by-the-Sea, MA, Grades PreK-5, 515 + 60 students
- New Construction Options:
  - Option A2.2-A 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
  - Option A2.2-B 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
  - Option A2.2-F 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
- 12 Story Street, Essex, MA (Essex ES)
  - Permitting Requirements
- 43 Lincoln Street, Manchester-By-The-Sea, MA (Manchester Memorial ES)
  - Permitting Requirements

3.3.3.2 Site and Building Systems Narratives

- 12 Story Street, Essex, MA (Essex ES)
  - Structural System Narrative
  - Architectural Systems Narrative
  - Food Service Narrative
  - Plumbing System Narrative
  - Mechanical System Narrative
  - Electrical System Narrative
  - Telecommunications System Narrative
  - Security System Narrative
  - Audiovisual Systems Narrative
  - Theatrical Systems Narrative
  - Site/Civil System Narrative
  - Landscape Architecture System Narrative
- 43 Lincoln Street, Manchester-By-The-Sea, MA (Manchester Memorial ES)
  - Structural System Narrative
  - Architectural Systems Narrative
  - Food Service Narrative
  - Plumbing System Narrative

- Mechanical System Narrative
- Electrical System Narrative
- Telecommunications System Narrative
- Security System Narrative
- Audiovisual Systems Narrative
- Theatrical Systems Narrative
- Site/Civil System Narrative
- Landscape Architecture System Narrative

3.3.3.3 Total Project Costs / Construction Cost estimate (Uniformat II, Level II)

3.3.3.1 FINAL EVALUATION OF ALTERNATIVES

After documenting the Educational Program, the Initial Space Summary, evaluating the Existing Conditions and Site Development Requirements, the Designer developed a series of preliminary options for the Essex Elementary School site at 12 Story Street, Essex MA and the Manchester Memorial Elementary School site at 43 Lincoln Street, Manchester-by-the-Sea, MA. Several options were moved forward for consideration by the Essex Elementary School Building Committee (the School Building Committee). These options were developed with the Committee's consideration and comment.

As part of this process, the site circulation for emergency vehicles, buses and parents, field layouts, the locations of large community program elements (Cafeteria and Gymnasium), the Main Entry, the loading dock and service entry, equity for all the elementary students in the regional district, weighed heavily in the Building Committee's selection process. The construction phasing strategy and ability to provide uninterrupted safe education for students throughout construction was also an important consideration, as well as an attempt to avoid modular classrooms.

While Code Upgrade option for the Story Street site was evaluated it became evident that the significant components of the District's Educational Program would not be achieved through such an approach nor would this approach provide equity with the other elementary school within the district. One (1) Code Upgrade option three (3) Renovation and Addition options, and three (3) New Construction options were studied.

ANALYSIS OF ALTERNATIVES

The options that were explored in the Preliminary Design Program (PDP) were developed with additional detail that helped the Committee understand the inherent advantages and disadvantages of each option and ultimately help the Committee move toward a decision for the Preferred Solution to be submitted to the Massachusetts School Building Authority (MSBA).

Working with the project team, the Building Committee worked diligently to further develop the seven (7) alternatives in the Preferred Schematic Report (PSR) located at 12 Story Street, Essex MA and 43 Lincoln Street, Manchester-by-the-Sea, MA. As noted above, these alternatives comprised of: One (1) Code Upgrade option three (3) Renovation and Addition options, and three (3) New Construction options for enrollments (165 students plus 30 PreK students, 250 students plus 30 PreK students, and 515 students plus 60 PreK students) and grade configurations (Grades PreK-3 and Grades PreK-5)

- Code Upgrade Options:
  - Option A0.2 – 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
- Renovation and Addition Options:
  - Option A1.1 – 12 Story Street, Essex, MA, Grades PreK-3, 165 + 30 students
  - Option A1.2-B - 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
  - Option B1.1 43 Lincoln Street, Manchester-by-the-Sea, MA, Grades PreK-5, 515 + 60 students
- New Construction Options:
  - Option A2.2-A 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
  - Option A2.2-B 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students
  - Option A2.2-F 12 Story Street, Essex, MA, Grades PreK-5, 250 + 30 students

These options were developed to a similar level of detail that was then presented to the Committee.

PREFERRED SCHEMATIC REPORT, APRIL 2026

The School Building Committee agreed to submit all seven (7) options for estimating and inclusion in the PSR report. These options meet the MSBA criteria for code upgrade/base repair, renovation and addition and new construction options for this phase. Additionally, these alternatives addressed the study of the three grade configurations established in the SOI (K-3 165 students, K-5 250 students and K-5 515 student consolidation options).

MERSD School Building Committee unanimously removed from consideration alternatives K-3 165 student option and the 515-student consolidation option due to several challenges that are noted in the text below. Both would require a change to the Regional Agreement which was not supported by the MERSD. The time impact to change the Regional Agreement would negatively impact the current proposed EES project. Additionally, the School Building Committee discussed the social emotional impact of the student, equity between the towns, and increased traffic congestion at the Manchester Memorial Elementary School. The consolidation alternative at Manchester Memorial Elementary School caused the site to be very tight to fit program and respect wetlands and left no future growth opportunities. Lastly, an addition and alternation to the Manchester Memorial Elementary school would likely impact MSBA reimbursement. The PSR cost estimate results did not change the opinion of the School Building Committee because of the known negative impacts and potential challenges.

The remaining options, A0.2, A1.2-B, A2.2-A, A2.2-B, and A2.2-F, were reviewed by the School Building Committee at their April 14, 2026, meeting. The School Building Committee discussed selecting Option A2.2-F New Construction as the option that best supported the District's Educational Program and best met the established criteria. The School Building Committee ratified this decision at the April 16, 2026, School Building Committee meeting after hearing positive support for Option A2.2-F during the Community Meeting held earlier that evening.

A PSR Option Evaluation Summary which itemizes the design criteria used to evaluate each option with the associated ratings is included on the following pages of this report.

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES PREFERRED SCHEMATIC REPORT (PSR)		SITE A CURRENT EES						SITE B CURRENT MMES
		A0.2	A1.1	A1.2 - B	A2.2 - A	A2.2 - B	A2.2 - F	B1.1
		Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	250 + 30	165 + 30	250 + 30	250 + 30	250 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	0	0	0	77,102 GFA
	New Area	0	7,036 GFA	23,407 GFA	72,443 GFA	72,443 GFA	72,443 GFA	40,368 GFA
	Total Area	53,036 GFA	60,072 GFA	76,443 GFA	72,443 GFA	72,443 GFA	72,443 GFA	117,470 GFA
	Construction Duration	40 months	42 months	48 months	32 months	36 months	36 months	40 months
Education	Meets Needs of Educational Program at EES	0	0	3	3	3	4	2
	Meets Needs of Educational Program at MMES	4	0	4	4	4	4	2
	Equity across the District	0	0	4	4	4	4	0
	Future Growth and Expansion	2	2	2	4	4	4	0
	Flexible and Adaptable Spaces	0	4	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	2	1	1	0
Community	Compatible with Regional Agreement	4	0	4	4	4	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	4	1	4	4	4	4	0
	Neighborhood Traffic Impact	4	1	4	4	4	4	0
	Community Use Opportunities	4	1	4	4	4	4	0
	Disruption to Manchester	4	1	4	4	4	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	1	1	2	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	4	4	4	0
	Parking Capacity	2	2	2	4	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	3	3	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	4	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	4	4	4	2
	Additional work at MMES (separate project by District)	N/A	0	N/A	N/A	N/A	N/A	INC.
Cost and Schedule	Maximize MSBA Grant Reimbursement	0	4	1	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	4	2	2	1
	Modular Classroom Swing Space not Required	0	4	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	4	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	2	1	2	2	2	2	2
	Reduce Operational Costs - Staff, Transport	2	1	2	2	2	2	2
	Total Project Cost	$53M	$79M	$95M	$91M	$93M	$93M	$64M

An analysis of the seven (7) options developed during the PSR phase is provided on the following pages of this report. Each option accommodates the preferred design program for the various enrollments. The summaries highlight how each option accommodates the space summary area in addition to opportunities (pros), limitations (cons) and other qualities discussed by the Committee.

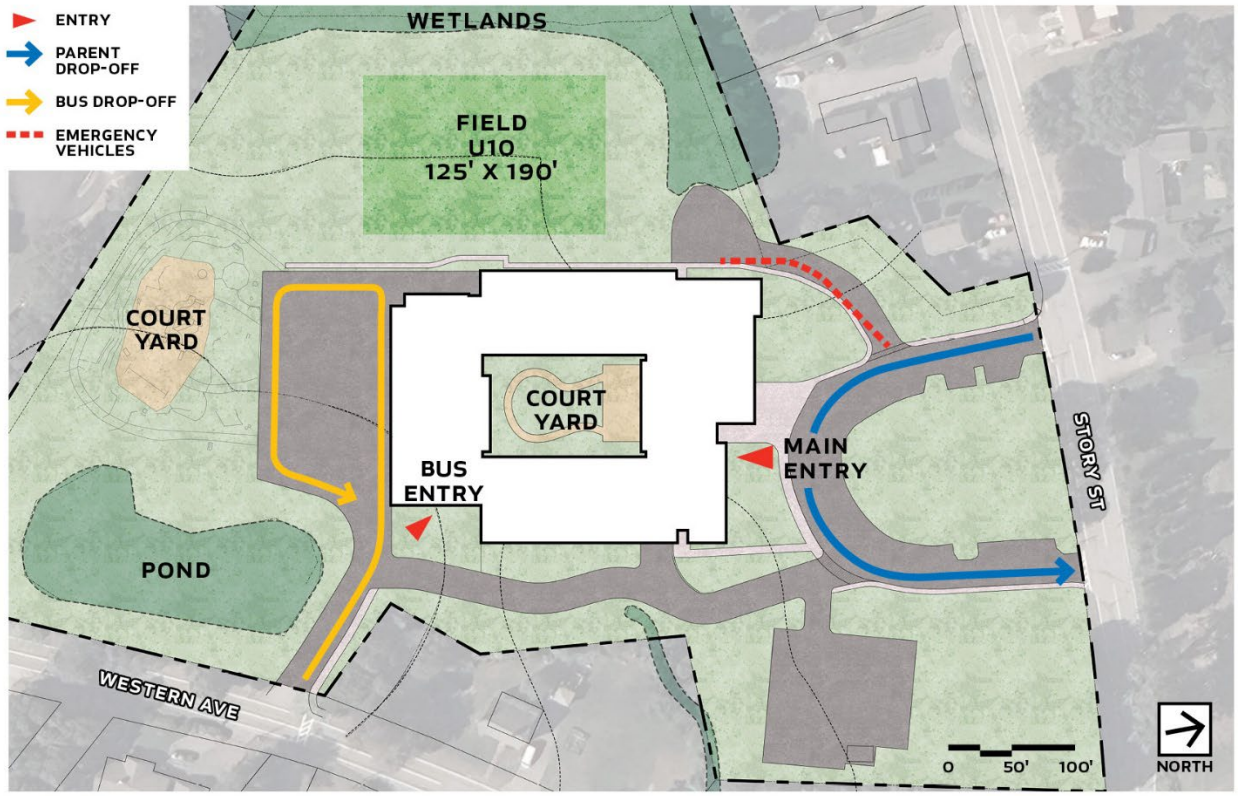
OPTION A0.2 CODE UPGRADE/BASE REPAIR – 12 STORY STREET

This option studies a full code upgrade and base repair of the existing single story Essex Elementary School of approximately 53,036 gsf, for Grades K-5, and an enrollment of 250 students with an additional enrollment of 30 PreK students. This option would preserve the existing parking and field layout while upgrading site circulation to provide an accessible route through the site. Existing fields and play areas shall remain, but an accessible route would be added to comply with code. This option will bring the facility into full accessibility and code compliance. The replacement of all exterior doors and windows, roofing, interior finishes and building systems as well as improving the energy performance of the existing building envelope will be studied.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

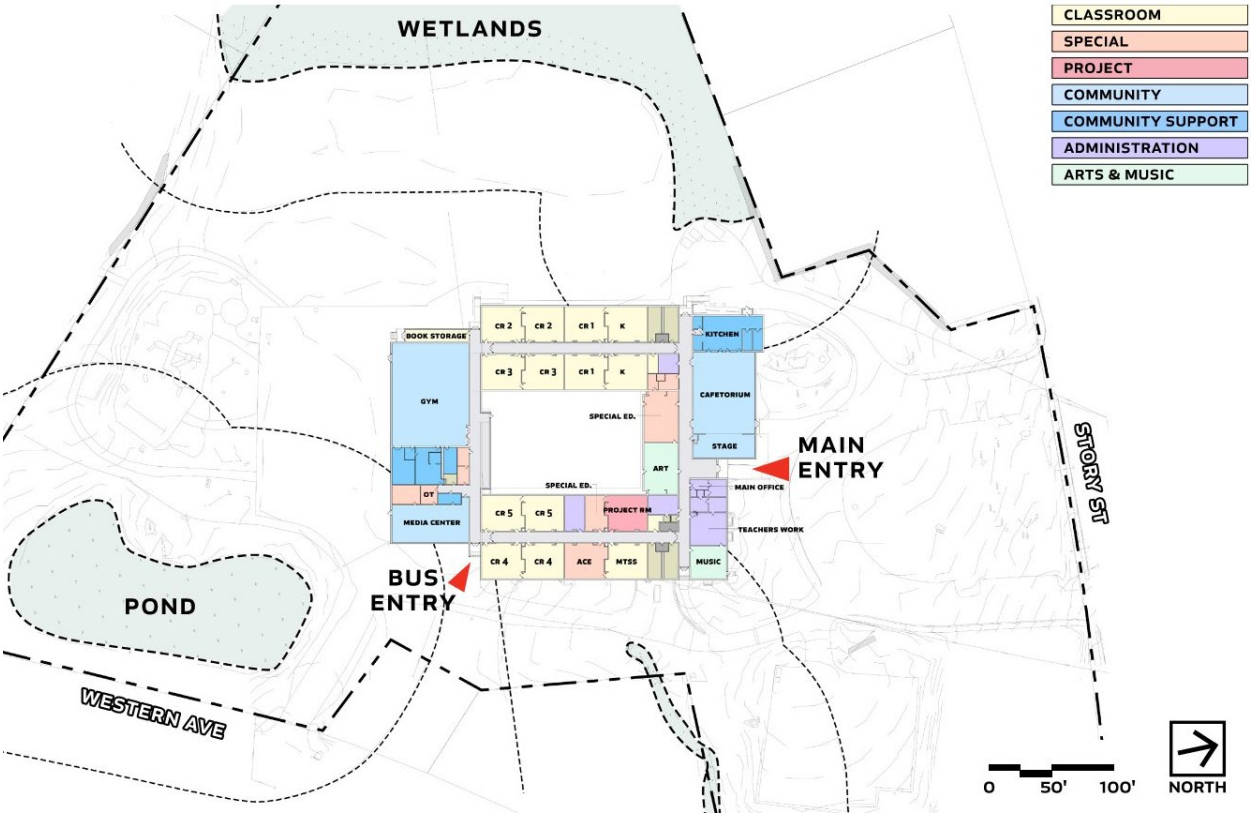
In order to implement this option, the district must acquire 4 modular classrooms to provide swing space for the students that are currently occupying the building. To minimize the construction impact on school and District operations, construction phasing for common areas of the building would need to be planned to occur during school vacations and/or after-hours and weekend periods. Such an approach would extend the construction duration and increase the cost of the scope of work due to the inefficient delivery. Conceptual Construction Phasing Plans are included on the following pages.

CONCEPTUAL SITE PLAN



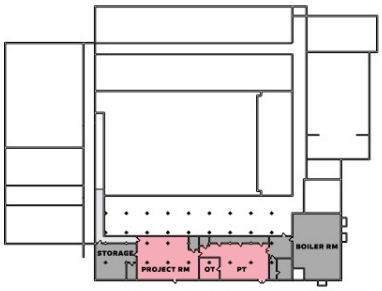
SITE PLAN

ARCHITECTURAL FLOOR PLANS



FLOOR PLAN – MAIN LEVEL

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



0 50' 100' NORTH

FLOOR PLAN – LOWER LEVEL

CONCEPTUAL CONSTRUCTION PHASING – OPTION A0.2

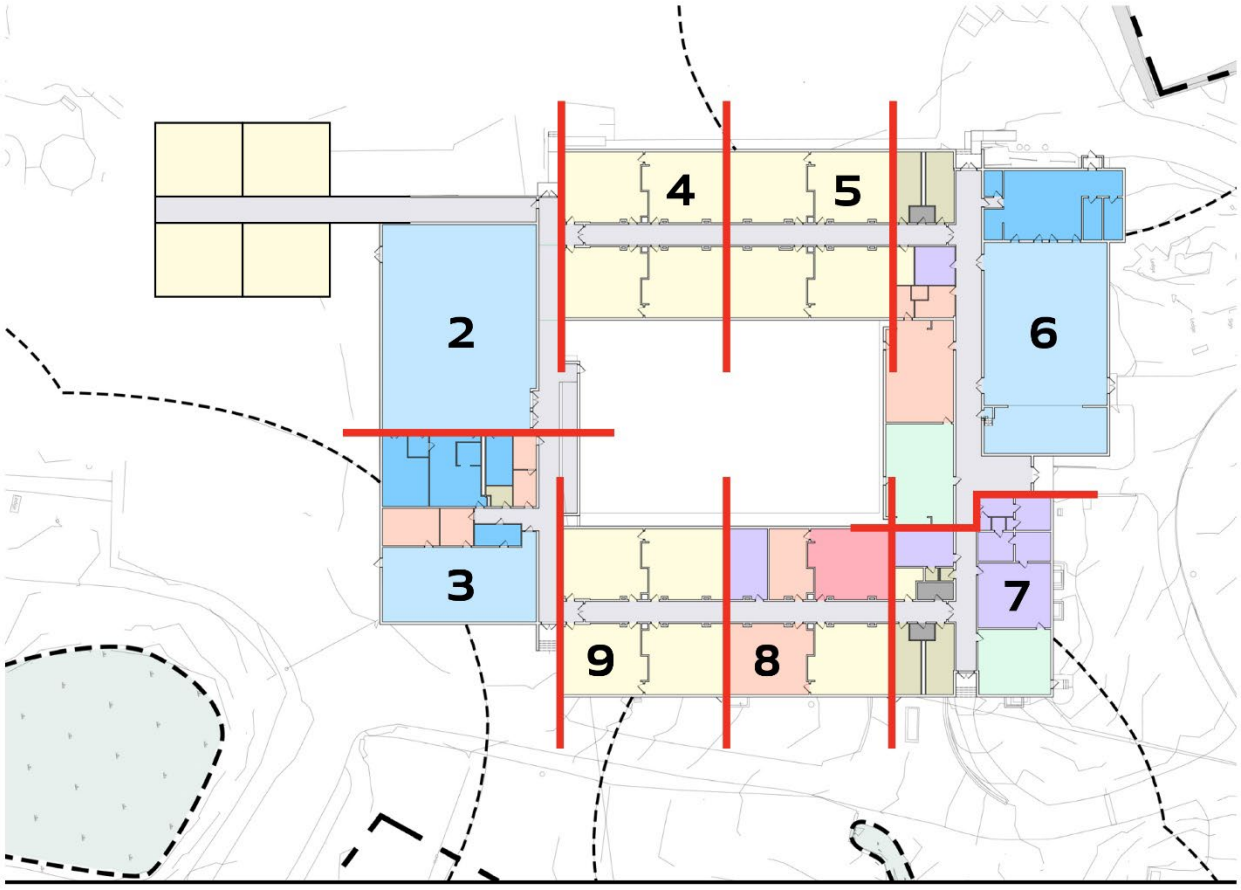
Given the anticipated complexity of occupied construction for the Essex Elementary School project, JCJ developed conceptual construction phasing plans for option A0.2 that would minimize impacts to school operations and minimize the construction duration which would impact the probably cost of construction.

To maintain phased occupancy of the existing building throughout construction, the phasing plan for Option A0.2 includes five (10) phases as follows:

Phase 1: Provide four (4) temporary modular classrooms
Phase 2-9: Renovate existing occupied building in multiple small phases
Phase 10: Remove Temporary modular classrooms and complete site work



PHASE 1



PHASE 2-9



PHASE 10

CONCEPTUAL CONSTRUCTION SCHEDULE

With an anticipated mobilization/construction start circa June 2028. Option A0.2 has an estimated construction duration of forty (40) months, delivering final completion in October 2031.

1. Start of Construction: 06/28
2. Multiphase Construction Duration: 32 months
3. Site Construction Duration: 8 months
4. Total Construction Duration: 40 months

ANALYSIS OF OPTION A0.2

The School Building Committee carefully evaluated each option against criteria that considered Educational, Community, Site, Building, Cost and Schedule, advantages and disadvantages. Through the development of Option A0.2, the following key points were considered:

- Advantages:
  - No impact on bus operations.
  - Retains entire existing facility.
  - No impact on the playground or play field.
  - Does not require changes to the regional agreement.
- Disadvantages:
  - Renovated building will not meet the Educational Program.
  - Building cannot absorb additional enrollment increases.
  - Difficult site circulation/accessibility.
  - No opportunity to create Learning Neighborhoods.
  - No opportunity to improve administrative offices.
  - Extended construction schedule to accommodate phasing.
  - No swing space – requires modulars to complete construction.
  - No emergency drive entirely around the school.

The School Building Committee's overall evaluation of Option A0.2 resulted in a low score in both meeting the educational program and cost and scheduling. At the April 16, 2026, meeting, this option was not selected as the Preferred Solution.

After significant investment to upgrade the building systems and to address the accessibility and code deficiencies, the inability of this option to address the priority criteria of supporting the Educational Program in its entire, eliminated Option A0.2 from consideration as the Preferred Solution.

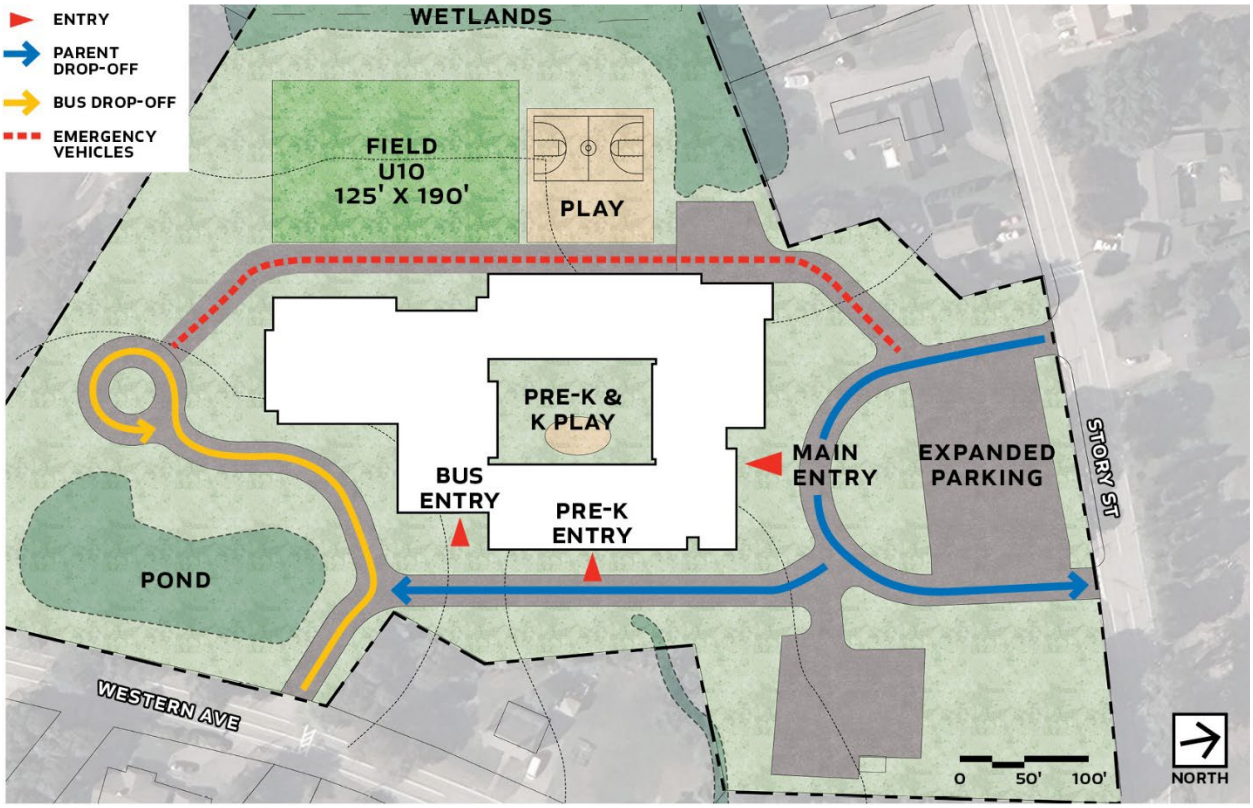
OPTION A1.1 - ADDTION & RENOVATION – 12 STORY STREET

This option studies a full renovation of the original circa 1958 multi-level courtyard style building and the 1975 media center and gymnasium addition, 53,036 gsf total existing footprint with an addition of 7,366 gsf for a total facility of 60,402 GSF for Grades K-3, and an enrollment of 165 students with an additional enrollment of 30 PreK students. This option would preserve the existing parking and field layout while upgrading site circulation to provide an accessible route through the site. A new play area would be provided to replace amenities displaced by the new addition. An accessible route would be added to comply with code.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

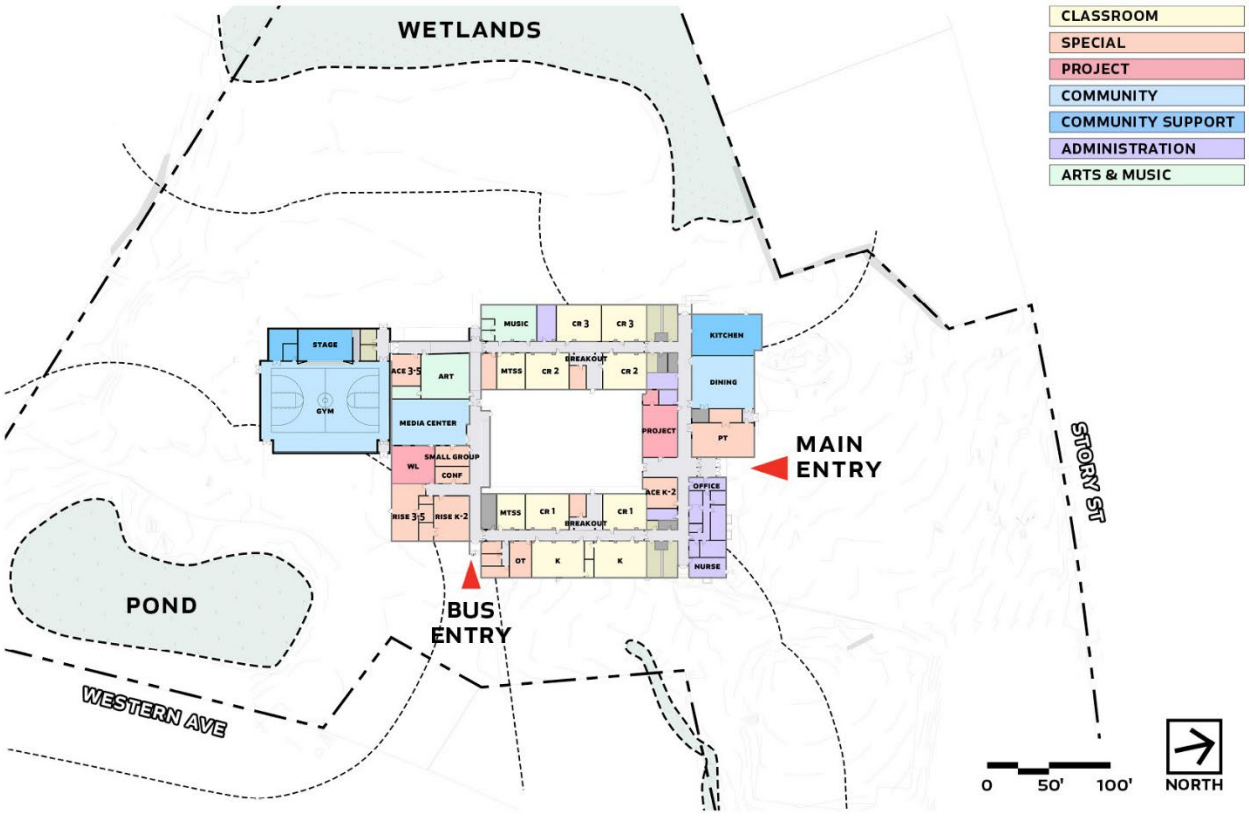
To implement this option, the district must vote to change their regional agreement to allow for the 4th and 5th grade students to attend school at Manchester Memorial Elementary School. In addition to changing the regional agreement Manchester Memorial Elementary School would also require renovations and program upgrades to accommodate the additional students. That scope of work would not be covered by the MSBA process and be solely financed by the town and district. Conceptual Construction Phasing Plans are included on the following pages.

CONCEPTUAL SITE PLAN



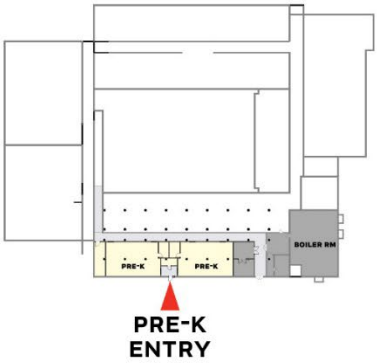
SITE PLAN

ARCHITECTURAL FLOOR PLANS



FLOOR PLAN – MAIN LEVEL

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



0 50' 100' NORTH

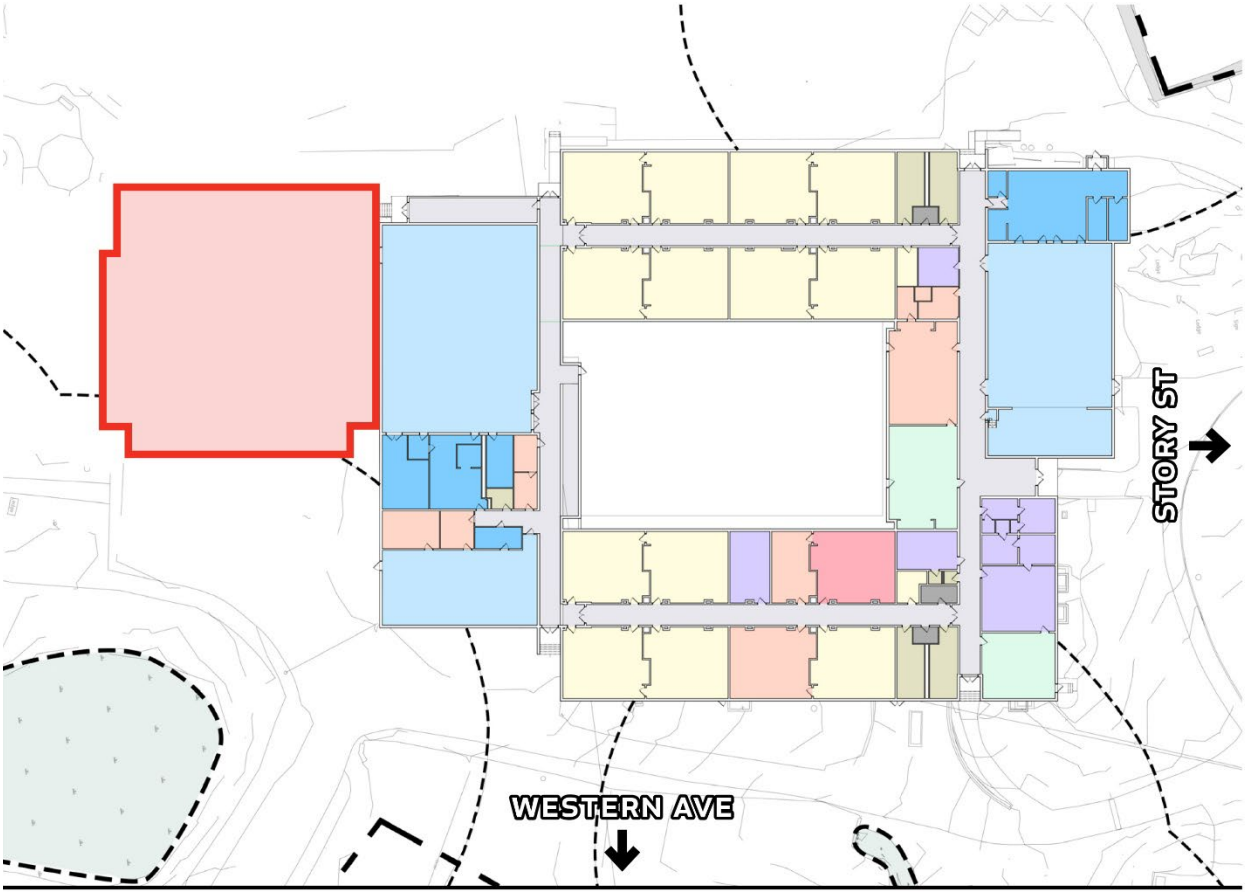
FLOOR PLAN – LOWER LEVEL

CONCEPTUAL CONSTRUCTION PHASING – OPTION A1.1

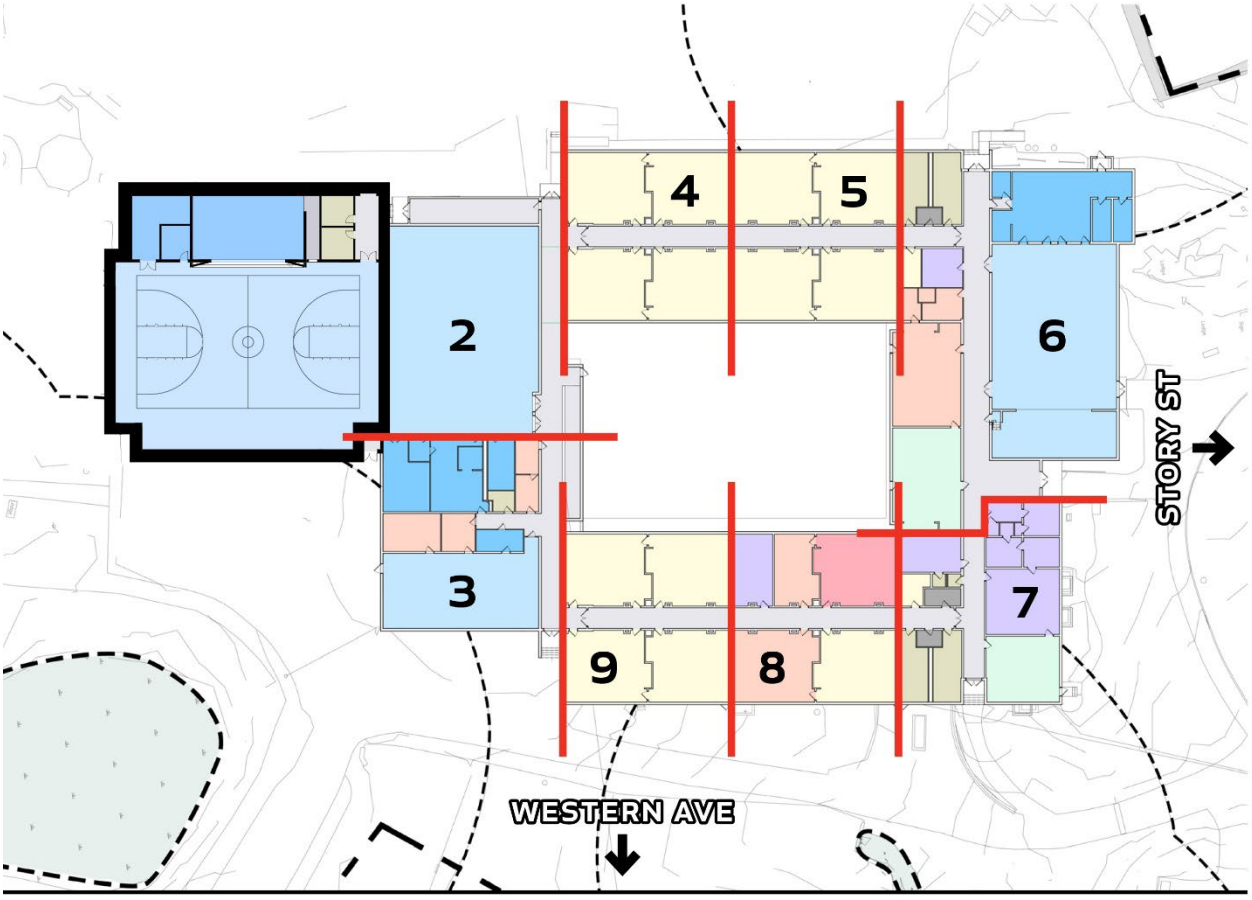
Given the anticipated complexity of occupied construction for the Essex Elementary School project, JCJ developed conceptual construction phasing plans for option A1.1 that would minimize impacts to school operations and minimize the construction duration which would impact the probably cost of construction.

To maintain phased occupancy of the existing building throughout construction, the phasing plan for Option A1.1 includes ten (10) phases as follows:

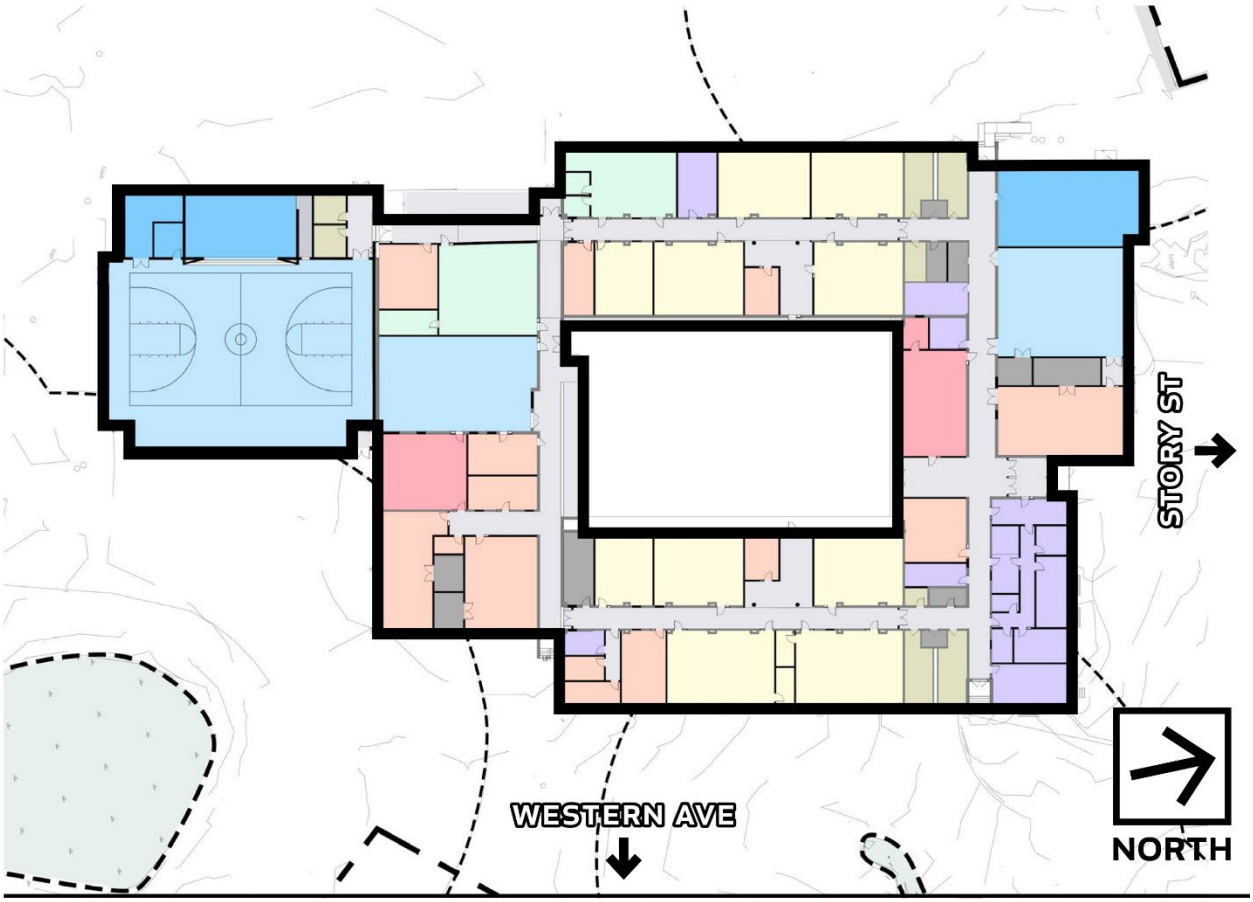
Phase 1: Build new addition
Phase 2-9: Occupy the new addition. Renovate existing occupied building in multiple small phases
Phase 10: Occupy entire building, complete site work



PHASE 1



PHASE 2-9



PHASE 10

CONCEPTUAL CONSTRUCTION SCHEDULE

The need to change the regional agreement to approve this option will require additional time prior to the start of construction and therefore an anticipated mobilization/construction start circa January 2029. Option A1.1 has an estimated construction duration of forty-two (42) months, delivering final completion in June 2032.

1. Start of Construction: 01/29
2. Phase 1 Addition Construction Duration: 6 months
3. Phase 2 Renovations Construction Duration: 24 months
4. Site Construction Duration: 12 months
5. Total project duration: 42 months

ANALYSIS OF OPTION A1.1

The School Building Committee carefully evaluated each option against criteria that considered Educational, Community, Site, Building, Cost and Schedule, advantages and disadvantages. Through the development of Option A1.1, the following key points were considered:

- Advantages:
  - Provide appropriately sized program areas.
  - Creation of Learning Neighborhoods.
  - Maintains and renovates a majority of the existing footprint.
- Disadvantages:
  - Extended phasing.
  - Community spaces are not all in one location in building footprint.
  - Renovated classrooms are not as easily configured for Learning Neighborhoods.
  - No new image of the school from the street
  - Does not meet current district regional agreement.
  - Firewalls needed to compartmentalize school

The School Building Committee's overall evaluation of Option A1.1 resulted in a low score in meeting the educational program, the community needs and cost and scheduling. Due to the need to amend the regional agreement as well as questions surrounding equity for 4th and 5th grade Essex students that would require transition to Manchester Memorial Elementary School midway through elementary school, at the January 6th, 2026, SBC meeting a straw poll was conducted to remove this option from selection as the Preferred Solution. At the January 26th, 2026, SBC meeting a formal vote was held to remove this option from contention. This option, although not in contention to be the Preferred Solution, was still studied to the same level as all other options during the PSR phase.

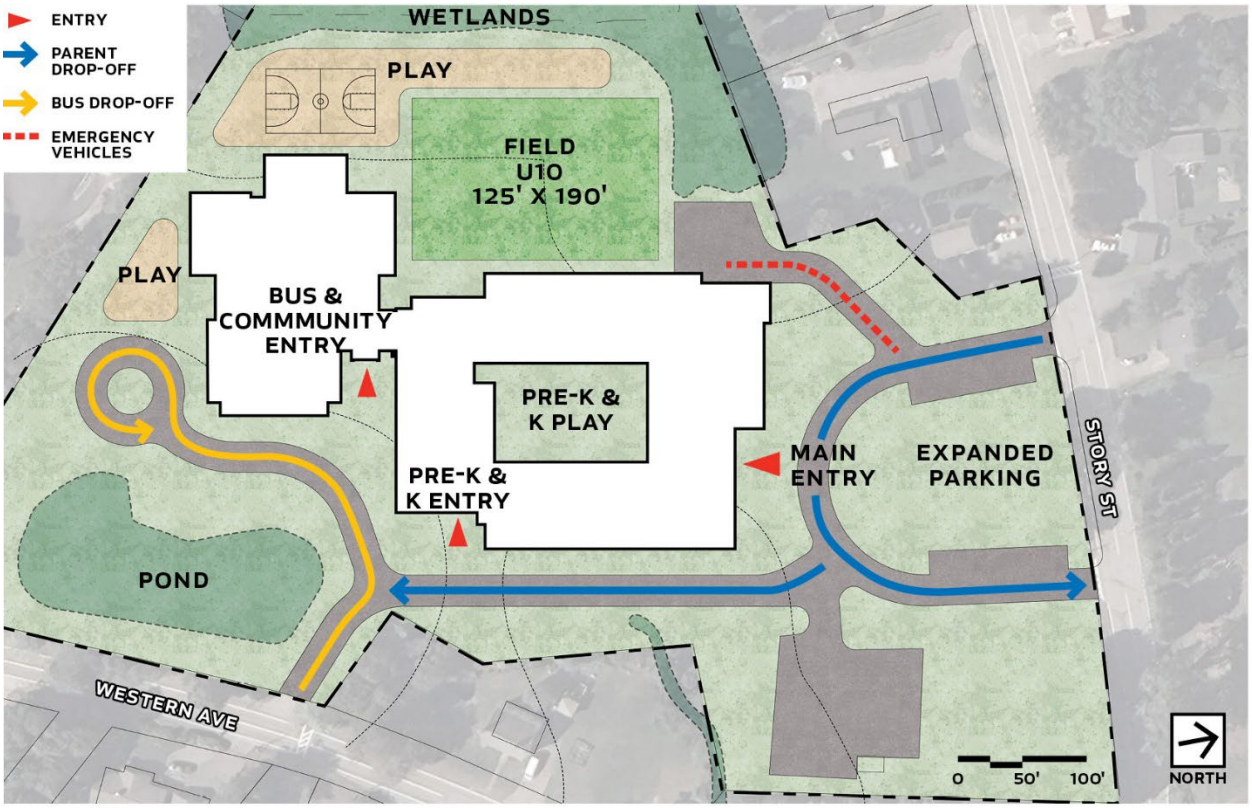
OPTION A1.2-B - ADDTION & RENOVATION – 12 STORY STREET

This option includes the full renovation of the original circa 1958 multi-level courtyard style building and the 1975 media center and gymnasium addition, 53,036 gsf total existing footprint with an addition of 23,407 gsf for a total facility of 76,443 GSF, for Grades K-5, and an enrollment of 250 students with an additional enrollment of 30 PreK students. This option would preserve the existing parking at the north side of the site and utilize portions of the existing field and blacktop play area for the addition.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

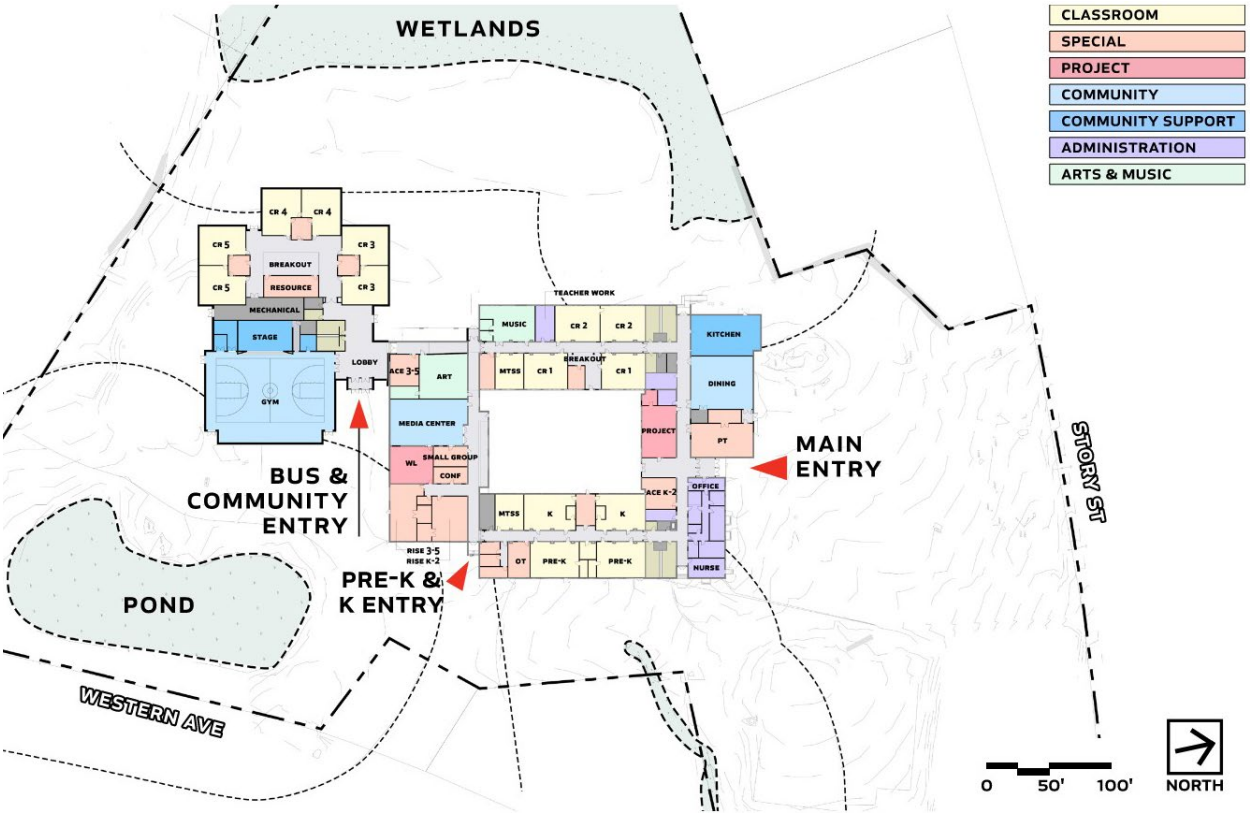
To implement this option, the addition would be building in the first phase to create swing space for the remaining school to be renovated in multiple phases. This option has limited laydown area for construction and due to adjacencies of wetlands would not allow for a full ring road for emergency vehicle access. As a single-story construction, a firewall would also be needed to meet floor area code limitations. Conceptual Construction Phasing Plans are included on the following pages.

CONCEPTUAL SITE PLAN



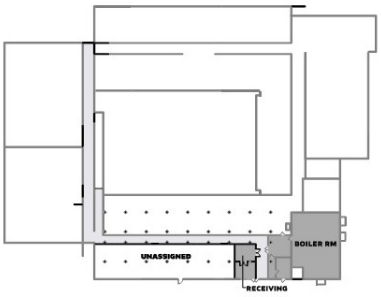
SITE PLAN

ARCHITECTURAL FLOOR PLANS



FLOOR PLAN – MAIN LEVEL

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



0 50' 100' NORTH

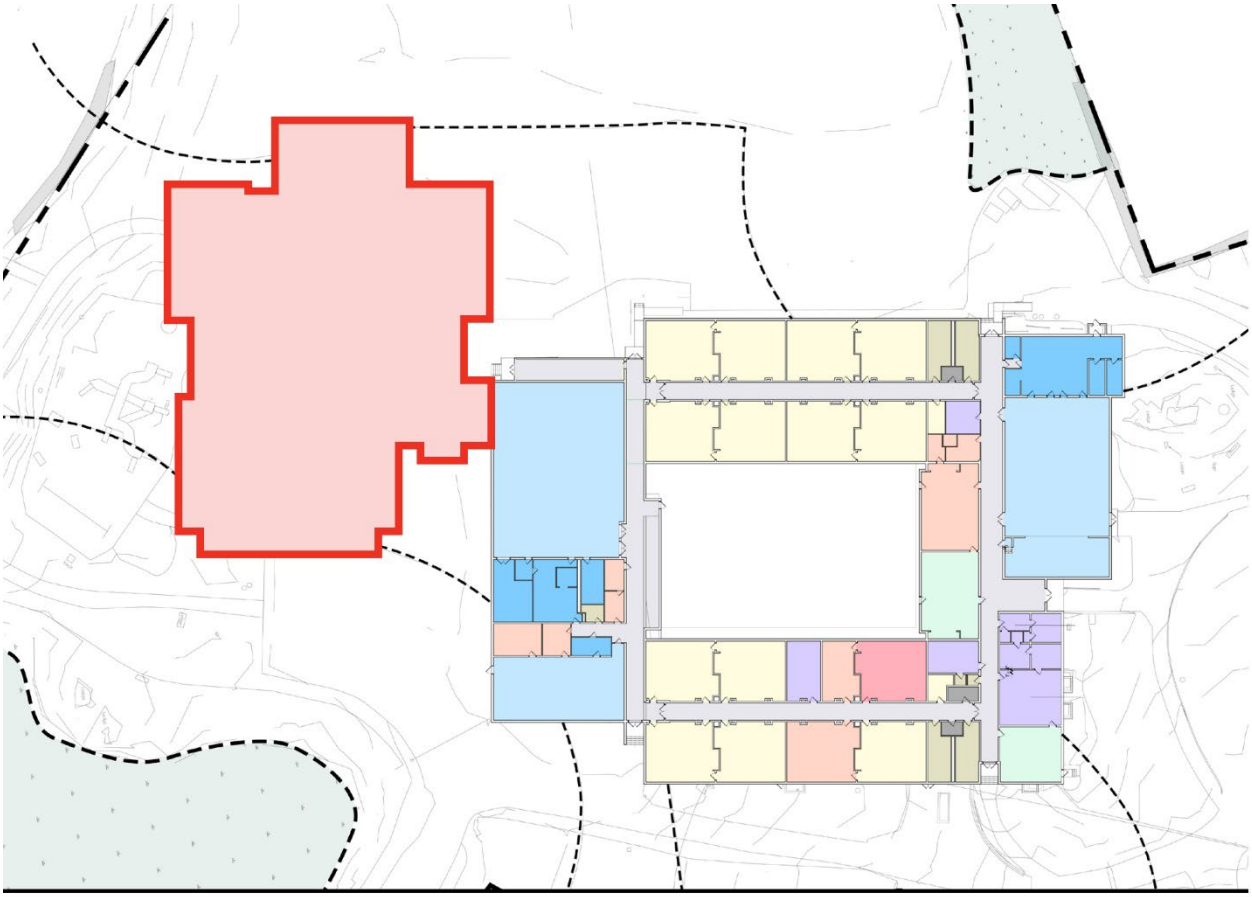
FLOOR PLAN – LOWER LEVEL

CONCEPTUAL CONSTRUCTION PHASING – OPTION A1.2-B

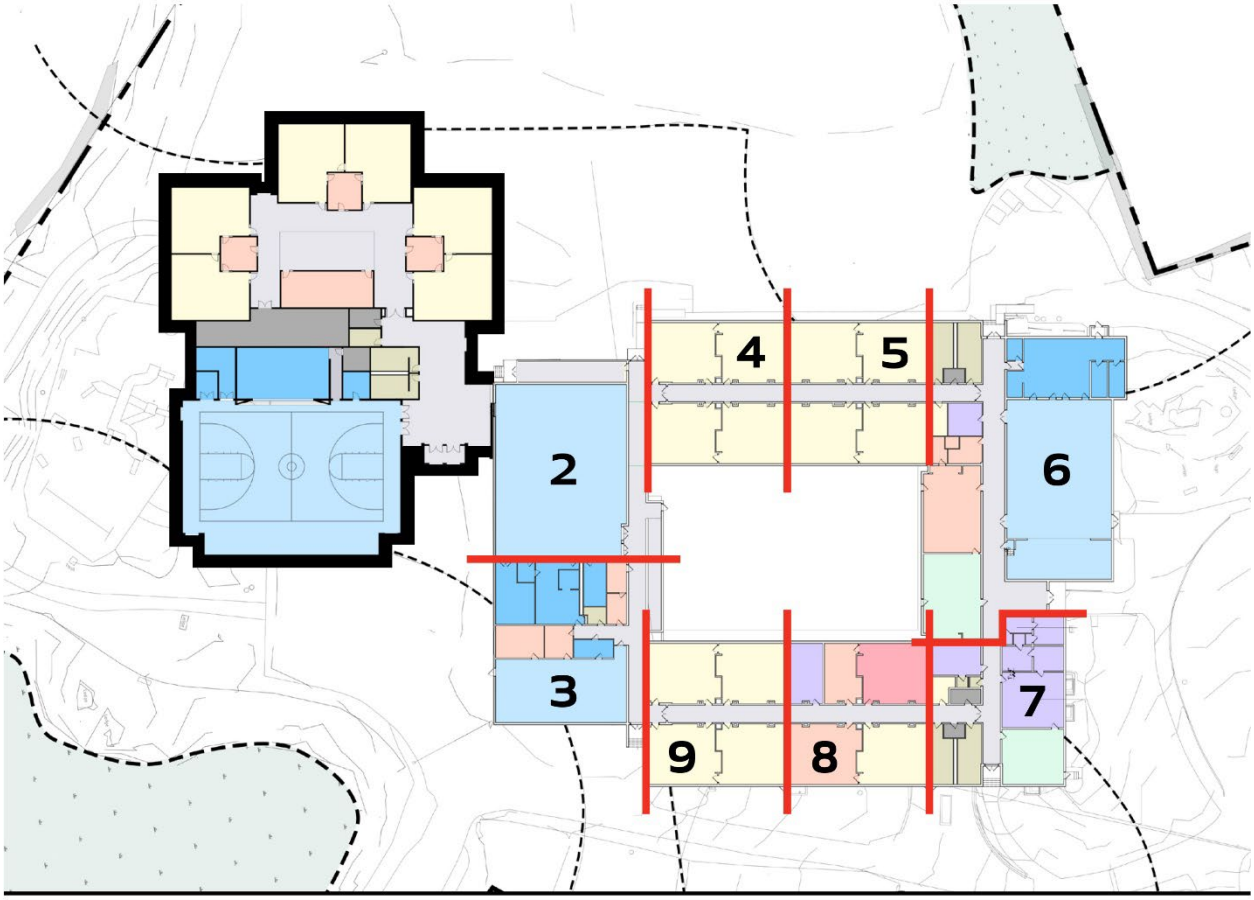
Given the anticipated complexity of occupied construction for the Essex Elementary School project, JCJ developed conceptual construction phasing plans for each of the design options that would minimize impacts to school operations and minimize the construction duration which would impact the probably cost of construction.

To maintain phased occupancy of the existing building throughout construction, the phasing plan for Option A1.2-B includes ten (10) phases as follows:

Phase 1: Build new addition
Phase 2-9: Occupy the new addition. Renovate existing occupied building in multiple small phases
Phase 10: Occupy entire building, complete site work



PHASE 1



PHASE 2-9



PHASE 10

CONCEPTUAL CONSTRUCTION SCHEDULE

With an anticipated mobilization/construction start circa June 2028. Option A1.2-B has an estimated construction duration of Forty-eight (48) months, delivering final competition in June 2032.

1. Start of Construction: 06/28
2. Phase 1 Addition Construction Duration: 12 months
3. Phase 2 Renovations Construction Duration: 24 months
4. Site Construction Duration: 12 months
5. Total project duration: 48 months

ANALYSIS OF OPTION A1.2-B

The School Building Committee carefully evaluated each option against criteria that considered Educational, Community, Site, Building, Cost and Schedule, advantages and disadvantages. Through the development of Option A1.2-B, the following key points were considered:

- Advantages:
  - Provide appropriately sized program areas.
  - Creation of Learning Neighborhoods.
  - Maintains and renovates most of the existing footprints.
  - Does not require changes to the regional agreement.
  - Swing space provided within addition – no modulars needed
- Disadvantages:
  - Extended phasing.
  - Community spaces are not all in one location in building footprint.
  - Renovated classrooms are not as easily configured for Learning Neighborhoods.
  - No new image of the school from the street
  - Firewalls needed to compartmentalize school
  - Additional 4,000 GSF new construction needed to remove student-occupied spaces from the existing lower level
  - Interior courtyard not as beneficial as site options in other Alternatives.
  - No emergency drive entirely around the school.

The School Building Committee's overall evaluation of Option A1.2-B resulted in a high score in both meeting the educational program and community needs. However, it scored lower in building, site, cost and schedule. At the April 16, 2026, meeting, this option was not selected as the Preferred Solution.

After significant investment to upgrade the building systems and to address the accessibility and code deficiencies, the inability of this option to address site needs and building layout adjacencies eliminated Option A1.2 -B from consideration as the Preferred Solution.

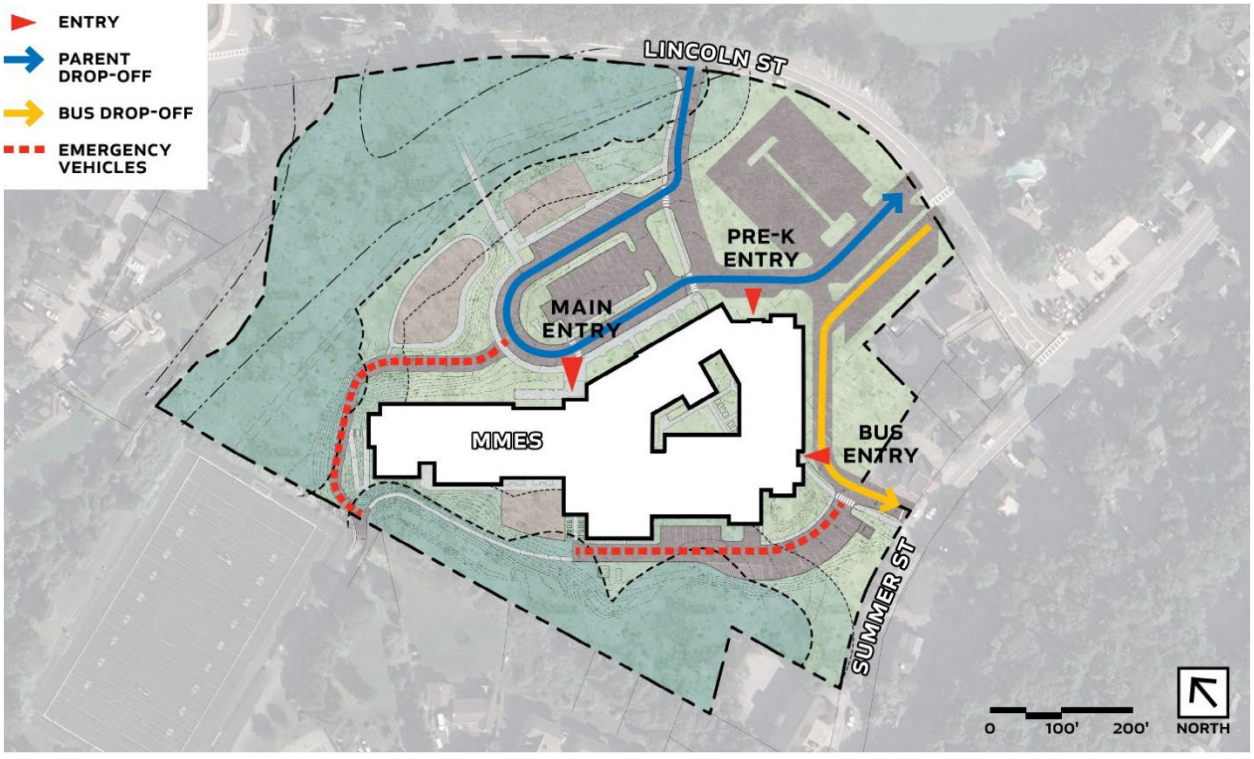
OPTION B1.1 - ADDTION & RENOVATION – 43 LINCOLN STREET

This option includes the limited renovation of the recently completed (2021) multi-level Manchester Memorial Elementary School. Approximately 5,000 gsf of renovation of the existing school will be needed to connect to the 40,368 gsf additions. The total school will be 117,470 gsf when completed with an enrollment of 515 students grade K-5 with and additional enrollment of 60 PreK students. This option would preserve most of the existing school utilizing firewalls to separate the existing school from the new additions.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

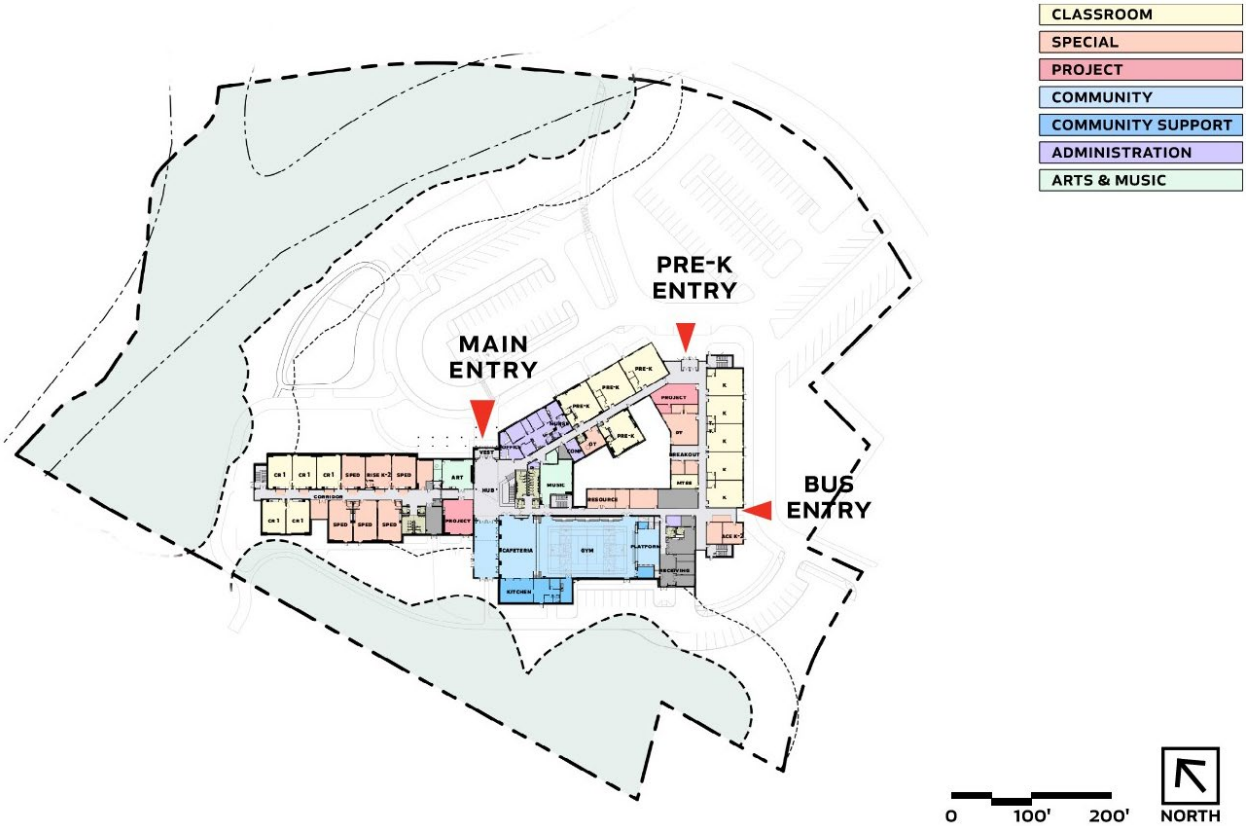
To implement this option, the district must vote to change their regional agreement to allow for the consolidation of all elementary aged students within the region into one facility. Any renovation work to the recently completed portion of the school would result in loss of previous reimbursement from MSBA, increasing the burden of cost on the town. The existing site has limited area for additional construction and construction activity. Nearly doubling the enrollment of the current school this option would create great strain on the surrounding neighborhood, most notably at pick up and drop off times. Conceptual Construction Phasing Plans are included on the following pages.

CONCEPTUAL SITE PLAN



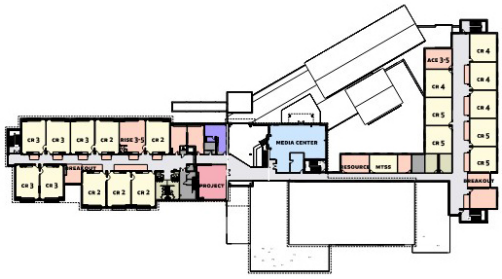
SITE PLAN

ARCHITECTURAL FLOOR PLANS



FLOOR PLAN – MAIN LEVEL

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



0 100' 200' NORTH

FLOOR PLAN – UPPER LEVEL

CONCEPTUAL CONSTRUCTION PHASING – OPTION B1.1

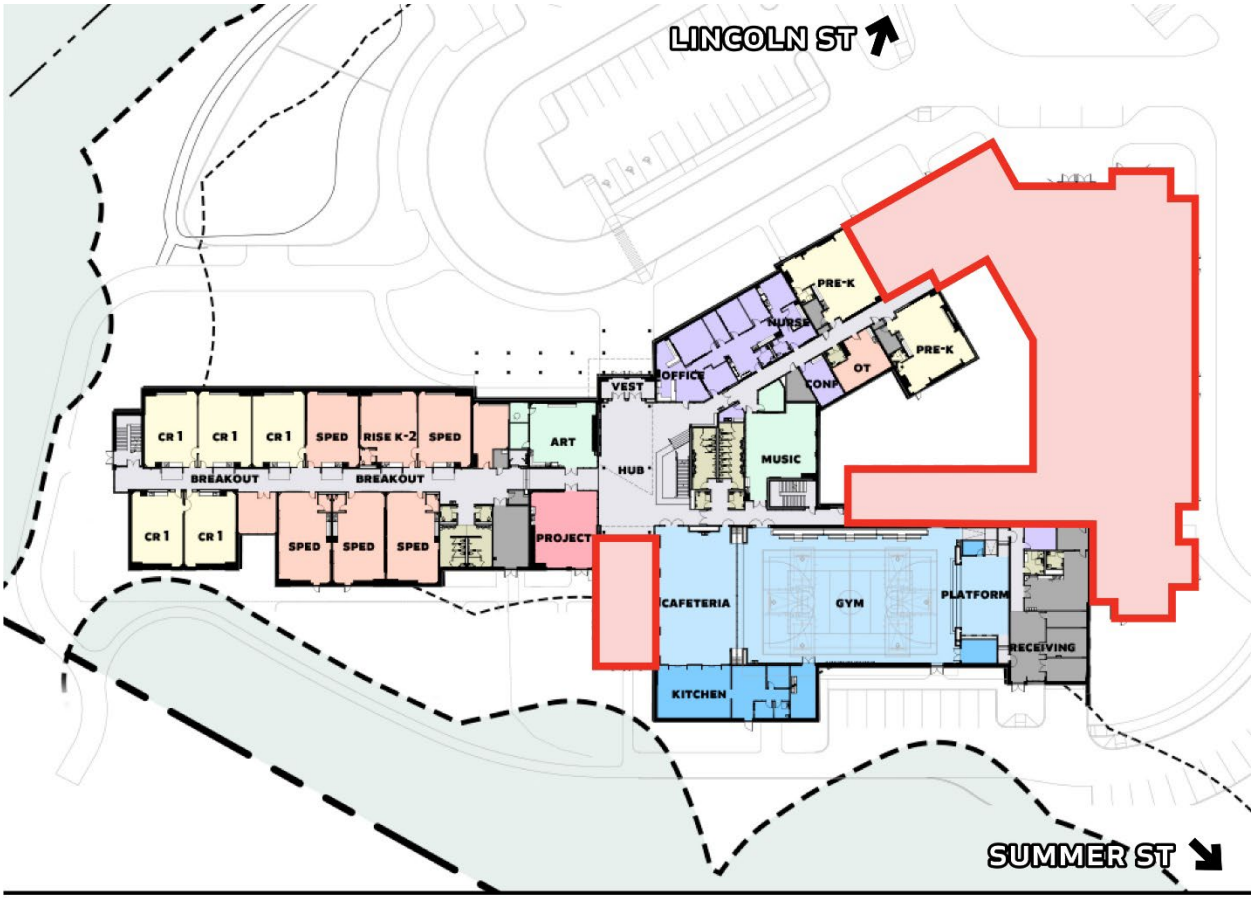
Given the anticipated complexity of occupied construction for the Essex Elementary School project, JCJ developed conceptual construction phasing plans for each of the design options that would minimize impacts to school operations and minimize the construction duration which would impact the probably cost of construction.

To maintain phased occupancy of the existing building throughout construction, the phasing plan for Option B1.1 includes three (3) phases as follows:

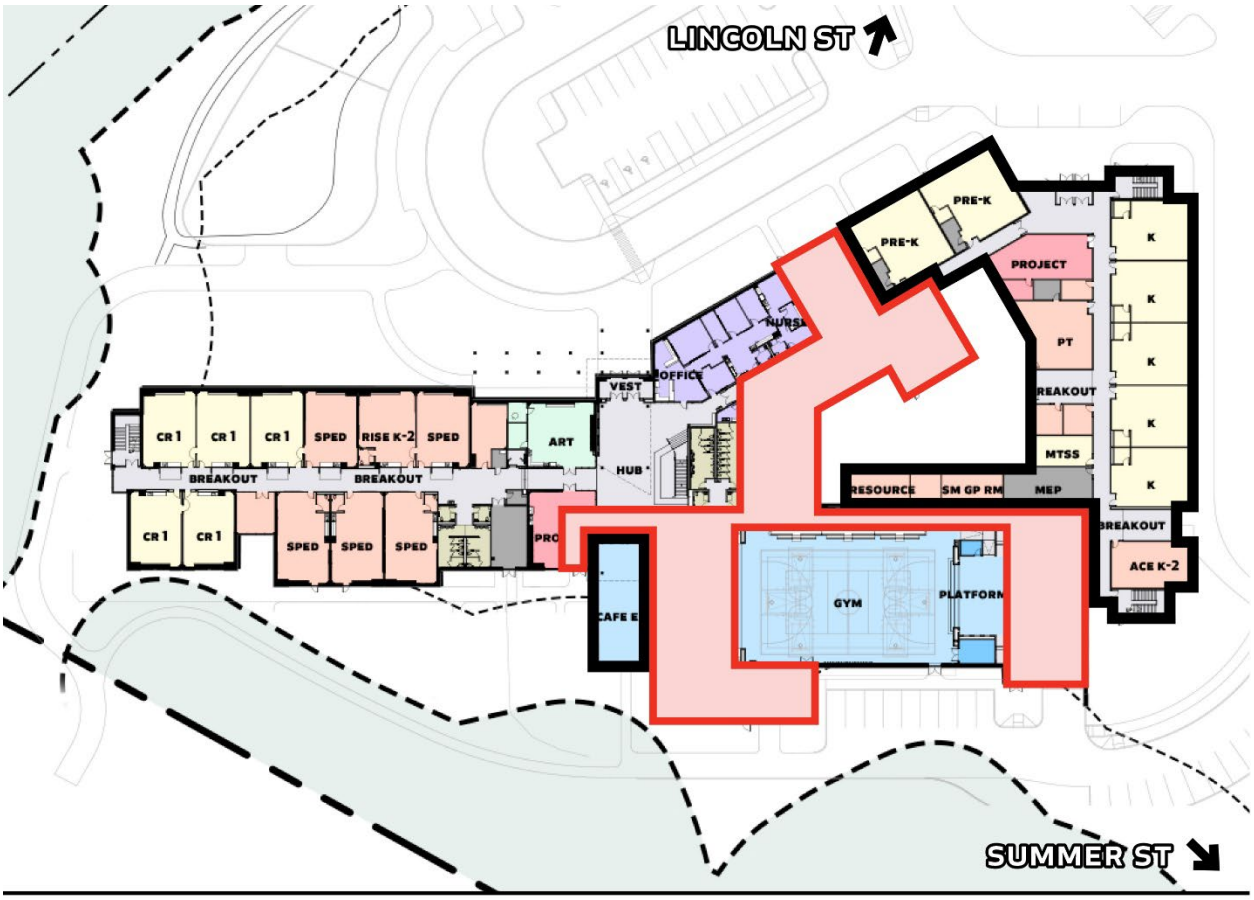
Phase 1: Prep site, include partial demolition of existing building / site features and build new additions

Phase 2: Occupy new additions, renovate limited portion of existing occupied building where impacted by Phase 1

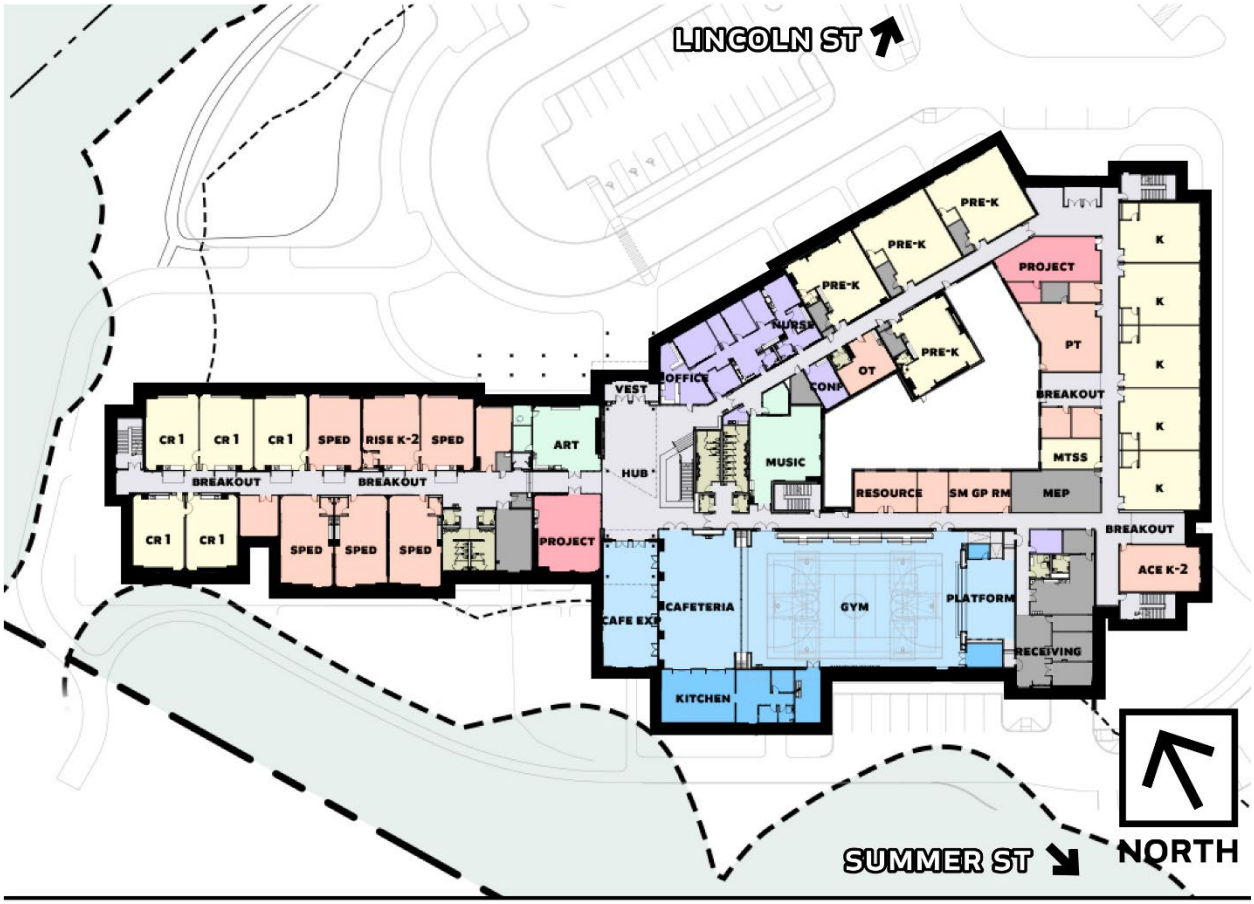
Phase 3: Site work



PHASE 1


LINCOLN ST
PRE-K
PRE-K
PROJECT
K
K
K
K
K
PT
OFFICE
VEST
CR 1
CR 1
CR 1
SPED
RISE K-2
SPED
ART
HUB
BREAKOUT
BREAKOUT
MTSS
RESOURCE
SM GP RM
MEP
CR 1
CR 1
SPED
SPED
SPED
BREAKOUT
ACE K-2
GYM
SUMMER ST

PHASE 2


LINCOLN ST
PRE-K
PRE-K
PRE-K
PRE-K
PROJECT
NURSE
OT
PT
BREAKOUT
MTSS
K
K
K
K
K
OFFICE
VEST
CONF
CR 1
CR 1
CR 1
SPED
RISE K-2
SPED
ART
HUB
MUSIC
RESOURCE
SM GP RM
MEP
BREAKOUT
BREAKOUT
CR 1
CR 1
SPED
SPED
SPED
PROJECT
BREAKOUT
ACE K-2
CAFE EXP
CAFETERIA
GYM
PLATFORM
RECEIVING
KITCHEN
SUMMER ST
NORTH

PHASE 3

CONCEPTUAL CONSTRUCTION SCHEDULE

The need to change the regional agreement to approve this option will require additional time prior to the start of construction and therefore an anticipated mobilization/construction start circa January 2029. Option B1.1 has an estimated construction duration of forty (40) months, delivering final completion in April 2032.

1. Start of Construction: 01/29
2. Site prep / Partial Demolition: 4 months
3. Phase 1 Addition Construction Duration: 18 months
4. Tie-in: 6 months
5. Site Construction Duration: 12 months
6. Total project duration: 40 months

ANALYSIS OF OPTION B1.1

The School Building Committee carefully evaluated each option against criteria that considered Educational, Community, Site, Building, Cost and Schedule, advantages and disadvantages. Through the development of Option B1.1, the following key points were considered:

- Advantages:
  - Consolidates the entire districts elementary school population into one facility.
- Disadvantages:
  - Renovation to a recently-constructed new school – loss of MSBA reimbursement.
  - Redundant Mechanical and Electrical systems to meet Massachusetts all electric and stretch energy code requirements.
  - Extensive firewall construction to compartmentalize school.
  - Complex site conditions and regulatory requirements.
  - On site congestion with loss of town owned tennis courts affecting high school sports team
  - Does not meet current district regional agreement.
  - Limited site area for proposed addition -loss of original design intent of all wings of the school rotating off the central hub of the school.
  - Loss of existing playgrounds and site features.
  - Creates traffic congestion on surrounding neighborhood streets
  - Concerns with equity between two towns
  - Concerns with social emotional needs of the student
  - Leaves the town of Essex with an outdated facility that would still require major upgrades or demolition without any reimbursement or shared costs between the towns

The School Building Committee's overall evaluation of Option B1.1 resulted in a low score in meeting the community needs and site development. Due to the need to amend the regional agreement as well as questions surrounding equity between the two towns of the district at the January 6th, 2026, SBC meeting a straw poll was conducted to remove this option from selection as the Preferred Solution. At the January 26th,

2026, SBC meeting a formal vote was held to remove this option from contention. This option, although not in contention to be the Preferred Solution, was still studied to the same level as all other options during the PSR phase.

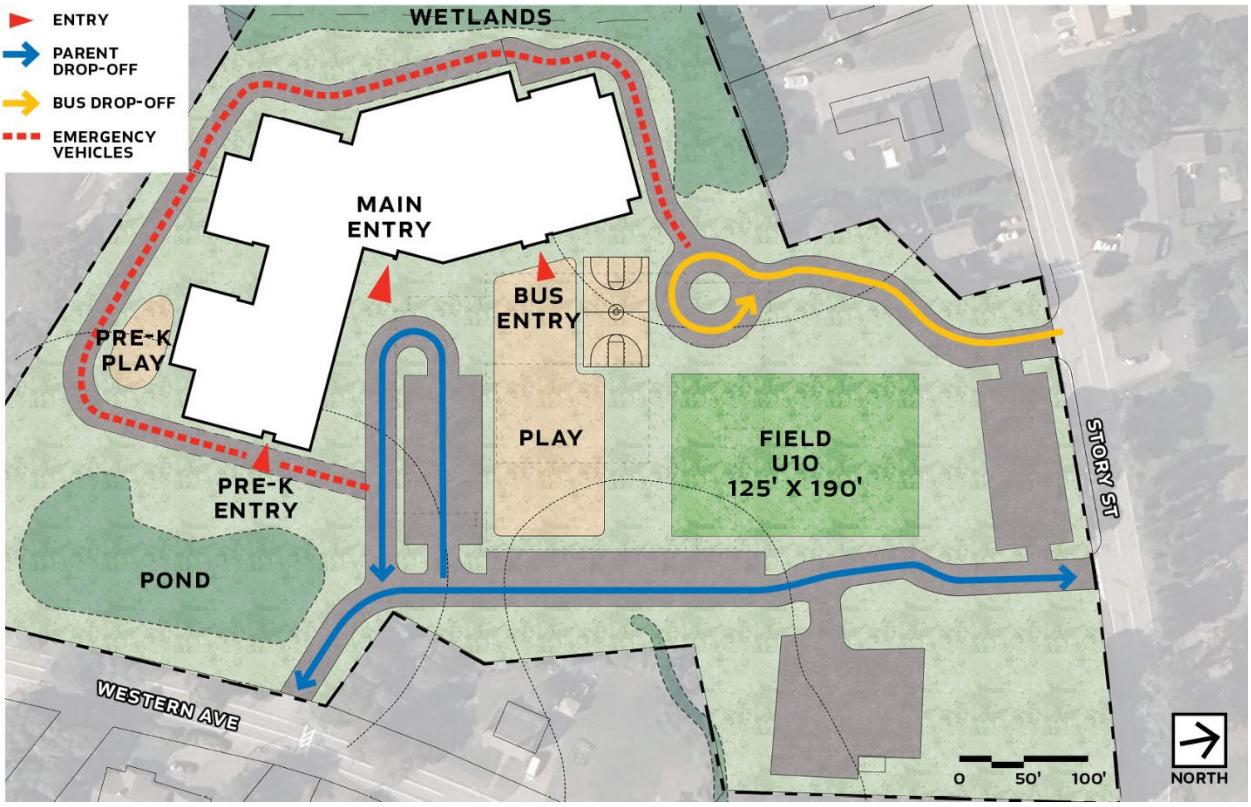
OPTION A2.2-A – NEW CONSTRUCTION – 12 STORY STREET

This option studies a two-level building of approximately 72,443 gsf of all-new construction, for Grades K-5, and an enrollment of 250 students with an additional enrollment of 30 PreK students. This option would be constructed in a single phase on the south-west portion of the site, the current location of the existing playing fields and playground. This option would receive an entirely new site layout including new playing fields and playscapes as well as new circulation patterns including a full emergency access ring road.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

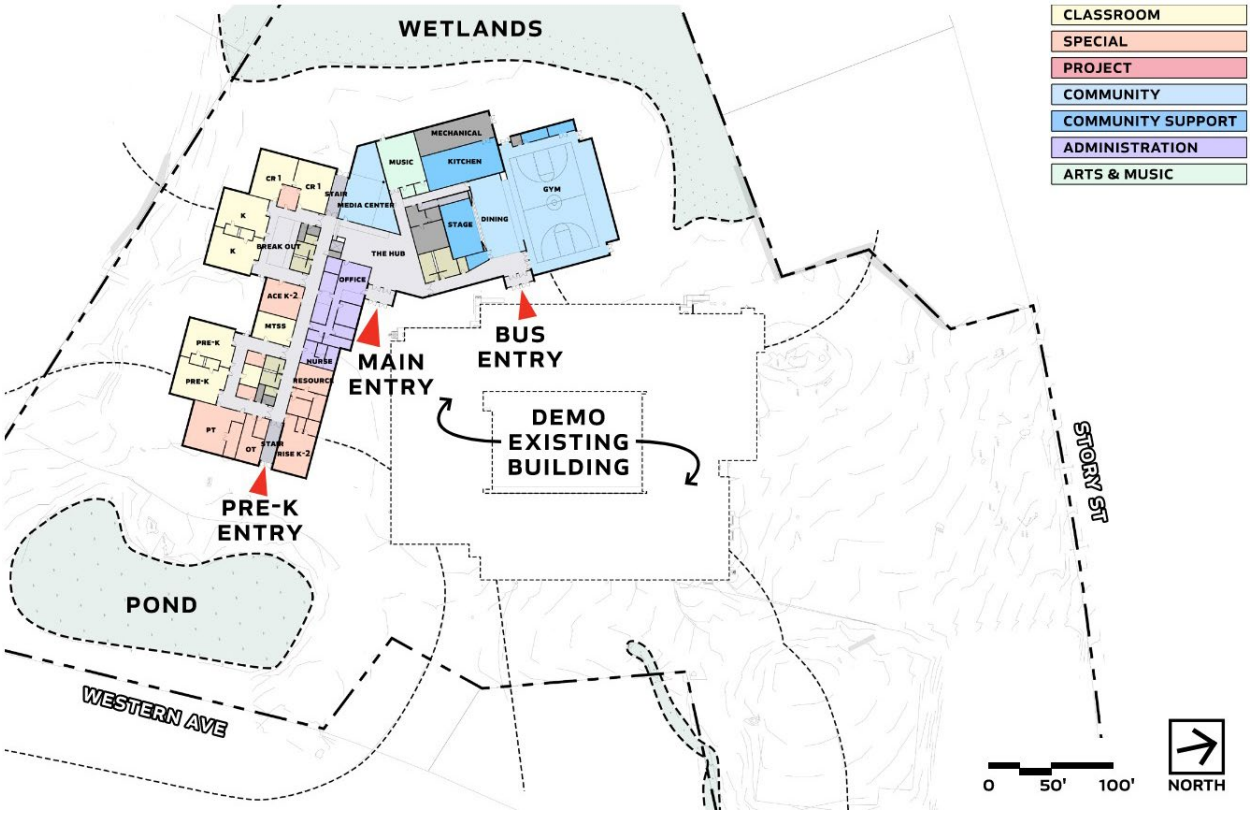
This option provides the only opportunity to construct the full building in a single phase, helping to reduce both cost and construction schedule. However, completing the building in a single phase will limit the amount of site for construction laydown and material storage and also limit student and community use of the site features during construction. This option does require building within the wetland buffers and closer to adjacent neighbors. The existing facility will remain fully operational during construction and therefore not require any swing space for students during construction. Conceptual Construction Phasing Plans are included on the following pages.

CONCEPTUAL SITE PLAN



SITE PLAN

ARCHITECTURAL FLOOR PLANS



FLOOR PLAN – MAIN LEVEL



CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

0 50' 100' NORTH

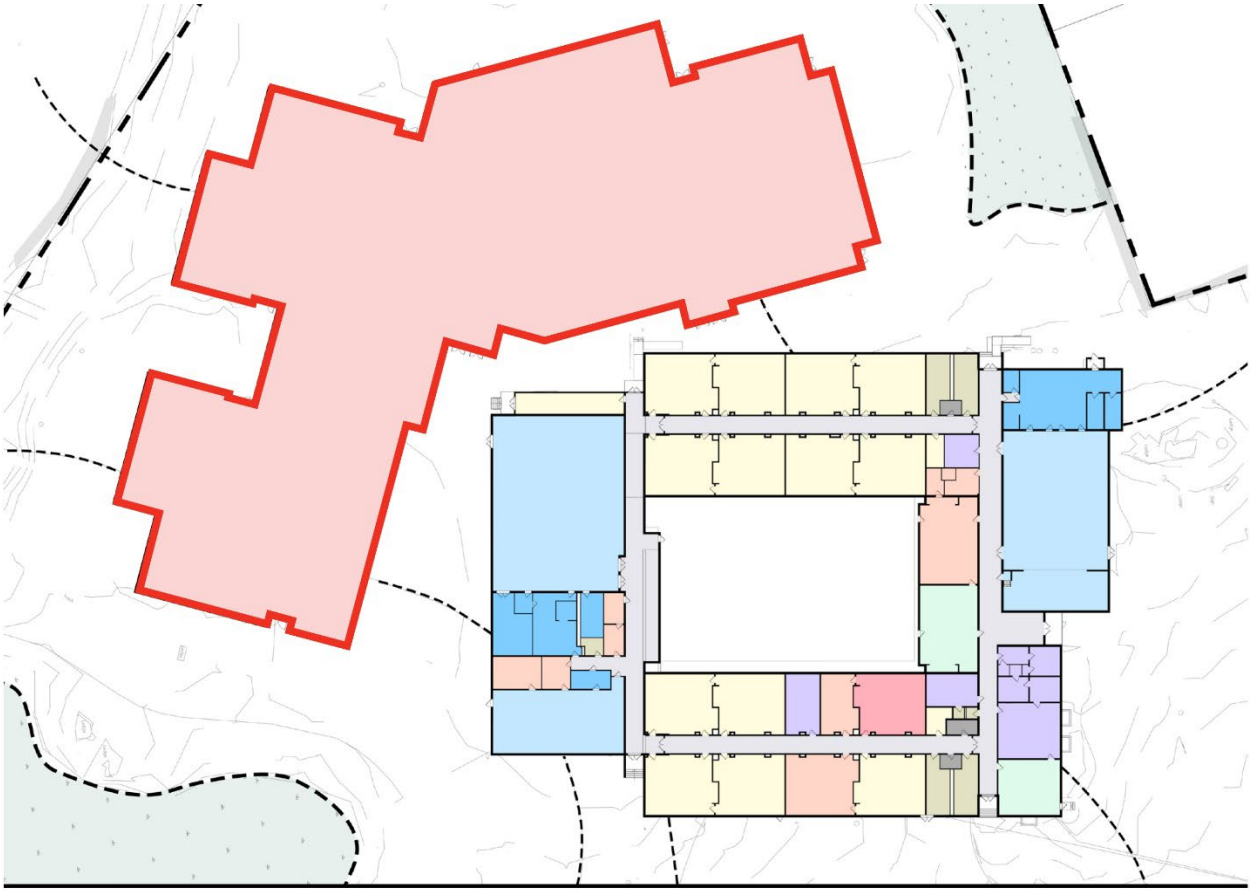
FLOOR PLAN – UPPER LEVEL

CONCEPTUAL CONSTRUCTION PHASING – OPTION A2.2-A

Given the anticipated complexity of occupied construction for the Essex Elementary School project, JCJ developed conceptual construction phasing plans for each of the design options that would minimize impacts to school operations and minimize the construction duration which would impact the probably cost of construction.

To maintain phased occupancy of the existing building throughout construction, the phasing plan for Option A2.2A includes two (2) phases as follows:

Phase 1: All new building construction completed in single phase
Phase 2: Demolish entire original building and complete all site work



PHASE 1



PHASE 2

CONCEPTUAL CONSTRUCTION SCHEDULE

With an anticipated mobilization/construction start circa June 2028. Option A2.2-A has an estimated construction duration of Thirty-Two (32) months, delivering final competition in January 2031

ANALYSIS OF OPTION A2.2-A

The School Building Committee carefully evaluated each option against criteria that considered Educational, Community, Site, Building, Cost and Schedule, advantages and disadvantages. Through the development of Option A2.2-A, the following key points were considered:

- Advantages:
  - Shortest construction phasing schedule.
  - Provide appropriately sized program areas.
  - Creation of Learning Neighborhoods.
  - New image of the school from the street.
  - Places the new building on the flattest portion of the site.
  - Less excavation/soils removal at building site.
  - Two-story option maximizes available site.
  - All-new parking, bus and parent drop-off loop.
  - New playing fields can be optimized for orientation and regulation sizes.
  - Does not require changes to the regional agreement.
- Disadvantages:
  - Demolition of the existing playground
  - Long Utility runs to the back of the site, will need to run around existing school to be installed before existing building demolition
  - Close adjacency to neighbors
  - Significant portions of the building and emergency loop road built in wetlands buffer zone
  - Educators concerned that play is in the ‘front’ close to street

The School Building Committee’s overall evaluation of Option A2.2-A resulted in a high score in both meeting the educational program, community, building and cost and scheduling, while scoring low in site mostly due to regulatory concerns of building within the wetlands buffer zones. At the April 16, 2026, meeting, this option was not selected as the Preferred Solution.

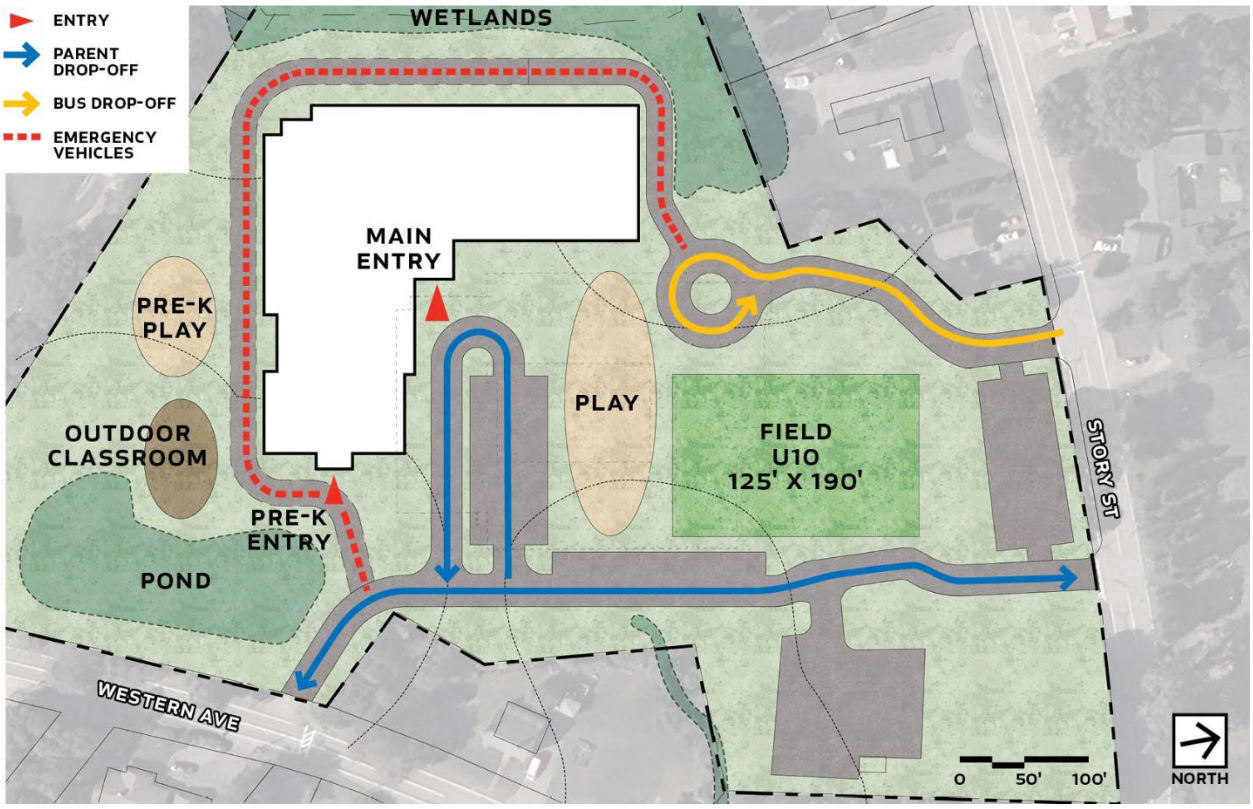
OPTION A2.2-B – NEW CONSTRUCTION – 12 STORY STREET

This option studies a two-level building of approximately 72,443 gsf of all-new construction, for Grades K-5, and an enrollment of 250 students with an additional enrollment of 30 PreK students. This option would be constructed in multiple phases on the south-west portion of the site, the current location of the existing playing fields and playground. This option would receive an entirely new site layout including new playing fields and playscapes as well as new circulation patterns including a full emergency access ring road.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

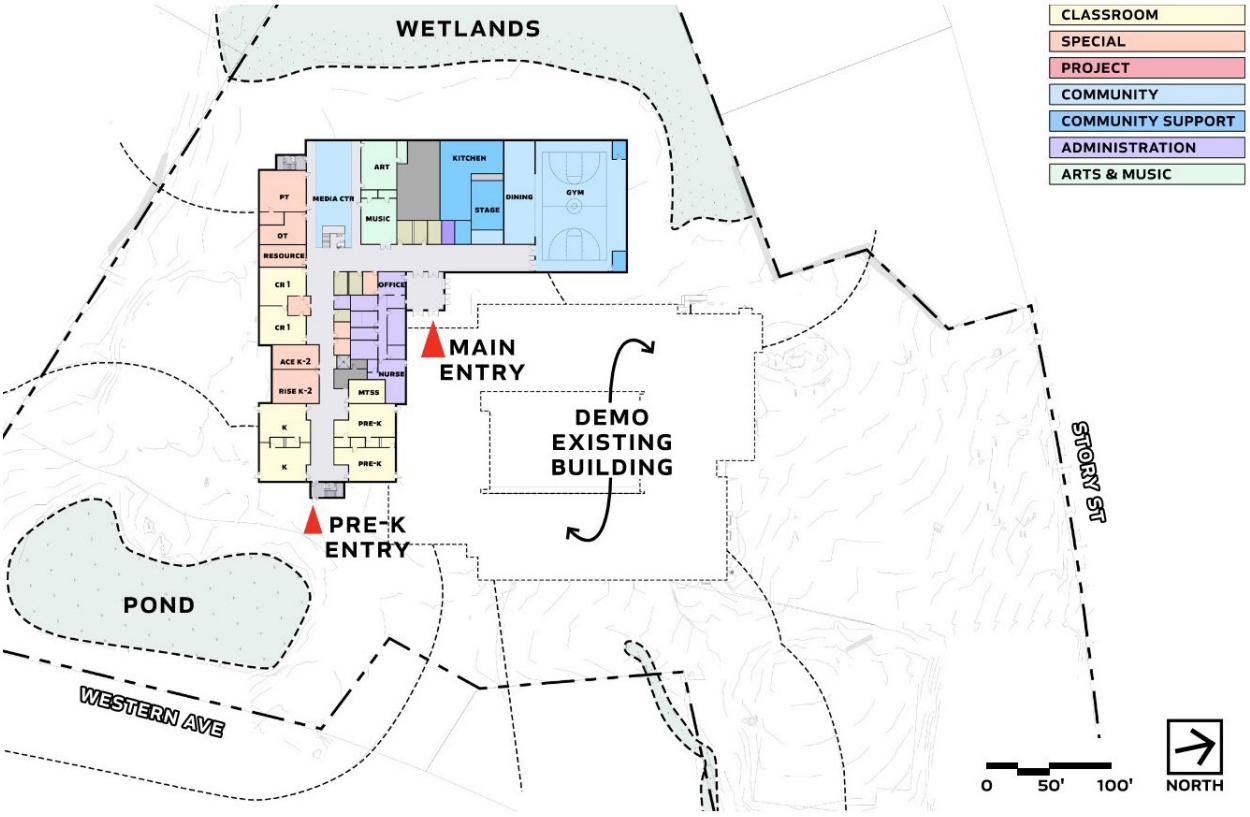
This option has a similar site approach to option A2.2-A however by constructing the building in multiple phases it allows the footprint to be further away from the bounding property line and provides more site for construction materials, equipment and laydown space. This option does not significantly remove the building from the wetlands buffers so regulatory requirements will still apply. A multi-phased building will also increase construction time and therefore cost. The existing facility will remain fully operational during phase one of construction and therefore not require any swing space for students. Conceptual Construction Phasing Plans are included on the following pages.

CONCEPTUAL SITE PLAN

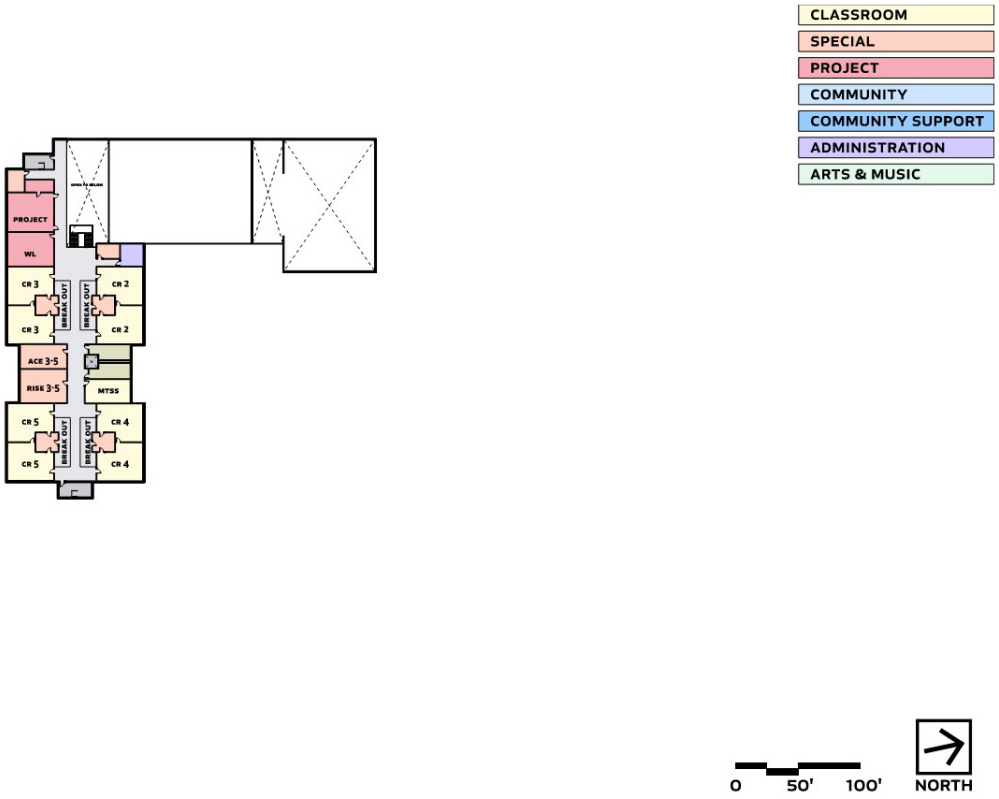


SITE PLAN

ARCHITECTURAL FLOOR PLANS



FLOOR PLAN – MAIN LEVEL



FLOOR PLAN – UPPER LEVEL

CONCEPTUAL CONSTRUCTION PHASING – OPTION A2.2-B

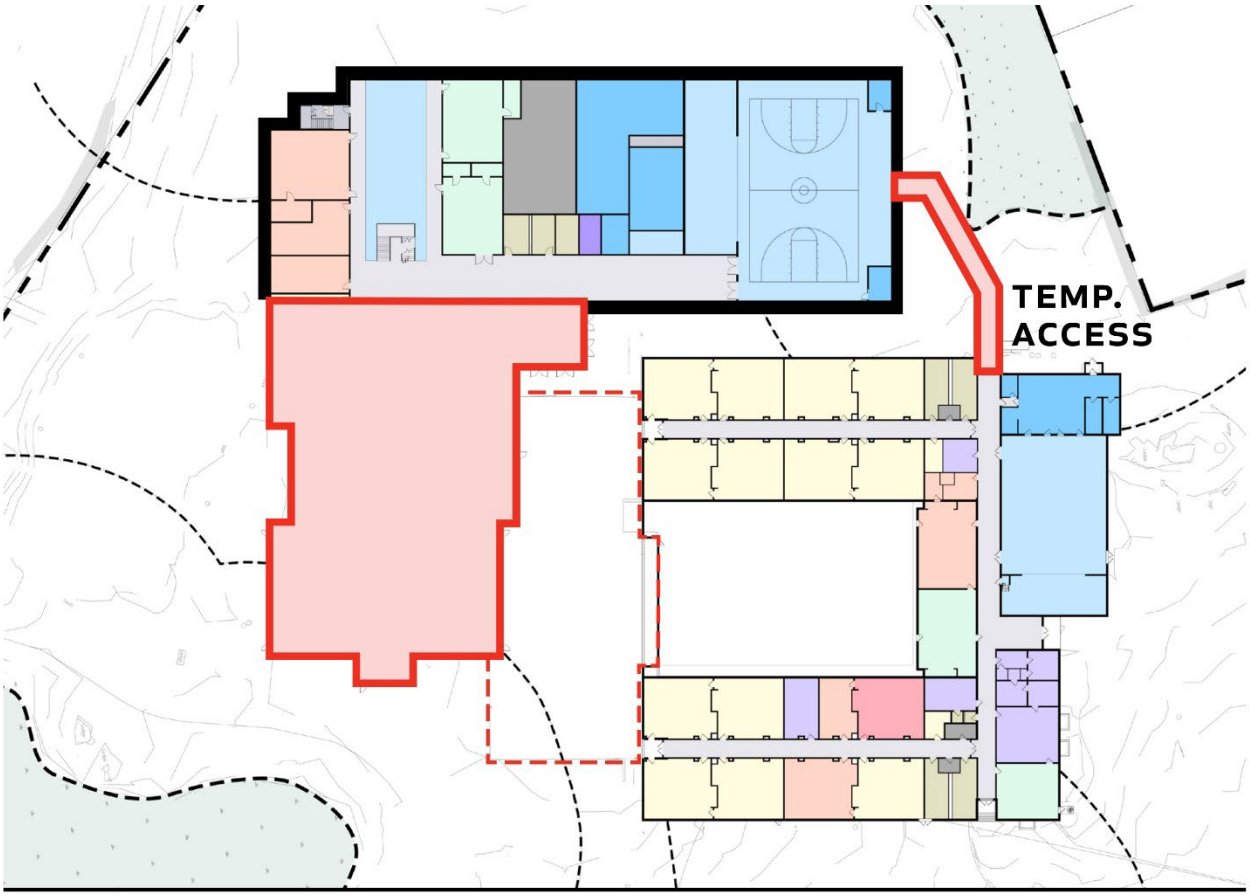
Given the anticipated complexity of occupied construction for the Essex Elementary School project, JCJ developed conceptual construction phasing plans for each of the design options that would minimize impacts to school operations and minimize the construction duration which would impact the probably cost of construction.

To maintain phased occupancy of the existing building throughout construction, the phasing plan for Option A2.2-B includes three (3) phases as follows:

Phase 1: Construct new community wing
Phase 2: Occupy portion of new building, demolish 1975 portion of original building, construct new classroom wing
Phase 3: Demolish 1958 portion of original building, complete all site work



PHASE 1



PHASE 2



PHASE 3

CONCEPTUAL CONSTRUCTION SCHEDULE

With an anticipated mobilization/construction start circa June 2028. Option A2.2-B has an estimated construction duration of thirty-six (36) months, delivering final competition in June 2031

ANALYSIS OF OPTION A2.2-B

The School Building Committee carefully evaluated each option against criteria that considered Educational, Community, Site, Building, Cost and Schedule, advantages and disadvantages. Through the development of Option A2.2-B, the following key points were considered:

- Advantages:
  - Provide appropriately sized program areas.
  - Creation of Learning Neighborhoods.
  - New image of the school from the street.
  - Places the new building on the flattest portion of the site.
  - Less excavation/soils removal at building site.
  - Two-story option maximizes available site.
  - All-new parking, bus and parent drop-off loop.
  - New playing fields can be optimized for orientation and regulation sizes.
  - Does not require changes to the regional agreement
  - Building footprint further from neighbors than option A2.2-A
  - 2 phase building allows more room on site for construction activities
  - More rectilinear floor plan to help minimize construction cost
- Disadvantages:
  - Demolition of the existing playground
  - Long Utility runs to the back of the site, will need to run around existing school to be installed before existing building demolition
  - Significant portions of the building and emergency loop road built in wetlands buffer zone
  - Educators concerned that play is in the 'front' close to street
  - Added complexity over option A2.2-A without providing significant benefit.

The School Building Committee's overall evaluation of Option A2.2-B resulted in a high score in both meeting the educational program, community, building and cost. Only scoring low in site and scheduling. Due to the added complexity of scheduling compared to option A2.2-A, but without solving the main challenges of that scheme, at the April 16, 2026, meeting this option was not selected as the Preferred Solution.

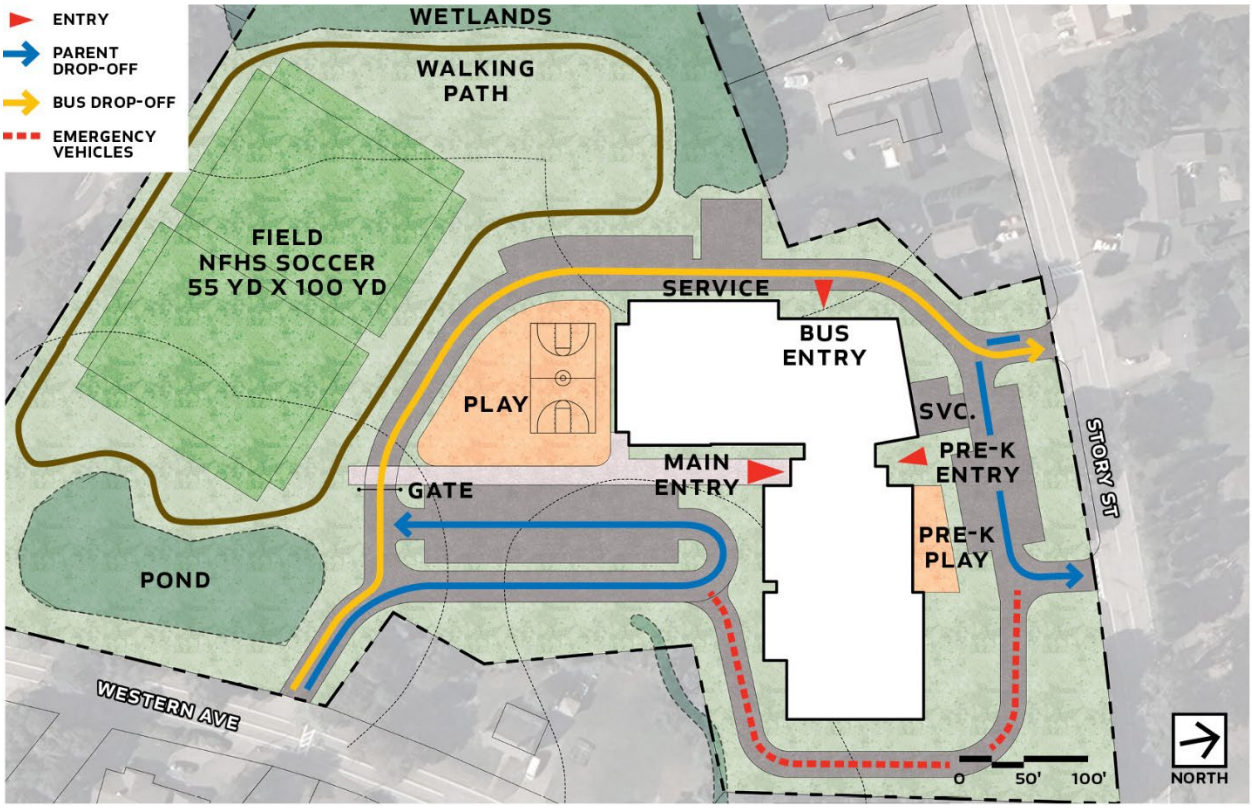
OPTION A2.2-F – NEW CONSTRUCTION – 12 STORY STREET

This option studies a multi-level building of approximately 72,443 gsf of all-new construction, for Grades K-5, and an enrollment of 250 students with an additional enrollment of 30 PreK students. This option would be constructed in multiple phases on the north-east portion of the site, the current location of the parent drop off loop and faculty parking lots. This option would receive an entirely new site layout including new playing fields and playscapes as well as new circulation patterns including a full emergency access ring road. The compact footprint and placement of this option allows for larger fields and other site amenities such as a walking path.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

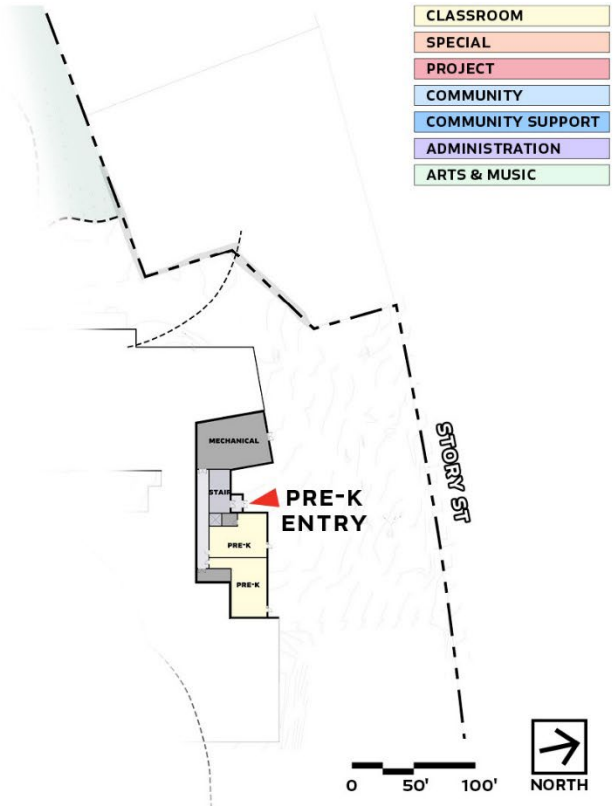
This option would be a multi-phased construction focused at the north edge of the site creating a presence on Story Street while reorienting the main entrance to Western Ave. The academic wing would be constructed first while the existing school remained fully occupied therefore eliminating the need to provide swing space for the students. There is known ledge in the footprint of the school that would need to be removed prior to construction. The adjacency to Story Street would help to minimize long utility runs through the site. During construction there would be a loss of use of the parking lots and parent drop-off, so temporary site circulation measures will need to be accounted for. However, the concentration of construction activities to the north of the site allows for consolidated construction laydown and equipment storage as well as temporary operational needs. Conceptual Construction Phasing Plans are included on the following pages.

CONCEPTUAL SITE PLAN

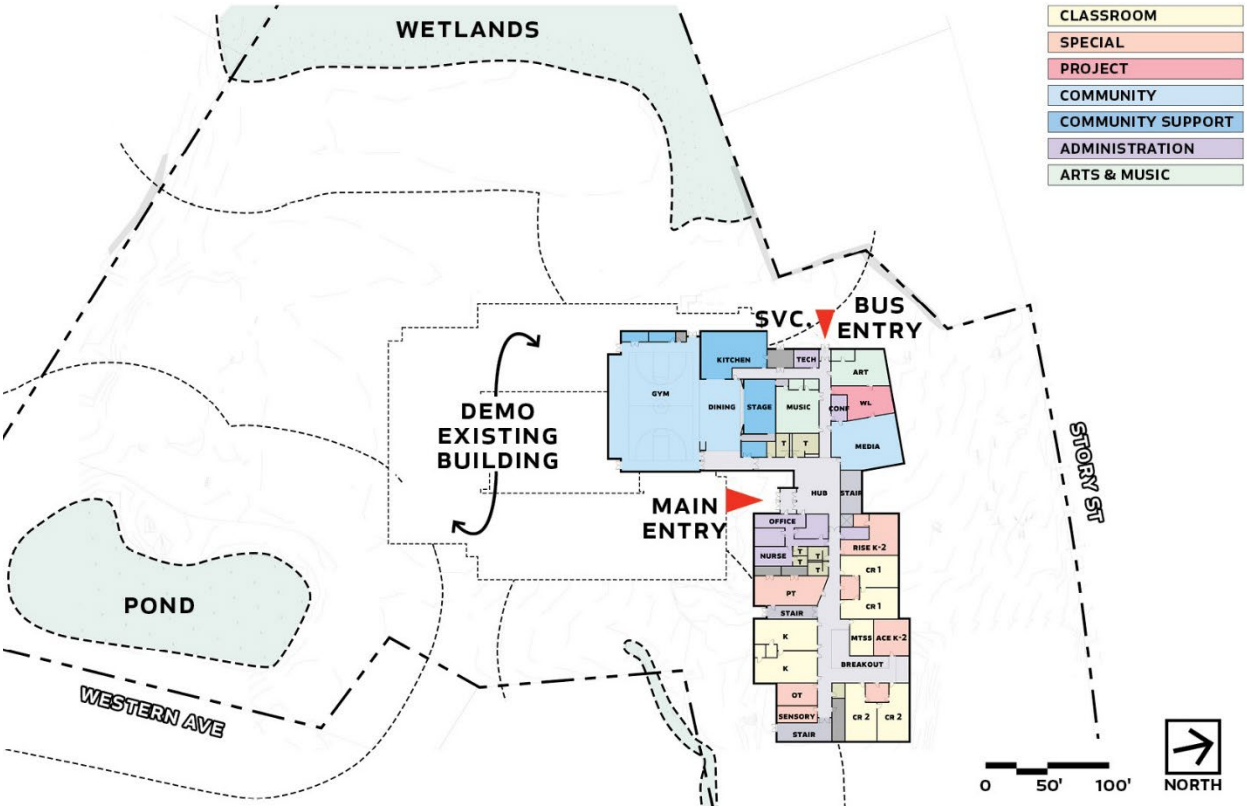


SITE PLAN

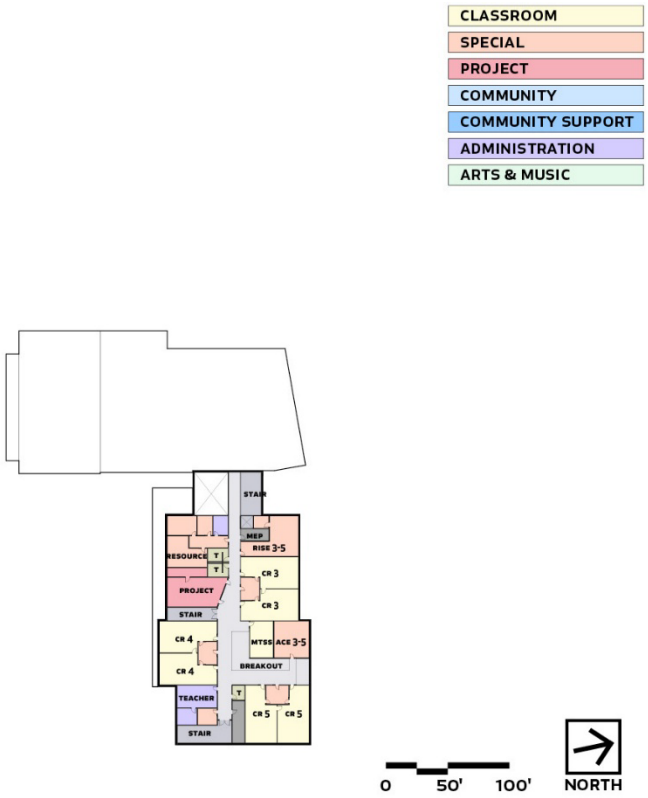
ARCHITECTURAL FLOOR PLANS



FLOOR PLAN – LOWER LEVEL



FLOOR PLAN – MAIN LEVEL



FLOOR PLAN – UPPER LEVEL

CONCEPTUAL CONSTRUCTION PHASING – OPTION A2.2-F

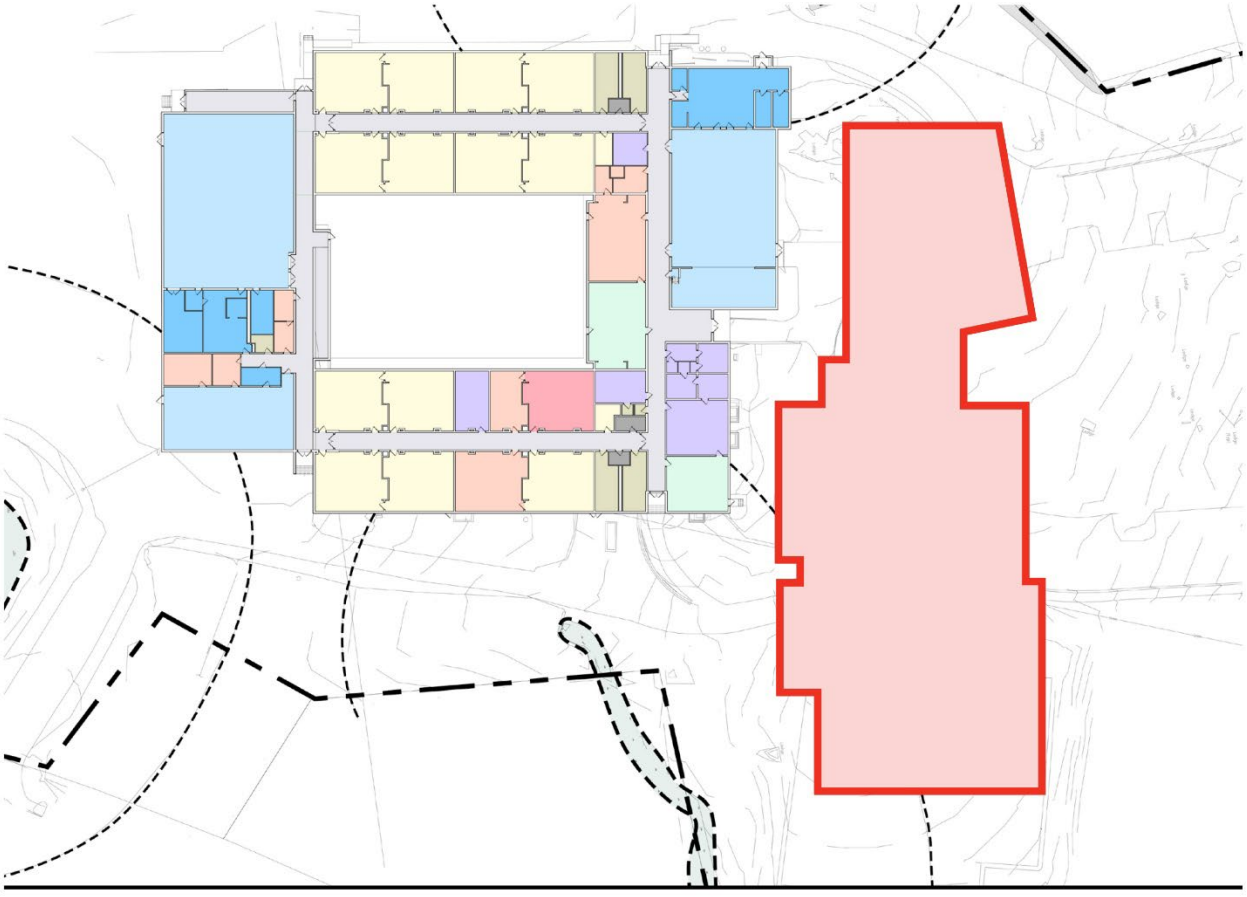
Given the anticipated complexity of occupied construction for the Essex Elementary School project, JCJ developed conceptual construction phasing plans for each of the design options that would minimize impacts to school operations and minimize the construction duration which would impact the probably cost of construction.

To maintain phased occupancy of the existing building throughout construction, the phasing plan for Option A2.2-f includes Three (3) phases as follows:

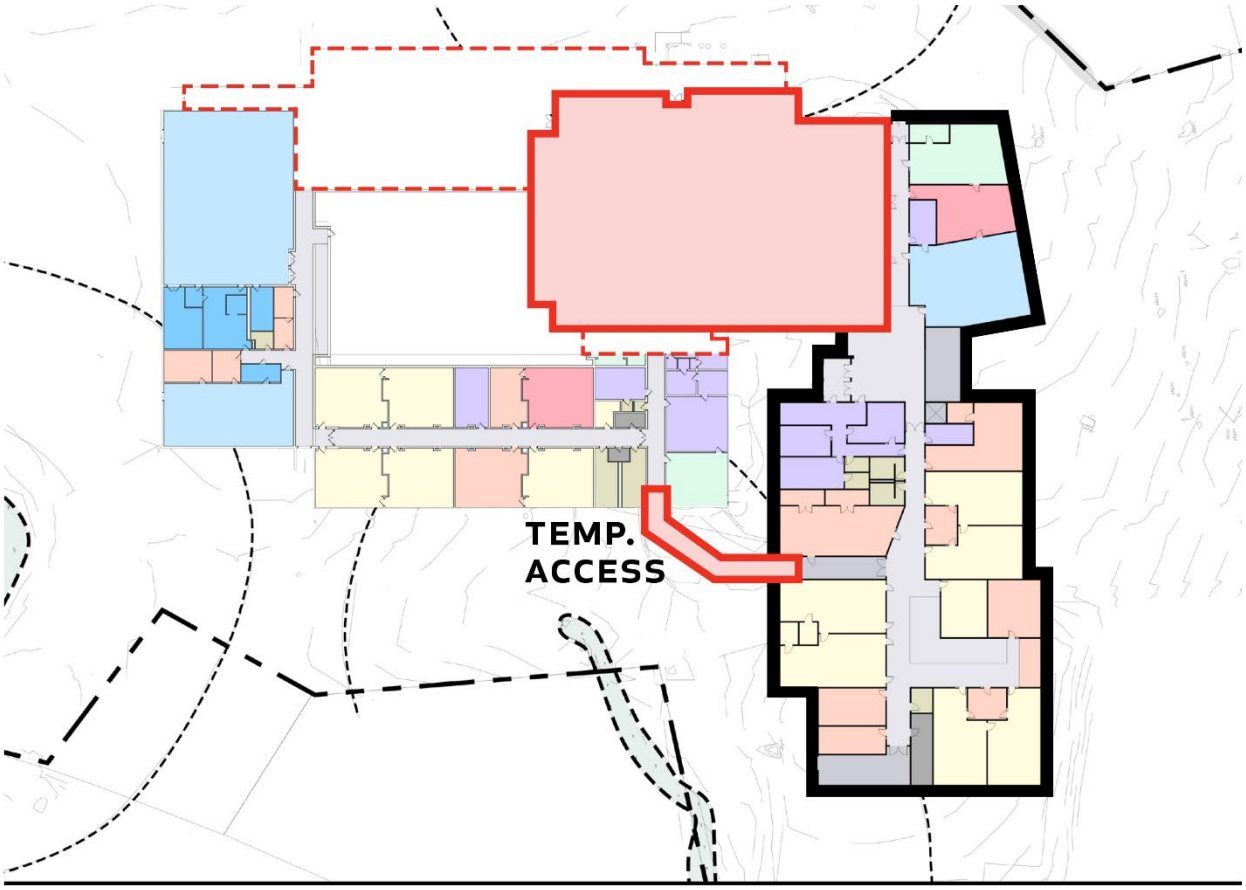
Phase 1: Construct new classroom wing

Phase 2: Occupy portion of new building, demolish existing main entry, cafetorium and west classroom wing, construct new community wing, temp kitchen & cafeteria in original media center

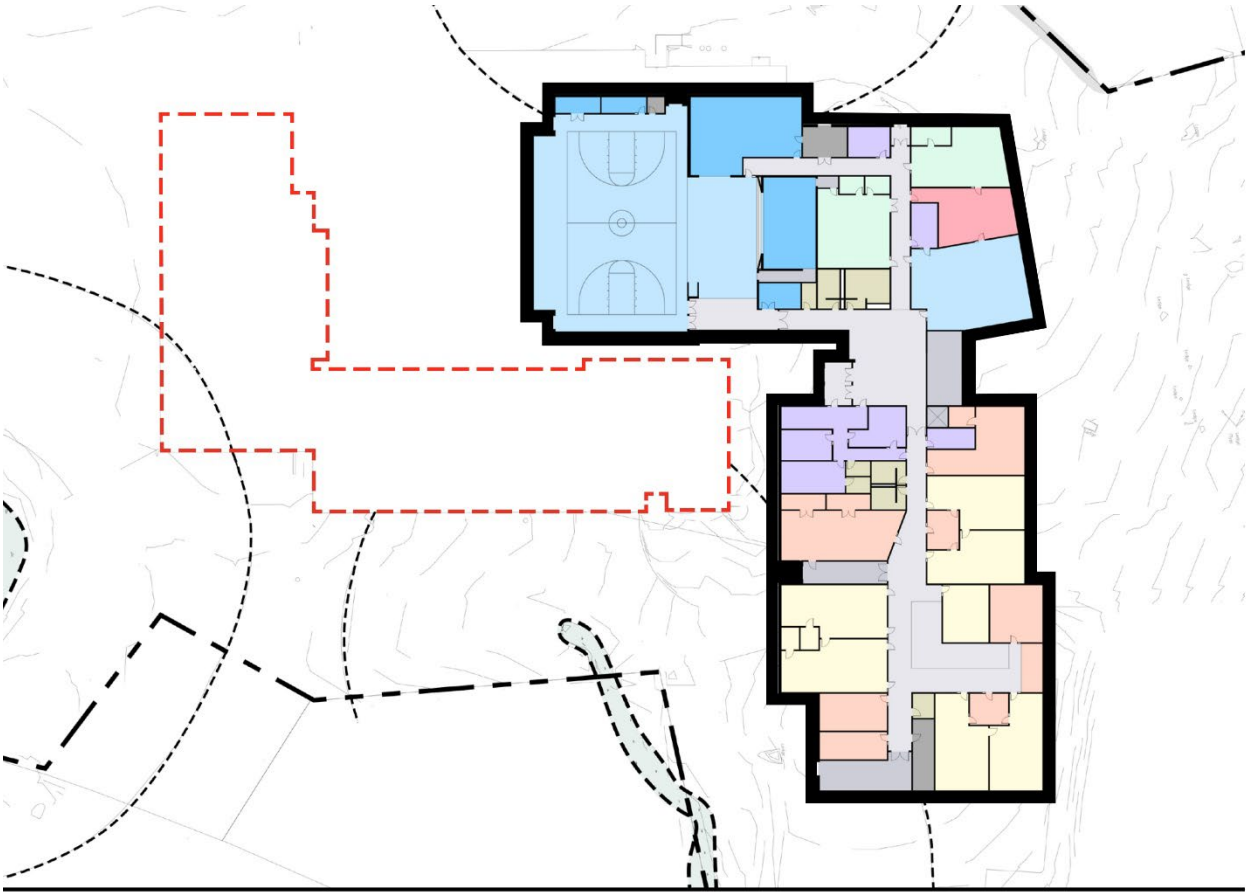
Phase 3: Demolish remainder of original building, complete all site work



PHASE 1



PHASE 2



PHASE 3

CONCEPTUAL CONSTRUCTION SCHEDULE

With an anticipated mobilization/construction start circa June 2028. Option A2.2-B has an estimated construction duration of thirty-six (36) months, delivering final competition in June 2031

ANALYSIS OF OPTION A2.2-F

The School Building Committee carefully evaluated each option against criteria that considered Educational, Community, Site, Building, Cost and Schedule, advantages and disadvantages. Through the development of Option A2.2-F, the following key points were considered:

- Advantages:
  - Smaller footprint reduces foundations and roof areas
  - Building placement increases available site for larger field and walking path
  - Adjacency to Story Street reduces utility runs
  - Dedicated Lower Level for Pre-K creates private entrance and separate drop-off
  - Creation of Learning Neighborhoods.
  - New image of the school from the street
  - All-new parking, bus and parent drop-off loop
  - Does not require changes to the regional agreement
  - Building footprint almost completely out of wetland buffers
  - Provides presence on Story Street while maintaining access to both streets
  - Provides full emergency access loop
  - Building placement allows for easier separation of school activities and construction activities
  - Play areas are away from the streets
- Disadvantages:
  - Known ledge present in location of foundation
  - Requires multi-phased construction
  - Temporary cafeteria needed to complete phased construction

The School Building Committee's overall evaluation of Option A2.2-F resulted in the highest score of all options in both the educational program, community, site, building and cost and scheduling. Only option A2.2-A scored better in one category of construction impact on existing school activities due to that option's ability to be constructed in a single phase. At the April 16, 2026, meeting, this option was selected as the Preferred Solution.

12 STORY STREET, ESSEX, MA



PERMITTING REQUIREMENTS:

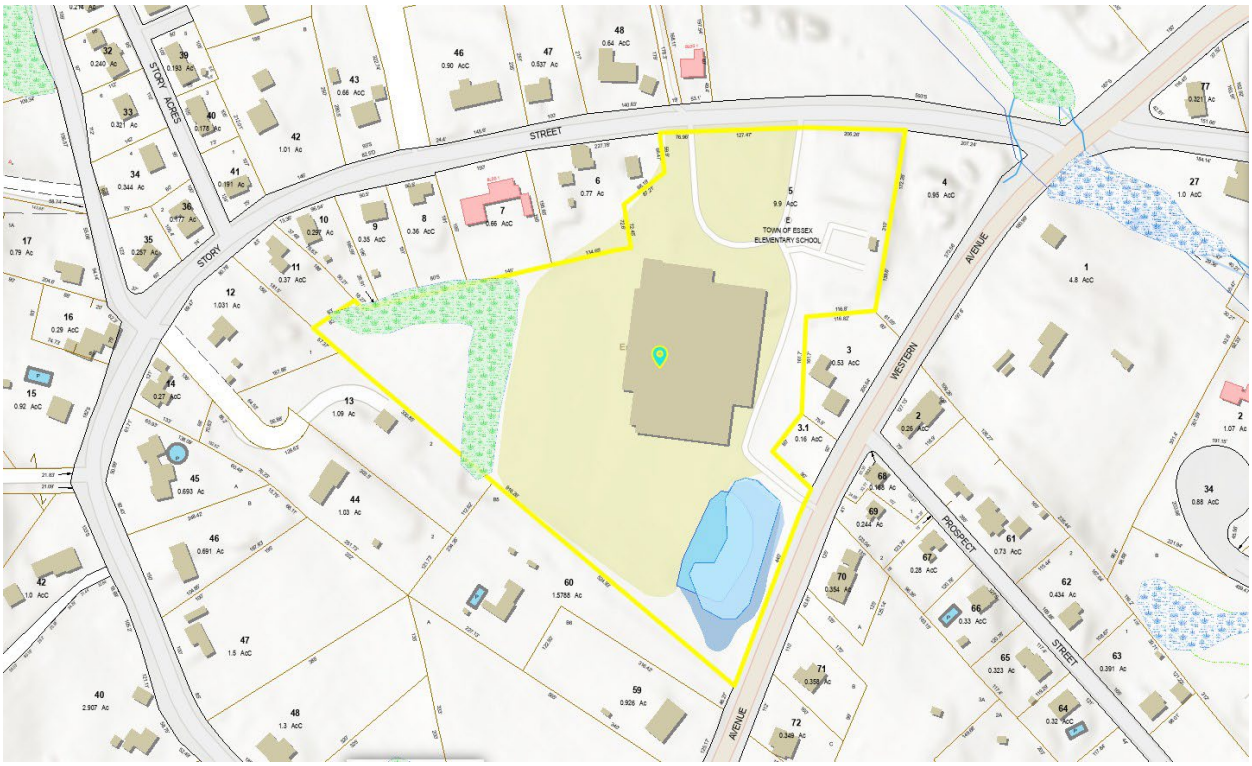
REGULATORY

The site is in a General Use Zoning District (GUD), per the Town of Essex Bylaws dated September 9, 2025. The district is characterized by single-family and two-family dwellings, including dwellings with home occupations, and small-scale multi-family dwellings, with considerable protected and/or private open spaces and wetlands. The district also includes areas of commercial and agricultural use, occasional institutional, civic, and light industrial uses, and minor utility facilities. Education is a permitted use in General Use Zoning District (GUD) but there are no specific regulations for educational facilities in the bylaws.

- Minimum Lot Area: 30,000 sf
- Minimum Frontage: None
- Minimum Lot Depth: None
- Front Yard Setback: 50 feet
- Side Yard Setback: 30 feet
- Rear Yard Setback: None
- Maximum Height: 35 feet
- Maximum Stories: 2 1/2

- Maximum Building Coverage: None
- Maximum Floor Area Ratio (FAR): None
- Minimum Open Space: None

The current building is in conformance with General Use Zoning District (GUD) and is an existing conforming permitted use as an educational facility. Special permits are not required for a public school. A site plan review process will be required.



Conservation Commission

Based on a review of the current survey, as well as cross referencing other online resources such as MassMapper, there is a wetland in the west corner of the site with a boundary approximately 200' west of the existing elementary school building, and a pond in the southeast corner of the site with a boundary approximately 70' south of the existing school. There is also a stream with associated wetlands northeast of the site, approximately 200' northeast of the site across Story Street and passing under Western Avenue to the east. The associated wetland resource buffers on the site include Bordering Vegetated Wetlands (BVW) and Banks.

All wetland resource areas are protected by the Massachusetts DEP Wetlands Protection Act Regulations. At this time, the Town of Essex does not have any bylaws or ordinances giving the Conservation Commission further power to protect the wetlands beyond the Massachusetts Wetland Protection Act, which will be the governing regulation for this project.

For any proposed redevelopment work that impacts the existing wetland resource, it is likely that a Notice of Intent (NOI) will need to be filed with the Conservation Commission to perform activities that are within or that affect the resource buffers. The permit application shall include such information and plans as are deemed necessary by the Commission to describe proposed activities and their effects on the Resource Areas protected by the Wetland Protection Act.

Planning Board
The Town of Essex Site Plan Review process through the Planning Board is required for any new commercial or industrial buildings, as well as for any alterations of the site that exceed 2,500 square feet (sf) or 30% of the existing gross floor area. It is anticipated that a Site Plan Review submission will be required for any proposed addition or new construction in support of the new school. Additionally, a Land Disturbance Permit will be required as well, which will include a Stormwater Management Plan with the submission.

The Planning Board Site Plan Approval package, Land Disturbance Permit, and Stormwater Management Report will be submitted concurrently to the Town of Essex Planning Board and Highway Department.

A pre-application meeting with municipal department heads is recommended prior to submission to review the project details and confirm the permitting and application requirements for each department. All permit submissions will require plans to be prepared to the level of 50% Design Development (DD) at a minimum.

The Planning Board meets on the first (1st) and third (3rd) Wednesday of each month at 7 p.m. in the Town Hall. As part of the Planning Board submissions, other consultants will need to submit plans for the site plan review application and Stormwater Management and Land Disturbance Permit. We would start this work at the end of DD and expect it to take 3-4 months after submission to gain approvals.

FEMA Floodplain:
According to MassMapper and the existing conditions survey, no portion of the site falls within any FEMA flood zones. Therefore, no permitting for FEMA flood plain analysis is anticipated.

MA DEP Groundwater Discharge Permit:
No groundwater Discharge Permit is anticipated.

Town of Essex Board of Health
It is not anticipated that any filings will be necessary with the Board of Health. It is assumed that the existing sanitary service connects to municipal mains and will be maintained and/or updated as necessary. No septic system is anticipated for any of the proposed options. Thus, no Board of Health reviews are anticipated.

EPA NPDES Construction General Permit (CGP) and Stormwater Pollution Prevention Plan (SWPPP)

National Pollutant Discharge Elimination System Stormwater Pollution Prevention Plan will need to be developed by the contractor and filed with the Environmental Protection Agency (EPA) 14-days prior to the start of any construction activity.

Building Permit

Any new construction or proposed renovation will likely require a building permit. All building, electrical, plumbing, gas, and fire department permits can be applied for online through the Inspectional Services Town Portal.

Civil plans will need to be included with the building permit submission to the Town of Essex by the construction manager (CM) prior to the start of construction.

Permit	Anticipated Permitting Timeline
MEPA	N/A
Notice of Intent(NOI)	3-6 months to be conducted concurrently with Site Plan Review
Site Plan Review	3-6 months to be conducted concurrently with Notice of Intent
NPDES/SWPPPP	1 Month (To be filed 14 days prior to commencement of earth moving / construction).

NHESP Priority Habitats of Rare Species and Rare Wildlife

The project site is not located within Priority Habitat or Estimated Habitat of Rare Wetlands Wildlife as determined by reference to data provided by the Mass. Division of Fisheries and Wildlife – Natural Heritage and Endangered Species Program (NHESP) available on Mass mapper.

MEPA (301 CMR 11.00)

Based on our initial review of the current Preferred Schematic Design program plans our office found that the project would not trigger a filing for Environmental Notification For (ENF), an Expanded ENF or an Environmental Impact Report (EIR).

The site categories under consideration of triggering any MEPA thresholds are projects Area of Critical Environmental Concern (ACEC), land, traffic, wetlands, water, and wastewater.
Areas of Critical Environmental Concern (ACEC)

The site is not located with an ACEC according to a review of online resources, as well as the REC Wetland Evaluation Report dated November 10, 2025.

Land
In accordance to MEPA regulations, the current Preferred Schematic Design is not altering over 25 acres, nor creating more than 5 acres of impervious area, nor converting any natural resources/ agricultural land. Therefore a MEPA filing is not required.

Traffic
In accordance to MEPA regulations, the current Preferred Schematic Design does not create 150 or create 300 new parking spaces. Additional analysis on the Traffic Threshold considerations can be found in the Traffic consultant's study. Therefore a MEPA filing is not required.

Wetlands
In accordance to MEPA regulations, the current Preferred Schematic Design does not alter wetlands and therefore does not require a variance in accordance with the MA Wetlands Protection Act. Therefore a MEPA filing is not required.

Water
In accordance to MEPA regulations, the Preferred Schematic Design program is not withdrawing water from a groundwater source and is not constructing a new water main that is five (5) or more miles longer. Therefore a MEPA filing is not required.

Wastewater
In accordance to MEPA regulations, the Preferred Schematic Design is not constructing a new wastewater treatment and/or disposal facility with a capacity of 100,000 or more gpd. The project does not require a new sewer main more than five miles in length nor ½ or more miles in length, provided the sewer mains are not located in the right of way of existing roadways. New discharge or expansion in discharge to a sewer system does not exceed 100,000 or more gpd of sewage. Therefore a MEPA filing is not required.

UTILITIES
It is anticipated that all utilities will be reviewed by the DPW and Water & Wastewater departments as part of the Site Plan review process and Conservation Commission NOI submission. In particular, the DPW will provide additional comments with regards to the sanitary systems, water systems, and stormwater design as necessary according to the standard Planning Board review process. All other utilities will need to be coordinated with the corresponding utility provider prior to the permitting effort.

Town of Essex Stormwater Management Regulation
Any major proposed redevelopment or renovation of the site will require compliance with the Town of Essex Stormwater Management Regulation. These regulations apply to any project that meets or exceeds the following triggers:

1. A Land Disturbance Permit is required for disturbance of equal to or greater than one (1) acre of land, or for the disturbance of any amount of land where the proposed use is a land use of higher potential pollutant loads pursuant to the Massachusetts Stormwater Management Standards.

2. The Stormwater Authority may require a permit for a project of any size which has caused or can reasonably be expected to cause or contribute to a violation of State Water Quality Standards or as deemed necessary by the Stormwater Authority.
3. Disturbance of Land, New Development, or Redevelopment that is subject to jurisdiction under the Massachusetts Wetlands Protection Act and demonstrates compliance with the Massachusetts Stormwater Management Standards and the Essex Stormwater Management Bylaw and Regulations as reflected in an Order of Conditions issued by the Conservation Commission will not require a separate Land Disturbance Permit. The entire project and construction activities and all Stormwater Management must be fully within the jurisdiction of the Conservation Commission.
4. A project that has been reviewed and definitively approved by the Planning Board under the Massachusetts Subdivision Control Law or the Special Permit or the Site Plan Review provisions of the Essex Zoning Bylaws, may be deemed as acceptable under the Stormwater Management Bylaw only if the entire project and construction activities, including all land disturbance, adhere fully and meet the requirements as specified in the Stormwater Management Bylaw and these regulations adopted under the Bylaw. The Planning Board's issued Definitive Subdivision Permit, Final Approved Plans, and/or applicable Special Permit or Site Plan Review and associated permit conditions must require compliance with the Stormwater Management Bylaw and these associated Regulations. A separate Land Disturbance Permit will not be required. A copy of the final approved plans and approved permit will be shared with the Stormwater Authority.

Given the above requirements, a stormwater permit will likely be required for any of the proposed renovation or redevelopment options. The code compliance option is also likely to require a stormwater permit, pending a determination from the Planning Board. The official Stormwater Authority is the Town of Essex DPW, but the stormwater permit application can be submitted in conjunction with the Conservation Commission NOI and the Planning Board Site Plan Application. The DPW will provide comments on the stormwater design, as well as the other relevant site and utility components as part of the Planning Board Review Process.

43 LINCOLN STREET, MANCHESTER-BY-THE-SEA, MA



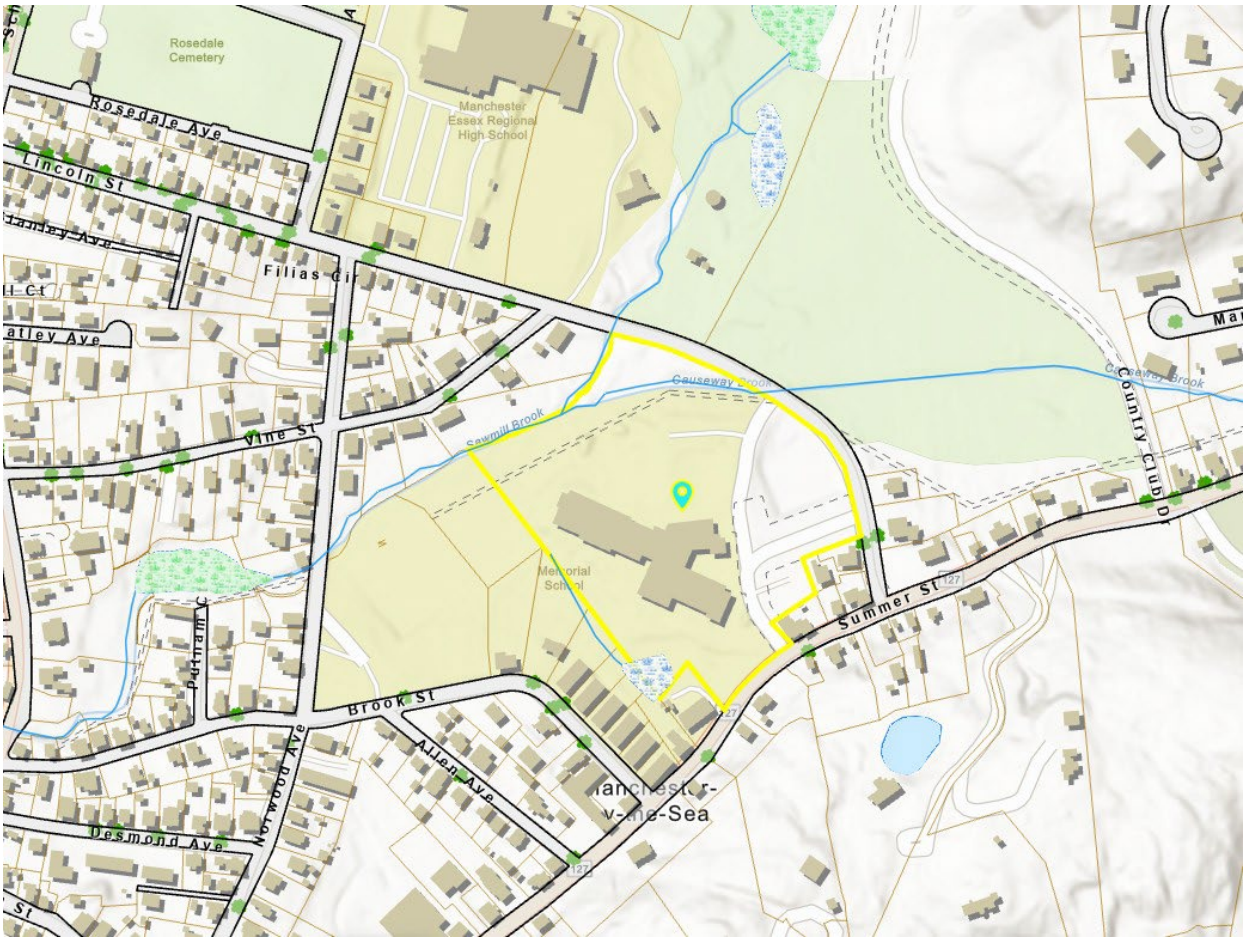
PERMITTING REQUIREMENTS:

REGULATORY

Memorial Elementary School is located at 43 Lincoln Street in Manchester-by-the-Sea, MA. The property is presently under the control of the Manchester-Essex Regional School District via a lease with the Town of Manchester-by-the-Sea, MA. A copy of the lease agreement is included in the Appendix. The Memorial Site is presently zoned G – General District. In this zone, educational facilities are allowed by use, and the current school building is an approved entity. The zoning setbacks and limitations are as follows:

- Minimum Frontage – 60 feet
- Minimum Lot Width – 50 feet
- Front Yard Setback – 5 feet
- Side Yard Setback – 10 feet
- Rear Yard Setback – 10 feet
- Maximum Building Coverage – 40%
- Maximum Lot Coverage – 70%
- Maximum Floors – 2-1/2
- Maximum Height – 35 feet
- Minimum Lot Area – 6000 square feet

The current building is in conformance with G - General District and is an existing conforming permitted use as an educational facility. Special permits are not required for a public school. A site plan review process will be required.



Conservation Commission

See the delineation report by Rimmer Environmental and previously issued ORAD (Mass DEP # 039-0782) that has now expired, but delineated Perennial stream, inner/outer riparian, inland bank, bordering vegetated wetlands, wetland buffers, and Zone I & II. For any proposed redevelopment work that impacts the existing wetland resource, a Notice of Intent (NOI) will need to be filed with the Conservation Commission to perform activities that are within or that affect the resource buffers. The permit application shall include such information and plans as are deemed necessary by the Commission to describe proposed activities and their effects on the Resource Areas protected by the Wetland Protection Act.

Flood plain elevation per town bylaws on site is 18.25. the western portion of the site is dedicated to flood plain restoration area. The existing tennis courts and rain garden are below elevation 18.25. It is highly likely that the by-law flood plain extends to this area but would need to be confirmed with the Manchester Conservation Commission.

Planning Board (assume 3-4 months):

We are anticipating submitting to Planning Board for Site Plan Approval when the project would be in DD. It is assumed that there will be up to 3 hearings/ meetings. Planning Board Site Plan Approval application will be concurrent with the conservation submission. The submission will require plans to be prepared to the level of 90% Design Development at a minimum. Hearings are held twice a month on the 2nd and 4th Mondays.

As part of the Planning Board submission, other consultants will need to submit plans for the site plan review application. The required plans to be submitted showing landscaping and lighting/electric site plans and details are to be provided by the Landscape Architect and the Electrical Engineer.

MA DEP Groundwater Discharge Permit:

No groundwater Discharge Permit is anticipated.

Board of Health

It is not anticipated that any filings will be necessary with the Board of Health. It is assumed that the existing sanitary service connects to municipal mains and will be maintained and/or updated as necessary. No septic system is anticipated. Thus, no Board of Health reviews are anticipated.

NPDES SWPPP

A NPDES Construction General Permit (CGP) from the New England EPA (i.e. eNOI) and a SWPPP will need to be obtained/developed by the contractor prior to the start of construction for any land disturbance that exceeds one (1) acre. It is anticipated this will be required for the project. Approval for the submitted eNOI can be obtained within fourteen (14) days of approval.

Building Permit

Any new construction or proposed renovation will likely require a building permit. All building, electrical, plumbing, gas, and fire department permits can be applied online through the Inspectional Services Town Portal.

NHESP Priority Habitats of Rare Species and Rare Wildlife

The project site is not located within Priority Habitat or Estimated Habitat of Rare Wetlands Wildlife as determined by reference to data provided by the Mass. Division of Fisheries and Wildlife – Natural Heritage and Endangered Species Program (NHESP) available on MassMapper.

MEPA

The Massachusetts Environmental Policy Act (MEPA) and the corresponding 301 CMR 11.00 code was created to provide the MassDEP the opportunity for public review of the potential environmental impacts from projects that meet or exceed the thresholds outlined therein.

Depending on the size and scope of any new development, MEPA permitting may be required for the site. The thresholds for an Environmental Notification Form (ENF), or an Environmental Impact Report (EIR) for more significant land development impacts, include (but are not limited to) the following:

1. Direct alteration of 25 or more acres of land.
2. Creation of five or more acres of impervious area.
3. Alteration requiring a variance in accordance with the Wetlands Protection Act.
4. New withdrawal or Expansion in withdrawal of: 2,500,000 or more gallons per day (gpd) from a surface water source.

A full review of thresholds shall be completed once the project is approved. Additionally, if a Project requires MEPA review in accordance with 301 CMR 11.01(2) and one or more Environmental Justice Populations are located within the Designated Geographic Area around the Project (within one mile of the project), measures shall be undertaken to provide public involvement opportunities for Environmental Justice Populations.

UTILITIES

Water:

The domestic water supply for the new school extends from the same 6-inch water line for one service and through a new tap in Summer Street for the western service. One 6-inch line extends along each side of the new building. The service on the west side of the building serves domestic and fire protection needs of the building and serves a hydrant located at the northwest corner of the new building. The service on the east side of the building supplies a hydrant is located near the building entrance.

It is assumed the addition would be fed internally and no new external water line would be required. Refer to the plumbing facility assessment section for further in-depth analysis of the building's domestic and fire protection service and capacity

Sewer:

The new building is served by three 6-inch sanitary sewer services. Two services are located on the north side of the building for sanitary sewer conveyance, with one sanitary sewer connection on the south side. There is also a 4-inch service for kitchen waste, with an exterior grease trap provided on the south side of the building prior to connection to the sanitary service.

It is assumed that the addition would have an internal connection and tie into the existing sewer line. Refer to the plumbing facility assessment section for further in-depth analysis of the internal building's sewer capacity.

Gas:

Gas service extends along the south side of the school from a new connection in Summer Street to the gas connection at the new building. Refer to the plumbing facility narrative section for further in-depth analysis of the building's gas service and capacity.

Stormwater Management:

The Elementary School site's stormwater runoff is treated by a stormwater management system. The runoff from the vehicular impervious areas on the north side of the site is collected via deep sump catch basins and manholes, directed through a stormwater quality unit for water quality treatment, and ultimately enter a subsurface infiltration basin, with overflow stormwater volume discharging to the west side of the site towards Causeway Brook.

Hardscapes on the east side of the property and a portion of the building roof is collected by a series of area drains, directed to an LID rain garden feature for water quality treatment prior to infiltration to groundwater with overflow structures provided per the Massachusetts Stormwater Handbook requirements out letting to the south of the property.

The south and west sides of the property include a series of catch basins and area drains conveying stormwater to stormwater quality units prior to discharge to the west and south sides of the property respectively.

A stormwater management system would need to be constructed within the footprint of the new parking lot for the additional impervious area, and the building addition.

3.3.3.2 SITE AND BUILDING SYSTEMS NARRATIVES

This section includes system narratives for architectural and major engineering disciplines as follows:

- 12 Story Street, Essex, MA (Essex ES)
  - Structural System Narrative
  - Architectural Systems Narrative
  - Plumbing System Narrative
  - Mechanical System Narrative
  - Electrical System Narrative
  - Security System Narrative
  - Audiovisual Systems Narrative
  - Food Service Narrative
  - Landscape Architecture System Narrative
  - Off Site/Civil System Narrative
  - Site/Civil System Narrative
- 43 Lincoln Street, Manchester-By-The-Sea, MA (Manchester Memorial ES)
  - Structural System Narrative
  - Architectural Systems Narrative
  - Plumbing System Narrative
  - Mechanical System Narrative
  - Electrical System Narrative
  - Security System Narrative
  - Audiovisual Systems Narrative
  - Landscape Architecture System Narrative
  - Off Site/Civil System Narrative
  - Site/Civil System Narrative

These narratives were used to define the scope of work for the development of probable total project budget and probable construction cost for each of the options considered in this report.

PREFERRED SCHEMATIC REPORT (PSR) ESTIMATING OUTLINE SPECIFICATION
(Uniformat II, Level II)

12 Story Street, Essex, MA (Essex ES)

GENERAL:
Prepared by JCJ Architecture

1. Site: 9.75 acres located at 12 Story St, Essex, MA 01929
2. Option A0.2 – Code Upgrade / Base Repair: (250 students grades K-5) existing, 53,036 gross square foot (gsf) school originally constructed in 1958. The existing building is 1 story courtyard building with a partially occupied walk-out basement and 1975 gymnasium and media center additions that are approximately 1/3 lower than the original building accessible via internal ramped corridors.
    a. Start of Construction: 06/28
    b. Multiphase Construction Duration: 32 months
    c. Site Construction Duration: 8 months
    d. Total project duration: 40 months
3. Options A1.1 – Renovation and Addition: (165 students grades K-3) renovation of the existing building (approximately 53,036 gsf) and new construction of a double heighted gymnasium addition and a single-, story connecting corridor (approximately 7,036 gsf) for a total building area of 60,072 gsf. New construction floor-to-floor height of 14' – 8"
    a. Start of Construction: 01/29
    b. Phase 1 Addition Construction Duration: 6 months
    c. Phase 2 Renovations Construction Duration: 24 months
    d. Site Construction Duration: 12 months
    e. Total project duration: 42 months
4. Options A1.2-B – Renovation and Addition: (250 students grades K-5) renovation of the existing building (approximately 53,036 gsf) and new construction of a double heighted gymnasium addition and a single-story academic wing (approximately 23,407 gsf) for a total building area of 76,443 gsf. New construction floor-to-floor height of 14' – 8"
    a. Start of Construction: 06/28
    b. Phase 1 Addition Construction Duration: 12 months
    c. Phase 2 Renovations Construction Duration: 24 months
    d. Site Construction Duration: 12 months
    e. Total project duration: 48 months
5. Options A2.2-A– New Construction: (250 students grades K-5) Single Phase Building, two-story, approximately 72,443 gsf building with 14'-8" floor-to-floor height.

a. Start of Construction: 06/28
b. Construction Duration: 22 months
    i. Existing Building Demolition: 4 months
c. Site Construction Duration: 10 months
d. Total Construction duration: 32 months

6. Options A2.2-B– New Construction: (250 students grades K-5) Multiple Phased Building, two-story, approximately 72,443 gsf building with 14'-8" floor-to-floor height.
    a. Start of Construction: 06/28
    b. Phase 1 Construction Duration: 12 months
        i. Partial Building Demolition / Temporary tie-in: 4 months
    c. Phase 2 Construction Duration: 12months
        i. Existing Building Demolition: 4 months
    d. Site Construction Duration: 12 months
    e. Total project duration: 36 months
7. Options A2.2-F– New Construction: (250 students grades K-5) Multiple Phased Building, Three-story, approximately 72,443 gsf building with 14'-8" floor-to-floor height on level 2 and 3 and 12'-0" floor height on level 1.
    a. Start of Construction: 06/28
    b. Phase 1 Construction Duration: 12 months
        i. Partial Building Demolition / Temporary tie-in: 4 months
    c. Phase 2 Construction Duration: 12 months
        i. Existing Building Demolition: 4 months
    d. Site Construction Duration: 12 months
    e. Total project duration: 36 months
8. Note: Visible ledge found on site. Geotechnical report provided as appendix.
9. LEED Requirements: Using LEED-S, achieve a minimum of "Silver", including a minimum total of three points (from seven points available) from the following three categories: MR Building Product Disclosure and Optimization – Material Ingredients; IEQ – Low Emitting Materials; and IEQ – Indoor Air Quality Assessment.
10. MSBA Energy Efficiency Requirements: Meet the minimum energy efficiency requirements described in the MA DOER "Stretch Code Green Community" Standards
11. MSBA Project Advisory #81 Requirements: The District is targeting the additional 3% reimbursement by meeting the minimum energy efficiency requirements described in the MA DOER "Opt-In Specialized Code" standards. The District is targeting an additional 1% reimbursement by achieving five (from seven available points) in the LEED indoor air quality points noted above (refer to Item #12).

STRUCTURAL SYSTEMS NARRATIVE

Prepared by RSE Associates, Inc.

A10 FOUNDATIONS:

1. Preliminary subsurface investigation was performed during development of the Preferred Schematic Report. Soil bearing capacity assumed to be 4 KSF for the purposes of preliminary footing design in this report.
2. Option A0.2 – Existing foundations to remain.
3. Options A1.1 & A1.2-B
    a. Existing foundations to remain.
    b. Addition - new spread footings
4. Options A2.2-A, A2.2-B, A2.2-F - new spread footings
5. New foundations consist of cast-in-place, reinforced concrete shallow spread footings with cast-in-place, reinforced concrete frost walls. Insulated metal column enclosures at exterior columns.
    a. Assuming an average column spacing of 30'x30', footings will be:
        i. 5'x5'x15" with 4 PSF of rebar for a 1-story building
        ii. 7'x7'x21" with 5 PSF of rebar for a 2-story building
    b. Continuous footing along the perimeter of the building will be 3'-0"x1'-0" with 4 PSF of rebar
    c. Frost wall will be 3'-6" x 18" with 5 PSF of rebar.
    d. 2'x2' pilasters under perimeter columns.
6. New slab to be 5" concrete slab on grade with 6x6 W2.9x2.9 WWF with integral Barrier-One moisture vapor reduction admixture over 15 mil water vapor barrier over 12" of compacted granular fill. 12" thickened slab with rebar to support non-load bearing CMU wall partitions.
7. 5' deep reinforced concrete elevator pit.
8. Perimeter and under slab drain where lowest level slab is lower than adjacent grade.
9. Temporary dewatering of footing trenches needed where building is adjacent to wetlands.

B10 SUPERSTRUCTURE:

1. Option A0.2: existing floor and roof framing to remain.
    a. It is anticipated that the required structural work will be minor, and the seismic upgrade requirement will not be triggered per IEBC. For a voluntary upgrade to the current code, a new lateral system will need to be introduced in the original 1955 building as there is none defined in the existing drawings. This can include infill concrete/CMU shear walls. Furthermore, for Work Level 3 alterations, each of the CMU walls will need to be attached to the roof diaphragms.

2. Options A1.1 & A1.2-B:
    a. Existing floor and roof construction to remain. Scope to match option A0.2 Provide expansion joint between existing structure and any additions. The existing structure will not be analyzed or reinforced for gravity and lateral loads from the current building code unless modifications to existing framing are required, adjacent additions cause snow drift on existing roofs, or it is voluntarily upgraded. A voluntary code upgrade will require a new lateral system consisting of reinforced CMU shear walls or steel braced frames. The existing masonry partitions will also need to be laterally braced at the top to the floor and roof diaphragms.
    b. Addition – designed for all loads mandated by the current Massachusetts Building Code at the time of permitting.
3. Options A2.2-A, A2.2-B, A2.2-F designed for all loads mandated by the current Massachusetts Building Code at the time of permitting.
4. New Floors: Steel columns and composite steel beams supporting a 3¼" lightweight concrete slab over 3" composite metal deck. Slab reinforced with 6x6 W2.1x2.1 WWF.
    a. Assume ¾" diameter x 4 ½" headed shear studs per foot of beam length.
    b. Assume steel weight of 13 PSF. Add 10% for connections and 1 PSF for miscellaneous steel such as kickers, bent plates, relieving angles, and girts.
5. New Typical Roof: galvanized 3" metal roof deck spanning between wide flange steel beams and girders.
    a. Assume steel weight of 11 PSF. Add 10% for connections and 1 PSF for miscellaneous steel such as kickers, bent plates, relieving angles, and girts.
    b. Add concrete slab under rooftop mechanical units – assume steel weight of 13 PSF
6. New Cafetorium and Gymnasium Roof: acoustic, galvanized 3" metal roof deck spanning between long span open web steel joists with an estimated weight of 10 PSF. Bridging at quarter points.
7. Lateral system will be steel braced frames (steel tonnage above includes weight of braced frames), and potentially continuous segments of CMU shear walls.
8. 12" reinforced CMU walls in Cafetorium, Gym, and 8" reinforced CMU walls in the elevator shaft.
9. Miscellaneous steel (see 1 PSF allowances above):
    a. Galvanized brick relieving angles at the second floor.
    b. Canopy structure
    c. Gym equipment support
    d. Theater equipment support in Cafetorium
    e. Hung partition support beams
10. Mechanical screen enclosure (assume 10 PSF steel weight based on vertical screen area)
11. Isolation pads or floating slab at vibrating equipment.
12. Thermal break "Fabreeka" pads between exterior non-insulated structure (columns and canopies) and interior insulated structure.

13. Fireproofing of primary frame members for a 2-hour rating (columns, beams, braces). Assume 5% of members receive intumescent paint. Floor slabs do not require additional fireproofing due to the 2-hour rating of the concrete slab. Spray underside of roof deck for a 1-hour rating.

ARCHITECTURAL SYSTEMS NARRATIVE

Prepared by JCJ Architecture

B20 EXTERIOR CLOSURE:

1. Option A0.2, A1.1, & A1.2-B: existing walls to remain. Brick requires patching and cleaning. Replace 20% of existing lintels. Exterior windows and doors to be replaced. Existing exterior steps at exterior doors to be removed and replaced to conform with MAAB / ADA requirements.
2. All Options New Walls: 4" masonry veneer, metal panel and/or wood panel rainscreen over 2" air space over 4" rigid insulation board (mineral wool) over continuous air/moisture barrier over 1/2" gypsum sheathing over 8" cold formed metal framing and 5/8" gypsum board interior.
3. New Windows: Individual type, thermally broken aluminum framed windows with field-glazed insulated low E glazing and operable sashes, thermally broken aluminum curtainwall with field-glazed insulated low E glazing and spandrel panels and thermally broken aluminum storefront with field-glazed insulated low E glazing. Intrusion-resistant glazing at main entry. Intrusion-resistant glazing at first floor exterior openings.
4. New Doors: Thermally broken aluminum storefront doors with insulated low E and flush steel doors with vision panels set in steel frames, painted. Rolling overhead doors with horizontal accordion security gates in custodian back of house area. Intrusion-resistant glazing at main entry. Intrusion-resistant glazing at first floor exterior openings.

B30 ROOFING:

1. Options A0.2, A1.1, & A1.2-B: existing single-ply roofing membrane to be removed and replaced with New Roofing – see Item B30 (2)
2. All Options New Roofing: fully adhered, reinforced, PVC membrane roofing over ½" coverboard and R-38 tapered insulation sloped at ¼" per foot with two-piece metal drip edge and fascia. On ½" substrate board with vapor barrier.
3. Three coffin door access hatches with alternating tread ladder.

C10 INTERIOR CONSTRUCTION:

1. Options A0.2: existing interior partitions and interior doors to remain. Accessible door hardware to be provided throughout.
2. Options A1.1, & A1.2-B: 80% new interior partitions and 100% new interior doors and frames. Accessible door hardware to be provided throughout.
3. All Options New Interior Partitions: 8" or 12" CMU, metal studs @ 16" o/c with gypsum board each side with sound attenuation batts tight to the underside of deck above.
4. New Interior Doors: solid core wood doors with accessible door hardware in hollow metal frames with side and top lights, painted. Aluminum storefront door system with tempered glazing and sidelights. Intrusion-resistant glazing at entry vestibules and administration suite entry locations.

5. New Operable Partition: Six 10’ high horizontal operable acoustic partition between classrooms. One 14’ high horizontal operable acoustic partition in Cafeteria.
6. New Specialties/Millwork: Plastic laminate base & wall cabinets with solid surface counter tops in general classrooms and faculty spaces; visual display boards, signage, HDPE toilet partitions and toilet accessories; privacy curtains at nurse’ suite.

C20 STAIRCASES:

1. New Stairs: steel pans with concrete fill, with painted metal guards and handrails with rubber stair landings, nosing, risers and treads.

C30 INTERIOR FINISHES:

1. Options A0.2: existing interior finishes to remain; match existing finishes for areas impacted by accessibility and/or code upgrades.
2. All Options New Floors: Luxury Vinyl Tile (LVT) flooring with 4” rubber base throughout; Carpet tile at administrative spaces, media center and 2/3 of classroom spaces. Epoxy resinous flooring and integral base at toilet rooms and kitchen; hardwood resilient athletic floor system with vented base at gymnasium; Porcelain tile and base at lobby; Wood apron with painted plyron flooring at Stage.
3. New Ceilings: 2'x 2’ lay-in ceiling panels, beveled tegular edge throughout; Cleanable ACT at Kitchen; gypsum board ceilings in toilet rooms; exposed, painted structure in Dining. Media Center and gymnasium; acoustic wood cloud ceilings in Dining and Media Center.
4. Wall Finishes: Paint GWB and ground face CMU throughout Gymnasium, Ceramic tile at wet walls in toilets and rear server wall in Kitchen. Wood wall paneling system in Dining and Main Lobby, Tile wainscot throughout corridors.
5. Acoustic products: fabric wrapped acoustic wall panels main lobby, Dining and Media Center, gymnasium, and specialty spaces.

D10 CONVEYING SYSTEMS:

1. New Elevator: One, accessible, 3,500 lb capacity, stretcher capable, machine-less elevator, 2- 4 stops depending upon design option. One stop per story and a stop on the roof.

E20 FURNISHINGS:

1. Floor grilles and entrance mats
2. Manual roller shades

F10 SPECIAL CONSTRUCTION:

1. Removal of hazardous building materials pending confirmation by hygienist report.

G10 PREPARATION:

Refer to section G30/G40 for civil outline specification

PLUMBING SYSTEMS NARRATIVE

Prepared by C.A. Crowley Engineering, Inc

D20 PLUMBING SYSTEMS:

1. General:
    a. Codes: All work installed under Division 220000 shall comply with the Commonwealth of Massachusetts 248CMR 10.00 Uniform State Plumbing Code, and all federal, county, and local laws, statutes, regulations, and ordinances, as well as the requirements of the Authorities Having Jurisdiction.
    b. Option A0.2: Code Upgrade/Base Repair
        i. All existing plumbing systems, equipment, and fixtures are to be replaced with new.
    c. Options A1.1 & A1.2-B: Addition & Renovation
        i. All existing plumbing systems, equipment, and fixtures are to be replaced with new. Provide new fixtures and extend new plumbing systems to serve the new addition.
    d. Options A2.2-A, A2.2-B, A2.2-F: New Construction
        i. Provide new plumbing systems, equipment, and fixtures.
2. Materials
    a. Plumbing Fixtures:
        i. Toilets – vitreous china, wall-hung, manual flush valve
        ii. Urinals – vitreous china, wall-hung, manual flush valve
        iii. Lavatories – vitreous china, wall-hung, manual faucet
        iv. Lavatories – Bradley - One-piece solid surface wall hung
        v. Sinks – stainless steel, drop-in, manual faucet
        vi. Classroom sinks – stainless steel, drop-in, manual faucet, bubbler
        vii. Drinking fountain – wall hung, filtered, refrigerated, with bottle filler
        viii. Shower – solid surface base and walls, shower valve, shower head
        ix. ADA Shower – solid surface base and walls, shower valve, hand held shower, fold-down seat
        x. Mop service basin – molded stone, floor outlet, wall mounted faucet
        xi. Floor drains – epoxy coated cast iron body, nickel bronze strainer
        xii. Roof drains – epoxy coated cast iron body, adjustable extensions, ductile iron dome
    b. Domestic water piping: Type L copper tube with solder joint fittings
    c. Above ground storm and sanitary piping: Standard weight hubless cast iron with heavy duty couplings.

d. Below ground storm and sanitary piping: Service weight hub and spigot cast iron with resilient gasket.
e. Natural gas piping: Schedule 40 black steel, welded or threaded fittings.

3. Equipment:
    a. Domestic Water Heating Plant Options:
        i. Preferred Option: Electric resistance tank type water heaters with ASME rated glass lined steel tanks.
        ii. Option 2: High efficiency, gas-fired, direct vent, tank type water heaters with ASME rated glass lined steel tanks.
        iii. Option 3: Air source heat pump water heaters with heat exchangers, pumps, ASME rated glass lined steel tanks, and interconnecting piping and controls.
        iv. Option 4: Water source heat pump water heaters with heat exchangers, pumps, ASME rated glass lined steel tanks, and interconnecting piping and controls.
    b. Low lead brass thermostatic and pressure balancing type mixing valves.
    c. Electronically commutated, fractional horsepower, stainless steel, inline hot water recirculation pumps
    d. BACnet communications and devices for connection to Building Automation System.
    e. Reduced pressure backflow preventers
    f. Trap primers
    g. Water hammer arrestors
    h. Grease interceptors (interior and exterior)
    i. Roof drains and downspout boots
    j. Wall hydrants and hose bibbs
    k. Elevator sump pump and oil separator (all options except A0.1 & A0.2)
4. Testing
5. Sterilization
6. Start up and commissioning
7. Operation and Maintenance Manuals
8. As-Built Drawings

MECHANICAL SYSTEMS NARRATIVE

Prepared by GGD Consulting Engineers, Inc.

D30 HVAC:

1. General:
    a. The following is the HVAC system narrative, which defines the scope of work and capacities of the HVAC system as well as the Basis of Design. The HVAC systems shall be designed and constructed for LEED for Schools where indicated on this narrative.
    b. Codes: All work installed under Division 230000 shall comply with the Commonwealth of Massachusetts Adopted Building Codes (IBC 2021, IMC 2021, International Energy Efficiency Based on IECC 2021 - or latest Adopted Editions), and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.
    c. Design Intent: The work of Division 230000 is described within the narrative report. The HVAC project scope of work shall consist of providing new HVAC equipment and systems as described here within. All new work shall consist of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Heating, Ventilating, and Air Conditioning work and all items incidental thereto, including commissioning and testing. The HVAC System shall be designed and constructed for LEED for Schools were indicated on this narrative
    d. Basis of Design: Project weather and Code temperature values are listed herein based on weather data values as determined from ASHRAE weather data tables and the International Energy Conservation Code 2021 (or latest Adopted Edition).
        i. Outside: Winter 4 deg. F, Summer 90 deg. F DB, 74 deg. F WB
        ii. Inside: 70 deg. F +/- 2 deg. F for Heating, 75 deg. F +/- 2 deg. F (55% RH) for Cooling for Air-Conditioned Areas. Unoccupied temperature setback will be provided (55 deg. F heating (adj.), 85 deg. F cooling (adj.).
        iii. Outside air shall be provided at the rate in accordance with ASHRAE guide 62.1-2019 and the International Mechanical Code 2021 as a minimum. All occupied areas will be designed to maintain 800 PPM carbon dioxide maximum.
2. Options A0.2: Code Upgrade & Repairs:
    a. Heating & Cooling Plant: There are two (2) existing gas-fired steam boilers presently installed in the mechanical room; one was installed circa 2007. The other appears to be decommissioned and abandoned in place. Remove the two (2) existing older boilers and install a heat recovery chiller plant which shall be capable of producing both heating hot water and chilled water for the building. It is estimated that the heat recovery chiller plant shall be sized for a total of 200 tons heating/cooling. Provide all new hot water and chilled

water piping distribution systems including pumps, expansion tanks, buffer tanks, air separators, glycol feeders, etc.

b. Controls: The school recently replaced all pneumatic controls with all new direct digital controls (DDC), including a new Building Management System (BMS). The controls system shall be expanded to incorporate any new equipment and any existing equipment that may not be on the current BMS system.

c. Air Handling (HVAC) System: All existing classroom unit ventilators, air handlers and rooftop units shall be removed. New air handling units shall have hot water heating and chilled water coils, supply and return fans with VFD drives, MERV-14 filters, and energy recovery where code required. New air handling unit controls shall be provided and tied to the existing BMS system. It is estimated that eight (8) air handling units will be required to serve the building. A total of approximately 35,000 CFM of air handling unit and return air fan equipment shall be required.

d. Exhaust Air Fan Systems: The majority of exhaust air fans are beyond their expected service life and should be replaced. Exhaust fans serve toilets, Kitchens, and utility spaces. All kitchen exhaust fans shall be rated for grease exhaust duty.

e. Air Distribution Systems: New ductwork shall be constructed and installed in accordance with SMACNA and IMC requirements. All new supply and return air ductwork shall be insulated per IMC code requirements. All new kitchen exhaust fans shall be provided with new fire-wrapped carbon steel or stainless-steel grease ductwork. It is proposed that the classroom spaces shall be served by a displacement ventilation air system. Each classroom shall be provided with two (2) displacement diffusers, sized for 200 to 250 CFM each depending on number of occupants and space loads. Each space shall also be provided with a Variable Air Volume box which will vary the airflow to each space based on space temperature and/or space CO2 levels.

f. Terminal Heating & Cooling Equipment: Replace all existing steam unit heaters, convectors, and fin tube radiation with new hot water terminal equipment. Provide new ceiling mounted radiant heating and cooling panels in all classrooms. Provide administration areas with ceiling mounted induction unit terminal units equipped with hot water and chilled water coils.

g. Split system AC heat pump units: Provide a combination of new split system high efficiency heat pump AC units to serve the Elevator Machine Room, MDF rooms and IT Server rooms. In total, it is estimated that a total of 7 units are required with a combined capacity of 14 tons to serve these areas.

h. Testing, Balancing & Commissioning: All new and existing-to-remain HVAC equipment and systems shall be tested, adjusted, balanced, and commissioned.

i. Demolition: All existing to be removed HVAC equipment and systems that are no longer required shall be demolished and removed. All existing refrigerant from removed AC equipment shall be legally reclaimed.

j. Phasing: All demolition and new work shall be done in a phased manner in accordance with Architect's proposed phasing plan.

k. IAQ during Construction: HVAC Contractor shall follow SMACNA IAQ Guideline during Construction. HVAC contractor shall provide temporary sealed ends for all stored and installed open end ductwork during construction. HVAC contractor shall provide supply (MERV-13) and return air (MERV-8) filter changes in accordance with SMACNA IAQ guidelines for all air handling unit systems that operate in all work areas during Construction.

3. Options A1.1 & A1.2-B – Renovation and Addition

a. Under these Options, a new HVAC system shall be provided to replace all the existing HVAC systems.

b. During the Schematic Design Phase, a life cycle cost analysis shall be performed to study a minimum of three (3) different HVAC system options to determine the system that has the lowest overall cost of ownership during a 30-year period. Systems to be studied shall be an all-electric air source Variable Refrigerant Flow (VRF) system with Dedicated Outdoor Air Systems (DOAS) for code required ventilation, an all-electric air-to-water source heat pump chiller/boiler system with DOAS units, and geothermal water-to-water source modular heat recovery heat pump plant with DOAS units.

c. Under the renovation and addition option, a new HVAC system shall be provided to replace all existing HVAC systems. Existing equipment replacement and new HVAC system installation shall be provided in a phased manner.

The following specifications describe the general attributes and estimated capacity of the proposed HVAC system for the Renovation and Addition Option.

i. New roof-mounted dedicated outdoor air handling units delivering 100% outside air via supply and return air fans with VFDs, energy recovery wheels, variable refrigerant flow capable heat pumps for heating, cooling, & reheat operations and MERV 13 filtration will be provided to serve a neutral temperature ventilation system.

ii. Each classroom will be provided with two ceiling mounted supply air diffusers between 200 and 250 CFM each (depending on anticipated occupancy). Return air will be drawn back to the units by ceiling return air registers located within the classroom and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system.

iii. Each classroom space shall be provided with two variable refrigerant flow (VRF) terminal units (approximately 1.5 tons each) that will be utilized for primary heating and cooling to the space. Each office space shall be provided with one variable refrigerant flow (VRF) terminal unit (approximately 1.0 tons each) that will be utilized for primary heating and cooling to the space

d. Heating & Cooling Plant: It is estimated that the following equipment will be required to serve the building:
    i. Option A1.1 - Four (4) 12-Ton and Two (2) 16-Ton roof-mounted Heat Recovery Condensing Units w/ approximately 62 ceiling-mounted indoor terminal units with capacities ranging from 1 to 1.5 Tons each (thirty-two 1.5 Ton units & thirty 1-ton units)
    ii. Option A1.2-B - Six (6) 12-Ton and Two (2) 20-Ton roof-mounted Heat Recovery Condensing Units w/ approximately 85 ceiling-mounted indoor terminal units with capacities ranging from 1 to 1.5 Tons each (Fifty 1.5 Ton units & Thirty-five 1-ton units)

e. Controls: A new BACnet compatible automatic temperature control (ATC) and building energy management system (BMS) shall be provided to integrate all new HVAC equipment and systems

f. Energy metering: New building energy metering for domestic hot water and electricity shall be provided. Energy metering shall be integrated into the new BMS.

g. Air Handling Systems:
    i. New HVAC:
        1. Option A1.1 - For the classroom wing, provide four (4) high efficiency packaged variable refrigerant flow heat pump energy recovery rooftop air handling units for heating, cooling, and reheat operation with a capacity of 5,000 CFM (30 Tons Cooling, 350 MBH Heating).
        2. Option A1.2-B - For the classroom wing, provide five (5) high efficiency packaged variable refrigerant flow heat pump energy recovery rooftop air handling units for heating, cooling, and reheat operation with a capacity of 5,500 CFM (35 Tons Cooling, 375 MBH Heating).
        3. For Administration, provide one (1) high efficiency packaged variable refrigerant flow heat pump energy recovery rooftop air handling units for heating, cooling, and reheat operation with a capacity of 1,500 CFM (7.5 Tons Cooling, 50 MBH Heating).
        4. For the Cafeteria, provide one (1) high efficiency packaged variable refrigerant flow heat pump energy recovery rooftop air handling units for heating, cooling, and reheat operation with a capacity of 5,000 CFM (30 Tons Cooling, 125 MBH Heating).
        5. For the Gymnasium, provide two (2) high efficiency packaged variable refrigerant flow heat pump energy recovery rooftop air handling units for heating, cooling, and reheat operation with a capacity of 4,500 CFM (25 Tons Cooling, 110 MBH Heating).
        6. For the Media Center, provide one (1) high efficiency packaged variable refrigerant flow heat pump energy recovery rooftop air handling units for

heating, cooling, and reheat operation with a capacity of 2,000 CFM (10 Tons Cooling, 75 MBH Heating).

h. Exhaust Systems: New toilet exhaust, kitchen exhaust, and utility room exhaust air fans systems shall be provided. All kitchen exhaust fans shall be rated for Grease exhaust duty.

i. Air Distribution Systems: New ductwork shall be constructed and installed in accordance with SMACNA and IMC requirements. All new supply and return air ductwork shall be insulated per IMC code requirements. All new Kitchen exhaust fans shall be provided with new Fire-wrapped carbon steel or stainless-steel grease ductwork.

j. Lobby, Corridor, and Entry Way Heating: New electric convectors, cabinet unit heaters and fin tube radiation heating equipment shall be installed to provide heating to these areas. Corridors shall be ventilated from adjacent air handling unit systems.

k. Custodial Support Areas: Custodial support areas will be heated by electric radiation heating equipment. Storage areas will be heated by electric radiation heating equipment. All custodial closets will be exhausted by exhaust air fan systems.

l. Utility Areas:
    i. Utility areas will be provided with exhaust air fan systems for ventilation and will typically be heated with ceiling-suspended electric unit heaters.
    ii. The main electric rooms and IDF rooms will be air conditioned by high efficiency ductless AC cooling units.

m. Testing, Balancing & Commissioning: All new and existing-to-remain HVAC equipment and systems shall be tested, adjusted, balanced, and commissioned.

n. Demolition: All existing to be removed HVAC equipment and systems that are no longer required shall be demolished and removed. All existing air conditioning equipment scheduled to be demolished shall have refrigerant legally reclaimed.

o. Phasing: All demolition and new work shall be done in a phased manner in accordance with Architect's proposed phasing plan.

p. IAQ during Construction: HVAC Contractor shall follow SMACNA IAQ Guideline during Construction. HVAC contractor shall provide temporary sealed ends for all stored and installed open end ductwork during construction. HVAC contractor shall provide supply (MERV-13) and return air (MERV-8) filter changes in accordance with SMACNA IAQ guidelines for all air handling unit systems that operate in all work areas during Construction.

4. Options A2.2-A, A2.2-B, & A2.2-F - New Construction:

    a. During the Schematic Design Phase, a life cycle cost analysis shall be performed to study a minimum of three (3) different HVAC system options to determine the system that has the lowest overall cost of ownership during a 30-year period. Systems to be studied shall

be an all-electric air source Variable Refrigerant Flow (VRF) system with Dedicated Outdoor Air Systems (DOAS) for code required ventilation, an all-electric air to water source heat pump chiller/boiler system with DOAS units, and geothermal water to water source modular heat recovery heat pump plant with DOAS units.

b. Under the new construction option, the following specifications describe the general attributes and estimated capacity of the proposed HVAC system.

c. Heating & Cooling Plant: A new modular Air Source to Water Heat Recovery Heat Pump chiller plant shall be provided to provide chilled water cooling and hot water heating to the building HVAC air handling unit and terminal heating and cooling equipment. Each module shall be 30-ton capacity with a minimum of one redundant module for back-up heating purposes shall be provided. New chilled water and hot water pump arrays equipment with VFDs shall be provided for variable flow control of chilled water and hot water. Hydronic accessories including expansion tanks, air separators, and buffer tanks shall be provided. Hot and chilled water piping shall be distributed via insulated steel and copper piping distribution systems.

Estimated Heat Recovery Heat Pump Chiller modules required:

Option A2.2-A, A2.2-B, & A2.2-F – Eight (8) 30-ton Modules

d. Controls: A new BACnet compatible automatic temperature control (ATC) and building energy management system (BMS) shall be provided to integrate all new HVAC equipment and systems

e. Energy metering: New building energy metering for HVAC hot water, chilled water, condenser water, make-up water, domestic hot water, and electricity shall be provided. Energy metering shall be integrated into the new BMS

f. Air Handling Systems: HVAC New HVAC air handling units with hot water heating, chilled water cooling, energy recovery, MERV-14 filters, supply, and return/exhaust fans with EC motors or VFDs shall be provided to distribute tempered ventilation air to all occupied areas of the building. Overall, the combined air handling units shall be provided to serve the Classroom areas, Gym, Cafeteria/Stage, Library/Media Center, and Administration office areas within the building.

Estimated Air Handling unit capacity required:

Option A2.2-A, A2.2-B, & A2.2-F – 57,000 CFM serving the entire building

g. Exhaust Systems: New toilet exhaust, kitchen exhaust, and utility room exhaust air fans systems shall be provided. All kitchen exhaust fans shall be rated for Grease exhaust duty.

h. Air Distribution Systems: New ductwork shall be constructed and installed in accordance with SMACNA and IMC requirements. All new supply and return air ductwork shall be insulated per IMC code requirements. All new Kitchen exhaust fans shall be provided with new Fire-wrapped carbon steel or stainless-steel grease ductwork.

i. Terminal Heating & Cooling Equipment: New hot and chilled water radiant heating and cooling panels shall be provided for the perimeter heating and cooling for all general classroom, lobby and office areas of the building. New hot water radiant heating panels or fin tube radiation shall be provided for perimeter heating of all restrooms with exterior exposure heating loads. Hot water radiation heating equipment shall be provided for all corridors and entryways. Hot water unit heaters shall be provided for all utility rooms.

j. Split system AC heat pump units: New split system AC heat unit shall be provided for the Elevator machine room and IT Server rooms

k. Testing, Balancing & Commissioning: All new and existing-to-remain HVAC equipment and systems shall be tested, adjusted, balanced, and commissioned.

l. Demolition: All existing to be removed HVAC equipment and systems that are no longer required shall be demolished and removed. All existing air conditioning equipment scheduled to be demolished shall have refrigerant legally reclaimed.

m. Phasing: All demolition and new work shall be done in a phased manner in accordance with Architect's proposed phasing plan.

n. IAQ during Construction: HVAC Contractor shall follow SMACNA IAQ Guideline during Construction. HVAC contractor shall provide temporary sealed ends for all stored and installed open end ductwork during construction. HVAC contractor shall provide supply (MERV-13) and return air (MERV-8) filter changes in accordance with SMACNA IAQ guidelines for all air handling unit systems that operate in all work areas during Construction.

5. PHASING:

a. During all Phases of Construction, the following SMACNA IAQ Guidelines for Occupied Building Under Construction, 2008 shall be met to maintain proper indoor air quality within the occupied areas. Areas to remain occupied shall be positively pressured in relationship to the construction zone to prevent constitution debris from entering the occupied areas. Construction areas shall be exhausted to prevent construction debris from entering the occupied areas. All return grilles shall be covered with MERV-8 filter media, all fresh air supply units shall be provided with MERV-14 media, and all filter media shall be changed regularly in accordance with SMACNA IAQ Guidelines to maintain the IAQ within the occupied areas.

b. All new ductwork shall be installed per SMACNA guidelines for "Duct Cleanliness for New Construction Guidelines". A high level of indoor air quality shall be maintained throughout the duration of the project renovation construction phase.

c. Testing, Balancing, and Commissioning: A complete HVAC system Testing and Balancing, encompassing all HVAC systems and equipment installed during that phase, shall be performed at the completion of each phase.

6. TESTING REQUIREMENTS:

a. Testing, Balancing & Commissioning: All new and existing-to-remain HVAC equipment and systems shall be tested, adjusted, balanced, and commissioned.
b. The Mechanical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:
    i. Geothermal Heat Recovery Heat Pump Chilled/Heated water plant systems
    ii. Air handling unit systems including all supply, return and exhaust air systems
    iii. Terminal heating and cooling devices
    iv. Automatic temperature control and building energy management system
c. Testing reports shall be submitted to the Engineer for review and approval before providing them to the Owner.

7. OPERATION MANUALS AND MAINTENANCE MANUALS:
    a. When the project is completed, the Mechanical Contractor shall provide operation and maintenance manuals to the Owner.
8. RECORD DRAWINGS AND CONTROL DOCUMENTS:
    a. When the project is completed, an as-built set of drawings, showing all mechanical system requirements from contract and addendum items will be provided to the Owner.
9. COMMISSIONING:
    a. The project shall be commissioned per Section 018000 of the specifications.

FIRE PROTECTION SYSTEMS NARRATIVE

Prepared by C.A. Crowley Engineering, INC.

D40 FIRE PROTECTION:

1. General:
    a. Codes: All work installed under Division 210000 shall comply with the Commonwealth of Massachusetts 780CMR State Building Code, NFPA 13, and all federal, county, and local laws, statutes, regulations, and ordinances, as well as the requirements of the Authorities Having Jurisdiction.
    b. Options A0.2: Code Upgrade/Base Repair
        i. Automatic wet pipe sprinkler system throughout existing building
        ii. Fire pump required pending hydrant flow test.
        iii. Fire extinguisher cabinets equipped with lock/alarms, and fire extinguishers.
    c. Options A1.1 & A1.2-B: Addition & Renovation
        i. Automatic wet pipe sprinkler system throughout existing building and new addition
        ii. Fire pump required pending hydrant flow test
        iii. Fire extinguisher cabinets equipped with plastic breakaway lock/alarm, and fire extinguishers
    d. Options A2.2-A, A2.2-B & A2.2-F: New Construction
        i. Automatic wet pipe sprinkler system throughout new building
        ii. Fire pump required pending hydrant flow test
        iii. Fire extinguisher cabinets equipped with plastic breakaway lock/alarm, and fire extinguishers
2. Materials
    a. Sprinklers:
        i. Quick response flat plate concealed pendent sprinklers (throughout the majority of the building)
        ii. Quick response brass upright sprinklers (where required)
        iii. Quick response recessed horizontal sidewall sprinklers (where required)
        iv. Quick response intermediate temperature dry pendent sprinklers (kitchen freezer and cooler)
    b. Piping 2” and smaller: schedule 40 black steel with threaded fittings
    c. Piping 2½” and larger: schedule 10 black steel with rolled groove fittings
    d. Underground piping: class 52 cement lined ductile iron with restrained mechanical joints
    e. Supervised OS&Y valves – epoxy coated cast iron

f. Double Check Valve Assembly
g. Wet alarm riser check valve with trim, test, and drain connections
h. 4” Storz type fire department connection with check valve and ball drip
i. Tamper Switches
j. Flow Switches
k. Pressure Switches
l. Electric Bell
m. Beacon
n. Fire pump – electric motor driven vertical inline fire pump with soft start controller, automatic transfer switch, jockey pump, and jockey pump controller. (if required, pending hydrant flow test)

3. Testing
4. Start up and commissioning
5. Operation and Maintenance Manuals
6. As-Built Drawings

ELECTRICAL SYSTEMS NARRATIVE

Prepared by GGD Consulting Engineers, INC.

D60 ELECTRICAL:

1. OPTION A0.2:
    a. The following is the Electrical Systems narrative, which defines the scope of work, basis of design, and system capabilities of the Power, Lighting, Data, Fire Alarm, and Communication Systems. All systems shall be designed and constructed for LEED for Schools where indicated on this narrative.
    b. CODES: All work installed under Section 260000 shall comply with the Massachusetts State Building Code and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.
    c. DESIGN INTENT: The work of Section 260000 is as described in this Narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Electrical work and all items incidental thereto, including commissioning and testing.
    d. SEQUENCE OF OPERATIONS AND INTERACTIONS:
        i. Emergency battery Units and Exit sign lighting fixtures shall be replaced throughout the building. Exit signs will be “ON” during normal power conditions, as well as, power outage conditions. Emergency battery units will only be on during loss of normal utility power.
    e. EMERGENCY LIGHTING SYSTEM/EMERGENCY BATTERY UNITS:
        i. Emergency and Exit lighting will be via emergency battery units and centralized inverter system.
    f. FIRE ALARM SYSTEM:
        i. A new fire alarm and detection system will be provided with 24 hour battery back-up. The system will be of the addressable type where each detection device will be identified at the control panel and remote annunciators by device type and location to facilitate search for origin of alarms. The notification system will be in conformance with NFPA 72 Chapter 24 emergency communications systems.
        ii. Smoke detectors will be provided in open areas, corridors, stairwells and other egress ways.
        iii. The sprinkler system will be supervised for water flow and tampering with valves.
        iv. Speaker/strobes will be provided in egress ways, classrooms, assembly spaces, open areas and other large spaces. Strobe only units will be provided in single toilets and conference rooms.

v. Manual pull stations will be provided at exit discharge doors.

vi. The system will be remotely connected to automatically report alarms to fire department via a cellular dialer to a UL listed central station as approved by the fire department.

g. TESTING REQUIREMENTS

i. The Electrical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:

1. Lighting and power panels for correct phase balance.
2. Emergency generator system.
3. Lighting control system (interior and exterior).
4. Fire alarm system.
5. Two-way communication system.
6. Distributed Antennae system.

ii. Testing reports shall be submitted to the Engineer for review and approval before providing them to the Owner.

h. OPERATION MANUALS AND MAINTENANCE MANUALS:

i. When the project is completed, the Electrical Contractor shall provide operation and maintenance manuals to the Owner.

i. RECORD DRAWINGS AND CONTROL DOCUMENTS:

i. When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

j. COMMISSIONING:

i. The project shall be commissioned per Commissioning Section of the specifications.

2. OPTION A1.1 & A1.2 - B

a. The following is the Electrical Systems narrative, which defines the scope of work, basis of design, and system capabilities of the Power, Lighting, Data, Fire Alarm, and Communication Systems. All systems shall be designed and constructed for LEED for Schools where indicated on this narrative.

b. CODES: All work installed under Section 260000 shall comply with the Massachusetts State Building Code and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.

c. DESIGN INTENT: The work of Section 260000 is as described in this Narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation

of the Electrical work and all items incidental thereto, including commissioning and testing.

d. SEQUENCE OF OPERATIONS AND INTERACTIONS:

   i. Lighting will be controlled via zoned “addressable relays”, which is achieved through a programming networked controls. The control of the relays will be occupancy, vacancy, or photo sensors with manual switch locations being provided per zone capable of raising and lowering the dimming level in each respective zone. The system will have a BACnet gateway and will be interfaced with the BMS control system for scheduled functions. The controllability shall be in conformance with credit LEED credit IEQC 6.1.

   ii. Exterior lighting will be controlled by photocell “ON” and “scheduled” for “OFF” operation. The exterior lighting will be controlled by “zones” with dimming capability included in fixture functionality. Additionally, time scheduling shall be provided to reduce fixture output outside of normal school business hours while maintaining life safety levels.

   iii. Emergency and Exit lighting will be run through life safety panels and will be “ON” during normal power conditions, as well as, power outage conditions. The emergency lighting system will have time control so that lights are “ON” only when building is occupied.

e. BUILDING CONNECTED LOAD ESTIMATE OF PRELIMINARY BUILDING SYSTEMS DESIGN:

   i. Service ratings for the building are designed for a connected load of 18 watts/S.F. The service capacity will be sized for 1600 Amperes with a 100% rated main breaker (Option A1.1) and 2000 Amperes with 100% rated main breaker (Option A1.2 – B). The main buss will be sized at 2,000 Amperes and will have an available breaker space provision at the end of the switchboard to accommodate a future grid connected photovoltaic array. The switchboard will be furnished with a service entrance surge protection device (SPD) rated at 240 kA and digital metering unit to monitor voltage, current, power factor, demand KW and with a data communication port for interface with BMS. Main switchboard’s short circuit rating will be coordinated with the Utility Company but will be rated for 65 KAIC.

   ii. New lighting, mechanical, and power panels will be provided to accommodate respective loads. The equipment will be located in dedicated rooms or closets.

f. INTERIOR LIGHTING SYSTEM:

   i. Classroom lighting fixtures will consist of pendant mounted direct/indirect luminaries with integral LED boards and electronic dimmable drivers. The fixtures will be pre-wired for continuous dimming control where natural daylight is available and also for multi-level switching. Daylight dimming zones will be provided as required within each classroom.

ii. Office lighting fixtures will consist of pendant mounted direct/indirect luminaries with integral LED boards and electronic dimmable drivers. Offices on the perimeter of the building exceeding 150 sq/ft with exterior glazing will have daylight dimming controls similar to classrooms.

iii. In general, lighting power density will be 20%-30% less than IECC-2021. The power density reduction relates to LEED credit EAC.1.

iv. Lighting levels will be approximately 30 foot candles in classrooms and offices. The daylight dimming foot-candle level will be in compliance with LEED Credit IEQC 6.1.

v. Gymnasium lighting will be comprised of direct/indirect fixtures with LED source and electronic drivers. The fixtures will be provided with frosted polycarbonate lensing and safety J hook. The light level will be designed for approximately 50-foot candles. Multi-level switching shall be provided.

vi. Daylighting controls will be provided along the perimeter of any space where exterior glazing or skylight is present. Size of the daylighting size shall be as required in IECC 2021

vii. Corridor lighting will be comprised of recessed linear fixtures with integral LED boards and electronic drivers. The Corridor light level will be designed for approximately 20 foot candles. Corridor lighting will be on scheduled source control and only “ON” during occupied hours. The Corridor lighting will be dual-level controlled by schedule, and occupancy sensor.

viii. Cafeteria lighting will be pendant direct/indirect fixtures with LED lamps and electronic drivers. The light levels will be designed for approximately 30 foot candles. Daylighting controls will be provided along the perimeter of the space where exterior glazing is present. Size of the daylighting size shall be as required in IECC 2021

ix. Stage theatrical lights with connector strips and a dimming system will be provided for performances.

x. Kitchen and Servery lighting will consist of recessed 2’x2’ acrylic lensed gasketed troffers with stainless steel frame doors with LED lamps and electronic drivers. Light levels will be approximately 50-foot candles.

xi. Media Center lighting will consist of decorative pendant mounted direct/indirect fixtures with integral LED boards and electronic drivers. Light levels will be designed to an average of approximately 30 foot candles. Daylighting controls will be provided along the perimeter of the space where exterior glazing is present. Size of the daylighting size shall be as required in IECC 2021

xii. Each area will be locally switched and designed for multi-level controls. Each Classroom, Office space, and Toilet room will have occupancy sensors to turn

lights off when unoccupied. Manual switches will be provided in each space. Classrooms and offices will have manual dimming capacities.

xiii. Daylight dimming sensors will be installed in each room where natural light is available for continuous dimming of light fixtures. The control system will be in accordance with LEED credit IEQC 6.1.

xiv. The entire school will be controlled with an automatic lighting control system for programming of interior and exterior lights "on and off". Lighting control system will be interfaced with BMS system.

g. SITE LIGHTING SYSTEM:

i. Fixtures for area lighting will be pole mounted cut-off 'LED' luminaries in the parking area and roadways. Pole heights will be 16 feet. The exterior lighting will be connected to the automatic lighting control system for photocell "ON" and timed "OFF" operation. The site lighting fixtures will be dark sky compliant. The illumination level will be 0.5fc for parking areas in accordance with Illuminating Engineering Society.

ii. Building perimeter will be 'LED' wall mounted cut-off fixtures over exterior doors for Exit discharge.

h. EMERGENCY SYSTEM

i. One exterior 350kW diesel emergency generator with sound attenuated enclosures and a 48-hour base tanks with alarms will be provided. Integral 120 kW resistive load banks will be provided for generator testing under load. Light fixtures and LED Exit signs will be installed to serve all egress areas such as Corridors, Intervening Spaces, Toilets, Stairs, and Exit discharge exterior doors. All administrative area lighting will be connected to the emergency generator. Life safety lighting shall also be provided in areas of assembly such as media center or gymnasium.

ii. The generator will also include fire safety systems, boilers and circulating pumps, elevator, kitchen refrigeration equipment, and communications and security systems.

i. WIRING DEVICES:

i. Each classroom will have a minimum of (2) duplex receptacles per teaching wall and (2) double duplex receptacles on dedicated circuits at classroom computer workstations. The teacher's workstation will have a double duplex receptacle also on a dedicated circuit.

ii. Office areas will generally have (1) duplex outlet per wall. At each workstation a double duplex receptacle will be provided.

iii. Corridors will have a cleaning receptacle at approximately 25-40 foot intervals.

iv. Exterior weatherproof receptacles with lockable enclosures will be installed at exterior doors.

v. A system of computer grade panelboards with double neutrals and surge protective devices will be provided for receptacle circuits.

vi. All receptacles will be of the tamper resistant type.

vii. Automatic receptacle control shall be provided in all enclosed offices, conference rooms, copy/print rooms, break rooms, and classrooms as required in section C405.11 of the IECC 2021.

j. FIRE ALARM SYSTEM:

i. A fire alarm and detection system will be provided with 24 hour battery back-up. The system will be of the addressable type where each detection device will be identified at the control panel and remote annunciators by device type and location to facilitate search for origin of alarms. The notification system will be in conformance with NFPA 72 Chapter 24 emergency communications systems.

ii. Smoke detectors will be provided in open areas, corridors, stairwells and other egress ways.

iii. The sprinkler system will be supervised for water flow and tampering with valves.

iv. Speaker/strobes will be provided in egress ways, classrooms, assembly spaces, open areas and other large spaces. Strobe only units will be provided in single toilets and conference rooms.

v. Manual pull stations will be provided at exit discharge doors.

vi. The system will be remotely connected to automatically report alarms to fire department via a cellular dialer to a UL listed central station as approved by the fire department.

k. UNINTERRUPTIBLE POWER SUPPLY (UPS)

i. One 20 kW centralized UPS system will be provided with seven minutes of battery back-up.

ii. The system will provide conditioned power to sensitive electronic loads, telecommunication systems, bridge over power interruptions of short duration and allow an orderly shutdown of servers and communication systems during a prolonged power outage.

iii. The UPS system will also be connected to the stand-by generator.

l. LIGHTNING PROTECTION SYSTEM:

i. A system of lightning protection devices will be provided.

ii. The lightning protection equipment will include air terminals, roof, main conductors and down conductors, conduits, fasteners, connectors, ground rods, etc.

iii. The facility will be issued a UL Master Label Certificate.

m. RENEWABLE ENERGY SYSTEM PROVISIONS:

i. Electrical provisions will be made for a roof-mounted renewable energy system consisting of a grid-connected photovoltaic PV system intended to reduce the facilities' demand for power.

n. LEVEL 2 AC DUAL ELECTRIC VEHICLE CHARGING EQUIPMENT. (EVSE)

i. Conduit and wiring provisions shall be provided for a minimum of 10% of the available parking spots for future EV charging stations.

o. INTERIOR SCOREBOARD:

i. One interior scoreboard with two shot clocks will be provided within the school's gymnasium.

p. TWO-WAY COMMUNICATIONS SYSTEM:

i. A Two-Way Communications System will be provided at the elevator lobbies that do not have grade access.

q. DISTRIBUTION ANTENNAE SYSTEM (DAS):

i. A public safety radio distributed antenna system (DAS) which consists of bi-directional amplifiers (BDA), donor antennas, coverage antennas, coax cable, coax connectors, splitters, combiners and couplers. These devices will be used as part of a system for in-building public safety 2-way radio system communication

r. THE DATA SYSTEM INFRASTRUCTURE

i. The data system infrastructure will consist of fiber optic backbone cabling horizontal wiring will consist of Category 6A UTP Plenum rated cabling for both data and telephone systems for gigabit connectivity. The telephone infrastructure will accommodate VOIP based voice systems.

ii. Each classroom will have 2 data outlets for student computers. Two data, one voice with video and audio connections to an LCD monitor will be provided at teacher's station with interconnectivity to an interactive LCD touch screen monitor. A wall phone outlet with 2-way ceiling speaker will be provided for communications with administration. Wireless access points will be provided in all classrooms and other spaces and consist of (2) CAT6A cables.

iii. The Main Distribution Frame (MDF) will contain all core network switching and IP voice switch. Intermediate Distribution Frames (IDFs) will serve each floor/wing of the school. A fiber optic backbone will be provided from each IDF to MDF. The backbone will be designed for 10 Gbps Ethernet.

iv. Two-way communication call boxes will be provided adjacent to each elevator that is above or below grade level. The base station will be located at a control point on the first floor.

s. A CENTRAL PAGING SYSTEM
    i. A central paging system will be provided and integrated with the telephone system.

t. SITE UTILITIES:
    i. The incoming services including electric, fire alarm, telephone, cable TV, and fiber will be underground. One exterior pad mounted transformers will be provided by the local utility company.

u. TESTING REQUIREMENTS
    i. The Electrical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:
        1. Lighting and power panels for correct phase balance.
        2. Emergency generator system.
        3. Lighting control system (interior and exterior).
        4. Fire alarm system.
        5. Uninterruptible Power System, UPS.
        6. Lightning protection system.
        7. Two-way communication system.
        8. Distributed Antennae system.
    ii. Testing reports shall be submitted to the Engineer for review and approval before providing them to the Owner.

v. OPERATION MANUALS AND MAINTENANCE MANUALS:
    i. When the project is completed, the Electrical Contractor shall provide operation and maintenance manuals to the Owner.

w. RECORD DRAWINGS AND CONTROL DOCUMENTS:
    i. When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

x. COMMISSIONING:
    i. The project shall be commissioned per Commissioning Section of the specifications.

y. PHASING
    i. Options A1.1 & A1.2 - B
        1. Contractor shall maintain existing utilities serving the existing school building and provide detailed switch over times coordinated with the owner for several small phases to provide a complete renovation and upgrade of the existing building.

2. Contractor shall coordinate utility disconnection and switch over that does not interfere with normal building operation.

3. Options A2.2 - A, A2.2 - B, A2.2 - F - NEW CONSTRUCTION:
    a. The following is the Electrical Systems narrative, which defines the scope of work, basis of design, and system capabilities of the Power, Lighting, Data, Fire Alarm, and Communication Systems. All systems shall be designed and constructed for LEED for Schools where indicated on this narrative.
    b. CODES: All work installed under Section 260000 shall comply with the Massachusetts State Building Code and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.
    c. DESIGN INTENT: The work of Section 260000 is as described in this Narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Electrical work and all items incidental thereto, including commissioning and testing.
    d. SEQUENCE OF OPERATIONS AND INTERACTIONS:
        i. Lighting will be controlled via zoned “addressable relays”, which is achieved through a programming networked controls. The control of the relays will be occupancy, vacancy, or photo sensors with manual switch locations being provided per zone capable of raising and lowering the dimming level in each respective zone. The system will have a BACnet gateway and will be interfaced with the BMS control system for scheduled functions. The controllability shall be in conformance with credit LEED credit IEQC 6.1.
        ii. Exterior lighting will be controlled by photocell “ON” and “scheduled” for “OFF” operation. The exterior lighting will be controlled by “zones” with dimming capability included in fixture functionality. Additionally, time scheduling shall be provided to reduce fixture output outside of normal school business hours while maintaining life safety levels.
        iii. Emergency and Exit lighting will be run through life safety panels and will be “ON” during normal power conditions, as well as power outage conditions. The emergency lighting system will have time control so that lights are “ON” only when building is occupied.
    e. BUILDING CONNECTED LOAD ESTIMATE OF PRELIMINARY BUILDING SYSTEMS DESIGN:
        i. Service ratings for the building are designed for a connected load of 18 watts/S.F. The service capacity will be sized for 1600 Amperes with a 100% rated main breaker. The main buss will be sized at 2,000 Amperes and will have an available breaker space provision at the end of the switchboard to accommodate a future grid connected photovoltaic array. The switchboard will be furnished with a service entrance surge protection device (SPD) rated at 240 kA and digital

metering unit to monitor voltage, current, power factor, demand KW and with a data communication port for interface with BMS. Main switchboard's short circuit rating will be coordinated with the Utility Company but will be rated for 65 KAIC.

ii. New lighting, mechanical, and power panels will be provided to accommodate respective loads. The equipment will be located in dedicated rooms or closets.

f. INTERIOR LIGHTING SYSTEM:

i. Classroom lighting fixtures will consist of pendant mounted direct/indirect luminaries with integral LED boards and electronic dimmable drivers. The fixtures will be pre-wired for continuous dimming control where natural daylight is available and also for multi-level switching. Daylight dimming zones will be provided as required within each classroom.

ii. Office lighting fixtures will consist of pendant mounted direct/indirect luminaries with integral LED boards and electronic dimmable drivers. Offices on the perimeter of the building exceeding 150 sq/ft with exterior glazing will have daylight dimming controls similar to classrooms.

iii. In general, lighting power density will be 20%-30% less than IECC-2021. The power density reduction relates to LEED credit EAC.1.

iv. Lighting levels will be approximately 30 foot candles in classrooms and offices. The daylight dimming foot-candle level will be in compliance with LEED Credit IEQC 6.1.

v. Gymnasium lighting will be comprised of direct/indirect fixtures with LED source and electronic drivers. The fixtures will be provided with frosted polycarbonate lensing and safety J hook. The light level will be designed for approximately 50-foot candles. Multi-level switching shall be provided.

vi. Daylighting controls will be provided along the perimeter of any space where exterior glazing or skylight is present. Size of the daylighting size shall be as required in IECC 2021

vii. Corridor lighting will be comprised of recessed linear fixtures with integral LED boards and electronic drivers. The Corridor light level will be designed for approximately 20-foot candles. Corridor lighting will be on scheduled source control and only "ON" during occupied hours. The Corridor lighting will be dual-level controlled by schedule, and occupancy sensor.

viii. Cafeteria lighting will be pendant direct/indirect fixtures with LED lamps and electronic drivers. The light levels will be designed for approximately 30 foot candles. Daylighting controls will be provided along the perimeter of the space where exterior glazing is present. Size of the daylighting size shall be as required in IECC 2021

ix. Stage theatrical lights with connector strips and a dimming system will be provided for performances.

x. Kitchen and Servery lighting will consist of recessed 2'x2' acrylic lensed gasketed troffers with stainless steel frame doors with LED lamps and electronic drivers. Light levels will be approximately 50-foot candles.

xi. Media Center lighting will consist of decorative pendant mounted direct/indirect fixtures with integral LED boards and electronic drivers. Light levels will be designed to an average of approximately 30 foot candles. Daylighting controls will be provided along the perimeter of the space where exterior glazing is present. Size of the daylighting size shall be as required in IECC 2021

xii. Each area will be locally switched and designed for multi-level controls. Each Classroom, Office space, and Toilet room will have occupancy sensors to turn lights off when unoccupied. Manual switches will be provided in each space. Classrooms and offices will have manual dimming capacities.

xiii. Daylight dimming sensors will be installed in each room where natural light is available for continuous dimming of light fixtures. The control system will be in accordance with LEED credit IEQC 6.1.

xiv. The entire school will be controlled with an automatic lighting control system for programming of interior and exterior lights "on and off". Lighting control system will be interfaced with BMS system.

g. SITE LIGHTING SYSTEM:

i. Fixtures for area lighting will be pole mounted cut-off 'LED' luminaries in the parking area and roadways. Pole heights will be 16 feet. The exterior lighting will be connected to the automatic lighting control system for photocell "ON" and timed "OFF" operation. The site lighting fixtures will be dark sky compliant. The illumination level will be 0.5fc for parking areas in accordance with Illuminating Engineering Society.

ii. Building perimeter will be 'LED' wall mounted cut-off fixtures over exterior doors for Exit discharge.

h. EMERGENCY SYSTEM

i. One exterior 350kW diesel emergency generator with sound attenuated enclosures and a 48-hour base tanks with alarms will be provided. Integral 120 kW resistive load banks will be provided for generator testing under load. Light fixtures and LED Exit signs will be installed to serve all egress areas such as Corridors, Intervening Spaces, Toilets, Stairs, and Exit discharge exterior doors. All administrative area lighting will be connected to the emergency generator. Life safety lighting shall also be provided in areas of assembly such as media center or gymnasium.

ii. The generator will also include fire safety systems, boilers and circulating pumps, elevator, kitchen refrigeration equipment, and communications and security systems.

i. WIRING DEVICES:

i. Each classroom will have a minimum of (2) duplex receptacles per teaching wall and (2) double duplex receptacles on dedicated circuits at classroom computer workstations. The teacher's workstation will have a double duplex receptacle also on a dedicated circuit.

ii. Office areas will generally have (1) duplex outlet per wall. At each workstation a double duplex receptacle will be provided.

iii. Corridors will have a cleaning receptacle at approximately 25-40 foot intervals.

iv. Exterior weatherproof receptacles with lockable enclosures will be installed at exterior doors.

v. A system of computer grade panelboards with double neutrals and surge protective devices will be provided for receptacle circuits.

vi. All receptacles will be of the tamper resistant type.

vii. Automatic receptacle control shall be provided in all enclosed offices, conference rooms, copy/print rooms, break rooms, and classrooms as required in section C405.11 of the IECC 2021.

j. FIRE ALARM SYSTEM:

i. A fire alarm and detection system will be provided with 24-hour battery back-up. The system will be of the addressable type where each detection device will be identified at the control panel and remote annunciators by device type and location to facilitate search for origin of alarms. The notification system will be in conformance with NFPA 72 Chapter 24 emergency communications systems.

ii. Smoke detectors will be provided in open areas, corridors, stairwells and other egress ways.

iii. The sprinkler system will be supervised for water flow and tampering with valves.

iv. Speaker/strobes will be provided in egress ways, classrooms, assembly spaces, open areas and other large spaces. Strobe only units will be provided in single toilets and conference rooms.

v. Manual pull stations will be provided at exit discharge doors.

vi. The system will be remotely connected to automatically report alarms to fire department via a cellular dialer to a UL listed central station as approved by the fire department.

k. UNINTERRUPTIBLE POWER SUPPLY (UPS)

i. One 20 kW centralized UPS system will be provided with seven minutes of battery back-up.

ii. The system will provide conditioned power to sensitive electronic loads, telecommunication systems, bridge over power interruptions of short duration and allow an orderly shutdown of servers and communication systems during a prolonged power outage.

iii. The UPS system will also be connected to the stand-by generator.

l. LIGHTNING PROTECTION SYSTEM:

i. A system of lightning protection devices will be provided.

ii. The lightning protection equipment will include air terminals, roof, main conductors and down conductors, conduits, fasteners, connectors, ground rods, etc.

iii. The facility will be issued a UL Master Label Certificate.

m. RENEWABLE ENERGY SYSTEM PROVISIONS:

i. Electrical provisions will be made for a roof mounted renewable energy system consisting of a grid connected photovoltaic PV system intended to reduce the facilities' demand for power.

n. LEVEL 2 AC DUAL ELECTRIC VEHICLE CHARGING EQUIPMENT. (EVSE)

i. Conduit and wiring provisions shall be provided for a minimum of 10% of the available parking spots for future EV charging stations.

o. INTERIOR SCOREBOARD:

i. One interior scoreboard with two shot clocks will be provided within the school's gymnasium.

p. TWO-WAY COMMUNICATIONS SYSTEM:

i. A Two-Way Communications System will be provided at the elevator lobbies that do not have grade access.

q. DISTRIBUTION ANTENNAE SYSTEM (DAS):

i. A public safety radio distributed antenna system (DAS) which consists of bi-directional amplifiers (BDA), donor antennas, coverage antennas, coax cable, coax connectors, splitters, combiners and couplers. These devices will be used as part of a system for in-building public safety 2-way radio system communication

r. THE DATA SYSTEM INFRASTRUCTURE

i. The data system infrastructure will consist of fiber optic backbone cabling horizontal wiring will consist of Category 6A UTP Plenum rated cabling for both data and telephone systems for gigabit connectivity. The telephone infrastructure will accommodate VOIP based voice systems.

ii. Each classroom will have 2 data outlets for student computers. Two data, one voice with video and audio connections to an LCD monitor will be provided at teacher's station with interconnectivity to an interactive LCD touch screen monitor. A wall phone outlet with 2-way ceiling speaker will be provided for communications with administration. Wireless access points will be provided in all classrooms and other spaces and consist of (2) CAT6A cables.

iii. The Main Distribution Frame (MDF) will contain all core network switching and IP voice switch. Intermediate Distribution Frames (IDFs) will serve each floor/wing of the school. A fiber optic backbone will be provided from each IDF to MDF. The backbone will be designed for 10 Gbps Ethernet.

iv. Two-way communication call boxes will be provided adjacent to each elevator that is above or below grade level. The base station will be located at a control point on the first floor.

s. A CENTRAL PAGING SYSTEM

i. A central paging system will be provided and integrated with the telephone system.

t. SITE UTILITIES:

i. The incoming services including electric, fire alarm, telephone, cable TV, and fiber will be underground. One exterior pad mounted transformers will be provided by the local utility company.

u. TESTING REQUIREMENTS

i. The Electrical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:

1. Lighting and power panels for correct phase balance.
2. Emergency generator system.
3. Lighting control system (interior and exterior).
4. Fire alarm system.
5. Uninterruptible Power System, UPS.
6. Lightning protection system.
7. Two-way communication system.
8. Distributed Antennae system.

ii. Testing reports shall be submitted to the Engineer for review and approval before providing them to the Owner.

v. OPERATION MANUALS AND MAINTENANCE MANUALS:

i. When the project is completed, the Electrical Contractor shall provide operation and maintenance manuals to the Owner.

w. RECORD DRAWINGS AND CONTROL DOCUMENTS:

i. When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

x. COMMISSIONING:

i. The project shall be commissioned per Commissioning Section of the specifications.

y. PHASING

i. Options A2.2 - B, A2.2 - F

1. Contractor shall maintain existing utilities serving the existing school building on site during construction of new school building.
2. Upon completion of new building contractor shall cut, cap, and make safe existing building to prepare the building for demolition by demolition contractor.
3. Installation of parking area site lighting and EV charging station provisions shall be installed by electrical contractor.

SECURITY SYSTEMS NARRATIVE

Prepared by Good Harbour Techmark, LLC.

D70 ELECTRONIC SAFETY AND SECURITY:

D7010 ELECTRONIC SECURITY MANAGEMENT SYSTEM

1. The electronic security management system shall consist of the following proprietary subsystems as specified herein:
    a. Electronic Video Surveillance System – Milestone Systems
    b. Video Surveillance Cameras – Hanwha Vision America
    c. Electronic Access Control System – LenelS2
    d. Electronic Intrusion Detection System – Bosch
    e. Electronic Security Communication System – Aiphone
    f. Electronic Visitor Management System – Raptor Technologies
2. The security system shall consist of system servers to manage video surveillance cameras and recording, as well as access control and intrusion alarms. Remotely distributed components—including card access readers, control panels, zone control keypads, door position switches, motion detectors, health and safety sensors, duress alarms, and lockdown controls—shall be deployed to secure staff and monitor doors and interior spaces.
3. A graphical user interface with dynamic mapping capabilities shall be provided to allow authorized personnel to monitor live events, acknowledge alarms, and perform actions such as locking or unlocking doors in response to specific security conditions.
4. Upon detection of unauthorized building entry or other alarm conditions, the system shall automatically transmit alerts to the District's contracted security monitoring service provider.

D7010.10 ELECTRONIC VIDEO SURVEILLANCE

1. An IP-based video surveillance system shall be provided to support fixed surveillance, situational assessment, license plate recognition, real-time monitoring, and video recording operations. The system shall be capable of integrated operation with other security systems, including access control and alarm/event call-up at designated remote workstations.
2. The system shall include computer servers with video management software, operator workstations with monitors, and IP-based surveillance cameras equipped with onboard artificial intelligence (AI) capabilities. These AI features shall include, but not be limited to, motion detection, object classification, facial recognition, behavioral analysis, and vehicle/license plate recognition to enhance real-time assessment and reduce false alarms. The video management server shall be rack-mounted.
3. Authorized users shall be able to access the system from any computer within the school network or externally via a secure IP address. Remote viewing and control capabilities shall be provided to

school administration and made accessible to the Police Department for enhanced situational awareness.

4. Camera coverage shall include, but not be limited to, corridors, stairwells, the cafeteria, auditorium, gymnasium, building entrances, exterior building perimeter, site access roads, the bus drop-off area, and parking lots. The final system scope and performance criteria, including specific AI functionality, shall be defined during the detailed design phase.
5. The NVR shall provide storage of all cameras using the following criteria:
    a. Storage Retention: Minimum of 30 days of continuous video retention, 24 hours per day, 7 days per week.
    b. Recording Methodology: Interior and exterior cameras shall record based on motion detection.
    c. Video Compression: All cameras shall utilize H.265 video compression to optimize storage and bandwidth efficiency.
    d. Frame Rates:
        ii. Interior and exterior cameras shall record at 15 images per second (IPS) when motion is detected.
        iii. Cameras shall record at 5 IPS during periods when no motion is detected.
    e. Motion-Triggered Recording Parameters:
        i. Assume that motion is detected approximately 50% of each day.
        ii. Motion detection parameters shall be configurable per camera and per schedule to reduce nuisance triggers.
        iii. Cameras shall record video at the specified rates upon detection of motion.
        iv. Cameras shall record video at the specified rates when no motion is detected to ensure a baseline level of coverage.
6. The cameras shall support video surveillance, visual alarm assessment, and real-time monitoring of designated interior and exterior access points, as well as other identified critical areas.
    a. Camera Types: Cameras shall be IP-based and include both fixed and multi-lens models.
    b. Infrared Capability: All cameras shall be equipped with integrated infrared (IR) illumination for low-light and nighttime operation.
    c. Independent Viewing: Each camera shall be independently viewable within the video management system.
    d. Infrastructure Cable Requirement: Category 6A cable.
    e. Exterior Camera Requirements:
        i. Exterior cameras shall feature low-light sensitivity and be housed in weatherproof enclosures rated for outdoor environmental conditions.
        ii. Cameras shall be equipped with surge protection.

iii. Typical mounting locations include building walls, corners, light poles, PV arrays, or beneath soffits, as required to achieve optimal coverage.

D7010.30 ELECTRONIC ACCESS CONTROL SYSTEM

1. The access control system shall be a fully integrated solution that includes door controllers, card readers, audio/video intercoms, electric locking devices, request-to-exit (REX) switches, door release buttons, electromagnetic door holders, lockdown buttons, audible alarms, automatic door operators, lock power supplies, equipment enclosures, tamper switches, credentials, credential printers, and credential capture cameras. The system shall monitor and control all perimeter doors, including the main entrance, and provide access control for select interior doors as required.
2. All card reader communications shall utilize OSDP (Open Supervised Device Protocol). The access control system shall be fully OSDP-compliant, supporting supervised and encrypted communication between readers and controllers. Cabling for OSDP connections shall consist of plenum-rated, shielded, twisted-pair wiring suitable for RS-485 communication. Wiegand communication shall not be permitted unless explicitly approved in writing by the Owner. Reader wiring shall be installed in compliance with manufacturer recommendations and industry best practices to ensure proper signal integrity and device supervision.
3. The access control system shall interface with the video surveillance system to enable video call-up and event-based assessment. Card readers shall be installed at all doors requiring controlled access and must be compatible with the Owner's selected credential type. Duress buttons shall be installed at designated locations, including within key offices, and programmed to discreetly notify emergency responders or the alarm monitoring company upon activation.
4. Electrified door hardware used in conjunction with the card readers shall include electric strikes, electrified locksets, electric exit devices, electrified hinges, and power transfer devices, selected to suit the door construction and usage. REX devices shall be installed to suppress door contact alarms upon egress, or be integrated within locksets, and shall be connected to field control panels and programmed accordingly. Door release buttons shall initiate a system event to temporarily unlock the associated door and log the action in the access control software.
5. Each electromagnetic door holder shall release upon activation of the lockdown button or an intrusion event. Door holders shall remain released until reset by authorized personnel. The lockdown function shall immediately lock all access-controlled doors, disable general credential access, and deactivate door release buttons. During lockdown, card readers will remain functional for designated security personnel only. Additionally, the lockdown sequence shall activate exterior visual indicators and cut power to electromagnetic door holders, which shall not re-energize until the system is manually reset.

D7010.40 ELECTRONIC INTRUSION DETECTION SYSTEM

1. The intrusion detection system shall consist of door position switches (DPS), motion detectors and glass break sensors strategically installed to monitor all primary perimeter areas of the building. This system shall serve to detect and report unauthorized entry attempts or door conditions inconsistent with access control permissions.
2. The intrusion detection system shall be fully integrated with the access control system to allow for centralized event reporting, unified alarm monitoring, and coordinated responses, such as triggering alarms, video call-up, or facility lockdown. The system shall be capable of integration with industry-standard intrusion panels, supporting seamless operation within a unified security management platform.
3. Motion Detectors: Motion detectors shall be dual-technology sensors combining passive infrared (PIR) and microwave detection to reduce false alarms caused by environmental fluctuations. Devices shall include adjustable detection zones, tamper protection, and sensitivity settings suitable for varying environmental conditions. Detectors shall be UL Listed and installed in accordance with manufacturer guidelines to cover corridors, vestibules, and key perimeter pathways.
4. Glass Break Sensors: Glass break sensors shall utilize dual-technology detection, combining acoustic and shock or pressure analysis to minimize false alarms caused by ambient noise or environmental disturbances. Devices shall feature adjustable sensitivity settings, tamper protection, and detection parameters suitable for various glass types and room acoustics. Sensors shall be UL Listed and installed per manufacturer guidelines to monitor windows, glass doors, and other critical perimeter openings.
5. Door Position Switches (DPS): Each card reader-controlled or designated perimeter door shall be equipped with a door position switch (DPS) to monitor the doors open or closed status. The DPS shall function as the primary input for detecting and generating door-forced or door-held alarms in the event of unauthorized access or a propped-door condition. For exterior doors, the DPS shall report exclusively to the access control system. For interior doors, the DPS shall be integrated with both the access control and intrusion detection systems to provide comprehensive monitoring. All DPS wiring shall be supervised using end-of-line (EOL) resistors to ensure the detection of open circuits, short circuits, tampering, or device failure. Devices and associated wiring shall be installed in a concealed or otherwise protected manner to deter tampering and unauthorized interference. All components used for DPS installation shall be UL 1076 compliant to meet industry standards for security and reliability.
6. All intrusion detection devices and associated wiring shall comply with the latest edition of the National Electrical Code (NEC) and shall be UL listed for their intended purpose. Installation shall follow industry best practices to ensure accurate detection, tamper resistance, and long-term reliability. The system shall be fully tested, programmed, and commissioned in coordination with the access control system to support the facility's security response protocols.

7. Intrusion detection system devices shall be wired using plenum-rated, shielded twisted-pair cabling suitable for low-voltage security applications. Each device circuit shall be supervised using end-of-line (EOL) resistors installed at the device to enable detection of open circuits, shorts, and tampering. All wiring shall be installed in a concealed or otherwise protected manner and routed in conduit where exposed or vulnerable to physical damage. Cabling pathways shall be coordinated with architectural and electrical drawings to avoid conflicts and ensure compliance with applicable codes and standards.
8. All wiring shall be clearly labeled at both ends, and a complete wiring schedule shall be maintained for record documentation. Field terminations shall be made using screw terminals or manufacturer-approved connectors. The use of punch-down blocks, wire nuts, or splices not contained within approved junction boxes shall be prohibited.

D7010.50 SECURITY COMMUNICATION SYSTEM

1. The video intercom system shall support a flexible architecture capable of incorporating multiple control units, IP-based master stations, and video door stations. All exterior communication equipment shall include integrated lightning protection to safeguard against power surges and environmental hazards.
2. The video intercom system shall be installed independently of any general-purpose internal communication systems and shall serve multiple functions as indicated, scheduled, or required. These functions may include video door entry, emergency announcements, rescue assistance communication, urgent call signaling, public address messaging, and integration with access control systems.
3. The system shall provide the capability for any video door station call to be rolled over and answered at any designated master station within the network. This call forwarding functionality shall be software-configurable and shall not be limited by physical wiring constraints, allowing for centralized or distributed control models based on operational needs.
4. Remote door unlocking shall be supported at the master station level, enabling authorized users to control access in response to intercom events. The system shall include a full suite of control unit functions, including but not limited to two-way communication, call forwarding, scan monitoring, emergency call, priority call, video and audio recording, and both all-call and zone-specific paging.
5. All components and features shall be fully programmable to meet the operational, safety, and security needs of the facility, and the system shall support future expansion without major reconfiguration.
6. The video intercom system shall utilize Category 6 or Category 6A cabling, as required by the manufacturer, to support IP-based communication between control units, master stations, and door stations. All network cabling shall be plenum-rated and installed in accordance with ANSI/TIA-568 standards for structured cabling systems. Cables shall be routed in concealed pathways or in conduit where exposed to potential damage or environmental hazards. All

terminations shall be made using manufacturer-recommended connectors, and patch panels or outlets shall be clearly labeled. Cabling infrastructure shall support PoE (Power over Ethernet) where applicable, and shall be coordinated with the electrical and IT trades to ensure compatibility with facility-wide networking standards and sufficient bandwidth for video and audio transmission.

7. Wiring for door release functions shall be installed from each intercom door station or associated control unit to the corresponding electrified locking device. This wiring shall be plenum-rated, low-voltage cabling suitable for access control circuits, and shall meet the power and control requirements of the locking hardware. All door release wiring shall be installed in conduit or other protected pathways and terminated per manufacturer recommendations. Relay outputs shall be supervised where applicable and integrated with the facility's access control system to ensure secure and traceable unlocking events.

D7010.60 ELECTRONIC VISITOR MANAGEMENT SYSTEM

1. A visitor management system shall be provided to facilitate the secure recording, screening, and monitoring of all individuals entering the facility. The system shall include software and hardware components necessary for comprehensive visitor sign-in, vetting, and tracking, including a dedicated workstation, ID scanner, camera, and badge printer.
    a. The system shall support the following functions:
        i. Real-Time Screening: Automatically screen all visitors, including contractors, guardians, and volunteers, against the most current U.S. sex offender databases.
        ii. Custom Watchlist Integration: Check visitors against customized school- or district-level watchlists, which may include individuals with custodial restrictions, banned visitors, or other security concerns.
        iii. Automated Alerts: Immediately notify administrative and security personnel when a visitor is flagged as a potential threat or risk.
        iv. Visitor Badge Printing: Generate and print visitor badges that include the visitor's name, photograph, date, time of entry, building name, and designated destination.
        v. Reporting and Audit Trail: Maintain accurate and searchable records of all sign-ins across the district, with the ability to generate detailed reports at both the school and district level. This data shall support audits, investigations, and administrative reviews.
    b. The system shall include the following equipment:
        i. State-issued ID Scanner: For rapid scanning and verification of government-issued identification cards (e.g., driver's licenses).

ii. Visitor Badges: Printable adhesive or card stock badges used for all approved visitors.

iii. Camera: For capturing real-time visitor photos when not available from the scanned ID.

iv. Printer: Capable of printing visitor badges and student tardy passes as required.

2. The visitor management system shall be fully integrated with school safety protocols and aligned with local district policies. All components shall be installed, configured, and tested in accordance with manufacturer guidelines and the operational requirements of the facility.

D7010.70 SECURITY EQUIPMENT

1. The network switches shall include non-PoE, PoE, PoE+, and PoE++ switches necessary for the proper operation of the Electronic Security Management System.
2. Workstations shall be shall be equipped with a keyboard, mouse, and monitor. Where feasible, consolidated workstation/server configurations supporting multiple systems may be used in lieu of separate units, provided they meet the minimum software requirements and are equipped with sufficient video cards for each system. Each workstation shall include a dedicated, floor-mounted uninterruptible power supply (UPS) to ensure continuous operation. Workstations shall be provided for the Access Control System server client, Video Management System client, Visitor Management System client, and Photo Identification Badging client. Additionally, a rack-mounted KVM switch shall be installed in the equipment closet housing the network video recorder.
3. Monitors shall be commercial-grade displays capable of continuous 24/7 operation without performance degradation. Desktop monitors shall be 24-inch flat-panel color displays and wall-mounted monitors shall be 50-inch flat-panel color displays using VESA-compliant brackets and all necessary accessories. All monitors shall have a minimum resolution of 1920 x 1080 pixels at 60Hz refresh rate, with larger displays possibly requiring higher resolutions. The aspect ratio shall be 16:9, and display types shall be either LED-backlit LCD or OLED to ensure color accuracy and energy efficiency. Each monitor shall include, at a minimum, HDMI and DisplayPort digital input connections. Monitors shall have a minimum panel life rating of 50,000 hours, a contrast ratio of at least 5000:1, and must comply with VESA mounting standards.
4. UPS units shall be provided to support connected loads with a capacity of at least 120% to accommodate future expansion and battery degradation. Each UPS shall include RS-232 and 10Base-T Ethernet ports to allow for local and remote monitoring, and include all necessary software, hardware, and data connections for full operational integration. UPS units shall support user-configurable operating system shutdown features. A front panel LED status display shall be provided on each UPS, showing load and battery bar graphs, with visual indicators for battery replacement, overload, and bypass status. Audible and visual alarms shall activate during low battery or overload conditions. Rack-mounted UPS units shall be installed in each equipment rack supporting security devices, providing a minimum 30-minute backup runtime. Floor-mounted UPS units shall support workstations and monitors with a minimum 30-minute runtime. Cabinet-

mounted UPS units shall support field panels and enclosures with a minimum 30-minute runtime. All batteries shall be rechargeable and properly sized to maintain full system functionality during the entire specified backup duration.

AUDIO-VISUAL SYSTEMS NARRATIVE

Prepared by Newcomb & Boyd.

E10 EQUIPMENT:

E1025 AUDIO-VISUAL EQUIPMENT

1. Classrooms and Instructional Spaces:
    a. Video: Each space will be equipped with a 75" interactive display on a mobile cart. Content will be displayed via the embeded Android OS, or an instructor can plug directly into the display via USB-C or HDMI ports.
        i. Audio: Audio will be provided via the speakers integrated with the Interactive Display. Additionally, sound reinforcement speakers will be located in the ceiling.
        ii. Control: Display manufacturer provided remote control and on-screen controls.
2. Gymnasium:
    a. Video: A motorized projection screen will be provided and supported from the ceiling above. The viewing area of the screen will be 192"W x 120"H (226" diagonal). The bottom of the viewing area will be approximately 48" above the finished floor of the Gymnasium. A 4K projector designed for use in a large venue will be installed in the ceiling on a scissor-lift style mount will lower to the correct height when in use and will retract into the ceiling when not in use to provide physical protection. A/V inputs and wireless streaming will be provided.
    b. Audio: Pendent-mount speakers will be installed in the ceiling to provide sound coverage throughout the gym. PA announcements will be broadcast over the same speakers. Both Wireless microphone capability and wired microphone inputs will be provided. An Assistive Listening system will be provided with receiver units in compliance with ADA requirements.
    c. Control: A wall-mount Control Panel will be provided to allow control of the audio inputs and volume control. The headend A/V equipment will be located in a rack in a Storage Room adjacent to the gymnasium.
3. Cafetorium / Platform or Dining / Stage:
    a. Video: A motorized projection screen will be provided and supported from the ceiling above. The viewing area of the screen will be 192"W x 120"H (226" diagonal). The bottom of the viewing area will be approximately 48" above the finished floor of the Platform. A 4K projector designed for use in a large venue will be installed in the ceiling on a scissor-lift style mount will lower to the correct height when in use and will retract into the ceiling when not in use to provide physical protection. A/V inputs and wireless streaming will be provided.
    b. Audio: Pendent-mount speakers will be installed in the ceiling to provide sound coverage throughout the space. PA announcements will be broadcast over the same speakers.

Both Wireless microphone capability and wired microphone inputs will be provided. An Assisted Listening system will be provided with receiver units in compliance with ADA requirements.

c. Control: A wall-mount Control Panel will be provided to allow control of the audio inputs and volume control. The headend A/V equipment will be located in a rack in the adjacent Control Room.

4. Media Center:
    a. Video: The Media Center will be equipped with an Interactive Display (similar to classroom display).
    b. Audio: Audio will be provided through the Display Screen's built-in speakers.
    c. Control: Display manufacturer provided remote control
5. Indoor Digital Signage:
    a. Video: Each Digital Signage location will be provided with a non—interactive display screen (sizes TBD). Mounts will be fixed, low-profile style. A recessed A/V wall box will be installed behind the screen to house power, data connections, and the digital signage receiver. Digital signage displays will be located at the Main Entrance, Main Office, and Cafeteria. Digital menu boards in the Servery, if required, will be provided.
    b. Audio: Not applicable.
    c. Control: Displays will be controlled by the signage player via CEC.
6. Conference Rooms:
    a. Video: Each conference room will be equipped with a non-interactive display screen – 80" Diagonal in large conference rooms, and 65" in smaller conference rooms. An HDMI input will be provided at the conference table, located inside an in-table A/V box that will also contain electrical receptacles and data jacks as needed.
    b. Audio: Audio will be provided through the display's built-in speakers.
    c. Control: The receiver in each conference room will have signal sense capability which will allow the display to turn on or off depending on sensing signal, or when a device is plugged in/out.
7. Music Rooms:
    a. Audio: Full range speaker system for listening, simple fixed stereo recording system, playback from recording system or connected computer.

FOOD SERVICE SYSTEMS NARRATIVE

Prepared by Crabtree McGrath Associates, Inc.

E1090 FOOD SERVICE EQUIPMENT

1. General:
    a. Mobile and stationary commercial foodservice equipment.
    b. Functional Requirements: Equipment shall be of the latest design; new and unused, unless indicated otherwise in the Item Specifications, complete with all standard parts for normal operations and including such accessories or materials as may be required to comply with these Specifications.
2. Performance Requirements:
    a. Electric equipment and accessories shall conform to the standards of the National Electric Manufacturers Association (NEMA), Underwriters Laboratories, Inc. (UL) or Electrical Testing Station (ETS).
    b. Steam generating equipment and accessories shall conform to the standards of the American Society of Mechanical Engineers (ASME).
    c. Energy Star - Specified Energy Star rated equipment and appliances shall serve as the standard for all types of equipment and appliances whenever possible.
3. Design Requirements:
    a. Work shall be in accordance with the governing health, building and safety, and fire protection codes and regulations.
    b. Standards of the National Sanitation Foundation (NSF) shall serve as guidelines for the work of this Section.
    c. Refrigeration:
        i. Fabricated walk-in rooms
        ii. Refrigerated display cases
        iii. Commercial refrigerators
        iv. Mobile milk coolers
    d. Freezers:
        i. Fabricated walk-in rooms
        ii. Commercial freezers
    e. Food Storage Shelving:
        i. Stainless steel wire
        ii. Open grid polymer mats on enamel steel wire supports
        iii. Aluminum dunnage racks
    f. Work Tables and Preparation:
        i. Stainless steel tables and sinks

ii. Food slicer
iii. Food processor

g. Cooking Equipment:
   i. Ranges
   ii. Ovens
   iii. Kettles
   iv. Steamers
   v. Braising pans
   vi. Exhaust hood

h. Serving Equipment:
   i. Drop-in mechanical cold-pans
   ii. Drop-in hot wells
   iii. Food shields
   iv. Stainless steel counters
   v. Hot holding cabinets

i. Sinks:
   i. Hand washing sinks
   ii. Three compartment wash sink
   iii. Mop sink

j. Miscellaneous:
   i. Staff lockers
   ii. Trash bins
   iii. Mobile carts
   iv. Condiment counters
   v. Mobile cash registers

LANDSCAPE ARCHITECTURE SYSTEMS NARRATIVE

Prepared by Studio 2112.

G20 SITE IMPROVEMENTS:

1. General Site Conditions:
   Whether a Renovation, Addition, or New School project, outlined below our recommendations for the general site conditions that will need to be considered regarding the existing site features and landscaping:
   a. Accessibility along all circulation routes, to building egress points, and throughout all outdoor active and passive recreation areas will need to be achieved to comply with ADA and 521 CMR code requirements. The repairs/improvements will likely involve upgrades to vehicular driveways, pedestrian walkways, athletic field(s), play spaces, grading, handrails, detectable surface warning strip(s), etc., throughout the project site.
   b. For safety and security all concepts will consider Crime Prevention Through Environmental Design (CPTED) strategies and goals. These strategies will include lighting, fencing, and plantings that maintain lines of sight.
   c. Designs incorporate priorities and desires from the school community regarding amenities and program needs, as well as best practices for educational landscapes - supporting inclusivity, biodiversity, stewardship, and community.
   d. Any and all existing memorial benches, stones, posts and site elements to be salvaged and relocated on site as needed.
   e. The existing site grading and drainage will need to be evaluated to be certain that the site does not experience any drainage issues (to be coordinated with the civil engineer).
   f. Similarly, an analysis of site soils shall be performed to confirm buildability and any amendment necessary for the new use.
   g. A licensed arborist will need to evaluate the condition of the existing trees to determine their safety and long-term viability to be certain that they will not suffer decline during any site improvements; thereby resulting in limb-drop or early decline that could impact the site users. In addition, the existing plantings would need to be selectively pruned to ensure longevity, while existing lawn areas to be preserved will need to be re-established to encourage the growth of healthy lawn areas for passive and active recreational use.
   h. The existing site lighting system will need to be evaluated and updated/replaced – see Electrical for information about site lighting.
   i. Existing fences will need to be evaluated and upgraded to be certain that all code and safety requirements are met throughout the site. Fencing along perimeter of property will be evaluated and upgraded, particularly in areas where project site abuts residential areas and other uses. Fencing along property line at street not to be included.
   j. Existing driveway, parking, and service zones will need to be repaired, re-striped, and/or replaced for safety and clarity.

k. Wayfinding signage throughout the site will need to be upgraded for directional and safety clarity.
l. Opportunities for snow storage and/or removal will need to be identified.

2. Option A0.2: Base Repair / Code Upgrade
With the code upgrade option, the school building would remain in its current location. The design would incorporate code required updates and functional improvements to the existing site. The following is a general description of site improvements scope of work:
    a. Building Entry Zones (in multiple locations):
        i. New concrete pavement and grading to meet accessibility requirements
        ii. Granite curbing
        iii. Benches with backs and arms
        iv. Litter receptacles
        v. Bicycle racks
    b. Walkways: 5' wide Cast-In-Place Concrete (ADA Accessible)
        i. Accessible walkways to program areas from parking and building entrances
        ii. Grading from Story St to main entrance for accessible slope
    c. Outdoor Classroom at courtyard:
        i. Paved walkways within, to and from the building
        ii. Cast-In-Place concrete pavement for classroom space
        iii. Fixed seating, activity tables and storage
        iv. Benches with backs and arms
        v. Litter receptacles
        vi. Raised garden beds
    d. Plantings
        i. The design proposes to cut back and remove plant material in poor health and any invasive vegetation throughout the site
        ii. Deciduous trees to replace existing trees in poor condition.
    e. Play Equipment
        i. Preserve existing play equipment – certified playground inspector to inspect all playground equipment during design phases to provide report and overview of repairs. Assume 10% of playground equipment to be replaced.
        ii. Repair rubber safety surfacing for the existing play equipment
        iii. Provide rubber curb at edge of rubber and planting areas
        iv. Provide accessible concrete walkways to and from playground
        v. Play areas to be updated for any drainage issues
    f. Hard Surface Play Areas
        i. Vehicular rated asphalt
        ii. Painted line games shall be hydroplast Traffic Paint
        iii. Basketball hoops for each court / half court

g. Pond area
    i. Paved walkways to and from the building
    ii. Wood fence with mesh infill to match existing

3. Option A1.1 & A1.2-B: Renovation / Addition
With the renovation/addition options, the school building would remain in its current location. The design team would make every effort to create safer and more-defined vehicular drop-off/pick-up and queuing opportunities. The following is a general description of site improvements scope of work:
    a. Drop Off / Pick Up Zones:
        i. Bituminous concrete vehicular drop-off and pick-up zone(s) with traffic calming and wayfinding elements throughout.
        ii. For pedestrian/vehicular safety, site elements would be placed throughout any drop-off and pick-up zones where students typically gather for pedestrian safety.
        iii. The drop-off lanes would, ideally, abut a planted median that would maintain hardy deciduous street trees that would be salt and urban condition(s) tolerant for shade and space delineation.
    b. Roadways:
        i. All roadways shown shall be 20-24’ in width with a 5’ wide concrete sidewalk adjacent.
        ii. Parking lots shall assume 8’ planting island between parking isles.
        iii. Where appropriate vehicular gates will restrict access to student spaces during school hours.
    c. (1) flagpole would be located in proximity to the main entrance, with flagpole mounted lighting
    d. Building Entrance Arrival:
        i. Concrete unit pavers set over 4” concrete base with core holes 8” on center filled with drainage gravel for drainage.
        ii. Granite curbing
        iii. Precast concrete seat walls with wood bench tops
        iv. Litter receptacles
        v. Bicycle racks
    e. Walkways: 5’ wide Cast-In-Place Concrete (ADA Accessible)
    f. Courtyard/Outdoor Classroom(s):
        i. Canopy structure to provide shade and weather resistance
        ii. Paved walkways within and to the building
        iii. Cast in place concrete pavement for classroom space

~~iv.~~ Fixed seating, activity tables and storage

v. Benches with backs and arms

vi. Litter receptacles

vii. Raised garden beds

viii. Replace in kind green house

ix. Electrical and WIFI access for students to use electronic devices

g. Service Areas(s) (to be coordinated with Civil, Mechanical Engineer, and Utility teams):

i. Vehicular concrete paving (8" depth minimum)

ii. Raised loading dock(s)

iii. Dumpster pad(s)

iv. Bollard protection and/or screening of dumpsters, gas meters, transformers, generators, etc.

h. Plantings

i. Deciduous trees throughout for shade and to provide a vegetative buffer to the abutters. 4" caliper shade trees, and 3" caliper flowering trees.

ii. Dense evergreen planting at the service zones

iii. Perennial beds at the building entrances, courtyard, and adjacent play spaces; low maintenance

iv. Raised garden beds: herbs, low maintenance pollinator friendly perennials

v. Rain garden planting - 50% shrubs, 50% perennials

vi. Wetland buffer planting within 25-50' buffer at wetland areas

vii. Engineered soils for planting areas

viii. Provide drip irrigation to all trees, perennial beds, and athletic fields.

i. Athletic Fields

i. Turf lawn over high use lawn soils

ii. Irrigation

iii. No sports lighting

j. Playground and Play Equipment

i. A1.1:

1. Preserve existing play equipment – certified playground inspector to inspect all playground equipment during design phases to provide report and overview of repairs. Assume 20% of playground equipment to be replaced.
2. Provide or repair rubber safety surfacing for the existing play equipment
3. Provide rubber curb at edge of rubber and planting areas
4. Provide accessible concrete walkways to and from playground
5. Play areas to be updated for any drainage issues

6. Provide shade structures within or adjacent play equipment. Repair safety surfacing as required.

ii. A1.2-B

1. Allowance of $500,000 for new play equipment.
2. Playground Equipment will have new poured-in-place safety surfacing in 5 colors
3. Provide rubber curb at edge of rubber and planting areas
4. Provide accessible concrete walkways to and from playground
5. Provide shade structures within or adjacent play equipment.

k. Hard Surface Play Areas
   i. Vehicular rated asphalt
   ii. Provide color court surfacing in 5 standard colors for basketball and line painting games
   iii. Basketball hoops for each court / half court

l. Pre-K Play space in courtyard
   i. Allowance of $200,000 for new play equipment.
   ii. Playground Equipment will have new poured-in-place safety surfacing in 5 colors
   iii. Provide rubber curb at edge of rubber and planting areas
   iv. Provide accessible concrete walkways to and from playground
   v. Provide shade structures within or adjacent play equipment.

m. Pond area
   i. Paved walkways to and from the building
   ii. Cast-In-Place concrete pavement for seating area
   iii. Fixed seating
   iv. Wood fence with mesh infill to match existing

n. Lighting
   i. Pedestrian and vehicular site lighting to be provided under Electrical

4. Option A2.2-A, A2.2-B, A2.2-F : New Construction
With the new construction options, safer and more defined vehicular drop-off/pick-up and queuing opportunities will be proposed. In addition, the new design will propose inviting entrances into the school, with more defined parking areas. The following is a general description of site improvements scope of work:

a. Drop Off / Pick Up Zones:
   i. Bituminous concrete vehicular drop-off and pick-up zone(s) with traffic calming and wayfinding elements throughout.
   ii. For pedestrian/vehicular safety, site elements would be placed throughout any drop-off and pick-up zones where students typically gather.
   iii. The drop-off lanes would, ideally, abut a planted median that would maintain hardy deciduous street trees that would be salt and urban condition(s) tolerant for shade and space delineation.

b. Roadways:
    i. All roadways shown shall be 20-24’ in width with a 5’ wide concrete sidewalk adjacent.
    ii. Parking lots shall assume 8’ planting island between parking isles.
    iii. Where appropriate vehicular gates will restrict access to student spaces during school hours.
c. (1) flagpole would be located in proximity to the main entrance, with flagpole mounted lighting
d. Building Entry Zones (in multiple locations):
    i. Concrete unit pavers set over 4” concrete base with core holes 8” on center filled with drainage gravel for drainage.
    ii. Granite curbing
    iii. Precast concrete seat walls with wood bench tops
    iv. Litter receptacles
    v. Bicycle racks
e. Walkways: 5’ wide Cast-In-Place Concrete (ADA Accessible)
f. Outdoor Classroom(s):
    i. Canopy structure for each location to provide shade and weather resistance
    ii. Paved walkways within, to and from the building
    iii. Cast-In-Place concrete pavement for classroom space
    iv. Fixed seating, activity tables and storage
    v. Cast-In-Place Concrete seat walls
    vi. Benches with backs and arms
    vii. Litter receptacles
    viii. Raised garden beds
    ix. Electrical and WIFI access for students to use electronic devices
g. Service Areas(s) (to be coordinated with Civil, Mechanical Engineer and Utility teams):
    i. Vehicular concrete paving (8” depth minimum)
    ii. Raised loading dock(s)
    iii. Dumpster pad(s)
    iv. Bollard protection and/or screening of dumpsters, gas meters, transformers, generators, etc.
h. Plantings
    i. Deciduous trees throughout for shade and to provide a vegetative buffer to the abutters. 4” caliper shade trees, and 3” caliper flowering trees.
    ii. Dense evergreen planting at the service zones
    iii. Perennial beds at the building entrances and adjacent play spaces; low maintenance
    iv. Raised garden beds: herbs, low maintenance pollinator friendly perennials
    v. Rain garden planting - 50% shrubs, 50% perennials

vi. Wetland buffer planting within 25-50' buffer at wetland areas
vii. Engineered soils for planting areas
viii. Provide drip irrigation to all trees, perennial beds, and athletic fields.

i. Athletic Fields
   i. Turf lawn over high use lawn soils
   ii. Irrigation
   iii. 4' height chain link fencing with safety cap adjacent roadways and parking lots
   iv. No sports lighting
j. Playground and play equipment
   i. Allowance of $500,000 for new play equipment.
   ii. Playground Equipment will have new poured-in-place safety surfacing in 5 colors
   iii. Provide rubber curb at edge of rubber and planting areas
   iv. Provide accessible concrete walkways to and from playground
   v. Provide shade structures within or adjacent play equipment.
k. Hardscape play area
   i. Vehicular rated asphalt
   ii. Provide color court surfacing in 5 standard colors for basketball and line painting games
   iii. Basketball hoops for each court / half court
l. Pre-K Play space
   i. Allowance of $200,000 for new play equipment.
   ii. Playground Equipment will have new poured-in-place safety surfacing in 5 colors
   iii. Provide rubber curb at edge of rubber and planting areas
   iv. Provide accessible concrete walkways to and from playground
   v. Provide shade structures within or adjacent play equipment.
   vi. Provide 4' height ornamental metal fence and gates
m. Pond area
   i. Paved walkways to and from the building
   ii. Cast-In-Place concrete pavement for seating area
   iii. Fixed seating
   iv. Wood fence with mesh infill to match existing
n. Lighting
   i. Pedestrian and vehicular site lighting to be provided under Electrical

OFF SITE / CIVIL SYSTEMS NARRATIVE

Prepared by Greenman-Pederson Inc.

G20 OFF-SITE IMPROVEMENTS:

1. General Off-Site Conditions
   Whether a Renovation, Addition, or New School project, outlined below are the anticipated off-site considerations that will be evaluated and incorporated into the project to support safe and efficient school access:
   a. Accessibility along all off-site paths serving school access (including sidewalks, curb ramps, crossings, and accessible connections to bus stops) will be evaluated and improved as needed to comply with ADA and 521 CMR requirements. Improvements may include sidewalk reconstruction, curb ramp upgrades, grading adjustments, and installation of detectable warning surfaces.
   b. Off-site improvements will be developed in coordination with the municipality and school community priorities, with a focus on implementable upgrades that improve arrival/dismissal operations and year-round pedestrian safety.
   c. All off-site work will be coordinated with the roadway owner (Town and/or MassDOT) and other agencies having jurisdiction. Permitting needs (road opening permits, traffic control approvals, utility coordination, and MassDOT review where applicable) will be identified during design development.
   d. Existing roadway geometry, drainage patterns, pavement condition, and utility constraints (catch basins, manholes, hydrants, utility poles, and underground utilities) will be evaluated to confirm feasibility and to minimize impacts and relocations.
   e. Off-site grading and drainage impacts associated with curb line shifts, ramps, raised features, and sidewalk construction will be evaluated and coordinated with the civil engineer to avoid ponding, icing, or drainage conflicts.
   f. Designs will consider snow storage/removal, pavement durability, and long-term maintenance responsibilities (Town vs. School District vs. others), including maintenance of beacon systems and speed feedback signs.

2. Option A0.1 & A0.2: Base Repair / Code Upgrade
   With the code upgrade option, the school building would remain in its current location. The design would incorporate code required updates and functional improvements to the existing site. The design team would make every effort to support safer and more efficient school access for all modes. The following is a general description of off-site improvements scope of work:
   a. Sidewalks and Pedestrian Routes:
      i. Sidewalk reconstruction where surfaces, widths, or slopes are failing or noncompliant.
   b. Curbs, Curb Modifications, and Curb Ramps:

i. Curb line modifications to shorten crossings, improve geometry, and enhance operations

ii. Curb ramp reconstruction at impacted corners/crossings, including detectable warning panels and compliant landing areas

iii. Corner radius tightening and curb extensions (where feasible) to reduce turning speeds and improve visibility.

c. Crosswalks and Crossing Enhancements

i. High-visibility crosswalk at priority school-route locations

ii. Pedestrian warning signage at and in advance of crossings, with an emphasis on consistent application along approaches

d. Pavement Markings

i. New/refreshed markings to support safe, legible operations and reinforce school-zone conditions, including as applicable: center/edge/lane lines; stop bars/yield lines; channelization; crosswalks and messages; school legends; markings for traffic calming features.

ii. Materials and reflectorization (paint vs. thermoplastic, etc.) coordinated with the roadway owner and applicable standards.

e. Regulatory, Warning and Guide Signage

i. Replace outdated/inconsistent signs and install new signage as needed (e.g., school zone assemblies/time plaques, speed limits, pedestrian crossing signs, turn restrictions, supplemental plaques)

f. Intersection Improvements

i. Intersection reconfiguration as feasible to improve pedestrian safety and operations (curb extensions, pedestrian refuge islands)

g. Rectangular Rapid Flashing beacons (RRFBs)

i. RRFB installations at selected crosswalks, including accessible pushbuttons and required signage

ii. Power (solar vs. hardwired) confirmed during design

h. Speed Feedback Signs

i. Speed feedback sign assemblies on key approaches to reinforce target speeds near school (time-based operation where applicable/approved)

3. Option A1.1 & A1.2: Renovation / Addition
With the renovation/addition options, the school building would remain in its current location. The design team would make every effort to support safer and more efficient school access for all modes. The following is a general description of off-site improvements scope of work:

a. Sidewalks and Pedestrian Routes:

i. Sidewalk reconstruction where surfaces, widths, or slopes are failing or noncompliant.

b. Curbs, Curb Modifications, and Curb Ramps:
   i. Curb line modifications to shorten crossings, improve geometry, and enhance operations
   ii. Curb ramp reconstruction at impacted corners/crossings, including detectable warning panels and compliant landing areas
   iii. Corner radius tightening and curb extensions (where feasible) to reduce turning speeds and improve visibility.

c. Crosswalks and Crossing Enhancements
   i. High-visibility crosswalk at priority school-route locations
   ii. Pedestrian warning signage at and in advance of crossings, with an emphasis on consistent application along approaches

d. Pavement Markings
   i. New/refreshed markings to support safe, legible operations and reinforce school-zone conditions, including as applicable: center/edge/lane lines; stop bars/yield lines; channelization; crosswalks and messages; school legends; markings for traffic calming features.
   ii. Materials and reflectorization (paint vs. thermoplastic, etc.) coordinated with the roadway owner and applicable standards.

e. Regulatory, Warning and Guide Signage
   i. Replace outdated/inconsistent signs and install new signage as needed (e.g., school zone assemblies/time plaques, speed limits, pedestrian crossing signs, turn restrictions, supplemental plaques)

f. Intersection Improvements
   i. Intersection reconfiguration as feasible to improve pedestrian safety and operations (curb extensions, pedestrian refuge islands)

g. Rectangular Rapid Flashing beacons (RRFBs)
   i. RRFB installations at selected crosswalks, including accessible pushbuttons and required signage
   ii. Power (solar vs. hardwired) confirmed during design

h. Speed Feedback Signs
   i. Speed feedback sign assemblies on key approaches to reinforce target speeds near school (time-based operation where applicable/approved)

4. Option A2.1 & A2.2 : New Construction

With the new construction options, the design team would make every effort to support safer and more efficient school access for all modes. The following is a general description of off-site improvements scope of work:

a. Sidewalks and Pedestrian Routes:
    i. Sidewalk reconstruction where surfaces, widths, or slopes are failing or noncompliant.
b. Curbs, Curb Modifications, and Curb Ramps:
    i. Curb line modifications to shorten crossings, improve geometry, and enhance operations
    ii. Curb ramp reconstruction at impacted corners/crossings, including detectable warning panels and compliant landing areas
    iii. Corner radius tightening and curb extensions (where feasible) to reduce turning speeds and improve visibility.
c. Crosswalks and Crossing Enhancements
    i. High-visibility crosswalk at priority school-route locations
    ii. Pedestrian warning signage at and in advance of crossings, with an emphasis on consistent application along approaches
d. Pavement Markings
    i. New/refreshed markings to support safe, legible operations and reinforce school-zone conditions, including as applicable: center/edge/lane lines; stop bars/yield lines; channelization; crosswalks and messages; school legends; markings for traffic calming features.
    ii. Materials and reflectorization (paint vs. thermoplastic, etc.) coordinated with the roadway owner and applicable standards.
e. Regulatory, Warning and Guide Signage
    i. Replace outdated/inconsistent signs and install new signage as needed (e.g., school zone assemblies/time plaques, speed limits, pedestrian crossing signs, turn restrictions, supplemental plaques)
f. Intersection Improvements
    i. Intersection reconfiguration as feasible to improve pedestrian safety and operations (curb extensions, pedestrian refuge islands)
g. Rectangular Rapid Flashing beacons (RRFBs)
    i. RRFB installations at selected crosswalks, including accessible pushbuttons and required signage
    ii. Power (solar vs. hardwired) confirmed during design
h. Speed Feedback Signs

i. Speed feedback sign assemblies on key approaches to reinforce target speeds near school (time-based operation where applicable/approved)

G30/40 OFF-SITE UTILITIES:

Off-Site Outline Specification

1. The following is the civil site systems narrative entails outline specifications:
    a. Temporary Traffic Control.
    b. Mobilization.
    c. Field Engineering.
    d. Boundary and Survey Markers.
    e. Selective Demolition.
    f. Traffic Signage.
    g. Earth Moving.
    h. Asphalt Paving.
    i. Concrete Paving.
    j. Pavement Markings.
    k. Water Utilities.
    l. Sanitary Sewerage Utilities.
    m. Stormwater Utilities.
    n. Granite Curb.
    o. Concrete Walks.
    p. Traffic Signals.
2. TEMPORARY TRAFFIC CONTROL
    a. Provide furnishing, installing, and maintaining all temporary traffic controls necessary for performance of the Off-Site work in accordance with Subsection 850 of the MassDOT Standard Specifications for Highways and Bridges (latest edition). The work also includes furnishing, deploying, maintaining proper operating conditions, and removing devices needed for Temporary Pedestrian Access Routes (TPAR) in order to guide pedestrians around a fully or partially closed sidewalk. These TPAR's are intended to prevent pedestrians from entering the work area and to prevent pedestrians from inadvertently entering the vehicle travel lane by providing visual and physical separation between each space. The work shall include, but not be limited to the following:
        i. Safety Signing for Traffic Management
        ii. Temporary Pedestrian Barricade
        iii. Temporary Pedestrian Curb Ramp

iv. Portable Breakaway Barricade Type III
v. Temporary Paving Markings – 6-Inch (Painted)
vi. Temporary Paving Markings – 6-Inch (Tape)
vii. Pavement Marking Removal
viii. Arrow Board
ix. Portable Changeable Message Sign
x. Reflectorized Drum
xi. Reflectorized Drums with Sequential Flashing Warning Lights

b. Temporary traffic control shall conform to the relevant provisions of Subsection 850 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).
c. Removal of all temporary traffic controls shall be a condition precedent to Substantial Completion unless directed otherwise by the Engineer or specifically noted in the Specifications.
d. The Contractor must comply with all safety laws and regulations of the Commonwealth of Massachusetts, the United States Government, and local government agencies applicable to work under this contract. The Contractor's attention is directed to the Commonwealth of Massachusetts, Department of Labor and Industries Regulation 454 CMR.
e. The Contractor shall submit their Temporary Traffic Control Plan to the Engineer and the Town for approval before any temporary traffic setup can be installed.
f. Materials for temporary traffic control shall conform to the relevant provisions of Subsection 850 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).
g. Temporary Pedestrian Barricade
    i. The Temporary Pedestrian Barricade shall have a continuous bottom rail or edge no more than two (2) inches above the ground and eight (8) inches in height (minimum) to accommodate cane users, have a smooth and continuous hand railing along the top edge no less than 32 inches above the ground and not obstruct or project into the pedestrian path of travel. Barricade walls shall be nearly vertical and generally within the same plane.
    ii. If exposed to traffic, Temporary Pedestrian Barricades shall be crashworthy.
h. Temporaray Pedestrian Curb Ramp:
    i. Temporary Pedestrian Curb Ramps shall provide a 48-inch minimum width, with a firm, stable, and non-slip surface. Protective edging with a two (2) inch minimum height shall be installed when the curb ramp or landing platform have a vertical drop of six (6) inches or greater.

ii. The Temporary Pedestrian Curb Ramp walkway and landing area surface shall be of solid, continuous, contrasting color abutting up to the existing sidewalk.

iii. If a Temporary Pedestrian Curb Ramp leads to a crosswalk, a detectable warning pad must be used at the base of the ramp; if it leads to a protected path that does not conflict with vehicular traffic then a detectable pad shall not be used.

i. Reflectorized Drums with Sequential Flashing Warning Lights:

i. The Reflectorized drums shall be listed on the MassDOT Qualified Traffic Control Equipment List.

ii. Reflective sheeting on drums shall meet or exceed ASTM D4956 Type VIII. All drums shall be maintained in a satisfactory manner including the removal of oils, dirt, and debris that may cause reduced retro reflectivity.

iii. The Contractor shall use one of the following sequential flashing warning light systems unless otherwise approved by the Engineer: Empco-Lite LWCSD, pi-Lit® Sequential Barricade-Style Lamp; or Unipart Dorman Synchro GUIDE.

iv. Sequential flashing warning lights shall be secured to reflectorized drums per the light manufacturer's specifications.

j. Temporary Pedestrian Access Route:

i. The Temporary Pedestrian Barricade shall be placed in an area that will provide pedestrians with a TPAR on a smooth, continuous hard surface for its entirety. The geometry and alignment of the facility shall meet the applicable requirements of the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities" and the Massachusetts Architectural Access Board.

ii. The recommended width of the TPAR is 60 inches, but if constraints exist a minimum clear width of 48 inches shall be provided along its entirety. If a 60-inch width cannot be accommodated in full, a 60 inch by 60 inch passing space shall be provided every 200 feet or less along the TPAR.

iii. Turning areas shall be 60 inches by 60 inches minimum.

iv. Lateral joints between any surfaces shall not exceed 0.5 inches. Lateral edges may be vertical up to 0.25 inches high and shall be beveled at 1V:2H between 0.25 inches and 0.5 inches.

v. The TPAR shall be kept clear of debris, snow, and ice and the Temporary Pedestrian Barricades and Temporary Pedestrian Curb Ramps shall not obstruct drainage.

vi. Removal and/or resetting of Temporary Pedestrian Barricades and Temporary Pedestrian Curb Ramps shall be considered incidental.

k. Reflectorized Drums with Sequential Flashing Warning Lights:

i. The first ten drums in any merging or shifting taper as designated in the Temporary Traffic Control Plan shall be equipped with sequential flashing

warning lights. These lights shall be operating, at a minimum, between dusk and dawn when the taper is deployed.

ii. The successive flashing of the sequential warning lights shall occur from the upstream end of the merging or shifting taper to the downstream end of the taper in order to identify the desired vehicle path. Each warning light in the sequence shall be flashed at a rate of not less than 55, nor more than 75 times per minute.

iii. Warning lights shall be powered off when drums are not deployed in a taper.

3. SITE PREPARATION

a. The work under this item shall consist of the Contractor's preparatory work and operations, including, but not limited to, the movement of field offices, equipment, supplies, personnel and incidentals to the project site, and all other operations which must be performed or for costs which must be incurred prior to commencement of construction work.

b. The work required and services for mobilization shall be done in a safe and workmanlike manner and shall conform with any pertinent local or state law, regulation or code. Good housekeeping consistent with safety shall be maintained.

4. FIELD ENGINEERING

a. Provide all labor, equipment, and materials required to perform all construction layout work as shown on the Drawings and specified herein.

b. The work under this section shall consist of field engineering and layout for off-site improvements along Story Street, Western Avenue and intersecting side streets, including but not necessarily limited to reestablishing survey control points, locating construction baselines, pavements and walkways, limits of grading, etc., as shown on the plans, by a registered Engineer or Land Surveyor. The Contractor shall familiarize herself/himself with the existing conditions and shall be responsible for locating or re-establishing survey field ties, property lines, and benchmarks indicated on the plans.

c. Quality Assurance

i. Provide field engineering services to establish and record grades, lines and elevations.

ii. The Contractor shall retain a Land Surveyor registered by the State of Massachusetts to set base lines and benchmarks, lay out the improvements, underground utility lines and other site work from the information furnished to establish and record the necessary elevations.

iii. Comply with General and Supplementary Conditions.

d. Qualifications

i. The Contractor shall engage the services of a licensed Professional Land Surveyor registered in the Commonwealth of Massachusetts and shall submit the name, address, and registration number of such person or persons to the Engineer in writing.

ii. Whenever reference is made on the plans or in these specifications to a Land Surveyor registered in the Commonwealth of Massachusetts, the Contractor may substitute a Registered Professional Engineer who has proven experience performing this type of work, except that only a Registered Land Surveyor will be permitted to conduct property line or boundary surveys.

e. Layout and Staking

i. The Contractor shall be responsible for furnishing all stakes and grade markings as required to implement the work of layout and staking and shall make all field adjustments required by the Engineer at no extra cost to the Owner.

f. Examination

i. Identification: Base lines are shown on the Contract Drawings.

ii. Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks. Notify the Engineer of any discrepancies immediately in writing before proceeding to lay out the Work. Locate and protect existing benchmarks and base lines. Preserve permanent reference points during construction.

1. Do not change or relocate benchmarks or baseline without prior written approval. Promptly report lost or destroyed reference points or requirements to relocate reference points because of necessary changes in grades or locations.
2. Promptly replace lost or destroyed project baselines, benchmarks, baseline replacements, or other survey control points

iii. Establish and maintain a sufficient quantity of (minimum of 2) permanent benchmarks on the site, referenced to data established by Owner supplied information.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

iv. Existing Utilities and Equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction.

1. Prior to construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping. Notify the Engineer of any discrepancies prior to proceeding.

g. Performance

i. Work from lines and levels established by the property survey. Establish benchmarks and control points to set lines and levels of construction and elsewhere as needed to locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.

1. Advise entities engaged in construction activities of benchmarks and control points for their use.

2. As construction proceeds, check every major element for line, level, and plumb.

ii. Surveyor's Log: Maintain a surveyor's log of control and other survey work. Make this log available for reference.

1. Record deviations from required lines and levels and advise the Engineer when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.

2. On completion of roadway improvements, underground utilities, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, elevations of construction, as-built locations and site work.

iii. Off-Site Improvements: Locate and layout improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes, and invert elevations.

iv. Existing Utilities: Furnish information necessary to adjust, move, or relocate existing structures, utility poles, lines, services, or other appurtenances located in or affected by construction. Coordinate with local authorities having jurisdiction.

v. Final As-Built: Prepare an as-built record of all work in accordance to Section 017839 – Project Record Documents.

5. BOUNDARY AND SURVEY MARKERS

a. Work includes removing and resetting bounds in accordance with the relevant provisions of Subsection 710 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

b. Quality Assurance

i. Land Surveyor: one of the following:

1. Experienced professional land surveyor licensed in state in which project is located.

2. Experienced professional civil engineer licensed in state in which project is located and authorized to practice land surveying as civil engineer.

c. Materials shall meet the requirements for M8.02.0 and M9.04.8 as specified in Division III of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

d. Bounds shall be removed and reset in accordance with Subsection 710 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

6. SELECTIVE DEMOLITION

a. Work includes sawcutting of pavement, demolition and removal of selected site elements, removal and salvage of selected site elements. removal and reinstallation of selected site elements, and repair procedures for selective demolition operations.

b. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become Contractor's property and shall be removed from the project.

c. Submittals

i. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other specified information.

ii. Proposed Dust Control and Noise Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.

iii. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's operations are uninterrupted.

iv. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.

v. Pre-demolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.

1. Submit photographs or video of the following:

a. All fencing scheduled to remain.

b. All curbing and pavement to remain.

c. All signage to remain.

d. All trees adjacent to or within project limits scheduled to remain.

vi. Landfill Records: Indicate receipt and acceptance of hazardous waste by a landfill facility licensed to accept hazardous waste.

d. Quality Assurance

i. Examination of Existing Conditions: The Contractor shall examine the Contract Drawings for demolition and removal requirements and provisions for new work. Verify all existing conditions and dimensions before commencing work. The Contractor shall visit the site and examine the existing conditions as he finds them and shall inform herself/himself of the character, extent and type of demolition and removal work to be performed. Submit any questions regarding the extent and character of the demolition and removal work in the manner and within the time period established for receipt of such questions during the bidding period.

ii. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

iii. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

iv. Standards: Comply with ANSI A10.6 and NFPA 241.

v. Pre-demolition Conference: Conduct conference at Project site to review methods and procedures related to selective demolition including, but not limited to, the following:

1. Inspect and discuss condition of items to be selectively demolished.

e. Project Conditions

i. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

1. Do not close or obstruct walkways, parking stalls, driveways, or other occupied or used facilities without written permission from authorities having jurisdiction

ii. Owner assumes no responsibility for condition of areas to be selectively demolished.

1. Conditions existing at time of inspection for bidding purposes will be maintained by the Owner as far as practical.

iii. Storage or sale of removed items or materials on site will not be permitted.

iv. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

f. Repair Materials
    i. Use repair materials identical to existing materials.
        1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
        2. Use materials whose installed performance equals or surpasses that of existing materials.
    ii. Comply with material and installation requirements specified in individual Specification Sections.

g. Examination
    i. Review existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
    ii. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
    iii. When unanticipated conditions that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to the Owner's Representative

h. Utility Services
    i. Existing Utilities: Maintain adjacent services and protect them against damage during selective demolition operations.
    ii. Do not interrupt existing utilities unless authorized in writing by the Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to the Owner and to authorities having jurisdiction.
        1. Provide at least seventy-two (72) hours' notice to the Owner if shutdown of service is required during changeover.

i. Preparation
    i. Pest Control: Employ a certified, licensed exterminator to control rodents and vermin before and during selective demolition operations as necessary or as directed by the Engineer.
    ii. Site Access and Temporary Controls: Conduct selective demolition and debris removal operations to ensure minimum interference with roads, streets, walkways, and other adjacent occupied and used facilities.
        1. Do not close or obstruct streets, walkways, or other adjacent occupied or used facilities without permission from the Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

2. Erect temporary protection, such as walks, fences, and railings where required by authorities having jurisdiction.
3. Protect existing site improvements, appurtenances, and landscaping to remain.

j. Explosives:
   i. Explosives: Use of explosives will not be permitted.

k. Dust Control:
   i. Dust Control shall conform to the relevant provisions of Subsection 440 of the MassDOT Standard Specifications for Highways and Bridges, latest edition.
      1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
   ii. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

l. Selective Demolition:
   i. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.
   ii. Removed and Salvaged / Stacked Items: Comply with the following:
      1. Clean salvaged items.
      2. Pack or crate items after cleaning. Identify contents of containers.
      3. Store items in a secure area until delivery to the Owner. Transport items to the Owner's storage area designated by the Owner.
      4. Protect items from damage during transport and storage.
   iii. Removed and Reinstalled / Reset Items: Comply with the following:
      1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment if necessary.
      2. Store items in a secure area until reuse.
      3. Protect items from damage during transport and/or storage.
      4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
   iv. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Engineer, items may be removed to a suitable, protected storage location during

selective demolition and reinstalled in their original locations after selective demolition operations are complete.

m. Pavement Sawcutting:
   i. Sawcutting shall conform to the relevant provisions of Subsection 482 of the MassDOT Standard Specifications for Highways and Bridges, latest edition.
   ii. Provide sawcutting where shown on the plans or as directed.

n. Patching and Repairs:
   i. General: Promptly repair damage to adjacent construction caused by selective demolition operations.
   ii. Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
   iii. Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.

o. Disposal of Demolished Materials:
   i. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on site.
   ii. Burning: Do not burn demolished materials.

p. Selective Demolition Schedule:
   i. Existing Construction to Be Removed:
      1. Sawcut, remove, and dispose pavements and walkways where shown or required by the Engineer.
      2. Clear and grub vegetation where shown or required by the Engineer. Work shall conform to the relevant provisions of Subsection 101 of the MassDOT Standard Specifications for Highways and Bridges, latest edition.
      3. Remove and dispose individual trees where shown or required by the Engineer. Work shall conform to the relevant provisions of Subsection 101 of the MassDOT Standard Specifications for Highways and Bridges, latest edition.
      4. Remove and dispose drainage structures and pipes where shown or required by the Engineer. Work shall conform to the relevant provisions of Subsections 140 and 270 of the MassDOT Standard Specifications for Highways and Bridges, latest edition.
      5. Remove and dispose frames and grates (or cover) where shown or required by the Engineer. Work shall conform to the relevant provisions

of Subsection 220 of the MassDOT Standard Specifications for Highways and Bridges, latest edition.

6. Remove and dispose curbs, curb inlets, and curb corners where shown or required by the Engineer. Work shall conform to the relevant provisions of Subsection 580 of the MassDOT Standard Specifications for Highways and Bridges, latest edition.
7. Remove and dispose bench where shown or required by the Engineer.

ii. Existing Items to Be Removed and Salvaged / Stacked:

1. Remove and stack gate boxes where shown or required by the Engineer.
2. Remove and stack fences and gates where shown or required by the Engineer. Work shall conform to the relevant provisions of Subsection 665 of the MassDOT Standard Specifications for Highways and Bridges, latest edition.
3. Remove and stack stone walls where shown or required by the Engineer.
4. Remove and stack traffic signs where shown or required by the Engineer.

iii. Existing Items to Be Removed and Reinstalled / Reset:

1. Remove and reset landscape boulders where shown or required by the Engineer.
2. Remove and reset stone edging where shown or required by the Engineer.
3. Remove and reset rural mailboxes where shown or required by the Engineer. Work shall conform to the relevant provisions of Subsection 715 of the MassDOT Standard Specifications for Highways and Bridges, latest edition.
4. Remove and reset traffic signs where shown or required by the Engineer. Work shall conform to the relevant provisions of Subsection 828 of the MassDOT Standard Specifications for Highways and Bridges, latest edition. New sign support posts shall be provided as called for under MassDOT Item 847.1.

iv. Existing Items to Remain:

1. All pavement not specifically identified for removal.
2. All curbing not specifically identified for removal.
3. All utility poles, overhead wires, and other utilities not specifically identified for removal.
4. All fencing, walls, steps, and railings not specifically identified for removal.

5. All trees, shrubs, groundcovers, and other vegetation not specifically identified for removal.

7. TRAFFIC SIGNAGE

a. Work consists of fabricating, furnishing and installing roadside guide signs, warning and regulatory signs, route and project markers and supports for delineators and markers in accordance with the relevant provisions of Subsections 828 and 840 of the MassDOT Standard Specifications for Highways and Bridges (latest edition), the latest version of the Manual on Uniform Traffic Control Devices (MUTCD), and the following technical specifications.

b. The Work specified in this Section also consists of furnishing and installing solar-powered radar speed display signs in accordance with the relevant provisions of Section 800 of the MassDOT Standard Specifications for Highways and Bridges (latest edition), the latest version of the Manual on Uniform Traffic Control Devices (MUTCD), and the following technical specifications.

c. Quality Control

   i. Installer Qualifications: Fabricator of products or an employer of workers trained and approved by the fabricator.

   ii. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this project and whose products have a record of successful in-service performance.

   iii. Source Limitations for Signs: Obtain each sign type indicated from one source from a single manufacturer.

d. Reference Standards

   i. The latest version of the Manual on Uniform Traffic Control Devices (MUTCD).

   ii. Massachusetts Department of Transportation (MassDOT) 1990 Standard Drawings for Signs and Supports.

e. Submittals

   i. Provide shop drawings for the following:

      1. Roadside signage.

      2. Radar Speed Display Sign.

f. Warranty

   i. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within five years from date of Substantial Completion. Failures include, but are not limited to, deterioration of finishes beyond normal weathering and deterioration of embedded graphic image.

g. Roadside Signage

i. Sign panels shall be in accordance with the relevant provisions of Subsection 828 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

ii. Sign supports shall be in accordance with the relevant provisions of Subsection 840 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

h. Radar Speed Display Sign

i. Radar Speed Display Sign shall, at a minimum, consist of the following items, which shall be included in the lump sum bid price:

1. 20”x20”x48” concrete foundations (4000 psi, ¾ -inch, 610 cement concrete);
2. 13’ traffic signal post and pedestal (painted yellow);
3. 24”x30” MUTCD R2-1(35) (SPEED LIMIT 35) sign;
4. 24”x30” SP-1(ILL.) (YOUR SPEED XX) dynamic radar display sign assembly;
5. Solar panel;
6. All mounting and supporting hardware and wiring necessary to complete a working system.
7. NEMA Type 3R or higher enclosures to house:
    a. Electrical components, including wiring and solid-state circuit boards;
    b. On-board user interface;
    c. Battery;
    d. Speed detection radar unit;

ii. The Radar Speed Display sign, the traffic signal post and the pedestal shall be listed on the Qualified Traffic Control Equipment List. Pedestals shall be cast iron.

iii. All signs shall be MUTCD-compliant. R2-1(35) sign shall have a black border and legend on a white background. All sign sheeting materials shall be per Subsection 828.41. SP-1(ILL.) sign shall have a black border and legend “YOUR SPEED” on a fluorescent yellow-green background with the numeric speed display provided by yellow Light Emitting Diodes (LED).

iv. The LEDs shall have minimum 1.4 candle luminous intensity and 22 degrees viewing angle. The LED lighting system shall be controlled automatically by a photocell, utilizing pulse width modulation. This system adjusts the lighting intensity, for daytime, nighttime, and adverse weather conditions.

v. Any proprietary software required for the programming and/or operation of the system shall be included at no additional cost.

vi. The solar panels shall be affixed to an aluminum plate and bracket, adjustable at an angle of 45° to 60° and each assembly shall be mounted on a 360° rotatable pole cap mount to facilitate adjustment for maximum solar collection and optimal battery strength. The solar panel assemblies shall be rated for 90 mph wind conditions.

vii. The batteries shall conform to Battery Council International specifications and have a capacity allowing up to 30 days of autonomy without sunlight and varying with ambient temperature and number of activations. The batteries shall be rated for a minimum lifespan of 3 years. Batteries shall be replaceable independently of other components.

viii. The solar panels and battery shall have a minimum operating temperature range of -40° to 122°F (-40° to 50°C).

ix. The Contractor shall provide shop drawings and calculations to confirm solar panel sizing and battery/solar energy storage will meet the functional requirements of the system.

x. The dynamic radar speed display sign shall be capable of collecting and storing speed data for up to a one (1) year period and provide wireless Bluetooth capabilities to a laptop PC. All necessary software shall be provided to allow Bluetooth PC connectivity.

xi. No work shall commence until the shop drawings are approved.

xii. Layout and design of the Radar Speed Display Sign shall conform to the plans.

xiii. Foundation installation shall be per Subsection 801.62. The top of the foundation shall be ¼" to 1" proud of the sidewalk and chamfered at 45 degrees. Gaps between the sidewalk and foundation shall be no larger than ¼" and grouted with preformed joint filler.

xiv. The Contractor shall diagnose and replace any part of the Radar Speed Display sign that is found to be defective in workmanship, material, or manner of functioning within six months of final acceptance by the Engineer. This requirement does not supersede the one-year warranty period on materials specified in Subsection 815.20 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

i. At completion of installation, clean soiled sign surfaces in accordance with manufacturer's instructions. Protect units from damage until acceptance by Engineer.

8. EARTH MOVING

a. The work to be done under this Section shall conform to the requirements of Subsections 120, 150, 170, 402 and 440 of the MassDOT Standard Specifications for Highways and

Bridges (latest edition) and shall consist of furnishing all materials, labor, tools and equipment, and performing all operations necessary to complete excavation of all types of material encountered, including placing of excavated material in backfill, disposal of unsuitable and/or surplus material, furnishing and placing borrowed materials; all as shown on the Drawings or necessitated by conditions encountered in the course of the work.

b. No earthwork operations shall start until the Contractor's plan for preventing silting and erosion for all phases of construction has been installed and approved.

c. The work includes, but is not limited to, the following items:

   i. Excavating, filling, and backfilling for the construction of pavements, off-site improvements and all specialties. Provide all additional fill materials as required and specified herein.

   ii. Removal and disposal of surplus and/or unsuitable materials.

   iii. Provide graded materials, as specified, for fills, base courses and backfills as required.

   iv. Perform all compaction of all fill materials as hereinafter specified.

   v. Furnishing, placing, and compacting ordinary borrow, gravel borrow, dense graded crushed stone, crushed stone and/or sand borrow.

   vi. Excavation below grade on the drawings when necessitated by type of unsuitable material encountered, as ordered by the Engineer.

   vii. Rough grading and fine grading.

   viii. Furnishing, placing and compacting any supplemental material as required to bring the excavated area to grade as shown on the contract drawings due to the removal of unsuitable backfill material.

   ix. Provide Dust control.

   x. Provide Erosion and Siltation control as required.

   xi. Pumping or other dewatering procedures necessary to maintain excavated spaces free from water from any source.

   Obtain all required permits, licenses and approvals from the Town prior to commencing work of this Section and pay all costs incurred therefrom.

   xii. No earthwork shall start until the Contractor's dust control plan and plan for preventing silting and erosion for all phases of construction has been submitted to the Engineer for approval.

d. Subsurface Information

   i. The Owner’s Representative assumes no responsibility for the Contractor’s failure to make his own investigation and makes no representation regarding the

character of the soil or subsurface conditions which may be encountered during the performances of the work.

e. Disposition of Existing Utilities
   i. Locate and mark underground utilities to remain in service before beginning the work. Do not interrupt existing utility service except as authorized in writing by authorities having jurisdiction.
   ii. Inactive or abandoned utilities encountered during construction operations shall be removed, plugged or capped. The location of such utilities shall be noted on the Record Drawings and reported in writing to the Engineer.
   iii. Active utility lines damaged in the course of the construction operations shall be repaired or replaced as determined by the Engineer without additional cost to the Town or Owner.

f. Protection
   i. All rules and regulations governing the respective utilities shall be observed by the Contractor in executing all work under this Section. All work shall be executed in such a manner as to prevent any damage to existing buildings, streets, curbs, paving, service utility lines, and structures that are to remain as well as adjoining property. Monuments and benchmarks shall be carefully maintained and, if disturbed or destroyed, replaced as directed.

g. Submittals
   i. Testing of any Ordinary Borrow, Gravel Borrow or any other fill material required for the project shall be as per the MassDOT Standard Specifications for Highways and Bridges (latest edition).

h. Earth Excavation
   i. Earth Excavation shall conform to Subsection 120 of the MassDOT Standard Specifications for Highways and Bridges (latest edition) and shall include the excavation and disposal of asphalt pavement, sidewalks, landscaping and grass areas, and plantings as necessary. The work shall also include the removal of brush, bushes, shrubs and trees and stumps up to 9” in diameter in areas outside clearing and grubbing limits necessary for the work to be performed under this contract. The work also includes the removal of free-standing rocks or boulders found at the edge of the road, typically used for landscaping purposes which are not labeled to be removed and either reset or stacked. This shall also include removal and disposal of junk metals, trash, signs, fences, guardrail, concrete, concrete footings, boulders less than 1 cubic yard, and debris of every nature.

i. Rock Excavation

i. Rock excavation within proposed work limits shall conform to Subsection 120 of the MassDOT Standard Specifications for Highways and Bridges (latest edition) and shall include all rock materials encountered including all surface boulders and boulders and ledge encountered during excavation.

j. Gravel Borrow

i. Gravel Borrow shall meet the requirements of Subsection 150 of the MassDOT Standard Specifications for Highways and Bridges (latest edition) and shall be used as a sub-base and for replacement of unsuitable material in the event that acceptable on-site material is unavailable.

k. Ordinary Borrow

i. Ordinary Borrow shall meet the requirements of Subsection 150 of the MassDOT Standard Specifications for Highways and Bridges (latest edition) and shall be used for ordinary filling in the turf areas below topsoil as well as any other areas that require fill to meet proposed grades.

l. Dense Graded Crushed Stone

i. Dense graded crushed stone shall meet the requirements of Subsection 402 of the MassDOT Standard Specifications for Highways and Bridges (latest edition) and shall be used in the construction of full depth pavements as a sub-base material as shown on the Plans.

m. Crushed Stone

i. Crushed Stone shall meet the requirements of Subsection 150 of the MassDOT Standard Specifications for Highways and Bridges (latest edition) and shall be used as bedding material for drainage pipes as shown on the Plans.

n. General

i. All equipment and methods for excavation shall be adequate and suitable to accomplish the work in a safe and satisfactory manner.

ii. Sub-grade at the bottom of excavation shall be undisturbed,or restored at the Contractor's expense. Unauthorized over-excavation shall be replaced with compacted gravel borrow or by extending concrete footings for the extra depth, as approved by the Owner.

iii. Suitable excavated material may be used for backfill, fill or embankment. Suitability of materials shall be determined by the Engineer. Such use of excavated materials may include stockpiling until needed.

iv. All unsuitable material shall be removed from the site as it is excavated. The Contractor shall be wholly responsible for the disposal of such excavated material. Such disposal shall be in strict compliance with all Town and State rules, regulations, ordinances and laws that regulate and control its disposal.

v. All excavation shall be performed in the dry.

o. Unsuitable Material

i. Wherever, in the opinion of the Engineer, the material at or below grade line is unsuitable, it shall be excavated to such additional depths as directed by the Engineer, and shall be replaced with common borrow or suitable on-site material to not less than 95 percent of maximum dry density as defined under this section.

ii. Removal and replacement of unsuitable material is considered a component of the lump sum price as bid and shall not be compensated separately.

p. Dust Control

i. Dust control shall conform to the relevant provisions of Subsection 440 of the MassDOT Standard Specifications for Highways and Bridges, latest edition

q. Sedimentation Control

i. Prior to the commencement of any earthwork, the contractor shall install erosion and sedimentation barriers as shown and detailed on the drawings. Refer to Section 312500 – Erosion and Sedimentation Controls.

ii. All sedimentation control measures shall be maintained throughout the project until just prior to final acceptance at which time it will be removed and the areas restored as necessary to the approval of the Engineer.

r. Placement and Compaction

i. Materials to be placed that require compaction as per these Specifications shall be compacted as per the requirements of Subsection 170 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

ii. Testing of any Ordinary Borrow, Gravel Borrow or any other fill material required for the project shall be as per the MassDOT Standard Specifications for Highways and Bridges (latest edition).

iii. Placing Dense Grade Crushed Stone, as specified herein above, shall be provided as follows:

iv. Dense Graded Crushed Stone as sub-base under hot mix asphalt and as shown on the Drawings as specified.

s. Grading

i. All grading required for the work including shaping, trimming, rolling and finishing of the surface of the finish and/or sub-grades for all surfaces shall be as per the requirements of Subsection 170 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

9. CONCRETE PAVING

a. This section specifies materials, equipment, services and accessories to furnish and install cement concrete paving as indicated in the Drawings and as specified herein.

b. The principal work of this section includes, but is not limited to the following:

i. Cement Concrete Walks

ii. Cement Concrete Pedestrian Curb Ramps

c. The work shall conform to the relevant provisions of Subsection 701 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

d. Cement Concrete Walks

i. The material for Cement Concrete Walks shall conform to Subsection 701 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

ii. Cement Concrete Walks shall be constructed in the locations as shown in the Plans and shall meet the relevant provisions of Subsection 701 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

e. Cement Concrete Pedestrian Ramps

i. The material for Cement Concrete Pedestrian Curb Ramps shall conform to Subsection 701 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

ii. Cement Concrete Pedestrian Curb Ramps shall be constructed in the locations and as per the Details as shown in the Plans while meeting the relevant provisions of Subsection 701 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

10. CURBING

a. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

i. Installing Granite Curb Type VA-4 – Splayed End.

ii. Installing Granite Curb Type VB - Straight and Curved.

iii. Installing Granite Transition Curb for Pedestrian Curb Ramps - Straight and Curved.

iv. Installing Granite Curb Inlet – Straight and Curved

v. Curb Removed and Reset

vi. Curb Inlet Removed and Reset

b. The work shall conform to the relevant provisions of Subsections 501 and 580 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

c. All granite curb items including Granite Curb Type VA-4 – Splayed End, Granite Curb Type VB – Straight and Curved, and Granite Curb Inlet – Straight and Curved shall meet the relevant provisions of Subsection 501 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

11. PAVEMENT MARKINGS

a. The work of this section consists of furnishing and applying reflectorized pavement markings in accordance with Subsection 860 of the MassDOT Standard Specifications for

Highways and Bridges (latest edition). The work shall include, but not be limited to the following:

i. Pavement Arrows and Legends – Tape
ii. Pavement Arrows and Legends Reflectorized White (Thermoplastic)
iii. 6-Inch Reflectorized White Line (Thermoplastic)
iv. 12-Inch Reflectorized White Line (Thermoplastic)
v. 6-Inch Reflectorized Yellow Line (Thermoplastic)

b. Materials for all Pavement Marking Items shall meet the requirements of Subsection 860 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

c. Pavement Markings shall be applied to the surface in conformance with the relevant sections of Subsection 860 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

12. WATER UTILITIES

a. The work to be done under this section is all work described herein and as required to make a complete and functional system. The work shall consist of adjusting, resetting, furnishing and installing the following water elements:

i. All permitting, trenching, traffic control, safety measures, steel plating, backfilling and roadway patching.
ii. Adjusting water gates castings and hydrants to the new grades.
iii. Resetting an existing hydrant in a new location and installing a new pipe connection and water gate from reset hydrant to existing water main by tapping into main with new pipe and either a new tee or new tapping sleeve and valve.
iv. Any miscellaneous fittings required to complete the work.

b. The Contractor will comply with all requirements and special conditions required to implement the project in accordance with the plans and specifications as well as the relevant provisions of Subsection 301 of the MassDOT Standard Specifications for Highways and Bridges (latest edition) and the latest Town standards.

c. Submittals

i. The Contractor shall submit shop drawings for all piping, valves, and fittings to be used for the water line improvements. These drawings shall be prepared for review and approval by the Town.
ii. Furnish documentation of all tests required.

d. References

i. All materials furnished and installed under this section shall conform to the applicable sections of the following standards: Town Water Department's latest requirements and details. And Subsection 301 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

e. Valves, Piping, and Appurtenances

i. All materials used for water piping systems shall conform to the current Standards in effect for the Town in terms of design and installation standards for water mains. Any deviation from the procedures and materials described herein must be approved by the Town before installation approval will be granted.

ii. All hydrant, pipe and water gate installations as well as water main connections shall be made under the supervision of the Town and in accordance with its specifications. The Contractor shall notify the Town at least 48 hours prior to the work to arrange for a Town employee to be present for inspection.

iii. The size, alignment, and materials of construction of a water pipe, water gate or connection to a water main, and the methods to be used in excavating, placing of the pipe, jointing, testing and backfilling the trench, shall conform to the requirements of the Town.

f. General

i. No connections to existing mains shall be started without prior written approval of the Town, and each connection to an existing main shall be made at a time and under conditions approved by the Town.

ii. The Contractor shall perform the actual tapping operation for a main under the direction of the Town after obtaining written permission from the Town.

iii. The Contractor shall make any and all excavations and backfill as required and furnish all labor, equipment and material necessary to complete the connection as detailed on the plans.

iv. All tapping operations shall be wet taps, unless otherwise approved by the Town.

1. Excavation

a. All excavation and backfilling shall be performed in accordance with the standards of the Town.

2. Testing and Cleaning

a. All service and connections shall be tested for strength and tightness before being backfilled; they shall be tested under the normal pressure in the water mains to which they are connected, and any signs of leakage or evidence of failure shall be promptly repaired by the Contractor without additional cost to the owner. The Contractor shall furnish all apparatus, material, and labor for making the tests. The water required for testing will be furnished by the contractor without charge to the Town.

13. SANITARY SEWAGE

a. The work to be done under this section is all work described herein. The work shall consist of adjusting the following sanitary sewer elements:
   i. All traffic control, safety measures, and roadway patching.
   ii. Adjusting sanitary sewer manhole castings to the new grades

b. The Contractor will comply with all requirements and special conditions required to implement the project in accordance with the plans and specifications as well as the relevant provisions of Subsection 220 of the MassDOT Standard Specifications for Highways and Bridges (latest edition) and the latest Town of Reading (Town) standards.

c. References
   i. All materials furnished and installed under this section shall conform to the applicable sections of the following standards: Subsection 220 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

d. Brick and Other Material for Adjusting Manholes
   i. All materials used for the adjusting of sewer manholes shall conform with Subsection 220 of the MassDOT Standard Specifications for Highways and Bridges (latest edition). Any deviation from the procedures and materials described herein must be approved by the Town before installation approval will be granted.
   ii. The work to adjust Sewer Manholes shall comply with the methods as described in Subsection 220 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

14. STORMWATER UTILITIES

a. The work to done under this section is all work described herein and as required to make a complete and functional system. The work shall consist of furnishing and installing the following:
   i. The installation of drainage pipe, catch basins with frames and grates, and manholes with frames and covers as per the Off-Site Plans.
   ii. The installation of a Curb Cover and Frame at the location shown on the Off-Site Plans.
   iii. The installation of a Trap and Hood inside the new or modified catch basins.
   iv. Adjusting drainage catch basin castings and manholes castings to the new grades.
   v. Remodeling drainage catch basins to the new grades and to the alignment of the new drainage system.
   vi. Change in Type of existing drainage catch basins to manholes.

vii. Any miscellaneous elements to complete the work

viii. Cleaning of the new storm drainage system.

b. The work shall conform to the requirements of Subsections 201, 220, 227 and 230 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

c. The Contractor shall be responsible throughout the duration of this contract to maintain all drainage in good working order.

d. All materials for storm drainage shall be new and unused. All materials shall meet the relevant provisions of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

e. Delivery, Storage, and Handling

i. All materials furnished under this section shall be delivered to the job adequately protected from damage during transit. Pipes shall not be dropped. All pipes shall be examined before laying and no piece shall be installed which is found to be defective.

ii. Pipe and other appurtenances which are defective from any cause, including damage caused by handling, and determined by the Owner's Representative as un-reparable shall be unacceptable for installation and shall be replaced at no cost to the Owner.

iii. Storage and handling of pipes, manholes and other storm drainage appurtenances shall be in accordance with the manufacturer's recommendations, subject to the approval of the Owner's Representative.

f. Pipe

i. Pipe shall meet the relevant provisions of Subsection 230 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

ii. All drainage pipe shall be installed as per the requirements of the relevant provisions of Subsection 230 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

g. Catch Basins and Manholes

i. The work under these items shall conform to the relevant provisions of Subsection 201 of the MassDOT Standard Specifications for Highways and Bridges (latest edition) and the following:

1. All catch basins and manholes shall be placed on a bedding of 6 inches crushed stone, as determined by the Engineer to remove unsuitable material and provide a stable structure foundation in accordance with Subsection 150.68 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

2. Where required, cone sections of catch basins shall be replaced by flat top sections or eccentric sections at no additional cost.

3. All proposed catch basins shall be constructed with a minimum 4-foot-deep sump. An oil-water-debris separator shall be provided over the outlet pipe on all basins.
4. The cost to provide and install the catch basin or manhole shall include the entire structure, regardless of depth.

h. Castings
   i. Castings for Catch Basins and Manholes shall meet the relevant provisions of Subsection 220 of the MassDOT Standard Specifications for Highways and Bridges (latest edition). Municipal frame and grates shall be made in the USA. The frame shall be 8 inches in height.
   ii. Casting frames shall be set in a full mortar bed with a minimum of 2 courses of brick, a minimum of 4 inches in height. All castings shall be set in a full concrete collar, conforming to MassDOT Construction Standard Detail E 223.0.1.

i. Curb Cover and Frame
   i. Curb Covers and Frames shall meet the relevant provisions of Subsection 201 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

j. Traps and Hoods
   i. Traps and Hoods shall meet the relevant provisions of Subsection 220 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).
   ii. All proposed municipal standard catch basins shall be provided with a hood to minimize the entry of oil, gasoline, and debris into drainage pipes. Acceptable hoods are the Eliminator by Ground Water Rescue, Inc., “Snout” by Best Management Practices, Inc., or approved equal.

k. Cleaning Drainage Pipe and Structures
   i. The Cleaning of Drainage Pipe and Structures shall conform to the relevant provisions of Subsection 227 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).
   ii. At the completion of work, clean all new drainage infrastructure through and to which water from this construction is directed and as indicated on the drawings to the satisfaction of the Owner’s Representative. Complete work so no material flows into the existing storm water structures.

15. TRAFFIC SIGNALS

a. Work includes furnishing and installing a solar-powered, pedestrian actuated, rectangular rapid flashing beacon (RRFB) system at the locations shown in the plans.
b. All work under this Section shall conform to the relevant provisions of Section 800 of the MassDOT Standard Specifications for Highways and Bridges (latest edition), the latest

version of the Manual on Uniform Traffic Control Devices (MUTCD), and the following technical specifications.

c. Rectangular Rapid Flashing Beacon System shall, at a minimum, consist of the following:
   i. 2) 20”x20”x48” concrete foundations (4000 psi, ¾ -inch, 610 cement concrete);
   ii. (2) 15’ traffic signal posts and pedestal (painted yellow);
   iii. (2) APS pushbutton systems (include confirmation light);
   iv. (4) dual rectangular yellow LED beacons in NEMA enclosure;
   v. (2) 9”x12” R10-25 (PUSH BUTTON TO TURN ON WARNING LIGHTS) signs;
   vi. (4) 30”x30” W11-2 (Pedestrian Warning) signs;
   vii. (2) 24”x12” W16-7PR and (2) 24”x12” W16-7PL (Diagonal Downward Arrow) signs;
   viii. (2) solar panels;
   ix. (2) NEMA Type 3R or higher enclosures to house:
      1. Electrical components, including wiring and solid-state circuit boards;
      2. On-board user interface;
      3. Battery; and
      4. Frequency hopping spread spectrum (or other alternate FCC approved) wireless activation unit with a minimum 150’ range; and
   x. All mounting and supporting hardware and wiring necessary to complete a working system.

d. The light intensity of the LED beacons during daytime conditions shall meet the minimum specifications for Class 1 yellow peak luminous intensity in the Society of Automotive Engineers (SAE) Standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated January, 2005. An automatic signal dimming device shall be included to reduce the brilliance of the LED beacons during nighttime conditions.

e. RRFB controller and LED beacons, APS pushbutton systems, and traffic signal posts and pedestals shall be listed on the MassDOT Qualified Traffic Control Equipment List. Pedestals shall be cast iron.

f. The light intensity of the LED beacons during daytime conditions shall meet the minimum specifications for Class 1 yellow peak luminous intensity in the Society of Automotive Engineers (SAE) Standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated January, 2005. An automatic signal dimming device shall be included to reduce the brilliance of the LED beacons during nighttime conditions.

g. All signs shall be MUTCD-compliant. R10-25 signs shall have a black border and legend on a white background. W11-2, W16-7PR, and W16-7PL signs shall have a black border

and legend on a fluorescent yellow-green background. All sign sheeting materials shall be per the relevant provisions of Subsection 828.41 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

h. R10-25 signs may be integrated into the APS pushbutton system as a single unit or mounted separately on Type A aluminum.

i. W11-2, W16-7PR, and W16-7PL signs shall be Type A aluminum per the relevant provisions of Subsection 828.42 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

j. Any proprietary software required for the programming and/or operation of the system shall be included at no additional cost.

k. The solar panels shall be affixed to an aluminum plate and bracket, adjustable at an angle of 45° to 60° and each assembly shall be mounted on a 360° rotatable pole cap mount to facilitate adjustment for maximum solar collection and optimal battery strength. The solar panel assemblies shall be rated for 90 mph wind conditions.

l. The batteries shall conform to Battery Council International specifications and have a capacity allowing up to 30 days of autonomy without sunlight and varying with ambient temperature and number of activations. The batteries shall be rated for a minimum lifespan of 3 years. Batteries shall be replaceable independently of other components.

m. The solar panels and battery shall have a minimum operating temperature range of -40° to 122°F (-40° to 50°C).

n. The Contractor shall provide shop drawings and calculations to confirm solar panel sizing and battery/solar energy storage will meet the functional requirements of the system.

SITE / CIVIL SYSTEMS NARRATIVE

Prepared by Samiotes Consultants, Inc.

F30 / G02/10/20/30/40 SITE UTILITIES:

Civil Outline Specifications

1. The following is the civil site systems narrative, which includes the following outline specifications:
    a. F3030 Utility Line Removal
    b. G1010 Site Clearing
    c. G1070.35 Soil Erosion and Sedimentation Controls
    d. G2010 Asphalt Paving
    e. G2010.10 Heavy Duty Concrete Paving
    f. G2010.20 Curbs and Gutters
    g. G2020 Traffic Signage
    h. G2020.40 Pavement Markings
    i. G2030.10 Concrete Paving
    j. G3010 Water Utilities
    k. G3020 Sanitary Sewerage Utilities
    l. G3030 Stormwater Utilities
    m. G3030.10 Water Quality Unit

F3030 UTILITY LINE REMOVAL

1. Provide all labor, materials, equipment, services, and transportation required to complete all utility line removal work as shown on the Drawings, as specified herein, or both.
    a. Include the following work:
        i. Adjusting frame, grate, and rim elevations of existing storm drainage, sanitary sewer, gas, electrical, and water utilities to remain.
        ii. Cut and cap existing sanitary sewerage, stormwater utilities, water utilities, gas, electrical utilities, and their appurtenances.
        iii. Removal/abandonment of existing sanitary sewerage, stormwater utilities, water utilities, gas, electrical utilities, and their appurtenances.
    b. Permits and Codes.
        i. All work shall comply with applicable codes, ordinances, rules, regulations, and laws of all local, state, and federal authorities having jurisdiction. All work

necessary to make site preparation comply with such requirements shall be provided without additional cost to the Owner.

ii. Pro cure and pay for all permits and licenses required for work under this Section. Give all required notices.

iii. Contractor shall not close or obstruct any roads, sidewalks, alleys, or passageways unless approved by the Owner and the Town of Essex. Conduct all operations to interfere as little as possible with the use ordinarily made of roads, driveways, alleys, sidewalks, and other facilities near enough to the Work to be affected. No materials whatsoever shall be placed or stored within the site without approval of the Owner.

iv. Contractor shall register with "Dig Safe" 72 hours prior to construction. It is the Contractor's responsibility to maintain "Dig Safe" registrations and "Dig Safe" markings.

v. Contractor shall comply fully with utility company requirements. The Contractor shall hold a preconstruction meeting with Essex Public Works prior to disconnection (e.g. cut and cap of existing water lines) of any existing on-site water infrastructure.

c. Project Conditions:

i. Locate, protect, and maintain benchmarks, monuments, control points, and project engineering reference points. Re-establish disturbed or destroyed items at no additional expense to the Owner.

ii. Perform site utilities work operations and the removal of debris and waste materials to ensure minimum interference with streets, walks, and other adjacent facilities.

iii. Obtain written permission from the Town of Essex when required to close or obstruct roads, walks, and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways.

iv. Control dust caused by the work. Dampen surfaces as necessary. Comply with pollution control regulations of governing authorities and the Stormwater Pollution Prevention Plan (SWPPP).

v. Protect existing buildings, paving, and other services or facilities adjacent to the site from damage caused by site work operations. Cost of repair and restoration of damaged items shall be at the Contractor's expense.

vi. Protect and maintain lights, utility poles and services, valves, and other services, except items designated for removal. Provide for temporary relocation when required to maintain facilities and services in operation during construction work.

vii. Adjust rim elevations on utility access structures such as manholes, clean outs, and other structures and appurtenances to be flush with new grade elevations, unless otherwise indicated on the Drawings.

viii. When uncharted or incorrectly charted underground piping or other utilities and services are encountered during site work operations, notify the applicable utility company and the Designer immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active services in operation.

ix. Survey information of existing conditions is approximate. The Contractor shall be responsible for field verification of all survey information prior to construction and shall be responsible for carrying out all site work required to fully and properly execute the work of the Contract, regardless of the conditions encountered in the actual work. No claim for extra compensation or extension of time shall be allowed on account of actual conditions inconsistent with those assumed, except as provided in GENERAL CONDITIONS.

G1010 SITE CLEARING

1. Provide all labor, materials, equipment, services, and transportation required to complete all site preparation work as shown on the Drawings, as specified herein, or both.
    a. Includes the following work:
        i. Removing asphalt pavement and base.
        ii. Removing curbs.
        iii. Removing designated site improvements.
        iv. Removal of vegetation.
        v. Tree protection
        vi. Clearing and grubbing.
    b. Permits and Codes.
        i. All work shall comply with applicable codes, ordinances, rules, regulations, and laws of all local, state, and federal authorities having jurisdiction. All work necessary to make site preparation comply with such requirements shall be provided without additional cost to the Owner.
        ii. Contractor shall procure and pay for all permits and licenses required for work under this Section. Give all required notices.
        iii. Contractor shall not close or obstruct any roads, sidewalks, alleys, or passageways unless approved by the Owner and the Town of Essex. Conduct all operations to interfere as little as possible with the use ordinarily made of roads, driveways, alleys, sidewalks, and other facilities near enough to the Work to be affected. No materials whatsoever shall be placed or stored within the site without approval of the Owner.

iv. Contractor shall register with "Dig Safe" 72 hours prior to construction.

c. Project Conditions:

i. Locate, protect, and maintain benchmarks, monuments, control points, and project engineering reference points. Re-establish disturbed or destroyed items at no additional expense to the Owner.

ii. Perform site work operations and the removal of debris and waste materials to assure minimum interference with streets, walks, and other adjacent facilities.

iii. Obtain governing authorities' written permission when required to close or obstruct streets, walks, and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways when required by governing authorities.

iv. Control dust caused by the work. Dampen surfaces as necessary. Comply with pollution control regulations of governing authorities and the Stormwater Pollution Prevention Plan (SWPPP).

v. Protect existing buildings, paving, and other services or facilities adjacent to the site from damage caused by site work operations. Cost of repair and restoration of damaged items shall be at the Contractor's expense.

vi. Do not commence site clearing operations until temporary erosion and sedimentation control and tree protection measures are in place.

vii. Perform soil stripping, handling, and stockpiling only when topsoil is dry or slightly moist.

G1070.35 SOIL EROSION AND SEDIMENTATION CONTROLS

1. Provide all equipment and materials and do all work necessary to construct a complete erosion and sedimentation control program for minimizing erosion and siltation during the construction phase of the project. The erosion and sediment control provisions detailed on the Drawings and specified herein are the minimum requirements for an erosion control program. The Contractor shall provide additional erosion and sedimentation control materials and methods as needed to effect the erosion and siltation control principles specified herein. Massachusetts Department of Environmental Protection (MassDEP) stormwater standards shall be followed during construction and incorporated into the design as practicable.
2. Contractor shall be responsible for applying for an NPDES Permit, and complying with the approved Storm Water Pollution Prevention Plan (SWPPP) as developed by the Owners/ Civil Engineer.
3. Environmental Protection Agency – Contractor shall be responsible for applying for a an eNOI in relation to the National Pollutant Discharge Elimination Scheme (NPDES) Permit and compliance with the NPDES Program.
4. Contractor to be responsible for design and permitting of a comprehensive proposed dewatering plan prior to the commencement of construction. Dewatering plan to be submitted to the Engineer and Town Reviewing Agencies prior to the commencement of construction.

5. TEMPORARY SEED COVER (IF NECESSARY):
    a. Grass seed for temporary seed cover shall be a mixture of the previous year's crop. Not more than 0.5% by weight shall be weed seed and not more than 1.75% by weight crop seed.
    b. Seed shall be delivered to the site in sealed containers, labeled with the name of the seed grower and seed formula. Seed shall be dry and free of mold.
    c. A manufacturer's certificate of compliance will be required as specified in MassDOT Specifications M6.03.0.
6. COMPOST FILTER SOCKS:
    a. Only mature compost that has been certified by the U.S. Composting Council's Seal of Testing Assurance Program shall be used. Compost shall meet the following specifications:
    b. Filter sock netting shall be cotton or wood fiber, tubular knitted mesh with 1/8 in. openings. Filter socks shall be all-natural biodegradable cotton or wood fiber. For most applications, filter socks shall have 12 in. diameter netting.
    c. Stakes shall be 2 in. x 2 in. wood in unpaved areas only.
7. SILTATION FENCE:
    a. Geotextile Fabric shall be nonwoven fabric consisting of only long chain polymeric filaments or yarns, such as polypropylene, polyethylene, polyester, polyamide, or polyvinylidene-chloride formed into a stable network such that the filaments or yarns retain their relative position to each other. The fabric shall be inert to commonly encountered chemicals and free of defects or flaws which significantly affect its physical and/or filtering properties. Fabric shall conform to ASTM D6461 and the relevant sections of AASHTO M288.
    b. During all periods of shipment and storage, the fabric shall be wrapped in a heavy-duty protective covering to protect the fabric from direct sunlight, UV rays, temperatures greater than 140°F, mud, dirt, dust, and debris.
    c. Support fence posts shall be at least 48 in. high (extending 2 ft. above normal water line while being driven to sufficient depth to provide stable support for fence) and strong enough to support applied loads.
    d. Posts shall be wood or steel, at the Contractor's option. Wood posts shall consist of sound quality hardwood with a minimum cross-sectional area of 3 sq. in. Steel posts shall be standard "T" or "U" shape and shall weigh at least 1.33 pounds per linear foot.
    e. Fabric shall be attached to the posts with prefabricated pockets in the fabric, staples, or other suitable arrangements which have received approval from the Architect.
    f. Prefabricated fence systems may be used, provided they meet all of the above material requirements. Filter fabric shall be similar to Mirafi 500X / 140 NL, GeoTex 2130 / 351, or US 200 / 90NW (woven / nonwoven).

8. COIR LOGS:
    a. Coir logs shall be manufactured from coir fibers, be wrapped in a twisted coir netting, and shall meet the following specifications:
        i. Diameter = 16 inches
        ii. Weight = 9 lbs/foot
        iii. Density = 9 lbs/cubic foot
        iv. Outer Net = 80 lbs
        v. Openings = 2 in x 2 in
        vi. Inner Core = Coir Mattress Fiber
    b. Stakes shall be 2 in. x 2 in. wood in unpaved areas only.
9. JUTE MESH:
    a. Jute mesh shall be a uniform, plain weave cloth of undyed and unbleached single jute yarn with an open area of 60-65 percent. The yarn shall be of a loosely twisted construction and it shall not vary in thickness more than one-half its normal diameter. Jute mesh shall be furnished in rolled strips and shall meet the following requirements:
    b. Width - 48 in., plus or minus 1 in.; 41 arp-ends per 48 in. of cloth width (minimum); 41 weft-ends per linear yard (minimum); Weight shall average 1.22 pounds per linear yard with a tolerance of plus or minus five percent
    c. Staples shall be U-shaped and shall be approximately 6 in. long and 1 in. wide. Machine made staples shall be of No. 11 gauge or heavier steel wire. Handmade staples shall be made from 12 in. lengths of No. 9 gauge or heavier steel wire
10. CATCH BASIN FILTERS:
    a. Catch basin filters shall be manufactured from a specially designed woven polypropylene geotextile and sewn by a double needle machine, using a high strength nylon thread. Seams shall have a certified average wide width strength of 165.0 lbs./in. per ASTM D4884.
    b. The filters shall be manufactured to fit the opening of the catch basin or drop inlet. The filters shall have the following features: two dump straps attached at the bottom to facilitate the emptying of the filters; lifting loops to be used to lift the filters from the basin as an integral part of the system; a restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls and to act as a visual means of indicating when the sack should be emptied.
    c. Catch basin filter geotextile fabric shall have the following properties:

Property (units)	Minimum Value	Test Method
Grab Tensile (lbs)	300	ASTM D4632
Grab Elongation (%)	15 (20 max)	ASTM D4632

Puncture (lbs)	120	ASTM D4833
Mullen Burst (psi)	650	ASTM D3786
Trapezoid Tear (lbs)	120	ASTM D4533
UV Resistance (%)	90	ASTM D4355
Apparent Opening Size (U.S. Standard Sieve)	Hole size equal to or smaller than a U.S. Standard No. 40 (0.425 mm)	ASTM D4751
Permittivity (sec-1)	0.55	ASTM D4491

11. CONSTRUCTION ENTRANCE:
    a. The geotextile fabric shall be nonwoven fabric conforming to AASHTO M288, Grade C or better, consisting of only long chain polymeric filaments or yarns, such as polypropylene, polyethylene, polyester, polyamide, or polyvinylidene-chloride formed into a stable network such that the filaments or yarns retain their relative position to each other. The fabric shall be inert to commonly encountered chemicals and free of defects or flaws which significantly affect its physical and/or filtering properties.
    b. Geotextile fabric for construction entrance shall have equal to or better than the following properties for minimum average roll value (MARV):

Property (units)	Woven	Nonwoven	Test Method
Grab Tensile (lbs)	120	120	ASTM D4632
Grab Elongation (%)	35 (maximum)	50	ASTM D4632
CBR Puncture (lbs)	250	340	ASTM D6241
Trapezoid Tear (lbs)	50	70	ASTM D4533
UV Resistance at 500 hours (%)	70	70	ASTM D4355
Apparent Opening Size (U.S. Standard Sieve)	Hole size equal to or smaller than a U.S. Standard Sieve No. 40 (0.425 mm)	Hole size equal to or smaller than a U.S. Standard Sieve No. 70 (0.212 mm)	ASTM D4751

Permittivity (sec-1)	0.05	0.3	ASTM D4491
Flow Rate (gal/min/ft2)	4	29	ASTM D4491

c. Minimum of 6" of clean, crushed stone, ranging from 2 in. to 3 in. in size, will be added over length and width of structure.
d. Top dressing shall be clean, 2 in. crushed stone.
e. Construction entrance shall have a minimum width of 20 feet. See plan for minimum length.

G2010 ASPHALT PAVING

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction.
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to complete all asphalt concrete paving work as shown on Drawings, as specified herein, or both.
3. Products:
    a. GRAVEL SUB-BASE. Material for aggregate subbase shall be a graded, granular, non-frost susceptible, free-draining material, consisting of either durable stone and coarse sand or of blast furnace slag, practically free from loam and clay, and which can be readily compacted to form a stable foundation. Material for aggregate base shall conform to MassDOT Specifications Section M1.03.1 Processed Gravel for Subbase
    b. DENSE GRADED CRUSHED STONE FOR SUB-BASE. Material for aggregate subbase shall consist of crusher-run coarse aggregates of crushed stone or gravel and fine aggregates of natural sand or stone screenings uniformly premixed and placed on the subgrade or subbase in close conformity with the lines and grades shown on the Drawings. Material shall conform to MassDOT Specifications Section M2.01.7 Dense-Graded Crushed Stone for Subbase.
    c. RECLAIMED BASE COURSE. The work shall consist of scarifying and pulverizing the in-place pavement and underlying material, mixing and/or blending the materials, and spreading and compacting resultants mixture to the lines and grades shown on the plans and details. All scarified and pulverized material shall pass the 2-inch sieve. Material for blending shall conform to MassDOT Specification Section M1.03.0 Gravel Borrow, Type b.
    d. GRAVEL BASE COURSE. Material for aggregate base course shall be a graded, granular, non-frost susceptible, free-draining material, consisting of either durable stone and coarse sand or of blast furnace slag, practically free from loam and clay, and which can be readily compacted to form a stable foundation. Material for aggregate base shall conform to MassDOT Specifications Section M1.03.0 Gravel Borrow, Type b.
    e. BITUMINOUS CONCRETE.

i. Bituminous concrete shall be a standard plant-mixed, hot-laid paving material for road work, consisting of clean, mineral aggregate, mineral filler (if required), and bituminous material conforming to MassDOT Specifications Section M3.06.00 Hot Mix Asphalt.

ii. Reclaimed asphalt pavement (RAP) shall be used at the Contractor's option, unless otherwise indicated, provided that the end product is in conformance with the designated job-mix formula. RAP shall comply with MassDOT Specifications Section M3.06.2. Max percent permissible of RAP for binder only is 20% and max percent permissible of RAP in topcoat is 15%. RAP maximum top size aggregate introduced into the mix shall be 1-1/2 inches.

iii. Base, or bottom course, paving for roadways and parking lots shall have maximum aggregate size passing 2 in. sieve and bitumen content of 4.5-5.5 percent (plus or minus 1/2 percent by weight).

iv. Binder course paving for roadways and parking lots shall have maximum aggregate size passing 1 in. sieve and bitumen content of five percent (plus or minus 0.4 percent by weight).

v. Top, or wearing course, paving for roadways and parking lots shall have maximum aggregate size passing 5/8 in. sieve and bitumen content of 5.5-7.0 percent (plus or minus 0.4 percent by weight).

vi. Surface, or wearing course, paving for sidewalks shall conform to composition for "Dense Mix."

f. AGGREGATES. All materials shall meet Commonwealth of Massachusetts DOT Standard Specifications for Highways and Bridges Section M3.06.2:

i. Coarse Aggregate: Clean, crushed rock consisting of the angular fragments obtained by breaking and crushing shattered natural rock, free from a detrimental quantity of thin or elongated pieces, free from dirt or other objectionable materials, and complying with ASTM D692 and MassDOT Specifications Section M3.06.2A Coarse Aggregate. The coarse mineral aggregate shall be clean, hard, durable, crushed rock consisting of the angular fragments obtained by breaking and crushing shattered natural rock, reasonably free from thin and/or elongated pieces, free from dirt or other objectionable materials. It shall be surface dry and shall have a moisture content of not more than 0.5 percent after drying. Aggregates from multiple sources of supply shall not be mixed or stored in the same stockpile.

ii. Fine Aggregate: Sharp-edged, natural sand, sand prepared from stone, or combinations thereof complying with ASTM D1073 and MassDOT Specifications Section M3.06.2.B Fine Aggregate. The fine aggregate shall consist of one of the following:

1. 100% Natural Sand: Natural sand shall consist of inert, hard, durable grains of quartz or other hard, durable rock, free from topsoil or clay, surface coatings, organic matter or other deleterious materials.
2. 100% Stone Sand: Stone sand shall be a processed material prepared from stone screenings to produce a consistently graded material conforming to specification requirements.
3. A blend of sand and stone screenings, the proportions of which shall be approved by the Engineer: Stone screenings shall be the product of a secondary crusher and shall be free from dirt, clay, organic matter, excess fines or other deleterious material.
4. A blend of natural sand and stone sand.

iii. Mineral Filler: Portland Cement, limestone dust, hydrated lime, stone float, or stone dust complying with ASTM D242 and MassDOT Specifications Section M3.10.5C. Mineral Filler.

g. BITUMINOUS MATERIALS

i. Bituminous material for tack coat shall be one of the following:

1. Cut-back asphalt (rapid-curing type) conforming to AASHTO M81, Grade RC-70 or conforming to MassDOT Specifications Section M3.02.0 Cutback Asphalts. M3.02.0: These materials shall be blends of asphalt cements and suitable solvents. They shall be homogeneous, free from water, and conform to the requirements of AASHTO-M81 for the rapid curing type and AASHTO-M82 for the medium curing type
2. Emulsified asphalt (rapid-setting type) conforming to AASHTO M140, Grade RS-1 or conforming to MassDOT Specifications Section M3.03.0 Asphalt Emulsions.

G2010.10. HEAVY DUTY CONCRETE PAVING

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction.
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to complete all heavy-duty concrete paving work as shown on Drawings, as specified herein, or both. The work includes but not limited to:
    a. Concrete dumpster pad.
    b. Concrete generator pad.
    c. Concrete pavement adjacent to loading area(s)
3. Quality Assurance. The Owner will provide and pay for testing and inspection during concrete operations. Maintain field records of time, date of placing, curing, and removal of forms from

concrete for each portion of work. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products shall comply with ASTM C94 requirements for production facilities and equipment. Source or brands of cementitious and aggregate materials shall not be changed during the course of the work. Installers Qualifications: Installer with 10-years experience in the production and installation of specified products.

4. Products:
    a. GRAVEL BASE COURSE Material for aggregate base course shall be a graded, granular, non-frost susceptible, free-draining materials consisting of either durable stone and coarse sand or of blast furnace slag, practically free from loam and clay, which can be readily compacted to form a stable foundation. Material for aggregate base shall conform to MassDOT Specifications Section M2.01.7 Dense graded crushed stone for subbase.
    b. CONCRETE REINFORCING: Concrete slab/pavement reinforcing shall be welded wire fabric conforming to ASTM A1064. Size shall be 6 in. x 6 in. – W2.9 x W2.9 with a minimum 1" cover. There shall also be a second type of reinforcing with #5 rebar places 12" O.C. conforming to ASTM A615-60 grade steel. Reinforcement shall be free from imperfections and surface coating of rust, dirt, oils, paint, grease, and mill scale, and shall present a clean, fresh surface. Rust that occurs in scales or that pits the steel shall be considered an imperfection. Surface rust shall be brushed to remove loose materials.
    c. PORTLAND CEMENT CONCRETE: Portland cement concrete for pavements and slabs shall be air-entrained type with a maximum water-cement ratio of 0.50 conforming to ACI 325.9R. Minimum compressive strengths at 28 days shall be as follows: Flexural strength with third point loading - 650 psi; compressive strength - 5000 psi. Concrete shall be air-entrained type, conforming to ASTM C94. Air content by volume shall be 6 percent, plus or minus one percent, and shall be tested in accordance with ASTM C231. Concrete slump shall be not less than 2 in. nor greater than 4 in., determined in accordance with ASTM C143. Cement shall be Portland cement, conforming to ASTM C150, Type I or II. Only one color of cement, all of the same manufacturer, shall be used for the work. Type III cement shall be used only with the prior approval of the Engineer. Fine and coarse aggregates shall conform to ASTM C33.
    d. CURING MATERIALS Curing shall be by moist curing or by use of curing compound. Absorptive cover shall conform to AASHTO M182, Class 2, burlap cloth made from jute, weighing approximately 9 oz/sq. yd. dry. Curing paper shall be non-staining, fiber reinforced laminated kraft bituminous product conforming to ASTM C171. 4 mil polyethylene sheeting may be substituted for curing paper. Curing compound shall be a resin-base, white pigmented compound conforming to ASTM C309, Type II.
    e. EXPANSION JOINTS Expansion joint filler shall be performed, non-bituminous type joint filler conforming to ASTM D1752, Type II. Expansion joint filler shall meet the requirements of ASTM D545. Pre-molded filler shall be one piece for the full depth and width of the joint leaving a sealant recess as indicated. Use of multiple pieces of lesser dimensions to make up required depth and width of joint shall not be permitted. Except

as otherwise noted on the Drawings, joint filler shall be 1/2 in. thick and shall receive 7/8 in. joint backer rod conforming to ASTM C1330 or ASTM D5249. Expansion joint shall be sealed with a two-component polyurethane-based sealant, conforming to ASTM C920

f. CONSTRUCTION JOINTS Transverse construction joints shall be placed at side and end terminations of pavement and whenever placing of concrete is suspended for more than 30 minutes unless pavement terminates at isolation joints. Steel reinforcement shall be continued across construction joints, unless otherwise indicated. Reinforcement shall not be continued through sides of pavement strips, unless otherwise indicated. Butt joint with dowels or thickened edge joint shall be used if construction joints occur at location of control joint. A bonding agent shall be used for butt joints at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces. Doweled joints shall have one half of dowel length coated in lubricant or asphalt to prevent bonding of concrete to one side of joint. Keyed joints with tie bars shall be used if the joint occurs at any other location than a control joint.

g. GROUT. Grout shall be mixed in the proportions of one part Portland cement to two parts sand, by volume. Only sufficient water shall be used to enable grout to barely hold its shape when squeezed into a ball in the hand. Sand for grout shall be "Fine Aggregate", conforming to ASTM C33. Non-shrink grout shall be pre-mixed non-shrinking, high strength grout. Compressive strength in 28 days shall be 5,000 psi minimum, but in no case less than the specified strength of the adjacent concrete. Manufacturer shall provide evidence that the material meets the requirements of the Army COE CRD-C 621. Grout permanently exposed to view shall be non-oxidizing; metallic grout may be used in other locations.

G2010.20 CURBS AND GUTTERS

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction.
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to complete all straight and curved vertical granite curb work, asphalt curbs, and concrete curbs as shown on the Drawings
3. Products:
    a. GRANITE CURB STONES. Furnish and install, prior to surfacing, vertical granite curbs of hard and durable stone, conforming to MassDOT Specifications for Type VA-4 as described in Section M9.04.1 Granite Curb, except as otherwise indicated. Vertical curbs shall be Chelmsford light gray granite. Curbs shall be 18 in. deep plus or minus 1 in., 6 in. wide at top with front and back faces, tops and ends dressed for setting. The front and back face shall be at right angles to the plane of the top. Minimum length is 6 ft. Top and exposed faces shall be quarry face. Foundation shall consist of 2 in. minus clean, porous gravel spread upon the subgrade and after being thoroughly compacted by tamping shall

be not less than 6 inches in depth. Trenches for curb stone shall be 18 in. wide. Cement mortar shall meet the requirements of MassDOT Specifications Section M4.02.15 Cement Mortar and shall have “Natural” color to match curb color.

b. BITUMINOUS CONCRETE. Bituminous concrete shall be a standard plant-mixed hot-laid paving material for road work, consisting of clean, crushed rock aggregate, mineral filler, and bituminous material. Bituminous concrete shall conform to the applicable requirements of MassDOT Specifications Section M3.11.00 Class I Bituminous Concrete and M3.11.03 Job-Mix Formula for “Dense Mix”. Cape Cod berm, where provided, shall be a Modified Bituminous Concrete Berm – Type A (1 ft. width). Catch basins shall have curb inlet stones with transition stones when sloped granite edge stone or Cape Cod berm is used. Bituminous material for the tack coat on the existing surface shall be emulsified asphalt, grade RS-1, conforming to MassDOT Specifications Section M3.03.0

c. PRECAST CONCRETE CURBS. Precast curb units shall be the product of one of the following precast concrete suppliers, or an approved equal: Precast Specialties Corp. (Abington, MA); Shea Concrete Products (Amesbury, MA); Durastone Company (Lincoln, RI). Forms shall be wood or steel and shall have a "smooth form" surface. Concrete shall be air-entrained type with a minimum 28-day compressive strength of 5000 psi. Air content shall be 6%. Linseed anti-spalling compound shall be a mixture of 50% boiled linseed oil conforming to ASTM D260 and 50% mineral spirits conforming to ASTM D235. Preformed expansion joint filler shall be nonextruding resilient, nonbituminous type, conforming to AASHTO M153. Straight curb units shall be 6 x 18 in., 6 ft. lengths. Curved curbing shall be employed on radii up to 150 ft. Arris exposed to traffic shall be rounded to a 3/4 in. radius. Back arris line shall be straight. Curb units shall be true to line, plane, and dimensions. Curb units shall have a uniform, smooth texture finish, free from cracks and other defects. Color of units shall be uniform. Curb shall have no paint, mortar, or other coating.

d. BITUMINOUS CONCRETE. Bituminous concrete shall be a standard plant-mixed hot-laid paving material for road work, consisting of clean, crushed rock aggregate, mineral filler, and bituminous material. Bituminous concrete shall conform to the applicable requirements of MassDOT Specifications Section M3.11.00 Class I Bituminous Concrete and M3.11.03 Job-Mix Formula for “Dense Mix”. Cape Cod berm, where provided, shall be a Modified Bituminous Concrete Berm – Type A (1 ft. width). Catch basins shall have curb inlet stones with transition stones when sloped granite edge stone or Cape Cod berm is used. Bituminous material for the tack coat on the existing surface shall be emulsified asphalt, grade RS-1, conforming to MassDOT Specifications Section M3.03.0.

G2020 TRAFFIC SIGNAGE

1. Perform all work required to complete the work of the Section, as indicated. Signage work includes, but is not limited to, the following:

2. Work under this section shall conform to the relevant provisions of MassDOT Specifications Section 828 of the "Supplementary Specifications for Traffic Signs and Supports.
3. Shop Drawings: Shop drawings of signage shall be submitted indicating size, shape, dimensions, letter style, method of anchoring, and spacing.
4. Material Selection and Samples: Submit samples showing the complete range of colors, textures, and finishes available for all components required for construction.
5. Products:
    a. Sign Panels.
        i. Aluminum sign panels shall be Type A. Sign supporting hardware shall be aluminum or stainless steel.
        ii. Type A Panels shall be fabricated from flat sheet Aluminum Alloy of the following types:
            1. A-1 - Flat sheet sign panels shall be fabricated from aluminum sheeting meeting ASTM B209, Alloy 6061-T6 or Alloy 5052-H38. Panels mounted with P-5 posts (square tube posts or U channel posts) shall be 0.08 in. (2 mm) thick. Panels mounted with single round breakaway posts shall be 6 mm thick.
            2. A-2 – Flat sheet sections with extruded tabs shall be fabricated from: Sheeting 0.125 in. (3.18 mm) thick, ASTM B209, Alloy 3033-H18. Extruded parts ASTM B221, Alloy 6063-T6.
            3. A-3 – Flat sheet sections with welded or flush riveted locking tabs and clips shall be fabricated from:
                a. Flat sheet ASTM B209, Alloy 6061-T6 or Alloy 5052-H38.
                b. Extruded parts as specified by the Manufacturer.
        iii. Type B Panels shall be fabricated of extruded Aluminum ASTM B221. Alloy 6063-T6 shall be 0.125 in. (3.18 mm) thick, 12 in. (305 mm) wide, and of bolted joint design. Only one 6 in. (152.4 mm) panel shall be used where the overall height of a sign requires one panel less than 12 in. (305 mm).
        iv. Pressure sensitive reflective sheeting shall be applied in a manner specified for the manufacture of traffic control signs by the sheeting manufacturer and shall conform to AASHTO M268 and ASTM D4956 Type I – Engineer Grade.
        v. Each sign shall be permanently marked on the lower right corner of the back side with the month and year of installation and name of manufacturer.
        vi. Ground mounted sign panels shall be secured to posts using 3/8 in. aluminum drive rivets. Stainless steel banding materials, brackets, and clips will be used for signs installed on light standards or mast arms.
    b. Sign Posts.

i. Posts may be either the square tube post or U channel type - at the Contractor's option.

ii. The furnished members shall be straighter and shall have a smooth uniform finish. It shall be possible to telescope consecutive sizes of tubes freely with minimum amount of play.

iii. Square Tube Posts

1. Square tube posts shall be square tube fabricated from 12 gauge hot-rolled carbon steel conforming to the requirements of ASTM A1011, Grade 50.
2. Posts shall be 2-1/4 in. by 2-1/4 in. single posts for all signs less than or equal to 7.5 sq. ft.
3. Galvanizing shall be in accordance with ASTM A653, Coating Designation G140 with a minimum coating of 1.4 ounces per square foot total of zinc on both sides under triple spot tests; or a minimum coating of 1.15 ounces per square foot total of zinc on both sides under triple spot tests and after all fabrication and re-galvanizing the posts shall be coated with a chromate conversion coating and sealed with an air-dried clear organic polymer topcoat.
4. Posts shall be welded directly in the corner by high frequency resistance welding or equal and externally scarfed to agree with standard corner radius of 5/32 in. plus or minus 1/64 in. The corner weld and holes shall be zinc coated after scarfing operations. Holes shall be 7/16 in. in diameter and shall be placed 1 in. on center.

iv. U Channel Posts

1. U-channel posts shall be fabricated from re-rolled rail steel or an equivalent steel and shall conform to the mechanical requirements of ASTM A499, Grade 60 and the mechanical requirements of ASTM A1. All steel U-channel posts shall weigh at least 4 pounds per foot and be entirely galvanized in accordance with MassDOT Specifications Section M7. Holes shall be 7/16 in. in diameter spaced at 1 in. on center and be punched prior to the galvanizing of the posts.
2. Breakaway capabilities shall be maintained via the use of a lap splice or slip base system.
3. All bolts, nuts and washers shall conform to the requirements of ASTM A307, Grade A. Bolts, nuts and washers shall be galvanized in accordance with the requirements of MassDOT Specifications Section M7.

4. Steel posts, sign post anchors, anchor sleeves, slip bases, lap splices, and any related hardware shall all be from the same manufacturer. No mixing of brands shall be allowed.

c. Signs

i. Handicap Parking signs (R7-8) shall be 12 in. x 18 in. with international symbol of accessibility; one per space, single faced.

1. Van spaces shall be so noted (R7-8a).
2. Signs shall comply with all MAAB requirements.

ii. Other signs:

1. See Drawings for all signs location.
2. STOP (R1-1), Do Not Enter (R5-1), and Pedestrian Crossing (W11-2) signs shall be 30 in. x 30 in.
3. One way Arrow (R6-1R, R6-1L) plaques shall be 36 in. x 12 in.
4. Right or Left Turns (R3-5(R or L)) signs shall be 30 in. x 36 in.
5. EV signs shall be 12in x 18in

G2020.40 PAVEMENT MARKINGS

1. Work Included. Provide all labor, materials, equipment, services, and transportation required to install pavement markings as shown on Drawings, as specified herein, or both.
2. Products & Materials:
   a. Materials for pavement markings shall conform to MassDOT Specifications Section 860.40 General as applicable.
   b. Striping color and material shall match that of adjoining surfaces and shall comply with the applicable portions of MassDOT Standard Specifications M7.01.03 and M7.01.04 for thermoplastic reflectorized and M7.01.03 and M7.01.04 for fast drying water-borne.
   c. Pavement Markings: Provide white or yellow paint conforming to MassDOT Specifications Section M7.01.05 White Traffic Paint or M7.01.06 Yellow Traffic Paint. Color to be approved by the Architect. A blue background with white border may supplement the white wheelchair symbol painted in accessible parking spaces.
   d. Paint shall be in sealed containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer's name, formulation number, and directions, all of which shall be plainly legible at time of use.
   e. Paint shall be homogeneous, easily mixed to smooth consistency, and shall show no hard settlement or other objectionable characteristics during a storage period of six months.

G2030.10 CONCRETE PAVING

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction.
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to complete all heavy-duty concrete paving work as shown on Drawings, as specified herein, or both. The work includes but not limited to:
    a. Aggregate base
    b. Concrete walks, ramps, and curb cuts
3. Products:
    a. GRAVEL BASE COURSE. Material for aggregate base course shall be a graded, granular, non-frost susceptible, free-draining materials consisting of either durable stone and coarse sand or of blast furnace slag, practically free from loam and clay, which can be readily compacted to form a stable foundation. Material for aggregate base shall conform to MassDOT Specifications Section M1.03.0 Gravel Borrow, Type b.
    b. CONCRETE REINFORCING. Concrete sidewalk reinforcing shall be welded wire fabric conforming to ASTM A1064. Size shall be 6 in. x 6 in. – W1.4 x W1.4. Reinforcement shall be free from imperfections and surface coating of rust, dirt, oils, paint, grease, and mill scale, and shall present a clean, fresh surface. Rust that occurs in scales or that pits the steel shall be considered an imperfection. Surface rust shall be brushed to remove loose materials.
    c. PORTLAND CEMENT CONCRETE:
        i. Portland cement concrete for pavements and slabs shall be air-entrained type with a maximum water-cement ratio of 0.50 conforming to ACI 325.9R. Minimum compressive strengths at 28 days shall be as follows: Flexural strength with third point loading - 650 psi; compressive strength - 4000 psi.
        ii. Concrete shall be air-entrained type, conforming to ASTM C94. Air content by volume shall be 6 percent, plus or minus one percent, and shall be tested in accordance with ASTM C231.
        iii. Concrete slump shall be not less than 2 in. nor greater than 4 in., determined in accordance with ASTM C143.
        iv. Cement shall be Portland cement, conforming to ASTM C150, Type I or II. Only one color of cement, all of the same manufacturer, shall be used for the work. Type III cement shall be used only with the prior approval of the Engineer.
        v. Fine and coarse aggregates shall conform to ASTM C33.
        vi. Concrete shall contain a water reducing agent to minimize cement and water content of the concrete mix at the specified slump. Water reducing agent shall conform to ASTM C494, Type A.

vii. No calcium chloride or admixtures containing calcium chloride shall be added to the concrete. No admixtures other than those specified shall be used in the concrete without the specific written permission of the Engineer in each case.

d. CURING MATERIALS. Curing shall be by moist curing or by use of curing compound. Absorptive cover shall conform to AASHTO M182, Class 2, burlap cloth made from jute, weighing approximately 9 oz/sq. yd. dry. Curing paper shall be non-staining, fiber reinforced laminated kraft bituminous product conforming to ASTM C171. 4 mil polyethylene sheeting may be substituted for curing paper. Curing compound shall be a resin-base, white pigmented compound conforming to ASTM C309, Type II.

e. EXPANSION JOINTS. Unless otherwise indicated on the Drawings, expansion joints shall be located 25 ft. on center, maximum. Expansion joint filler shall be preformed, non-bituminous type joint filler conforming to ASTM D1752, Type II. Expansion joint filler shall meet the requirements of ASTM D545. Pre-molded filler shall be one piece for the full depth and width of the joint leaving a sealant recess as indicated. Use of multiple pieces of lesser dimensions to make up required depth and width of joint shall not be permitted. Except as otherwise noted on the Drawings, joint filler shall be 1/2 in. thick and shall receive 7/8 in. joint backer rod conforming to ASTM C1330 or ASTM D5249. Expansion joint shall be sealed with a two component polyurethane based sealant, conforming to ASTM C920.

f. CONSTRUCTION JOINTS. Transverse construction joints shall be placed at side and end terminations of pavement and whenever placing of concrete is suspended for more than 30 minutes, unless pavement terminates at isolation joints. Steel reinforcement shall be continued across construction joints, unless otherwise indicated. Reinforcement shall not be continued through sides of pavement strips, unless otherwise indicated. Butt joint with dowels or thickened edge joint shall be used if construction joints occurs at location of control joint. A bonding agent shall be used for butt joints at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces. Doweled joints shall have one half of dowel length coated in lubricant or asphalt to prevent bonding of concrete to one side of joint. Keyed joints with tie bars shall be used if the joint occurs at any other location than a control joint.

g. GROUT. Grout shall be mixed in the proportions of one part Portland cement to two parts sand, by volume. Only sufficient water shall be used to enable grout to barely hold its shape when squeezed into a ball in the hand. Sand for grout shall be "Fine Aggregate", conforming to ASTM C33. Non-shrink grout shall be pre-mixed non-shrinking, high strength grout. Compressive strength at 28 days shall be 5,000 psi minimum, but in no case less than the specified strength of the adjacent concrete. Manufacturer shall provide evidence that the material meets the requirements of the Army COE CRD-C 621. Grout permanently exposed to view shall be non-oxidizing; metallic grout may be used in other locations.

h. BOND BREAKER. Bond breaker shall be asphalt felt conforming to ASTM D226, Type I or 6 mil polyethylene sheeting.

G3010 WATER UTILITIES

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction. The Contractor shall notify Essex Water Department sufficiently in advance of connecting new main to existing main. All work and materials shall be subject to approval by Essex Water Department and shall conform to the applicable Town Specifications.
2. The Contractor shall be responsible for making all arrangements with the Town and paying all fees associated with the water system installation.
3. Work Included. Provide all labor, materials, equipment, services, and transportation required to construct the water and fire protection utilities systems, including connections to existing structures and testing, as indicated on the Drawings and as specified herein.
4. Products:
    a. Ductile Iron Pipe and Pipe Fittings: Ductile iron (DI) pipe for water mains shall be designed in accordance with ANSI/AWWA C150/A21.50 and shall be manufactured in accordance with ANSI/AWWA C151/A21.51. Unless otherwise indicated or specified, ductile iron pipe shall be at least thickness Class 52. Pipe shall be made in the USA. Pipe shall conform to Town of Essex standards. Pipe shall be by U.S. Pipe or approved equal. If corrosive soils are found where pipe is installed, pipe shall be encased in polyethylene per ANSI/AWWA C105/A21.5. DI pipe and fittings shall be push-on joint type with bell and plain spigot end, unless grooved or flanged ends are indicated. DI pipe and fittings shall conform to ANSI/AWWA C110/A21.10. Joints shall have the same pressure rating as the pipe or fitting of which they are a part. Gaskets shall conform to ANSI/AWWA C111/A21.11. Inside of pipe and fittings shall be given a cement lining and bituminous seal coat in accordance with ANSI/AWWA C104/A21.4. Interior coating shall be a product acceptable to the National Sanitation Foundation (NSF) for use in potable water and shall be listed in the most current NSF summary of approved products. Joint lubrication for gaskets shall be suitable for lubricating the parts of the joint assembly. The lubricant shall be non-toxic, shall not support the growth of bacteria, and shall have no deteriorating effects on the gasket material. It shall not impart taste or odor to water in the pipe. The lubricant containers shall be labeled with the trade name or trademark and the pipe manufacturer's name. The lubrication shall be only that recommended by the pipe and fitting manufacturers. Couplings shall be provided with high strength, low alloy, corrosion resistant bolts and nuts. Couplings shall be provided with gaskets of a composition suitable for exposure to the liquid within the pipe. Pipe for use with sleeve-type couplings shall be as specified above except that the ends shall be plain (without bells or beads). The ends shall be cast or machined at right angles to the axis. Pipe shall be manufactured in the United States or Canada. Ductile Iron pipes and fittings, when located on a fire protection line, "FP" on the Drawings, are to be furnished and installed by the fire protection contractor.

b. Tapping Sleeve and Valves: Tapping sleeve shall be Mueller Co., Decatur, IL or approved equal by Essex Water Department. or approved equal. For 4 inch or larger wet taps on existing water mains, a full diameter ductile iron mechanical joint sleeve must be used. Tapping sleeves will be made of Ductile Iron constructed to ASTM A536 standards mechanical joint rated for 250 PSI. All sleeves must have a test port for air testing. Tapping sleeves shall be Mueller, or approved equal by Town of Essex Water Department. Tapping Valves shall conform to AWWA/AMSI C515, NSF61 approved for potable water. All valves will be Open per DPW requirements, epoxy coated, with resilient wedge. The valve will have one side flanged and one side mechanical joint. Tapping valves must be supplied by the same manufacturer as the tapping sleeve to be used. When connections to existing water mains are required, a tapping sleeve and valve shall be used, or adequate size and pressure to ensure the continued flow of water through the existing main throughout construction. Tapping sleeve and valve shall consist of a split cast iron sleeve tee with mechanical joint ends on the main and a flange on the branch, and a tapping type gate valve with one flange and one mechanical joint end. A gate valve and box shall be installed with the tapping sleeve. Valve shall conform to the requirements specified below for gate valve. The Contractor shall be responsible for verifying the outside diameter of the pipe to be tapped. Valve shall have oversized seat to permit the use of full-size cutters.

c. Valves and Valve Boxes: The resilient wedge gate valves shall fully comply with the latest revision of AWWA C509 or AWWA C515 and shall also be UL listed and FM approved. The valves shall be tested and certified to ANSI/NSF 61. The valve shall be rated for a minimum of 200 psi and tested to 300 psi. Valves shall be Type A2361 as manufactured by Mueller Company, American Flow Control (AFC) Series 3500, or an approved equal. The valve shall have an arrow cast on the operation nut showing opening direction. Valves shall open per DPW requirements. All operating nuts shall be 2 in. square at the base, tapering to 1-15/16 in. square at the top. All valves shall have mechanical joint ends, complete with all accessories. Bolts shall be CorTen or approved equal. The valve body, bonnet, stuffing box, and disc shall be composed of ASTM A126, Class B cast iron, or ASTM A536 ductile iron. The body and bonnet shall also adhere to the minimum wall thickness as set forth in Table 2 of AWWA C509 or C515. Wall thicknesses less than those in Table 2 are not acceptable. All bonnet bolts, seal plate bolts, stuffing box bolts, and other bolts in contact with soil (except for MJ bolts) shall be 18-8 Type 304 stainless steel or Everdur bronze. The valve disc and guide lugs must be fully encapsulated in SBR ASTM D2000 rubber material. Guide caps of an acetyl bearing material shall be placed over solid guide lugs to prevent abrasion and to reduce the operating torque. Rubber for valve seats shall be new, natural or synthetic, of a compound designated for water service applications. Reclaimed rubber is unacceptable. Rubber seats shall be either bonded to or mechanically attached to the gate. When mechanically attached, all exposed hardware shall be 18 - 8 Type 304 stainless steel. The valves shall have all internal and external ferrous surfaces coated with a fusion-bonded epoxy coating with 10 mils nominal thickness and conforming to AWWA C550. Stem shall be of the non-rising type.

Stem seals shall consist of two “O” rings, one as a dirt seal and one as a pressure seal. The upper “O” ring stem seal shall be replaceable with the valve under pressure in the fully open position. A thrust washer of Teflon or approved equal shall be used directly above the stem collar. The valve shall be able to withstand an input torque of 300-foot pounds with no distortion of the stem or other damage to the valve. The flow way shall be fully unobstructed with no pockets in bottom of flow-way to trap sediment or debris. All 4 in. and 6 in. gate valves shall be provided with a valve box and cover. Box shall be cast iron and shall be an adjustable, telescoping, heavy-pattern type.

i. Box shall be designed and constructed to prevent the direct transmission of traffic loads to the pipe or valve.

ii. Upper section of box shall have a flange with sufficient bearing area to prevent undue settlement. Lower section of box shall be designed to enclose the valve operating nut and stuffing box, and rest on the bonnet or backfill.

iii. Boxes shall be capable of vertical adjustment of a minimum of 6 in. without reduction of overlap between sections to less than 4 in.

iv. Inside diameter of box shall be a minimum of 6 in. and length of box shall be as needed to suit finish ground elevation and at least five (5) feet long.

v. The covers shall be flush, close-fitting with the letter “W” or the word “water” cast into the cover.

vi. The curb box shall be 4-1/2 to 5-1/2 feet Hayes or Erie, extension-type, three-fourths inch Stainless Steel rod, and cover to be with counter sunk one inch brass plug tapped for one inch iron pipe.

vii. Box cover shall be close fitting and substantially airtight. Top of cover shall be flush with top of box rim. Cover shall have an arrow indicating the direction of opening and the word “WATER” or the letter “W” cast into cover.

viii. All valves 8 in. and larger shall be provided with a roadway frame and cover, unless plans call for chamber.

ix. Roadway frames and covers shall be Town of Essex standard.

x. Valves requiring a roadway frame and cover shall be fitted with a standpipe having a diameter of at least 12 in.

xi. Standpipes shall be Class 52 ductile iron pipe.

xii. Standpipes shall be cut to a length to enable them to fit inside the roadway frame and cover so they do not transmit loads to the pipe or valve.

xiii. All roadway covers shall be cast with the appropriate markings to signify the type of valve installed.

xiv. The valve-operating nut shall be centered in the valve tube and visible upon installation.

d. Gate Valve shall be approved by the Town of Essex Water department and the architect. All valves shall be manufactured by Mueller Co., Decatur, IL. Valves, valve boxes, and indicator posts when located on a fire protection line, “FP” on the Drawings, are to be furnished and installed by the fire protection contractor.

e. Embedment Materials: Ductile iron water pipe shall use materials defined in AWWA C600, Sec. 3.5, Backfilling and shall conform to MassDOT Specifications M1.01.0. Backfill material shall be of good quality and free from cinders, frozen material, ashes, refuse, boulders, rocks, or organic material. Pipe bedding shall be washed and screened sharp gravel, well graded in sizes from 1/4 in. to 1-1/2 in., inclusive. It shall be clean, hard, durable, and free from dust, clay, or organic matter. It shall be well compacted in place. Thrust blocks must be pre-fabricated concrete of the appropriate concrete strength or granite blocks of the appropriate size (poured in place concrete thrust blocks are not acceptable).

f. Hydrants: Hydrants shall conform to the “standard dry barrel hydrants” AWWA C502. Hydrants shall be designed for 150 psi service and for installation in a 5 ft. covered trench. Hydrants shall open clockwise and must be marked with an arrow and the word OPEN to indicate the direction of turn of the stem to open the hydrant. Hydrants are to be furnished and installed by the fire protection subcontractor or as determined by the general contractor. Hydrants shall be approved by the Town of Essex Water and Fire Departments. Color and type of hydrant shall meet Water and Fire Department Standards.

g. Mechanical joint restraints: Restraint devices for nominal pipe sized 4 in. through 48 in. shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10. The device shall have a working pressure rating of 350 psi for 3-16 in. and 250 psi for 18-48 in. nominal sizes. Gland body, wedges and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A 536. All wedge assemblies and related parts shall be processed through a phosphate wash, rinse, and drying operation prior to coating application. The coating shall consist of a minimum of two coats of liquid thermoset epoxy coating with heat cure to follow each coat. All casting bodies shall be surface pretreated with a phosphate wash, rinse, and sealer before drying. The coating shall be electrostatically applied, and heat cured. The coating shall be a polyester based powered to provide corrosion, impact, and UV resistance. The coating system shall be MEGA-BON by EBAA Iron, Inc. or approved equal.

h. Detectable Warning Tape: A. Tape shall consist of a minimum 5 mil overall thickness with no less than a 0.35 mil solid aluminum foil core. Solid foil core shall be encased between a 100 percent virgin polyethylene film and clear protective film which allows a full view of the foil and printed message. All detectable marking tapes shall be permanently printed. Color shall conform to Town of Essex standards. Tape shall be BLUE with the words

"WATER LINE BELOW" printed consistently on it and manufactured from durable and resistant elements.

G2020 SANITARY SEWERAGE UTILITIES

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction. All work and materials shall be subject to approval by Essex Wastewater Department and shall conform to the applicable Town Specifications.
2. The Contractor shall be responsible for making all arrangements with the Town and paying all fees associated with the sanitary sewer system installation.
3. Work Included. Provide all labor, materials, equipment, services, and transportation required to construct the sewer utility systems, including connections to existing structures and testing, as indicated on the Drawings and as specified herein.
4. Products:
    a. SANITARY SEWER MANHOLES
        i. Sanitary sewer manholes shall be constructed according to the specifications of the Town of Essex. and as shown on the Drawings.
        ii. Manholes and access risers shall be designed to safely withstand an AASHTO HS-20 loading, as specified in the AASHTO Specifications.
        iii. Manholes shall be reinforced precast concrete unless specified by the Engineer or approved as a change by the Engineer.
        iv. Precast concrete structures shall be Type II cement unless specifically authorized in writing, conform to ASTM C478, and shall be similar to those produced by the following manufacturers:
            1. Concrete Systems Inc., Hudson, NH
            2. E.F. Shea Concrete Products, Amesbury, MA
            3. Oldcastle Infrastructure, Rehoboth, MA
        v. Sections shall have tongue and groove joints.
        vi. Joints between sections shall be made with preformed rubber gaskets conforming to ASTM C443 as shown on the Drawings.
        vii. Joints between sections shall be sealed with a preformed flexible joint sealant conforming to the requirements of ASTM C990. The manufacturer of the precast units shall supply the joint sealant which shall be produced from blends of butyl rubber, refined hydrocarbon, resins, and plasticizing compounds reinforced with inert mineral filler and solvent free.
        viii. The sealant shall have an approximate cross section of 3/8 in. by 3-1/2 in. for single strip application or 3/8 in. by 3/8 in. square, or 3/8 in. diameter cord for

multiple cord usage application. Use six cords minimum for multiple cord applications.

ix. Each section shall have no more than two suitable lifting holes or cast-in lifting devices.

x. Precast base shall be shaped to receive the ends of pipe sections which are to be connected to the structure.

xi. Pipe openings in base shall be minimum size required to receive pipe, and shall be accurately set to conform to the required line and grade.

xii. Pipe shall be joined to wall of concrete manhole with hydraulic cement, nonshrink grout or flexible manhole sleeve, as shown on the Drawings.

xiii. Wall sections shall be a minimum of 4 in. thick, as shown on the Drawings.

xiv. Manholes shall have a minimum inside diameter of 4 ft. as shown on the Drawings. The diameter of manholes shall be based on manufacturer's recommendations for the proposed pipe layout shown on the plans. No change orders shall be accepted for upsizing of manholes based on the final layout of piping.

xv. Manholes shall have shaped brick inverts.

xvi. Manhole sections shall contain manhole steps accurately positioned and imbedded in the concrete when the section is cast, in accordance with AASHTO M199. These steps shall be extruded aluminum, conforming to Fed Spec. QQ-A-200/8, or polypropylene plastic reinforced with 3/8 in. diameter steel rod.

xvii. Steps shall be drop-front, anti-skid design, 12 in. on center and 10 in. minimum width. Projection of front edge of step shall be greater than or equal to 5 in. from access riser wall.

xviii. Steps shall be embedded 3-1/2 in. into access riser wall or dosing tank wall. Those portions of steps to be embedded in access riser wall shall receive a heavy coat of heavy-bodied bituminous paint. Coating shall be thoroughly dry before steps are embedded in the access riser or dosing tank wall.

xix. Steps in precast sections shall be embedded at time of casting.

xx. The date of manufacturer and the name or trademark of the manufacturer shall be clearly marked on the inside of the barrel.

b. CASTINGS

i. All frames and covers shall be cast iron, heavy duty, conforming to ASTM A48, Class 35 and shall be designed to safely withstand an AASHTO HS-20 loading.

ii. All castings shall be made in the United States.

iii. Manhole frames and covers shall be of noiseless, non-rocking design with pick holes. The word "Sewer" shall be cast on cover in 3 in. letters, as applicable.

iv. Standard manhole covers and frames shall have a minimum total weight of 475 lbs. with a clear opening of 24 in. unless otherwise indicated on the Drawings.

v. All frames and grates shall be free from blow holes, shrinkage, distortion or other defects. They shall be smooth and well cleaned by shotblasting and fitted together in a satisfactory manner.

vi. All frames and covers shall conform to the MassDOT Specifications M 8.03.0.

c. PVC PIPE AND FITTINGS (NONPRESSURE):

i. Polyvinyl chloride (PVC) nonpressure pipe and fittings for gravity sewers shall conform to ASTM D3034, SDR 35 minimum wall thickness.

ii. Pipe shall be furnished in standard lengths of 14 ft. or 20 ft.

iii. PVC shall be bell-and-spigot type with joints made using an integral bell and rubber gasketed joint. Each integral bell joint shall conform to ASTM D3212. Gaskets shall conform to ASTM F477.

iv. Spigot end shall be beveled to ensure proper insertion. Spigot end shall be imprinted with an “assembly stripe” to which the bell end of the mated pipe will extend upon proper jointing of the two pipes.

v. Pipe ends shall permit checking of the rings with a feeler gauge to ensure the proper location in the coupling grooves.

d. CAST IRON PIPE (NONPRESSURE):

i. All cast iron pipe and fittings shall conform to the requirements of CISPI Standard 301, ASTM A888, or ASTM A74.

ii. Castings shall be sound, true to pattern, and compact close grain that permits drilling and cutting by ordinary methods and its interior surface shall be reasonably smooth and free from defects.

iii. Pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute or receive prior approval of the Engineer.

iv. Hubless couplings shall conform to the requirements of CISPI 310 or ASTM C1277.

v. Hubless coupling gaskets shall conform to ASTM C564.

e. EMBEDMENT MATERIALS

i. Bedding, haunching, and initial backfill shall be Class I, II, or III soils conforming to ASTM D2321.

ii. Class I materials shall be angular crushed stone or rock, dense or open graded with little or no fines (1/4 in. to 1-1/2 in. in size).

iii. Class II materials shall be clean, coarse-grained materials such as gravel, coarse sands, and gravel/sand mixtures (1-1/2 in. maximum in size).

iv. Class III materials shall be coarse grained materials with fines including silty or clayey gravels or sands. Gravel or sand shall comprise more than 50 percent of Class III materials (1-1/2 in. maximum size).

v. Embedment materials shall be free from lumps of frozen soil or ice.

f. MORTAR

i. Mortar shall be a Portland cement mortar conforming to ASTM C270, Type M.

ii. Mortar shall contain a waterproofing admixture similar to: Hycrete (by Hycrete), ADI-CON CW PLUS (by W.R. Meadows), or Eucon (by Euclid Chemical).

g. NONSHRINK GROUT

i. Grout shall be cement based, nonmetallic, nonshrink grout that meets performance requirements of ASTM C1107.

ii. Grout shall be similar to: MasterFlow 885 (by BASF Construction Chemicals); 5 Star Grout (by Five Star Products); MascoGrout (by Mason Supply Corp).

h. BRICK

i. Brick for support of cast-iron cover and frame shall be any of the following types:

1. Common brick meeting the physical requirements of ASTM C32, Grade SW.

2. Clay brick meeting the physical requirements of ASTM C32, Grade MS.

ii. Brick for sewer manhole invert channel shall conform to ASTM C32, Grade SS

i. GREASE INTERCEPTOR

i. Grease interceptor shall conform to ASTM C1613 or ASTM F2649.

ii. Grease interceptor shall be a precast concrete or HDPE structure.

iii. Precast concrete structures shall have an internal volume of not less than 1,500 gallons, a liquid depth of 4 ft., and shall meet the following:

iv. Concrete design strength shall be 4,000 PSI minimum after 28 days

v. All reinforcement shall be in conformance with the applicable sections of ASTM A615 or ASTM C1227.

vi. Designed for AASHTO HS-20 loading.

vii. Watertight structure with tongue and groove joints sealed with butyl resin or preformed rubber gaskets conforming to ASTM C443 or ASTM C990.

viii. Exterior: Bituminous coating, two coats.

ix. Wall thickness 6 in. minimum

x. 6 in. diameter inlet and outlet.

xi. Each section of the grease interceptor shall have no more than two suitable lifting holes or cast-in lifting devices.

xii. Precast grease interceptor shall be manufactured with wall opening to receive the ends of pipes which are to be connected to the structure. Pipe openings in base shall be the minimum size required to receive the pipe, and shall be accurately set to conform to the required line and grade.

xiii. Exterior surfaces of precast concrete shall receive a heavy shop-applied coating of bituminous waterproofing equal to: H.B. Tnemecol (by Tnemec Company); Ebony (by Bay Oil Company); or Master Seal HLM (by Master Builders Solutions by BASF).

xiv. HDPE interceptors shall conform to the following:

1. Grease Interceptors shall have a smooth interior and annular exterior corrugations using pipe that meets AASHTO M252 Type S, AASHTO M294 Type S, or ASTM F2306.
2. The inlet and outlet of the unit shall utilize 8 in. SDR 32.5 HDPE pipe. A weir plate shall be installed with an orifice centrally located to control flow into the last chamber. At the weir plate, a vertical half-round pipe shall be installed to minimize contaminants through the orifice.
3. Connections to the inlet and outlet shall utilize couplers with the same joint performance as the main sewer pipe.
4. Material for pipe and fittings used to produce the Grease Interceptor shall be HDPE conforming to the minimum requirements of cell classification 424420C for 4 in. through 10 in. diameters, and 435400C for 12 in. through 60 in. diameters as defined and described in the latest version of ASTM D3350. The pipe material shall be evaluated using the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306, respectively.

xv. Testing Gravity System. The entire sewer system, including piping and manholes, shall be tested for leakage. Pipes shall undergo deflection testing, leakage testing, and televised inspection. Pipes may be tested by the use of either water or low-pressure air. At the conclusion of the work, the Contractor shall thoroughly clean the sewers by flushing with water or other means to remove dirt, stones, and other material. Prior to acceptance, all pipelines shall be video inspected. Three copies of the final inspection shall be submitted to the Engineer for their records. The inspection shall be recorded on DVD media.

G2030 STORMWATER UTILITIES

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction. All work and materials shall be subject to approval by Essex DPW and shall conform to the applicable Town Specifications. The Contractor shall be

responsible for making all arrangements with the Town and paying all fees associated with the stormwater system installation

2. Work Included. Provide all labor, materials, equipment, services, and transportation required to construct the stormwater utility systems, including connections to existing structures and testing, as indicated on the Drawings and as specified herein.
3. Products:
    a. MANHOLES AND CATCH BASINS
        i. Manholes, catch basins, and other structures shall be reinforced precast concrete unless specified by the Engineer or approved as a change by the Engineer.
        ii. Manholes, catch basins, and other structures shall be designed to safely withstand an AASHTO HS-20 loading, as specified in the AASHTO Specifications.
        iii. Precast concrete structures shall be Type II cement unless specifically authorized in writing, conform to ASTM C478, and shall be similar to those produced by the following manufacturers: Concrete Systems Inc., Hudson, NH; E.F. Shea Concrete Products, Amesbury, MA; Oldcastle Infrastructure, Rehoboth, MA
        iv. Sections shall have tongue and groove joints.
        v. Joints between sections shall be made with mortar, preformed rubber gaskets conforming to ASTM C443, or preformed flexible joint sealant conforming to ASTM C990.
        vi. Each section shall have no more than two suitable lifting holes or cast-in lifting devices.
        vii. Precast base shall be shaped to receive the ends of pipe sections which are to be connected to the structure.
        viii. Pipe openings in base shall be minimum size required to receive pipe, and shall be accurately set to conform to the required line and grade.
        ix. Drainpipe shall be joined to wall of concrete manhole or catch basin with nonshrink grout or flexible manhole sleeve, at the Contractor's option.
        x. Wall sections shall be a minimum of 4 in. thick, as shown on the Drawings.
        xi. Manholes and catch basins shall be a minimum inside diameter of 4 ft., as shown on the Drawings. Manholes over 8 ft. in depth shall have a minimum inside diameter of 5 ft.. The diameter of manholes shall be based on manufacturer's recommendations for the proposed pipe layout shown on the plans. No change orders shall be accepted for upsizing of manholes based on the final layout of piping.
        xii. Manholes shall have shaped brick inverts.

xiii. Manhole sections shall contain manhole steps accurately positioned and imbedded in the concrete when the section is cast, in accordance with AASHTO M199. These steps shall be extruded aluminum, conforming to Fed. Spec QQ-A-200/8, or polypropylene plastic reinforced with 3/8 in. diameter steel rod.

xiv. Steps shall be drop-front, anti-skid design, 12 in. on center. Projection of front edge of step shall be greater than or equal to 5 in. from access riser wall.

xv. Steps shall be embedded 3-1/2 in. into access riser wall dosing tank wall. Those portions of steps to be embedded in access riser wall shall receive a heavy coat of heavy-bodied bituminous paint. Coating shall be thoroughly dry before steps are embedded in the access riser or dosing tank wall.

xvi. Steps in precast sections shall be embedded at time of casting.

xvii. The date of manufacturer and the name or trademark of the manufacturer shall be clearly marked on the inside of the barrel.

xviii. Weirs for outlet control shall be 6 in. wide concrete block or cast-in reinforced concrete crest with a length of 5ft. as indicated on Drawings.

b. DRYWELLS

i. Drywells which are not excavated pits shall be precast concrete similar to "Precast Drywell", manufactured by E. F. Shea New England Concrete Products, Inc.

ii. Holes in sections to receive piping may be cast into concrete or drilled.

iii. Diameter of hole shall be 2 in. to 4 in. larger than outside diameter of entering pipe.

iv. Drywell shall conform to AASHTO HS-20 loading, as specified in the AASHTO Specifications.

v. Crushed stone fill shall consist of clean, double washed stone.

c. OIL AND SEDIMENT SEPARATOR

i. Oil and Sediment Separator Structure shall have 1,500 gallon minimum capacity with an approximate interior dimension of approximately 5 ft. 5 in. high, 5 ft. wide, 10 ft. long, and with a minimum of one baffle wall.

ii. Precast concrete items specified above shall be designed for AASHTO HS-20 loading, 1 ft. to 5 ft. cover, and have steel reinforcement in accordance with ASTM A615, Grade 60, 1 in. Minimum Cover.

iii. Concrete Structures shall have a concrete minimum strength of 5,000 psi after 28 days.

iv. Concrete Structures shall be constructed with tongue and groove joints between sections. Joints between sections shall be sealed with butyl resin.

v. Precast items mentioned above shall be manufactured with wall openings to receive the ends of pipes which are to be connected to structure. Pipe openings in base shall be minimum size required to receive pipe, and shall be accurately set to conform to the required line and grade

d. OIL INTERCEPTOR HOOD

i. All proposed catch basins shall be constructed with oil hoods. Oil hoods shall conform to Essex Standards.

ii. Catch basin hoods shall protrude no more than 12 in. beyond the end of pipe into the structure, with a minimum distance of 6 in. for pipes less than 12 in. in diameter. Hoods shall be similar to Ground Water Rescue Inc. Eliminator; Best Management Practices Inc. Snout; or Nyloplast Envirohood.

e. ACCESS RISER

i. Access Riser shall be precast concrete construction.

ii. Precast concrete access risers shall conform to ASTM C478.

iii. Sections shall have tongue and groove joints.

iv. Joints between sections shall be made with flexible water tight rubber gaskets conforming to ASTM C443.

v. Each section shall have no more than two suitable lifting holes or cast-in lifting devices.

f. CASTINGS

i. Castings shall conform to Town of Essex standards.

ii. All frames and covers shall be cast iron, heavy duty, conforming to AASHTO M105 or ASTM A48, Class 35B, and shall be designed to safely withstand an AASHTO HS-20 loading.

iii. All frames and grates shall be of uniform quality, free from blow holes, shrinkage, distortion, or other defects. They shall be smooth and well cleaned by shotblasting and fitted together in a satisfactory manner. Round frames and covers shall have a continuously machined bearing surface to prevent rocking and rattling.

iv. All frames and covers shall conform to MassDOT Specifications M8.03.0.

v. Castings shall conform to AASHTO M306 and shall be marked with the name of the producing foundry and country of manufacture, preceded by the words “Made in”, the AASHTO or ASTM designation number, class by a number followed by a letter indicating the minimum tensile strength and size of test bar, and heat identification and cast date.

vi. Manhole frame and cover shall have a circular clear opening of 24 in. and a total frame and cover weight of at least 475 lbs. with the word “DRAIN” centered on the cover.

vii. Upon completion of all hardscape and paving work, all covers shall be cleared of foreign material (i.e. bituminous material, concrete, mortar, and other deleterious material). After cleaning, the covers shall be removed and build-up of material inside the frame cleared to ease future removal of covers.

g. TRENCH DRAIN

i. Channel shall be sloped, with recesses for granting lockdown devices molded into the channel wall. Recesses shall be formed from the same material as the channel. Channel shall also include a manufacturer’s applied integral cast-in-metal rail edge design.

ii. Grate shall be heavy duty, slotted cast iron or ductile iron, H-20 loading, and ADA compliant

h. AREA DRAINS

i. Area drains shall be PVC inline drain system with 18 in. internal diameter and 36 in. sump. The outlet to the structure shall accommodate a 6 in. PVC pipe.

ii. The grate shall be 18 in. ductile iron domed grate or 18 in. ductile iron HS-10 pedestrian grate per ASTM A536 Grade 70-50-05. See plans for locations of grate types.

iii. Outlet pipes shall have a hood installed.

i. CLEANOUTS

i. Cleanouts, outside the building, shall be threaded cleanouts compatible with the pipe.

ii. Cleanout shall be cast iron at grade or 4 in. below grade, as specified on the Drawings.

j. DOWNSPOUT BOOTS

i. Downspout boots shall be made of cast iron and in accordance with ASTM A48.

ii. Downspout boots shall have no boxed corners, welded seams or choke points.

iii. The finish and coating of the downspout boot shall match the downspout.

iv. Downspout boots shall be equipped with the manufacturer’s standard stainless steel fasteners for mounting onto the building wall and a flexible rubber adaptor for connection to the underground drainage piping.

v. Downspout boots shall be sized properly to transition between the downspout and the underground drainage piping.

k. SUBSURFACE INFILTRATION SYSTEM (Arched Chamber)

i. The subsurface infiltration system shall be made from polypropylene or polyethylene chambers conforming to ASTM F2418 or ASTM F2922 and shall be designed in accordance with ASTM F2787. Chambers shall be similar to those produced by the following manufacturers:

1. Manufacturer
2. Cultec, Inc., Brookfield, CT
3. ADS / Stormtech, Ludlow, MA
4. Contech Engineered Solutions, Palmer, MA

ii. High Density Polyethylene (HDPE) Pipe and fittings shall conform to ASTM D3350 and AASHTO designations M252 or M294. HDPE pipe shall be designated as AASHTO Type 'S' and shall have a full circular dual-wall cross-section, with an outer corrugated pipe wall and an essentially smooth inner wall (waterway).

iii. HDPE perforated pipe shall conform to AASHTO M294 and MP7-97 Class II perforations.

iv. Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Fabricated fittings shall be welded at all accessible interior and exterior junctions.

v. Chamber rows shall provide continuous, unobstructed internal space with no internal support panels in order to provide ease of access for inspection and maintenance functions.

vi. Inspection ports shall be installed and constructed per project plans. Note that inspection ports shall only be installed along the isolator row to allow for inspection of the sediment build up over time.

vii. The chambers shall be open-bottomed.

viii. All chamber rows shall be terminated with an end cap. End cap placement on end of chamber will vary depending on chamber model.

ix. End caps may incorporate cutting guides to allow easy field cutting for various diameters of pipe. Cutting guides shall be located at both the top and bottom of each end cap.

x. Rejection

xi. The subsurface stormwater storage system may be rejected for failure to meet any of the requirements of this specification.

l. SUBSURFACE INFILTRATION SYSTEM (CONCRETE)

i. Leaching galleys shall be precast, concrete structures approximately 4 ft. x 4.25 ft. x 4 ft.

ii. Precast concrete shall be a minimum of 5000 psi at 28 days.

iii. Reinforcing shall conform to ASTM A615.

iv. Galleys shall conform to AASHTO HS-20 loading, as specified in the AASHTO Specifications.

v. Rejection

vi. The subsurface stormwater storage system may be rejected for failure to meet any of the requirements of this specification.

m. FILTER FABRIC

i. Geotextile fabric which shall be between the chamber bottom and stone foundation located along the entire length of the Isolator row shall be

ii. Geotextile fabric required for use between infiltration chambers and stone foundation shall be non-woven, meeting AASHTO M288 Class 2 requirements.

iii. The geotextile fabric shall consist of only long chain polymeric filaments or yarns, such as polypropylene, polyethylene, polyester, polyamide, or polyvinylidene-chloride formed into a stable network such that the filaments or yarns retain their relative position to each other. The fabric shall be inert to commonly encountered chemicals and free of defects or flaws which significantly affect its physical and/or filtering properties.

n. PVC PIPE AND FITTINGS (NON PRESSURE)

i. Polyvinyl chloride (PVC) non-pressure pipe for gravity drainage shall conform to ASTM D3034, SDR 35 minimum wall thickness or ASTM D1785, Schedule 40 when specified on the Drawings.

ii. Pipe shall be furnished in standard lengths of 14 ft. or 20 ft.

iii. PVC joints shall be made using an integral bell and spigot type rubber gasketed joint. Each integral bell joint shall conform to ASTM D3212. Gaskets shall conform to ASTM F477.

iv. Spigot end shall be beveled to ensure proper insertion. Spigot end shall be imprinted with an “assembly stripe” to which the bell end of the mated pipe will extend upon proper jointing of the two pipes.

v. Pipe ends shall permit checking of the rings with a feeler gauge to ensure the proper location in the coupling grooves.

vi. Perforations, when applicable, shall be AASHTO Class II.

vii. PVC fittings shall be bell-and-spigot type compatible with the pipe and conforming to ASTM D3034.

o. HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS (NONPRESSURE)

i. HDPE Pipe and fittings shall conform to ASTM D3350 and AASHTO designations M294 or M252. HDPE pipe shall be designated as AASHTO Type S and shall have a full circular dual-wall cross-section with an outer corrugated pipe wall and a smooth inner liner.

ii. Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Fabricated fittings shall be welded at all accessible interior and exterior junctions.

iii. 4 in. through 10 in. (100 to 250 mm) shall meet AASHTO M252, Type S.

iv. 12 in. through 60 in. (300 to 1500 mm) shall meet AASHTO M294, Type S or ASTM F2648.

v. Manning's "n" value for use in design shall not be less than 0.010.

vi. Perforations, when applicable, shall be AASHTO Class II.

vii. Joints shall be silt tight and nonrated watertight. Gaskets shall be made of polyisoprene meeting the requirements of ASTM F477 with the addition that the gaskets shall not have any visible cracking when tested according to ASTM D1149 after 72 hour exposure in 50 ppm ozone at 104-degrees Fahrenheit. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.

p. REINFORCED CONCRETE PIPE (RCP)

i. Reinforced concrete pipe (RCP) buried to a depth with greater than 42 in. of cover shall conform to ASTM C76, Class III, Wall B. RCP buried to a depth with less than 42 in. of cover shall conform to ASTM C76, Class V, Wall B. Pipe of 24 in. or less in diameter shall be tongue and groove type. Pipe greater than 24 in. shall be either tongue and groove or bell and spigot type, at the Contractor's option.

ii. RCP shall be joined using flexible rubber gaskets conforming to ASTM C443.

iii. Pipe may be supplied with or without lifting holes, at the Contractor's option. Lifting holes shall be conical, arranged to lie at top of pipe as installed. Precast concrete plugs, shaped to fit lifting holes, shall be supplied with pipe.

q. EMBEDMENT MATERIALS

i. Bedding, haunching, and initial backfill shall be Class I, II, or III soils conforming to ASTM D2321.

ii. Class I materials shall be angular crushed stone or rock, dense or open graded with little or no fines (1/4 in. to 1-1/2 in. in size).

iii. Class II materials shall be clean, coarse-grained materials such as gravel, coarse sands, and gravel/sand mixtures (1-1/2 in. maximum in size).

iv. Class III materials shall be coarse grained materials with fines including silty or clayey gravels or sands. Gravel or sand shall comprise more than 50 percent of Class III materials (1-1/2 in. maximum size).

v. Crushed stone fill shall consist of clean, washed stone passing a 1-1/2 in. sieve.

vi. Embedment materials shall be free from lumps of frozen soil or ice.

r. WASHED STONE

i. Where indicated, stone used shall be 3/4 in. – 1-1/2 in. single washed stone. The stone shall be free from shale, clay, organic materials, and debris with stone sizes conforming to No. Four stone as specified by ASTM D448. Not more than 0.5 percent of satisfactory material passing a No. 200 Sieve will be allowed to adhere to the stone.

ii. Laboratory testing results shall be submitted to the Engineer for approval. Testing must be performed in accordance with ASTM D6913.

s. DOUBLE WASHED STONE

i. Where indicated, stone used shall be 3/4 in. – 1-1/2 in. double washed stone. The stone shall be free from shale, clay, organic materials, and debris with stone sizes conforming to No. Four stone as specified by ASTM D448. Not more than 0.5 percent of satisfactory material passing a No. 200 Sieve will be allowed to adhere to the stone.

ii. Laboratory testing results shall be submitted to the Engineer for approval. Testing must be performed in accordance with ASTM D6913.

G2030.10 WATER QUALITY UNIT

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction. All work and materials shall be subject to approval by Essex DPW and shall conform to the applicable Town Specifications. The Contractor shall be responsible for making all arrangements with the Town and paying all fees associated with the stormwater system installation
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to construct the water quality unit systems, including connections to existing structures and testing, as indicated on the Drawings and as specified herein.
3. Products:
    a. WATER QUALITY UNIT (HYDRODYNAMIC SEPARATORS)
        i. Housing unit of stormwater treatment device shall be constructed of pre-cast or cast-in-place concrete, no exceptions. Precast concrete components shall conform to applicable sections of ASTM C 478, ASTM C857 and ASTM C858 and the following:
        ii. Stormwater management systems will be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:
            1. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan and thereafter are implemented and maintained.

2. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and
3. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

iii. Concrete shall achieve a minimum 28-day compressive strength of 4,000 pounds per square-inch (psi).

iv. Unless otherwise noted, the precast concrete sections shall be designed to withstand lateral earth and AASHTO HS-20 traffic loads.

v. Cement shall be Type III Portland Cement conforming to ASTM C150.

vi. Aggregates shall conform to ASTM C33.

vii. Reinforcing steel shall be deformed billet-steel bars, welded steel wire or deformed welded steel wire conforming to ASTM A615, A185, or A497.

viii. Sections shall have tongue and groove joints.

ix. Joints between sections shall be made with preformed butyl rubber joint sealant conforming to ASTM C443.

x. Each section shall have no more than two suitable lifting holes or cast-in lifting devices.

xi. Precast base shall be manufactured with wall openings to receive the ends of pipes, which are to be connected to structure.

xii. Pipe openings in base shall be minimum size required to receive pipe and shall be accurately set to conform to the required line and grade.

xiii. Drainpipe shall be joined to wall of concrete manhole or catch basin flexible manhole sleeve.

xiv. Shipping of components shall not be initiated until a minimum compressive strength of 4,000 psi is attained or five calendar days after fabrication has expired, whichever occurs first.

xv. Access system(s) conform to the following:

xvi. Manhole castings shall be designed to withstand AASHTO HS-20 loadings and manufactured of cast-iron conforming to ASTM A48 Class 30.

xvii. Castings shall be as specified by the WQU manufacturer.

xviii. Castings to be compliant with Section 334000 Storm Drainage System

xix. Castings shall also bear the name of the WQU manufacturer.

xx. Water quality units shall be manufactured by one of the following or approved equal by Essex Water Department: Contech ® Engineered Solutions; Hydro International ®; Imbrium ®.

xxi. Internal bypass is required

G90 OTHER SITE CONSTRUCTION:

1. Not applicable.

End of Outline Specification

PREFERRED SCHEMATIC REPORT (PSR) ESTIMATING OUTLINE SPECIFICATION
(Uniformat II, Level II)

43 Lincoln Street, Manchester-By-The-Sea, MA (Manchester Memorial ES)

GENERAL:
Prepared by JCJ Architecture

GENERAL:

1. Site: 11.313 acres located at 43 Lincoln St, Manchester-By-The-Sea, MA 01944
2. Option B1.1 – Renovation and Addition: (515 students grades K-5), (approximately 77,102 gsf) of existing to remain construction and (approximately 40,368 gsf) of new construction consisting of a two-story addition for a total building area of 117,470 gsf. New construction floor-to-floor height of 14' – 8"
    a. Start of Construction: 01/29
    b. Site prep / Partial Demolition: 4 months
    c. Phase 1 Addition Construction Duration: 18 months
    d. Tie-in: 6 months
    e. Site Construction Duration: 12 months
    f. Total project duration: 40 months
3. No geotechnical performed at this time.
4. LEED Requirements: Using LEED-S, achieve a minimum of "Silver", including a minimum total of three points (from seven points available) from the following three categories: MR Building Product Disclosure and Optimization – Material Ingredients; IEQ – Low Emitting Materials; and IEQ – Indoor Air Quality Assessment.
5. MSBA Energy Efficiency Requirements: Meet the minimum energy efficiency requirements described in the MA DOER "Stretch Code Green Community" Standards
6. MSBA Project Advisory #81 Requirements: The District is targeting the additional 3% reimbursement by meeting the minimum energy efficiency requirements described in the MA DOER "Opt-In Specialized Code" standards. The District is targeting the additional 1% reimbursement by achieving five (from seven available points) in the LEED indoor air quality points noted above (refer to Item #12).

STRUCTURAL SYSTEMS NARRATIVE

Prepared by RSE Associates, Inc.

A10 FOUNDATIONS:

1. Soil bearing capacity assumed to be 4 KSF for the purposes of preliminary footing design in this report.
2. Options B1.1:
    a. Existing foundations to remain.
    b. Addition - new spread footings
3. New foundations consist of cast-in-place, reinforced concrete shallow spread footings with cast-in-place, reinforced concrete frost walls. Insulated metal column enclosures at exterior columns.
    a. Assuming an average column spacing of 30'x30', footings will be:
    b. 7'x7'x21" with 5 PSF of rebar for a 2-story building
    c. Continuous footing along the perimeter of the building will be 3'-0"x1'-0" with 4 PSF of rebar
    d. Frost wall will be 3'-6" x 18" with 5 PSF of rebar.
    e. 2'x2' pilasters under perimeter columns.
4. New slab to be 5" concrete slab on grade with 6x6 W2.9x2.9 WWF with integral Barrier-One moisture vapor reduction admixture over 15 mil water vapor barrier over 12" of compacted granular fill. 12" thickened slab with rebar to support non-load bearing CMU wall partitions.
5. 5' deep reinforced concrete elevator pit.
6. Perimeter and under slab drain where lowest level slab is lower than adjacent grade.
7. Temporary dewatering of footing trenches needed where building is adjacent to wetlands.

B10 SUPERSTRUCTURE:

1. Options B1.1:
    a. It is anticipated that the required structural work will be minor, and the seismic upgrade requirement will not be triggered per IEBC.
    b. expansion joint between existing structure and any additions. The existing structure will not be analyzed or reinforced for gravity and lateral loads from the current building code unless modifications to existing framing are required, adjacent additions cause snow drift on existing roofs, or it is voluntarily upgraded. A voluntary code upgrade will require a new lateral system consisting of reinforced CMU shear walls or steel braced frames.

The existing masonry partitions will also need to be laterally braced at the top to the floor and roof diaphragms.

c. Addition – designed for all loads mandated by the current Massachusetts Building Code at the time of permitting.

2. New Floors: Steel columns and composite steel beams supporting a 3¼" lightweight concrete slab over 3" composite metal deck. Slab reinforced with 6x6 W2.1x2.1 WWF.
    a. Assume ¾" diameter x 4 ½" headed shear studs per foot of beam length.
    b. Assume steel weight of 13 PSF. Add 10% for connections and 1 PSF for miscellaneous steel such as kickers, bent plates, relieving angles, and girts.
3. New Typical Roof: galvanized 3" metal roof deck spanning between wide flange steel beams and girders.
    a. Assume steel weight of 11 PSF. Add 10% for connections and 1 PSF for miscellaneous steel such as kickers, bent plates, relieving angles, and girts.
    b. Add concrete slab under rooftop mechanical units – assume steel weight of 13 PSF
4. New Cafeteria Roof: acoustic, galvanized 3" metal roof deck spanning between long span open web steel joists with an estimated weight of 10 PSF. Bridging at quarter points.
5. Lateral system will be steel braced frames (steel tonnage above includes weight of braced frames), and potentially continuous segments of CMU shear walls.
6. 8" reinforced CMU walls in the elevator shaft.
7. Miscellaneous steel (see 1 PSF allowances above):
    a. Galvanized brick relieving angles at the second floor.
    b. Canopy structure
    c. Gym equipment support
    d. Theater equipment support in Cafetorium
    e. Hung partition support beams
8. Mechanical screen enclosure (assume 10 PSF steel weight based on vertical screen area)
9. Isolation pads or floating slab at vibrating equipment.
10. Thermal break "Fabreeka" pads between exterior non-insulated structure (columns and canopies) and interior insulated structure.
11. Fireproofing of primary frame members for a 2-hour rating (columns, beams, braces). Assume 5% of members receive intumescent paint. Floor slabs do not require additional fireproofing due to the 2-hour rating of the concrete slab. Spray underside of roof deck for a 1-hour rating.
12. 12" cantilevered CMU firewall between existing and addition. Provide 15" thick x 6' wide concrete footings. 2 walls total (50' long x 30' tall).

ARCHITECTURAL SYSTEMS NARRATIVE

Prepared by JCJ Architecture

B20 EXTERIOR CLOSURE:

1. Option B1.1: existing walls to remain. Brick requires cleaning.
2. All Options New Walls: 4" masonry veneer, metal panel and/or wood panel rainscreen over 2" air space over 4" rigid insulation board (mineral wool) over continuous air/moisture barrier over 1/2" gypsum sheathing over 8" cold formed metal framing and 5/8" gypsum board interior.
3. New Windows: Individual type, thermally broken aluminum framed windows with field-glazed insulated low E glazing and operable sashes, thermally broken aluminum curtainwall with field-glazed insulated low E glazing and spandrel panels and thermally broken aluminum storefront with field-glazed insulated low E glazing. Intrusion-resistant glazing at main entry. Intrusion-resistant glazing at first floor exterior openings.
4. New Doors: Thermally broken aluminum storefront doors with insulated low E and flush steel doors with vision panels set in steel frames, painted. Intrusion-resistant glazing at main entry. Intrusion-resistant glazing at first floor exterior openings.

B30 ROOFING:

1. Option B1.1: existing single-ply roofing membrane to remain on all portions of the building not affected by the alteration and additions
2. New Roofing: fully adhered, reinforced, PVC membrane roofing over ½" coverboard and R-38 tapered insulation sloped at ¼" per foot with two-piece metal drip edge and fascia. On ½" substrate board with vapor barrier.
3. Three coffin door access hatches with alternating tread ladder.

C10 INTERIOR CONSTRUCTION:

1. Option B1.1: existing interior partitions and interior doors to remain.
2. New Interior Partitions: 8" metal studs @ 16" o/c with gypsum board each side with sound attenuation batts tight to the underside of deck above.
3. New Interior Doors: solid core wood doors with accessible door hardware in hollow metal frames with side and top lights, painted. Aluminum storefront door system with tempered glazing and sidelights. Intrusion-resistant glazing at entry vestibules.
4. New Operable Partition: Four 10' high horizontal operable acoustic partition between classrooms.

5. New Specialties/Millwork: Plastic laminate base & wall cabinets with solid surface counter tops in general classrooms and faculty spaces; visual display boards, signage, HDPE toilet partitions and toilet accessories.

C20 STAIRCASES:

1. New Stairs: steel pans with concrete fill, with painted metal guards and handrails with rubber stair landings, nosing, risers and treads.

C30 INTERIOR FINISHES:

1. Options B1.1: existing interior finishes to remain; match existing finishes for areas impacted by additions.
2. New Floors: Luxury Vinyl Tile (LVT) flooring with 4" rubber base throughout; Carpet tile at 2/3 of classroom spaces. Epoxy resinous flooring with integral base at toilet rooms.
3. New Ceilings: 2'x 2' lay-in ceiling panels, beveled tegular edge throughout; gypsum board ceilings in toilet rooms; exposed, painted structure in Dining; acoustic wood cloud ceilings in Dining.
4. Wall Finishes: Paint GWB and ground face CMU throughout, Ceramic tile at wet walls in toilets. Wood wall paneling system in Dining, Tile wainscot throughout corridors.
5. Acoustic products: fabric wrapped acoustic wall panels Dining and Media Center, and specialty spaces.

D10 CONVEYING SYSTEMS:

1. New Elevator: One, accessible, 3,500 lb capacity, stretcher capable, machine-less elevator, 2stops. One stop per story.

E20 FURNISHINGS:

1. Floor grilles and entrance mats
2. Manual roller shades

F10 SPECIAL CONSTRUCTION:

1. Removal of hazardous building materials pending confirmation by hygienist report.

G10 PREPARATION:

1. Refer to section G30/G40 for civil outline specification.

PLUMBING SYSTEMS NARRATIVE

Prepared by C.A. Crowley Engineering, Inc

D20 PLUMBING SYSTEMS:

1. General:
    a. Codes: All work installed under Division 220000 shall comply with the Commonwealth of Massachusetts 248CMR 10.00 Uniform State Plumbing Code, and all federal, county, and local laws, statutes, regulations, and ordinances, as well as the requirements of the Authorities Having Jurisdiction.
    b. Option B1.1: Addition & Renovation
        1. All existing plumbing systems, equipment, and fixtures are to remain. Provide new fixtures and extend new plumbing systems to serve the new addition.
        2. Furnish and install hot water storage tanks.

a. Materials
    a. Plumbing Fixtures:
        3. Toilets – vitreous china, wall-hung, manual flush valve
        4. Urinals – vitreous china, wall-hung, manual flush valve
        5. Lavatories – vitreous china, wall-hung, manual faucet
        6. Lavatories – Bradley - One-piece solid surface wall hung
        7. Sinks – stainless steel, drop-in, manual faucet
        8. Classroom sinks – stainless steel, drop-in, manual faucet, bubbler
        9. Drinking fountain – wall hung, filtered, refrigerated, with bottle filler
        10. Shower – solid surface base and walls, shower valve, shower head
        11. ADA Shower – solid surface base and walls, shower valve, handheld shower, fold-down seat
        12. Mop service basin – molded stone, floor outlet, wall mounted faucet
        13. Floor drains – epoxy coated cast iron body, nickel bronze strainer
        14. Roof drains – epoxy coated cast iron body, adjustable extensions, ductile iron dome
    b. Domestic water piping: Type L copper tube with solder joint fittings
    c. Above ground storm and sanitary piping: Standard weight hubless cast iron with heavy duty couplings.

d. Below ground storm and sanitary piping: Service weight hub and spigot cast iron with resilient gasket.

b. Equipment:

a. ASME rated hot water storage tanks
b. Reduced pressure backflow preventers
c. Trap primers
d. Water hammer arrestors
e. Roof drains and downspout boots
f. Wall hydrants and hose bibbs

c. Testing

d. Sterilization

e. Start up and commissioning

f. Operation and Maintenance Manuals

g. As-Built Drawings

MECHANICAL SYSTEMS NARRATIVE

Prepared by GGD Consulting Engineers, Inc

D30 HVAC:

1. General: The following is the HVAC system narrative, which defines the scope of work and capacities of the HVAC system as well as the Basis of Design. The HVAC systems shall be designed and constructed for LEED for Schools where indicated on this narrative.
    a. Codes: All work installed under Division 230000 shall comply with the Commonwealth of Massachusetts Adopted Building Codes (IBC 2021, IMC 2021, International Energy Efficiency Based on IECC 2021 - or latest Adopted Editions), and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.
    b. Design Intent: The work of Division 230000 is described within the narrative report. The HVAC project scope of work shall consist of providing new HVAC equipment and systems as described here within. All new work shall consist of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Heating, Ventilating, and Air Conditioning work and all items incidental thereto, including commissioning and testing. The HVAC System shall be designed and constructed for LEED for Schools were indicated on this narrative
    c. Basis of Design: Project weather and Code temperature values are listed herein based on weather data values as determined from ASHRAE weather data tables and the International Energy Conservation Code 2021 (or latest Adopted Edition).

        15. Outside: Winter 4 deg. F, Summer 90 deg. F DB, 74 deg. F WB

        16. Inside: 70 deg. F +/- 2 deg. F for Heating, 75 deg. F +/- 2 deg. F (55% RH) for Cooling for Air Conditioned Areas. Unoccupied temperature setback will be provided (55 deg. F heating (adj.), 85 deg. F cooling (adj.).

        17. Outside air shall be provided at the rate in accordance with ASHRAE guide 62.1-2019 and the International Mechanical Code 2021 as a minimum. All occupied areas will be designed to maintain 800 PPM carbon dioxide maximum.

2. Options B1.1– Renovation and Addition
    a. Under this option, all existing HVAC shall remain.
    b. During the Schematic Design Phase, a life cycle cost analysis shall be performed to study a minimum of three (3) different HVAC system options to determine the system that has the lowest overall cost of ownership during a 30-year period. Systems to be studied shall be an all-electric air to water source heat pump chiller/boiler system with DOAS units serving a displacement air ventilation system, and geothermal water to water source modular heat recovery heat pump plant with DOAS units serving a displacement air ventilation system, and an all-electric air source Variable Refrigerant Flow (VRF) system with Dedicated Outdoor Air Systems (DOAS) for code required ventilation.

c. The following specifications describe the general attributes and estimated capacity of the proposed HVAC system for the B1.1 Renovation and Addition Option.

18. New roof-mounted dedicated outdoor air handling units capable of delivering 100% outside air via supply and return air fans with VFDs, energy recovery wheels (Minimum 75% efficiency), hot water heating coils for heating and reheat operations, chilled water cooling, and MERV 14 filtration will be provided to serve a new Displacement ventilation system. Each classroom shall be provided with a variable volume (VAV) terminal box with CO2 sensor controls. The controls will reduce outside air as allowed maintaining a maximum of 800 PPM while providing sufficient ventilation to space occupants. As VAV boxes modulate, the supply and return air fans and associated Variable Frequency Drives (VFD) of the rooftop units will adjust the fan speed based on system static pressure, reducing the energy consumed by the fans.

19. Each classroom will be provided with two low wall or floor mounted displacement ventilation supply air diffusers with typically capacities between 250 and 350 CFM each (depending on anticipated occupancy and room heating & cooling loads). Return air will be drawn back to the units by a ceiling return air register located within the classroom and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system.

20. Classroom shall be provided with passive radiant heating and cooling panels typically be located in the ceiling adjacent to the perimeter exterior wall. The radiant heating cooling panels shall typically be 36” - 48” in width and the length of the exterior classroom wall. The radiant panels shall be controlled in conjunction with the displacement ventilation airflow VAV (variable air volume) box to provide heating and cooling to the space.

d. Heating & Cooling Plant: It is estimated that the following equipment will be required to serve the building:

21. A Roof Mounted Air-Source to Water Heat Pump Chiller/Heater Unit with 180 ton total capacity (based on estimated peak heating/cooling load of 120 ton with additional capacity for defrost control and system redundancy). The air source hydronic heat pump system shall include a high-efficiency air-to-water source modular chilled/hot water heat recovery heat pump unit which shall supply chilled and hot water to the building air handling and terminal heating and cooling equipment. The unit shall be provided with steel supports and acoustic screening.

22. An electric hot water boiler plant that shall be capable of backup heating in event of Air Source Heat Pump System failure or as a primary means of Hot Water Heating. The Hot Water Boiler Plant shall consist of (3) 700

MBH high-efficiency gas-fired boilers (each sized at approx. 50% of peak heating load), hot water boiler circulation pumps with EC Motors, hot water accessories, venting, condensate neutralization system, associated controls and power wiring.

23. Chilled and hot water primary pumping with variable frequency drives. Hot water and chilled water pump arrays with integral VFDs shall be provided for part-load duty and redundancy.

24. Insulated hot and chilled water steel and copper piping distribution system to connect the heat pump plant to the building air handling and terminal heating and cooling equipment.

e. Controls: A new BACnet compatible automatic temperature control (ATC) and building energy management system (BMS) shall be provided to integrate all new HVAC equipment and systems

f. Energy metering: New building energy metering for domestic hot water and electricity shall be provided. Energy metering shall be integrated into the new BMS.

g. Air Handling Systems:

25. Rooftop air handling units for heating, cooling, and reheat operation shall be provided with high efficiency energy recovery wheels, hot water coils, and chilled water coils, rooftop air handling units with the following capacities:

26. AHU-1 & AHU-2: 5,000 CFM (35 Tons Cooling, 150 MBH Heating)serving Learning Neighborhood areas

1. AHU-3: 1,500 CFM (10 Tons Cooling, 45 MBH Heating) serving Pre-K areas

2. AHU-4: 1,500 CFM (10 Tons Cooling, 45 MBH Heating) serving the Gymnasium Addition

3. AHU-5: 7,800 CFM (50 Tons Cooling, 230 MBH Heating) serving Special/Administration

b. Exhaust Systems: New toilet exhaust, kitchen exhaust, and utility room exhaust air fans systems shall be provided. All kitchen exhaust fans shall be rated for Grease exhaust duty.

c. Air Distribution Systems: New ductwork shall be constructed and installed in accordance with SMACNA and IMC requirements. All new supply and return air ductwork shall be insulated per IMC code requirements. All new Kitchen exhaust fans shall be provided with new Fire-wrapped carbon steel or stainless-steel grease ductwork.

d. Lobby, Corridor, and Entry Way Heating: New electric convectors, cabinet unit heaters and fin tube radiation heating equipment shall be installed to provide heating to these areas. Corridors shall be ventilated from adjacent air handling unit systems.

e. Custodial Support Areas: Custodial support areas will be heated by electric radiation heating equipment. Storage areas will be heated by electric radiation heating equipment. All custodial closets will be exhausted by exhaust air fan systems.

f. Utility Areas:

   i. Utility areas will be provided with exhaust air fan systems for ventilation and will typically be heated with ceiling-suspended electric unit heaters.

   ii. The electric rooms and IDF rooms will be air conditioned by high efficiency ductless AC cooling units.

g. Testing, Balancing & Commissioning: All new and existing-to-remain HVAC equipment and systems shall be tested, adjusted, balanced, and commissioned.

h. Demolition: All existing to be removed HVAC equipment and systems that are no longer required shall be demolished and removed. All refrigerant in existing AC equipment scheduled to be demolished shall be legally reclaimed.

i. Phasing: All demolition and new work shall be done in a phased manner in accordance with Architect's proposed phasing plan.

j. IAQ during Construction: HVAC Contractor shall follow SMACNA IAQ Guideline during Construction. HVAC contractor shall provide temporary sealed ends for all stored and installed open end ductwork during construction. HVAC contractor shall provide supply (MERV-13) and return air (MERV-8) filter changes in accordance with SMACNA IAQ guidelines for all air handling unit systems that operate in all work areas during Construction.

k. Geothermal Option:

   i. The high-efficiency air-to-water source modular chilled/hot water heat recovery heat pump unit shall be substituted for a water-to-water source modular chilled/hot water heat recovery heat pump unit of the same capacity and a geothermal well field of the same capacity, plus 10% shall be added to the scope.

   ii. Air handling units sizing along with heating hot water and chilled water infrastructure shall remain as indicated in the air-to-water modular chiller/hot water heat recovery heat pump option.

l. Variable Refrigerant Flow Option:

   i. Air handling unit capacities shall remain as described above. New roof-mounted dedicated outdoor air handling units delivering 100% outside air via supply and return air fans with VFDs, energy recovery wheels, variable refrigerant flow capable heat pumps for heating, cooling, & reheat operations and MERV 13 filtration will be provided to serve a neutral temperature ventilation system.

ii. Each classroom will be provided with two ceiling-mounted supply air diffusers between 200 and 250 CFM each (depending on anticipated occupancy). Return air will be drawn back to the units by ceiling return air registers located within the classroom and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system.

iii. Each classroom space shall be provided with two variable refrigerant flow (VRF) terminal units (approximately 1.5 tons each) that will be utilized for primary heating and cooling to the space. Each office space shall be provided with one variable refrigerant flow (VRF) terminal unit (approximately 1.0 tons each) that will be utilized for primary heating and cooling to the space

1. One (1) 7.5-Ton, One (1) 10-Ton, One (1) 17.5-Ton, and Two (2) 32.5-Ton roof-mounted Heat Recovery Condensing Units w/ approximately 84 ceiling-mounted indoor terminal units with capacities ranging from 1 to 1.5 Tons each (sixty 1.5 Ton units & twenty-four 1-ton units)

2. PHASING:

a. During all Phases of Construction, the following SMACNA IAQ Guidelines for Occupied Building Under Construction, 2008 shall be met to maintain proper indoor air quality within the occupied areas. Areas to remain occupied shall be positively pressured in relationship to the construction zone to prevent constitution debris from entering the occupied areas. Construction areas shall be exhausted to prevent construction debris from entering the occupied areas. All return grilles shall be covered with MERV-8 filter media, all fresh air supply units shall be provided with MERV-14 media and all filter media shall be changed regularly in accordance with SMACNA IAQ Guidelines to maintain the IAQ within the occupied areas.

b. All new ductwork shall be installed per SMACNA guidelines for "Duct Cleanliness for New Construction Guidelines". A high level of indoor air quality shall be maintained throughout the duration of the project renovation construction phase.

c. Testing, Balancing, and Commissioning: A complete HVAC system Testing and Balancing, encompassing all HVAC systems and equipment installed during that phase, shall be performed at the completion of each phase.

3. TESTING REQUIREMENTS:

a. Testing, Balancing & Commissioning: All new and existing-to-remain HVAC equipment and systems shall be tested, adjusted, balanced, and commissioned.

b. The Mechanical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:

i. Geothermal Heat Recovery Heat Pump Chilled/Heated water plant systems

ii. Air handling unit systems including all supply, return and exhaust air systems

iii. Terminal heating and cooling devices

iv. Automatic temperature control and building energy management system

c. Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

4. OPERATION MANUALS AND MAINTENANCE MANUALS:

   a. When the project is completed, the Mechanical Contractor shall provide operation and maintenance manuals to the Owner.

5. RECORD DRAWINGS AND CONTROL DOCUMENTS:

   a. When the project is completed, an as-built set of drawings, showing all mechanical system requirements from contract and addendum items will be provided to the Owner.

6. COMMISSIONING:

   a. The project shall be commissioned per Section 018000 of the specifications.

FIRE PROTECTION SYSTEMS NARRATIVE

Prepared by C.A. Crowley Engineering, Inc

D40 FIRE PROTECTION:

1. General
    a. Codes: All work installed under Division 210000 shall comply with the Commonwealth of Massachusetts 780CMR State Building Code, NFPA 13, and all federal, county, and local laws, statutes, regulations, and ordinances, as well as the requirements of the Authorities Having Jurisdiction.
    b. Options: B1.1: Addition & Renovation
        i. Extend existing automatic wet pipe fire sprinkler system to provide protection throughout new addition
2. Materials
    a. Sprinklers:
        i. Quick response flat plate concealed pendent sprinklers (throughout the majority of the building)
        ii. Quick response brass upright sprinklers (where required)
        iii. Quick response recessed horizontal sidewall sprinklers (where required)
        iv. Quick response intermediate temperature dry pendent sprinklers (kitchen freezer and cooler)
    b. Piping 2” and smaller: schedule 40 black steel with threaded fittings
    c. Piping 2½” and larger: schedule 10 black steel with rolled groove fittings
3. Testing
4. Operation and Maintenance Manuals
5. As-Built Drawings

ELECTRICAL SYSTEMS NARRATIVE

Prepared by GGD Consulting Engineers, Inc

D60 ELECTRICAL:

1. Option B1.1:

    a. The following is the Electrical Systems narrative, which defines the scope of work, basis of design, and system capabilities of the Power, Lighting, Data, Fire Alarm, and Communication Systems. All systems shall be designed and constructed for LEED for Schools where indicated on this narrative.

    b. CODES: All work installed under Section 260000 shall comply with the Massachusetts State Building Code and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.

    c. DESIGN INTENT: The work of Section 260000 is as described in this Narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Electrical work and all items incidental thereto, including commissioning and testing.

    d. SEQUENCE OF OPERATIONS AND INTERACTIONS:

        i. Lighting will be controlled via zoned “addressable relays”, which is achieved through connection to an existing programmed networked control system located within the existing building. The control of the relays will be by occupancy, vacancy, or photo sensors with manual switch locations being provided per zone capable of raising and lowering the dimming level in each respective zone. The system will have a BACnet gateway and will be interfaced with the BMS control system for scheduled functions. The controllability shall be in conformance with credit LEED credit IEQC 6.1.

        ii. Exterior lighting will be controlled by existing building mounted photocell “ON” and “scheduled” for “OFF” operation. The exterior lighting will be controlled by “zones” with dimming capability included in fixture functionality. Additionally, time scheduling shall be provided to reduce fixture output outside of normal school business hours while maintaining life safety levels.

        iii. Emergency and Exit lighting will be run through life safety panels and will be “ON” during normal power conditions, as well as power outage conditions. The emergency lighting system will have time control so that lights are “ON” only when building is occupied.

    e. BUILDING CONNECTED LOAD ESTIMATE OF PRELIMINARY BUILDING SYSTEMS DESIGN:

i. Service ratings for the building addition are designed for a connected load of 18 watts/S.F. The service main breaker of the existing building's main switchboard shall be upgraded to 1600 Amperes. A 400 AMP distribution panel shall be provided to feed the addition of the learning neighborhoods to the school along with a set of sub-panels to feed power, lighting, and mechanical loads respectively.

f. INTERIOR LIGHTING SYSTEM:

i. Classroom lighting fixtures will consist of pendant mounted direct/indirect luminaries with integral LED boards and electronic dimmable drivers. The fixtures will be pre-wired for continuous dimming control where natural daylight is available and for multi-level switching. Daylight dimming zones will be provided as required within each classroom.

ii. Office lighting fixtures will consist of pendant mounted direct/indirect luminaries with integral LED boards and electronic dimmable drivers. Offices on the perimeter of the building exceeding 150 sq/ft with exterior glazing will have daylight dimming controls similar to classrooms.

In general, lighting power density will be 20% - 30% less than IECC-2021. The power density reduction relates to LEED credit EAC.1.

iii. Lighting levels will be approximately 30 foot candles in classrooms and offices. The daylight dimming foot-candle level will be in compliance with LEED Credit IEQC 6.1.

iv. Corridor lighting will be comprised of recessed linear fixtures with integral LED boards and electronic drivers. The Corridor light level will be designed for approximately 20-foot candles. Corridor lighting will be on scheduled source control and only "ON" during occupied hours. The Corridor lighting will be dual-level controlled by schedule, and occupancy sensor.

v. Cafeteria lighting will be designed to match existing building cafeteria fixtures. The light levels shall be designed to maintain a uniform 30 foot candle level across new and renovated space. Daylighting controls will be provided along the perimeter of the space where exterior glazing is present. Size of the daylighting size shall be as required in IECC 2021

vi. Each area will be locally switched and designed for multi-level controls. Each Classroom, Office space, and Toilet room will have occupancy sensors to turn lights off when unoccupied. Manual switches will be provided in each space. Classrooms and offices will have manual dimming capacities.

vii. Daylight dimming sensors will be installed in each room where natural light is available for continuous dimming of light fixtures. The control system will be in accordance with LEED credit IEQC 6.1.

viii. The entire school will be controlled with an automatic lighting control system for programming of interior and exterior lights “on and off”. Lighting control system will be interfaced with BMS system.

g. SITE LIGHTING SYSTEM

i. Fixtures for area lighting shall be pole mounted cut-off ‘LED’ luminaries in the parking area and roadways. Pole heights will be 16 feet. The exterior lighting will be connected to the automatic lighting control system for photocell “ON” and timed “OFF” operation. The site lighting fixtures will be dark sky compliant. The illumination level will be 0.5fc for parking areas in accordance with Illuminating Engineering Society.

ii. Building perimeter will be ‘LED’ wall mounted cut-off fixtures over exterior doors for Exit discharge.

h. EMERGENCY SYSTEM

i. New panels fed from the building’s optional stand-by and life safety power systems shall be provided for the connections of all new emergency loads within the proposed addition.

ii. The generator will also include fire safety systems, boilers and circulating pumps, elevators, kitchen refrigeration equipment, and communications and security systems.

i. WIRING DEVICES:

i. Each classroom will have a minimum of (2) duplex receptacles per teaching wall and (2) double duplex receptacles on dedicated circuits at classroom computer workstations. The teacher’s workstation will have a double duplex receptacle also on a dedicated circuit.

ii. Office areas will generally have (1) duplex outlet per wall. At each workstation a double duplex receptacle will be provided.

iii. Corridors will have a cleaning receptacle at approximately 25–40-foot intervals.

iv. Exterior weatherproof receptacles with lockable enclosures will be installed at exterior doors.

v. A system of computer grade panelboards with double neutrals and surge protective devices will be provided for receptacle circuits.

vi. All receptacles will be of the tamper resistant type.

vii. Automatic receptacle control shall be provided in all enclosed offices, conference rooms, copy/print rooms, break rooms, and classrooms as required in section C405.11 of the IECC 2021.

j. FIRE ALARM SYSTEM:

i. Existing fire alarm and detection systems will shall be expanded to provide coverage to the newly added areas of the building.

ii. Smoke detectors will be provided in open areas, corridors, stairwells and other egress ways.

iii. The sprinkler system will be supervised for water flow and tampering with valves.

iv. Speaker/strobes will be provided in egress ways, classrooms, assembly spaces, open areas and other large spaces. Strobe only units will be provided in single toilets and conference rooms.

v. Manual pull stations will be provided at exit discharge doors.

k. LIGHTNING PROTECTION SYSTEM:

i. A system of lightning protection devices will be provided.

ii. The lightning protection equipment will include lightning mast connected to building steel framing.

iii. The facility will be issued a UL Master Label Certificate.

l. RENEWABLE ENERGY SYSTEM PROVISIONS:

i. Electrical provisions will be made for a roof-mounted renewable energy system consisting of a grid connected photovoltaic PV system intended to reduce the facilities demand for power.

m. TWO-WAY COMMUNICATIONS SYSTEM:

i. A Two-Way Communications System will be provided at the elevator lobbies that do not have grade access.

n. DISTRIBUTION ANTENNAE SYSTEM (DAS):

i. An expansion of the public safety radio distributed antenna system (DAS) shall be provided which consists of bi-directional amplifiers (BDA), donor antennas, coverage antennas, coax cable, coax connectors, splitters, combiners and couplers. These devices will be used as part of a system for in-building public safety 2-way radio system communication

o. THE DATA SYSTEM INFRASTRUCTURE

i. The data system infrastructure will consist of fiber optic backbone cabling horizontal wiring will consist of Category 6A UTP Plenum rated cabling for both data and telephone systems for gigabit connectivity. The telephone infrastructure will accommodate VOIP based voice systems.

ii. Each classroom will have 2 data outlets for student computers. Two data, one voice with video and audio connections to an LCD monitor will be provided at teacher's station with interconnectivity to a interactive LCD touch screen

monitor. A wall phone outlet with 2-way ceiling speaker will be provided for communications with administration. Wireless access points will be provided in all classrooms and other spaces and consist of (2) CAT6A cables.

iii. An Intermediate Distribution Frame (IDF) room shall be provided within the new addition and fed from the existing buildings (MDF) Main Distribution Frame room and will serve each floor of the new addition to the existing school. A fiber optic backbone will be provided from IDF to MDF. The backbone will be designed for 10 Gbps Ethernet.

iv. Two-way communication call boxes will be provided adjacent to each elevator that is above or below grade level. The base station will be located at a control point on the first floor.

p. A CENTRAL PAGING SYSTEM

i. An expansion of the existing buildings central paging system will be provided and integrated with the telephone system.

q. TESTING REQUIREMENTS

i. The Electrical Contractor shall provide testing of the following systems with the Owner and Owner's Representative presen

1. Lighting and power panels for correct phase balance.
2. Emergency generator system.
3. Lighting control system (interior and exterior).
4. Fire alarm system.
5. Lightning protection system.
6. Two-way communication system.
7. Distributed Antennae system.

ii. Testing reports shall be submitted to the Engineer for review and approval before providing them to the Owner.

r. OPERATION MANUALS AND MAINTENANCE MANUALS:

i. When the project is completed, the Electrical Contractor shall provide operation and maintenance manuals to the Owner.

s. RECORD DRAWINGS AND CONTROL DOCUMENTS:

i. When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

t. COMMISSIONING:

i. The project shall be commissioned per the Commissioning Section of the specifications.

u. PHASING

i. Options B1.1

1. The Work will be conducted in phases to provide the least possible interference to the activities of the existing School.

SECURITY SYSTEMS NARRATIVE

Prepared by Good Harbour Techmark, LLC.

D70 ELECTRONIC SAFETY AND SECURITY:

D7010 ELECTRONIC SECURITY MANAGEMENT SYSTEM

1. The electronic security management system shall consist of the following subsystems as specified herein:
    a. Electronic Video Surveillance System – Milestone Systems
    a. Video Surveillance Cameras – Hanwha Vision America
    b. Electronic Access Control System – LenelS2
    c. Electronic Intrusion Detection System – Bosch
    d. Electronic Security Communication System – Aiphone
    e. Electronic Visitor Management System – Raptor Technologies
2. The security system shall consist of system servers to manage video surveillance cameras and recording, as well as access control and intrusion alarms. Remotely distributed components—including card access readers, control panels, zone control keypads, door position switches, motion detectors, health and safety sensors, duress alarms, and lockdown controls—shall be deployed to secure staff and monitor doors and interior spaces.
3. A graphical user interface with dynamic mapping capabilities shall be provided to allow authorized personnel to monitor live events, acknowledge alarms, and perform actions such as locking or unlocking doors in response to specific security conditions.
4. Upon detection of unauthorized building entry or other alarm conditions, the system shall automatically transmit alerts to the District's contracted security monitoring service provider.

D7010.10 ELECTRONIC VIDEO SURVEILLANCE

1. An IP-based video surveillance system shall be provided to support fixed surveillance, situational assessment, license plate recognition, real-time monitoring, and video recording operations. The system shall be capable of integrated operation with other security systems, including access control and alarm/event call-up at designated remote workstations.
    27. The system shall include computer servers with video management software, operator workstations with monitors, and IP-based surveillance cameras equipped with onboard artificial intelligence (AI) capabilities. These AI features shall include, but not be limited to, motion detection, object classification, facial recognition, behavioral analysis, and vehicle/license plate recognition to enhance real-time

assessment and reduce false alarms. The video management server shall be rack-mounted.

28. Authorized users shall be able to access the system from any computer within the school network or externally via a secure IP address. Remote viewing and control capabilities shall be provided to school administration and made accessible to the Police Department for enhanced situational awareness.

29. Camera coverage shall include, but not be limited to, corridors, stairwells, the cafeteria, auditorium, gymnasium, building entrances, exterior building perimeter, site access roads, the bus drop-off area, and parking lots. The final system scope and performance criteria, including specific AI functionality, shall be defined during the detailed design phase.

30. The NVR shall provide storage of all cameras using the following criteria:

a. Storage Retention: Minimum of 30 days of continuous video retention, 24 hours per day, 7 days per week.

b. Recording Methodology: Interior and exterior cameras shall record based on motion detection.

c. Video Compression: All cameras shall utilize H.265 video compression to optimize storage and bandwidth efficiency.

d. Frame Rates:

   i. Interior and exterior cameras shall record at 15 images per second (IPS) when motion is detected.

   ii. Cameras shall record at 5 IPS during periods when no motion is detected.

e. Motion-Triggered Recording Parameters:

   i. Assume that motion is detected approximately 50% of each day.

   ii. Motion detection parameters shall be configurable per camera and per schedule to reduce nuisance triggers.

   iii. Cameras shall record video at the specified rates upon detection of motion.

   iv. Cameras shall record video at the specified rates when no motion is detected to ensure a baseline level of coverage

2. The cameras shall support video surveillance, visual alarm assessment, and real-time monitoring of designated interior and exterior access points, as well as other identified critical areas.

   a. Camera Types: Cameras shall be IP-based and include both fixed and multi-lens models.

b. Infrared Capability: All cameras shall be equipped with integrated infrared (IR) illumination for low-light and nighttime operation.

c. Independent Viewing: Each camera shall be independently viewable within the video management system.

d. Infrastructure Cable Requirement: Category 6A cable.

e. Exterior Camera Requirements:

   i. Exterior cameras shall feature low-light sensitivity and be housed in weatherproof enclosures rated for outdoor environmental conditions.

   ii. Cameras shall be equipped with surge protection.

   iii. Typical mounting locations include building walls, corners, light poles, PV arrays, or beneath soffits, as required to achieve optimal coverage.

D7010.30 ELECTRONIC ACCESS CONTROL SYSTEM

1. The access control system shall be a fully integrated solution that includes door controllers, card readers, audio/video intercoms, electric locking devices, request-to-exit (REX) switches, door release buttons, electromagnetic door holders, lockdown buttons, audible alarms, automatic door operators, lock power supplies, equipment enclosures, tamper switches, credentials, credential printers, and credential capture cameras. The system shall monitor and control all perimeter doors, including the main entrance, and provide access control for select interior doors as required.

2. All card reader communications shall utilize OSDP (Open Supervised Device Protocol). The access control system shall be fully OSDP-compliant, supporting supervised and encrypted communication between readers and controllers. Cabling for OSDP connections shall consist of plenum-rated, shielded, twisted-pair wiring suitable for RS-485 communication. Wiegand communication shall not be permitted unless explicitly approved in writing by the Owner. Reader wiring shall be installed in compliance with manufacturer recommendations and industry best practices to ensure proper signal integrity and device supervision.

3. The access control system shall interface with the video surveillance system to enable video call-up and event-based assessment. Card readers shall be installed at all doors requiring controlled access and must be compatible with the Owner's selected credential type. Duress buttons shall be installed at designated locations, including within key offices, and programmed to discreetly notify emergency responders or the alarm monitoring company upon activation.

4. Electrified door hardware used in conjunction with the card readers shall include electric strikes, electrified locksets, electric exit devices, electrified hinges, and power transfer devices, selected to suit the door construction and usage. REX devices shall be installed to suppress door contact alarms upon egress, or be integrated within locksets, and shall be connected to field control panels and programmed accordingly. Door release buttons shall initiate a system event to temporarily unlock the associated door and log the action in the access control software.

5. Each electromagnetic door holder shall release upon activation of the lockdown button or an intrusion event. Door holders shall remain released until reset by authorized personnel. The lockdown function shall immediately lock all access-controlled doors, disable general credential access, and deactivate door release buttons. During lockdown, card readers will remain functional for designated security personnel only. Additionally, the lockdown sequence shall activate exterior visual indicators and cut power to electromagnetic door holders, which shall not re-energize until the system is manually reset.

D7010.40 ELECTRONIC INTRUSION DETECTION SYSTEM

1. The intrusion detection system shall consist of door position switches (DPS), motion detectors and glass break sensors strategically installed to monitor all primary perimeter areas of the building. This system shall serve to detect and report unauthorized entry attempts or door conditions inconsistent with access control permissions.

2. The intrusion detection system shall be fully integrated with the access control system to allow for centralized event reporting, unified alarm monitoring, and coordinated responses, such as triggering alarms, video call-up, or facility lockdown. The system shall be capable of integration with industry-standard intrusion panels such as Bosch or DMP, supporting seamless operation within a unified security management platform.

3. Motion Detectors: Motion detectors shall be dual-technology sensors combining passive infrared (PIR) and microwave detection to reduce false alarms caused by environmental fluctuations. Devices shall include adjustable detection zones, tamper protection, and sensitivity settings suitable for varying environmental conditions. Detectors shall be UL Listed and installed in accordance with manufacturer guidelines to cover corridors, vestibules, and key perimeter pathways.

4. Door Position Switches (DPS): Each card reader-controlled or designated perimeter door shall be equipped with a door position switch (DPS) to monitor the door's open or closed status. The DPS shall function as the primary input for detecting and generating door-forced or door-held alarms in the event of unauthorized access or a propped-door condition. For exterior doors, the DPS shall report exclusively to the access control system. For interior doors, the DPS shall be integrated with both the access control and intrusion detection systems to provide comprehensive monitoring. All DPS wiring shall be supervised using end-of-line (EOL) resistors to ensure the detection of open circuits, short circuits, tampering, or device failure. Devices and associated wiring shall be installed in a concealed or otherwise protected manner to deter tampering and unauthorized interference. All components used for DPS installation shall be UL 1076 compliant to meet industry standards for security and reliability.

5. All intrusion detection devices and associated wiring shall comply with the latest edition of the National Electrical Code (NEC) and shall be UL listed for their intended purpose. Installation shall follow industry best practices to ensure accurate detection, tamper resistance, and long-term reliability. The system shall be fully tested, programmed, and commissioned in coordination with the access control system to support the facility's security response protocols.

6. Intrusion detection system devices shall be wired using plenum-rated, shielded twisted-pair cabling suitable for low-voltage security applications. Each device circuit shall be supervised using end-of-line (EOL) resistors installed at the device to enable detection of open circuits, shorts, and tampering. All wiring shall be installed in a concealed or otherwise protected manner and routed in conduit where exposed or vulnerable to physical damage. Cabling pathways shall be coordinated with architectural and electrical drawings to avoid conflicts and ensure compliance with applicable codes and standards.
7. All wiring shall be clearly labeled at both ends, and a complete wiring schedule shall be maintained for record documentation. Field terminations shall be made using screw terminals or manufacturer-approved connectors. The use of punch-down blocks, wire nuts, or splices not contained within approved junction boxes shall be prohibited.

D7010.50 SECURITY COMMUNICATION SYSTEM

1. The video intercom system shall support a flexible architecture capable of incorporating multiple control units, IP-based master stations, and video door stations. All exterior communication equipment shall include integrated lightning protection to safeguard against power surges and environmental hazards.
2. The video intercom system shall be installed independently of any general-purpose internal communication systems and shall serve multiple functions as indicated, scheduled, or required. These functions may include video door entry, emergency announcements, rescue assistance communication, urgent call signaling, public address messaging, and integration with access control systems.
3. The system shall provide the capability for any video door station call to be rolled over and answered at any designated master station within the network. This call forwarding functionality shall be software-configurable and shall not be limited by physical wiring constraints, allowing for centralized or distributed control models based on operational needs.
4. Remote door unlocking shall be supported at the master station level, enabling authorized users to control access in response to intercom events. The system shall include a full suite of control unit functions, including but not limited to two-way communication, call forwarding, scan monitoring, emergency call, priority call, video and audio recording, and both all-call and zone-specific paging.
5. All components and features shall be fully programmable to meet the operational, safety, and security needs of the facility, and the system shall support future expansion without major reconfiguration.
6. The video intercom system shall utilize Category 6 or Category 6A cabling, as required by the manufacturer, to support IP-based communication between control units, master stations, and door stations. All network cabling shall be plenum-rated and installed in accordance with ANSI/TIA-568 standards for structured cabling systems. Cables shall be routed in concealed pathways or in conduit where exposed to potential damage or environmental hazards. All

terminations shall be made using manufacturer-recommended connectors, and patch panels or outlets shall be clearly labeled. Cabling infrastructure shall support PoE (Power over Ethernet) where applicable, and shall be coordinated with the electrical and IT trades to ensure compatibility with facility-wide networking standards and sufficient bandwidth for video and audio transmission.

7. Wiring for door release functions shall be installed from each intercom door station or associated control unit to the corresponding electrified locking device. This wiring shall be plenum-rated, low-voltage cabling suitable for access control circuits, and shall meet the power and control requirements of the locking hardware. All door release wiring shall be installed in conduit or other protected pathways and terminated per manufacturer recommendations. Relay outputs shall be supervised where applicable and integrated with the facility's access control system to ensure secure and traceable unlocking events.

D7010.60 ELECTRONIC VISITOR MANAGEMENT SYSTEM

31. A visitor management system shall be provided to facilitate the secure recording, screening, and monitoring of all individuals entering the facility. The system shall include software and hardware components necessary for comprehensive visitor sign-in, vetting, and tracking, including a dedicated workstation, ID scanner, camera, and badge printer.

a. The system shall support the following functions:

32. Real-Time Screening: Automatically screen all visitors, including contractors, guardians, and volunteers, against the most current U.S. sex offender databases.

33. Custom Watchlist Integration: Check visitors against customized school- or district-level watchlists, which may include individuals with custodial restrictions, banned visitors, or other security concerns.

34. Automated Alerts: Immediately notify administrative and security personnel when a visitor is flagged as a potential threat or risk.

35. Visitor Badge Printing: Generate and print visitor badges that include the visitor's name, photograph, date, time of entry, building name, and designated destination.

36. Reporting and Audit Trail: Maintain accurate and searchable records of all sign-ins across the district, with the ability to generate detailed reports at both the school and district level. This data shall support audits, investigations, and administrative reviews.

b. The system shall include the following equipment:

i. State-issued ID Scanner: For rapid scanning and verification of government-issued identification cards (e.g., driver's licenses).

37. Visitor Badges: Printable adhesive or card stock badges used for all approved visitors.

38. Camera: For capturing real-time visitor photos when not available from the scanned ID.

39. Printer: Capable of printing visitor badges and student tardy passes as required.

2. The visitor management system shall be fully integrated with school safety protocols and aligned with local district policies. All components shall be installed, configured, and tested in accordance with manufacturer guidelines and the operational requirements of the facility.

D7010.70 SECURITY EQUIPMENT

1. The network switches shall include non-PoE, PoE, PoE+, and PoE++ switches necessary for the proper operation of the Electronic Security Management System.

2. Workstations shall be shall be equipped with a keyboard, mouse, and monitor. Where feasible, consolidated workstation/server configurations supporting multiple systems may be used in lieu of separate units, provided they meet the minimum software requirements and are equipped with sufficient video cards for each system. Each workstation shall include a dedicated, floor-mounted uninterruptible power supply (UPS) to ensure continuous operation. Workstations shall be provided for the Access Control System server client, Video Management System client, Visitor Management System client, and Photo Identification Badging client. Additionally, a rack-mounted KVM switch shall be installed in the equipment closet housing the network video recorder.

3. Monitors shall be commercial-grade displays capable of continuous 24/7 operation without performance degradation. Desktop monitors shall be 24-inch flat-panel color displays and wall-mounted monitors shall be 50-inch flat-panel color displays using VESA-compliant brackets and all necessary accessories. All monitors shall have a minimum resolution of 1920 x 1080 pixels at 60Hz refresh rate, with larger displays possibly requiring higher resolutions. The aspect ratio shall be 16:9, and display types shall be either LED-backlit LCD or OLED to ensure color accuracy and energy efficiency. Each monitor shall include, at a minimum, HDMI and DisplayPort digital input connections. Monitors shall have a minimum panel life rating of 50,000 hours, a contrast ratio of at least 5000:1, and must comply with VESA mounting standards.

4. UPS units shall be provided to support connected loads with a capacity of at least 120% to accommodate future expansion and battery degradation. Each UPS shall include RS-232 and 10Base-T Ethernet ports to allow for local and remote monitoring, and include all necessary software, hardware, and data connections for full operational integration. UPS units shall support user-configurable operating system shutdown features. A front panel LED status display shall be

provided on each UPS, showing load and battery bar graphs, with visual indicators for battery replacement, overload, and bypass status. Audible and visual alarms shall activate during low battery or overload conditions. Rack-mounted UPS units shall be installed in each equipment rack supporting security devices, providing a minimum 30-minute backup runtime. Floor-mounted UPS units shall support workstations and monitors with a minimum 30-minute runtime. Cabinet-mounted UPS units shall support field panels and enclosures with a minimum 30-minute runtime. All batteries shall be rechargeable and properly sized to maintain full system functionality during the entire specified backup duration.

AUDIO-VISUAL SYSTEMS NARRATIVE

Prepared by Newcomb & Boyd.

E10 EQUIPMENT:

E1025 AUDIO-VISUAL EQUIPMENT

1. Classrooms and Instructional Spaces:
    a. Video: Each space will be equipped with a 75" interactive display on a mobile cart. Content will be displayed via the embedded Android OS, or an instructor can plug directly into the display via USB-C or HDMI ports.
    b. Audio: Audio will be provided via the speakers integrated with the Interactive Display. Additionally, sound reinforcement speakers will be located in the ceiling.
    c. Control: Display manufacturer provided remote control and on-screen controls.
2. Gymnasium:
    a. Video: A motorized projection screen will be provided and supported from the ceiling above. The viewing area of the screen will be 192"W x 120"H (226" diagonal). The bottom of the viewing area will be approximately 48" above the finished floor of the Gymnasium. A 4K projector designed for use in a large venue will be installed in the ceiling on a scissor-lift style mount will lower to the correct height when in use and will retract into the ceiling when not in use to provide physical protection. A/V inputs and wireless streaming will be provided.
    b. Audio: Pendent-mount speakers will be installed in the ceiling to provide sound coverage throughout the gym. PA announcements will be broadcast over the same speakers. Both Wireless microphone capability and wired microphone inputs will be provided. An Assistive Listening system will be provided with receiver units in compliance with ADA requirements.
    c. Control: A wall-mount Control Panel will be provided to allow control of the audio inputs and volume control. The headend A/V equipment will be located in a rack in a Storage Room adjacent to the gymnasium.
3. Cafetorium / Platform:
    a. Video: A motorized projection screen will be provided and supported from the ceiling above. The viewing area of the screen will be 192"W x 120"H (226" diagonal). The bottom of the viewing area will be approximately 48" above the finished floor of the Platform. A 4K projector designed for use in a large venue will be installed in the ceiling on a scissor-lift style mount will lower to the correct height when in use and will retract into the ceiling when not in use to provide physical protection. A/V inputs and wireless streaming will be provided.

b. Audio: Pendent-mount speakers will be installed in the ceiling to provide sound coverage throughout the space. PA announcements will be broadcast over the same speakers. Both Wireless microphone capability and wired microphone inputs will be provided. An Assisted Listening system will be provided with receiver units in compliance with ADA requirements.
c. Control: A wall-mount Control Panel will be provided to allow control of the audio inputs and volume control. The headend A/V equipment will be located in a rack in the adjacent Control Room.

4. Media Center
    a. Video: The Media Center will be equipped with an Interactive Display (similar to classroom display).
    b. Audio: Audio will be provided through the Display Screen's built-in speakers.
    c. Control: Display manufacturer provided remote control.

5. Indoor Digital Signage:
    a. Video: Each Digital Signage location will be provided with a non—interactive display screen (sizes TBD). Mounts will be fixed, low-profile style. A recessed A/V wall box will be installed behind the screen to house power, data connections, and the digital signage receiver. Digital signage displays will be located at the Main Entrance, Main Office, and Cafeteria. Digital menu boards in the Serveries, if required, will be provided.
    b. Audio: Not applicable.
    c. Control: Displays will be controlled by the signage player via CEC.

6. Conference Rooms:
    a. Video: Each conference room will be equipped with a non-interactive display screen – 80" Diagonal in large conference rooms, and 65" in smaller conference rooms. An HDMI input will be provided at the conference table, located inside an in-table A/V box that will also contain electrical receptacles and data jacks as needed.
    b. Audio: Audio will be provided through the display's built-in speakers.
    c. Control: The receiver in each conference room will have signal sense capability which will allow the display to turn on or off depending on sensing signal, or when a device is plugged in/out.

7. Music Rooms:
    a. Audio: Full range speaker system for listening, simple fixed stereo recording system, playback from recording system or connected computer

LANDSCAPE ARCHITECTURE SYSTEMS NARRATIVE

Prepared by Studio 2112.

G20 SITE IMPROVEMENTS:

1. General Site Conditions

    a. Outlined below our recommendations for the general site conditions that will need to be considered regarding the existing site features and landscaping:
    b. Accessibility along all circulation routes, to building egress points, and throughout all outdoor active and passive recreation areas will need to be achieved to comply with ADA and 521 CMR code requirements. The repairs/improvements will likely involve upgrades to vehicular driveways, pedestrian walkways, athletic field(s), play spaces, grading, handrails, detectable surface warning strip(s), etc., throughout the project site.
    c. For safety and security all concepts will consider Crime Prevention Through Environmental Design (CPTED) strategies and goals. These strategies will include lighting, fencing, and plantings that maintain lines of sight.
    d. Designs incorporate priorities and desires from the school community regarding amenities and program needs, as well as best practices for educational landscapes - supporting inclusivity, biodiversity, stewardship, and community.
    e. Existing memorial benches, stones, posts and site elements to be salvaged and relocated on site as needed.
    f. The existing site grading and drainage will need to be evaluated to be certain that the site does not experience any drainage issues (to be coordinated with the civil engineer).
    g. Similarly, an analysis of site soils shall be performed to confirm buildability and any amendment necessary for the new use.
    h. A licensed arborist will need to evaluate the condition of the existing trees to determine their safety and long-term viability to be certain that they will not suffer decline during any site improvements; thereby resulting in limb-drop or early decline that could impact the site users. In addition, the existing plantings would need to be selectively pruned to ensure longevity, while existing lawn areas to be preserved will need to be re-established to encourage the growth of healthy lawn areas for passive and active recreational use.
    i. The existing site lighting system will need to be evaluated and updated/replaced – see Electrical for information about site lighting.
    j. Existing fences will need to be evaluated and upgraded to be certain that all code and safety requirements are met throughout the site. Fencing along perimeter of property will be evaluated and upgraded, particularly in areas where project site abuts residential areas and other uses. Fencing along property line at street not to be included.
    k. Existing driveways, parking, and service zones will need to be repaired, re-striped, and/or replaced for safety and clarity.
    l. Wayfinding signage throughout the site will need to be upgraded for directional and safety clarity.
    m. Opportunities for snow storage and/or removal will need to be identified.

2. Option B1.1: Renovation / Addition
   With the renovation/addition options, the school building would remain in its current location. The design team would make every effort to create safer and more-defined vehicular drop-off/pick-up and queuing opportunities. The following is a general description of site improvements scope of work:
   a. Roadways:
      i. All roadways shown shall be 20-24' in width with a 5' wide concrete sidewalk adjacent.
      ii. Parking lots shall assume 8' planting island between parking isles.
   b. New Building Entrances (e.g. at Pre-K Entry):
      i. Concrete unit pavers set over 4" concrete base with core holes 8" on center filled with drainage gravel for drainage.
      ii. Granite curbing
      iii. Precast concrete seat walls with wood bench tops
      iv. Litter receptacles
   c. Walkways: 5' wide Cast-In-Place Concrete (ADA Accessible)
   d. Plantings
      i. Deciduous trees at parking lot and disturbed areas throughout. 4" caliper shade trees, and 3" caliper flowering trees.
      ii. Perennial beds at the building entrances, parking islands, and courtyard; low maintenance
      iii. Engineered soils for planting areas
      iv. Provide drip irrigation to all trees, and perennial beds.
   e. Play Equipment – Pre-K playground
      i. Preserve existing play equipment – certified playground inspector to inspect all playground equipment during design phases to provide report and overview of repairs. Assume 50% of playground equipment to be replaced.
      ii. Provide or repair rubber safety surfacing for the existing play equipment
      iii. Provide rubber curb at edge of rubber and planting areas
      iv. Provide accessible concrete walkways to and from playground
      v. Play areas to be updated for any drainage issues
      vi. Provide shade structures within play area. Repair safety surfacing as required.
   f. Tennis courts
      i. Replace tennis courts in kind in off-site location
   g. Lighting
      i. Pedestrian and vehicular site lighting to be provided under Electrical

OFF SITE / CIVIL SYSTEMS NARRATIVE

Prepared by Greenman-Pederson Inc.

G20 OFF-SITE IMPROVEMENTS:

1. General Off-Site Conditions:
   Outlined below are the anticipated off-site considerations that will be evaluated and incorporated into the project to support safe and efficient school access:
   a. Off-site improvements will be developed in coordination with the municipality and school community priorities, with a focus on implementable upgrades that improve arrival/dismissal operations and year-round pedestrian safety.
   b. All off-site work will be coordinated with the roadway owner (Town and/or MassDOT) and other agencies having jurisdiction. Permitting needs (road opening permits, traffic control approvals, utility coordination, and MassDOT review where applicable) will be identified during design development.
   c. Designs will consider snow storage/removal, pavement durability, and long-term maintenance responsibilities (Town vs. School District vs. others), including maintenance of beacon systems and speed feedback signs.

2. Option B1.1: Renovation / Addition
   With the renovation/addition options, the school building would remain in its current location. The design team would make every effort to support safer and more efficient school access for all modes. The following is a general description of off-site improvements scope of work:
   a. Crosswalks and Crossing Enhancements
      i. High-visibility crosswalk at priority school-route locations
      ii. Pedestrian warning signage at and in advance of crossings, with an emphasis on consistent application along approaches
   b. Pavement Markings
      i. New/refreshed markings to support safe, legible operations and reinforce school-zone conditions, including as applicable: center/edge/lane lines; stop bars/yield lines; channelization; crosswalks and messages; school legends; markings for traffic calming features.
      ii. Materials and reflectorization (paint vs. thermoplastic, etc.) coordinated with the roadway owner and applicable standards.
   c. Regulatory, Warning and Guide Signage
      i. Replace outdated/inconsistent signs and install new signage as needed (e.g., school zone assemblies/time plaques, speed limits, pedestrian crossing signs, turn restrictions, supplemental plaques)
   d. Speed Feedback Signs
      i. Speed feedback sign assemblies on key approaches to reinforce target speeds near school (time-based operation where applicable/approved)

G30/40 OFF-SITE UTILITIES:

1. The following is the civil site systems narrative outline specifications:
    a. Traffic Signage.
    b. Pavement Markings.
    c. Traffic Signals.

2. TRAFFIC SIGNAGE

a. Work consists of fabricating, furnishing and installing roadside guide signs, warning and regulatory signs, route and project markers and supports for delineators and markers in accordance with the relevant provisions of Subsections 828 and 840 of the MassDOT Standard Specifications for Highways and Bridges (latest edition), the latest version of the Manual on Uniform Traffic Control Devices (MUTCD), and the following technical specifications.

b. The Work specified in this Section also consists of furnishing and installing solar-powered radar speed display signs in accordance with the relevant provisions of Section 800 of the MassDOT Standard Specifications for Highways and Bridges (latest edition), the latest version of the Manual on Uniform Traffic Control Devices (MUTCD), and the following technical specifications.

c. Quality Control
    i. Installer Qualifications: Fabricator of products or an employer of workers trained and approved by the fabricator.
    ii. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this project and whose products have a record of successful in-service performance.
    iii. Source Limitations for Signs: Obtain each sign type indicated from one source from a single manufacturer.

d. Reference Standards
    i. The latest version of the Manual on Uniform Traffic Control Devices (MUTCD).
    ii. Massachusetts Department of Transportation (MassDOT) 1990 Standard Drawings for Signs and Supports.

e. Submittals:
    i. Provide shop drawings for the following:
        1. Roadside signage.
        2. Radar Speed Display Sign.

f. Warranty
    i. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within five years from date of Substantial Completion. Failures include, but are not limited to, deterioration of finishes beyond normal weathering and deterioration of embedded graphic image.

g. Roadside Signage
   i. Sign panels shall be in accordance with the relevant provisions of Subsection 828 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).
   ii. Sign supports shall be in accordance with the relevant provisions of Subsection 840 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

h. Radar Speed Display Sign
   i. Radar Speed Display Sign shall, at a minimum, consist of the following items, which shall be included in the lump sum bid price:

      1. 20”x20”x48” concrete foundations (4000 psi, ¾ -inch, 610 cement concrete)
      2. 13’ traffic signal post and pedestal (painted yellow)
      3. 24”x30” MUTCD R2-1sign
      4. 24”x30” SP-1(ILL.) (YOUR SPEED XX) dynamic radar display sign assembly
      5. Solar panel
      6. All mounting and supporting hardware and wiring necessary to complete a working system.
      7. NEMA Type 3R or higher enclosures to house:
         a. Electrical components, including wiring and solid-state circuit boards
         b. On-board user interface
         c. Battery
         d. Speed detection radar unit;

      40. The Radar Speed Display sign, the traffic signal post and the pedestal shall be listed on the Qualified Traffic Control Equipment List. Pedestals shall be cast iron.
      41. All signs shall be MUTCD-compliant. R2-1(35) sign shall have a black border and legend on a white background. All sign sheeting materials shall be per Subsection 828.41. SP-1(ILL.) sign shall have a black border and legend “YOUR SPEED” on a fluorescent yellow-green background with the numeric speed display provided by yellow Light Emitting Diodes (LED).
      42. The LEDs shall have minimum 1.4 candle luminous intensity and 22 degrees viewing angle. The LED lighting system shall be controlled automatically by a photocell, utilizing pulse width modulation. This

system adjusts the lighting intensity, for daytime, nighttime, and adverse weather conditions.

43. Any proprietary software required for the programming and/or operation of the system shall be included at no additional cost.
44. The solar panels shall be affixed to an aluminum plate and bracket, adjustable at an angle of 45° to 60° and each assembly shall be mounted on a 360° rotatable pole cap mount to facilitate adjustment for maximum solar collection and optimal battery strength. The solar panel assemblies shall be rated for 90 mph wind conditions.
45. The batteries shall conform to Battery Council International specifications and have a capacity allowing up to 30 days of autonomy without sunlight and varying with ambient temperature and number of activations. The batteries shall be rated for a minimum lifespan of 3 years. Batteries shall be replaceable independently of other components.
46. The solar panels and battery shall have a minimum operating temperature range of -40° to 122°F (-40° to 50°C).
47. The Contractor shall provide shop drawings and calculations to confirm solar panel sizing and battery/solar energy storage will meet the functional requirements of the system.
48. The dynamic radar speed display sign shall be capable of collecting and storing speed data for up to a one (1) year period and provide wireless Bluetooth capabilities to a laptop PC. All necessary software shall be provided to allow Bluetooth PC connectivity.
49. No work shall commence until the shop drawings are approved.
50. Layout and design of the Radar Speed Display Sign shall conform to the plans.
51. Foundation installation shall be per Subsection 801.62. The top of the foundation shall be ¼" to 1" proud of the sidewalk and chamfered at 45 degrees. Gaps between the sidewalk and foundation shall be no larger than ¼" and grouted with preformed joint filler.
52. The Contractor shall diagnose and replace any part of the Radar Speed Display sign that is found to be defective in workmanship, material, or manner of functioning within six months of final acceptance by the Engineer. This requirement does not supersede the one-year warranty period on materials specified in Subsection 815.20 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

i. At completion of installation, clean soiled sign surfaces in accordance with manufacturer's instructions. Protect units from damage until acceptance by Engineer.

3. PAVEMENT MARKINGS

a. The work of this section consists of furnishing and applying reflectorized pavement markings in accordance with Subsection 860 of the MassDOT Standard Specifications for Highways and Bridges (latest edition). The work shall include, but not be limited to the following:

i. Pavement Arrows and Legends – Tape

ii. Pavement Arrows and Legends Reflectorized White (Thermoplastic)

iii. 6-Inch Reflectorized White Line (Thermoplastic)

iv. 12-Inch Reflectorized White Line (Thermoplastic)

v. 6-Inch Reflectorized Yellow Line (Thermoplastic)

b. Materials for all Pavement Marking Items shall meet the requirements of Subsection 860 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

c. Pavement Markings shall be applied to the surface in conformance with the relevant sections of Subsection 860 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

4. TRAFFIC SIGNALS

Work includes furnishing and installing a solar-powered, pedestrian actuated, rectangular rapid flashing beacon (RRFB) system at the locations shown in the plans.

All work under this Section shall conform to the relevant provisions of Section 800 of the MassDOT Standard Specifications for Highways and Bridges (latest edition), the latest version of the Manual on Uniform Traffic Control Devices (MUTCD), and the following technical specifications.

Rectangular Rapid Flashing Beacon System shall, at a minimum, consist of the following:

i. 2) 20”x20”x48” concrete foundations (4000 psi, ¾ -inch, 610 cement concrete)

ii. (2) 15’ traffic signal posts and pedestal (painted yellow)

iii. (2) APS pushbutton systems (include confirmation light)

iv. (4) dual rectangular yellow LED beacons in NEMA enclosure

v. (2) 9”x12” R10-25 (PUSH BUTTON TO TURN ON WARNING LIGHTS) signs

vi. (4) 30”x30” W11-2 (Pedestrian Warning) signs

vii. (2) 24”x12” W16-7PR and (2) 24”x12” W16-7PL (Diagonal Downward Arrow) signs

viii. (2) solar panels

ix. (2) NEMA Type 3R or higher enclosures to house:

53. Electrical components, including wiring and solid-state circuit boards
54. On-board user interface
55. Battery
56. Frequency hopping spread spectrum (or other alternate FCC approved) wireless activation unit with a minimum 150' range; and

x. All mounting and supporting hardware and wiring necessary to complete a working system.

The light intensity of the LED beacons during daytime conditions shall meet the minimum specifications for Class 1 yellow peak luminous intensity in the Society of Automotive Engineers (SAE) Standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated January, 2005. An automatic signal dimming device shall be included to reduce the brilliance of the LED beacons during nighttime conditions.

RRFB controller and LED beacons, APS pushbutton systems, and traffic signal posts and pedestals shall be listed on the MassDOT Qualified Traffic Control Equipment List. Pedestals shall be cast iron.

The light intensity of the LED beacons during daytime conditions shall meet the minimum specifications for Class 1 yellow peak luminous intensity in the Society of Automotive Engineers (SAE) Standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated January, 2005. An automatic signal dimming device shall be included to reduce the brilliance of the LED beacons during nighttime conditions.

All signs shall be MUTCD-compliant. R10-25 signs shall have a black border and legend on a white background. W11-2, W16-7PR, and W16-7PL signs shall have a black border and legend on a fluorescent yellow-green background. All sign sheeting materials shall be per the relevant provisions of Subsection 828.41 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

R10-25 signs may be integrated into the APS pushbutton system as a single unit or mounted separately on Type A aluminum.

W11-2, W16-7PR, and W16-7PL signs shall be Type A aluminum per the relevant provisions of Subsection 828.42 of the MassDOT Standard Specifications for Highways and Bridges (latest edition).

Any proprietary software required for the programming and/or operation of the system shall be included at no additional cost.

The solar panels shall be affixed to an aluminum plate and bracket, adjustable at an angle of 45° to 60° and each assembly shall be mounted on a 360° rotatable pole cap mount to

facilitate adjustment for maximum solar collection and optimal battery strength. The solar panel assemblies shall be rated for 90 mph wind conditions.

b. The batteries shall conform to Battery Council International specifications and have a capacity allowing up to 30 days of autonomy without sunlight and varying with ambient temperature and number of activations. The batteries shall be rated for a minimum lifespan of 3 years. Batteries shall be replaceable independently of other components.

c. The solar panels and battery shall have a minimum operating temperature range of -40° to 122°F (-40° to 50°C).

d. The Contractor shall provide shop drawings and calculations to confirm solar panel sizing and battery/solar energy storage will meet the functional requirements of the system.

SITE / CIVIL SYSTEMS NARRATIVE

Prepared by Samiotes Consultants, Inc.

F30 / G02/10/20/30/40 SITE UTILITIES:

Civil Outline Specifications

1. The following is the civil site systems narrative, which includes the following outline specifications:
    a. F3030 Utility Line Removal
    b. G1010 Site Clearing
    c. G1070.35 Soil Erosion and Sedimentation Controls
    d. G2010 Asphalt Paving
    e. G2010.10 Heavy Duty Concrete Paving
    f. G2010.20 Curbs and Gutters
    g. G2020 Traffic Signage
    h. G2020.40 Pavement Markings
    i. G2030.10 Concrete Paving
    j. G3010 Water Utilities
    k. G3020 Sanitary Sewerage Utilities
    l. G3030 Stormwater Utilities
    m. G3030.10 Water Quality Unit

F3030 UTILITY LINE REMOVAL

1. Provide all labor, materials, equipment, services, and transportation required to complete all utility line removal work as shown on the Drawings, as specified herein, or both.
    a. Include the following work:
        i. Adjusting frame, grate, and rim elevations of existing storm drainage, sanitary sewer, gas, electrical, and water utilities to remain.
        ii. Cut and cap existing sanitary sewerage, stormwater utilities, water utilities, gas, electrical utilities, and their appurtenances.
        iii. Removal/abandonment of existing sanitary sewerage, stormwater utilities, water utilities, gas, electrical utilities, and their appurtenances.
    b. Permits and Codes.

i. All work shall comply with applicable codes, ordinances, rules, regulations, and laws of all local, state, and federal authorities having jurisdiction. All work necessary to make site preparation comply with such requirements shall be provided without additional cost to the Owner.

ii. Procure and pay for all permits and licenses required for work under this Section. Give all required notices.

iii. Contractor shall not close or obstruct any roads, sidewalks, alleys, or passageways unless approved by the Owner and the Town of Essex. Conduct all operations to interfere as little as possible with the use ordinarily made of roads, driveways, alleys, sidewalks, and other facilities near enough to the Work to be affected. No materials whatsoever shall be placed or stored within the site without approval of the Owner.

iv. Contractor shall register with "Dig Safe" 72 hours prior to construction. It is the Contractor's responsibility to maintain "Dig Safe" registrations and "Dig Safe" markings.

v. Contractor shall comply fully with utility company requirements. The Contractor shall hold a preconstruction meeting with Essex Public Works prior to disconnection (e.g. cut and cap of existing water lines) of any existing on-site water infrastructure.

c. Project Conditions:

i. Locate, protect, and maintain benchmarks, monuments, control points, and project engineering reference points. Re-establish disturbed or destroyed items at no additional expense to the Owner.

ii. Perform site utilities work operations and the removal of debris and waste materials to ensure minimum interference with streets, walks, and other adjacent facilities.

iii. Obtain written permission from the Town of Essex when required to close or obstruct roads, walks, and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways.

iv. Control dust caused by the work. Dampen surfaces as necessary. Comply with pollution control regulations of governing authorities and the Stormwater Pollution Prevention Plan (SWPPP).

v. Protect existing buildings, paving, and other services or facilities adjacent to the site from damage caused by site work operations. Cost of repair and restoration of damaged items shall be at the Contractor's expense.

vi. Protect and maintain lights, utility poles and services, valves, and other services, except items designated for removal. Provide for temporary relocation when required to maintain facilities and services in operation during construction work.

vii. Adjust rim elevations on utility access structures such as manholes, clean outs, and other structures and appurtenances to be flush with new grade elevations, unless otherwise indicated on the Drawings.

viii. When uncharted or incorrectly charted underground piping or other utilities and services are encountered during site work operations, notify the applicable utility company and the Designer immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active services in operation.

ix. Survey information of existing conditions is approximate. The Contractor shall be responsible for field verification of all survey information prior to construction and shall be responsible for carrying out all site work required to fully and properly execute the work of the Contract, regardless of the conditions encountered in the actual work. No claim for extra compensation or extension of time shall be allowed on account of actual conditions inconsistent with those assumed, except as provided in GENERAL CONDITIONS.

G1010 SITE CLEARING

1. Provide all labor, materials, equipment, services, and transportation required to complete all site preparation work as shown on the Drawings, as specified herein, or both.

    a. Includes the following work:

        i. Removing asphalt pavement and base.
        ii. Removing curbs.
        iii. Removing designated site improvements.
        iv. Removal of vegetation.
        v. Tree protection
        vi. Clearing and grubbing.

    b. Permits and Codes.

        i. All work shall comply with applicable codes, ordinances, rules, regulations, and laws of all local, state, and federal authorities having jurisdiction. All work necessary to make site preparation comply with such requirements shall be provided without additional cost to the Owner.

        ii. Contractor shall procure and pay for all permits and licenses required for work under this Section. Give all required notices.

        iii. Contractor shall not close or obstruct any roads, sidewalks, alleys, or passageways unless approved by the Owner and the Town of Essex. Conduct all operations to interfere as little as possible with the use ordinarily made of roads, driveways, alleys, sidewalks, and other facilities near enough to the Work to be affected. No materials whatsoever shall be placed or stored within the site without approval of the Owner.

iv. Contractor shall register with "Dig Safe" 72 hours prior to construction.

c. Project Conditions:

i. Locate, protect, and maintain benchmarks, monuments, control points, and project engineering reference points. Re-establish disturbed or destroyed items at no additional expense to the Owner.

ii. Perform site work operations and the removal of debris and waste materials to assure minimum interference with streets, walks, and other adjacent facilities.

iii. Obtain governing authorities' written permission when required to close or obstruct streets, walks, and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways when required by governing authorities.

iv. Control dust caused by the work. Dampen surfaces as necessary. Comply with pollution control regulations of governing authorities and the Stormwater Pollution Prevention Plan (SWPPP).

v. Protect existing buildings, paving, and other services or facilities adjacent to the site from damage caused by site work operations. Cost of repair and restoration of damaged items shall be at the Contractor's expense.

vi. Do not commence site clearing operations until temporary erosion and sedimentation control and tree protection measures are in place.

vii. Perform soil stripping, handling, and stockpiling only when topsoil is dry or slightly moist.

G1070.35 SOIL EROSION AND SEDIMENTATION CONTROLS

1. Provide all equipment and materials, and do all work necessary to construct a complete erosion and sedimentation control program for minimizing erosion and siltation during the construction phase of the project. The erosion and sediment control provisions detailed on the Drawings and specified herein are the minimum requirements for an erosion control program. The Contractor shall provide additional erosion and sedimentation control materials and methods as needed to effect the erosion and siltation control principles specified herein. Massachusetts Department of Environmental Protection (MassDEP) stormwater standards shall be followed during construction and incorporated into the design as practicable.

2. Contractor shall be responsible for applying for a NPDES Permit, and complying with the approved Storm Water Pollution Prevention Plan (SWPPP) as developed by the Owners/ Civil Engineer.

3. Environmental Protection Agency – Contractor shall be responsible for applying for a an eNOI in relation to the National Pollutant Discharge Elimination Scheme (NPDES) Permit and compliance with the NPDES Program.

4. Contractor to be responsible for design and permitting of a comprehensive proposed dewatering plan prior to the commencement of construction. Dewatering plan to be submitted to the Engineer and Town Reviewing Agencies prior to the commencement of construction.

5. TEMPORARY SEED COVER (IF NECESSARY):

a. Grass seed for temporary seed cover shall be a mixture of the previous year's crop. Not more than 0.5% by weight shall be weed seed and not more than 1.75% by weight crop seed.

b. Seed shall be delivered to the site in sealed containers, labeled with the name of the seed grower and seed formula. Seed shall be dry and free of mold.

c. A manufacturer's certificate of compliance will be required as specified in MassDOT Specifications M6.03.0.

6. COMPOST FILTER SOCKS:

a. Only mature compost that has been certified by the U.S. Composting Council's Seal of Testing Assurance Program shall be used. Compost shall meet the following specifications:

b. Filter sock netting shall be cotton or wood fiber, tubular knitted mesh with 1/8 in. openings. Filter socks shall be all-natural biodegradable cotton or wood fiber. For most applications, filter socks shall have 12 in. diameter netting.

c. Stakes shall be 2 in. x 2 in. wood in unpaved areas only.

7. SILTATION FENCE:

a. Geotextile Fabric shall be nonwoven fabric consisting of only long chain polymeric filaments or yarns, such as polypropylene, polyethylene, polyester, polyamide, or polyvinylidene-chloride formed into a stable network such that the filaments or yarns retain their relative position to each other. The fabric shall be inert to commonly encountered chemicals and free of defects or flaws which significantly affect its physical and/or filtering properties. Fabric shall conform to ASTM D6461 and the relevant sections of AASHTO M288.

b. During all periods of shipment and storage, the fabric shall be wrapped in a heavy-duty protective covering to protect the fabric from direct sunlight, UV rays, temperatures greater than 140°F, mud, dirt, dust, and debris.

c. Support fence posts shall be at least 48 in. high (extending 2 ft. above normal water line while being driven to sufficient depth to provide stable support for fence) and strong enough to support applied loads.

d. Posts shall be wood or steel, at the Contractor's option. Wood posts shall consist of sound quality hardwood with a minimum cross-sectional area of 3 sq. in. Steel posts shall be standard "T" or "U" shape and shall weigh at least 1.33 pounds per linear foot.

e. Fabric shall be attached to the posts with prefabricated pockets in the fabric, staples, or other suitable arrangements which have received approval from the Architect.

f. Prefabricated fence systems may be used, provided they meet all of the above material requirements. Filter fabric shall be similar to Mirafi 500X / 140 NL, GeoTex 2130 / 351, or US 200 / 90NW (woven / nonwoven).

8. COIR LOGS:

a. Coir logs shall be manufactured from coir fibers, be wrapped in a twisted coir netting, and shall meet the following specifications:

   i. Diameter = 16 inches

   ii. Weight = 9 lbs/foot

   iii. Density = 9 lbs/cubic foot

   iv. Outer Net = 80 lbs

   v. Openings = 2 in x 2 in

   vi. Inner Core = Coir Mattress Fiber

b. Stakes shall be 2 in. x 2 in. wood in unpaved areas only.

9. JUTE MESH:

   a. Jute mesh shall be a uniform, plain weave cloth of undyed and unbleached single jute yarn with an open area of 60-65 percent. The yarn shall be of a loosely twisted construction and it shall not vary in thickness more than one-half its normal diameter. Jute mesh shall be furnished in rolled strips and shall meet the following requirements:
   b. Width - 48 in., plus or minus 1 in.; 41 arp-ends per 48 in. of cloth width (minimum); 41 weft-ends per linear yard (minimum); Weight shall average 1.22 pounds per linear yard with a tolerance of plus or minus five percent
   c. Staples shall be U-shaped and shall be approximately 6 in. long and 1 in. wide. Machine made staples shall be of No. 11 gauge or heavier steel wire. Handmade staples shall be made from 12 in. lengths of No. 9 gauge or heavier steel wire

10. CATCH BASIN FILTERS:

   a. Catch basin filters shall be manufactured from a specially designed woven polypropylene geotextile and sewn by a double needle machine, using a high strength nylon thread. Seams shall have a certified average wide width strength of 165.0 lbs./in. per ASTM D4884.
   b. The filters shall be manufactured to fit the opening of the catch basin or drop inlet. The filters shall have the following features: two dump straps attached at the bottom to facilitate the emptying of the filters; lifting loops to be used to lift the filters from the basin as an integral part of the system; a restraint cord approximately halfway up the sack to keep the sides away from the catch basin walls and to act as a visual means of indicating when the sack should be emptied.
   c. Catch basin filter geotextile fabric shall have the following properties:

Property (units)	Minimum Value	Test Method
Grab Tensile (lbs)	300	ASTM D4632

Grab Elongation (%)	15 (20 max)	ASTM D4632
Puncture (lbs)	120	ASTM D4833
Mullen Burst (psi)	650	ASTM D3786
Trapezoid Tear (lbs)	120	ASTM D4533
UV Resistance (%)	90	ASTM D4355
Apparent Opening Size (U.S. Standard Sieve)	Hole size equal to or smaller than a U.S. Standard No. 40 (0.425 mm)	ASTM D4751
Permittivity (sec-1)	0.55	ASTM D4491

11. CONSTRUCTION ENTRANCE:

    a. The geotextile fabric shall be nonwoven fabric conforming to AASHTO M288, Grade C or better, consisting of only long chain polymeric filaments or yarns, such as polypropylene, polyethylene, polyester, polyamide, or polyvinylidene-chloride formed into a stable network such that the filaments or yarns retain their relative position to each other. The fabric shall be inert to commonly encountered chemicals and free of defects or flaws which significantly affect its physical and/or filtering properties.

    b. Geotextile fabric for construction entrance shall have equal to or better than the following properties for minimum average roll value (MARV):

Property (units)	Woven	Nonwoven	Test Method
Grab Tensile (lbs)	120	120	ASTM D4632
Grab Elongation (%)	35 (maximum)	50	ASTM D4632
CBR Puncture (lbs)	250	340	ASTM D6241
Trapezoid Tear (lbs)	50	70	ASTM D4533
UV Resistance at 500 hours (%)	70	70	ASTM D4355

Apparent Opening Size (U.S. Standard Sieve)	Hole size equal to or smaller than a U.S. Standard Sieve No. 40 (0.425 mm)	Hole size equal to or smaller than a U.S. Standard Sieve No. 70 (0.212 mm)	ASTM D4751
Permittivity (sec-1)	0.05	0.3	ASTM D4491
Flow Rate (gal/min/ft2)	4	29	ASTM D4491

c. Minimum of 6" of clean, crushed stone, ranging from 2 in. to 3 in. in size, will be added over length and width of structure.
d. Top dressing shall be clean, 2 in. crushed stone.
e. Construction entrance shall have a minimum width of 20 feet. See plan for minimum length.

G2010 ASPHALT PAVING

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction.
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to complete all asphalt concrete paving work as shown on Drawings, as specified herein, or both.
3. Products:
    a. GRAVEL SUB-BASE. Material for aggregate subbase shall be a graded, granular, non-frost susceptible, free-draining material, consisting of either durable stone and coarse sand or of blast furnace slag, practically free from loam and clay, and which can be readily compacted to form a stable foundation. Material for aggregate base shall conform to MassDOT Specifications Section M1.03.1 Processed Gravel for Subbase
    b. DENSE GRADED CRUSHED STONE FOR SUB-BASE. Material for aggregate subbase shall consist of crusher-run coarse aggregates of crushed stone or gravel and fine aggregates of natural sand or stone screenings uniformly premixed and placed on the subgrade or subbase in close conformity with the lines and grades shown on the Drawings. Material shall conform to MassDOT Specifications Section M2.01.7 Dense-Graded Crushed Stone for Subbase.
    c. RECLAIMED BASE COURSE. The work shall consist of scarifying and pulverizing the in-place pavement and underlying material, mixing and/or blending the materials, and spreading and compacting resultants mixture to the lines and grades shown on the plans and details. All scarified and pulverized material shall pass the 2-inch sieve. Material for

blending shall conform to MassDOT Specification Section M1.03.0 Gravel Borrow, Type b.

d. GRAVEL BASE COURSE. Material for aggregate base course shall be a graded, granular, non-frost susceptible, free-draining material, consisting of either durable stone and coarse sand or of blast furnace slag, practically free from loam and clay, and which can be readily compacted to form a stable foundation. Material for aggregate base shall conform to MassDOT Specifications Section M1.03.0 Gravel Borrow, Type b.

e. BITUMINOUS CONCRETE.

   i. Bituminous concrete shall be a standard plant-mixed, hot-laid paving material for road work, consisting of clean, mineral aggregate, mineral filler (if required), and bituminous material conforming to MassDOT Specifications Section M3.06.00 Hot Mix Asphalt.

   ii. Reclaimed asphalt pavement (RAP) shall be used at the Contractor's option, unless otherwise indicated, provided that the end product is in conformance with the designated job-mix formula. RAP shall comply with MassDOT Specifications Section M3.06.2. Max percent permissible of RAP for binder only is 20% and max percent permissible of RAP in topcoat is 15%. RAP maximum top size aggregate introduced into the mix shall be 1-1/2 inches.

   iii. Base, or bottom course, paving for roadways and parking lots shall have maximum aggregate size passing 2 in. sieve and bitumen content of 4.5-5.5 percent (plus or minus 1/2 percent by weight).

   iv. Binder course paving for roadways and parking lots shall have maximum aggregate size passing 1 in. sieve and bitumen content of five percent (plus or minus 0.4 percent by weight).

   v. Top, or wearing course, paving for roadways and parking lots shall have maximum aggregate size passing 5/8 in. sieve and bitumen content of 5.5-7.0 percent (plus or minus 0.4 percent by weight).

   vi. Surface, or wearing course, paving for sidewalks shall conform to composition for "Dense Mix."

f. AGGREGATES. All materials shall meet Commonwealth of Massachusetts DOT Standard Specifications for Highways and Bridges Section M3.06.2:

   i. Coarse Aggregate: Clean, crushed rock consisting of the angular fragments obtained by breaking and crushing shattered natural rock, free from a detrimental quantity of thin or elongated pieces, free from dirt or other objectionable materials, and complying with ASTM D692 and MassDOT Specifications Section M3.06.2A Coarse Aggregate. The coarse mineral aggregate shall be clean, hard, durable, crushed rock consisting of the angular fragments obtained by breaking and crushing shattered natural rock, reasonably free from thin and/or elongated pieces, free from dirt or other objectionable

materials. It shall be surface dry and shall have a moisture content of not more than 0.5 percent after drying. Aggregates from multiple sources of supply shall not be mixed or stored in the same stockpile.

ii. Fine Aggregate: Sharp-edged, natural sand, sand prepared from stone, or combinations thereof complying with ASTM D1073 and MassDOT Specifications Section M3.06.2.B Fine Aggregate. The fine aggregate shall consist of one of the following:

1. 100% Natural Sand: Natural sand shall consist of inert, hard, durable grains of quartz or other hard, durable rock, free from topsoil or clay, surface coatings, organic matter or other deleterious materials.
2. 100% Stone Sand: Stone sand shall be a processed material prepared from stone screenings to produce a consistently graded material conforming to specification requirements.
3. A blend of sand and stone screenings, the proportions of which shall be approved by the Engineer: Stone screenings shall be the product of a secondary crusher and shall be free from dirt, clay, organic matter, excess fines or other deleterious material.
4. A blend of natural sand and stone sand.

iii. Mineral Filler: Portland Cement, limestone dust, hydrated lime, stone float, or stone dust complying with ASTM D242 and MassDOT Specifications Section M3.10.5C. Mineral Filler.

g. BITUMINOUS MATERIALS

i. Bituminous material for tack coat shall be one of the following:

1. Cut-back asphalt (rapid-curing type) conforming to AASHTO M81, Grade RC-70 or conforming to MassDOT Specifications Section M3.02.0 Cutback Asphalts. M3.02.0: These materials shall be blends of asphalt cements and suitable solvents. They shall be homogeneous, free from water, and conform to the requirements of AASHTO-M81 for the rapid curing type and AASHTO-M82 for the medium curing type
2. Emulsified asphalt (rapid-setting type) conforming to AASHTO M140, Grade RS-1 or conforming to MassDOT Specifications Section M3.03.0 Asphalt Emulsions.

G2010.10 HEAVY DUTY CONCRETE PAVING

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction.

2. Work Included. Provide all labor, materials, equipment, services, and transportation required to complete all heavy-duty concrete paving work as shown on Drawings, as specified herein, or both. The work includes but not limited to:

    a. Concrete dumpster pad.
    b. Concrete generator pad.
    c. Concrete pavement adjacent to loading area(s)

3. Quality Assurance. The Owner will provide and pay for testing and inspection during concrete operations. Maintain field records of time, date of placing, curing, and removal of forms from concrete for each portion of work. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products shall comply with ASTM C94 requirements for production facilities and equipment. Source or brands of cementitious and aggregate materials shall not be changed during the course of the work. Installers Qualifications: Installer with 10-years experience in the production and installation of specified products.

4. Products:

    a. GRAVEL BASE COURSE Material for aggregate base course shall be a graded, granular, non-frost susceptible, free-draining materials consisting of either durable stone and coarse sand or of blast furnace slag, practically free from loam and clay, which can be readily compacted to form a stable foundation. Material for aggregate base shall conform to MassDOT Specifications Section M2.01.7 Dense graded crushed stone for subbase.

    b. CONCRETE REINFORCING: Concrete slab/pavement reinforcing shall be welded wire fabric conforming to ASTM A1064. Size shall be 6 in. x 6 in. – W2.9 x W2.9 with a minimum 1" cover. There shall also be a second type of reinforcing with #5 rebar places 12" O.C. conforming to ASTM A615-60 grade steel. Reinforcement shall be free from imperfections and surface coating of rust, dirt, oils, paint, grease, and mill scale, and shall present a clean, fresh surface. Rust that occurs in scales or that pits the steel shall be considered an imperfection. Surface rust shall be brushed to remove loose materials.

    c. PORTLAND CEMENT CONCRETE: Portland cement concrete for pavements and slabs shall be air-entrained type with a maximum water-cement ratio of 0.50 conforming to ACI 325.9R. Minimum compressive strengths at 28 days shall be as follows: Flexural strength with third point loading - 650 psi; compressive strength - 5000 psi. Concrete shall be air-entrained type, conforming to ASTM C94. Air content by volume shall be 6 percent, plus or minus one percent, and shall be tested in accordance with ASTM C231. Concrete slump shall be not less than 2 in. nor greater than 4 in., determined in accordance with ASTM C143. Cement shall be Portland cement, conforming to ASTM C150, Type I or II. Only one color of cement, all of the same manufacturer, shall be used for the work. Type III cement shall be used only with the prior approval of the Engineer. Fine and coarse aggregates shall conform to ASTM C33.

    d. CURING MATERIALS Curing shall be by moist curing or by use of curing compound. Absorptive cover shall conform to AASHTO M182, Class 2, burlap cloth made from jute, weighing approximately 9 oz/sq. yd. dry. Curing paper shall be non-staining, fiber

reinforced laminated kraft bituminous product conforming to ASTM C171. 4 mil polyethylene sheeting may be substituted for curing paper. Curing compound shall be a resin-base, white pigmented compound conforming to ASTM C309, Type II.

e. EXPANSION JOINTS Expansion joint filler shall be performed, non-bituminous type joint filler conforming to ASTM D1752, Type II. Expansion joint filler shall meet the requirements of ASTM D545. Pre-molded filler shall be one piece for the full depth and width of the joint leaving a sealant recess as indicated. Use of multiple pieces of lesser dimensions to make up required depth and width of joint shall not be permitted. Except as otherwise noted on the Drawings, joint filler shall be 1/2 in. thick and shall receive 7/8 in. joint backer rod conforming to ASTM C1330 or ASTM D5249. Expansion joint shall be sealed with a two-component polyurethane-based sealant, conforming to ASTM C920

f. CONSTRUCTION JOINTS Transverse construction joints shall be placed at side and end terminations of pavement and whenever placing of concrete is suspended for more than 30 minutes unless pavement terminates at isolation joints.Steel reinforcement shall be continued across construction joints, unless otherwise indicated. Reinforcement shall not be continued through sides of pavement strips, unless otherwise indicated.Butt joint with dowels or thickened edge joint shall be used if construction joints occur at location of control joint. A bonding agent shall be used for butt joints at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces. Doweled joints shall have one half of dowel length coated in lubricant or asphalt to prevent bonding of concrete to one side of joint. Keyed joints with tie bars shall be used if the joint occurs at any other location than a control joint.

g. GROUT: Grout shall be mixed in the proportions of one part Portland cement to two parts sand, by volume. Only sufficient water shall be used to enable grout to barely hold its shape when squeezed into a ball in the hand. Sand for grout shall be "Fine Aggregate", conforming to ASTM C33. Non-shrink grout shall be pre-mixed non-shrinking, high strength grout. Compressive strength in 28 days shall be 5,000 psi minimum, but in no case less than the specified strength of the adjacent concrete. Manufacturer shall provide evidence that the material meets the requirements of the Army COE CRD-C 621. Grout permanently exposed to view shall be non-oxidizing; metallic grout may be used in other locations.

G2010.20 CURBS AND GUTTERS

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction.
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to complete all straight and curved vertical granite curb work, asphalt curbs, and concrete curbs as shown on the Drawings
3. Products:

a. GRANITE CURB STONES. Furnish and install, prior to surfacing, vertical granite curbs of hard and durable stone, conforming to MassDOT Specifications for Type VA-4 as described in Section M9.04.1 Granite Curb, except as otherwise indicated. Vertical curbs shall be Chelmsford light gray granite. Curbs shall be 18 in. deep plus or minus 1 in., 6 in. wide at top with front and back faces, tops and ends dressed for setting. The front and back face shall be at right angles to the plane of the top. Minimum length is 6 ft. Top and exposed faces shall be quarry face. Foundation shall consist of 2 in. minus clean, porous gravel spread upon the subgrade and after being thoroughly compacted by tamping shall be not less than 6 inches in depth. Trenches for curb stone shall be 18 in. wide. Cement mortar shall meet the requirements of MassDOT Specifications Section M4.02.15 Cement Mortar and shall have “Natural” color to match curb color.

b. BITUMINOUS CONCRETE. Bituminous concrete shall be a standard plant-mixed hot-laid paving material for road work, consisting of clean, crushed rock aggregate, mineral filler, and bituminous material. Bituminous concrete shall conform to the applicable requirements of MassDOT Specifications Section M3.11.00 Class I Bituminous Concrete and M3.11.03 Job-Mix Formula for “Dense Mix”. Cape Cod berm, where provided, shall be a Modified Bituminous Concrete Berm – Type A (1 ft. width). Catch basins shall have curb inlet stones with transition stones when sloped granite edge stone or Cape Cod berm is used. Bituminous material for the tack coat on the existing surface shall be emulsified asphalt, grade RS-1, conforming to MassDOT Specifications Section M3.03.0

c. PRECAST CONCRETE CURBS. Precast curb units shall be the product of one of the following precast concrete suppliers, or an approved equal: Precast Specialties Corp. (Abington, MA); Shea Concrete Products (Amesbury, MA); Durastone Company (Lincoln, RI). Forms shall be wood or steel and shall have a "smooth form" surface. Concrete shall be air-entrained type with a minimum 28-day compressive strength of 5000 psi. Air content shall be 6%. Linseed anti-spalling compound shall be a mixture of 50% boiled linseed oil conforming to ASTM D260 and 50% mineral spirits conforming to ASTM D235. Preformed expansion joint filler shall be nonextruding resilient, nonbituminous type, conforming to AASHTO M153. Straight curb units shall be 6 x 18 in., 6 ft. lengths. Curved curbing shall be employed on radii up to 150 ft. Arris exposed to traffic shall be rounded to a 3/4 in. radius. Back arris line shall be straight. Curb units shall be true to line, plane, and dimensions. Curb units shall have a uniform, smooth texture finish, free from cracks and other defects. Color of units shall be uniform. Curb shall have no paint, mortar, or other coating.

d. BITUMINOUS CONCRETE. Bituminous concrete shall be a standard plant-mixed hot-laid paving material for road work, consisting of clean, crushed rock aggregate, mineral filler, and bituminous material. Bituminous concrete shall conform to the applicable requirements of MassDOT Specifications Section M3.11.00 Class I Bituminous Concrete and M3.11.03 Job-Mix Formula for “Dense Mix”. Cape Cod berm, where provided, shall be a Modified Bituminous Concrete Berm – Type A (1 ft. width). Catch basins shall have curb inlet stones with transition stones when sloped granite edge stone or Cape Cod berm is used. Bituminous material for the tack coat on the existing surface shall be emulsified asphalt, grade RS-1, conforming to MassDOT Specifications Section M3.03.0.

G2020 TRAFFIC SIGNAGE

1. Perform all work required to complete the work of the Section, as indicated. Signage work includes, but is not limited to, the following:
2. Work under this section shall conform to the relevant provisions of MassDOT Specifications Section 828 of the "Supplementary Specifications for Traffic Signs and Supports.
3. Shop Drawings: Shop drawings of signage shall be submitted indicating size, shape, dimensions, letter style, method of anchoring, and spacing.
4. Material Selection and Samples: Submit samples showing the complete range of colors, textures, and finishes available for all components required for construction.
5. Products:
    a. Sign Panels.
        i. Aluminum sign panels shall be Type A. Sign supporting hardware shall be aluminum or stainless steel.
        ii. Type A Panels shall be fabricated from flat sheet Aluminum Alloy of the following types:
            1. A-1 - Flat sheet sign panels shall be fabricated from aluminum sheeting meeting ASTM B209, Alloy 6061-T6 or Alloy 5052-H38. Panels mounted with P-5 posts (square tube posts or U channel posts) shall be 0.08 in. (2 mm) thick. Panels mounted with single round breakaway posts shall be 6 mm thick.
            2. A-2 – Flat sheet sections with extruded tabs shall be fabricated from: Sheeting 0.125 in. (3.18 mm) thick, ASTM B209, Alloy 3033-H18. Extruded parts ASTM B221, Alloy 6063-T6.
            3. A-3 – Flat sheet sections with welded or flush riveted locking tabs and clips shall be fabricated from:
                a. Flat sheet ASTM B209, Alloy 6061-T6 or Alloy 5052-H38.
                b. Extruded parts as specified by the Manufacturer.
        iii. Type B Panels shall be fabricated of extruded Aluminum ASTM B221. Alloy 6063-T6 shall be 0.125 in. (3.18 mm) thick, 12 in. (305 mm) wide, and of bolted joint design. Only one 6 in. (152.4 mm) panel shall be used where the overall height of a sign requires one panel less than 12 in. (305 mm).
        iv. Pressure sensitive reflective sheeting shall be applied in a manner specified for the manufacture of traffic control signs by the sheeting manufacturer and shall conform to AASHTO M268 and ASTM D4956 Type I – Engineer Grade.
        v. Each sign shall be permanently marked on the lower right corner of the back side with the month and year of installation and name of manufacturer.

vi. Ground mounted sign panels shall be secured to posts using 3/8 in. aluminum drive rivets. Stainless steel banding materials, brackets, and clips will be used for signs installed on light standards or mast arms.

b. Sign Posts.

i. Posts may be either the square tube post or U channel type - at the Contractor's option.

ii. The furnished members shall be straighter and shall have a smooth uniform finish. It shall be possible to telescope consecutive sizes of tubes freely with minimum amount of play.

iii. Square Tube Posts

1. Square tube posts shall be square tube fabricated from 12 gauge hot-rolled carbon steel conforming to the requirements of ASTM A1011, Grade 50.

2. Posts shall be 2-1/4 in. by 2-1/4 in. single posts for all signs less than or equal to 7.5 sq. ft.

3. Galvanizing shall be in accordance with ASTM A653, Coating Designation G140 with a minimum coating of 1.4 ounces per square foot total of zinc on both sides under triple spot tests; or a minimum coating of 1.15 ounces per square foot total of zinc on both sides under triple spot tests and after all fabrication and re-galvanizing the posts shall be coated with a chromate conversion coating and sealed with an air-dried clear organic polymer topcoat.

4. Posts shall be welded directly in the corner by high frequency resistance welding or equal and externally scarfed to agree with standard corner radius of 5/32 in. plus or minus 1/64 in. The corner weld and holes shall be zinc coated after scarfing operations. Holes shall be 7/16 in. in diameter and shall be placed 1 in. on center.

iv. U Channel Posts

1. U-channel posts shall be fabricated from re-rolled rail steel or an equivalent steel and shall conform to the mechanical requirements of ASTM A499, Grade 60 and the mechanical requirements of ASTM A1. All steel U-channel posts shall weigh at least 4 pounds per foot and be entirely galvanized in accordance with MassDOT Specifications Section M7. Holes shall be 7/16 in. in diameter spaced at 1 in. on center and be punched prior to the galvanizing of the posts.

2. Breakaway capabilities shall be maintained via the use of a lap splice or slip base system.

3. All bolts, nuts and washers shall conform to the requirements of ASTM A307, Grade A. Bolts, nuts and washers shall be galvanized in accordance with the requirements of MassDOT Specifications Section M7.

4. Steel posts, sign post anchors, anchor sleeves, slip bases, lap splices, and any related hardware shall all be from the same manufacturer. No mixing of brands shall be allowed.

c. Signs

i. Handicap Parking signs (R7-8) shall be 12 in. x 18 in. with international symbol of accessibility; one per space, single faced.

1. Van spaces shall be so noted (R7-8a).

2. Signs shall comply with all MAAB requirements.

ii. Other signs:

1. See Drawings for all signs location.

2. STOP (R1-1), Do Not Enter (R5-1), and Pedestrian Crossing (W11-2) signs shall be 30 in. x 30 in.

3. One way Arrow (R6-1R, R6-1L) plaques shall be 36 in. x 12 in.

4. Right or Left Turns (R3-5(R or L)) signs shall be 30 in. x 36 in.

5. EV signs shall be 12in x 18in

G2020.40 PAVEMENT MARKINGS

1. Work Included. Provide all labor, materials, equipment, services, and transportation required to install pavement markings as shown on Drawings, as specified herein, or both.

2. Products & Materials:

a. Materials for pavement markings shall conform to MassDOT Specifications Section 860.40 General as applicable.

b. Striping color and material shall match that of adjoining surfaces and shall comply with the applicable portions of MassDOT Standard Specifications M7.01.03 and M7.01.04 for thermoplastic reflectorized and M7.01.03 and M7.01.04 for fast drying water-borne.

c. Pavement Markings: Provide white or yellow paint conforming to MassDOT Specifications Section M7.01.05 White Traffic Paint or M7.01.06 Yellow Traffic Paint. Color to be approved by the Architect. A blue background with white border may supplement the white wheelchair symbol painted in accessible parking spaces.

d. Paint shall be in sealed containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, manufacturer's name, formulation number, and directions, all of which shall be plainly legible at time of use.
    i. Paint shall be homogeneous, easily mixed to smooth consistency, and shall show no hard settlement or other objectionable characteristics during a storage period of six months.

G2030.10 CONCRETE PAVING

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction.
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to complete all heavy-duty concrete paving work as shown on Drawings, as specified herein, or both. The work includes but not limited to:
    a. Aggregate base
    b. Concrete walks, ramps, and curb cuts
3. Products:
    a. GRAVEL BASE COURSE. Material for aggregate base course shall be a graded, granular, non-frost susceptible, free-draining materials consisting of either durable stone and coarse sand or of blast furnace slag, practically free from loam and clay, which can be readily compacted to form a stable foundation. Material for aggregate base shall conform to MassDOT Specifications Section M1.03.0 Gravel Borrow, Type b.
    b. CONCRETE REINFORCING. Concrete sidewalk reinforcing shall be welded wire fabric conforming to ASTM A1064. Size shall be 6 in. x 6 in. – W1.4 x W1.4. Reinforcement shall be free from imperfections and surface coating of rust, dirt, oils, paint, grease, and mill scale, and shall present a clean, fresh surface. Rust that occurs in scales or that pits the steel shall be considered an imperfection. Surface rust shall be brushed to remove loose materials.
    c. PORTLAND CEMENT CONCRETE:
        i. Portland cement concrete for pavements and slabs shall be air-entrained type with a maximum water-cement ratio of 0.50 conforming to ACI 325.9R. Minimum compressive strengths at 28 days shall be as follows: Flexural strength with third point loading - 650 psi; compressive strength - 4000 psi.
        ii. Concrete shall be air-entrained type, conforming to ASTM C94. Air content by volume shall be 6 percent, plus or minus one percent, and shall be tested in accordance with ASTM C231.
        iii. Concrete slump shall be not less than 2 in. nor greater than 4 in., determined in accordance with ASTM C143.

iv. Cement shall be Portland cement, conforming to ASTM C150, Type I or II. Only one color of cement, all of the same manufacturer, shall be used for the work. Type III cement shall be used only with the prior approval of the Engineer.

v. Fine and coarse aggregates shall conform to ASTM C33.

vi. Concrete shall contain a water reducing agent to minimize cement and water content of the concrete mix at the specified slump. Water reducing agent shall conform to ASTM C494, Type A.

vii. No calcium chloride or admixtures containing calcium chloride shall be added to the concrete. No admixtures other than those specified shall be used in the concrete without the specific written permission of the Engineer in each case.

d. CURING MATERIALS. Curing shall be by moist curing or by use of curing compound. Absorptive cover shall conform to AASHTO M182, Class 2, burlap cloth made from jute, weighing approximately 9 oz/sq. yd. dry. Curing paper shall be non-staining, fiber reinforced laminated kraft bituminous product conforming to ASTM C171. 4 mil polyethylene sheeting may be substituted for curing paper. Curing compound shall be a resin-base, white pigmented compound conforming to ASTM C309, Type II.

e. EXPANSION JOINTS. Unless otherwise indicated on the Drawings, expansion joints shall be located 25 ft. on center, maximum. Expansion joint filler shall be preformed, non-bituminous type joint filler conforming to ASTM D1752, Type II. Expansion joint filler shall meet the requirements of ASTM D545. Pre-molded filler shall be one piece for the full depth and width of the joint leaving a sealant recess as indicated. Use of multiple pieces of lesser dimensions to make up required depth and width of joint shall not be permitted. Except as otherwise noted on the Drawings, joint filler shall be 1/2 in. thick and shall receive 7/8 in. joint backer rod conforming to ASTM C1330 or ASTM D5249. Expansion joint shall be sealed with a two component polyurethane based sealant, conforming to ASTM C920.

f. CONSTRUCTION JOINTS. Transverse construction joints shall be placed at side and end terminations of pavement and whenever placing of concrete is suspended for more than 30 minutes, unless pavement terminates at isolation joints. Steel reinforcement shall be continued across construction joints, unless otherwise indicated. Reinforcement shall not be continued through sides of pavement strips, unless otherwise indicated. Butt joint with dowels or thickened edge joint shall be used if construction joints occurs at location of control joint. A bonding agent shall be used for butt joints at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces. Doweled joints shall have one half of dowel length coated in lubricant or asphalt to prevent bonding of concrete to one side of joint. Keyed joints with tie bars shall be used if the joint occurs at any other location than a control joint.

g. GROUT. Grout shall be mixed in the proportions of one part Portland cement to two parts sand, by volume. Only sufficient water shall be used to enable grout to barely hold its shape when squeezed into a ball in the hand. Sand for grout shall be "Fine Aggregate", conforming to ASTM C33. Non-shrink grout shall be pre-mixed non-shrinking, high strength grout. Compressive strength at 28 days shall be 5,000 psi minimum, but in no

case less than the specified strength of the adjacent concrete. Manufacturer shall provide evidence that the material meets the requirements of the Army COE CRD-C 621. Grout permanently exposed to view shall be non-oxidizing; metallic grout may be used in other locations.

h. BOND BREAKER. Bond breaker shall be asphalt felt conforming to ASTM D226, Type I or 6 mil polyethylene sheeting.

G3010. WATER UTILITIES

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction. The Contractor shall notify Essex Water Department sufficiently in advance of connecting new main to existing main. All work and materials shall be subject to approval by Essex Water Department and shall conform to the applicable Town Specifications.

2. The Contractor shall be responsible for making all arrangements with the Town and paying all fees associated with the water system installation.

3. Work Included. Provide all labor, materials, equipment, services, and transportation required to construct the water and fire protection utilities systems, including connections to existing structures and testing, as indicated on the Drawings and as specified herein.

4. Products:

    a. Ductile Iron Pipe and Pipe Fittings: Ductile iron (DI) pipe for water mains shall be designed in accordance with ANSI/AWWA C150/A21.50 and shall be manufactured in accordance with ANSI/AWWA C151/A21.51. Unless otherwise indicated or specified, ductile iron pipe shall be at least thickness Class 52. Pipe shall be made in the USA. Pipe shall conform to Town of Essex standards. Pipe shall be by U.S. Pipe or approved equal. If corrosive soils are found where pipe is installed, pipe shall be encased in polyethylene per ANSI/AWWA C105/A21.5. DI pipe and fittings shall be push-on joint type with bell and plain spigot end, unless grooved or flanged ends are indicated. DI pipe and fittings shall conform to ANSI/AWWA C110/A21.10. Joints shall have the same pressure rating as the pipe or fitting of which they are a part. Gaskets shall conform to ANSI/AWWA C111/A21.11. Inside of pipe and fittings shall be given a cement lining and bituminous seal coat in accordance with ANSI/AWWA C104/A21.4. Interior coating shall be a product acceptable to the National Sanitation Foundation (NSF) for use in potable water and shall be listed in the most current NSF summary of approved products. Joint lubrication for gaskets shall be suitable for lubricating the parts of the joint assembly. The lubricant shall be non-toxic, shall not support the growth of bacteria, and shall have no deteriorating effects on the gasket material. It shall not impart taste or odor to water in the pipe. The lubricant containers shall be labeled with the trade name or trademark and the pipe manufacturer's name. The lubrication shall be only that recommended by the pipe and fitting manufacturers. Couplings shall be provided with high strength, low alloy, corrosion resistant bolts and nuts. Couplings shall be provided with gaskets of a

composition suitable for exposure to the liquid within the pipe. Pipe for use with sleeve-type couplings shall be as specified above except that the ends shall be plain (without bells or beads). The ends shall be cast or machined at right angles to the axis. Pipe shall be manufactured in the United States or Canada. Ductile Iron pipes and fittings, when located on a fire protection line, "FP" on the Drawings, are to be furnished and installed by the fire protection contractor.

b. Tapping Sleeve and Valves: Tapping sleeve shall be Mueller Co., Decatur, IL or approved equal by Essex Water Department. or approved equal. For 4 inch or larger wet taps on existing water mains, a full diameter ductile iron mechanical joint sleeve must be used. Tapping sleeves will be made of Ductile Iron constructed to ASTM A536 standards mechanical joint rated for 250 PSI. All sleeves must have a test port for air testing. Tapping sleeves shall be Mueller, or approved equal by Town of Essex Water Department. Tapping Valves shall conform to AWWA/AMSI C515, NSF61 approved for potable water. All valves will be Open per DPW requirements, epoxy coated, with resilient wedge. The valve will have one side flanged and one side mechanical joint. Tapping valves must be supplied by the same manufacturer as the tapping sleeve to be used. When connections to existing water mains are required, a tapping sleeve and valve shall be used, or adequate size and pressure to ensure the continued flow of water through the existing main throughout construction. Tapping sleeve and valve shall consist of a split cast iron sleeve tee with mechanical joint ends on the main and a flange on the branch, and a tapping type gate valve with one flange and one mechanical joint end. A gate valve and box shall be installed with the tapping sleeve. Valve shall conform to the requirements specified below for gate valve. The Contractor shall be responsible for verifying the outside diameter of the pipe to be tapped. Valve shall have oversized seat to permit the use of full-size cutters.

c. Valves and Valve Boxes: The resilient wedge gate valves shall fully comply with the latest revision of AWWA C509 or AWWA C515 and shall also be UL listed and FM approved. The valves shall be tested and certified to ANSI/NSF 61. The valve shall be rated for a minimum of 200 psi and tested to 300 psi. Valves shall be Type A2361 as manufactured by Mueller Company, American Flow Control (AFC) Series 3500, or an approved equal. The valve shall have an arrow cast on the operation nut showing opening direction. Valves shall open per DPW requirements. All operating nuts shall be 2 in. square at the base, tapering to 1-15/16 in. square at the top. All valves shall have mechanical joint ends, complete with all accessories. Bolts shall be CorTen or approved equal. The valve body, bonnet, stuffing box, and disc shall be composed of ASTM A126, Class B cast iron, or ASTM A536 ductile iron. The body and bonnet shall also adhere to the minimum wall thickness as set forth in Table 2 of AWWA C509 or C515. Wall thicknesses less than those in Table 2 are not acceptable. All bonnet bolts, seal plate bolts, stuffing box bolts, and other bolts in contact with soil (except for MJ bolts) shall be 18-8 Type 304 stainless steel or Everdur bronze. The valve disc and guide lugs must be fully encapsulated in SBR ASTM D2000 rubber material. Guide caps of an acetyl bearing material shall be placed over solid guide lugs to prevent abrasion and to reduce the operating torque. Rubber for valve seats shall be new, natural or synthetic, of a compound designated for water service applications. Reclaimed rubber is unacceptable. Rubber seats shall be either bonded to

or mechanically attached to the gate. When mechanically attached, all exposed hardware shall be 18 - 8 Type 304 stainless steel. The valves shall have all internal and external ferrous surfaces coated with a fusion-bonded epoxy coating with 10 mils nominal thickness and conforming to AWWA C550. Stem shall be of the non-rising type. Stem seals shall consist of two "O" rings, one as a dirt seal and one as a pressure seal. The upper "O" ring stem seal shall be replaceable with the valve under pressure in the fully open position. A thrust washer of Teflon or approved equal shall be used directly above the stem collar. The valve shall be able to withstand an input torque of 300-foot pounds with no distortion of the stem or other damage to the valve. The flow way shall be fully unobstructed with no pockets in bottom of flow-way to trap sediment or debris. All 4 in. and 6 in. gate valves shall be provided with a valve box and cover. Box shall be cast iron and shall be an adjustable, telescoping, heavy-pattern type.

i. Box shall be designed and constructed to prevent the direct transmission of traffic loads to the pipe or valve.

ii. Upper section of box shall have a flange with sufficient bearing area to prevent undue settlement. Lower section of box shall be designed to enclose the valve operating nut and stuffing box, and rest on the bonnet or backfill.

iii. Boxes shall be capable of vertical adjustment of a minimum of 6 in. without reduction of overlap between sections to less than 4 in.

iv. Inside diameter of box shall be a minimum of 6 in. and length of box shall be as needed to suit finish ground elevation and at least five (5) feet long.

v. The covers shall be flush, close-fitting with the letter "W" or the word "water" cast into the cover.

vi. The curb box shall be 4-1/2 to 5-1/2 feet Hayes or Erie, extension-type, three-fourths inch Stainless Steel rod, and cover to be with counter sunk one inch brass plug tapped for one inch iron pipe.

vii. Box cover shall be close fitting and substantially airtight. Top of cover shall be flush with top of box rim. Cover shall have an arrow indicating the direction of opening and the word "WATER" or the letter "W" cast into cover.

viii. All valves 8 in. and larger shall be provided with a roadway frame and cover, unless plans call for chamber.

ix. Roadway frames and covers shall be Town of Essex standard.

x. Valves requiring a roadway frame and cover shall be fitted with a standpipe having a diameter of at least 12 in.

xi. Standpipes shall be Class 52 ductile iron pipe.

xii. Standpipes shall be cut to a length to enable them to fit inside the roadway frame and cover so they do not transmit loads to the pipe or valve.

xiii. All roadway covers shall be cast with the appropriate markings to signify the type of valve installed.

xiv. The valve-operating nut shall be centered in the valve tube and visible upon installation.

d. Gate valve shall be approved by the Town of Essex Water department and the architect. All valves shall be manufactured by Mueller Co., Decatur, IL. Valves, valve boxes, and indicator posts when located on a fire protection line, "FP" on the Drawings, are to be furnished and installed by the fire protection contractor.

e. Embedment Materials: Ductile iron water pipe shall use materials defined in AWWA C600, Sec. 3.5, Backfilling and shall conform to MassDOT Specifications M1.01.0. Backfill material shall be of good quality and free from cinders, frozen material, ashes, refuse, boulders, rocks, or organic material. Pipe bedding shall be washed and screened sharp gravel, well graded in sizes from 1/4 in. to 1-1/2 in., inclusive. It shall be clean, hard, durable, and free from dust, clay, or organic matter. It shall be well compacted in place. Thrust blocks must be pre-fabricated concrete of the appropriate concrete strength or granite blocks of the appropriate size (poured in place concrete thrust blocks are not acceptable).

f. Hydrants: Hydrants shall conform to the "standard dry barrel hydrants" AWWA C502. Hydrants shall be designed for 150 psi service and for installation in a 5 ft. covered trench. Hydrants shall open clockwise and must be marked with an arrow and the word OPEN to indicate the direction of turn of the stem to open the hydrant. Hydrants are to be furnished and installed by the fire protection subcontractor or as determined by the general contractor. Hydrants shall be approved by the Town of Essex Water and Fire Departments. Color and type of hydrant shall meet Water and Fire Department Standards.

g. Mechanical joint restraints: Restraint devices for nominal pipe sized 4 in. through 48 in. shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10. The device shall have a working pressure rating of 350 psi for 3-16 in. and 250 psi for 18-48 in. nominal sizes. Gland body, wedges and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A 536. All wedge assemblies and related parts shall be processed through a phosphate wash, rinse, and drying operation prior to coating application. The coating shall consist of a minimum of two coats of liquid thermoset epoxy coating with heat cure to follow each coat. All casting bodies shall be surface pretreated with a phosphate wash, rinse, and sealer before drying. The coating shall be electrostatically applied, and heat cured. The coating shall be a polyester based powered to provide corrosion, impact, and UV resistance. The coating system shall be MEGA-BON by EBAA Iron, Inc. or approved equal.

h. Detectable Warning Tape: A. Tape shall consist of a minimum 5 mil overall thickness with no less than a 0.35 mil solid aluminum foil core. Solid foil core shall be encased between a 100 percent virgin polyethylene film and clear protective film which allows a full view of

the foil and printed message. All detectable marking tapes shall be permanently printed. Color shall conform to Town of Essex standards. Tape shall be BLUE with the words "WATER LINE BELOW" printed consistently on it, and manufactured from durable and resistant elements.

a.

G2020 SANITARY SEWERAGE UTILITIES

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction. All work and materials shall be subject to approval by Essex Wastewater Department and shall conform to the applicable Town Specifications.
2. The Contractor shall be responsible for making all arrangements with the Town and paying all fees associated with the sanitary sewer system installation.
3. Work Included. Provide all labor, materials, equipment, services, and transportation required to construct the sewer utility systems, including connections to existing structures and testing, as indicated on the Drawings and as specified herein.
4. Products:
    a. SANITARY SEWER MANHOLES
        i. Sanitary sewer manholes shall be constructed according to the specifications of the Town of Essex. and as shown on the Drawings.
        ii. Manholes and access risers shall be designed to safely withstand an AASHTO HS-20 loading, as specified in the AASHTO Specifications.
        iii. Manholes shall be reinforced precast concrete unless specified by the Engineer or approved as a change by the Engineer.
        iv. Precast concrete structures shall be Type II cement unless specifically authorized in writing, conform to ASTM C478, and shall be similar to those produced by the following manufacturers:
            1. Concrete Systems Inc., Hudson, NH
            2. E.F. Shea Concrete Products, Amesbury, MA
            3. Oldcastle Infrastructure, Rehoboth, MA
        v. Sections shall have tongue and groove joints.
        vi. Joints between sections shall be made with preformed rubber gaskets conforming to ASTM C443 as shown on the Drawings.
        vii. Joints between sections shall be sealed with a preformed flexible joint sealant conforming to the requirements of ASTM C990. The manufacturer of the precast units shall supply the joint sealant which shall be produced from blends of butyl

rubber, refined hydrocarbon, resins, and plasticizing compounds reinforced with inert mineral filler and solvent free.

viii. The sealant shall have an approximate cross section of 3/8 in. by 3-1/2 in. for single strip application or 3/8 in. by 3/8 in. square, or 3/8 in. diameter cord for multiple cord usage application. Use six cords minimum for multiple cord applications.

ix. Each section shall have no more than two suitable lifting holes or cast-in lifting devices.

x. Precast base shall be shaped to receive the ends of pipe sections which are to be connected to the structure.

xi. Pipe openings in base shall be minimum size required to receive pipe, and shall be accurately set to conform to the required line and grade.

xii. Pipe shall be joined to wall of concrete manhole with hydraulic cement, nonshrink grout or flexible manhole sleeve, as shown on the Drawings.

xiii. Wall sections shall be a minimum of 4 in. thick, as shown on the Drawings.

xiv. Manholes shall have a minimum inside diameter of 4 ft. as shown on the Drawings. The diameter of manholes shall be based on manufacturer's recommendations for the proposed pipe layout shown on the plans. No change orders shall be accepted for upsizing of manholes based on the final layout of piping.

xv. Manholes shall have shaped brick inverts.

xvi. Manhole sections shall contain manhole steps accurately positioned and imbedded in the concrete when the section is cast, in accordance with AASHTO M199. These steps shall be extruded aluminum, conforming to Fed Spec. QQ-A-200/8, or polypropylene plastic reinforced with 3/8 in. diameter steel rod.

xvii. Steps shall be drop-front, anti-skid design, 12 in. on center and 10 in. minimum width. Projection of front edge of step shall be greater than or equal to 5 in. from access riser wall.

xviii. Steps shall be embedded 3-1/2 in. into access riser wall or dosing tank wall. Those portions of steps to be embedded in access riser wall shall receive a heavy coat of heavy-bodied bituminous paint. Coating shall be thoroughly dry before steps are embedded in the access riser or dosing tank wall.

xix. Steps in precast sections shall be embedded at time of casting.

xx. The date of manufacturer and the name or trademark of the manufacturer shall be clearly marked on the inside of the barrel.

b. CASTINGS

i. All frames and covers shall be cast iron, heavy duty, conforming to ASTM A48, Class 35 and shall be designed to safely withstand an AASHTO HS-20 loading.

ii. All castings shall be made in the United States.

iii. Manhole frames and covers shall be of noiseless, non-rocking design with pick holes. The word "Sewer" shall be cast on cover in 3 in. letters, as applicable.

iv. Standard manhole covers and frames shall have a minimum total weight of 475 lbs. with a clear opening of 24 in. unless otherwise indicated on the Drawings.

v. All frames and grates shall be free from blow holes, shrinkage, distortion or other defects. They shall be smooth and well cleaned by shotblasting and fitted together in a satisfactory manner.

vi. All frames and covers shall conform to the MassDOT Specifications M 8.03.0.

c. PVC PIPE AND FITTINGS (NONPRESSURE):

i. Polyvinyl chloride (PVC) nonpressure pipe and fittings for gravity sewers shall conform to ASTM D3034, SDR 35 minimum wall thickness.

ii. Pipe shall be furnished in standard lengths of 14 ft. or 20 ft.

iii. PVC shall be bell-and-spigot type with joints made using an integral bell and rubber gasketed joint. Each integral bell joint shall conform to ASTM D3212. Gaskets shall conform to ASTM F477.

iv. Spigot end shall be beveled to ensure proper insertion. Spigot end shall be imprinted with an "assembly stripe" to which the bell end of the mated pipe will extend upon proper jointing of the two pipes.

v. Pipe ends shall permit checking of the rings with a feeler gauge to ensure the proper location in the coupling grooves.

d. CAST IRON PIPE (NONPRESSURE):

i. All cast iron pipe and fittings shall conform to the requirements of CISPI Standard 301, ASTM A888, or ASTM A74.

ii. Castings shall be sound, true to pattern, and compact close grain that permits drilling and cutting by ordinary methods and its interior surface shall be reasonably smooth and free from defects.

iii. Pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute or receive prior approval of the Engineer.

iv. Hubless couplings shall conform to the requirements of CISPI 310 or ASTM C1277.

v. Hubless coupling gaskets shall conform to ASTM C564.

e. EMBEDMENT MATERIALS

i. Bedding, haunching, and initial backfill shall be Class I, II, or III soils conforming to ASTM D2321.

ii. Class I materials shall be angular crushed stone or rock, dense or open graded with little or no fines (1/4 in. to 1-1/2 in. in size).

iii. Class II materials shall be clean, coarse grained materials such as gravel, coarse sands, and gravel/sand mixtures (1-1/2 in. maximum in size).

iv. Class III materials shall be coarse grained materials with fines including silty or clayey gravels or sands. Gravel or sand shall comprise more than 50 percent of Class III materials (1-1/2 in. maximum size).

v. Embedment materials shall be free from lumps of frozen soil or ice.

f. MORTAR

i. Mortar shall be a Portland cement mortar conforming to ASTM C270, Type M.

ii. Mortar shall contain a waterproofing admixture similar to: Hycrete (by Hycrete), ADI-CON CW PLUS (by W.R. Meadows), or Eucon (by Euclid Chemical).

g. NONSHRINK GROUT

i. Grout shall be cement based, nonmetallic, nonshrink grout that meets performance requirements of ASTM C1107.

ii. Grout shall be similar to: MasterFlow 885 (by BASF Construction Chemicals); 5 Star Grout (by Five Star Products); MascoGrout (by Mason Supply Corp).

h. BRICK

i. Brick for support of cast-iron cover and frame shall be any of the following types:

1. Common brick meeting the physical requirements of ASTM C32, Grade SW.

2. Clay brick meeting the physical requirements of ASTM C32, Grade MS.

ii. Brick for sewer manhole invert channel shall conform to ASTM C32, Grade SS

h. GREASE INTERCEPTOR

i. Grease interceptor shall conform to ASTM C1613 or ASTM F2649.

ii. Grease interceptor shall be a precast concrete or HDPE structure.

iii. Precast concrete structures shall have an internal volume of not less than 1,500 gallons, a liquid depth of 4 ft., and shall meet the following:

iv. Concrete design strength shall be 4,000 PSI minimum after 28 days

v. All reinforcement shall be in conformance with the applicable sections of ASTM A615 or ASTM C1227.

vi. Designed for AASHTO HS-20 loading.

vii. Watertight structure with tongue and groove joints sealed with butyl resin or preformed rubber gaskets conforming to ASTM C443 or ASTM C990.

viii. Exterior: Bituminous coating, two coats.

ix. Wall thickness 6 in. minimum

x. 6 in. diameter inlet and outlet.

xi. Each section of the grease interceptor shall have no more than two suitable lifting holes or cast-in lifting devices.

xii. Precast grease interceptor shall be manufactured with wall opening to receive the ends of pipes which are to be connected to the structure. Pipe openings in base shall be the minimum size required to receive the pipe, and shall be accurately set to conform to the required line and grade.

xiii. Exterior surfaces of precast concrete shall receive a heavy shop-applied coating of bituminous waterproofing equal to: H.B. Tnemecol (by Tnemec Company); Ebony (by Bay Oil Company); or Master Seal HLM (by Master Builders Solutions by BASF).

xiv. HDPE interceptors shall conform to the following:

1. Grease Interceptors shall have a smooth interior and annular exterior corrugations using pipe that meets AASHTO M252 Type S, AASHTO M294 Type S, or ASTM F2306.

2. The inlet and outlet of the unit shall utilize 8 in. SDR 32.5 HDPE pipe. A weir plate shall be installed with an orifice centrally located to control flow into the last chamber. At the weir plate, a vertical half-round pipe shall be installed to minimize contaminants through the orifice.

3. Connections to the inlet and outlet shall utilize couplers with the same joint performance as the main sewer pipe.

4. Material for pipe and fittings used to produce the Grease Interceptor shall be HDPE conforming to the minimum requirements of cell classification 424420C for 4 in. through 10 in. diameters, and 435400C for 12 in. through 60 in. diameters as defined and described in the latest version of ASTM D3350. The pipe material shall be evaluated using the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306, respectively.

xv. Testing Gravity System. The entire sewer system, including piping and manholes, shall be tested for leakage. Pipes shall undergo deflection testing, leakage testing, and televised inspection. Pipes may be tested by the use of either water or low-pressure air. At the conclusion of the work, the Contractor shall

thoroughly clean the sewers by flushing with water or other means to remove dirt, stones, and other material. Prior to acceptance, all pipelines shall be video inspected. Three copies of the final inspection shall be submitted to the Engineer for their records. The inspection shall be recorded on DVD media.

G2030 STORMWATER UTILITIES

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction. All work and materials shall be subject to approval by Essex DPW and shall conform to the applicable Town Specifications. The Contractor shall be responsible for making all arrangements with the Town and paying all fees associated with the stormwater system installation
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to construct the stormwater utility systems, including connections to existing structures and testing, as indicated on the Drawings and as specified herein.
3. Products:
    a. MANHOLES AND CATCH BASINS
        i. Manholes, catch basins, and other structures shall be reinforced precast concrete unless specified by the Engineer or approved as a change by the Engineer.
        ii. Manholes, catch basins, and other structures shall be designed to safely withstand an AASHTO HS-20 loading, as specified in the AASHTO Specifications.
        iii. Precast concrete structures shall be Type II cement unless specifically authorized in writing, conform to ASTM C478, and shall be similar to those produced by the following manufacturers: Concrete Systems Inc., Hudson, NH; E.F. Shea Concrete Products, Amesbury, MA; Oldcastle Infrastructure, Rehoboth, MA
        iv. Sections shall have tongue and groove joints.
        v. Joints between sections shall be made with mortar, preformed rubber gaskets conforming to ASTM C443, or preformed flexible joint sealant conforming to ASTM C990.
        vi. Each section shall have no more than two suitable lifting holes or cast-in lifting devices.
        vii. Precast base shall be shaped to receive the ends of pipe sections which are to be connected to the structure.
        viii. Pipe openings in base shall be minimum size required to receive pipe, and shall be accurately set to conform to the required line and grade.

ix. Drainpipe shall be joined to wall of concrete manhole or catch basin with nonshrink grout or flexible manhole sleeve, at the Contractor's option.

x. Wall sections shall be a minimum of 4 in. thick, as shown on the Drawings.

xi. Manholes and catch basins shall be a minimum inside diameter of 4 ft., as shown on the Drawings. Manholes over 8 ft. in depth shall have a minimum inside diameter of 5 ft.. The diameter of manholes shall be based on manufacturer's recommendations for the proposed pipe layout shown on the plans. No change orders shall be accepted for upsizing of manholes based on the final layout of piping.

xii. Manholes shall have shaped brick inverts.

xiii. Manhole sections shall contain manhole steps accurately positioned and imbedded in the concrete when the section is cast, in accordance with AASHTO M199. These steps shall be extruded aluminum, conforming to Fed. Spec QQ-A-200/8, or polypropylene plastic reinforced with 3/8 in. diameter steel rod.

xiv. Steps shall be drop-front, anti-skid design, 12 in. on center. Projection of front edge of step shall be greater than or equal to 5 in. from access riser wall.

xv. Steps shall be embedded 3-1/2 in. into access riser wall dosing tank wall. Those portions of steps to be embedded in access riser wall shall receive a heavy coat of heavy-bodied bituminous paint. Coating shall be thoroughly dry before steps are embedded in the access riser or dosing tank wall.

xvi. Steps in precast sections shall be embedded at time of casting.

xvii. The date of manufacturer and the name or trademark of the manufacturer shall be clearly marked on the inside of the barrel.

xviii. Weirs for outlet control shall be 6 in. wide concrete block or cast-in reinforced concrete crest with a length of 5ft. as indicated on Drawings.

b. DRYWELLS

i. Drywells which are not excavated pits shall be precast concrete similar to "Precast Drywell", manufactured by E. F. Shea New England Concrete Products, Inc.

ii. Holes in sections to receive piping may be cast into concrete or drilled.

iii. Diameter of hole shall be 2 in. to 4 in. larger than outside diameter of entering pipe.

iv. Drywell shall conform to AASHTO HS-20 loading, as specified in the AASHTO Specifications.

v. Crushed stone fill shall consist of clean, double washed stone.

c. OIL AND SEDIMENT SEPARATOR

i. Oil and Sediment Separator Structure shall have 1,500 gallon minimum capacity with an approximate interior dimension of approximately 5 ft. 5 in. high, 5 ft. wide, 10 ft. long, and with a minimum of one baffle wall.

ii. Precast concrete items specified above shall be designed for AASHTO HS-20 loading, 1 ft. to 5 ft. cover, and have steel reinforcement in accordance with ASTM A615, Grade 60, 1 in. Minimum Cover.

iii. Concrete Structures shall have a concrete minimum strength of 5,000 psi after 28 days.

iv. Concrete Structures shall be constructed with tongue and groove joints between sections. Joints between sections shall be sealed with butyl resin.

v. Precast items mentioned above shall be manufactured with wall openings to receive the ends of pipes which are to be connected to structure. Pipe openings in base shall be minimum size required to receive pipe, and shall be accurately set to conform to the required line and grade.

d. OIL INTERCEPTOR HOOD

i. All proposed catch basins shall be constructed with oil hoods. Oil hoods shall conform to Essex Standards.

ii. Catch basin hoods shall protrude no more than 12 in. beyond the end of pipe into the structure, with a minimum distance of 6 in. for pipes less than 12 in. in diameter. Hoods shall be similar to Ground Water Rescue Inc. Eliminator; Best Management Practices Inc. Snout; or Nyloplast Envirohood.

b.

e. ACCESS RISER

i. Access Riser shall be precast concrete construction.

ii. Precast concrete access risers shall conform to ASTM C478.

iii. Sections shall have tongue and groove joints.

iv. Joints between sections shall be made with flexible water tight rubber gaskets conforming to ASTM C443.

v. Each section shall have no more than two suitable lifting holes or cast-in lifting devices.

f. CASTINGS

i. Castings shall conform to Town of Essex standards.

ii. All frames and covers shall be cast iron, heavy duty, conforming to AASHTO M105 or ASTM A48, Class 35B, and shall be designed to safely withstand an AASHTO HS-20 loading.

iii. All frames and grates shall be of uniform quality, free from blow holes, shrinkage, distortion, or other defects. They shall be smooth and well cleaned by shotblasting and fitted together in a satisfactory manner. Round frames and covers shall have a continuously machined bearing surface to prevent rocking and rattling.

iv. All frames and covers shall conform to MassDOT Specifications M8.03.0.

v. Castings shall conform to AASHTO M306 and shall be marked with the name of the producing foundry and country of manufacture, preceded by the words "Made in", the AASHTO or ASTM designation number, class by a number followed by a letter indicating the minimum tensile strength and size of test bar, and heat identification and cast date.

vi. Manhole frame and cover shall have a circular clear opening of 24 in. and a total frame and cover weight of at least 475 lbs. with the word "DRAIN" centered on the cover.

vii. Upon completion of all hardscape and paving work, all covers shall be cleared of foreign material (i.e. bituminous material, concrete, mortar, and other deleterious material). After cleaning, the covers shall be removed and build-up of material inside the frame cleared to ease future removal of covers.

c.

g. TRENCH DRAIN

i. Channel shall be sloped, with recesses for granting lockdown devices molded into the channel wall. Recesses shall be formed from the same material as the channel. Channel shall also include a manufacturer's applied integral cast-in-metal rail edge design.

ii. Grate shall be heavy duty, slotted cast iron or ductile iron, H-20 loading, and ADA compliant

h. AREA DRAINS

i. Area drains shall be PVC inline drain system with 18 in. internal diameter and 36 in. sump. The outlet to the structure shall accommodate a 6 in. PVC pipe.

ii. The grate shall be 18 in. ductile iron domed grate or 18 in. ductile iron HS-10 pedestrian grate per ASTM A536 Grade 70-50-05. See plans for locations of grate types.

iii. Outlet pipes shall have a hood installed.

i. CLEANOUTS

i. Cleanouts, outside the building, shall be threaded cleanouts compatible with the pipe.

ii. Cleanout shall be cast iron at grade or 4 in. below grade, as specified on the Drawings.

j. DOWNSPOUT BOOTS

i. Downspout boots shall be made of cast iron and in accordance with ASTM A48.

ii. Downspout boots shall have no boxed corners, welded seams or choke points.

iii. The finish and coating of the downspout boot shall match the downspout.

iv. Downspout boots shall be equipped with the manufacturer's standard stainless steel fasteners for mounting onto the building wall and a flexible rubber adaptor for connection to the underground drainage piping.

v. Downspout boots shall be sized properly to transition between the downspout and the underground drainage piping.

k. SUBSURFACE INFILTRATION SYSTEM (Arched Chamber)

i. The subsurface infiltration system shall be made from polypropylene or polyethylene chambers conforming to ASTM F2418 or ASTM F2922 and shall be designed in accordance with ASTM F2787. Chambers shall be similar to those produced by the following manufacturers:

1. Manufacturer
2. Cultec, Inc., Brookfield, CT
3. ADS / Stormtech, Ludlow, MA
4. Contech Engineered Solutions, Palmer, MA

ii. High Density Polyethylene (HDPE) Pipe and fittings shall conform to ASTM D3350 and AASHTO designations M252 or M294. HDPE pipe shall be designated as AASHTO Type 'S' and shall have a full circular dual-wall cross-section, with an outer corrugated pipe wall and an essentially smooth inner wall (waterway).

iii. HDPE perforated pipe shall conform to AASHTO M294 and MP7-97 Class II perforations.

iv. Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Fabricated fittings shall be welded at all accessible interior and exterior junctions.

v. Chamber rows shall provide continuous, unobstructed internal space with no internal support panels in order to provide ease of access for inspection and maintenance functions.

vi. Inspection ports shall be installed and constructed per project plans. Note that inspection ports shall only be installed along the isolator row to allow for inspection of the sediment build up over time.

vii. The chambers shall be open-bottomed.

viii. All chamber rows shall be terminated with an end cap. End cap placement on end of chamber will vary depending on chamber model.

ix. End caps may incorporate cutting guides to allow easy field cutting for various diameters of pipe. Cutting guides shall be located at both the top and bottom of each end cap.

x. Rejection

xi. The subsurface stormwater storage system may be rejected for failure to meet any of the requirements of this specification.

l. SUBSURFACE INFILTRATION SYSTEM (CONCRETE)

i. Leaching galleys shall be precast, concrete structures approximately 4 ft. x 4.25 ft. x 4 ft.

ii. Precast concrete shall be a minimum of 5000 psi at 28 days.

iii. Reinforcing shall conform to ASTM A615.

iv. Galleys shall conform to AASHTO HS-20 loading, as specified in the AASHTO Specifications.

v. Rejection

vi. The subsurface stormwater storage system may be rejected for failure to meet any of the requirements of this specification.

m. FILTER FABRIC

i. Geotextile fabric which shall be between the chamber bottom and stone foundation located along the entire length of the Isolator row shall be

ii. Geotextile fabric required for use between infiltration chambers and stone foundation shall be non-woven, meeting AASHTO M288 Class 2 requirements.

iii. The geotextile fabric shall consist of only long chain polymeric filaments or yarns, such as polypropylene, polyethylene, polyester, polyamide, or polyvinylidene-chloride formed into a stable network such that the filaments or yarns retain their relative position to each other. The fabric shall be inert to commonly encountered chemicals and free of defects or flaws which significantly affect its physical and/or filtering properties.

n. PVC PIPE AND FITTINGS (NON PRESSURE)

i. Polyvinyl chloride (PVC) non-pressure pipe for gravity drainage shall conform to ASTM D3034, SDR 35 minimum wall thickness or ASTM D1785, Schedule 40 when specified on the Drawings.

ii. Pipe shall be furnished in standard lengths of 14 ft. or 20 ft.

iii. PVC joints shall be made using an integral bell and spigot type rubber gasketed joint. Each integral bell joint shall conform to ASTM D3212. Gaskets shall conform to ASTM F477.

iv. Spigot end shall be beveled to ensure proper insertion. Spigot end shall be imprinted with an "assembly stripe" to which the bell end of the mated pipe will extend upon proper jointing of the two pipes.

v. Pipe ends shall permit checking of the rings with a feeler gauge to ensure the proper location in the coupling grooves.

vi. Perforations, when applicable, shall be AASHTO Class II.

vii. PVC fittings shall be bell-and-spigot type compatible with the pipe and conforming to ASTM D3034.

d.

o. HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS (NONPRESSURE)

i. HDPE Pipe and fittings shall conform to ASTM D3350 and AASHTO designations M294 or M252. HDPE pipe shall be designated as AASHTO Type S and shall have a full circular dual-wall cross-section with an outer corrugated pipe wall and a smooth inner liner.

ii. Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Fabricated fittings shall be welded at all accessible interior and exterior junctions.

iii. 4 in. through 10 in. (100 to 250 mm) shall meet AASHTO M252, Type S.

iv. 12 in. through 60 in. (300 to 1500 mm) shall meet AASHTO M294, Type S or ASTM F2648.

v. Manning's "n" value for use in design shall not be less than 0.010.

vi. Perforations, when applicable, shall be AASHTO Class II.

vii. Joints shall be silt tight and nonrated watertight. Gaskets shall be made of polyisoprene meeting the requirements of ASTM F477 with the addition that the gaskets shall not have any visible cracking when tested according to ASTM D1149 after 72 hour exposure in 50 ppm ozone at 104-degrees Fahrenheit. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the manufacturer shall be used on the gasket and bell during assembly.

p. REINFORCED CONCRETE PIPE (RCP)

i. Reinforced concrete pipe (RCP) buried to a depth with greater than 42 in. of cover shall conform to ASTM C76, Class III, Wall B. RCP buried to a depth with less

than 42 in. of cover shall conform to ASTM C76, Class V, Wall B. Pipe of 24 in. or less in diameter shall be tongue and groove type. Pipe greater than 24 in. shall be either tongue and groove or bell and spigot type, at the Contractor's option.

ii. RCP shall be joined using flexible rubber gaskets conforming to ASTM C443.

iii. Pipe may be supplied with or without lifting holes, at the Contractor's option. Lifting holes shall be conical, arranged to lie at top of pipe as installed. Precast concrete plugs, shaped to fit lifting holes, shall be supplied with pipe.

q. EMBEDMENT MATERIALS

i. Bedding, haunching, and initial backfill shall be Class I, II, or III soils conforming to ASTM D2321.

ii. Class I materials shall be angular crushed stone or rock, dense or open graded with little or no fines (1/4 in. to 1-1/2 in. in size).

iii. Class II materials shall be clean, coarse-grained materials such as gravel, coarse sands, and gravel/sand mixtures (1-1/2 in. maximum in size).

iv. Class III materials shall be coarse grained materials with fines including silty or clayey gravels or sands. Gravel or sand shall comprise more than 50 percent of Class III materials (1-1/2 in. maximum size).

v. Crushed stone fill shall consist of clean, washed stone passing a 1-1/2 in. sieve.

vi. Embedment materials shall be free from lumps of frozen soil or ice.

r. WASHED STONE

i. Where indicated, stone used shall be 3/4 in. – 1-1/2 in. single washed stone. The stone shall be free from shale, clay, organic materials, and debris with stone sizes conforming to No. Four stone as specified by ASTM D448. Not more than 0.5 percent of satisfactory material passing a No. 200 Sieve will be allowed to adhere to the stone.

ii. Laboratory testing results shall be submitted to the Engineer for approval. Testing must be performed in accordance with ASTM D6913.

s. DOUBLE WASHED STONE

i. Where indicated, stone used shall be 3/4 in. – 1-1/2 in. double washed stone. The stone shall be free from shale, clay, organic materials, and debris with stone sizes conforming to No. Four stone as specified by ASTM D448. Not more than 0.5 percent of satisfactory material passing a No. 200 Sieve will be allowed to adhere to the stone.

ii. Laboratory testing results shall be submitted to the Engineer for approval. Testing must be performed in accordance with ASTM D6913.

e.

G2030.10 WATER QUALITY UNIT

1. Permits and Codes: All work shall conform to the Town of Essex Department of Public Works Standards for Materials and Construction. All work and materials shall be subject to approval by Essex DPW and shall conform to the applicable Town Specifications. The Contractor shall be responsible for making all arrangements with the Town and paying all fees associated with the stormwater system installation
2. Work Included. Provide all labor, materials, equipment, services, and transportation required to construct the water quality unit systems, including connections to existing structures and testing, as indicated on the Drawings and as specified herein.
3. Products:
    a. WATER QUALITY UNIT (HYDRODYNAMIC SEPARATORS)
        i. Housing unit of stormwater treatment device shall be constructed of pre-cast or cast-in-place concrete, no exceptions. Precast concrete components shall conform to applicable sections of ASTM C 478, ASTM C857 and ASTM C858 and the following:
        ii. Stormwater management systems will be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:
            1. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan and thereafter are implemented and maintained.
            2. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and
            3. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.
        iii. Concrete shall achieve a minimum 28-day compressive strength of 4,000 pounds per square-inch (psi).
        iv. Unless otherwise noted, the precast concrete sections shall be designed to withstand lateral earth and AASHTO HS-20 traffic loads.
        v. Cement shall be Type III Portland Cement conforming to ASTM C150.
        vi. Aggregates shall conform to ASTM C33.
        vii. Reinforcing steel shall be deformed billet-steel bars, welded steel wire or deformed welded steel wire conforming to ASTM A615, A185, or A497.
        viii. Sections shall have tongue and groove joints.

ix. Joints between sections shall be made with preformed butyl rubber joint sealant conforming to ASTM C443.

x. Each section shall have no more than two suitable lifting holes or cast-in lifting devices.

xi. Precast base shall be manufactured with wall openings to receive the ends of pipes, which are to be connected to structure.

xii. Pipe openings in base shall be minimum size required to receive pipe and shall be accurately set to conform to the required line and grade.

xiii. Drainpipe shall be joined to wall of concrete manhole or catch basin flexible manhole sleeve.

xiv. Shipping of components shall not be initiated until a minimum compressive strength of 4,000 psi is attained or five calendar days after fabrication has expired, whichever occurs first.

xv. Access system(s) conform to the following:

xvi. Manhole castings shall be designed to withstand AASHTO HS-20 loadings and manufactured of cast-iron conforming to ASTM A48 Class 30.

xvii. Castings shall be as specified by the WQU manufacturer.

xviii. Castings to be compliant with Section 334000 Storm Drainage System

xix. Castings shall also bear the name of the WQU manufacturer.

xx. Water quality unit shall be manufactured by one of the following or approved equal by Essex Water Department: Contech ® Engineered Solutions; Hydro International ®; Imbrium ®.

xxi. Internal bypass is required

G90 OTHER SITE CONSTRUCTION:

1. Not applicable.

End of Outline Specification

3.3.3.3 TOTAL PROJECT COST / CONSTRUCTION COST ESTIMATE

The Table 1 MSBA Summary of Preliminary Design Pricing below was developed based on cost data prepared by the Designers cost estimator, A M Fogarty & Associates, Inc., dated April 9, 2026 and the PSR Comparable/Probable Cost and Reimbursement Analysis prepared by PM&C dated April 6, 2026. Both used the Uniformat II Elemental Classification, Level 2 format to prepare the estimate of probably construction costs.

Copies of the PSR Cost Estimate and PSR Comparable/Probable Cost and Reimbursement Analysis are provided in Appendix 3.3.6.6 and Appendix 3.3.6.7 respectively of this report.

Preliminary Design Pricing Table

= Formula do not edit

Option (Description)	Total Gross Square Feet	Square Feet of Renovated Space ($*/SF)	Square Feet of New Construction ($*/SF)	Site, Building Takedown, Haz Mat Etc. ($*)	Estimated Total Construction** ($*)	Estimated Total Project Costs ($)
OPTION A0.2 Code Update	53,036 sf	53,036 sf	- sf	$ 8,673,017	$ 40,194,433	$ 53,000,000
		$ 594.34 $/sf	$ - $/sf		$ 757.87 $/sf	999
OPTION A1.1 - Renovation + Addition 165 Students	60,072 sf	53,036 sf	7,036 sf	$ 15,900,651	$ 62,117,400	$ 79,000,000
		$714.48 $/sf	$1,183 $/sf		$ 1,034.05 $/sf	1315
OPTION A1.2-B - Addition + Renovation 250 Students	76,443 sf	53,036 sf	23,407 sf	$ 16,083,842	$ 74,567,157	$ 95,000,000
		$694.91 $/sf	$924.00 $/sf		$ 975.46 $/sf	1243
OPTION A2.2A - New Construction 250 Students	72,443 sf	- sf	72,443 sf	$ 17,127,401	$ 72,172,490	$ 91,000,000
		$ - $/sf	$759.84 $/sf		$ 996.27 $/sf	1256
OPTION A2.2B - New Construction 250 Students	72,443 sf	- sf	72,443 sf	$ 17,788,016	$ 73,150,405	$ 93,000,000
		$ - $/sf	$764.22 $/sf		$ 1,009.76 $/sf	1284
OPTION A2.2F - New Construction 250 Students	72,443 sf	- sf	72,443 sf	$ 17,325,466	$ 74,497,482	$ 93,000,000
		$ - $/sf	$789.20 $/sf		$ 1,028.36 $/sf	1384
OPTION B1.1 - Addition + Renovation 515 Students	45,368 sf	5,000 sf	40,368 sf	$ 11,408,256	$ 49,352,274	$ 64,000,000
		$718.17 $/sf	$851.00 $/sf		$ 1,087.82 $/sf	1411

* Marked Up Construction Costs
** Does not include Construction Contingency
*** **District's Preferred Schematic**

PREFERRED SOLUTION

SECTION 3.3.4

3.3.4 – PREFERRED SOLUTION

3.3.4.1 Executive Summary

- Updated Educational Program

3.3.4.2 Preferred Solution Space Summary

3.3.4.3 Preliminary LEEDv4 BD+C for Schools Scorecard

3.3.4.4 Preferred Solution Conceptual Floor Plans

3.3.4.5 Preferred Solution Conceptual Site Plan and Conceptual Site Section

3.3.4.6 Total Project Budget and Local Funding

3.3.4.7 Updated Project Schedule

3.3.4.1 EXECUTIVE SUMMARY

At their April 16, 2026, meeting, the School Building Committee voted to pursue Option A2.2-F, new construction, as the Preferred Solution. At the April 28, 2026, meeting, the SBC voted to authorize the Owner's Project Manager and Designer to submit the Preferred Schematic Report (PSR) to the Massachusetts School Building Authority (MSBA).

Option A2.2-F provides a design solution for a 250-student elementary school serving grades K-5 on the existing Essex Elementary School site with an additional enrollment of 30 PreK students. This option proposes a new, three-story building, approximately 72,443 gross square foot (gsf) building. Taking advantage of a one-story grade change at the northern end of the site, the proposed new school's main entrance is at the middle level for efficient internal circulation. The lower level is dedicated to Pre-K classrooms with an independent drop-off and entrance vestibule. The option provides approximately 100 parking spaces while improving existing traffic patterns for bus and parent drop-off and existing drives and circulation, as well as full emergency access around the building. The separate parent and bus queuing areas will reduce the impact of heavier traffic flows on site from Story Street, shifting the primary site ingress to Western Avenue. The Pre-K drop remains off Story Street. This option also provides one large soccer field, a walking path, two play areas, and a fully accessible pedestrian route through the site. Outdoor learning environments will also be created.

This option is proposed to be constructed as a three-phased project that allows the occupancy of the existing building during construction without the need for additional swing space.

The Preferred Solution supports the goals identified in the Visioning Sessions and the Educational Program. The design team worked with the District through numerous educational visioning workshops and design reviews, developing this building plan to address all the identified goals of the project. From these Visioning Sessions, the design team and District developed these Guiding Educational Principles:

1. Students as the Doers and the Leaders of Their Own Learning
2. A Learning Environment that Captures and Supports the Energy of Children
3. Flexibility in Space and Practive to Support Collaboration and Engagement
4. A School that Serves as the Hub of the Essex Community
5. Seamless Connections Between Indoor and Outdoor Learning
6. Spaces that Promote Comfort, Belonging, and Accessibility for All Learners

The Guiding Principles have been incorporated into the Preferred Solution to embody and reinforce the Priority Design patterns that were discussed at the various workshops.

The variety of spaces and the distribution of the various room types support the idea flexible learning environments from the standpoint of students and staff. The Design Team will continue to incorporate the Guiding Principles within the building design in the subsequent phases leading to the Towns' consideration of the Preferred Solution for approval.

EDUCATIONAL PROGRAM

After receiving comments from the MSBA on the Preliminary Design Program, while preparing responses it was determined that no updates were necessary to the Educational Program itself.

A copy of the Educational Program is provided in Appendix 3.3.6.8.

Below is additional information requested regarding portions of the educational plan.

COMMON PLANNING TIME AND STRUCTURE

Each grade-level team is provided with five common planning periods per week, each lasting 45 minutes, for a total of 225 minutes of shared collaborative time weekly. In addition, teachers receive one 45-minute individual planning period per week.

During these common planning blocks, grade-level classroom teachers meet regularly to:

- Analyze student data
- Coordinate MTSS support
- Co-design and align instruction

Because specialist schedules (e.g., art, music, physical education, library, technology, and future world language) are aligned across grade levels, these blocks also create regular opportunities for coordination between classroom teachers and specialists, particularly around interdisciplinary planning and student support needs.

EXTENDED COLLABORATION TIME

In addition to daily common planning, the schedule includes **extended Wednesdays**, which provide structured time for deeper professional collaboration. This includes:

- Professional learning
- Curriculum development and vertical/horizontal alignment
- Interdisciplinary planning across content areas

Additionally, there is a 60-minute extended collaboration session once per month to support sustained, in-depth work.

STUDENT SUPERVISION DURING PLANNING TIME

Students are supervised by **certified specialist teachers** during common planning periods. These educators provide structured, standards-aligned instruction in their respective content areas, ensuring that student learning continues uninterrupted while classroom teachers engage in collaboration.

USE OF PLANNING AND COLLABORATION SPACES

Dedicated teacher planning and collaboration spaces are located within or directly adjacent to grade-level learning neighborhoods. These spaces are used throughout the school day for:

- Grade-level team meetings
- Data analysis and MTSS planning
- Co-planning between general educators, specialists, and interventionists
- Instructional coaching and feedback sessions

Their proximity to classrooms allows for efficient transitions and supports ongoing, job-embedded collaboration tied directly to instructional practice.

FLEXIBLE USE OF PLANNING SPACES

When not scheduled for formal collaboration, these spaces remain actively utilized for:

- Individual teacher preparation
- Small-group meetings or conferencing
- Virtual meetings or professional learning
- Quiet workspace for curriculum development and assessment design

This flexible approach ensures that planning spaces are consistently used in ways that support professional practice and instructional improvement.

AUTHENTIC LITERACY TASKS

Authentic literacy tasks provide students with opportunities to engage in reading, writing, speaking, and listening in ways that reflect how literacy is used in real-world contexts beyond the classroom. Through our *Wonders 2020 ELA/Literacy curriculum* and cross-curricular instruction, these experiences are intentionally embedded in daily practice.

Students regularly engage with high-quality literary and informational texts that are organized to build knowledge across topics while strengthening comprehension, vocabulary, and analytical skills. They are asked to respond to complex texts through discussion and writing, using evidence to support their thinking and demonstrate deeper understanding.

Instruction emphasizes collaborative conversations, such as shared inquiry discussions, book groups, and partner talks, where students articulate their ideas, listen to others, and build on multiple perspectives. These experiences strengthen both oral language and critical thinking skills.

Writing tasks are designed to mirror real-world purposes and audiences. Students produce a range of genre-specific pieces—including opinion writing, informational reports, and narratives—often modeled after mentor texts. They may also create authentic products such as letters to community members, informational brochures, or published pieces shared with peers and families.

Students also engage in extended learning through unit-based projects, where they research topics, synthesize information from multiple sources (including anchor texts, shared readings, and paired selections), and present their findings through written and multimedia formats. These tasks require students to integrate

skills across reading, writing, and speaking while applying higher-level thinking, such as comparing and contrasting texts or analyzing multiple perspectives.

Importantly, authentic literacy experiences extend beyond the ELA block. Teachers integrate reading, writing, and communication skills across content areas, including science, history/social science, and mathematics. For example, students may write about scientific investigations, explain problem-solving processes, or analyze informational texts connected to social studies topics.

Together, these experiences ensure that students are not only developing foundational literacy skills, but also applying them in meaningful, relevant ways that prepare them for real-world communication and learning.

3.3.4.2 PREFERRED SOLUTION SPACE SUMMARY

The Preferred Schematic Report (PSR) Preferred Solution Space Summary for the Grades K-5, 250 student enrollment + 30 PreK Students was updated to incorporate MSBA Preliminary Design Program (PDP) comments. The District's Preferred Solution, Option A2.2-F, is in alignment with this Space Summary.

A copy of the updated Preferred Solution Space Summary is provided on the following pages.

VARIATIONS FROM THE PRELIMINARY SPACE SUMMARY

After the issuance of the PDP Initial Space Summary in January 2026, the Space Summary continued to evolve based on discussions with the District and review of the MSBA PDP comments.

As a result, the Total Building Gross Floor Area decreased 1,230 gross square feet (gsf) from 73,673 gsf to 72,443 gsf.

Variations from the PDP Initial Space Summary and the PSR Preferred Solution Space Summary are itemized as follows:

- All newly constructed Special Education Classrooms shall be a minimum of 900 nsf. ACE rooms increased from 600 nsf to 900 nsf.
- School Psychologist recategorized from 'Special Education' to 'Administration and Guidance.'
- Storage areas in RISE, Physical Therapy and Pre-K totaling 800 nsf recategorized to 'Non-Programmed Spaces.' Results in a reduction of building gross floor area due to how the grossing factor is applied.

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 250 STUDENT K-5 OPTION	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
CORE ACADEMIC			**14,301**			**0**			**16,550**			**16,550**			**5,600**			**10,950**	STE Guidelines Policy
(List rooms of different sizes separately)																			
Kindergarten Classroom with Toilet	857	2	1,714			0	1,200	2	2,400	1,200	2	2,400	0	0	0	1,200	2	2,400	1,100 NSF (minimum size) - 1,300 NSF (maximum size); Minimum of (2) sinks required per Kindergarten Classroom
General Classroom (Two per grade 1-5)	866	10	8,660			0	950	10	9,500	950	10	9,500	0	1	950	950	9	8,550	900 NSF (minimum size) - 1,000 NSF (maximum size); Minimum of (2) sinks required per General Classroom
Project Room (STE)	1,178	2	2,356			0	1,080	1	1,080	1,080	1	1,080	0	1	1,080	1,080	0	-	1,080 NSF (minimum size); Refer to the 2018 STE Guidelines for additional information.
Project Storage Room			0			0	120	1	120	120	1	120	0	1	120	120	0	-	Minimum of (1) 120 NSF STE Storage Room required per STE Room; Refer to the 2018 STE Guidelines for additional information.
World Language			0			0	950	1	950	950	1	950	950	1	950				
MTSS Interventionists Office	857	1	857			0	500	2	1,000	500	2	1,000	500	2	1,000				
MTSS Interventionists Small Group			0			0	250	0	0	250	0	0	250	0	0				
Break-Out			0			0	500	3	1,500	500	3	1,500	500	3	1,500				
Book Storage	238	3	714			0			0	0	0	0	0	0	0				
SPECIAL EDUCATION			**4,718**			**0**			**8,245**			**8,245**			**5,225**			**3,020**	Special Education spaces require DESE review and approval.
(List rooms of different sizes separately)																			
Self-Contained Special Education Classroom (RISE, Gr. K-2)	871	1	871			0	950	1	950	950	1	950	0	-1	-950	950	2	1,900	900 NSF (minimum size) - 1,300 NSF; equal to the size of the proposed General Classrooms that serve the same student population.
Self-Contained Special Education Classroom (RISE, Gr. 3-5)			0			0	950	1	950	950	1	950	950	1	950				
Self-Contained Special Education Toilet Room (RISE)			0			0	60	2	120	60	2	120	0	0	0	60	2	120	
Self-Contained Special Education Classroom (ACE, Gr. K-2)			0			0	900	1	900	900	1	900	900	1	900				
Self-Contained Special Education Classroom (ACE, Gr. 3-5)			0			0	900	1	900	900	1	900	900	1	900				
Resource Room	795	2	1,590			0	500	1	500	500	1	500	0	0	0	500	1	500	1/2 size of a General Classroom
Small Group Room			0			0	250	6	1,500	250	6	1,500	-250	5	1,000	500	1	500	1/2 size of a General Classroom
Speech and Language	128	1	128			0	150	1	150	150	1	150	150	1	150				
Sensory Room (Calming Corner)	163	1	163			0	250	1	250	250	1	250	250	1	250				
Occupational Therapy (OT)	225	2	450			0	475	1	475	475	1	475	475	1	475				
Physical Therapy (PT)	1,191	1	1,191			0	1,200	1	1,200	1,200	1	1,200	1,200	1	1,200				
Special Education Team Chair Office	325	1	325			0	150	1	150	150	1	150	150	1	150				
Special Education Conference			0			0	200	1	200	200	1	200	200	1	200				
ART & MUSIC			**1,750**			**0**			**2,500**			**2,500**			**0**			**2,500**	
Art Classroom (25 seats)	1,035	1	1,035			0	1,000	1	1,000	1,000	1	1,000	0	0	0	1,000	1	1,000	Assumed schedule: 2 times per week per student
Art Workroom with Storage and Kiln			0			0	150	1	150	150	1	150	0	0	0	150	1	150	
Music Classroom / Large Group (25-50 seats)	715	1	715			0	1,200	1	1,200	1,200	1	1,200	0	0	0	1,200	1	1,200	Assumed schedule: 2 times per week per student
Music Practice / Ensemble			0			0	75	2	150	75	2	150	0	0	0	75	2	150	
HEALTH & PHYSICAL EDUCATION			**6,154**			**0**			**7,150**			**7,150**			**850**			**6,300**	Excess Physical Education Spaces Policy
Gymnasium (w/ bleachers)	4,782	1	4,782			0	6,850	1	6,850	6,850	1	6,850	850	0	850	6,000	1	6,000	
Gym Storeroom	435	1	435			0	150	1	150	150	1	150	0	0	0	150	1	150	
Health Instructor's Office with Shower and Toilet	75	1	75			0	150	1	150	150	1	150	0	0	0	150	1	150	
Boys Locker	574	1	574			0			0	0	0	0	0	0	0				
Girls Locker	288	1	288			0			0	0	0	0	0	0	0				
MEDIA CENTER			**1,926**			**0**			**2,020**			**2,020**			**0**			**2,020**	
Media Center / Reading Room	1,775	1	1,775			0	2,020	1	2,020	2,020	1	2,020	0	0	0	2,020	1	2,020	
Media Office / Work	151	1	151			0			0	0	0	0	0	0	0				

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 250 STUDENT K-5 OPTION	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
DINING & FOOD SERVICE			**5,244**			**0**			**4,875**			**4,875**			**0**			**4,875**	
Cafeteria / Dining	3,035	1	3,035			0	1,875	1	1,875	1,875	1	1,875	0	0	0	1,875	1	1,875	Based on 2 lunch seatings - 15 NSF per seat
Stage	877	1	877			0	1,000	1	1,000	1,000	1	1,000	0	0	0	1,000	1	1,000	
Chair / Table / Equipment Storage			0			0	200	1	200	200	1	200	0	0	0	200	1	200	
Kitchen	1,332	1	1,332			0	1,600	1	1,600	1,600	1	1,600	0	0	0	1,600	1	1,600	1,600 NSF for first 300 students + 1 NSF per additional student
Staff Lunch Room			0			0	200	1	200	200	1	200	0	0	0	200	1	200	20 NSF per student
MEDICAL			**341**			**0**			**410**			**410**			**0**			**410**	
Medical Suite Toilet	27	1	27			0	60	1	60	60	1	60	0	0	0	60	1	60	
Nurses' Office / Waiting Room	157	1	157			0	250	1	250	250	1	250	0	0	0	250	1	250	
Examination Room / Resting	157	1	157			0	100	1	100	100	1	100	0	0	0	100	1	100	
ADMINISTRATION & GUIDANCE			**1,424**			**0**			**2,245**			**2,245**			**230**			**2,015**	
General Office / Waiting Room with Toilet	111	1	111			0	300	1	300	300	1	300	0	0	0	300	1	300	
Teachers' Mail and Time Room			0			0	100	1	100	100	1	100	0	0	0	100	1	100	
Copy Room			0			0	150	1	150	150	1	150	0	0	0	150	1	150	
Records Room			0			0	110	1	110	110	1	110	0	0	0	110	1	110	
Principal's Office with Conference Area	184	1	184			0	375	1	375	375	1	375	0	0	0	375	1	375	
Principal's Secretary / Waiting			0			0	125	1	125	125	1	125	0	0	0	125	1	125	
Assistant Principal's Office			0			0			0	0	0	0	-120	0	0	120	0	-	
Supervisory / Spare Office			0			0			0	0	0	0	-120	-1	-120	120	1	120	
Conference Room	342	1	342			0	250	1	250	250	1	250	0	0	0	250	1	250	
School Counselor Office	424	1	424			0	150	1	150	150	1	150	0	0	0	150	1	150	
School Counselor Storeroom			0			0			0	0	0	0	-35	-1	-35	35	1	35	
Teachers' Work Room	718		0			0	300	1	300	300	1	300	0	0	0	300	1	300	
Tech Office	235	1	235			0	235	1	235	235	1	235	235	1	235				
School Psychologist	128	1	128			0	150	1	150	150	1	150	150	1	150				
CUSTODIAL & MAINTENANCE			**546**			**0**			**1,900**			**1,900**			**0**			**1,900**	
Custodian's Office	73	1	73			0	150	1	150	150	1	150	0	0	0	150	1	150	
Custodian's Workshop			0			0	375	1	375	375	1	375	0	0	0	375	1	375	
Custodian's Storage	114	1	114			0	375	1	375	375	1	375	0	0	0	375	1	375	
Recycling Room / Trash			0			0	400	1	400	400	1	400	0	0	0	400	1	400	
Receiving and General Supply			0			0	200	1	200	200	1	200	0	0	0	200	1	200	
Storeroom	132	2	264			0	200	1	200	200	1	200	0	0	0	200	1	200	
Network / Telecom Room	95	1	95			0	200	1	200	200	1	200	0	0	0	200	1	200	
OTHER			**0**			**0**			**2,400**			**2,400**			**2,400**			**0**	
(List rooms separately below)																			
Pre-Kindergarten Classroom with Toilet			0			0	1,200	2	2,400	1,200	2	2,400	0	2	2,400	1,200	0	-	1,100 NSF (minimum size) - 1,300 NSF (maximum size)
Total Building Net Floor Area (NFA)			**36,404**			**0**			**48,295**			**48,295**			**14,305**			**33,990**	**Total Building Net Floor Area (NFA)**
Proposed Student Capacity / Enrollment																# of Grades	6	**250**	**Total Enrollment (Enter Design Enrollment)**
																K	1	**42**	Kindergarten Enrollment
																Grade 1	1	**83**	Lower Elementary School Enrollment (Grades 1-2)
																Grade 2	1	**125**	Upper Elementary School Enrollment (Grades 3-6)
																Grade 3	1		
																Grade 4	1		
																Grade 5	1		
																Grade 6	0		

Proposed Space Summary - Elementary School

Date: 2026-0324 Preliminary Design Program

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL 250 STUDENT K-5 OPTION	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM									VARIATION TO MSBA GUIDELINES			MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
				EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL									
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
NON-PROGRAMMED SPACES					% of GFA	**0**		% of GFA	**24,148**		% of GFA	**24,148**							Complete this category with Schematic Design Submittal
Other Occupied Rooms (List rooms separately below)																			
Mothers' Room			0			0	120	1	120	120	1	120	120	1	120				
[Enter room type here]				-	#DIV/0!		-	0.0%		-	0.0%	0							
Unoccupied MEP / FP Spaces	2,358	4.4%	2,358	-	#DIV/0!		-	0.0%		-	0.0%	0							
Unoccupied Closets, Supply Rooms, and Storage Rooms	875	1.6%	875	-	#DIV/0!		800	1.1%	800	800	1.1%	800							
Toilet Rooms	1,133	2.1%	1,133	-	#DIV/0!		-	0.0%		-	0.0%	0							
Circulation (corridors, stairs, ramps and elevators)	6,813	12.8%	6,813	-	#DIV/0!		-	0.0%		-	0.0%	0							
Remaining[3]	5,453	10.3%	5,453	-	#DIV/0!	**0**	**23,228**	32.1%	**23,228**	-	32.1%	**23,228**							
Total Building Gross Floor Area (GFA)[2]			**53,036**			**0**			**72,443**			**72,443**			**27,443**			**45,000**	**Total Building Gross Floor Area (GFA)[2]**
Grossing Factor (GFA / NFA)			**1.46**			**#DIV/0!**			**1.50**			**1.50**			**0.18**			**1.32**	**Grossing Factor (GFA / NFA)**

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls.

[3] **Remaining** Includes exterior walls, interior partitions, chases, and other areas not listed above. Do not calculate this area, it is assumed to equal the difference between the Total Building Gross Floor Area and area not accounted for above.

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architecture Firm: JCJ Architecture

Name of Principal Architect: James E. LaPosta Jr., FAIA, LEED AP

Signature of Principal Architect:

Date: 03/24/25

3.3.4.3 PRELIMINARY LEED V4 BD+C FOR SCHOOLS SCORECARD

The Design Team facilitated the Sustainability Working Group Meeting 01 on October 23, 2025 and the Sustainability Working Group Meeting 02 on November 17, 2025 with representatives from the District, Essex Elementary School Building Committee, and DWMP. The intent of the meetings were to review options and identify the sustainability goals for the Essex Elementary School project. Colleen Soden, LEED BD+C, of Soden Sustainability; Kelley Tapia, AIA, WELL AP, LEED BD+C Fitwel Ambassador of Soden Sustainability; and Eric Haggstrom AIA, LEED AP, Fitwel Ambassador of JCJ Architecture, Director of Sustainability led the workshops where the following topics were discussed:

- Project Understanding and Requirements
  - Project Overview
  - Sustainability Approach:
    - Learning is top priority
    - Spaces to improve learning outcomes
    - Maximize value to district
      - Minimize first cost and operating & maintenance costs
    - Consider now for future incentives
    - Importance of healthy indoor environments
- Project Requirements
  - LEED v4.0
  - MSBA Requirements (Project Advisory #81)
  - MA DOER "Stretch Code Green Community" standards
  - Be "solar ready"
- Opportunities
  - MA DOER "Opt-In Specialized Code" for 3% additional reimbursement
    - Earn 5 (out of 7) for 1% additional reimbursement
  - Mass Saves Utility Incentives
  - Sustainable Building as a Teaching Tool (students and staff)
  - Plan for Net Zero
- LEED v4.0 Rating System Overview
  - Reviewed initial LEEDv4 for BD+C Schools Scorecard
- Next Steps
  - Sustainability Working Group Meeting 03 during Schematic Design Phase
  - HVAC Systems Options Review and Life Cycle Cost Analysis

After discussion, the District agrees that the project will be designed to meet LEED Silver certified rating under LEED v4 BD+C for Schools. The project goal is to meet all prerequisites and the 50 plus attempted points for LEED Silver Certification including the minimum 3 points required between the categories of MR Building Product Disclosure and Optimization - Material Ingredients, IEQ - Low Emitting Materials, and IEQ – Indoor Air Quality Assessment. The project will be designed to meet at least the minimum energy efficiency requirements in the MA DOER "Opt-In Specialized Code." As the design continues to develop, the team will evaluate the possibility of achieving the additional 1% reimbursement for achieving 5 of 7 points in select MR and IEQ credits consistent with Project Advisory 81.

The prerequisites and available credits identified thus far are fifty-four (54) YES points to attempt certification within the range of 50 to 59 points required to achieve the LEED Silver rating.

A copy of the resultant preliminary LEEDv4BD+C for Schools Scorecard prepared by JCJ Architecture and Soden Sustainability dated November 17, 2025 is provided on the following pages.

Copies of the *Sustainability Working Group Meetings 01 and 02* presentations prepared by JCJ Architecture and Soden Sustainability are provided in Appendix 3.3.6.9 of this report, along with the Invoice for USGCC Registration.

PRELIMINARY SCORECARD

LEED v4 for BD+C: Schools
Project Checklist

Project Name: New Construction - Essex Site
Project Address: 12 Story Street, Essex, MA 01929
Date: November 2025

Y	?	N			
		1	Credit	Integrative Process	1

4	1	10	**Location and Transportation**		15
0	0	0	Credit	LEED for Neighborhood Development Location	15
1			Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
2		3	Credit	Surrounding Density and Diverse Uses	5
		4	Credit	Access to Quality Transit	4
		1	Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

10	1	1	**Sustainable Sites**		12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
1			Credit	Site Assessment	1
1		1	Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
3			Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
	1		Credit	Site Master Plan	1
1			Credit	Joint Use of Facilities	1

5	1	6	**Water Efficiency**		12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
2	1	4	Credit	Indoor Water Use Reduction	7
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

14	3	14	**Energy and Atmosphere**		31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
5	1		Credit	Enhanced Commissioning - MSBA	6
8	2	6	Credit	Optimize Energy Performance	16
1			Credit	Advanced Energy Metering - Code	1
		2	Credit	Demand Response	2
		5	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
			Credit	~~Green Power and Carbon Offsets~~	2

5	3	5	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
1	1	3	Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

8	0	8	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1		1	Credit	Indoor Air Quality Assessment	2
		1	Credit	Thermal Comfort	1
1		1	Credit	Interior Lighting	2
		3	Credit	Daylight	3
		1	Credit	Quality Views	1
		1	Credit	Acoustic Performance	1

6	0	0	**Innovation**		6
1			Credit	Innovation credit one: Sustainable Purchasing Lamps	1
1			Credit	Innovation credit two: LEED O+M Starter Kit	1
1			Credit	EP: BPDO - Material Ing (40 products from 10 manuf)	1
1			Credit	EP: Low Emitting	1
1			Credit	EP: BPDO - EPD	1
1			Credit	LEED Accredited Professional	1

2	1	1	**Regional Priority**		4
1			Credit	Regional Priority: Open Space (1pt)	1
1			Credit	Regional Priority: Optimize Energy (8pts)	1
	1		Credit	Regional Priority: WBLCA (2pts)	1
		1	Credit	Regional Priority: Indoor Water (4pts)	1
				Alt: REC (2pts), High Priority Site (2pts)	

54	10	46	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

LEED Silver required per MSBA #31

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FAX 860.524.8067
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April 29, 2026

Ms. Veatriki Dagkalakou, Project Manager
Ms. Claire Lerner, Senior Project Coordinator
Massachusetts School Building Authority
10 Post Office Square, Suite S400
Boston, MA 02109

Re: PSR Sustainability Letter

Dear Ms. Dagkalakou and Ms. Lerner:

This is acknowledgment the Essex Elementary School has identified a goal of 3% additional reimbursement from the MSBA Green School Program consistent with Project Advisory 81. JCJ submitted within the PSR documents a completed progress LEED v4 BD+C for Schools scorecard showing all prerequisites and the 50 plus attempted points for LEED Silver Certification including the minimum 3 points required between the categories of MR Building Product Disclosure and Optimization - Material Ingredients, IEQ - Low Emitting Materials, and IEQ – Indoor Air Quality Assessment. The project will be designed to meet the minimum energy efficiency requirements in the MA DOER "Opt-In Specialized Code" standards.

The project team will continue to evaluate the possibility of achieving the additional 1% for achieving 5 out of 7 points available in the previously mentioned MR and IEQ credit categories.

The scope of work for this project will include the construction elements and performance tasks to achieve that goal, and all subsequent documents, including but not limited to, specifications drawings, and cost estimates will match the scope of work indicated in the submitted scorecard.

Please contact our office with any questions.

Sincerely,

James E. LaPosta Jr., FAIA, LEED AP
Principal / Chief Architectural Officer

Cc: Pam Beaudoin, Superintendent, Manchester Essex Regional School District
Christina Dell Angelo, Project Director, Owner's Project Manager, Dore + Whittier
Fawn Walton Pellegrini, AIA, MCPPO, JCJ Architecture

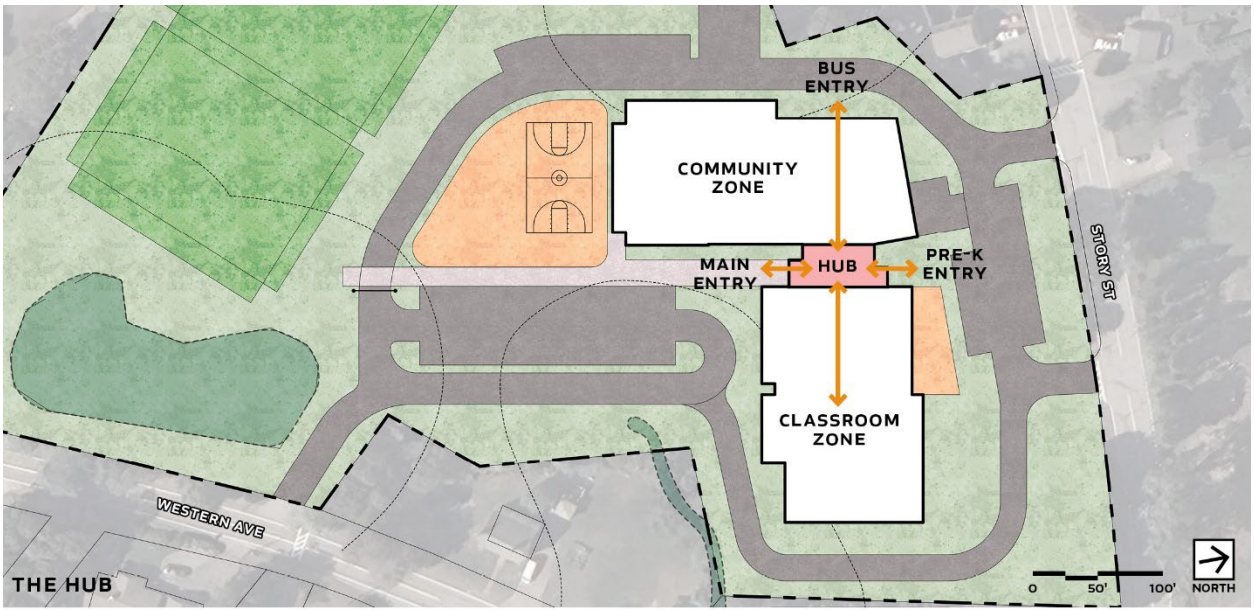
3.3.4.4 PREFERRED SOLUTION CONCEPTUAL FLOOR PLANS

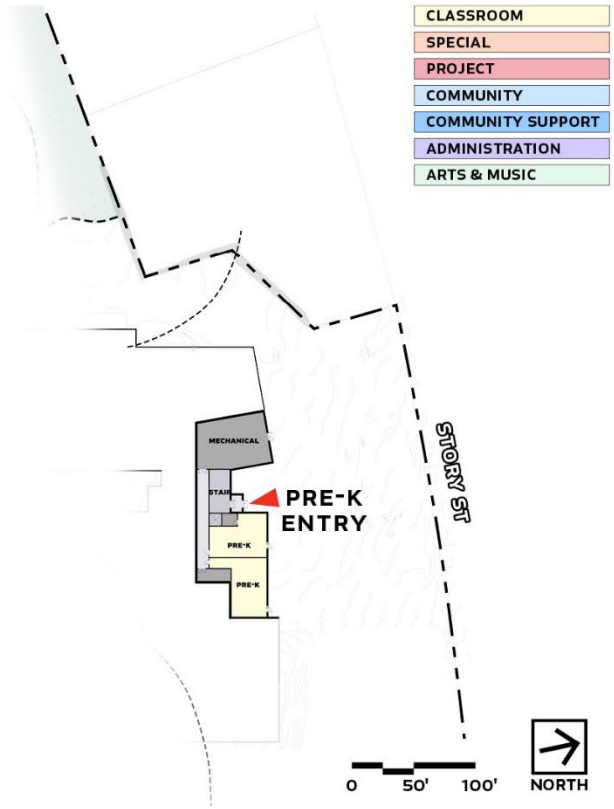
The proposed school design navigates the site's natural topography by utilizing a one-story grade change at the northern end to establish a highly efficient three-level layout. By situating the Main Entrance on the middle Main Level, the design optimizes internal circulation and minimizes travel distances for students and staff alike. Traffic flow is further refined through a series of specialized entry points: a dedicated Bus Entry is adjacent to Dining and the Gymnasium for streamlined staging, while the Lower Level features an independent drop-off specifically for Pre-K classrooms. All three of these major access points converge in a central Hub, which serves as the vibrant heart of the building.

The Hub acts as a critical connector, bridging the public-facing Community Zone with the more private Classroom Zone. The floor plan is intentionally zoned to allow community assets to remain available outside of school hours while the Classroom Zone is easily segregated for security. Within the Community Zone, Dining and the Gymnasium are joined by an operable partition, creating a large yet flexible space oriented toward the Stage for large-scale performances and assemblies. Adjacent to this social core lies the Learning Commons, a suite of creative spaces that includes the Media Center, an Art Studio, and a World Language Lab.

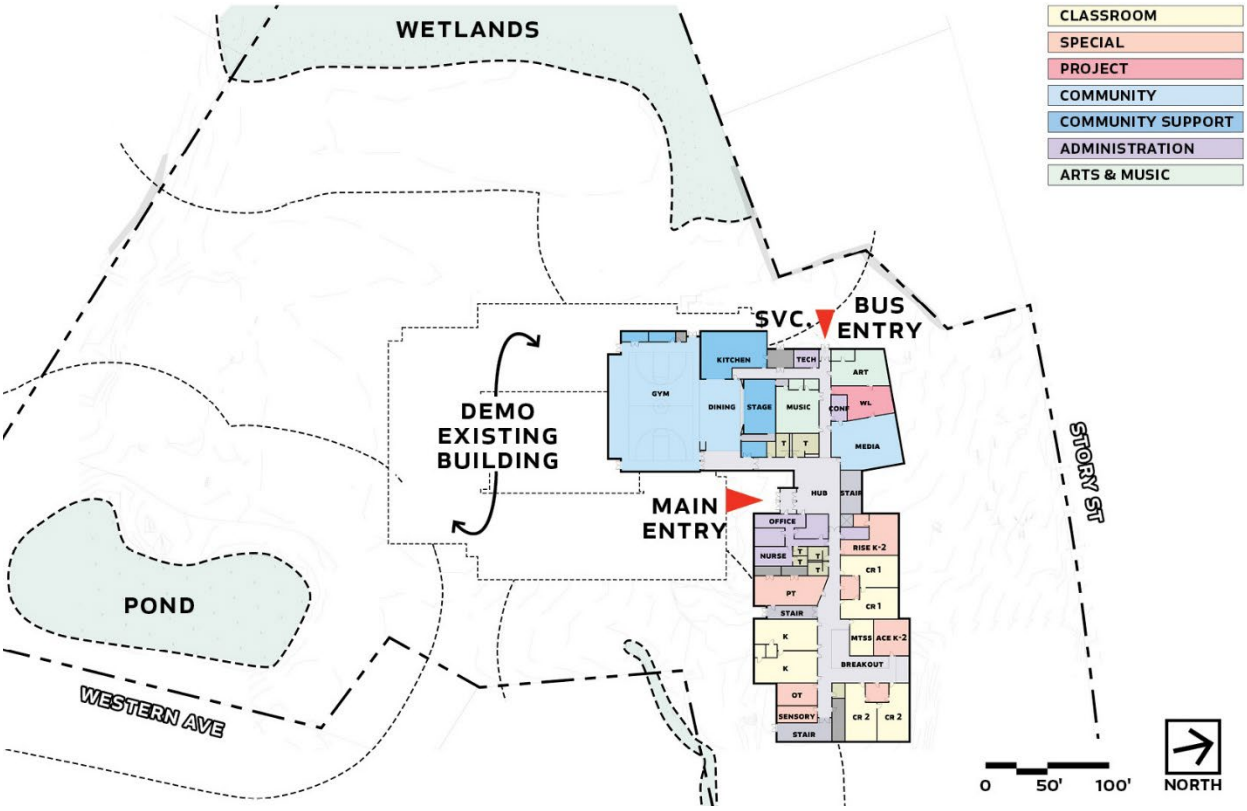
The Classroom Zone is organized into Learning Neighborhoods that prioritize modern, inclusive pedagogy. These spaces move beyond traditional classroom boundaries by integrating Multi-Tiered System of Supports (MTSS) staff with Small Group rooms and Breakout spaces directly into the layout. This inclusive approach ensures that specialized education programs, such as RISE and ACE, are seamlessly woven into the student experience. The Main Level is dedicated to the developmental needs of the youngest learners in Kindergarten through Grade 2, while the Upper Level provides a learning environment tailored for the maturing needs of Grades 3 through 5. This vertical organization ensures that each age group has a distinct "neighborhood" feel while remaining part of a cohesive whole.

CONCEPT DIAGRAM – PREFERRED OPTION

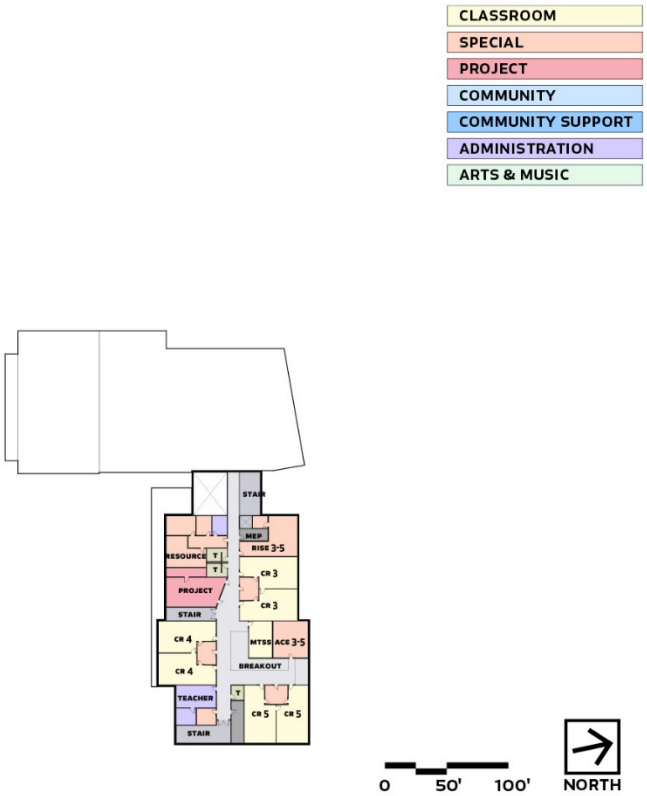




FLOOR PLAN – LOWER LEVEL

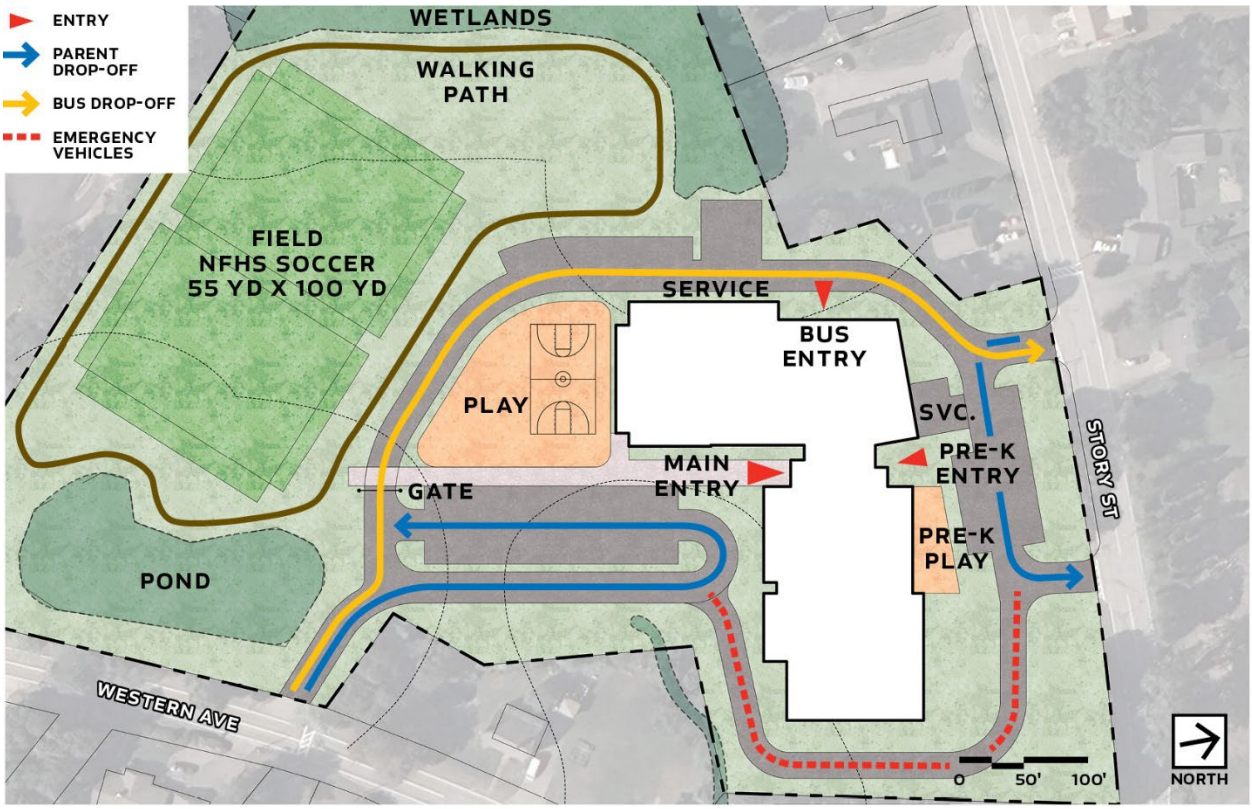


FLOOR PLAN – MAIN LEVEL

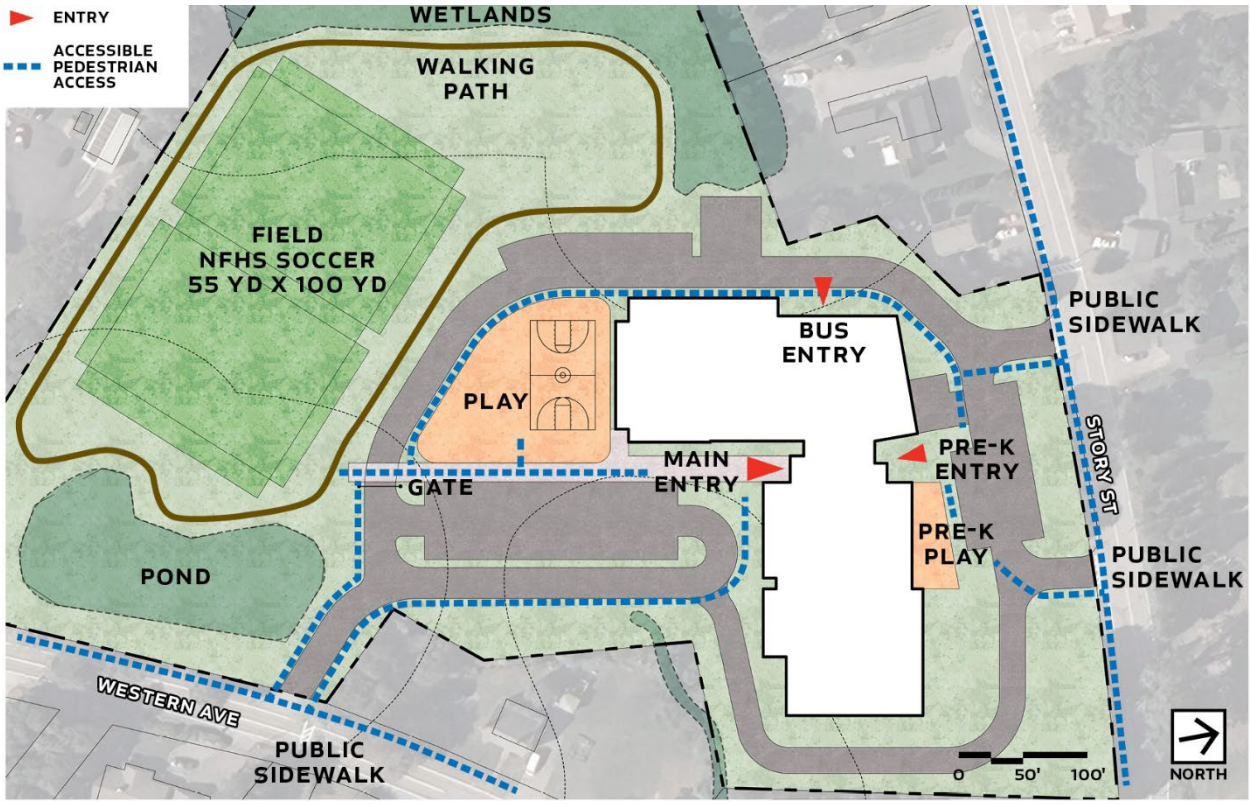


FLOOR PLAN – UPPER LEVEL

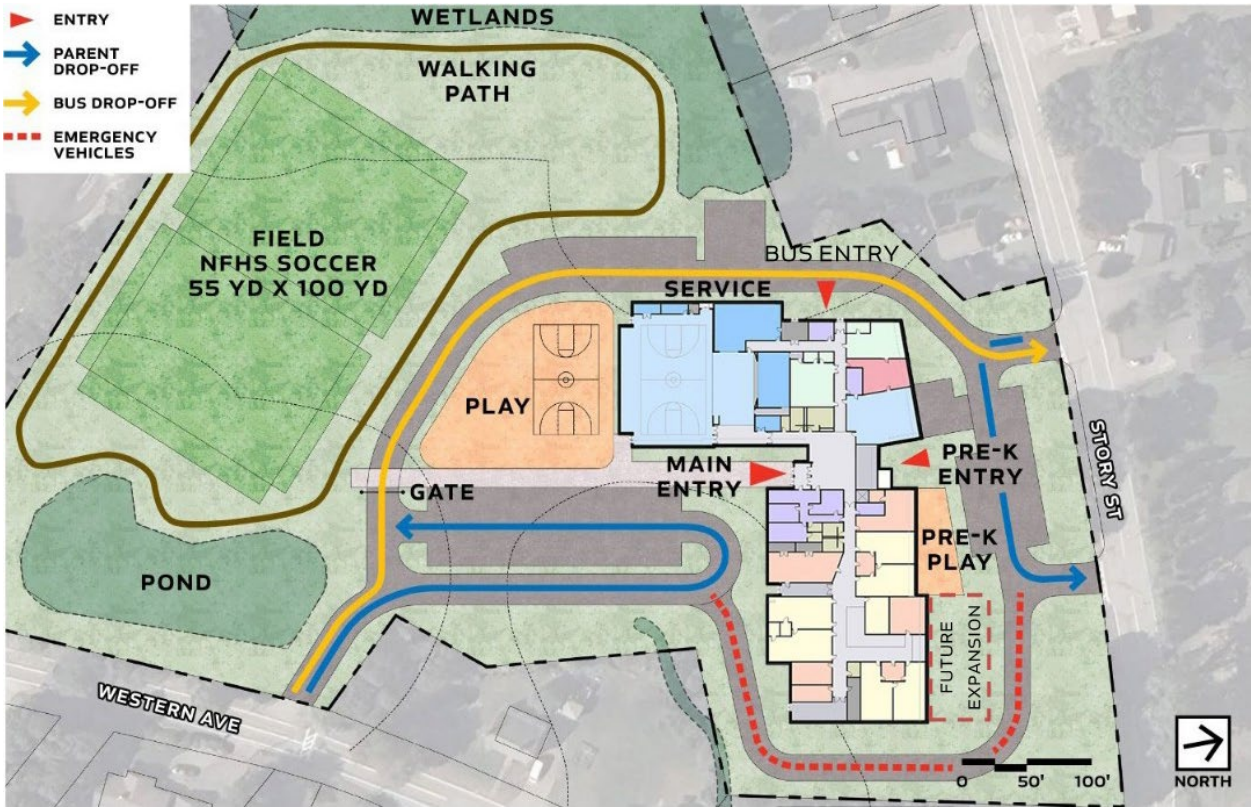
3.3.4.5 PREFERRED SOLUTION CONCEPTUAL SITE PLAN AND CONCEPTUAL SITE SECTION



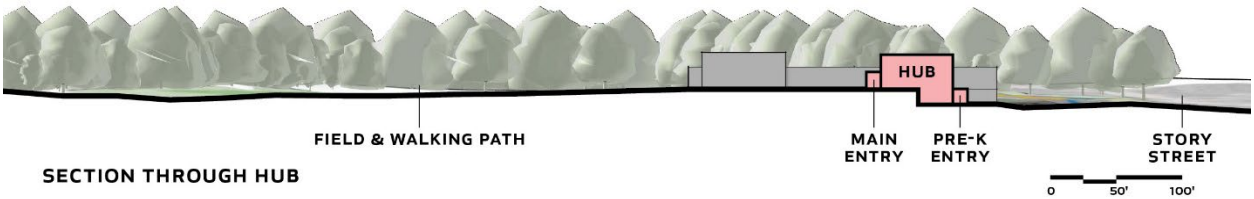
CONCEPTUAL SITE PLAN



ACCESSIBLE PEDESTRIAN ACCESS AND CIRCULATION

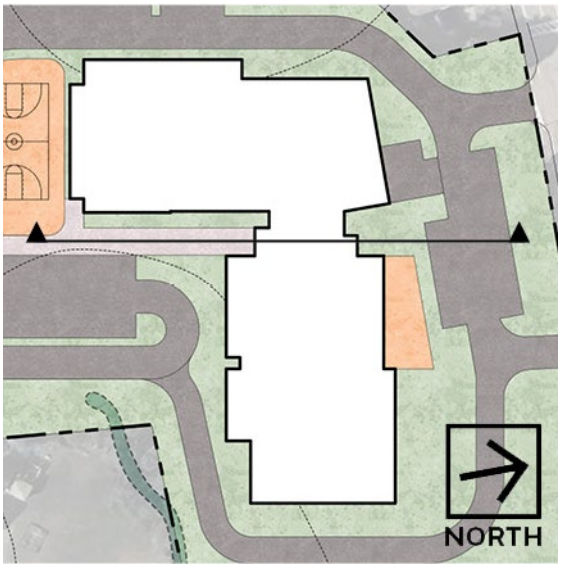


FUTURE EXPANSION



SECTION THROUGH HUB

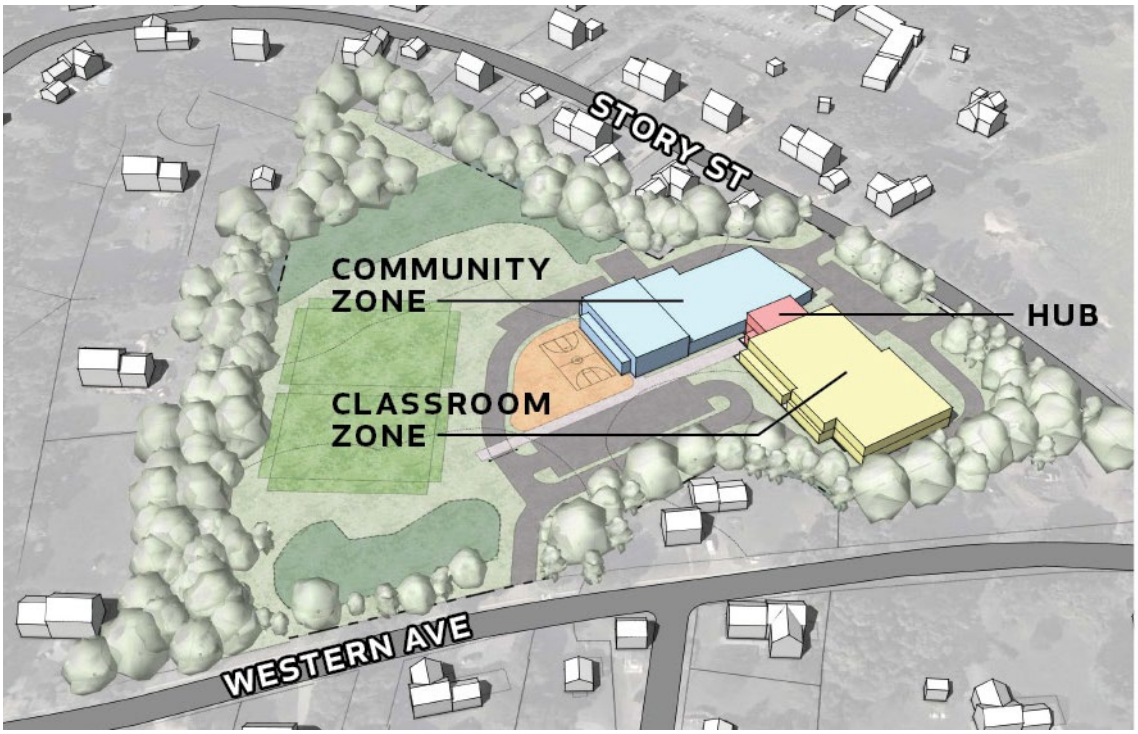
SITE SECTIONS



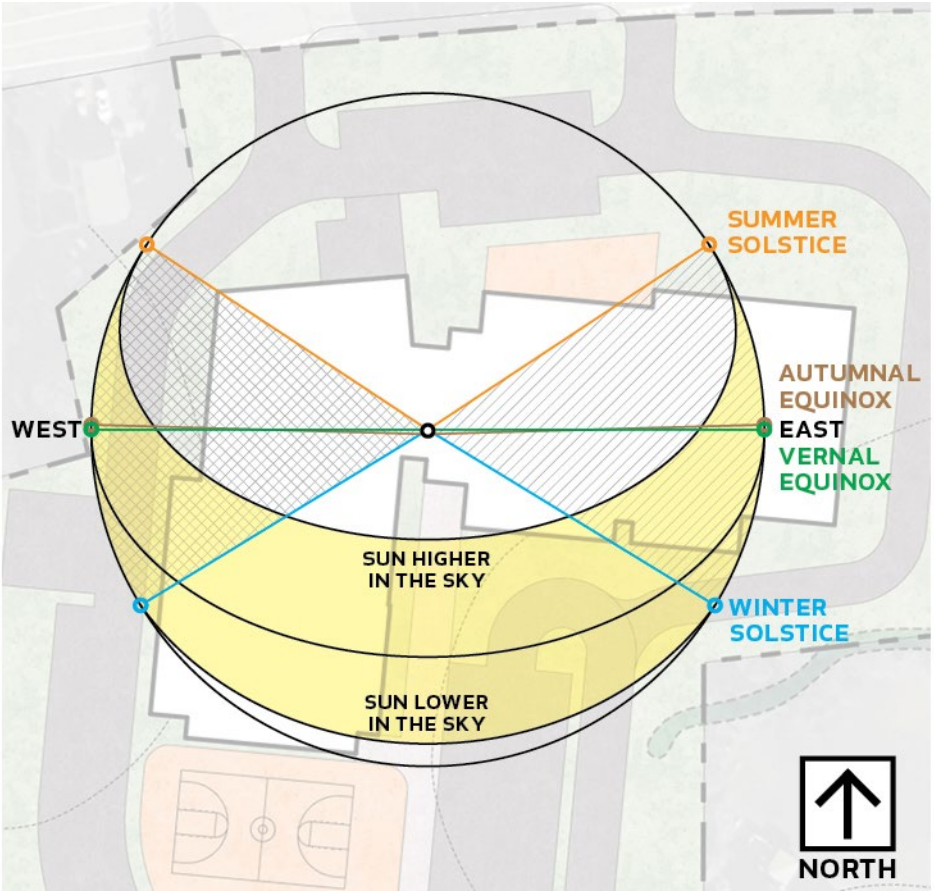
SECTION KEYPLAN



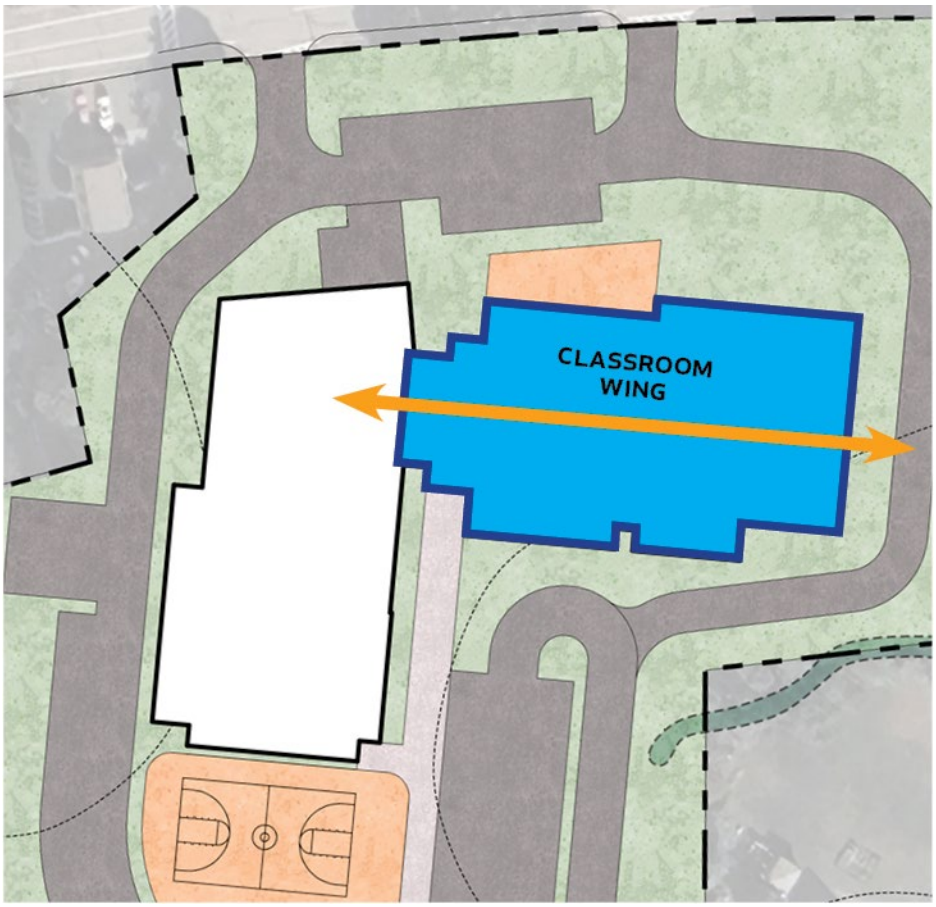
EXISTING MASSING



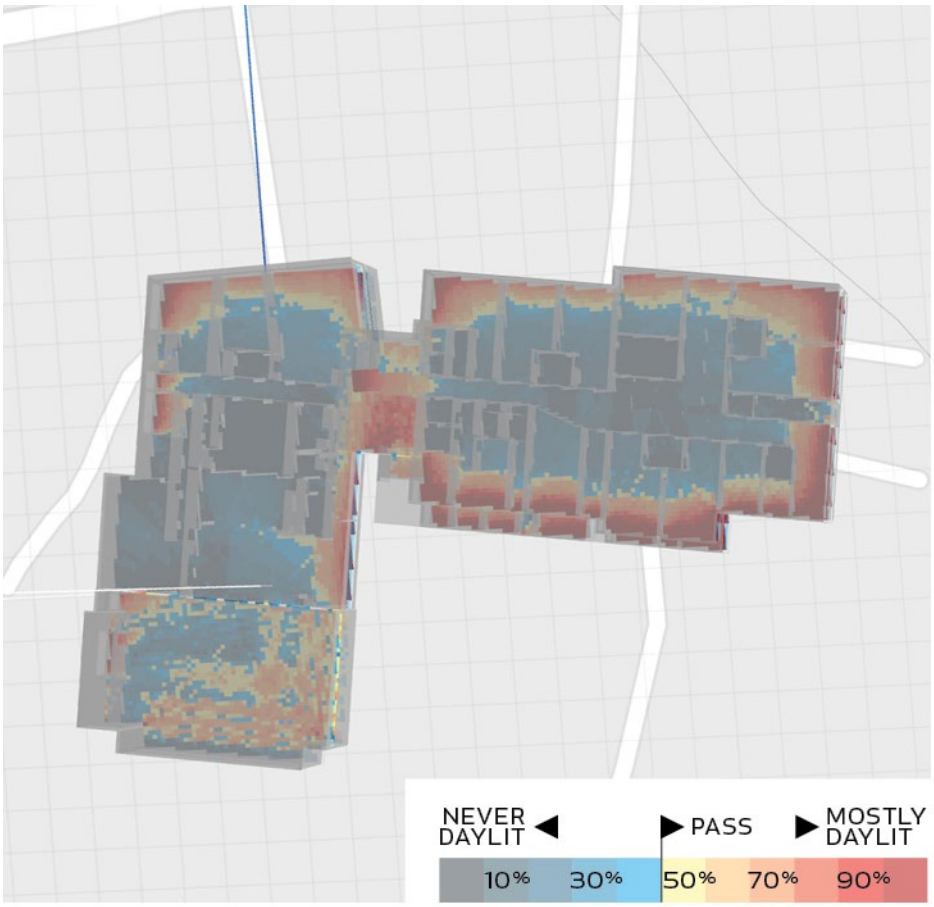
PROPOSED MASSING



SOLAR OPPORTUNITIES



EAST-WEST AXIS



SOLAR EXPOSURE

3.3.4.6 TOTAL PROJECT BUDGET AND LOCAL FUNDING

TOTAL PROJECT BUDGET OVERVIEW

The Manchester Essex Regional School District (MERSD), in partnership with the Towns of Manchester-by-the-Sea and Essex, maintains a structured, long-term approach to capital planning that aligns facility needs with educational priorities and the financial capacity of its member communities. The District's capital improvement program is developed collaboratively with both towns and updated annually to reflect facility conditions, programmatic needs, and operational considerations.

Capital projects are prioritized based on facility condition, educational program requirements, safety, and long-term operational efficiency. Routine capital improvements and maintenance are funded through annual capital planning processes and operating budgets. Major building projects are financed through long-term borrowing and require approval by voters in both member communities.

Over the past two decades, MERSD has completed two major capital projects. The Middle High School, completed in 2009, was supported by reimbursement from the Massachusetts School Building Authority (MSBA). The Manchester Memorial Elementary School project was approved by voters in 2018 and completed in 2022.

The District is currently advancing the Essex Elementary School Building Project through the MSBA feasibility study process. The project is evaluating renovation, addition/renovation, and new construction options. A preferred schematic design is anticipated in Spring 2026, with a potential debt exclusion vote to follow.

Project financing will be contingent upon approval of a debt exclusion in both Manchester and Essex. The District and its member communities have a demonstrated history of planning for and funding major capital projects through long-term capital planning, active debt management, and coordination with MSBA reimbursement.

MERSD maintains a separate capital (debt) budget to fund major construction projects. These costs are excluded from the limitations of Proposition 2½ and are assessed to the member towns in accordance with the Regional Agreement. The assessment formula is based 50% on equalized property valuation (EQV) and 50% on population, ensuring an equitable distribution of capital costs.

The District's current capital obligations are primarily associated with the Middle High School and Manchester Memorial Elementary School projects. The Middle High School project, authorized in 2006, benefited from significant MSBA reimbursement and favorable borrowing conditions, resulting in a reduced local cost. The District has subsequently refinanced this debt, generating additional savings over the life of the bonds.

The Manchester Memorial Elementary School project, approved in 2018, was financed through phased borrowing, with bonds issued in 2019 and 2021 and structured over 20- and 30-year terms. The District currently holds a bond anticipation note that will be converted to long-term debt upon final project closeout and receipt of remaining MSBA reimbursement.

For Fiscal Year 2027, total capital debt service is approximately $3.84 million. The District's debt profile is stable and declining as existing obligations are paid down. Debt has been actively managed through refinancing and long-term planning to reduce interest costs and maintain affordability.

The financial capacity of the member communities supports the District's ability to undertake future capital projects. Based on the most recent available data:

- Manchester-by-the-Sea equalized property valuation: $3,598,193,300
- Essex equalized property valuation: $1,385,759,900

These values are a key factor in determining each community's share of capital costs and support an equitable funding structure.

The District maintains an AA+ bond rating from Standard & Poor's, reflecting strong financial management, stable operations, and the overall fiscal strength of its member communities. This rating provides access to capital markets at favorable borrowing rates.

Based on its history of successful project delivery, established capital planning practices, and demonstrated financial capacity, MERSD is well-positioned to advance the Essex Elementary School Building Project and meet the associated local funding requirements.

The preferred schematic design is estimated at $93 million total project budget. The estimated construction cost is $74 million. The District's not to exceed Total Project Budget is set at $93 million.

COMPLETED MSBA BUDGET STATEMENT

Please see Appendix 3.3.6.15 for the Completed Budget Statement for Preferred Schematic.

Copies of the PSR Cost Estimate and PSR Comparable/Probable Cost and Reimbursement Analysis are provided in Appendix 3.3.6.6 and Appendix 3.3.6.7 respectively of this report.

3.3.4.7 UPDATED PROJECT SCHEDULE

An updated project schedule is included in Appendix 3.3.6.2 of this report. In summary, the critical milestone dates currently proposed are as follows:

- SBC vote to submit Preferred Schematic Report (PSR): April 28, 2026
- Project Team submits Preferred Schematic Report to the MSBA: April 29,2026
- MSBA Facilities Assessment Subcommittee Presentation: May 13, 2026, or May 20, 2026
- MSBA Board meeting to authorize Schematic Design: June 24, 2026
- SBC vote to submit to the Schematic Design submittal to the MSBA: October 13, 2026
- Project Team submits the DESE submittal to the MSBA: October 14, 2026
- Project Team submits the Schematic Design submittal to the MSBA: October 14, 2026
- MSBA Board meeting to approve Project Scope and Budget Agreement: TBD Nov/Dec 2026
- Manchester -by-the Sea - Town Meeting November 16, 2026
- Essex - Town Meeting November 16, 2026
- Projected Town vote for PS&BA and full funding of the project: December 2026
- Anticipated start of construction: May 2028
- Target Move in Date: July 2030

LOCAL ACTIONS AND APPROVALS

SECTION 3.3.5

3.3.5 – LOCAL ACTIONS AND APPROVALS

MEETINGS SUMMARY

A summary of all public meetings to date is as follows:

School Building Committee Meetings (SBC)

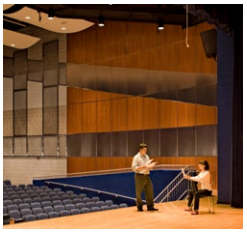
- **May 29, 2025** – Designer RFS Review/Approval, Town Owned Land, Goal Setting, Working Groups, Website
- **June 24, 2025** – Designer Selection Process, Memorial Expansion Potential, Website, Goal Setting, Working Groups
- **July 22, 2025** – Designer RFS Submission
- **August 26, 2025** – Designer Introduction, Project Schedule Review, Visioning Plan, Working Groups
- **September 15, 2025** – Work Plan, Visioning Plan, Existing Conditions, Site Evaluation, Communication Working Group Report Out
- **September 30, 2025** – Visioning Plan, Site Selection Criteria, Sustainability Goals
- **October 14, 2025** – Community Meeting Report Out, Ed Program and Space Summary Review, Site Logistics WG Report Out
- **October 28, 2025** – Eliminate Site Option, Space Summary & Ed Program, Schedule Update
- **November 6, 2025** – Space Summary & Ed Program Acceptance, Preliminary Evaluation of Alternatives Review, Schedule Update
- **November 25, 2025** – Community Meeting No. 2 Feedback, Sustainability WG Update, Work Plan Review, Further Evaluate Alternatives, Schedule Update
- **December 15, 2025** – Final review of alternatives with preliminary costs.
- **January 6, 2026** – Vote to Approve PDP
- **January 26, 2026** – Preliminary Design Program MSBA Comments Review, Design Alternatives Review, Site Update, Design Update, Schedule Update
- **February 9, 2026** – MEP Working Group Update, Design Update, Schedule Update
- **February 24, 2026** – Design Update, Criteria Matrix Review, Schedule Update
- **March 10, 2026** – Site, Safety, and Security Working Group Update, Communications Working Group Update, Design Update, Schedule Update
- **March 24, 2026** – Review Design Alternatives, Schedule Update
- **April 14, 2026** – Review Design Alternatives, Preliminary Cost Review, Schedule Update
- **April 16, 2026** – Select a Preferred Option
- **April 28, 2026** – Approve PSR Submission

Community Outreach Events

- **October 8, 2025, @ 6:00 PM – Community Meeting No. 1**
- **November 20, 2025, @ 6:00 PM – Community Meeting No. 2**
- **December 9, 2025, @ 6:00 PM – Community Meeting No. 3**
- **January 28, 2026, @ 6:00PM - Community Meeting No. 4**
- **March 24, 2026, @ 6:00PM – Gallery Walk**
- **April 16, 2026, @ 6:00PM – Community Meeting No. 5**

The complete Local Action and Approvals document is included in Appendix 3.3.6.1 of this report



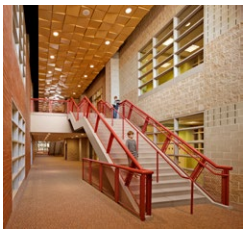


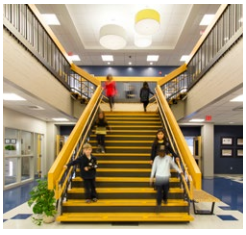
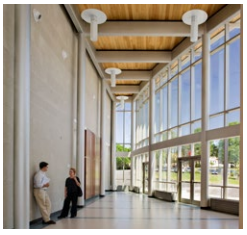






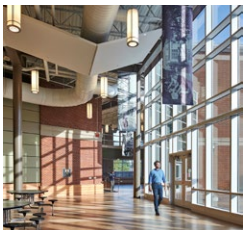






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APPENDICES

SECTION 3.3.6

LOCAL ACTIONS AND APPROVALS

SECTION 3.3.6.1

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MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT
Office of the Superintendent
P.O. Box 1407
Manchester-by-the-Sea, MA 01944

Tel. (978) 526-4919
Fax: (978) 526-7585
beaudoinp@mersd.org

PAMELA BEAUDOIN
SUPERINTENDENT OF SCHOOLS

April 28, 2026

Mr. Michael McGurl
Director of Capital Planning
Massachusetts School Building Authority
10 Post Office Square, Suite S400
Boston, Massachusetts 02109

Dear Mr. McGurl:

The Manchester Essex Regional *School District* School Building Committee ("SBC") has completed its review of the Feasibility Study *Preliminary Schematic Report* for the Essex Elementary school project (the "Project"), and on April 28, 2026, the SBC voted to approve and authorize the Owner's Project Manager to submit the Feasibility Study related materials to the MSBA for its consideration. A certified copy of the SBC meeting minutes, which includes the specific language of the vote and the number of votes in favor, opposed, and abstained, are attached.

Since the MSBA's Board of Directors invited the District to conduct a Feasibility Study on December 13, 2024, the SBC has held 20 meetings regarding the proposed project, in compliance with the state Open Meeting Law. These meetings include:

- **May 29, 2025** – Designer RFS Review/Approval, Town Owned Land, Goal Setting, Working Groups, Website
- **June 24, 2025** – Designer Selection Process, Memorial Expansion Potential, Website, Goal Setting, Working Groups
- **July 22, 2025** – Designer RFS Submission
- **August 26, 2025** – Designer Introduction, Project Schedule Review, Visioning Plan, Working Groups
- **September 15, 2025** – Work Plan, Visioning Plan, Existing Conditions, Site Evaluation, Communication Working Group Report Out
- **September 30, 2025** – Visioning Plan, Site Selection Criteria, Sustainability Goals
- **October 14, 2025** – Community Meeting Report Out, Ed Program and Space Summary Review, Site Logistics WG Report Out
- **October 28, 2025** – Eliminate Site Option, Space Summary & Ed Program, Schedule Update
- **November 6, 2025** – Space Summary & Ed Program Acceptance, Preliminary Evaluation of Alternatives Review, Schedule Update

The Manchester Essex Regional School District does not discriminate in its programs, activities or employment practices based on race, color, age, national origin, religion, gender, sexual orientation or disability.

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MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT
Office of the Superintendent
P.O. Box 1407
Manchester-by-the-Sea, MA 01944

Tel. (978) 526-4919
Fax: (978) 526-7585
beaudoinp@mersd.org

PAMELA BEAUDOIN
SUPERINTENDENT OF SCHOOLS

- **November 25, 2025** – Community Meeting No. 2 Feedback, Sustainability WG Update, Work Plan Review, Further Evaluate Alternatives, Schedule Update
- **December 15, 2025** – Final review of alternatives with preliminary costs.
- **January 6, 2026** – Vote to Approve PDP
- **January 26, 2026** – Preliminary Design Program MSBA Comments Review, Design Alternatives Review, Site Update, Design Update, Schedule Update
- **February 9, 2026** – MEP Working Group Update, Design Update, Schedule Update
- **February 24, 2026** – Design Update, Criteria Matrix Review, Schedule Update
- **March 10, 2026** – Site, Safety, and Security Working Group Update, Communications Working Group Update, Design Update, Schedule Update
- **March 24, 2026** – Review Design Alternatives, Schedule Update
- **April 14, 2026** – Review Design Alternatives, Preliminary Cost Review, Schedule Update
- **April 16, 2026** – Select a Preferred Option
- **April 28, 2026** – Approve PSR Submission

Notices for these meetings were posted and made available for public review on-line on the District's website: Calendar (www.mersd.org). Notices were also made available on our project website: Essex Elementary School Building Project | Essex Elementary School | 12 Story Street, Essex, MA, USA www.mersdessexelementaryproject.com

In addition to the SBC meetings listed above, the District held 6 public meetings, which were posted in compliance with the state Open Meeting Law, at which the Project was discussed. These meetings include:

- **October 8, 2025**, @ 6:00 PM – Community Meeting No. 1
- **November 20, 2025**, @ 6:00 PM – Community Meeting No. 2
- **December 9, 2025,** @ 6:00 PM – Community Meeting No. 3
- **January 28, 2026,** @ 6:00PM - Community Meeting No. 4
- **March 24, 2026,** @ 6:00PM – Gallery Walk
- **April 16, 2026,** @ 6:00PM – Community Meeting No. 5

The presentation materials for each meeting, meeting minutes, and summary materials related to the Project are available locally for public review at www.mersdessexelementaryproject.com **> Project Documents**

To the best of my knowledge and belief, each of the meetings listed above complied with the requirements of the Open Meeting Law, M.G.L. c. 30A, §§ 18-25 and 940 CMR 29 *et seq.*

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PAMELA BEAUDOIN
SUPERINTENDENT OF SCHOOLS

If you have any questions or require any additional information, please contact Rachel Rincon, Asst. Project Manager, rrincon@doreandwhittier.com

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

DocuSigned by:
76C0827BF0DF4AB...

By: Pamela Beaudoin

Title: Chief Executive Officer

Date: 4/17/2026

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

DocuSigned by:
76C0827BF0DF4AB...

By: Pamela Beaudoin

Title: Superintendent of Schools

Date: 4/17/2026

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

DocuSigned by:
17B621025073436...

By: Chris Reed

Title: Chair of the School Committee

Date: 4/17/2026

The Manchester Essex Regional School District does not discriminate in its programs, activities or employment practices based on race, color, age, national origin, religion, gender, sexual orientation or disability.

MEETING AGENDA

Meeting Date:	April 29, 2025
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link:	https://us06web.zoom.us/j/83451795832

---

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes
3. Designer RFS Review & Approval (Vote Expected)
    - Vote to solicit the Designer RFS based on MSBA Review and Approval
4. Town Owned Land
5. Website
6. Goal Setting
7. Working Groups
8. Upcoming Meetings
9. Other Topics not Reasonably Anticipated 48 hours prior to the meeting.
10. Public Comment
11. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	04/29/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	Jacob Greco

Present	Name	Affiliation
√	Michelle Cresta	Director of Finance & Operations
√	Pam Beaudoin	Superintendent
√	Kim Provost	Principal
	Jason Waldron	Facilities Manager
√	Theresa Whitman	SBC Co-Chair
√	John Binieris	SBC Co-Chair
√	Ruth Pereen	Essex Board of Selectman Chair
√	Andy Oldeman	Manchester Finance Committee / Director of Engineering (Structural Engineer)
	Charlie Hay	Architect School Building Experience
√	Gordon Brewster	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
√	Tyler Virden	Project Executive -Wise Construction / Paren
√	Annie Cameron	Former SC Member and Memorial SBC Member
	Henry Oettinger	Manchester Conservation Committee / Education
	Ariel Fernando Brian	Architect - CBT
√	Jen Hocherman	Architect - Partner SV Design
√	Michael Gerhardt	Civil Engineer / Parent
√	Timonthy McDonald	Architect - Onion Flats
√	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
√	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
√	John Albright	Project Manager - DWMP
√	Rachel Rincon	Assistant Project Manager - DWMP
√	Jacob Greco	Assistant Project Manager - DWMP

DORE + WHITTIER

Item No.	Action Item	Requested by	Ball in Court
1.6/1.7	Send out goal setting and working group survey	N/A	R.Rincon
1.8	Send out calendar invites for upcoming SBC meetings	A.Cameron	J.Greco
1.5	Purchase domain name and launch website	N/A	Dore + Whittier
1.4	Follow up with JCJ to explore the Manchester Memorial expansion possibilities	N/A	Dore + Whittier
1.9	Update the Elementary School Educational Program	Dore + Whittier	P.Beaudoin

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

<table>
<tr><th>Item No.</th><th></th><th>Description</th><th>Action</th></tr>
<tr><td>1.1</td><td>Call to Order & Intro: Called to order by T.Whitman at 6:02pm, please refer to the attendee list.

• M.Burton introduced the project team that will be working on the Essex Elementary School Project (Slide 3)
• The School Building Committee introduced themselves</td><td>Record</td><td></td></tr>
<tr><td>1.2</td><td>Approval of March 25 - 2025, Meeting Minutes:

Roll Call Vote: A motion to approve the March 25, 2025, Meeting Minutes made by A.Cameron and seconded by P.Beaudoin.

<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
</table>
</td><td>Record</td><td></td></tr>
</table>

	<table><tr><td>Jason Waldron</td><td>Advisor – No Vote</td></tr><tr><td>Theresa Whitman</td><td>Yes</td></tr><tr><td>John Binieris</td><td>Yes</td></tr><tr><td>Ruth Pereen</td><td>Yes</td></tr><tr><td>Andy Oldeman</td><td>Yes</td></tr><tr><td>Charlie Hay</td><td>Yes</td></tr><tr><td>Gordon Brewster</td><td>Yes</td></tr><tr><td>Tyler Virden</td><td>Yes</td></tr><tr><td>Adam Zaiger</td><td>Yes</td></tr><tr><td>Annie Cameron</td><td>Yes</td></tr><tr><td>Henry Oettinger</td><td>Yes</td></tr><tr><td>Ariel Fernando Brian</td><td>Yes</td></tr><tr><td>Jen Hocherman</td><td>Yes</td></tr><tr><td>Michael Gerhardt</td><td>Yes</td></tr><tr><td>Timonthy McDonald</td><td>Yes</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table>		

1.3	**Designer Request for Services (RFS) Review & Approval (Vote Expected):**
	
	• C.Dell Angelo reviewed the overall project timeline for Massachusetts School Building Authority (MSBA) projects and noted this project is currently in the Design Request for Services (Slide 7)
	• C.Dell Angelo noted that at the next SBC meeting in May the SBC will vote on which members will be part of the Designer Selection Committee (Slide 8)
	  ○ A.Cameron Asked if this is the group that the committee would present their options to?
	  • M.Burton noted that selecting a Designer is a lot different than the OPM as the MSBA is in the driver's seat more so than the committee. The SBC will comprise only 3 voting members for the Design selection out of 18. M.Burton reviewed the general process and noted how the MSBA wants everyone to have an open mind and prefers that the Designer Selection committee members do not rank the options
	  ○ A.Cameron asked if the SBC members votes are weighted as there is only 3 of them?
	  • C.Dell Angelo noted no that is not the case but the MSBA wants to hear from the District and values their opinion
		Record	

- T.Whitman asked what happens if you have worked with firms and not had a positive experience
  - M.Burton noted that it is best to advocate for the positives of the firms and not the negatives
- P.Beaudoin noted that for the Manchester project the MSBA pushed for a new architect to be chosen and the SBC members did a good job of advocating for what the SBC wanted
- G.Brewster asked how do we ensure that there will be enough Designer interest in the project?
  - M.Burton noted he is not sure who will reply to the advertisement but noted he has started talking with the architect side of the Dore + Whittier team to get a sense of the workload of these firms as that is the most important factor that MSBA considers
- G.Brewster asked if there is a "weeding out" process prior to the selection
  - M.Burton noted no there is not but it is okay to have a preferred top half and discussion around the Designers just no formal rankings. This can happen after the proposals are in
- J.Binieris Asked if the workload is only MSBA projects or does it account for all the projects the firms have?
  - M.Burton noted that Karl Brown will start the meeting by sharing how many MSBA projects each firm has

- C.Dell Angelo reviewed the Designer RFS Schedule and noted how the MSBA provides this and they prefer that it is not changed drastically (Slide 9)
  - Submit ad to Central Register: 5/29/25
  - Ad appears in Central Register: 6/4/25
  - Applications due: 7/2/25
    - At least 3 proposals are required to move forward with the process
  - Applications sent to MSBA: 7/10/25
  - Application Reviews: **7/29/25**
  - Interviews: **8/12/25**
- M.Burton noted it is important that for whoever is on the Designer Selection Committee
- A.Cameron Asked when does the full SBC get to review and provide feedback on the proposals
  - C.Dell Angelo noted that the SBC will have two weeks to review and provide feedback to those members who will be voting
- G.Brewster asked if this RFS document is standard?
  - C.Dell Angelo noted that yes it is only the names and dates were changed and some basic information from the statement of interest was added

DORE + WHITTIER

Roll Call Vote: A motion to solicit the Designer RFS based on MSBA Review and Approval was made by Ruth and seconded by Pam

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
Jason Waldron	Advisor – No Vote
Theresa Whitman	Yes
John Binieris	Yes
Ruth Pereen	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Adam Zaiger	Yes
Annie Cameron	Yes
Henry Oettinger	Yes
Ariel Fernando Brian	Yes
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Yes
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

1.4 **Town Owned Land:**

- C.Dell Angelo reviewed the process of reviewing all possible sites (all town owned feasible land) for the project as is required by the MSBA (Slide 12)
  - MSBA Process required to identify all sites for consideration during Feasibility Phase
  - Once the designer is on board, we will review multiple sites with consultants and SBC
  - Started initial discussion with Essex Town Administrator
  - Some properties identified by Town Administrator and in Habeeb Report, will need to further review

Record

- M.Burton noted that although this does not happen until the PDP it is important to do as much work as possible as we wait for the Designer to join the team
- A.Cameron Asked what the qualifications are for the town owned land to be accepted?
    - M.Burton noted that they start with all town owned land and work through it to eliminate any that do not work given size, wetlands, etc..
- P.Beaudoin Asked when this process can start?
    - M.Burton noted they can start to gather potential sites now but it is really better to dive deep into this once the Designer is on board.
- G.Brewster noted it will be good to go back to the Manchester Memorial project and see what the project team did and if that school can support another school
- ? Asked if the need to explore this information is in the RFS
    - C.Dell Angelo noted yes it is
- ? Asked when Geotech and wetland consultants get involved in the project?
    - C.Dell Angelo noted once they join the project they will bring their consultants but it should be known that if multiple sites want to be reviewed deeply it will cost more money than just one site
- T.Whitman asked if older tests for sites can be used to help evaluate them? She also asked if there is anything the SBC can do to start looking into it?
    - P.Beaudoin noted that the project team will get all the information from the town and they will lay it out for the committee to review and provide feedback on
- M.Burton noted it is important to note that the MSBA only reimburses for costs that are in the property lines, he is not sure if property acquisition falls into that same bucket but the MSBA will not sign a Project Funding Agreement if the property is not 100% owned by the town
- A.Cameron asked if they plan to look at any private property?
    - C.Dell Angelo noted they were only planning on looking into town owned and it is not common for smaller projects like elementary schools
- G.Brewster asked if the Designer will establish a program with size and massing to help fit it into these potential sites?
    - M.Burton noted yes and there is also a MSBA template that uses a formula to spit out a school square footage based on enrollment
    - C.Dell Angelo also noted that the educational program also is an important factor in driving the size of the building
- A.Cameron asked about the Ipswich "Model School"
    - P.Beaudoin noted it is just a citizen petition to ask them to considered it and is not an official MSBA route

	• M.Burton noted it is a great concept but has not seen it work in practice and building code is always changing		
1.5	**Website:** • R.Rincon shared how the project team has developed a new website for the project to use (Slide 14). She also went through a live run through of the website showing the different tabs and the general layout of the website • R.Rincon noted that the site is ready to launch it just needs a domain name to be chosen ○ The committee agreed on: MERSDEssexelementaryproject.com • C.Dell Angelo asked for the committee members to review it when it is live and provide any feedback that they have	Record	

1.6	**Goal Setting:**
	• R.Rincon discussed the use of goal setting (Slide 16) and how they will be asking the community members about what their goals are for the project. She also noted they will have a survey question asking the SBC members about which working groups they would like to participate in.
	• C.Dell Angelo added that this is a great way for the project team to get to know the committee members and shared that working groups have been very useful in the past to work in a smaller setting. When there are larger SBC groups the working groups are especially useful
	• G.Brewster noted how on the Memorial Project they had a Design Working Group and asked if that can be one
	  ○ C.Dell Angelo noted yes it can be and asked for G.Brewster to add it under the "other category" on his survey
	• P.Beaudoin noted they will be adding a faculty member in the fall to the committee and also asked if the Designers still do visioning/programming sessions
	  ○ C.Dell Angelo noted yes that will be one of the first things to be conducted
		Record	

1.7	**Working Groups:** • Please see minutes from section 1.7	Record	
1.8	**Upcoming Meetings:**	Record	

<table>
<tr><td></td><td>

- C.Dell Angelo reviewed the upcoming SBC meetings (Slide 20) but noted that the May 27th meeting may have a conflict so the project team will send out an updated timeline based on discussion.
- C.Dell Angelo noted the May 27th will be removed and the June 24th will still be on with the July 22 meeting on standby
- C.Dell Angelo reviewed a timeline scenario for a new construction of K-5 (Slide 22)
- C.Dell Angelo noted she has already started working with P.Beaudoin on getting the Educational Program ready
  - A.Cameron noted that the program should be on par with the Manchester Memorial Project

</td><td></td><td></td></tr>
<tr><td>1.9</td><td>

Other Topics not Reasonably Anticipated 48 hours prior to the meeting:

- P.Beaudoin noted that the MSBA noted they would need a new signed Regional District Agreement if the District wanted to send Essex Elementary students to Manchester Memorial school
- M.Gerhardt asked how long the feasibility phase can go on
  - C.Dell Angelo noted that the Feasibility Study Agreement lasts for 913 days but extensions can be made
- M.Burton noted that if multiple sites want to be reviewed the Designer's may say more time is needed than the schedule

</td><td>Record</td><td></td></tr>
<tr><td>1.10</td><td>

Public Comment:

- J.Foster shared a thanks to the project team and SBC for undergoing this process

</td><td>Record</td><td></td></tr>
<tr><td>1.11</td><td>

Adjourn:

Roll Call Vote: A motion to adjourn the meeting was made at 7:09pm by A.Cameron and seconded by G.Brewster

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
Jason Waldron	Advisor – No Vote
Theresa Whitman	Yes
John Binieris	Yes
Ruth Pereen	Yes
Andy Oldeman	Yes

</td><td>Record</td><td></td></tr>
</table>

	Charlie Hay	Yes		
	Gordon Brewster	Yes		
	Tyler Virden	Yes		
	Adam Zaiger	Yes		
	Annie Cameron	Yes		
	Henry Oettinger	Yes		
	Ariel Fernando Brian	Yes		
	Jen Hocherman	Yes		
	Michael Gerhardt	Yes		
	Timonthy McDonald	Yes		
	David Pereen	Advisor – No Vote		
	Lisa O'Donnell	Advisor – No Vote		

Sincerely,
DORE + WHITTIER
Jacob Greco
Assistant Project Manager
Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.

Essex Elementary School Project

School Building Committee Meeting #01

April 29, 2025 @ 6:00 PM

DORE + WHITTIER

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes
3. Designer RFS Review & Approval (Vote Expected)
   - Vote to solicit the Designer RFS based on MSBA Review and Approval
4. Town Owned Land
5. Website
6. Goal Setting
7. Working Groups
8. Upcoming Meetings
9. Other Topics not Reasonably Anticipated 48 hours prior to the meeting.
10. Public Comment
11. Adjourn

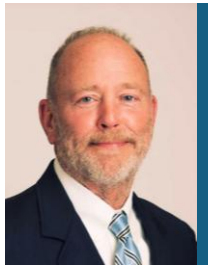
1. Introduction



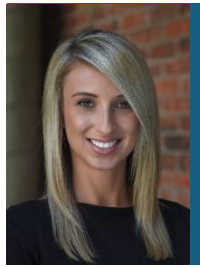
Mike Burton
Project Executive



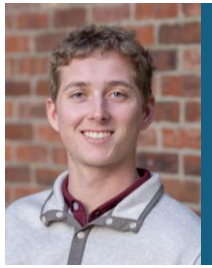
Christina Dell Angelo
Project Director



John Albright
Project Manager



Rachel Rincon
Assistant Project Manager



Jacob Greco
Assistant Project Manager

Dan Wiedeman
On-Site Project Rep



Dave Mentzer
Code & Design Review

Peter Bradley
PM&C
Cost Estimating

Victor Verma
RSV Associates
Structural Peer Review

1. Call to Order & Intro
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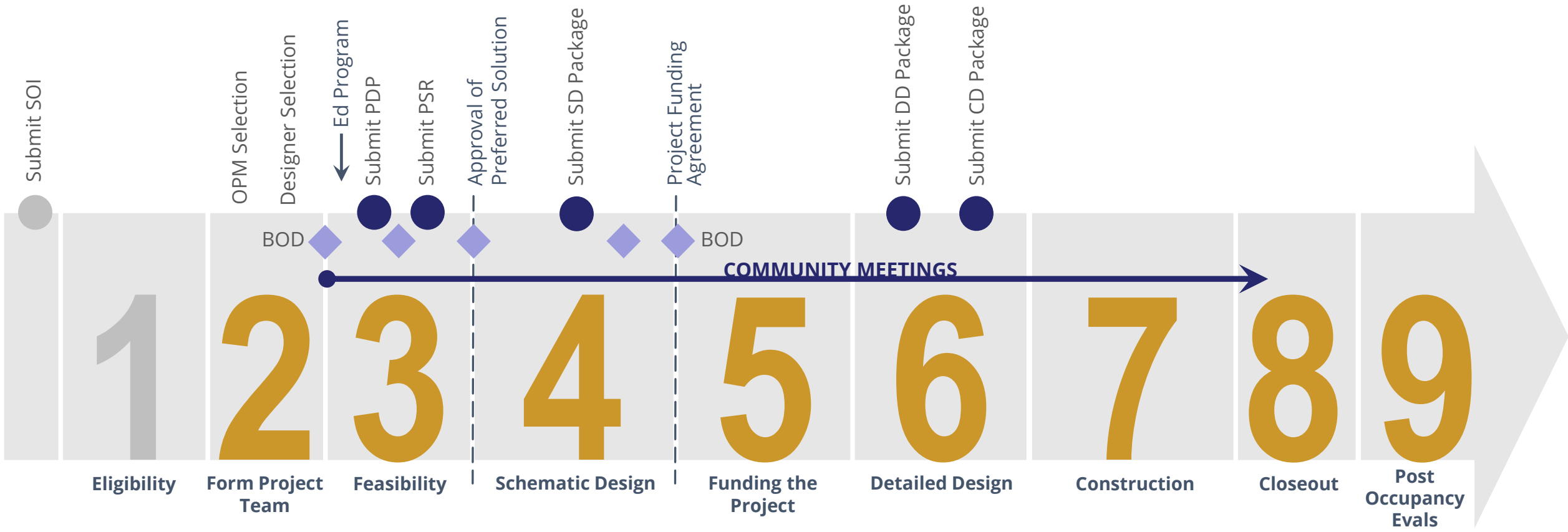
2. Approval of Previous Meeting Minutes

March 25, 2025 Meeting Minutes – approval (vote required)

***Motion to approve EES Previous Meeting Minutes**

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes
3. Designer RFS Review & Approval (Vote Expected)
   - Vote to solicit the Designer RFS based on MSBA Review and Approval
4. Town Owned Land
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9. Other Topics not Reasonably Anticipated 48 hours prior to the meeting.
10. Public Comment
11. Adjourn

Schedule Timeline



3. Designer RFS Process-Designer Selection Panel

- **TBD – CEO**
- **TBD – Superintendent**
- **TBD – School Committee Designee**
- Christine B. Verbitzki, AIA, MSBA Designee, Registered Architect, Chair
- Beth McDougal, AIA, MSBA Designee, Registered Architect, Vice-Chair
- Russell Bartash, MA Building Trades Council Designee
- Karl Brown, AIA, MSBA Staff, Registered Architect
- Greg Brunell, MSBA Staff
- Veatriki Dagkalakou, MSBA Staff
- David Eisen, FAIA, Boston Society of Architects Designee, Registered Architect
- John S. Ferrante, Associated General Contractors of Massachusetts Designee
- Barbara Hansberry, MSBA Executive Director Designee
- Richard Hudson, MSBA Staff
- Leo F. Peters, FACEC, Professional Engineer
- Rachel E. Shanley, PE, LEED, MSBA Designee, Professional Engineer
- Diane Sullivan, MSBA Staff
- Kenneth Wertz, Public Member
- John F. Jumpe Jr., Professional Engineer, MSBA Staff *

3. Designer RFS Schedule

- Submit ad to Central Register: 5/29/25
- Ad appears in Central Register: 6/4/25
- Applications due: 7/2/25
- Applications sent to MSBA: 7/10/25
- Application Reviews: **7/29/25**
- Interviews: **8/12/25**

3. Designer RFS Review & Approval (Vote Expected)

*Motion to solicit the Designer RFS based on MSBA Review and Approval

REQUEST FOR DESIGNER SERVICES (RFS)

Manchester Essex Regional School District

Essex Elementary School

June 4th, 2025

Invitation: The ***Manchester Essex Regional School District*** ("Owner") is seeking the services of a qualified "Designer" within the meaning of M.G.L. Chapter 7C, Section 44 to provide professional design and construction administration services for the Essex Elementary School in Essex, Massachusetts. Selection of a Designer will be made by the Designer Selection Panel of the Massachusetts School Building Authority ("MSBA") in accordance with the MSBA's Designer Selection Procedures.

The Owner is seeking design services to conduct a Feasibility Study which will include the development and evaluation of potential alternative solutions and continue through the Schematic Design Phase of the preferred alternative initially. Subject to the acceptance of a Project by the MSBA and further subject to adequate funding authorized by the Owner, the contract between the Owner and the Designer may be amended to include continued designer services through design development, construction contract documents, bidding, award of construction contract(s), construction administration, final closeout and warranty period of the potential Project. (**See**: Designer Services Contract Amendment for Design/Bid/Build and Designer Services Contract Amendment for CM-at-Risk). A potential Project may include a renovation of the existing school, a renovation of and addition to the existing school and/or new construction. Upon the completion of a Feasibility Study (Module 3), and if the District's preferred option is determined to be new construction, the District may consider participation in the MSBA Model School Program.

The estimated construction budget for a potential Project may range from ***$66,000,000 to $74,000,000*** depending upon the Preferred Schematic solution that is recommended by the Owner and accepted by the MSBA. The Fee for Basic Services will be negotiated.

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes
3. Designer RFS Review & Approval (Vote Expected)
   - Vote to solicit the Designer RFS based on MSBA Review and Approval
4. Town Owned Land
5. Website
6. Goal Setting
7. Working Groups
8. Upcoming Meetings
9. Other Topics not Reasonably Anticipated 48 hours prior to the meeting.
10. Public Comment
11. Adjourn

4. Town Owned Land

- MSBA Process required to identify all sites for consideration during Feasibility Phase
- Once the designer is on board, we will review multiple sites with consultants and SBC
- Started initial discussion with Essex Town Administrator
- Some properties identified by Town Administrator and in Habeeb Report, will need to further review

SBC Meeting Agenda – April 29, 2025 @ 7:00 PM

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5. Project Website



Potential Domain Names:

- MERSDEssexbuildingproject.com
- MERSDEssexelementaryproject.com
- MERSDEssexESbuildingproject.com

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6. Goal Setting

"Designing/building a school that **meets the needs** of the district and the taxpayers."

"**Cost** efficiency – the Essex Elementary School will be next so both towns have to see that this can be done within a **reasonable** budget and in a way that does not prevent/preclude or substantially delay a future redo of EES."

"**Balance!** I want a good learning environment for students and staff that does not **cost** so much it is called Taj Mahal."

"**Educational program** for students – innovative and current to prepare students for a dynamic and ever-changing world."

"**Design** and **cost** are the two top items of most importance. Because of the constrained site conditions, the building layout and configuration are of paramount concern to assure the **mandates of the ed program** are met."

"Building what we need (not more than we need), on time and on **budget** Ensuring that design **meets educational needs**, Ensuring that we go to the towns knowing that we will get a YES vote for Construction."

"Budget, **sustainability** (maintenance and green construction) and a final product that will be serviceable, both physically and programmatically, for many years."

"To strike a compromise: between **program** and **cost** **energy efficiency** and simplicity; design and pragmatism."

"**21st Century learning** architecture conducive to learning and collaboration, **cost efficiency**, scheduling"

"**Excellence of the overall project**, resolving any political differences between Essex and Manchester regarding cost, keeping the existing auditorium, not reducing size of the existing gymnasium"

"Being proactive on **budget management** and communications. Ensuring **quality construction** Sensitivity to needs of multiple constituencies. Timely follow up from partners (OPM, Designer, Contractor). Detailed record keeping."

"A building designed to support **21st century learning**, a building process that is sensitive to the needs of the current school while in operation, **flexibility** of design (i.e., grade level configurations can change from year to year), traffic flow/patterns, parking, etc."

https://forms.gle/vwcKJWzYUiseCv4G7

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7. Working Groups

- Community Outreach Working Group
- Sustainability Working Group
- Ed Planning/Learning Technology Working Group
- Facilities Assessment Working Group
- Public Relations/Information Sharing Working Group
- Financial Review Working Group
- Interior Design Working Group
- Exterior Design/Landscaping Working Group
- Site Logistics Working Group

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13. Upcoming Meetings

- SBC Meeting No. 2 – May 27, 2025 @ 6:00PM
  - Module 3 Review (Preliminary Design Program, Educational Program, Space Summary, Potential Sites, Preferred Schematic Report)

- SBC Meeting No. 3 – June 24, 2025 @ 6:00PM **(TBD)**

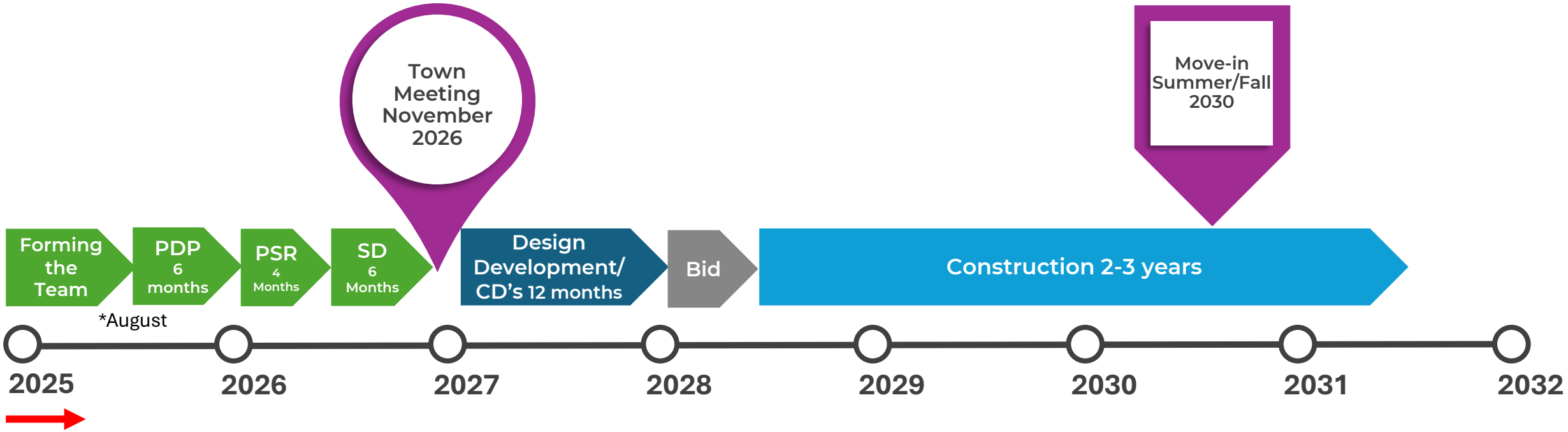
- SBC Meeting No. 4 – July 22, 2025 @ 6:00PM **(TBD)**

- SBC Meeting No. 5 – August 26, 2025 @ 6:00PM
  - Designer Meeting #1

3. Designer RFS Schedule

- Submit ad to Central Register: 5/29/25
- Ad appears in Central Register: 6/4/25
- Applications due: 7/2/25
- Applications sent to MSBA: 7/10/25
- Application Reviews: **7/29/25**
- Interviews: **8/12/25**

Anticipated Project Timeline



We are here

Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

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Cost Effective

Thoughtful

Collaborative

Detailed

Committed

Creative

Experienced

Proactive

DORE + WHITTIER

MEETING AGENDA

Meeting Date: June 24, 2025
Meeting Time: 6:00PM – 8:00PM
Project Name: Essex Elementary School
Project Number: 202306980020
Meeting Purpose: School Building Committee Meeting
Location: This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link: https://us06web.zoom.us/j/85349809336

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Designer Selection Process (Vote Expected)
5. Memorial Elementary School Expansion Potential
6. Website
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11. Public Comment
12. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	06/24/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	Jacob Greco

Present	Name	Affiliation
√	Michelle Cresta	Director of Finance & Operations
√	Pam Beaudoin	Superintendent
√	Kim Provost	Principal
	Jason Waldron	Facilities Manager
√	Theresa Whitman	SBC Co-Chair
√	John Binieris	SBC Co-Chair
	Ruth Pereen	Essex Board of Selectman Chair
	Andy Oldeman	Manchester Finance Committee / Director of Engineering (Structural Engineer)
√	Charlie Hay	Architect School Building Experience
√	Gordon Brewster	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
√	Tyler Virden	Project Executive -Wise Construction / Paren
√	Annie Cameron	Former SC Member and Memorial SBC Member
√	Henry Oettinger	Manchester Conservation Committee / Education
	Ariel Fernando Brian	Architect - CBT
√	Jen Hocherman	Architect - Partner SV Design
√	Michael Gerhardt	Civil Engineer / Parent
	Timonthy McDonald	Architect - Onion Flats
√	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
√	John Albright	Project Manager - DWMP
	Rachel Rincon	Assistant Project Manager - DWMP
√	Jacob Greco	Assistant Project Manager - DWMP

DORE + WHITTIER

Item No.	Action Item	Requested by	Ball in Court

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

Item No.		Description	Action
2.1	**Call to Order & Intro:** Called to order by T.Whitman at 6:03pm, please refer to the attendee list.	Record	
2.2	**Approval of April 29 - 2025, Meeting Minutes:** **Roll Call Vote:** A motion to approve the April 29, 2025, Meeting Minutes made by Tracy and seconded by tyler . Name / Yes/No/Abstain & Absent Michelle Cresta / Yes Pam Beaudoin / Yes Kim Provost / Yes Jason Waldron / Advisor – No Vote Theresa Whitman / Yes John Binieris / Yes Ruth Pereen / Yes Andy Oldeman / Charlie Hay / Abstain Gordon Brewster / Yes Tyler Virden / Yes Adam Zaiger / Yes Annie Cameron / Yes Henry Oettinger / Yes Ariel Fernando Brian / Jen Hocherman /	Record	

	Michael Gerhardt		
	Timonthy McDonald		
	David Pereen	Advisor – No Vote	
	Lisa O'Donnell	Advisor – No Vote	
2.3	**Invoices & Commitments for Review and Approval (Vote Expected)** **Roll Call Vote:** A motion to approve the DWMP Invoice No. 1 made by Tracy and seconded by henry .		Record
	Name	Yes/No/Abstain & Absent	
	Michelle Cresta	Yes	
	Pam Beaudoin	Yes	
	Kim Provost	Yes	
	Jason Waldron	Advisor – No Vote	
	Theresa Whitman	Yes	
	John Binieris	Yes	
	Ruth Pereen		
	Andy Oldeman		
	Charlie Hay	Yes	
	Gordon Brewster	Yes	
	Tyler Virden	Yes	
	Adam Zaiger	Yes	
	Annie Cameron	Yes	
	Henry Oettinger	Yes	
	Ariel Fernando Brian	Yes	
	Jen Hocherman		
	Michael Gerhardt		
	Timonthy McDonald		
	David Pereen	Advisor – No Vote	
	Lisa O'Donnell		
2.4	**Designer Selection Process (Vote Expected)** • C.Dell Angelo reviewed the Designer Selection Panel and noted how the committee must select three members to join it, the CEO, Superintendent & a School Committee Designee (Slide 6)		Record

- P.Beaudoin noted that she would nominate M.Cresta to take her second position and that a third would have to be voted for
- T.Whitman asked J.Binieres if he would want to take part
    - J.Binieres deferred to someone with more experience
- G.Brewster asked C.Dell Angelo who she recommends, and she noted that G.Brewster may be a good person to take part in this as he has a lot of experience in the industry and has participated in previous panels
- T.Virden noted that J.Hocherman would be a good candidate
    - J.Hocherman asked what the time commitment would be for this.
    - C.Dell Angelo reviewed the designer selection timeline (Slide 7)
- P.Beaudoin asked the group if there should be an Essex representative on the panel
    - C.Hay noted no that does not seem like it should be required, and they are hiring a Designer, and the important part should be being able to advocate for what the District wants
    - G.Brewster agreed that being able to have a strong voice in the meetings with the MSBA is very important
- C.Dell Angelo noted there are a lot of different paths this process can take depending on how many proposals the project receives and how strong they are. She also noted that the whole process is virtual now
- T.Whitman noted she is from Essex and is not concerned if there are no Essex representatives on the panel
- P.Beaudoin noted that last time they were very clear to the MSBA that they had to make a selection at the meeting

Roll Call Vote: A motion to approve the three voting members of the Designer Selection Panel (P.Beaudoin, M.Cresta & G.Brewster) made by C.Hay seconded by A.Cameron.

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
Jason Waldron	Advisor – No Vote
Theresa Whitman	Yes
John Binieris	Yes
Ruth Pereen	

2.5	**Memorial Elementary School Expansion Potential**
	
	• C.Dell Angelo reviewed the potential expansion of the Memorial Elementary School building (Slide 10 - 12)
	  ○ C.Hay asked what the political impact of this would be.
	  ○ A.Cameron asked what the impact would have had if they just closed EES and moved them all to MMES?
	  • G.Brewster noted they would be putting more kids into the same size space that it currently is
	  • P.Beaudon noted that the school is not designed for around 300 more students
	  ○ A.Cameron noted aside from educational space, the school would still have even worse parking and pick up issues along with outdoor space. A.Cameron noted that it may be smart to go through this process just to be able to prove that it is not feasible and knock this option out for feasibility study
	  • P.Beaudoin noted that goal of including this is to show that it is not an option, she noted that the		

Andy Oldeman	
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Adam Zaiger	
Annie Cameron	Yes
Henry Oettinger	Yes
Ariel Fernando Brian	
Jen Hocherman	Yes
Michael Gerhardt	
Timonthy McDonald	
David Pereen	Advisor – No Vote
Lisa O'Donnell	

- A.Cameron asked if there will be a larger group of SBC members that will review the proposals aside from the three selected?
  - C.Dell Angelo noted that they will meet with the selected members and the whole SBC can have a review and discussion also
  - A.Cameron thought that last time there was a larger working group that reviewed them all
- C.Dell Angelo reviewed the firms that attended the Designer Selection walkthrough at Essex Elementary School (Slide 8)

	district does not have a desire to rework the educational program but noted that it has to be included as they already submitted it to the MSBA • C.Dell Angelo noted that if they wanted to go through with this they would have to make a really strong case to the MSBA about why their educational program changed so drastically from the MMES that it can now accommodate all these new students ○ P.Beaudoin noted that the project team will review all the options to help find the most cost effective one via the MSBA process. She also noted that she does not think there will be any operational cost savings due to how many students there will be in the school ○ T.Verden asked if all the students who moved to MMES would the educational program be met • C.Hay noted no it would not ○ T.Whitman asked if it would meet health and safety standards and noted she knows it would not meet the classroom population number • It was noted that it would have to be reviewed ○ A.Cameron noted that having this information and why it would not work as an FAQ would be smart as it would be brought ○ G.Brewster noted that will politics and money aside there could be an opportunity to do an addition renovation project on the current MMES to accommodate the full Manchester-Essex program • C.Dell Angelo noted that this is a very high-level review, and it will take getting the designer on board to really get into the weeds and figure out what is possible and what isn't • T.Whitman noted that it will be important to include language so that a no cost option is not viable		
2.6	**Website:** • C.Dell Angelo reviewed the website and noted that it can be edited live and will host a lot of information for the project (Slide 13) • C.Dell Angelo noted it will be important for a list of FAQs to be developed	Record	
2.7	**Goal Setting:**	Record	

	• C.Dell Angelo reviewed the goal setting responses gathered from the committee (Slide 15-16)
	• A.Cameron noted that she is disappointed that educational program or anything student released is not larger on the word cloud
	  ○ C.Hay agreed but also noted how the MSBA process really makes the educational program very important and an important aspect of their project
	• C.Dell Angelo noted it could be a good idea to continue asking for the goal setting throughout the process to see how it changes
	• P.Beaudon shared how the SBC is not building an educational program as this is already created but is making a building for the future and the educational program helps keep this in check and the building should reflect what is important in the program. She noted it is not a cost driver but is a philosophy for the district
	  ○ C.Hay added that the district writes the educational program so they do have control over the philosophy and what will be included in the building		

2.8	**Working Groups:** • C.Dell Angelo reviewed the responses to the working group selections (Slide 18) • C.Dell Angelo noted they are very useful for having productive conversations and then bring them back to the SBC for review. She noted they will start organizing them and sending out invites once the designer is on board	Record	
2.9	**Upcoming Meetings:** • C.Dell Angelo reviewed the upcoming meetings (Slide 20)	Record	
2.10	**Other Topics not Reasonably Anticipated 48 hours prior to the meeting:** • None	Record	
2.11	**Public Comment:** • None	Record	
2.12	**Adjourn:**	Record	

Roll Call Vote: A motion to adjourn the meeting was made at 6:58 pm by T.Virden and seconded by H.Oettinger

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
Jason Waldron	Advisor – No Vote
Theresa Whitman	Yes
John Binieris	
Ruth Pereen	
Andy Oldeman	
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Adam Zaiger	
Annie Cameron	Yes
Henry Oettinger	Yes
Ariel Fernando Brian	
Jen Hocherman	Yes
Michael Gerhardt	
Timonthy McDonald	
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

Sincerely,
DORE + WHITTIER
Jacob Greco
Assistant Project Manager
Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.

Essex Elementary School Project

School Building Committee Meeting #02

June 24, 2025 @ 6:00 PM

DORE + WHITTIER

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes 4/29/25 (Vote Expected)
3. Invoices & Commitments for Review and Approval
   - DWMP Invoice No. 1 - $22,423.00 (Vote Expected)
4. Designer Selection Process (Vote Expected)
5. Memorial Elementary School Expansion Potential
6. Website
7. Goal Setting
8. Working Groups
9. Upcoming Meetings
10. Other Topics not Reasonably Anticipated 48 hours prior to the meeting.
11. Public Comment
12. Adjourn

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Designer RFS Process-Designer Selection Panel

- **TBD – CEO**
- **TBD – Superintendent**
- **TBD – School Committee Designee**
- Beth McDougal, AIA, MSBA Designee, Registered Architect, Vice-Chair
- Rachel E. Shanley, PE, LEED, MSBA Designee, Professional Engineer, Vice-Chair
- Russell Bartash, MA Building Trades Council Designee
- Eric Bernardin, ACEC Designee, Professional Engineer
- Karl Brown, AIA, MSBA Staff, Registered Architect
- John S. Ferrante, Associated General Contractors of Massachusetts Designee
- Barbara Hansberry, MSBA Executive Director Designee
- Eric LeBeau, Public Member
- Joseph McDonough, Public Member
- Leo F. Peters, FACEC, Professional Engineer
- Alankrita Prasad, MA AIA Designee, Registered Architect
- Jose Soliva, AIA, MSBA Designee, Registered Architect
- Ashley Stanton, MSBA Staff
- Peter Sun, MSBA Staff
- Diane Sullivan, MSBA Staff
- Emily Udy, MSBA Staff
- John F. Jumpe Jr., Professional Engineer, MSBA Staff *

Designer RFS Schedule

- Submit Ad to Central Register: 5/29/25
- Ad Appears in Central Register: 6/4/25
- Designer Walkthrough: 6/18/25
- Applications Due: 7/2/25
- Applications Sent to MSBA: 7/10/25
- Application Reviews: **7/29/25**
- Interviews: **8/12/25**

Designer RFS Walkthrough Attendees

- Flansburgh
- JCJ Architecture
- Lavallee Brensinger
- NV5
- IMEG
- CES
- Morgan Thompson Architects
- CBT

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Manchester Memorial Elementary School Expansion Potential

- PSR phase planned expansion intended for northwest part of site
- Project progressed, flood plains and restrictions, approach revised
- PreK reduced from 4 to 2 moved to northeast part of site
- Potential expansion plans moved to northeast part of site
- If facility needed to be expanded rely on reprogramming
- Proposed expansion would be adding two classrooms at the northeast off the PreK wing and repurposed the two project rooms into general classrooms
- Would provide 4 additional classrooms to the school

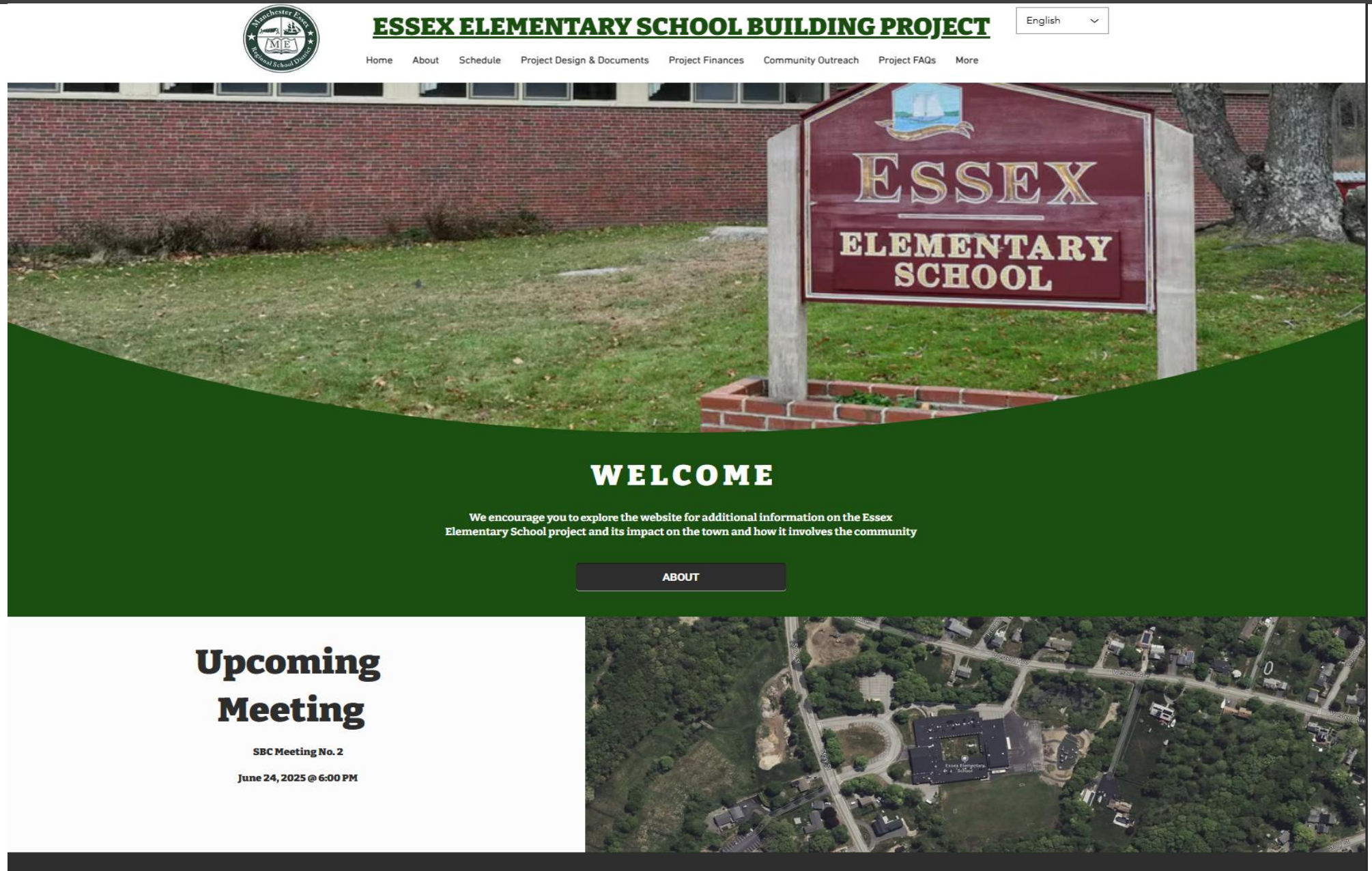
Manchester Memorial Elementary School Expansion Potential



- If further expansion was needed, PreK program would need to be removed, PreK wing would become kindergarten, and existing k would become general classrooms
- Would add 6 total classrooms to the school and account for 1 additional classroom per grade
- Existing building foundations and structure not designed for an additional floor
- Current Parking-80 regular spaces, 6 handicap
- Current Pick up and drop off loop-40 cars to cue
- Where does Pre-K go?

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Website


ESSEX ELEMENTARY SCHOOL BUILDING PROJECT
English
Home
About
Schedule
Project Design & Documents
Project Finances
Community Outreach
Project FAQs
More
ESSEX
ELEMENTARY SCHOOL
WELCOME
We encourage you to explore the website for additional information on the Essex Elementary School project and its impact on the town and how it involves the community
ABOUT
Upcoming Meeting
SBC Meeting No. 2
June 24, 2025 @ 6:00 PM

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Goal Setting – Word Cloud



Goal Setting - Summary

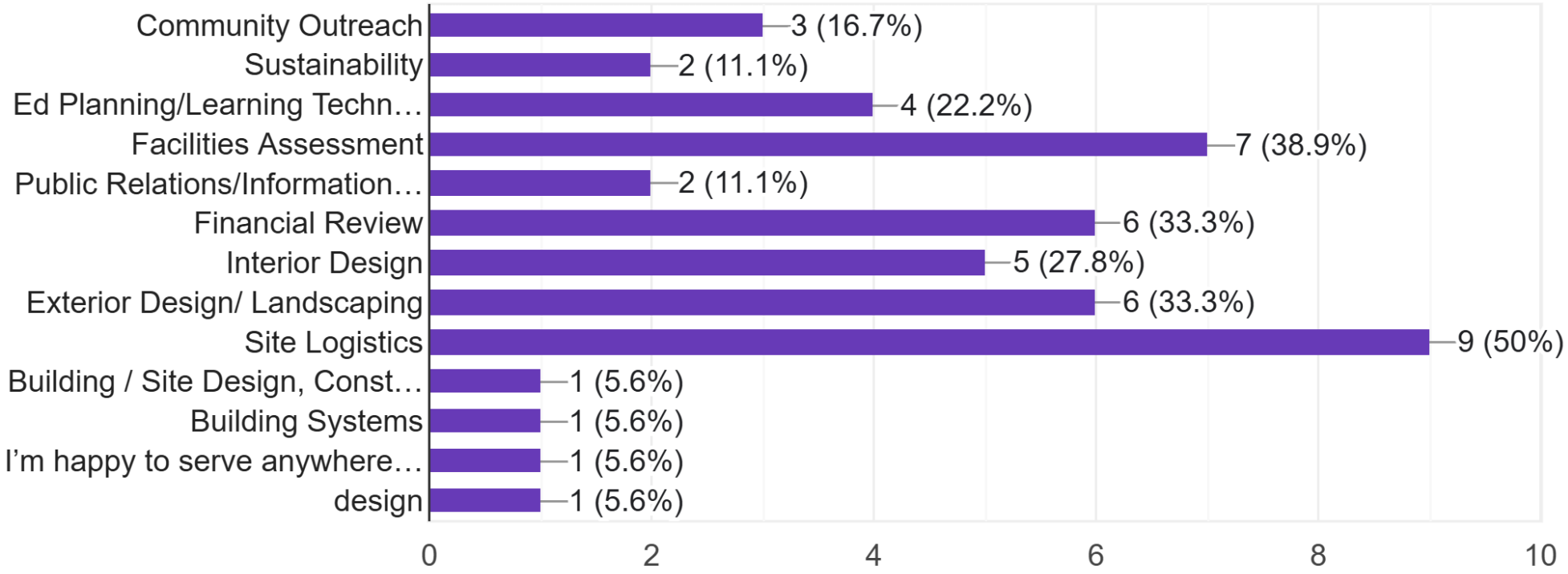
- **Primary Goal: Value**
  - Balance between cost, quality, and functionality
  - Not just low-cost, but best overall return
- **Cost Efficiency & Budget Awareness**
  - Cost-effective design and construction
  - Realistic cost parameters
  - Difficult approval process anticipated
- **Design Priorities**
  - Resilient, sustainable, and flexible building
  - Reflect “Essex” identity
  - Interior design that supports long-term needs
- **Student-Centered Spaces**
  - Spaces for diverse academic and non-academic needs
  - Focused on best student experience
- **Community & Collaboration**
  - Engage community to foster pride and support
  - Equitable offerings compared to MBTS Memorial School
- **Long-Term Vision**
  - 50-year solution
  - Adaptable for future educational models
  - Explore site use and potential reuse of existing facilities
- **Key Values**
  - Sustainability, reliability, safety
  - Parity, diligence, and collaboration
  - Pride in ownership and community asset

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes 4/29/25 (Vote Expected)
3. Invoices & Commitments for Review and Approval
   - DWMP Invoice No. 1 - $22,423.00 (Vote Expected)
4. Designer Selection Process (Vote Expected)
5. Memorial Elementary School Expansion Potential
6. Website
7. Goal Setting
8. Working Groups
9. Upcoming Meetings
10. Other Topics not Reasonably Anticipated 48 hours prior to the meeting.
11. Public Comment
12. Adjourn

Working Groups

Working Groups: Please select the working group(s) you would like to join. If there's a different group you're interested in, feel free to list it under "Other."

18 responses



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2. Previous Topics & Meeting Minutes 4/25/29 (Vote Expected)
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11. Public Comment
12. Adjourn

Upcoming Meetings

- **SBC Meeting No. 3 – July 22, 2025 @ 6:00PM**
- **MSBA Designer RFS Meeting No. 1 – July 29 @ 8:30am**
- **MSBA Designer RFS Meeting No. 2 – August 12 @ 8:30am**
- **SBC Meeting No. 4 – August 26, 2025 @ 6:00PM**
- **SBC Meeting No. 5 – September 23, 2025 @ 6:00PM**
- **Community Meeting No. 1 – October (Exact Date TBD)**

1. Call to Order & Intro
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11. Public Comment
12. Adjourn

MEETING AGENDA

Meeting Date: July 22, 2025
Meeting Time: 6:00PM – 8:00PM
Project Name: Essex Elementary School
Project Number: 202306980020
Meeting Purpose: School Building Committee Meeting
Location: This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link: https://us06web.zoom.us/j/85349809336

---

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 2 20250624
3. Invoices & Commitments for Review and Approval (Vote Expected)
    - DWMP Invoice No. 2 $17,973.50
4. Designer RFS Submissions Review
5. Upcoming Meetings
6. Other Topics not Reasonably Anticipated 48 hours prior to the meeting.
7. Public Comment
8. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	07/22/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	Jacob Greco

Present	Name	Affiliation
√	Michelle Cresta	Director of Finance & Operations
√	Pam Beaudoin	Superintendent
√	Kim Provost	Principal
	Theresa Whitman	SBC Co-Chair
	John Binieris	SBC Co-Chair
	Ruth Pereen	Essex Board of Selectman Chair
√	Andy Oldeman	Manchester Finance Committee / Director of Engineering (Structural Engineer)
√	Charlie Hay	Architect School Building Experience
√	Gordon Brewster	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
√	Tyler Virden	Project Executive -Wise Construction / Paren
√	Annie Cameron	Former SC Member and Memorial SBC Member
	Ariel Fernando Brian	Architect - CBT
√	Jen Hocherman	Architect - Partner SV Design
√	Michael Gerhardt	Civil Engineer / Parent
	Timonthy McDonald	Architect - Onion Flats
√	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
	John Albright	Project Manager - DWMP
	Rachel Rincon	Assistant Project Manager - DWMP
√	Jacob Greco	Assistant Project Manager - DWMP

Item No.	Action Item	Requested by	Ball in Court
3.4	DWMP to send out a report to the full building committee after the July 29th MSBA meeting, informing them of next steps for interviews and who will be interviewed.	SBC	DWMP

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

<table>
<tr><td>Item No.</td><td></td><td>Description</td><td>Action</td></tr>
<tr><td>3.1</td><td>Call to Order & Intro: Called to order by P.Beaudoin at 6:06pm, please refer to the attendee list.</td><td>Record</td><td></td></tr>
<tr><td>3.2</td><td>Approval of June 24 - 2025, Meeting Minutes:

Roll Call Vote: A motion to approve the June 24, 2025, Meeting Minutes made by A.Cameron and seconded by K.Provost.

<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td></td></tr>
<tr><td>Theresa Whitman</td><td></td></tr>
<tr><td>Ruth Pereen</td><td></td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td></td></tr>
</table>
</td><td>Record</td><td></td></tr>
</table>

	Ariel Fernando Brian		
	Jen Hocherman	Yes	
	Michael Gerhardt	Yes	
	Timonthy McDonald		
	David Pereen	Yes	
	Lisa O'Donnell	Advisor – No Vote	
		Advisor – No Vote	
3.3	**Invoices & Commitments for Review and Approval (Vote Expected)** **Roll Call Vote:** A motion to approve the DWMP Invoice No. 2 ($17,973.50) made by A.Cameron and seconded by C.Hay .		Record
	Name	Yes/No/Abstain & Absent	
	Michelle Cresta	Yes	
	Pam Beaudoin	Yes	
	Kim Provost	Yes	
	Theresa Whitman		
	John Binieris		
	Ruth Pereen		
	Andy Oldeman	Yes	
	Charlie Hay	Yes	
	Gordon Brewster	Yes	
	Tyler Virden	Yes	
	Adam Zaiger		
	Annie Cameron		
	Ariel Fernando Brian	Yes	
	Jen Hocherman	Yes	
	Michael Gerhardt	Yes	
	Timonthy McDonald		
	David Pereen	Yes	

	Lisa O'Donnell	Advisor – No Vote		

3.4	**Designer RFS Submissions Review**
	
	C.Dell Angelo reviewed the three (3) SBC members chosen to be on the Designer Selection Panel and the received proposals (Slide 6 & 7)
	• G.Brewster noted that the Maryann Thompson proposal was very aspirational and they lacked experience and the required team members
	• G.Brewster noted that he thought Lavalle Brensinger provided a good proposal and he was impressed with their experience and options for the Essex Project. He noted a weakness was the Project Architect with only 7 years of experience and also did not like how they had multiple project managers for different phases.
	• G.Brewster noted that JCJ had the strongest proposal and lied how on Manchester Memorial the Principal-in-Charge was very involved in the project and their Project Architect is very good. He also liked their experience and options for the Essex Project.
	• P.Beaudoin noted that G.Brewster summarized her view very well, she added that Lavallee's proposal was good but she focuses a lot on MSBA experience and especially with regional school districts which JCJ does have.
	• M.Cresta agreed
	• M.Gerhardt asked why the two firms that did not submit decided not to
	  ○ C.Dell Angelo noted that one firm shared that they had another project that was aligned more for what they wanted at that time. The other firm was smaller and lacked MSBA experience so they decided to not go after the project
	• A.Cameron asked for definitions of "Living - Building - Challenge" and "Mass Timber"
	  ○ C.Dell Angelo noted that it is a rigorous sustainability certification program that promotes regenerative design in the built environment, aiming for buildings that give more than they take. She also noted that Mass Timber uses wood for the structure of the building instead of steel as it is more sustainable
	• A.Cameron wants to make sure each firm gets a fair discussion
	  ○ A.Cameron noted that Maryann Thompson focused a lot more on sustainability than the educational
		Record	

process and lacks MSBA experience. She noted they lacked information on the public process and Chapter 149a
    - C.Hay noted that they are create wonderful designs but the MSBA process is extremely difficult and has a very steep learning curve that the MSBA may want to pay interest into
    - C.Dell Angelo noted that they also did not address the third enrollment option
  - A.Cameron noted that she is a fan of the Lavallee proposal and is curios to hear more of the negatives from G.Brewster. She also noted it will be good to reflect back on the process with JCJ and what they accomplished such as handling Covid, being successful with public outreach, and other things such as safety.
- C.Hay noted that it will be important for the three DSP members to be aligned with what they want during the DSP meeting
- G.Brewster asked if they will be able to use their past experience as leverage in the DSP meeting or only the proposals
  - C.Dell Angelo noted they can use their past experience and noted that this first DSP meeting will be similar to this SBC meeting right now and then the interview stage will really see the teams interact and get a better picture of them
- P.Beaudoin noted that she was listed as a reference on JCJ's project and shared that they have still been very helpful in the post construction as well as being strong leading up to the project and during the construction
  - P.Beaudoin also added that an advantage of JCJ is that if the Manchester Memorial expansion is chosen they will have a lot of knowledge and understanding for that
- C.Hay noted a lot of Lavallee's experience comes from other firms and their architects that joined them from other companies
  - G.Brewster added that a lot of the team members have a lot of experience but not a lot in the firm so they have not worked on many/if any <SBA projects together as a team
- J.Hocherman asked if the SBC and Project Team had a good feeling about JCJs MEP Engineers?

- C.Dell Angelo noted yes they use GGD which she has worked with a lot and they are great, they were also on the Manchester Memorial Project
- P.Beaudoin noted that in the Manchester Project she thought the District, Town Boards/Committees, the OPM, Designer & CM at Risk firm all worked well together
- M.Gerhardt noted he has worked with Lavallee a lot in the past but not on schools and with a different team but they were very great to work with and he thinks their proposal is comparable to JCJ and it should really come down the interview process. He also noted that with JCJ being centered around Connecticut if that caused any issues?
  - C.Dell Angelo noted they also have a Boston office which the PM was out of and all the project team from Connecticut made it to all the meetings they were required at
  - G.Brewster noted the process was very smooth regardless of location during the design process
- A.Fernando Brian noted his company attended the walkthrough and they decided to not follow through thinking JCJ would get the job. He noted that they should not discredit Maryann Thompson and shared that in the architect word she is extremely respected and they should have a fair shot at an interview
- A.Cameron asked the DSP members what their plan is after hearing the feedback
  - G.Brewster noted he will go with the groups choice but he does not see value in interviewing all three firms
  - P.Beaudoin noted she will be very interested in hearing from the designers as there is always importance in designing the building but there is a lot that happens outside of that with the public, MSBA & political process
    - C.Hay noted this will not be a high design process and what P.Beaudoin listed will be of the upmost importance
- J.Hocherman called out how important the experience to the Massachusetts public process is as it is so much different than the private world or any other states public process
- C.Dell Anglo noted that the project team is very important as they will be working with the everyone for the next 8 or so years
- A.Oldeman noted that he would be curious to see what Maryann Thompson would produce in an interview but

<table>
<tr><td></td><td>knows how critical the MSBA and MA process is. He also noted the budget will be a major factor for this and a lot of the sustainable aspects she has proposed will be expensive
• C.Hay shared how important the PDP and PSR phases are and the amount of paperwork that has to be created would be very daunting for a firm with no MSBA experience
• C.Dell Angelo noted that the Designer Selection Panel meeting is on July 29th and it is a public meeting if anyone wants to join</td><td></td><td></td></tr>
<tr><td>3.5</td><td>Upcoming Meetings

C.Dell Angelo reviewed the upcoming meetings (slide 13)</td><td></td><td></td></tr>
<tr><td>3.6</td><td>Other Topics not Reasonably Anticipated 48 hours prior to the meeting:

None</td><td>Record</td><td></td></tr>
<tr><td>3.7</td><td>Public Comment:

None</td><td>Record</td><td></td></tr>
<tr><td>3.8</td><td>Adjourn:

Roll Call Vote: A motion to adjourn the meeting was made at 7:22 pm by G.Brewster and seconded by J.Hocherman
<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
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<tr><td>Ruth Pereen</td><td></td></tr>
<tr><td>Andy Oldeman</td><td></td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
</table></td><td>Record</td><td></td></tr>
</table>

Gordon Brewster	Yes
Tyler Virden	Yes
Adam Zaiger	
Annie Cameron	Yes
Henry Oettinger	Yes
Ariel Fernando Brian	
Jen Hocherman	Yes
Michael Gerhardt	
Timonthy McDonald	
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

Sincerely,
DORE + WHITTIER
Jacob Greco
Assistant Project Manager
Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.

Essex Elementary School Project

School Building Committee Meeting #03

July 22, 2025 @ 6:00 PM

DORE + WHITTIER

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 2 20250624
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - DWMP Invoice No. 2 $17,973.50
4. Designer RFS Submissions Review
5. Upcoming Meetings
6. Other Topics not Reasonably Anticipated 48 hours prior to the meeting.
7. Public Comment
8. Adjourn

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Designer RFS Process-Designer Selection Panel

- **Pam Beaudoin – CEO**
- **Michelle Cresta – Superintendent (Delegate)**
- **Gordon Brewster – School Committee Designee (Delegate)**
- Beth McDougal, AIA, MSBA Designee, Registered Architect, Vice-Chair
- Rachel E. Shanley, PE, LEED, MSBA Designee, Professional Engineer, Vice-Chair
- Russell Bartash, MA Building Trades Council Designee
- Eric Bernardin, ACEC Designee, Professional Engineer
- Karl Brown, AIA, MSBA Staff, Registered Architect
- John S. Ferrante, Associated General Contractors of Massachusetts Designee
- Barbara Hansberry, MSBA Executive Director Designee
- Eric LeBeau, Public Member
- Joseph McDonough, Public Member
- Leo F. Peters, FACEC, Professional Engineer
- Alankrita Prasad, MA AIA Designee, Registered Architect
- Jose Soliva, AIA, MSBA Designee, Registered Architect
- Ashley Stanton, MSBA Staff
- Peter Sun, MSBA Staff
- Diane Sullivan, MSBA Staff
- Emily Udy, MSBA Staff
- John F. Jumpe Jr., Professional Engineer, MSBA Staff *

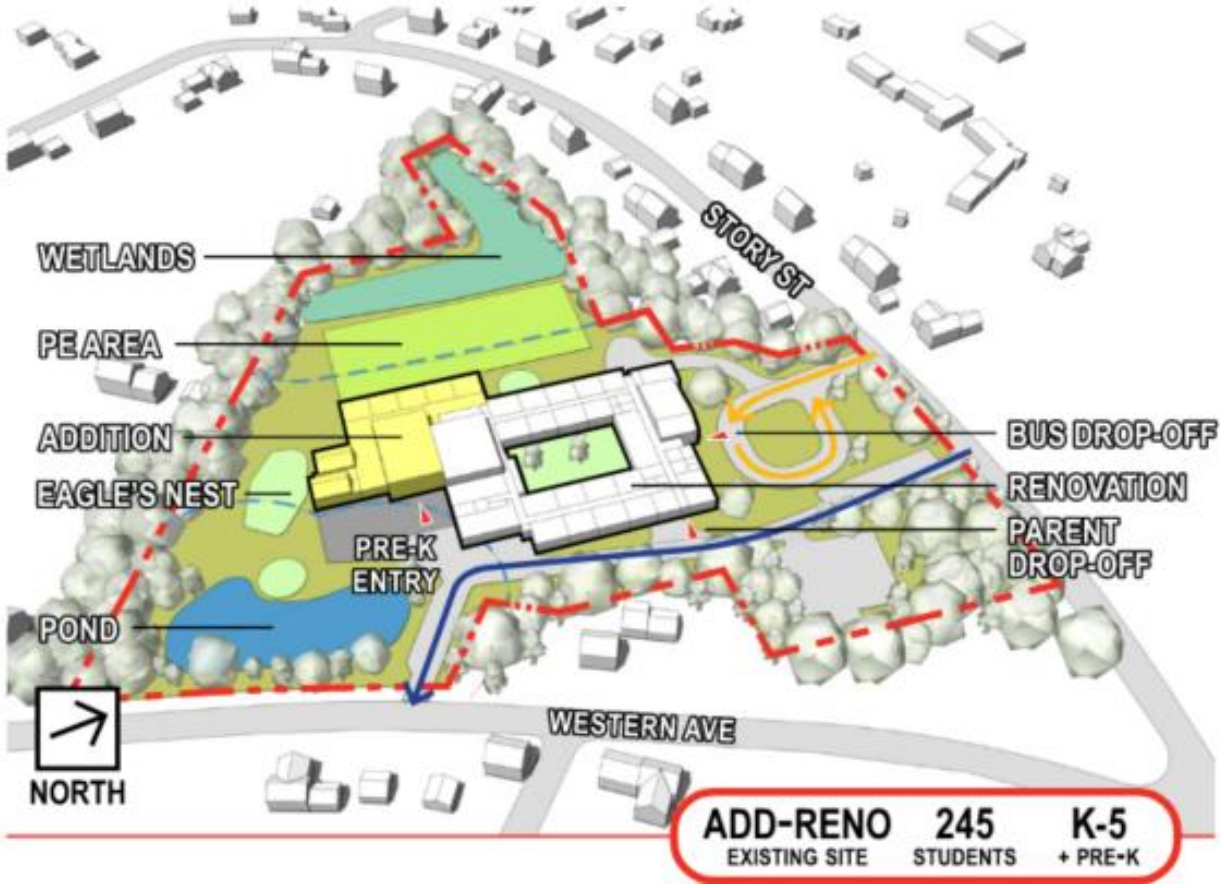
Designer RFS Submission Review

Submissions Received:

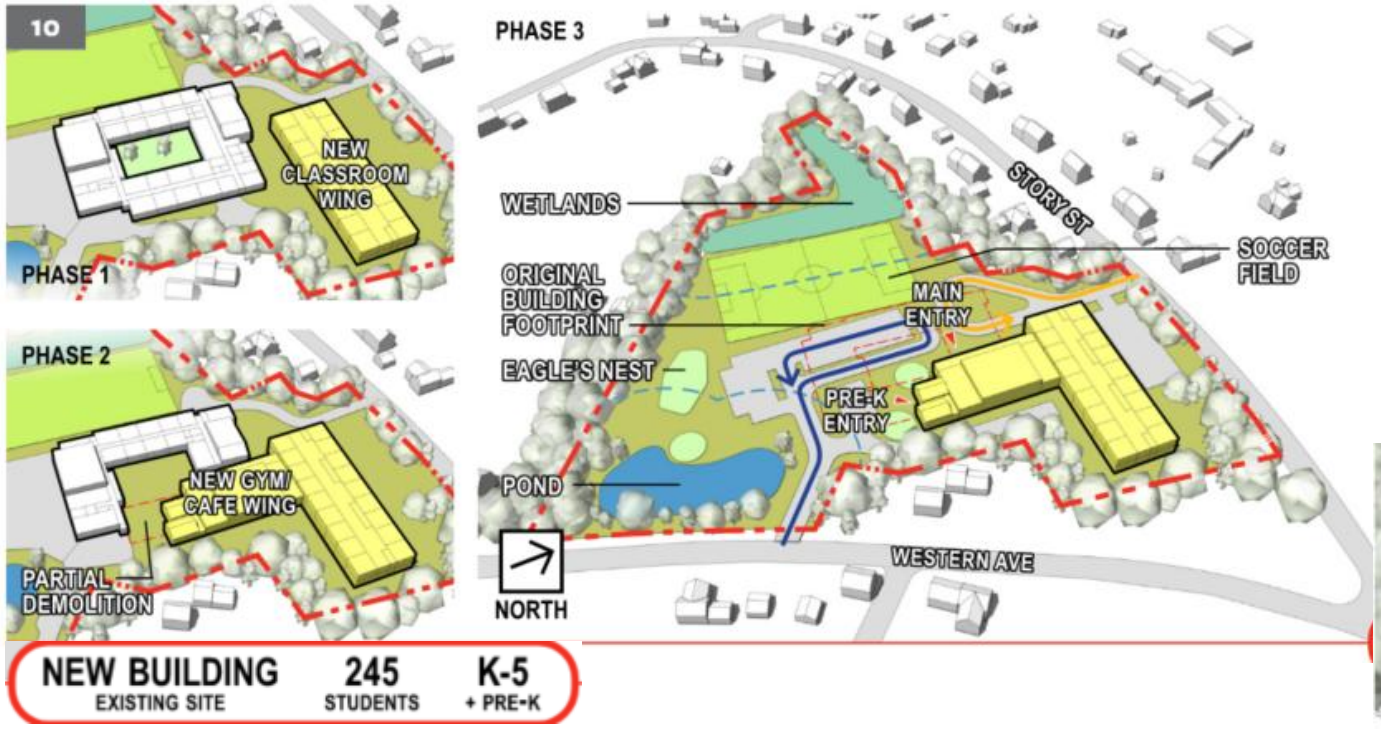
- JCJ Architecture
- Lavallee Brensinger
- Maryann Thompson

Designer RFS Submission Review - JCJ





Designer RFS Submission Review - JCJ



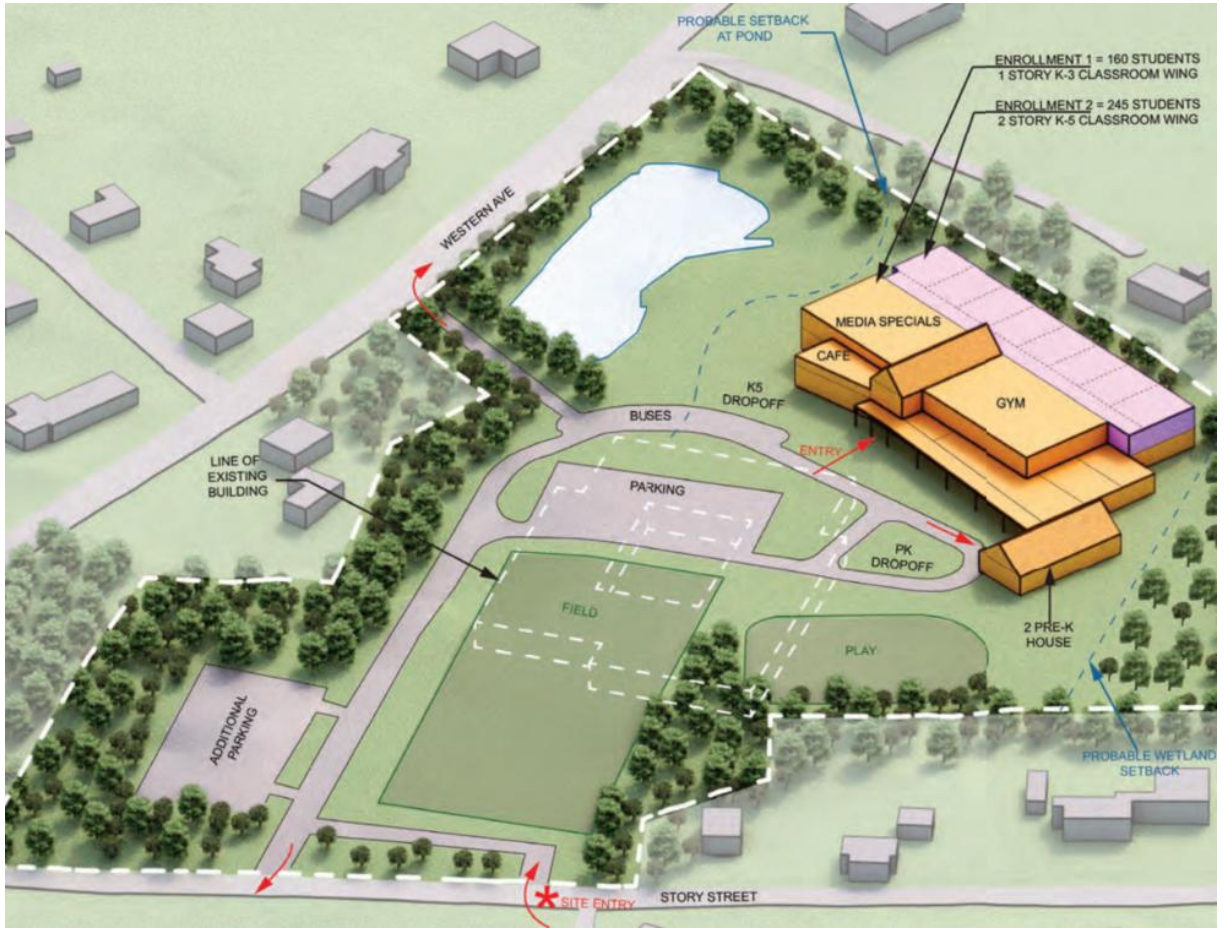


Designer RFS Submission Review - **Lavallee Brensinger**

ADD/RENO SCHOOL | A: 1-Story New Additions and Pre-K 'Minimal Expansion' (Essex Elementary Site)

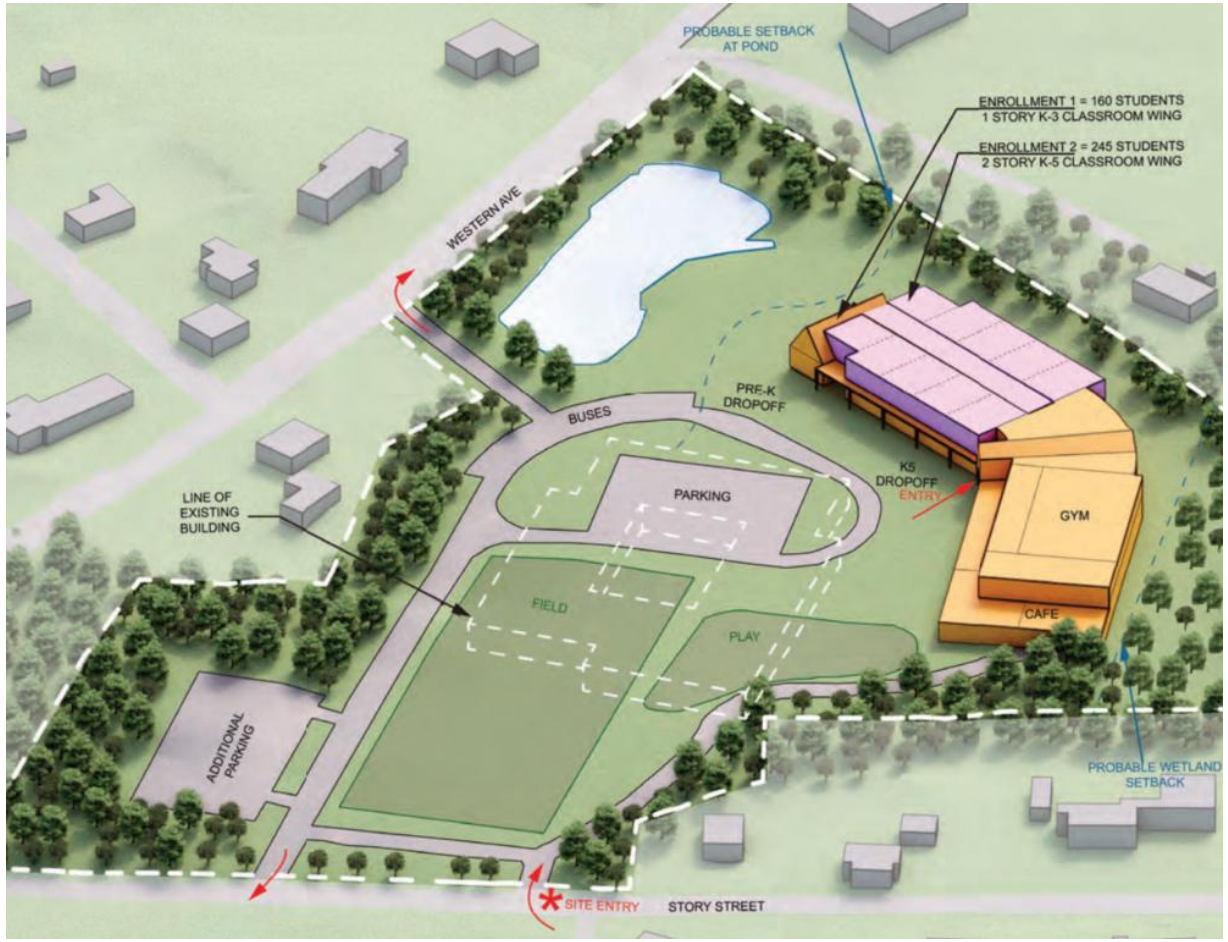


NEW SCHOOL | B: 1 or 2-Story Elementary School "Compact Planning' (Essex Elementary Site)

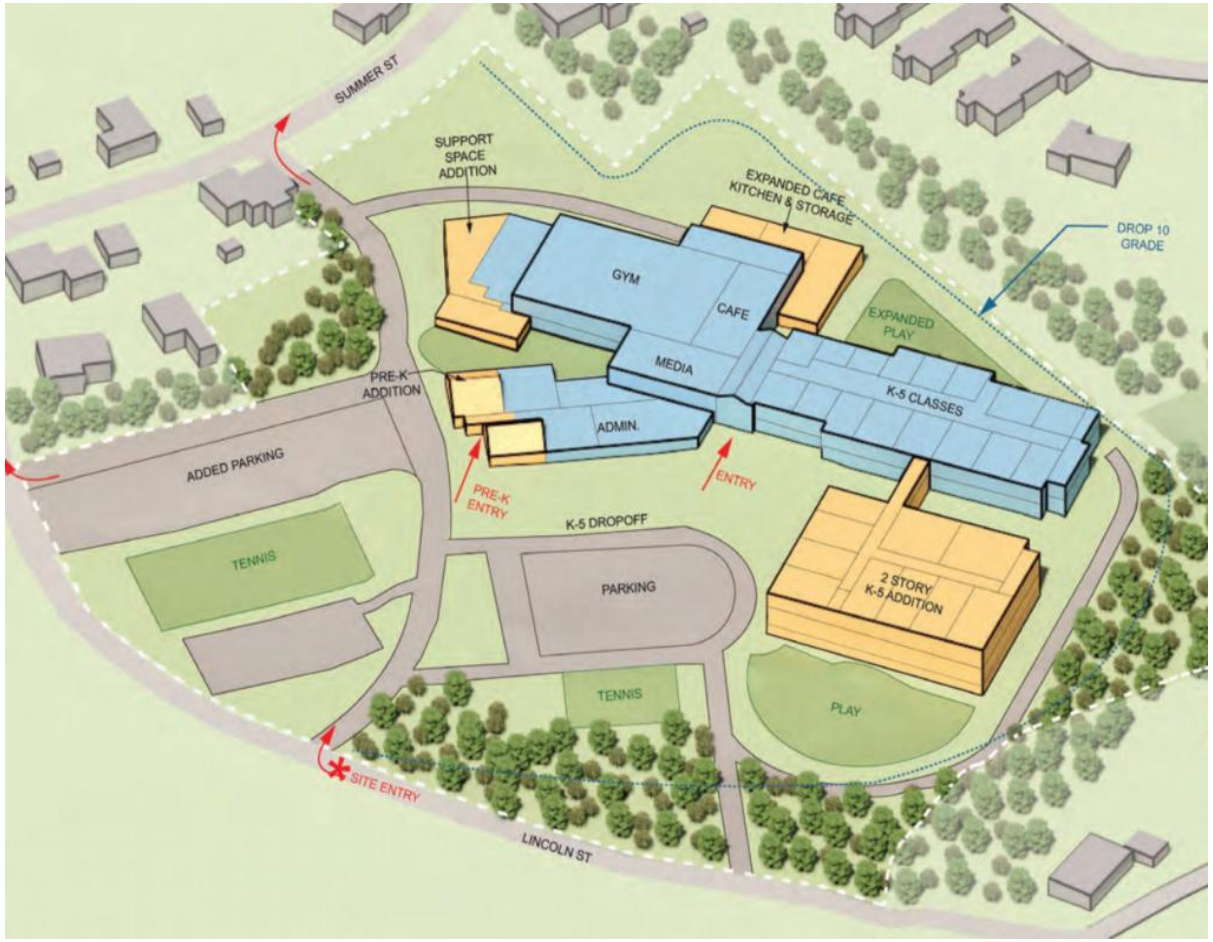


Designer RFS Submission Review - Lavallee Brensinger

NEW SCHOOL | C: 1 or 2-Story Elementary School 'Corner Nestled' (Essex Elementary Site)



NEW SCHOOL | D: 1 and 2-Story Additions to Recent School 'Integrated Expansion' (Manchester Memorial Elementary Site)



Designer RFS Submission Review - Maryann Thompson

THE COURTYARD RENEWAL – A RENOVATION ROOTED IN CONTINUITY



"THE ESSEX GREEN" – A NEW CONSTRUCTION VILLAGE OF LEARNING



1. Call to Order & Intro
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Upcoming Meetings

- **MSBA Designer RFS Meeting No. 1 – July 29 @ 8:30am**
- **MSBA Designer RFS Meeting No. 2 – August 12 @ 8:30am**
- **SBC Meeting No. 4 – August 26, 2025 @ 6:00PM**
- **SBC Meeting No. 5 – September 23, 2025 @ 6:00PM**
- **Community Meeting No. 1 – October (Exact Date TBD)**

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
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7. Public Comment
8. Adjourn

MEETING AGENDA

Meeting Date: August 26, 2025
Meeting Time: 6:00PM – 8:00PM
Project Name: Essex Elementary School
Project Number: 202306980020
Meeting Purpose: School Building Committee Meeting
Location: This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link: https://us06web.zoom.us/j/85349809336

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 3 20250722
3. Invoices & Commitments for Review and Approval (Vote Expected)
    - DWMP Invoice No. 3 $22,921.50
    - JCJ Contract - $900,000 ($600,000 for JCJ Services & $300,000 for Environmental/Site Consultants)
    - BRR #1
4. Designer Introduction: JCJ Architecture
5. Review Project Schedule
6. Introduce Visioning Plan
7. Review Working Groups
8. Upcoming Meetings
9. Other Topics not Reasonably Anticipated 48 hours prior to the meeting.
10. Public Comment
11. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	08/26/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	Jacob Greco

Present	Name	Affiliation
√	Michelle Cresta	Director of Finance & Operations
√	Pam Beaudoin	Superintendent
√	Kim Provost	Principal
	Theresa Whitman	SBC Co-Chair
	John Binieris	SBC Co-Chair
	Ruth Pereen	Essex Board of Selectman Chair
√	Andy Oldeman	Manchester Finance Committee / Director of Engineering (Structural Engineer)
√	Charlie Hay	Architect School Building Experience
√	Gordon Brewster	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
√	Tyler Virden	Project Executive -Wise Construction / Paren
√	Annie Cameron	Former SC Member and Memorial SBC Member
√	Ariel Fernando Brian	Architect - CBT
√	Jen Hocherman	Architect - Partner SV Design
√	Michael Gerhardt	Civil Engineer / Parent
	Timothy McDonald	Architect - Onion Flats
√	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
	John Albright	Project Manager - DWMP
	Rachel Rincon	Assistant Project Manager - DWMP
√	Jacob Greco	Assistant Project Manager - DWMP
√	James LaPosta	Principal - JCJ Architecture
√	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
√	Jeff Elliott	Project Architect - JCJ Architecture
√	Mike Pirollo	Principal – MLP Integrated Design

Item No.	Action Item	Requested by	Ball in Court

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

<table>
<tr><td>Item No.</td><td></td><td>Description</td></tr>
<tr><td>4.1</td><td>Call to Order & Intro: Called to order by A.Cameron at 6:01pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>4.2</td><td>Approval of July 22 - 2025, Meeting Minutes:

Roll Call Vote: A motion to approve the July 22, 2025, Meeting Minutes made by P.Beaudoin and seconded by M.Cresta .

<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td></td></tr>
<tr><td>Theresa Whitman</td><td></td></tr>
<tr><td>Ruth Pereen</td><td></td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
</table></td><td>Record</td></tr>
</table>

	<table><tr><td>Gordon Brewster</td><td>Yes</td></tr><tr><td>Tyler Virden</td><td>Yes</td></tr><tr><td>Annie Cameron</td><td>Yes</td></tr><tr><td>Ariel Fernando Brian</td><td>Yes</td></tr><tr><td>Jen Hocherman</td><td>Yes</td></tr><tr><td>Michael Gerhardt</td><td>Yes</td></tr><tr><td>Timonthy McDonald</td><td></td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Henry Oettinger</td><td>Yes</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table>	

4.3	**Invoices & Commitments for Review and Approval (Vote Expected)**
	• C.Dell Angelo reviewed the basic MSBA Designer Contract and explained the current Feasibility Study Agreement along with the Budget Revision Request (BRR)No.1 (Slide 5)
	• M.Cresta noted she has reviewed this and agrees with it all and for the BRR it is just moving money from one bucket to another and not changing any totals
	• A.Cameron asked what is involved in the "other' budget category
	  ◦ C.Dell Angelo noted it could be anything from mailing costs, legal advice, extra site services not involved in the JCJ contract, or any other third-party services that are not normally part of the process
	• C.Hay asked if these costs are not to exceeds or hard numbers
	  ◦ C.Dell Angelo noted they can use the other category for any overages and any left over money will be pushed to the next phase
	• M.Gerhardt asks what occurs in the Environmental & Site category
	  ◦ J.LaPosta noted the MSBA only allows two categories for this phase and some of the services would be surveying, geotechnical reviews, wetlands, as examples but they are mostly investigative services
		Record

- P.Beaudoin noted it is all driven by what needs to be included in the report to the MSBA
- M.Gerhardt asked how these numbers and costs will be managed
  - C.Dell Angelo noted they will review the exhibits when they are finalized and compare them to other schools
  - C.Hay noted they are normally managed by the OPM and Designer with the input from the District and the project team will provide recommendations if they think they need to do any extra work above and beyond
  - J.LaPosta reviewed the MSBA prescribed list of site items and noted that the costs will be included on the contract before it is signed.

- DWMP Invoice No. 3 $22,921.50
- JCJ Contract - $900,000 ($600,000 for JCJ Services & $300,000 for Environmental/Site Consultants)
- Budget Revision Request #1

Roll Call Vote: A motion to approve the DWMP Invoice No. 3 ($22,921.50), JCJ Contract - $900,000 ($600,000 for JCJ Services & $300,000 for Environmental/Site Consultants), & the Budget Revision Request #1 made by C.Hay and seconded by M.Gerhardt.

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
Theresa Whitman	
John Binieris	
Ruth Pereen	
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes

Adam Zaiger	
Annie Cameron	
Ariel Fernando Brian	Yes
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	
David Pereen	Advisor – No Vote
Henry Oettinger	Yes
Lisa O'Donnell	Advisor - No Vote

4.4	**Designer Introduction: JCJ Architecture**
	
	● The JCJ team introduced themselves
	● The SBC Members introduced themselves
	● J.LaPosta reviewed their introduction slides and basic project scope/design imagery that JCJ created during the interview and application process (Slides 7 to 25)
	  ○ A.Cameron asked about the two schemes
	  ● J.Elliott noted that the first scheme may have regulatory wetland hurdles where the second scheme may have phasing logistic hurdles
	  ○ G.Brewster asked about the viability of using the existing building to meet current day standards not just code
	  ● J.LaPosta noted he truly does not know yet but he has not seem that solution work for most communities but they need to do the work here first to see. He noted that the current building has a good base but there are still a lot of existing issues.
	  ● C.Hay noted that the phasing aspect pushes the number way up also due to modulars
	  ○ M.Gerhardt asked if two story schools work for elementary schools
	  ● J.LaPosta noted that they do it often for elementary schools
	● A.Oldeman asked if there is still consideration of another site aside from Manchester Memorial and the current Essex Elementary
		Record

	○ C.Hay noted yes and it is important to review these and narrow it down as early as possible to conserve time and money ○ J.LaPosta noted they can rule sites out pretty easily based on size/viability and also added that if it is not town owned it will have to be purchased which is not reimbursable by the MSBA. LaPosta shared how they will create an evaluation criteria to compare all sites equally based on what the proposed school needs	
4.5	**Review Project Schedule** ● C.Dell Angelo reviewed the project schedule timeline, she noted that this has been reviewed high level with JCJ but they will be going into more detail prior to the next meeting (Slide 27) ● C.Dell Angelo reviewed what the MSBA Preliminary Design Program consists of (Slide 28) ○ Review Educational Plan ○ Educational Visioning ○ Space Summary ○ Existing Conditions Review ○ Preliminary Evaluations of Alternatives ● Where all the possible proposed school options are reviewed ● C.Hay asked for a request to have less than 19 options as they did during the Manchester Memorial as he found it was a little too much and was unproductive ● C.Dell Angelo noted that she is concerned with the Apple Street site give old farms have poor soil and pesticides ○ A.Cameron wants to make sure that the Apple Street site is reviewed very thoroughly to make sure that it is settled either way ● A.Cameron noted that the November 2026 Town Meeting makes her slightly nervous ○ C.Dell Angelo noted nothing is set in stone and this can be reviewed it was just based on the normal town meeting schedule ● P.Beaudoin asked that when the matrix for site evaluation is created can revising the regional agreement be included	Record

	○ C.Dell Angelo noted yes the criteria is up to the district and some items can be weighted to be more impactful than others. She thinks it should be included in the matrix	
4.6	**Introduce Visioning Plan** • M.Pirollo reviewed the visioning plan for the Essex Project (Slide 30 & 31) • C.Dell Angelo noted they plan on having a kick off meeting later this week or early next with P.Beaudoin to start the process and having a work plan in place	Record
4.7	**Review Working Groups** • C.Dell Angelo reviewed the currently proposed working groups (Slide 33 & 34) • C.Dell Angelo noted that they would like to schedule a communication working group soon as there will be a community meeting in October that needs to be reviewed • P.Beaudoin noted that they have a communication director now that can be involved • A.Cameron asked if J.LaPosta will be at the community meetings ○ J.LaPosta noted yes	Record
4.8	**Upcoming Meetings** • C.Dell Angelo reviewed the upcoming meetings for the SBC (Slide 36) • G.Brewster asked why all the meetings are not on Tuesdays ○ C.Dell Angelo noted there are some holidays and events within the district • L.O'Donnell noted that the Planning Board meets on first & third Wednesdays • A.Cameron asked for a revised schedule and invites for people's calendars once they are confirmed	Record
4.9	**Other Topics not Reasonably Anticipated 48 hours prior to the meeting:**	Record

<table>
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- A.Oldeman noted that Essex is not a Stretch Code opt-in but he thinks it will be good to set a sustainability goal early on in the process
  - C.Hay added that sustainability drives cost and Essex is very cost conscious
  - C.Dell Angelo noted that there is more reimbursement from the MSBA for having a green school

</td><td></td></tr>
<tr><td>4.10</td><td>Public Comment:</td><td>Record</td></tr>
<tr><td>4.11</td><td>Adjourn:

Roll Call Vote: A motion to adjourn the meeting was made at 7:23pm by C.Hay and seconded by M.Gerhardt
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<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
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Jen Hocherman	Yes	
Michael Gerhardt		
Timonthy McDonald		
David Pereen	Advisor – No Vote	
Lisa O'Donnell	Advisor – No Vote	

Sincerely,
DORE + WHITTIER
Jacob Greco
Assistant Project Manager
Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.

Essex Elementary School Project

School Building Committee Meeting #04

August 26, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 3 20250722
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - DWMP Invoice No. 3 $22,921.50
   - JCJ Contract - $900,000 ($600,000 for JCJ Services & $300,000 for Environmental/Site Consultants)
   - BRR #1
4. Designer Introduction: JCJ Architecture
5. Review Project Schedule
6. Introduce Visioning Plan
7. Review Working Groups
8. Upcoming Meetings
9. Other Topics not Reasonably Anticipated 48 hours prior to the meeting
10. Public Comment
11. Adjourn

SBC Meeting Agenda – August 26, 2025 @ 6:00 PM

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Budget Details

Feasibility Study Agreement:

OPM-$300,000

Designer-$930,000

Environmental & Site-$225,000

Other-$45,000

Revised FSA:

OPM-$450,000

Designer-$600,000

E&S-$300,000

Other-$150,000

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YOUR TEAM

MSBA

ESSEX ELEMENTARY SCHOOL

MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT

DORE + WHITTIER
OWNERS PROJECT MANAGER

JCJARCHITECTURE, P.C.

1 ARCHITECTURE | 18 SPECIFICATIONS | 19 LIBRARY/MEDIA | 24 CODE | 25 ACCESSIBILITY/UNIVERSAL DESIGN | 27 FF&E

James E. LaPosta, Jr. FAIA, LEED AP, MCPPO
PRINCIPAL-IN-CHARGE AND COMMUNITY ENGAGEMENT
(MA REG #30304)

Fawn Walton Pellegrini AIA, LEED AP, MCPPO
PROJECT MANAGER

Jeffrey K. Elliott AIA, LEED AP BD+C
PROJECT DESIGNER (MA REG #31822)

Dustin Lombardi AIA
PROJECT ARCHITECT (MA REG #952501)

Emily E. Czarnecki NCIDQ
LEAD INTERIOR DESIGNER AND FF&E

Jillian Gibbs NCIDQ, LEED AP ID+C
INTERIOR DESIGNER

Eric Haggstrom AIA, LEED AP
SUSTAINABILITY DESIGNER (MA REG #50318)

Roy C. Olsen RA, CCS, CSI, LEED AP
SPECIFICATIONS CONSULTANT

CONSULTANTS

2 EDUCATIONAL PROGRAMMING MLP INTEGRATED DESIGN MIKE PIROLLO, ALEP	**3 CIVIL ENGINEERING** SAMIOTES CONSULTANTS WBE STEPHEN POWERS, PE, LEED AP MA# 45896	**4 LANDSCAPE ARCHITECTURE** STUDIO 2112 WBE LYNNE GIESECKE, ASLA MA# 1621	**5 STRUCTURAL ENGINEERING** RSE ASSOCIATES MBE SOFYA AUREN, PE MA# 48825	**6 FIRE PROTECTION** C.A. CROWLEY ENGINEERING WBE RAYMOND VINCENT, PE MA# 46528	**7 PLUMBING ENGINEERING** C.A. CROWLEY ENGINEERING WBE RAYMOND VINCENT, PE MA# 46528
8 HVAC ENGINEERING GGD CONSULTING ENGINEERS DOMINICK B. PUNIELLO PE, CEM, LEED AP MA# 48326	**9 ELECTRICAL / LIGHTING ENGINEERING** GGD CONSULTING ENGINEERS DAVID M. PEREIRA, PE MA# 49310	**10 DATA / COMMUNICATIONS** GGD CONSULTING ENGINEERS DAVID M. PEREIRA, PE MA# 49310	**11 ENVIRONMENTAL PERMITTING** SAMITOES CONSULTANTS WBE STEPHEN POWERS, PE, LEED AP MA# 45896	**12 GEOTECHNICAL ENGINEERING** MCPHAIL ASSOCIATES JONATHAN W. PATCH, PE MA# 47156	**13 GEOENVIRONMENTAL ENGINEERING** MABBETT & ASSOCIATES SDVOBE STEPHEN VETERE, PE, LSP, LEP MA# 45240
14 HAZARDOUS MATERIALS MABBETT & ASSOCIATES SDVOBE MICHAEL DELANEY MA# AI901152	**15 COST ESTIMATING** A.M. FOGARTY PETER TIMOTHY	**16 KITCHEN / FOOD SERVICE CONSULTANT** CRABTREE MCGRATH ASSOCIATES, INC. JOHN SOUSA, JR.	**17 LABORATORY CONSULTANT** JCJARCHITECTURE EMILY CZARNECKI, NCIDQ	**18 ACOUSTICAL CONSULTANT** NEWCOMB + BOYD BRANDON WESTERGAARD, INCE	**19 SPECIFICATIONS** JCJARCHITECTURE ROY C. OLSEN RA, CSI, CCS, LEED AP
20 LIBRARY/MEDIA JCJARCHITECTURE EMILY CZARNECKI, NCIDQ	**21 TECHNOLOGY / AUDIO VISUAL CONSULTANT** NEWCOMB + BOYD BO LARAIA, RCDD BRITTON GATES, CTS-D	**22 THEATRICAL CONSULTANT** NEWCOMB + BOYD KRIS KUIPERS CTS-D, CTS-I	**23 SUSTAINABLE, GREEN DESIGN, RENEWABLE ENERGY** SODEN SUSTAINABILITY WBE COLLEEN RYAN SODEN, LEED AP BD+C, IDC	**24 CODE CONSULTANT** JCJARCHITECTURE DUSTIN LOMBARDI, AIA MA#952501	**25 ACCESSIBILITY/UNIVERSAL DESIGN CONSULTANT** JCJARCHITECTURE DUSTIN LOMBARDI, AIA MA# 952501
	26 TRAFFIC CONSULTANT GREENMAN-PEDERSEN REBECCA BROWN, PE, PTOE MA# 49112	**27 FURNITURE, FIXTURES AND EQUIPMENT** JCJARCHITECTURE EMILY CZARNECKI, NCIDQ	**28 SITE SURVEYING** SAMITOES CONSULTANTS WBE DANIEL FLEMING, PLS MA# 55476	**29 SECURITY CONSULTANT** GOOD HARBOR TECHMARK MATTHEW ALLAIN	

STEPPING INTO A PROCESS

The School District's Process Began with 3 Schools in Need



THE TOWN OF ESSEX









ESSEX ELEMENTARY SCHOOL
ESSEX, MASSACHUSETTS









DESIGN THAT SUPPORTS **ADAPTABILITY**







DESIGN THAT PROMOTES **EQUITY**







DESIGN THAT BUILDS **COMMUNITY**







DESIGN THAT CREATES A **SENSE OF PLACE**











HEALTH & WELLNESS

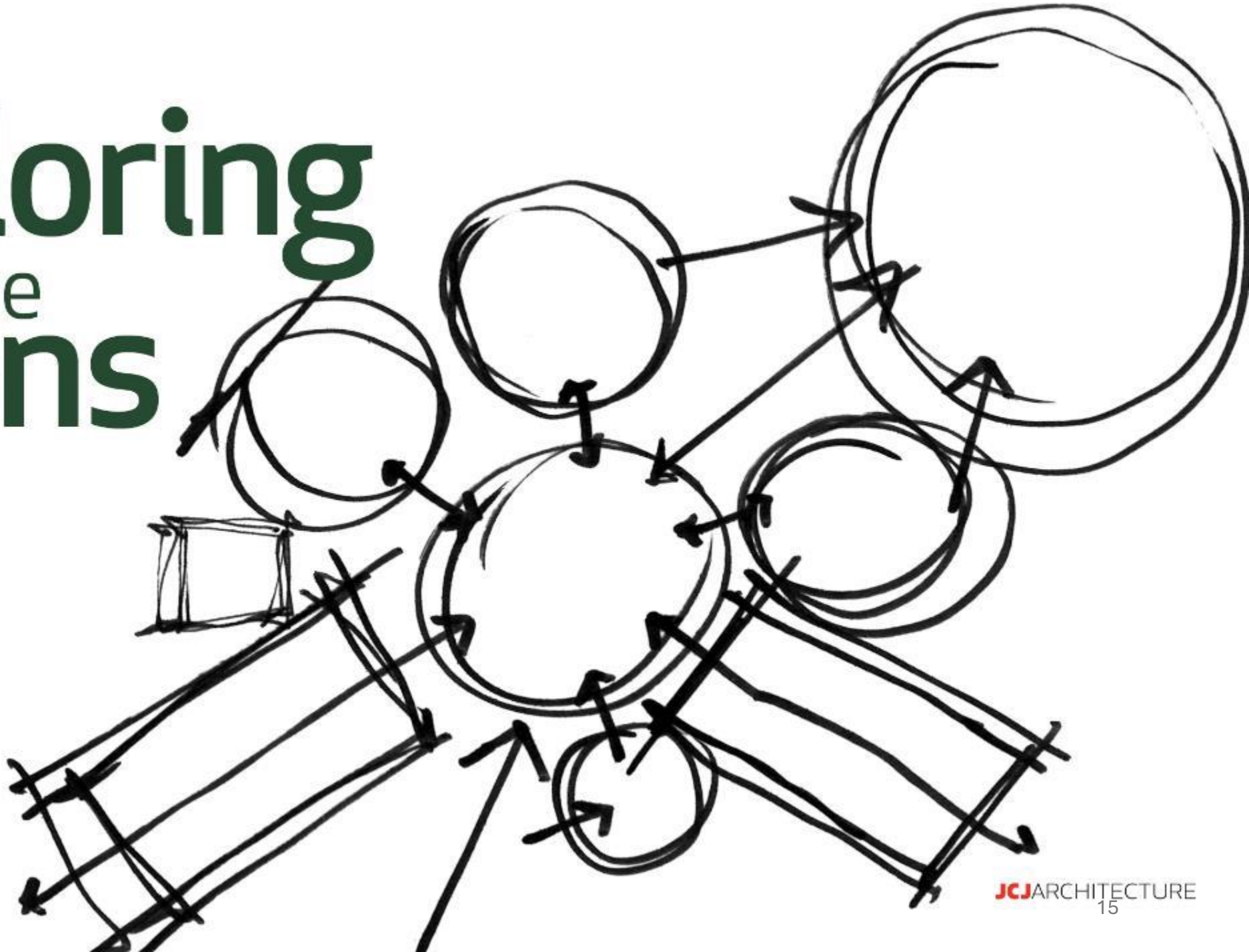




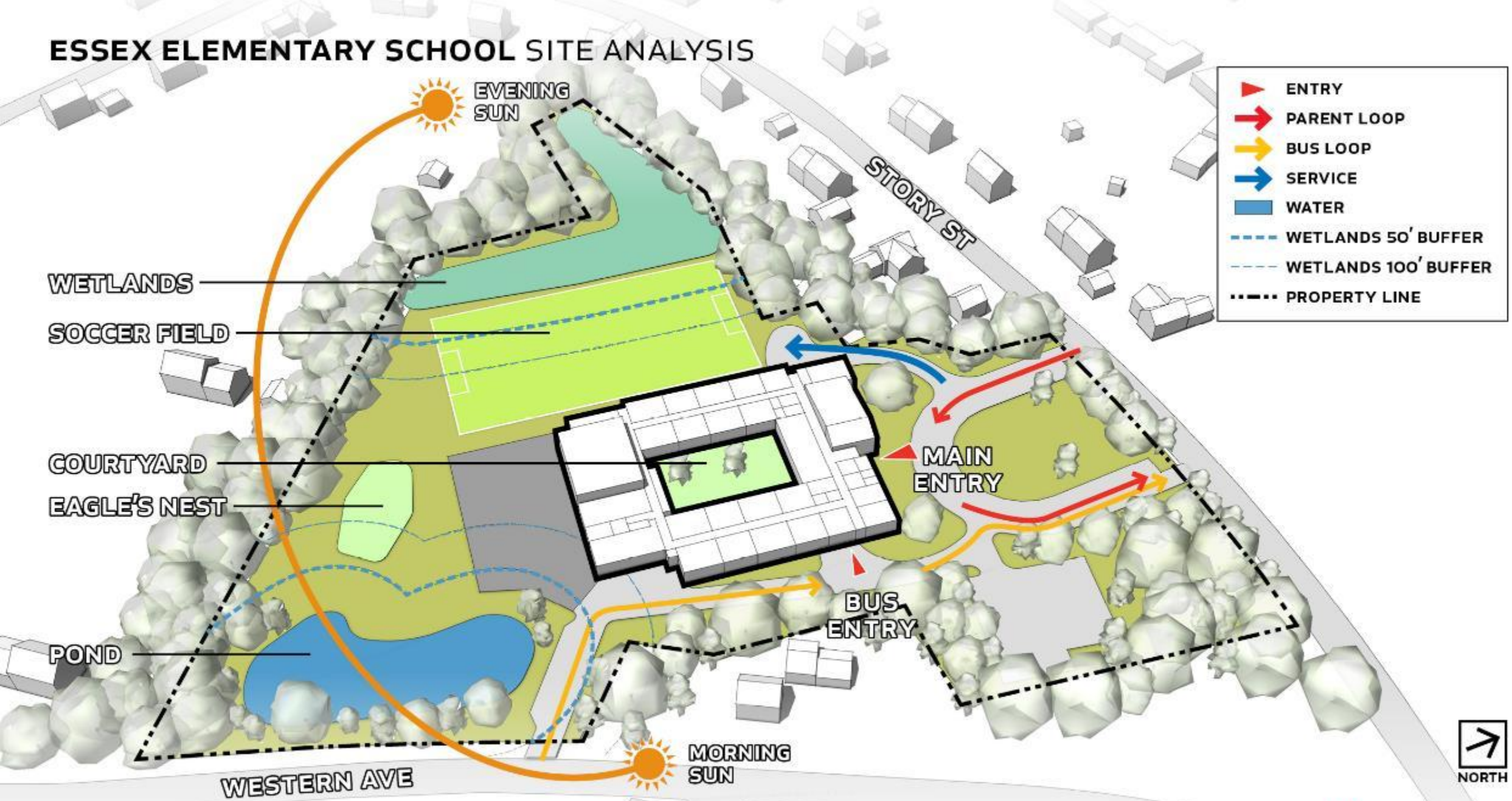




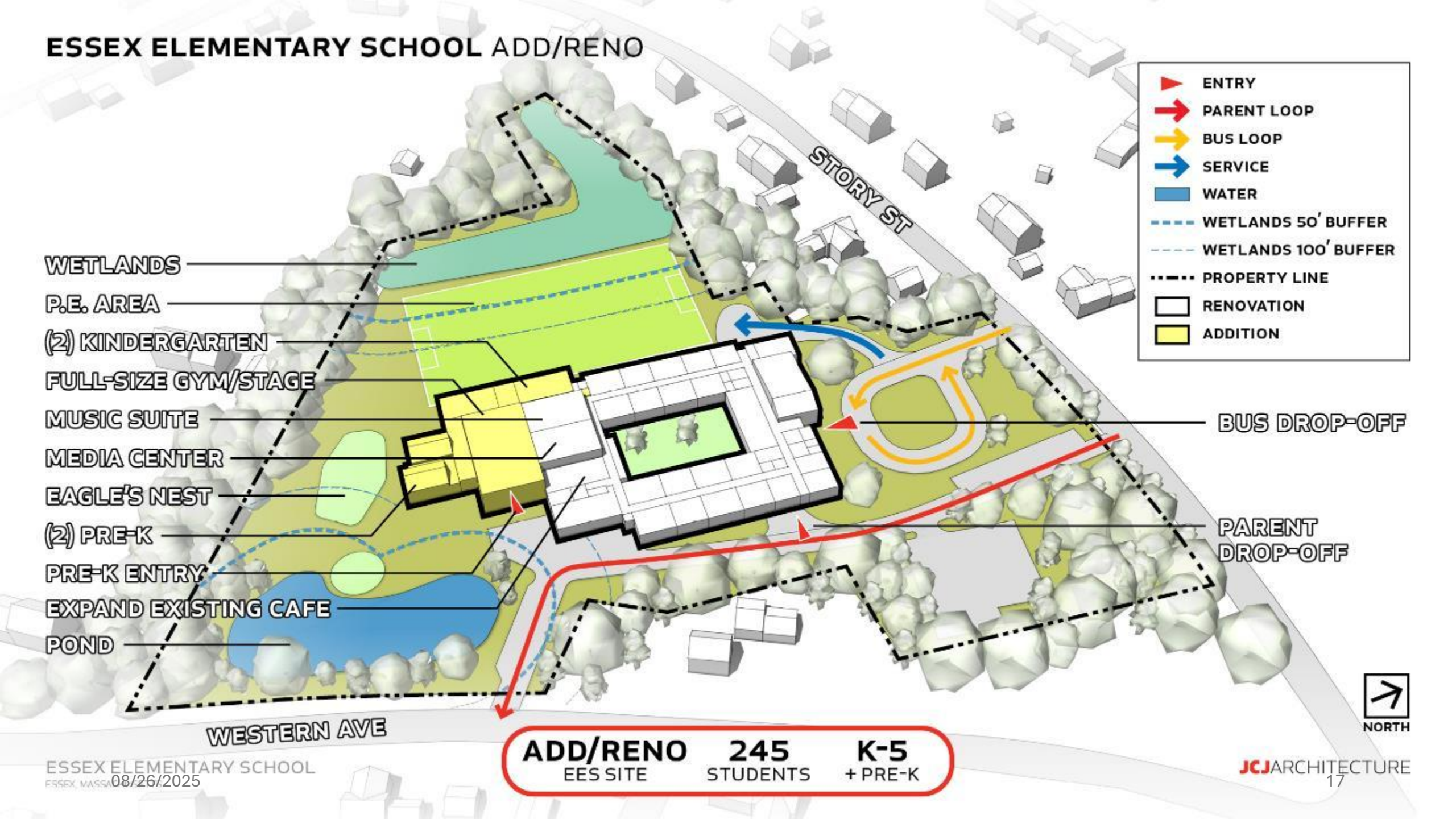
Exploring the Options



ESSEX ELEMENTARY SCHOOL SITE ANALYSIS

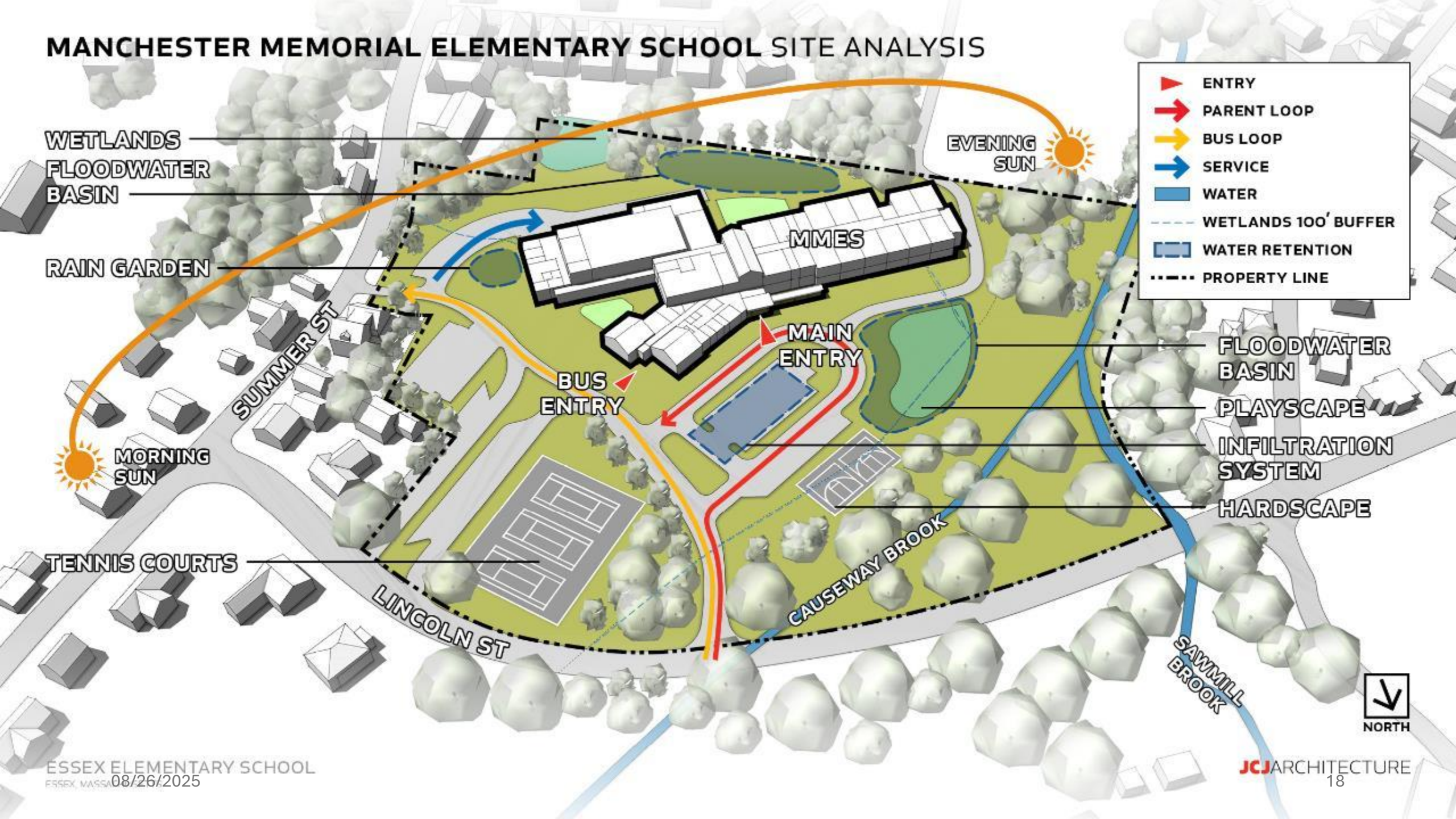


ESSEX ELEMENTARY SCHOOL ADD/RENO

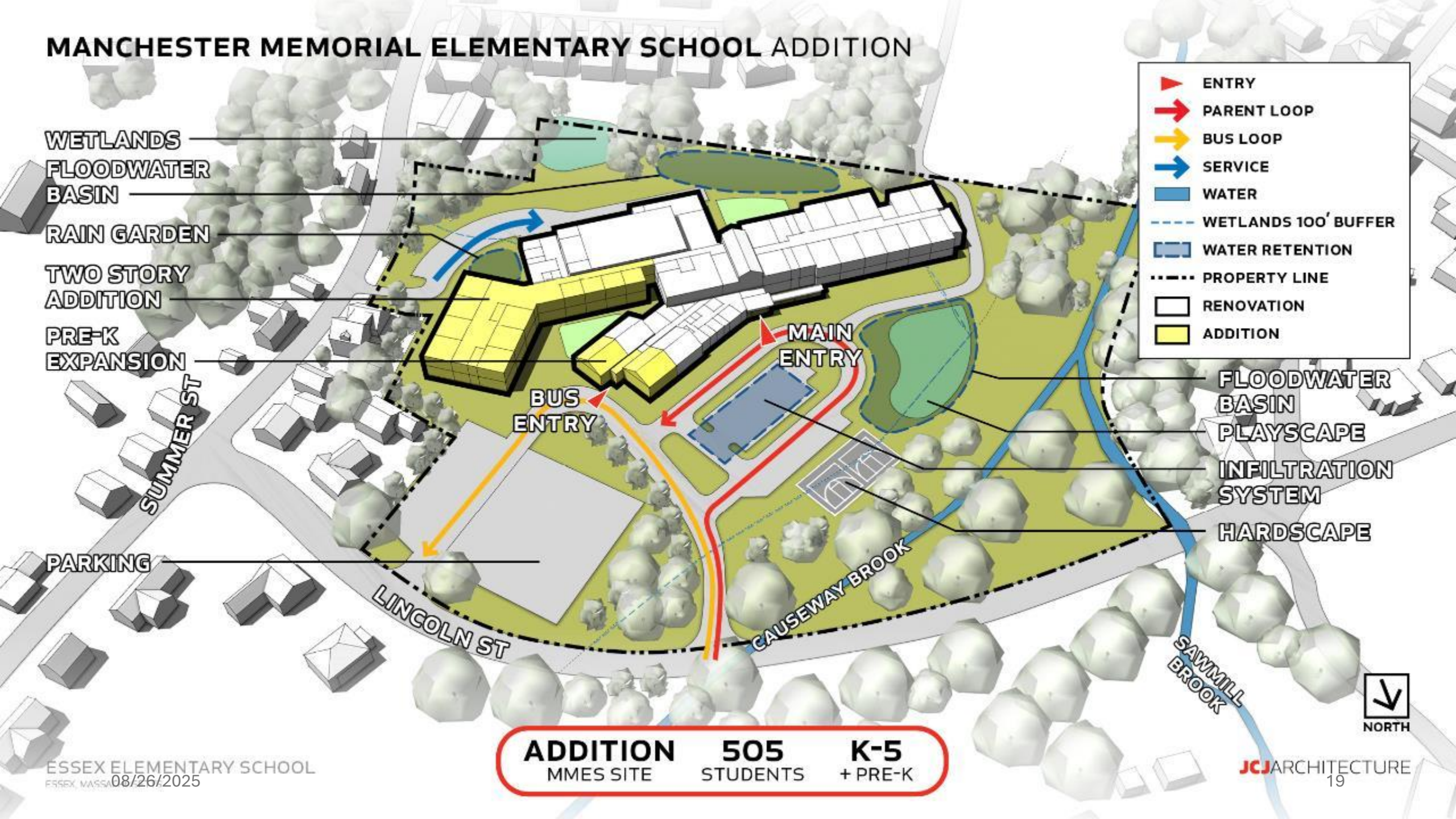


ADD/RENO EES SITE | **245** STUDENTS | **K-5** + PRE-K

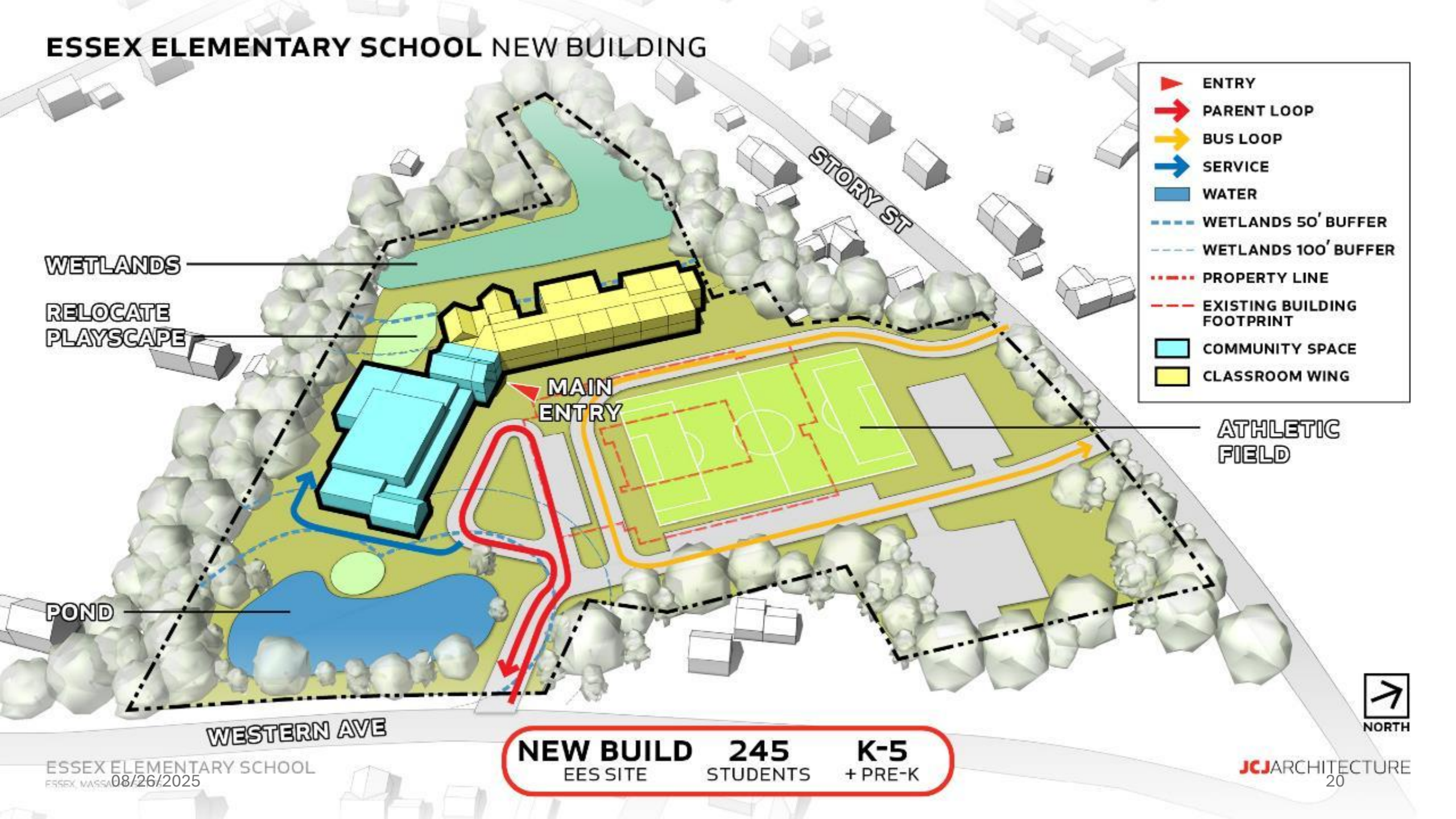
MANCHESTER MEMORIAL ELEMENTARY SCHOOL SITE ANALYSIS

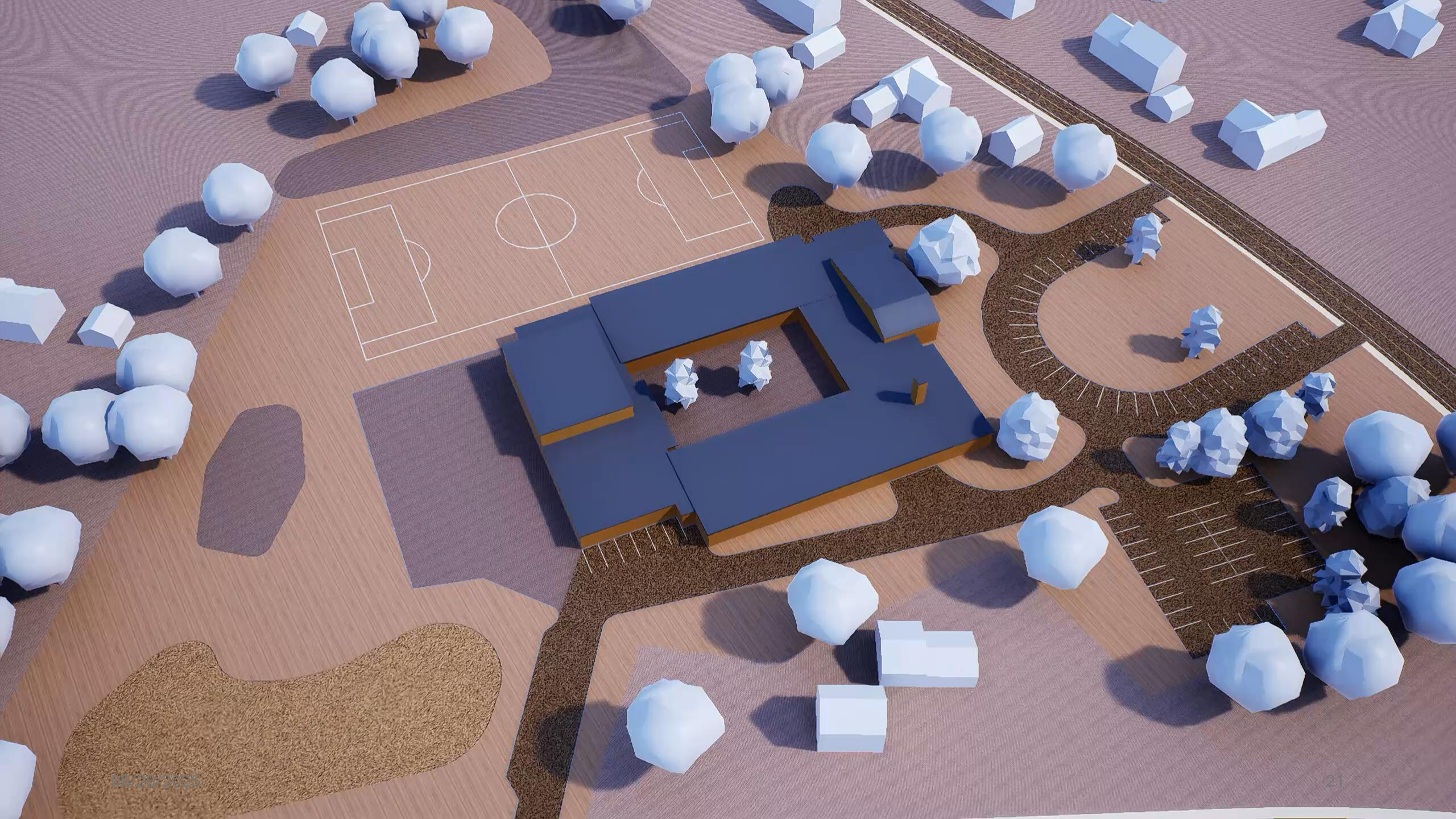


MANCHESTER MEMORIAL ELEMENTARY SCHOOL ADDITION

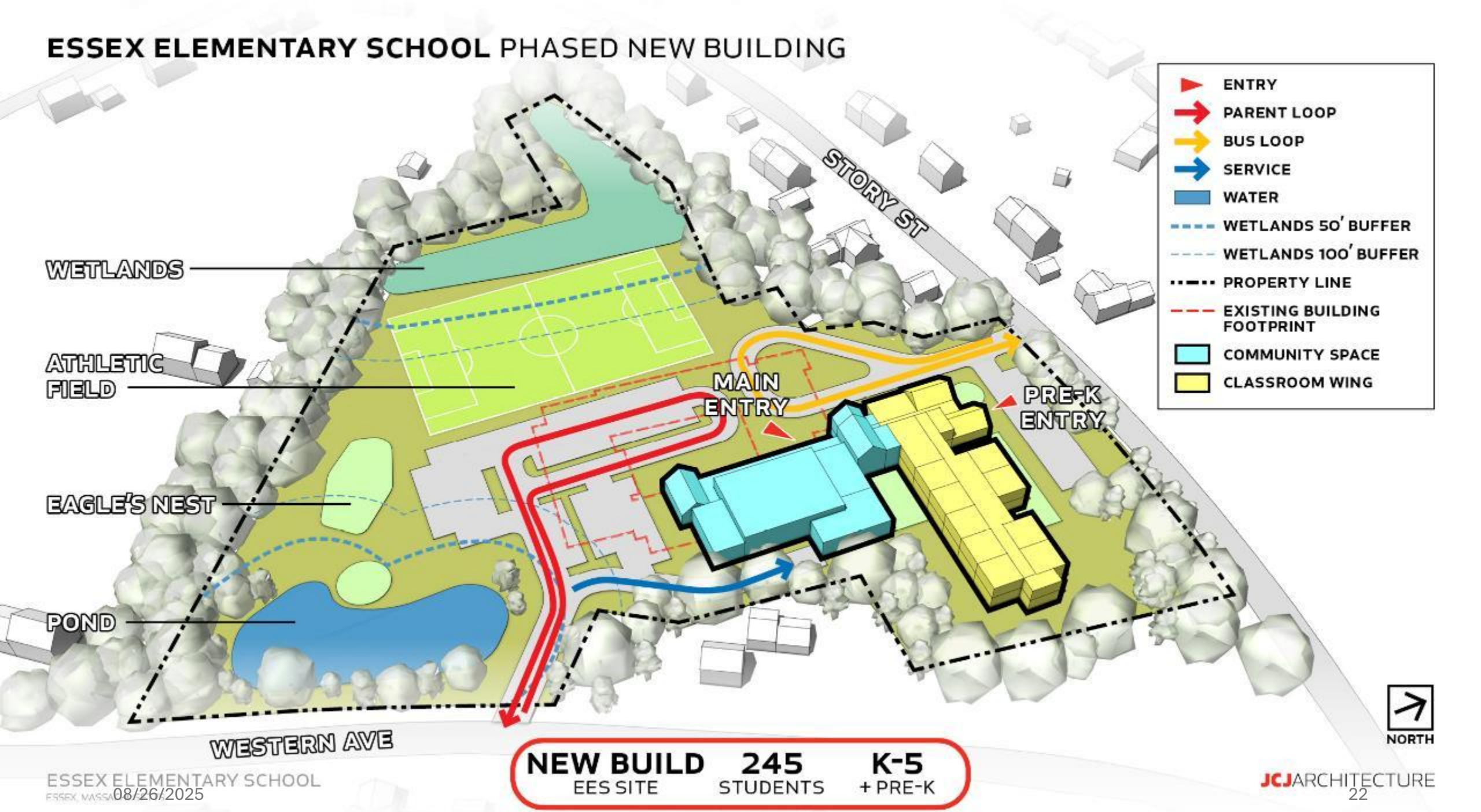


ADDITION MMES SITE | **505** STUDENTS | **K-5** + PRE-K

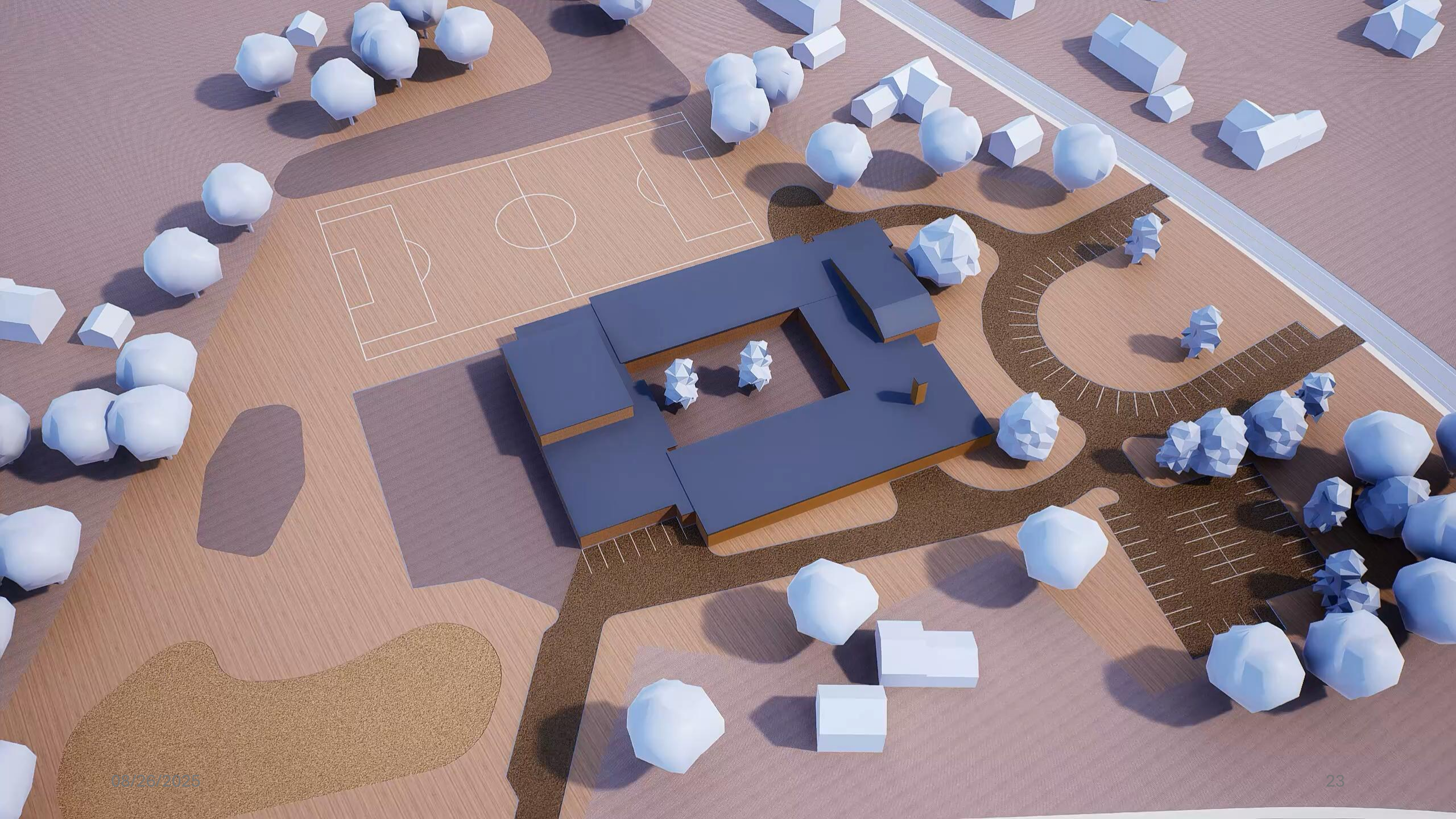

ESSEX ELEMENTARY SCHOOL NEW BUILDING
ENTRY
PARENT LOOP
BUS LOOP
SERVICE
WATER
WETLANDS 50' BUFFER
WETLANDS 100' BUFFER
PROPERTY LINE
EXISTING BUILDING FOOTPRINT
COMMUNITY SPACE
CLASSROOM WING
STORY ST
WETLANDS
RELOCATE PLAYSCAPE
MAIN ENTRY
ATHLETIC FIELD
POND
WESTERN AVE
NORTH
NEW BUILD EES SITE
245 STUDENTS
K-5 + PRE-K



ESSEX ELEMENTARY SCHOOL PHASED NEW BUILDING



NEW BUILD EES SITE | **245** STUDENTS | **K-5** + PRE-K



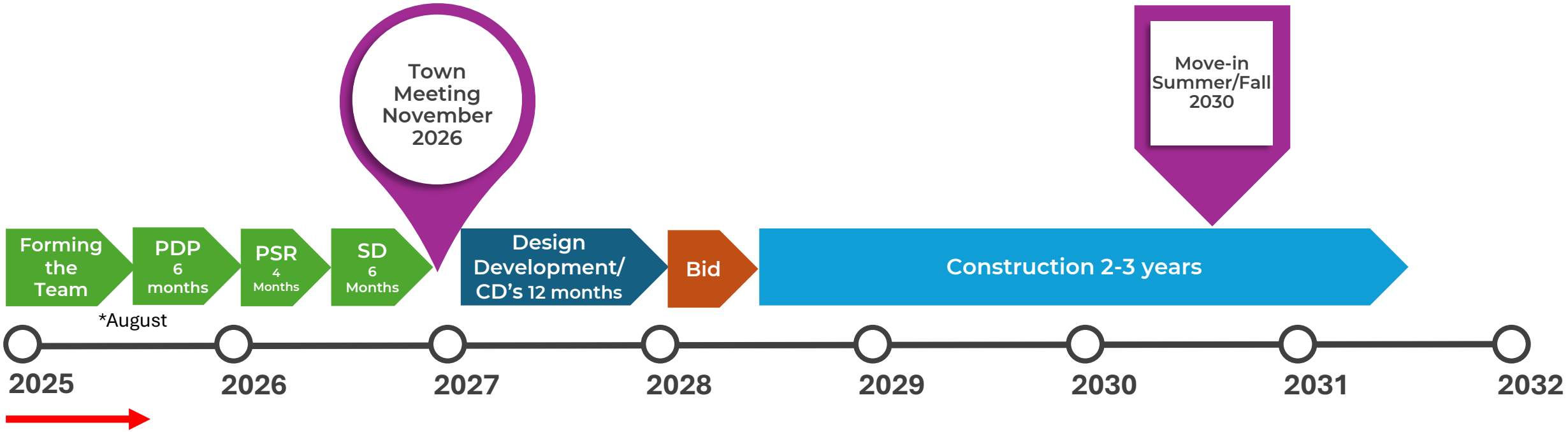

ESSEX ELEMENTARY SCHOOL
ESSEX, MASSACHUSETTS
JCJARCHITECTURE



SBC Meeting Agenda – August 26, 2025 @ 6:00 PM

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11. Adjourn

Anticipated Project Timeline



We are here

Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

DORE + WHITTIER

Preliminary Design Program

- Review Educational Plan
- Educational Visioning
- Space Summary
- Existing Conditions Review
- Preliminary Evaluation of Alternatives
    - Multiple enrollments, Reno, Add/Reno, New Construction (includes many options to review)

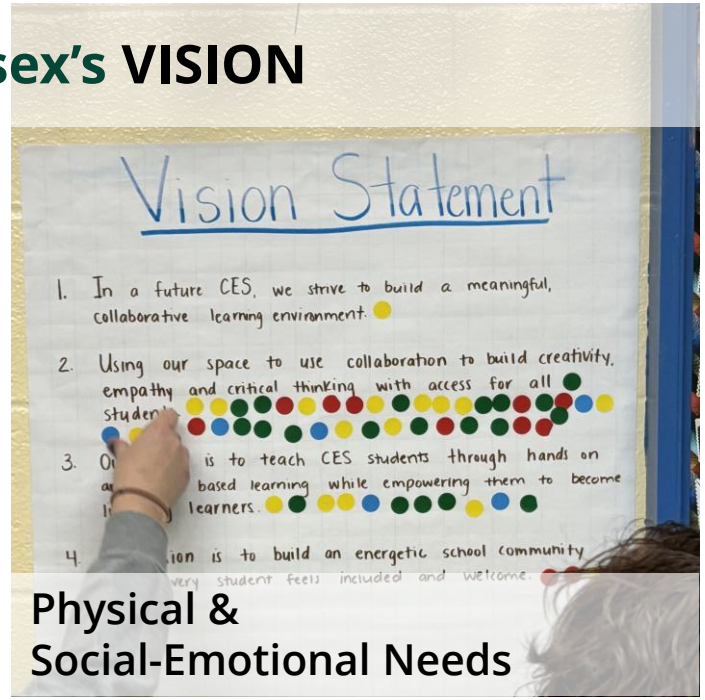
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11. Adjourn

BUILDING Manchester Essex's VISION



Educational &
Community Priorities



Physical &
Social-Emotional Needs



Developmental Impacts &
Enrollment Scenarios



Program
Adjacencies



High-Quality
Instructional Practices

Key Considerations for Enrollment Studies



Child Development & Transitions

Grade span and developmental alignment

Number of student & family transitions

Sense of belonging

Social-emotional impacts

Student identity and role in school



Instructional Quality & Program Equity

Equal access to specials and supports

Consistency of program offerings

Staffing organization and distribution

Equitable distribution of resources

Equity in overall educational experience



Building Use & Family Logistics

Individual building capacity

Balanced enrollment across sites

Travel time and transportation impacts

Family rountines and community use

Community identity and role in school

SBC Meeting Agenda – August 26, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 3 20250722
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - DWMP Invoice No. 3 $22,921.50
   - JCJ Contract - $900,000 ($600,000 for JCJ Services & $300,000 for Environmental/Site Consultants)
   - BRR #1
4. Designer Introduction: JCJ Architecture
5. Review Project Schedule
6. Introduce Visioning Plan
7. Review Working Groups
8. Upcoming Meetings
9. Other Topics not Reasonably Anticipated 48 hours prior to the meeting
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Proposed Working Groups

Communication Working Group	Ed Planning	Facilities Assesmen/Building Systems
Lisa O'Donnell	Kim Provost	Theresa Whitman
Theresa Whitman	Henry Ottinger	David Pareen
Annie Cameron	Annie Cameron	Gordon Brewster
		Lisa O'Donnell
		Michelle Cresta
		Andy Oldeman

Proposed Working Groups

Financial Review	Design	Site Logistics
Michelle Cresta	John Binieris	Ruth Pereen
Mike Gerhardt	Theresa Whitman	Mike Gerhardt
Andy Oldeman	David Pareen	Lisa O'Donnell
Theresa Whitman	Gordon Brewster	Gordon Brewster
John Binieris	Ariel Brain	David Pareen
	Charlie Hay	Theresa Whitman
	Kim Provost	Jen Hocherman
	Michelle Cresta	
	Jen Hocherman	

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Upcoming Meetings

- September 15, 2025
- September 30, 2025
- Community Meeting No. 1 October 8, 2025
- October 14, 2025
- October 28, 2025
- November 6, 2025
- Community Meeting No. 2 November 20, 2025
- November 25, 2025
- Community Meeting No. 3 December 9, 2025
- December 15, 2025

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MEETING AGENDA

Meeting Date: September 15, 2025
Meeting Time: 6:00PM – 8:00PM
Project Name: Essex Elementary School
Project Number: 202306980020
Meeting Purpose: School Building Committee Meeting
Location: This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link: https://us06web.zoom.us/j/85349809336

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 4 20250826
3. Work Plan
4. Visioning Plan
5. Existing Conditions
6. Apple Street/Site Selection/Evaluation
7. Communication Working Group – Report Out
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	09/15/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	Jacob Greco

Present	Name	Affiliation
√	Michelle Cresta	Director of Finance & Operations
√	Pam Beaudoin	Superintendent
√	Kim Provost	Principal
√	Theresa Whitman	SBC Co-Chair
√	John Binieris	SBC Co-Chair
	Ruth Pereen	Essex Board of Selectman Chair
√	Andy Oldeman	Manchester Finance Committee / Director of Engineering (Structural Engineer)
√	Charlie Hay	Architect School Building Experience
	Gordon Brewster	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
√	Tyler Virden	Project Executive -Wise Construction / Paren
√	Annie Cameron	Former SC Member and Memorial SBC Member
√	Ariel Fernando Brian	Architect - CBT
√	Jen Hocherman	Architect - Partner SV Design
√	Michael Gerhardt	Civil Engineer / Parent
	Timonthy McDonald	Architect - Onion Flats
√	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
√	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
	John Albright	Project Manager - DWMP
	Rachel Rincon	Assistant Project Manager - DWMP
√	Jacob Greco	Assistant Project Manager - DWMP
√	James LaPosta	Principal - JCJ Architecture
√	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
√	Jeff Elliott	Project Architect - JCJ Architecture
√	Mike Pirollo	Principal – MLP Integrated Design

DORE + WHITTIER

Item No.	Action Item	Requested by	Ball in Court
5.6	Provide feedback on the site selection criteria	Project Team	SBC Members
5.3	Schedule meetings with the Facilities Assessment Building Systems subgroup to review consultant reports once they are completed	SBC	JCJ

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

Item No.		Description
5.1	**Call to Order & Intro:** Called to order by T.Whitman at 6:14pm, please refer to the attendee list.	Record
5.2	**Approval of August 26 - 2025, Meeting Minutes:** **Roll Call Vote:** A motion to approve the August 26, 2025, Meeting Minutes made by A.Cameron and seconded by C.Hay.	Record

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Abstain
Theresa Whitman	Abstain

	Ruth Pereen	
	Andy Oldeman	Yes
	Charlie Hay	Yes
	Gordon Brewster	Yes
	Tyler Virden	Yes
	Annie Cameron	Yes
	Ariel Fernando Brian	Yes
	Jen Hocherman	Yes
	Michael Gerhardt	Yes
	Timonthy McDonald	
	David Pereen	Advisor – No Vote
	Henry Oettinger	Yes
	Lisa O'Donnell	Advisor – No Vote

5.3	**Work Plan**
	• F.Pellegrini introduced herself as she was not at the first meeting with JCJ.
	• F.Pellegrini shared the activity that has been conducted since the first meeting (Slide 5)
	• F.Pellegrini shared the current Preliminary Design Program (PDP) work plan (Slide 6)
	  ○ C.Dell Angelo noted that this is being shown for a general overview and not to be gone through line by line at this meeting. She also shared the upcoming SBC meetings and their general agendas which F.Pellegrini reviewed (Slide 7)
	• A.Cameron clarified that there are two community meetings
	  ○ C.Dell Angelo noted there are three: October 8th, November 20th, December 9th
	  ○ A.Cameron asked if they had three during the PDP for the last project
	  • C.Dell Angelo noted that they thought it would be important to share the PDP cost estimates or at the very least a range of them as C.Hay noted that maybe it won't be best to share those numbers
	  • F.Pellegrini noted they can use the cost just for comparison purposes and do not have to share direct costs
		Record

5.4	**Visioning Plan** • C.Dell Angelo reviewed the upcoming visioning plan and meetings (Slide 9) • M.Priollo added that the leadership group's goal is to take the high level plan they have and get more granular to help produce the building adjacencies. He noted that the visioning sessions are for getting input from a broader source • P.Beaudoin noted that if anyone is curious as to what the ed plan looks like it is posted to their website, there may be updates through the process which will be added	Record

5.5	**Existing Conditions**
	
	• F.Pellegrini shared an update on the existing conditions review for the Essex Elementary School (Slide 11)
	• T.Whitman asked how the facilities assessment subcommittee fall into this plan
	  ○ C.Dell Angelo noted that once the reports are received and reviewed by the project team, they can host a meeting with the subcommittee and then report out to the full SBC
	• A.Cameron asked if there is a gab in knowledge about the building or does the Habeeb report capture everything
	  ○ C.Dell Angelo noted that S.Hunt has been at the building for a long time and can provide information if there are any questions
	• C.Hay asked about the geotech and environmental surveys and thinks that Apple Street location deserves at least a day of environmental survey to see what the site conditions are like
	  ○ C.Dell Angelo noted that the next agenda topic will touch on this and cover the evaluation of the selected sites
	• P.Beaudoin asked what type of things will be conducted that the Habeeb report did not cover
	  ○ F.Pellegrini stated that with hazardous materials as an example they would come in and conduct a review to say what would have to be removed or remediated if they did an add/reno and this will follow suit for all disciplines
		Record

5.6	**Apple Street/Site Selection/Evaluation**
	
	• J.Elliott reviewed the three (3) selected potential sites for the future Essex Elementary School including both opportunities, constraints & unknowns (Slide 13 - 16)
	  ○ A.Cameron clarified that bringing utilities to the site is fully on the District but once it is on the site it is reimbursed
	  • J.LaPosta noted that everything on the property will be eligible to be reimbursed but there are caps on the reimbursement
	  ○ T.Virden added that a big part of evaluating the site will be access, traffic & how the site circulation will work
	  ○ C.Hay noted that it would be important to see the impact of how many people live around each site and see if one or the other will allow for more access for walking and biking. He added that Apple Street is a scenic way and is not supposed to be modified and there is also multiple bridges on both access roads. C.Hay also shared that Apple Street is a dangerous road and people drive too fast on it
	  ○ T.Whitman noted that Apple Street was brought forth by the town administrators and asked A.Cameron if the select board is still discussing this
	  • A.Cameron noted they are still not talking about it, but she shared how during the high school there were lots of comments about were all the locations reviewed, and she wants to make sure that they are for this project
	  • T.Whitman noted she has a list of all the town owned parcels and thinks they should go through an informal study of these to make sure they are not missing any locations
	  • P.Beaudoin said that she thinks they would need to make a request to the board of selectman to ask for any town parcels that meet the criteria and that they want to be considered for the project. She noted that the SBC cannot just choose town owned land to be used, it has to be provided and agreed to be leased by the board of the selectman
	  • A.Cameron stated that she did not think the regional high school sites were officially offered during the process
	  • P.Beaudoin asked what process they should follow to satisfy the requirement of reviewing these sites.
		Record

	She noted that the project team should write a letter to the board of selectmen to provide a list of available sites that they would be willing to provide • C.Dell Angelo reviewed the criteria matrix that they will use to evaluate the three sites and asked the SBC to review it and let the project team know if there is anything they want to add or remove (Slide 17) ○ C.Hay noted that they should add future capacity as a criteria option ○ P.Beaudoin said they could go back to the MSBA if there is a finalized development that comes to town • C.Dell Angelo noted this is very tough subject with the MSBA and it is very rare for them to increase any enrollment. She agreed with C.Hay they should add this to the criteria • J.Elliot shared the one they will use for evaluating the future options they will develop (Slide 18) ○ C.Dell Angelo noted that this could change also if any of the sites drop off or are added and this is just showing the format as a lookahead ○ C.Dell Angelo asked that the SBC provide any updates or changes to the criteria by the end of the week so the project team can review it and update it for the September 30th meeting	
5.7	**Communication Working Group - Report Out** • C.Dell Angelo reviewed the first communication working group discussions and the community meeting (Slide 20) • A.Cameron asked who will be leading the tours that are taking place before the community meeting ○ C.Dell Angelo noted the project team can be here along with K.Provost and said that they can provide a poll to see who is around	Record
5.8	**Other Topics not Reasonably Anticipated 48 hours prior to the meeting:** • T.Whitman stated that everyone should have gotten an invite to the shared folder for community emails and said that five (5) of the emails were about the Apple Street location	Record

DORE + WHITTIER

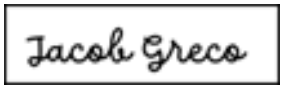
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- A.Cameron asked if they should start characterizing the letters for the record
  - T.Whitman noted yes and there were six (6) emails - five (5) against Apple Street location and one (1) against any new school and in favor of consolidation

</td><td></td></tr>
<tr><td>5.9</td><td>Public Comment:

Please review the recording here for public comment</td><td>Record</td></tr>
<tr><td>5.10</td><td>Adjourn:

Roll Call Vote: A motion to adjourn the meeting was made at 7:28 pm by A.Cameron and seconded by T.Virden
<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
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<tr><td>Kim Provost</td><td>Yes</td></tr>
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<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Adam Zaiger</td><td></td></tr>
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</table>
</td><td>Record</td></tr>
</table>

Sincerely,
DORE + WHITTIER
Jacob Greco

Assistant Project Manager
Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.

Essex Elementary School Project

School Building Committee Meeting #05

September 15, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 4 20250826
3. Work Plan
4. Visioning Plan
5. Existing Conditions
6. Apple Street/Site Selection/Evaluation
7. Communication Working Group – Report Out
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
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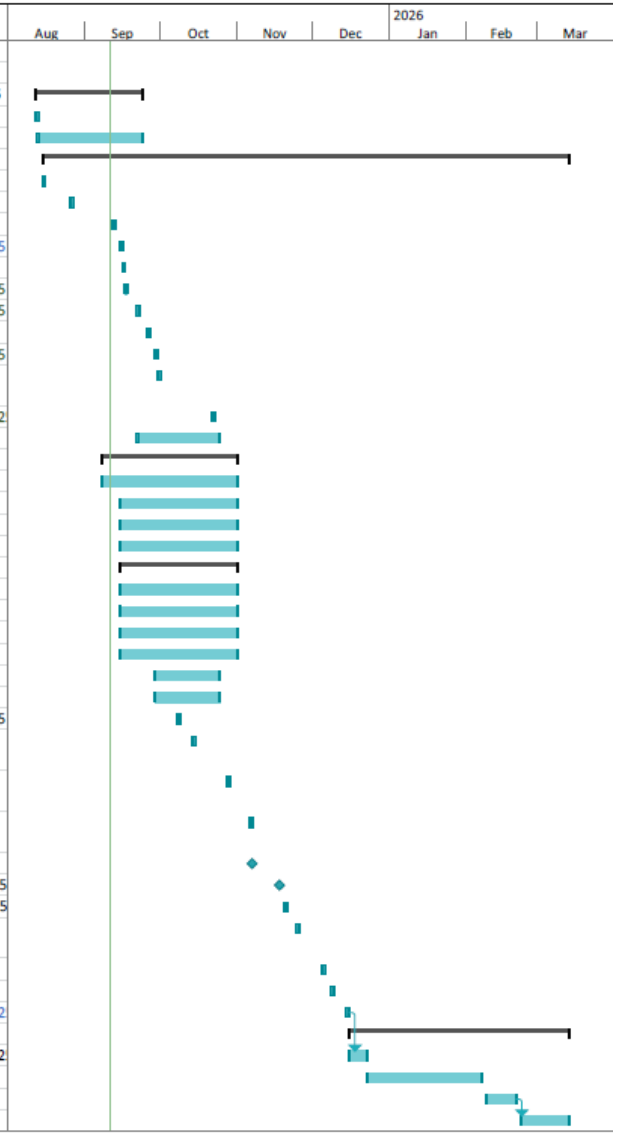
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10. Adjourn

Work Plan Review

- JCJ Architecture activity since our last SBC Meeting:
  - Discussed scope of services and solicited fees from our Consultants
  - Progressed Contract For Designer Services
  - Collaboratively drafted the Feasibility and Schematic Work Plan
  - Created the Educational Visioning Work Plan
  - Scheduled the Educational Visioning Meetings (September and October)
  - Began Architectural Existing Conditions Review at Essex ES

Work Plan Review

ID	Task Name	Duration	Start	Finish
1	Manchester Essex Regional School District			
2	**Essex Elementary School**			
3	**Designer Selection**	**31 days**	**Tue 8/12/25**	**Tue 9/23/25**
4	MSBA Designer Selection	1 day	Tue 8/12/25	Tue 8/12/25
5	Execute Contract	30 days	Wed 8/13/25	Tue 9/23/25
6	**Module 3: Feasibility Phase - PDP**	**151 days**	**Fri 8/15/25**	**Fri 3/13/26**
7	Kick Off Meeting: Dore + Whittier & District	1 day	Fri 8/15/25	Fri 8/15/25
8	SBC Meeting #4: Kick Off with JCJ	1 day	Tue 8/26/25	Tue 8/26/25
9	ESS Communications Working Group Meeting	1 day	Fri 9/12/25	Fri 9/12/25
10	SBC Meeting #5: Workplan Review, Evaluation Framework	1 day	Mon 9/15/25	Mon 9/15/25
11	Educational Visioning #1: Launch & Priorities	1 day	Tue 9/16/25	Tue 9/16/25
12	Educational Visioning #2: Shadow Day	1 day	Wed 9/17/25	Wed 9/17/25
13	Educational Visioning #3: Development, Belonging, Grad Configura	1 day	Mon 9/22/25	Mon 9/22/25
14	Educational Visioning #4: School Tours	1 day	Fri 9/26/25	Fri 9/26/25
15	Educational Visioning #5: Workshop-Specific Program Needs & Adj	1 day	Mon 9/29/25	Mon 9/29/25
16	SBC Meeting #6: Educational Visioning Update, Site Development Requirements, Sustainability Goals	1 day	Tue 9/30/25	Tue 9/30/25
17	Educational Visioning #6: Teaching, Learning & Space	1 day	Wed 10/22/2	Wed 10/22/2
18	Educational Visioning #7: Workshop Special Education & Related Se	25 days	Mon 9/22/25	Fri 10/24/25
19	**Existing Conditions Building Investigations**	40 days	Mon 9/8/25	Fri 10/31/25
20	Architectural	40 days	Mon 9/8/25	Fri 10/31/25
21	Regulated Materials	35 days	Mon 9/15/25	Fri 10/31/25
22	Structural	35 days	Mon 9/15/25	Fri 10/31/25
23	MEP/FP Systems (Possible Hydrant Flow Tests)	35 days	Mon 9/15/25	Fri 10/31/25
24	**Existing Conditions Site Investigations**	35 days	Mon 9/15/25	Fri 10/31/25
25	Civil and Infrastructure	35 days	Mon 9/15/25	Fri 10/31/25
26	Phase 1 Environmental Assessments	35 days	Mon 9/15/25	Fri 10/31/25
27	Geotechnical Studies	35 days	Mon 9/15/25	Fri 10/31/25
28	Environmental Noise Surveys	35 days	Mon 9/15/25	Fri 10/31/25
29	Food Service Program Meeting	20 days	Mon 9/29/25	Fri 10/24/25
30	Security Program Meeting	20 days	Mon 9/29/25	Fri 10/24/25
31	Community Meeting #1: Process, Schedule, Existing Conditions	1 day	Wed 10/8/25	Wed 10/8/25
32	SBC Meeting #7: Review Community Meeting #1 Feedback, Initial Space Summary	1 day	Tue 10/14/25	Tue 10/14/25
33	SBC Meeting #8: Preliminary Evaluation of Alternatives (Review), Acceptance of Space Summary	1 day	Tue 10/28/25	Tue 10/28/25
34	SBC Meeting #9: Preliminary Evaluation of Alternatives (Draft), Acceptance of Educational Program	1 day	Thu 11/6/25	Thu 11/6/25
35	Submit PDP Alternatives to Cost Estimator	0 days	Fri 11/7/25	Fri 11/7/25
36	SC Approval of Educational Program & Acceptance of Space Summa	0 days	Tue 11/18/25	Tue 11/18/25
37	Community Meeting #2: Sites & Alternatives Considered	1 day	Thu 11/20/25	Thu 11/20/25
38	SBC Meeting #10: Review Community Meeting #2 Feedback and Cost Estimate	1 day	Tue 11/25/25	Tue 11/25/25
39	Submit Draft PDP to SBC	1 day	Fri 12/5/25	Fri 12/5/25
40	Community Meeting #3: Review Draft PDP Results with Costs	1 day	Tue 12/9/25	Tue 12/9/25
41	SBC Meeting #11: Vote Approval of PDP	1 day	Mon 12/15/2	Mon 12/15/2
42	**MSBA PDP Submission and Review**	**64 days**	**Tue 12/16/25**	**Fri 3/13/26**
43	Submit PDP to MSBA	5 days	Tue 12/16/25	Mon 12/22/2
44	MSBA Review PDP and Comment - Timeframe TBD	34 days	Tue 12/23/25	Fri 2/6/26
45	Respond MSBA Comments and Resubmit	10 days	Mon 2/9/26	Fri 2/20/26
46	MSBA Accept PDP - Timeframe TBD	15 days	Mon 2/23/26	Fri 3/13/26



Work Plan Review: SBC Meetings During PDP Phase

SBC Meetings	Topics
Sept. 30, 2025	Educational Visioning Update, Site Development Requirements, Sustainability Goals
Oct. 14, 2025	Review Community #1 Feedback, Initial Space Summary
Oct. 28, 2025	Preliminary Evaluation of Alternatives (Review), Acceptance of Space Summary
Nov. 6, 2025	Preliminary Evaluation of Alternatives (Draft), Acceptance of Educational Program
Nov. 25, 2025	Review Community Meeting #2 Feedback, Cost Estimate
Dec. 15, 2025	Vote Approval of PDP

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Upcoming Visioning Meetings

- Leadership Group (District Staff)
  - 9/16-Launch and Priority Mapping
  - 9/17-Essex ES Shadowing
  - 9/26-Building Tour
  - 9/29-Program Workshop-Specific Program Needs & Adjacencies

- Visioning Sessions (Teachers, Families, Community Members)
  - 9/22-Development, Belonging, and Grade Configurations
  - 10/22-Teaching, Learning & Space

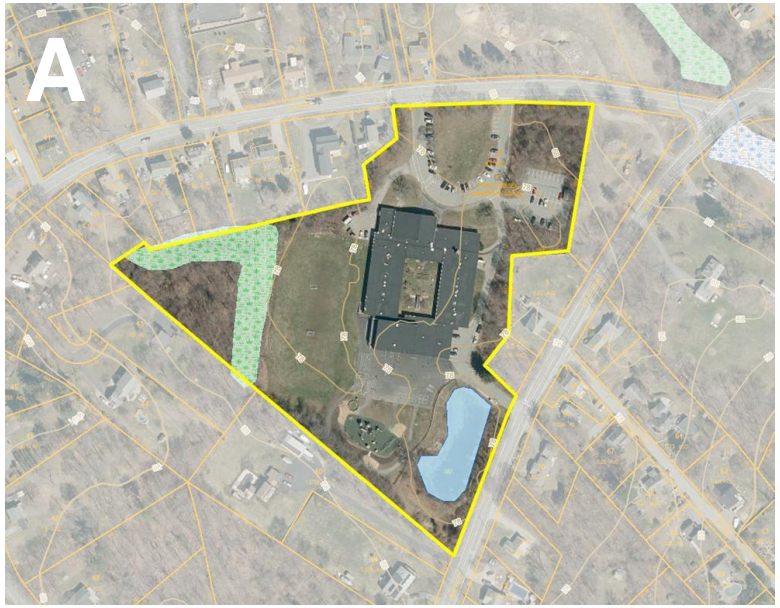
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Existing Conditions

- Received existing construction drawings of Essex ES
- Began Architectural Existing Conditions Review at Essex ES
- Scheduling Consultant Existing Conditions Reviews
  - Mechanical, Electrical, Plumbing, Information Technology and Audio/Visual
  - Structural
  - Civil and Infrastructure
  - Phase 1 Environmental Assessments & Regulated Material Investigations
  - Geotechnical
  - Survey
  - Environmental Noise Surveys
  - Traffic

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6. Apple Street/Site Selection/Evaluation
7. Communication Working Group – Report Out
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Adjourn

Identified Sites



Current Essex Elementary School

12 Story Street, Essex



Current Manchester Memorial Elementary School

43 Lincoln Street, Manchester



Apple Street Site

30 Apple Street, Essex

Current Essex Elementary School



Opportunities

Established identity in the community
Developed site utilities
Multiple options for site access

Constraints

Construction activities on occupied school site
Wetlands & pond
Some topography on north side of site

Unknowns

Soil conditions proximate to wetlands

Current Manchester Memorial ES



Opportunities

Developed site utilities

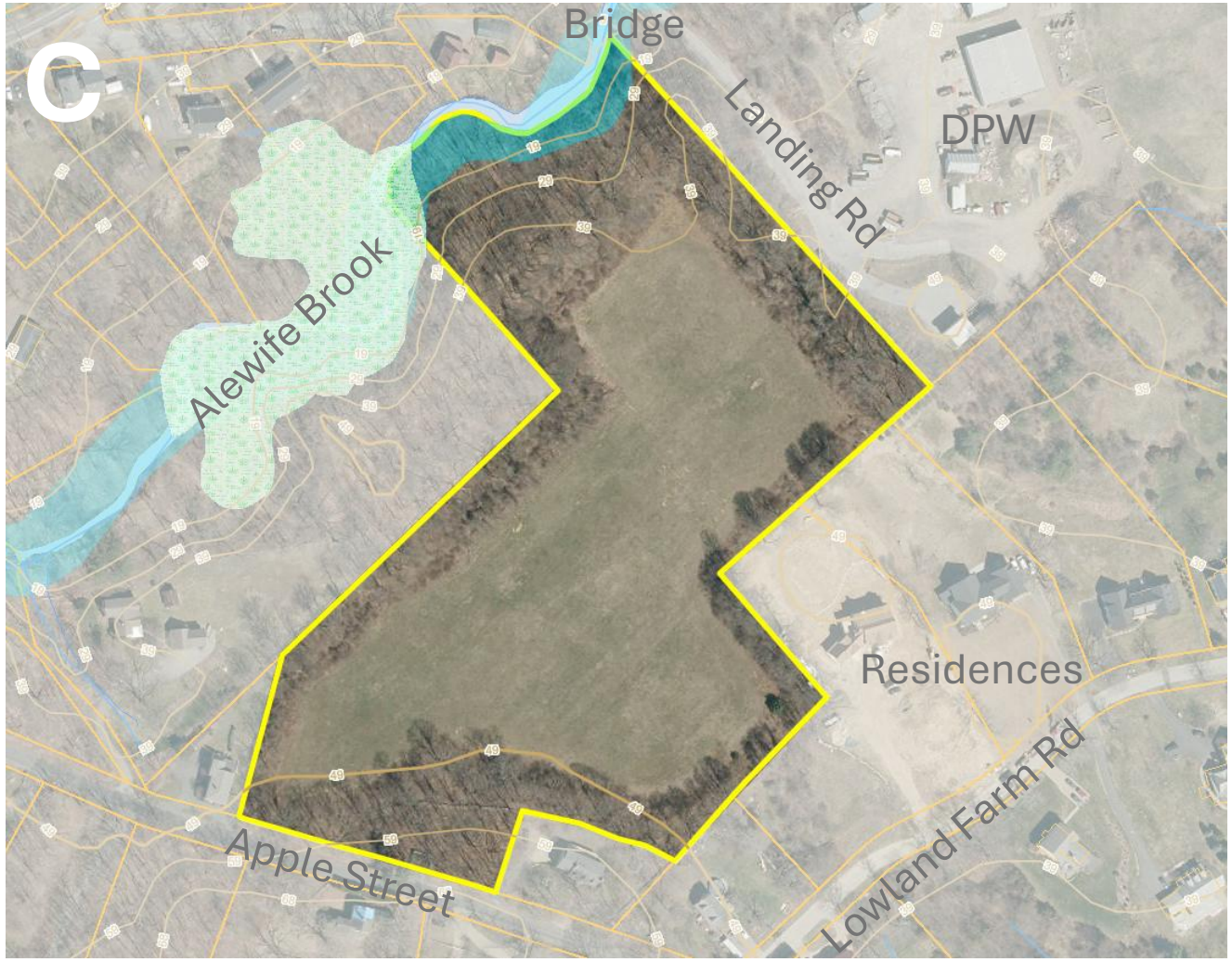
Constraints

Construction activities on occupied school site
Dense site with limited expansion options
Wetlands and flood zone
Transportation from Essex to Manchester Regional Agreement

Unknowns

MSBA funding considerations

Apple Street Site



Opportunities

No disruption to existing schools
Construction phasing

Constraints

Undeveloped site
Restricted site access
Impacts to adjacent residences

Unknowns

Environmental risks

Site Evaluation Criteria For Review

Legend	
	Not Preferable
	Nuetral
	Advantageous







ESSEX ELEMENTARY SCHOOL PROJECT SITE ALTERNATIVES	SITE A CURRENT ESSEX ES	SITE B CURRENT MMES	SITE C APPLE STREET
	12 STORY ST	43 LINCOLN ST	30 APPLE ST
Town Existing Acreage Zoning Parcel #	ESSEX 9.75 ACRES General Use District (GUD) 129-005	MANCHESTER 11.313 ACRES G 47-0-6	ESSEX 11.50 ACRES General Use District (GUD) 142-008
Town Owned			
Compatible with District Agreement			
Adequate Site Acreage / Buildable Area			
Adequate Site Access			
Meets Educational Need			
Maximizes Community Resources			
Minimizes Adverse Community / Social Impact			
Minimizes Impact to Neighbors			
Minimizes Environmental Impact			
Regulatory Considerations			
Minimizes Economic Impact (New roads, sitework, etc.)			
Access to Utilities			
Sub-surface Soil Conditions			

Evaluation of Design Options

Legend		
0.00		Not Preferable
1.00		Poor
2.00		Satisfactory
3.00		Advantageous
4.00		Highly Advantageous





ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN OPTIONS		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES	SITE C APPLE STREET	
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1	C2.1	C2.2
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation	New Construction	New Construction
Enrollment Grade Configuration		160 K-3	245 K-5	160 K-3	245 K-5	160 K-3	245 K-5	505 K-5	160 K-3	245 K-5
Educational Program	Delivery of Educational Program & Vision	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Provides Equity across the District	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Accomodates Future Growth and Expansion	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Provides Flexible and Adaptable Spaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Community	Heart of the Essex Community	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Create a Sense of Place	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Improve Access for Community Use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Enhance Safety and Security	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Compatible with Regional Agreement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Meets Sustainability Goals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site	Minimize Regulatory Impacts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Adapts to Existing Topography	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Neighborhood Traffic Impact	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Optimize Safety & Efficiency of Parent and Bus Drops	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Adequate Parking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Adequate Play and Athletics Fields	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Maximize Student Outdoor Educational Activities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building	Address facility Deficiencies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Visible Entries and Unobstructed Sight Lines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ability to Implement Energy Efficient Envelope	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Ability to Implement Energy Efficient Building Systems	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cost & Schedule	Cost Effective	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Maximize MSBA Grant Reimbursement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Phasing Minimizes Construction Duration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Accommodates Transition without Swing Space	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Adequate Construction Access and Staging	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Minimizes Impact to Site Parking and Athletic Fields	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Reduce Operational Costs over Lifespan of Building	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 4 20250826
3. Work Plan
4. Visioning Plan
5. Existing Conditions
6. Apple Street/Site Selection/Evaluation
7. Communication Working Group – Report Out
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Adjourn

Communications WG Report Out

- Save the Date
- Electronic Flyer Distribution (ParentSquare, Blackboard, Town email distributions)
- Every Direct Door Mailers to both Manchester and Essex
  - Date, Time, Agenda, Hybrid meeting
- Facebook page updates
- Website updates with electronic flyer detail

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8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Adjourn

SBC Meeting Agenda – September 15, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 4 20250826
3. Work Plan
4. Visioning Plan
5. Existing Conditions
6. Apple Street/Site Selection/Evaluation
7. Communication Working Group – Report Out
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Adjourn

MEETING AGENDA

Meeting Date:	September 30, 2025
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link:	https://us06web.zoom.us/j/85349809336

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 5 20250915
3. Invoices & Commitments for Review and Approval (Vote Expected)
    - DWMP Invoice No. 4 $21,180.00
4. Visioning Plan Update
5. Update of Site Selection Criteria
6. Sustainability Goals Discussion
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Adjourn

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Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	09/30/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	Jacob Greco

Present	Name (* Voting Member)	Affiliation
√	Michelle Cresta*	Director of Finance & Operations
√	Pam Beaudoin*	Superintendent
√	Kim Provost*	Principal
√	Theresa Whitman*	SBC Co-Chair
√	John Binieris*	SBC Co-Chair
√	Andy Oldeman*	Manchester Finance Committee / Director of Engineering (Structural Engineer)
√	Charlie Hay*	Architect School Building Experience
√	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
√	Tyler Virden*	Project Executive -Wise Construction / Paren
√	Annie Cameron*	Former SC Member and Memorial SBC Member
	Ariel Fernando Brian*	Architect - CBT
√	Jen Hocherman*	Architect - Partner SV Design
√	Michael Gerhardt*	Civil Engineer / Parent
	Timonthy McDonald*	Architect - Onion Flats
√	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
√	Steve Hunt*	Facilities Manager
√	Emily Dwyer* (Pending SC Approval)	EES Teacher
√	Kim Field	EES Teacher
√	Rachelle Rousseau	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
√	John Albright	Project Manager - DWMP
	Rachel Rincon	Assistant Project Manager - DWMP
√	Jacob Greco	Assistant Project Manager - DWMP
√	James LaPosta	Principal - JCJ Architecture
√	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
√	Jeff Elliott	Project Architect - JCJ Architecture

√	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
√	Mike Pirollo	Principal – MLP Integrated Design
√	Eric Haggstrom	Sustainability Director – JCJ Architecture
√	Kelley Tapia	Soden Sustainability

Item No.	Action Item	Ball in Court
6.4	Have School Committee Vote on new SBC Members	SBC
6.6	Schedule a Site Working Group	DWMP
6.7	Schedule a Sustainability Working Group	DWMP
6.6	Update the Site Selection Criteria	JCJ

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

Item No.		Description
6.1	**Call to Order & Intro:** Called to order by T.Whitman at 6:05pm, please refer to the attendee list.	Record
6.2	**Approval of September 15 - 2025, Meeting Minutes (Vote Expected):** **Roll Call Vote:** A motion to approve the September 15, 2025, Meeting Minutes made by E.Dwyer and seconded by A.Cameron Name | Yes/No/Abstain & Absent	Record

Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Absent
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brian	Yes
Jen Hocherman	Abstain
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Yes
Steve Hunt	Absent
Emily Dwyer	Abstain
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

6.3	**Invoices & Commitments for Review and Approval (Vote Expected):** **Roll Call Vote:** A motion to approve the DWMP Invoice No. 4 ($21,180.00), made by A.Cameron and seconded by G.Brewster	Record

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Absent
Theresa Whitman	Yes

Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brian	Yes
Jen Hocherman	Abstain
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Yes
Steve Hunt	Absent
Emily Dwyer	Abstain
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

6.4 **Update to SBC Roster:**

- P.Beaudoin introduced the new members of the School Building Committee and noted that this will go to School Committee for official vote (Slide 6)
  - Emily Dwyer – EES Teacher (Voting Member)
  - Kim Field – EES Teacher (Advisor)
  - Rachelle Rousseau – EES Teacher (Advisor)
  - Steve Hunt – Facilities Manager (Voting Member)
- A.Cameron noted how five of the voting members (out of 17) are not district residences and shared how this is of concern for her with regarding optics and for functionality
  - T.Whitman listed the MSBA requirements for a School Building Committee
  - E.Dwyer added that it is the point of where the advocacy is coming from
  - P.Beaudoin shared what the makeup of the SBC was for the Memorial Project

	• T.Whitman added that if more Essex members are added they will need to match it with Manchester residences • A.Cameron proposed making K.Field the voting member, finding a Manchester lawyer to add, and promoting the two Essex advisors to voting members ○ K.Field noted that she does not want to represent Manchester as a voting member as she wants to advise this from the viewpoint of a teacher from EES not a Manchester resident • T.Whitman held a straw poll vote to proceed with a recommendation to the School Committee to approve the SBC roster as presented in Slide 6	

6.5	**Visioning Plan Update:**
	
	• M.Priollo provided an updated on the educational visioning that has occurred so far for the project (Slide 8 & 9)
	  ○ G.Brewster noted how visioning is critical for these projects and how the next step is to choose the option they want, he asked J.LaPosta how this helps JCJ narrow down the options for the SBC
	  • J.LaPosta noted it is foundational to the process and required by MSBA by way of helping finalize or adjust the educational program that P.Beaudoin will write and submit. He added that for site selection it has less of an impact but it will help inform them in some way
	  • G.Brewster added that the school visits may push people to the new school option after seeing them
	  • P.Beaudoin noted that the visits were more about the program and how the education was conducted in these and not necessarily the finishes of the building
	  • K.Field shared how the tours were focused on the educational aspect
	  • E.Dwyer noted by MSBA they have to look at all the options and cannot just drive right to a new building
	  • P.Beaudoin noted they already do have an educational plan already and they are using the tours and visioning to test the assumptions they already have
		Record

	• J.LaPosta added how the tours were meant to find schools that have a different set up educationally than both Memorial and Essex Elementary ○ A.Cameron asked where the work on the grade configuration is • P.Beaudoin noted they are working on it through the visioning sessions and she is working on it financially • C.Dell Angelo added that they will decide on this and bring it to the SBC by the end of October/ early November	
6.6	**Update of Site Selection Criteria:** • J.Elliott reintroduced the updated site selection criteria matrix from comments provided by the SBC (Slide 11). ○ A.Cameron reported out on an update of the possible sites in Essex that could be used. She noted that T.Whitman pulled a list of any site that was larger than 9.55 acres and the town reviewed the list and noted that the only site the Board of Selectman will propose is the Apple Street site ○ M.Gerhardt wanted to clarify that criteria of walkability should be for the Essex student population not Manchester as Memorial has great walkability but not for Essex residences • J.Elliott shared a walkability study for the surrounding neighborhoods for the three (3) proposed sites (Slides 12 - 14) • C.Hay noted they need the information from JCJ to fill it out properly • A.Cameron added that last time JCJ filled it out and the committee debated it ○ G.Brewster agreed ○ C.Dell Angelo noted they will take a try at filling it out and bring it back to the SBC • C.Hay noted they should review any criteria that members have questions on ○ C.Hay started with walkability and noted it should be red for Apple Street as it is too dangerous unless the school would take a stance to say that no walkers or bikers are allowed • P.Beaudoin noted they do not need to debate the danger but asked what the cost would be to create a safe way	Record

	• C.Hay asked if it can even be modified and noted that one of his comments was to add a cost of infrastructure criteria section • T.Whitman noted that if wanted A.Cameron can bring this issue to the Essex Board of Selectman about town improvements being wanted or not • C.Hay noted whether town betterment of school project either way it is the same tax payers • P.Beaudoin noted that it isnt and during the Memorial project they had to pull out of the senior center as it was being viewed as Essex paying for Manchester betterment and will be the same vice versa for Essex • L.O'Donnell shared that a scenic road designation is determined by a town meeting vote so she would assume they can remove it. She added that there is very loose rules and it mainly focuses on affecting trees and stone walls. L.O'Donnell thinks that if Apple Street really is the best site she would not let this deter the committee • C.Hay noted that even so it is another vote they would need to progress with it and taking land for entrances will make a political firestorm ○ P.Beaudoin noted that a bullet point should be added to just note that the selected site is ready to go for construction ○ C.Dell Angelo noted they can schedule a working group to go through the matrix with the project team and bring it back to the SBC	
6.7	**Introduction Sustainability Discussion:** • E.Haggstrom & K.Tapia shared the introduction to sustainability and the approach for the project including the available incentives and the associated requirements (Slides 16 - 22) ○ C.Dell Angelo noted that there is no decisions that need to be made now but she wanted to start the conversation given Essex did not opt-in to the stretch code as there is a stigma that this all costs more money but it really is not the case and can save the District more money by the end of the project	Record

	○ A.Cameron asked if Andy and all the people who know this agree ○ T.Whitman asked at what point in the commitment to the incentives are they guaranteed the money but not when do they get the money • E.Haggstrom noted that for the Mass Save it will be as early as Schematic Design and it will be locked in, same with the MSBA. ○ A.Cameron asked how schools are handling this for the IRA portion • E.Haggstrom noted it is really about evaluating how much risk the District wants to undertake as there is no way to know how it will change it the future ○ E.Haggstrom noted they provide a life cycle cost analysis to the committee that shows the cost of all these options for day 1, year to year, overall, etc.. ○ C.Dell Angelo asked for any committee members to reach out if they want to join the sustainability subgroup ○ R.Russo asked which comes first the site selection or the grade configuration • C.Dell Angelo noted that they are doing the site first so if the site comes off the table they do not have to study the grade configurations for those sites	
6.8	**Other Topics not Reasonably Anticipated 48 hours prior to the meeting:** • A.Cameron asked if they can have a map of the order of decisions for the community meeting ○ P.Beaudoin noted they will discuss this Friday at the communication working group • A.Cameron noted that they sold a product and educational experience to Manchester and it would be wrong to go back and now change it • P.Beaudoin noted it is important to talk about the pros and cons of both sites as they both came from town staff members • E.Dwyer noted that she went through this process in her district and it is important to get the load voices with different views to join the community meeting	Record

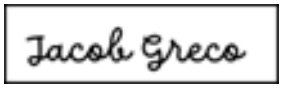
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<table>
<tr><td>6.9</td><td>Public Comment:

To view public comment please click here</td><td>Record</td></tr>
<tr><td>6.10</td><td>Adjourn:

Roll Call Vote: A motion to adjourn the meeting was made at 8:06 pm by A.Cameron and seconded by G.Brewster

<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Absent</td></tr>
<tr><td>Andy Oldeman</td><td>Absent</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brian</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Yes</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Absent</td></tr>
<tr><td>Henry Oettinger</td><td>Absent</td></tr>
<tr><td>Steve Hunt</td><td>Absent</td></tr>
<tr><td>Emily Dwyer</td><td>Absent</td></tr>
<tr><td>Kim Field</td><td>Absent</td></tr>
<tr><td>Rachelle Rousseau</td><td>Absent</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>
</td><td>Record</td></tr>
</table>

Sincerely,
DORE + WHITTIER

Jacob Greco
Assistant Project Manager
Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.

Essex Elementary School Project

School Building Committee Meeting #06

September 30, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 5 20250915
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - DWMP Invoice No. 4 $21,180.00
4. Update to SBC Roster (Vote Expected)
5. Visioning Plan Update
6. Update of Site Selection Criteria
7. Introductory Sustainability Discussion
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Adjourn

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9. Public Comment
10. Adjourn

SBC Roster Changes

New Members:

- Emily Dwyer – EES Teacher (Voting Member)
- Kim Field – EES Teacher (Advisor)
- Rachelle Russo – EES Teacher (Advisor)
- Steve Hunt – Facilities Manager (Advisor)

- Ruth Pereen-Essex (stepped down)
- Adam Zaiger-Manchester (stepped down)

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
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9. Public Comment
10. Adjourn

Draft Project Goals

1. Experiences and spaces that **promote students first** as the doers and leaders of their own learning
2. A learning **environment that captures** and **supports** the **energy of kids**
3. Space to **support** all iterations of **engagement** now and in the future (student – student; student –teacher; teacher – teacher)
4. School should serve as the **hub of the community**
5. Facility should support **extensions of learning**, including **before** and **after school** opportunities
6. A shared **large-scale school community** for parents and students to experience small group, large group, and whole school gathering



Visioning Next Steps

- Visioning Session (Child Development & Enrollment Scenarios) – 9/22
- School Tours – 9/26
- Program Workshop – 9/29
- Visioning Session (Teaching, Learning, Space) – 10/22



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9. Public Comment
10. Adjourn

Site Evaluation Criteria Update

Legend	
	Not Preferable
	Nuetral
	Advantageous



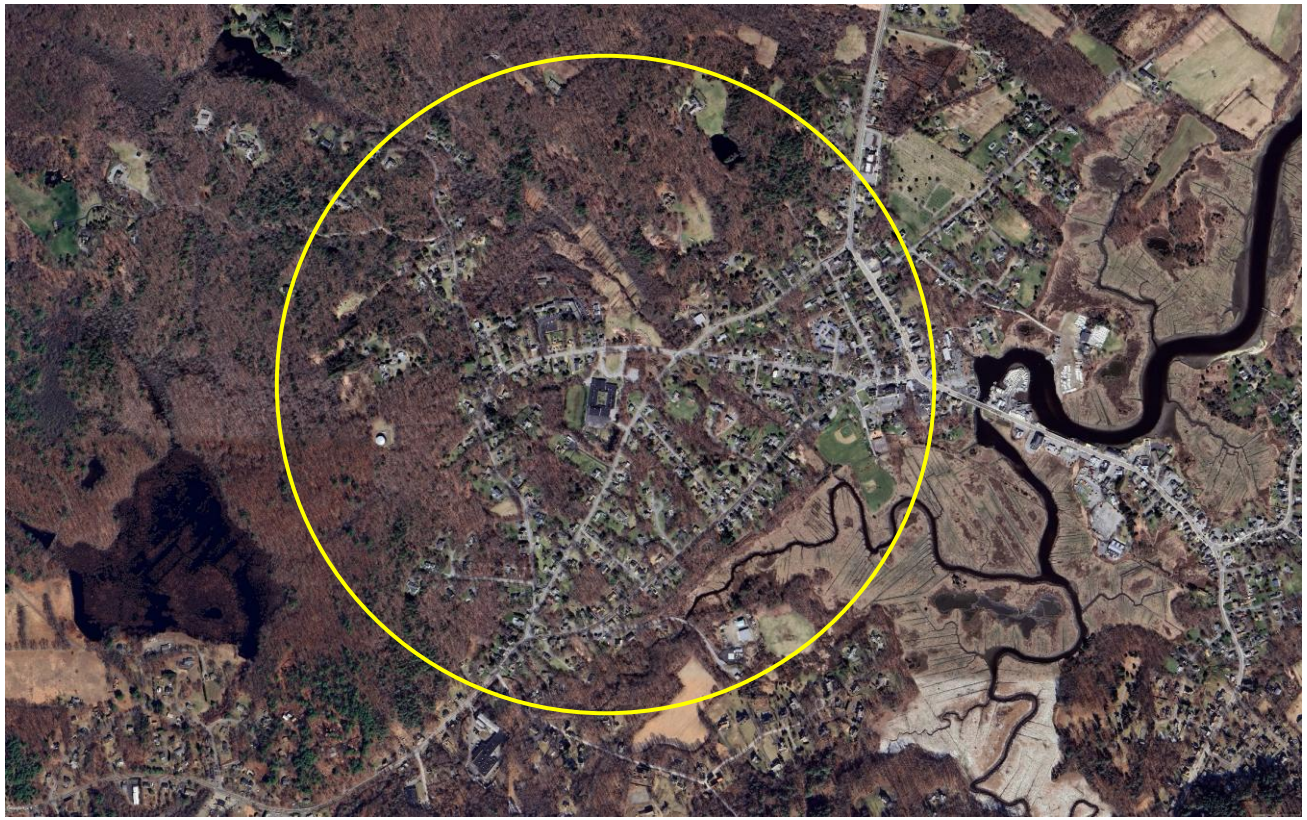




ESSEX ELEMENTARY SCHOOL PROJECT SITE ALTERNATIVES		SITE A CURRENT ESSEX ES	SITE B CURRENT MMES	SITE C APPLE STREET
		12 STORY ST	43 LINCOLN ST	30 APPLE ST
General	Location	ESSEX	MANCHESTER	ESSEX
	Size	9.75 ACRES	11.313 ACRES	11.50 ACRES
Site Development	Town Owned	●	●	●
	Adequate Buildable Area - Target minimum of 8 Acres	●	●	●
	Utilities Access			
	Subsurface Conditions – Geotechnical (Bearing Capacity, Organics, Ledge)			
	Subsurface Conditions – Environmental Contaminants			
	Regulatory - Wetlands, Rivers and Streams, Flood Zones			
	Future Development Options and Flexibility			
	Reimbursement potential from MSBA (Offsite, Budget cap)			
	Construction Complexity – Access, Laydown, Phasing			
Site Access	Infrastructure - Bridges, Road Surface			
	Walkability - Distances, Sidewalks			
	Safety - Road Width, Sight Lines			
	Busing			
Community	Compatible with District Agreement			
	Access to other Community Resources			
	Minimize Impact on Neighbors			
Education	Meets needs of Educational Program			
	Construction Impact on Existing School Activities			

DRAFT

Walkability



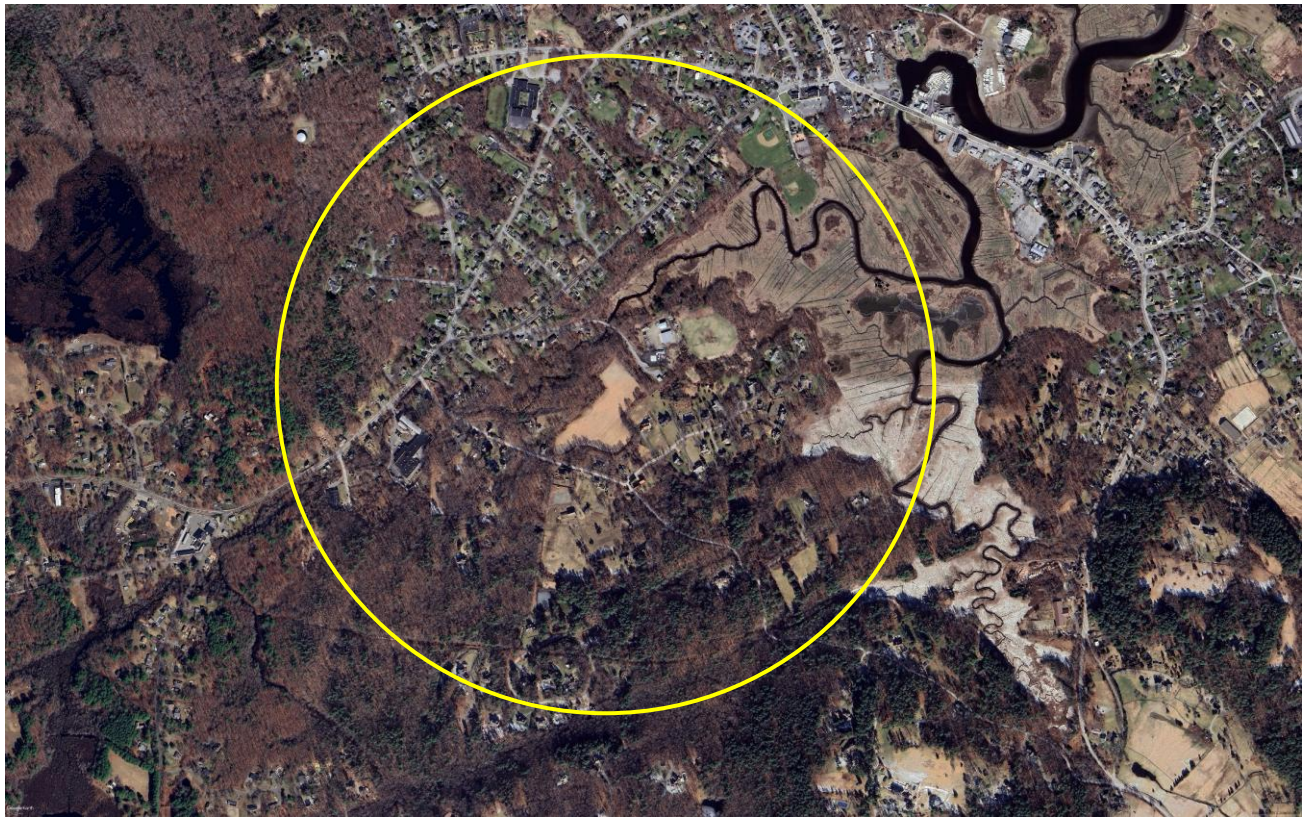
Current Essex Elementary School
12 Story Street, Essex

Nearby Residences
Approximately 300 in a half-mile radius

Sidewalks
Story St, Western Ave and Winthrop St

Other Considerations
Half-mile walking radius includes a portion of Main Street

Walkability



Apple Street Site

30 Apple Street, Essex

Nearby Residences

Approximately 200 in a half-mile radius

Sidewalks

Distance to nearest sidewalk:

1,100’ to corner of Landing Rd & Martin St

1,300’ to corner of Apple St & Martin St

Other Considerations

Bridges at Landing Rd and Apple St

Apple St is zoned a Scenic Road

Nearby walking trail to Memorial Park

Walkability



Current Manchester Memorial Elementary School

43 Lincoln Street, Manchester

Nearby Residences

Approximately 500 in a half-mile radius

Sidewalks

Lincoln St, Summer St, Brook St, Vine St, Norwood Ave

Other Considerations

Adjacent to High School

Graded “Medium” for *Potential for Walkable Trips* per MassDOT

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Approach: Design Team

SODEN SUSTAINABILITY

JCJ ARCHITECTURE



Colleen Soden
LEED BD+C
LEED ID+C



Kelley Tapia
AIA
WELL AP
LEED BD+C
Fitwel Ambassador

Presenter Today



Eric Haggstrom
Director of Sustainability
AIA
LEED AP
Fitwel Ambassador

Presenter Today

c.a.crowley. ENGINEERING, INC.

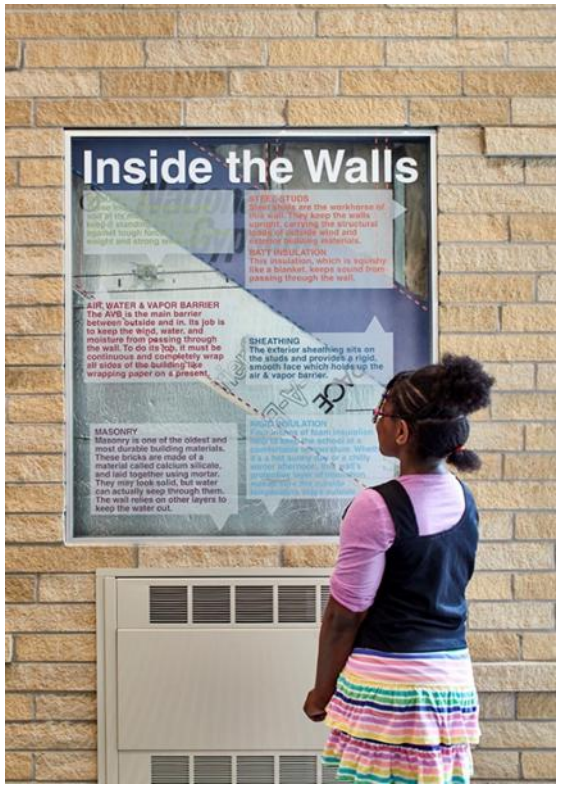
SAMIOTES

studio 2112 LANDSCAPE ARCHITECTURE

Approach: Design Team

We approach using a lens that **learning is the top priority**:

- Minimize first cost
- Minimize maintenance
- **Maximize value to district**
- Offer **training** opportunities (students, staff + teachers)
- Considering positioning now for **future incentives**
- Importance of **healthy indoor environments**
- Opportunities for teaching



MSBA Requirements (Project Advisory #81)

- **Minimum Requirements per MSBA Project Advisory #81:**
  - Achieve **Silver** using LEED-Schools v4.0 / v4.1
  - Achieve a minimum of 3 (out of 7) points in the following:
    - MR – Building Product Disclosure and Optimization, v4.1 – Material Ingredients (1 point)
      - Specify at least 20 different products from 5 different manufacturers that meet green certification standards
    - EQ – Low Emitting Materials, v4.1 (1 point)
      - Pursuing: Walls, Flooring, Ceilings
      - Optional: Paints + Coatings, Adhesives + Sealants, Walls, Furniture, Composite wood
    - EQ – Indoor Air Quality Assessment, v4.0 (1 point)
      - Perform pre-occupancy building flush-out

- **The school must meet the minimum energy efficiency requirements described in the**
- **MA DOER "Stretch Code Green Community" standards**

- **Be "solar ready"**

MSBA PA#81: Extra Reimbursement: 3% + 1%

- For an **extra 3% reimbursement** the project must meet the **Opt-In Specialized Stretch Energy Code**
  - To meet the Opt-In Code you can either be:
    - Net Zero (Zero Energy Pathway)
    - **All Electric Pathway - baseline assumption**
    - Mixed Fuel Pathway (not recommended b/c lose utility incentives)

- For an **additional 1% reimbursement** the project must earn additional material/air quality points (earn 5 of 7 available)
    - MR – Building Product Disclosure and Optimization, v4.1 – Material Ingredients (1 point)
    - EQ – Low Emitting Materials, v4.1 (1 point)
    - EQ – Indoor Air Quality Assessment, v4.0 (1 point)

Finding Value: IRA + Utility Rebates

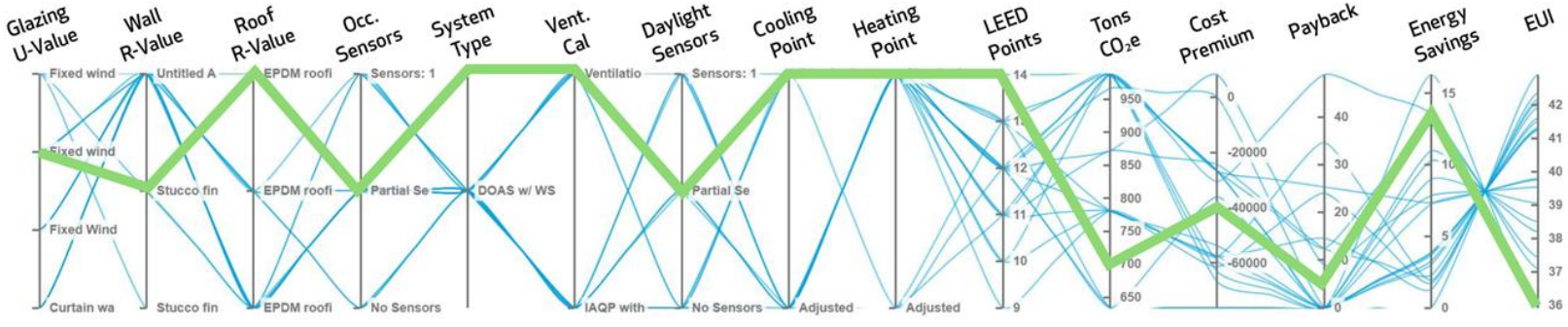
- **Inflation Reduction Act (IRA):** provides a 25.5% tax credit (or grant in the case of non-taxable entities) for geothermal installations. *25.5% from the full system – from wells to diffusers for completed system*.

- **Mass Saves Utility Incentives:**
  - New Construction Path 1 requires EUI < 25, which will **require an all-electric** building design (no gas connection)

INCENTIVES

EUI Targets	Payable at End of Construction		Payable at End of 1 yr. post occupancy	
	Construction Incentive $/sf	Heat Pump Adder	Post Occupancy Incentive $/sf	Adder for Getting Under ZNE EUI Target
VARY BY PROJECT TYPE	Either $1.50/sf or $2.00/sf (depending on EUI target)	Air Source Heat Pumps: $800/ton Variable Refrigerant Flow (VRF): $1,200/ton Ground Source Heat Pumps: $4,500/ton	$1.50	$0.05/EUI point reduction/sf

Finding Value: Putting this all Together



- Triple glazing
- High-performance double glazing

- Passive House
- High-performance envelope

- Ground-source heat pump
- Air-source heat pump
- Traditional VAV

Cost Comparison

	INITIAL	REBATES	OPERATION & MAINTENANCE
Ground-source heat pump	$$$	$$$	$
Air-source heat pump	$$	$$	$$
Traditional VAV	$	–	$$$

Cutler Elementary School Comparison: Baseline MSBA vs. Opt-In Green Schools Program

Full Electrification	-$400,000	Lower up-front cost for equipment offset by additional wiring
Additional LEED Points	+$50,000	Cost for full-building flush-out
Utility Incentives	-$350,000	
4% Additional Reimbursement	-$2,700,000	
Total Savings to Town	**$3,400,000**	

Next Steps

- Register project with LEED
- Sustainability Workshop 1 with the District, Dore + Whittier and the Design Team

Discussion: Questions and Responses



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10. Adjourn

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6. Update of Site Selection Criteria
7. Introductory Sustainability Discussion
   Sustainability Goals Discussion
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Adjourn

MEETING AGENDA

Meeting Date: October 14, 2025
Meeting Time: 6:00PM – 8:00PM
Project Name: Essex Elementary School
Project Number: 202306980020
Meeting Purpose: School Building Committee Meeting
Location: This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link: https://us06web.zoom.us/j/85349809336

---

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 6 20250930
3. Invoices & Commitments for Review and Approval (Vote Expected)
    - JCJ Invoice No. 1 | ($27,000.00)
    - Minuteman EDDM | ($3,128.42)
    - DWMP Invoice No. 5 | ($46,225.50)
4. Community Meeting Report Out
5. Initial Ed Program and Space Summary Review
6. Site Logistics Working Group Report Out
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	10/14/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	

Present	Name (* Voting Member)	Affiliation
√	Michelle Cresta*	Director of Finance & Operations
√	Pam Beaudoin*	Superintendent
√	Kim Provost*	Principal
√	Theresa Whitman*	SBC Co-Chair
√	John Binieris*	SBC Co-Chair
√	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
√	Charlie Hay*	Architect School Building Experience
√	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
√	Tyler Virden*	Project Executive -Wise Construction / Paren
√	Annie Cameron*	Former SC Member and Memorial SBC Member
√	Ariel Fernando Brian*	Architect - CBT
√	Jen Hocherman*	Architect - Partner SV Design
√	Michael Gerhardt*	Civil Engineer / Parent
√	Timonthy McDonald*	Architect - Onion Flats
√	Henry Ottenginer	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
√	Emily Dwyer*	EES Teacher
√	Kim Field	EES Teacher
√	Rachelle Rousseau	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
√	John Albright	Project Manager - DWMP
	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
	James LaPosta	Principal - JCJ Architecture
√	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
√	Jeff Elliott	Project Architect - JCJ Architecture

DORE + WHITTIER

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

<table>
<tr><th>Item No.</th><th></th><th>Description</th></tr>
<tr><td>6.1</td><td>Call to Order & Intro: Called to order by T.Whitman at 6:05pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>6.2</td><td>Approval of September 30 - 2025, Meeting Minutes (Vote Expected):

Roll Call Vote: A motion to approve the September 30, 2025, Meeting Minutes made by A.Cameron and seconded by C. Hay

Discussion included clarification that the prior meeting’s mention of outreach to the Select Board regarding Apple Street was premature, but no amendment was necessary.

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
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<tr><td>Ariel Fernando Brian</td><td></td></tr>
<tr><td>Jen Hocherman</td><td></td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
</table></td><td>Record</td></tr>
</table>

Timonthy McDonald	Yes
Henry Oettinger	Yes
Steve Hunt	Advisor – No Vote
Emily Dwyer	Yes
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

6.3	**Invoices & Commitments for Review and Approval (Vote Expected):** **Roll Call Vote:** A motion to approve the: • JCJ Invoice No. 1 | ($27,326.21) • Minuteman EDDM | ($3,128.42) • DWMP Invoice No. 5 | ($46,225.50) It was made by A.Cameron and seconded by G. Brewster • Committee discussed the overall value and potential future frequency of printed mailers. • Suggestion made to consider quarterly rather than per-meeting mailers. • All invoices reviewed and confirmed consistently with project budget.	Record

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Yes
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes

	<table><tr><td>Ariel Fernando Brian</td><td>Yes</td></tr><tr><td>Jen Hocherman</td><td>Yes</td></tr><tr><td>Michael Gerhardt</td><td>Yes</td></tr><tr><td>Timonthy McDonald</td><td>Yes</td></tr><tr><td>Henry Oettinger</td><td>Yes</td></tr><tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr><tr><td>Emily Dwyer</td><td>Yes</td></tr><tr><td>Kim Field</td><td>Advisor – No Vote</td></tr><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table>	
6.4	**Community Meeting Report Out** The first public forum was held the prior week. • Attendance: approximately 40+ in person and 15–20 virtual participants. • Feedback was positive; residents appreciated transparency and engagement. • The presentation was clear, and questions were substantive and constructive. • Comments and community feedback will inform upcoming site analysis and design discussions.	

6.5	**Initial Space Summary Review**
	
	• C.Dell Angelo and P.Beaudoin described what the purpose and goals of the education program is, including some of the content
	  ○ The Educational Program outlines the teaching philosophy, grade structure, space needs, and instructional approach of the district.
	  ○ Serves as the foundation of the MSBA Feasibility Study and drives building size and space types.
	  ○ Includes:
	  ▪ Program structure (PreK–5)
	  ▪ Classroom size assumptions (18–22 students per room)
	  ▪ Core spaces: gymnasium, cafeteria, music, art, library, and small-group areas
		Record

- Special education and inclusion needs
- Flexibility for future changes in teaching methodology

Committee Discussion Highlights:

- The Ed Program is a descriptive planning tool — not a design document.
- Auditorium/cafetorium discussion: MSBA will not reimburse for auditoriums at the elementary level.
- Growth of special education services is noted as a design driver.
- Need for parity between Essex and Manchester Memorial facilities emphasized.
- Agreed that the program should reflect a 50-year outlook, not current enrollment alone.

- J.Elliott introduced the MSBA Space Summary and the Essex Elementary School existing floor plans (Slides 9 – 12)
  - The Space Summary aligns the Educational Program with MSBA space standards and identifies existing versus proposed spaces.
  - It defines the basis for reimbursement and evolves throughout feasibility.
  - Current work focuses on documenting existing spaces; proposed spaces will follow after MSBA enrollment confirmation.
  - Three enrollment scenarios are being modeled: 165, 250, and 515 students.

  Classrooms at Essex currently average 850–875 sq. ft., slightly below the MSBA guideline of 950 sq. ft.

Committee Discussion Highlights:

- Renovation adjustments will be made as data develops.
- Drafts of the Educational Program and Space Summary are expected within two weeks for School Building Committee acceptance and School Committee acceptance and approval.
- Consensus that these documents are “living” and will refine through schematic design.

6.6	**Site Logistics Working Group Report Out**
	
	• J.Elliott reviewed the site selection criteria matrix and the three (3) proposed sites (Slides 14 – 23)
	• J.Elliott summarized the site evaluation process, which began with sixteen potential parcels and was refined to seven, and then to three Town-owned viable options based on MSBA requirements, infrastructure availability, and environmental feasibility.
	• Remaining Sites Under Consideration:
	  ○ Essex Elementary School (Existing Site)
	  ○ Manchester Memorial Elementary School
	  ○ 30 Apple Street
	
	A. Essex Elementary School
	• Existing Conditions: Fully serviced site with established infrastructure.
	• Geotechnical Conditions: Sound foundation, typical for redevelopment.
	• Environmental: Known oil/fuel discharge in mechanical room (remediated and managed); some asbestos and lead in legacy materials.
	• Constructability: Adequate site area and access for phased construction.
	• Community Impact: Maintains neighborhood identity and walkability; minimal transportation disruption.
	• Risks: Primarily environmental abatement during construction—manageable within normal project scope.
	• Overall Rating: Predominantly *Green* on evaluation matrix.
	Schedule Risk: Low.
	
	B. Manchester Memorial Elementary School
	• Site Context: Fully developed, adjacent to Middle/High School campus.
	• Challenges: Limited space for additional construction; co-location would create traffic and parking constraints.
	• Regulatory: Complex permitting and inter-municipal implications.
	• Impact: Relocating Essex students here would increase transportation costs and reduce community accessibility.
	• Overall Rating: Multiple *Red* indicators for site capacity, traffic, and regulatory hurdles.
	Schedule Risk: High.
		Record

C. 30 Apple Street

- Description: Undeveloped parcel; potential for full new construction.
- Positives: Flat topography allows independent construction without disrupting school operations.
- Challenges:
- No existing water, sewer, or utilities.
- Access limitations—Apple Street width and bridge capacity inadequate for school traffic and construction loads.
- Likely need for eminent domain acquisition.
- Environmental unknowns: Possible contamination from nearby landfill and past agricultural use.
- Limited public support; multiple failed Town Meeting votes for Apple Street road and bridge improvements.
- Overall Rating: Predominantly *Red* and *Yellow* categories; significant cost, schedule, and political risk.
  Schedule Impact: Potentially jeopardizes the MSBA 913-day feasibility deadline.

Committee Discussion Highlights:

- Interest in understanding high-level cost differences but agreed Apple Street's infrastructure burden is prohibitive.
- Highlighted political and logistical barriers to eminent domain and roadwork approvals for Apple Street.
- Emphasis that Apple Street off-site improvements could jeopardize MSBA eligibility if schedule delays occur.
- Request for inclusion of cost escalation (e.g., 5% annually) in evaluation comparisons.
- An ask for whether Apple Street improvements appear in the Town's Capital Plan;
  - Response confirmed only bridge references, with no allocated funding.

Public Input Context:

- Noted that all three written public comments received opposed Apple Street and supported retaining Essex site.

Environmental Discussion

- Committee members reviewed matrix scoring and agreed Essex site's fuel tank issue could be rated "Yellow" rather than "Red." Consensus remained that Apple Street presented greater environmental and infrastructure uncertainty.

Community and Political Considerations

- Historic lack of Town Meeting support for Apple Street projects.

	• Concerns regarding eminent domain and off-site cost burdens falling solely on Essex.
	• Committee reaffirmed the importance of pursuing a solution with broad community backing and minimal political friction.
	
	Straw Poll and Next Steps
	• Informal Straw Poll Question: Should the Committee continue investigating 30 Apple Street as a viable site option?
	  ○ The straw poll was taken to gauge sentiment ahead of formal action. Yes, means continue pursuing Apple Street, No means remove from contention.
	  ○ The consensus favored unanimously on not studying Apple Street moving forward.
	  ○ Committee agreed to present findings and rationale to the Board of Selectmen before an official vote.
	• Next Steps:
	  ○ Prepare written summary and site comparison for Select Board meeting on Monday, October 20, 2025.
	  ○ Include cost, schedule, and MSBA compliance implications.
	  ○ Building Committee to hold a formal vote at next meeting to confirm removal or continuation of Apple Street.	

6.8	**Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting** Current Building Status: • Essex Elementary is functioning as a “shelter-in-place” building, meaning it can provide heat, food, and shelter during power outages. This term has been used loosely, and there are multiple levels of shelter-in-place designations, each with different requirements and costs. Committee Action: • Members will review infrastructure systems (foundations, steel, generator, etc.) as “homework” before the next Building Committee meeting. • Goal is to determine whether the same evaluation applies to new projects or if additional shelter requirements should be considered. Clarifications: • Not all schools officially designated as shelter-in-place perform the same functions; Essex currently provides essential services without formal designation. • Public safety designations and responsibility for shelter levels vary by town/district.	Record

<table>
<tr><td></td><td>

- Brendan Zabricki (Essex Town Manager), part of the regional emergency preparedness team, will clarify Essex Elementary's role in the broader emergency plan.

Next Steps:

- Align shelter capabilities and terminology with other district facilities for consistency and parity.
- Review and discuss findings of a future next Building Committee meeting.

</td><td></td></tr>
<tr><td>6.9</td><td>Public Comment:

To view public comment please click here</td><td>Record</td></tr>
<tr><td></td><td>Reflections & Action Items

Community Engagement:
• Proposed additional tours of Essex Elementary, potentially combined with the "Open Door Food Truck" event.
• Outreach to the Senior Center and Essex residents to increase awareness.
• Consideration of a similar tour for Memorial School to allow community comparison.
• Communications Working Group will schedule follow-up outreach and community meetings next week.</td><td></td></tr>
<tr><td>6.10</td><td>Adjourn:

Roll Call Vote: A motion to adjourn the meeting was made at 8:45 pm by C. Hay and seconded by T. Virden.

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</table>

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Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brian	Yes
Jen Hocherman	
Michael Gerhardt	Yes
Timonthy McDonald	
Henry Oettinger	Yes
Steve Hunt	Advisor – No Vote
Emily Dwyer	Yes
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

Sincerely,
DORE + WHITTIER
Jacob Greco
Assistant Project Manager
Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 7

October 14, 2025 @ 6:00 PM

DORE + WHITTIER

JCJARCHITECTURE

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 5 20250930
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - JCJ Invoice No. 1 | ($27,000.00)
   - D+W Invoice No. 5 ($46,225.50)
   - Minuteman EDDM | ($3,128.42)
4. Community Meeting Report Out
5. Initial Ed Program and Space Summary Review
6. Site Logistics Working Group Report Out
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 5 20250930
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - JCJ Invoice No. 1 | ($27,000.00)
   - D+W Invoice No. 5 ($46,225.50)
   - Minuteman EDDM | ($3,128.42)
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5. Initial Ed Program and Space Summary Review
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Initial Ed Program and Space Summary Review

Space Summary Introduction

Standardized MSBA Document Format

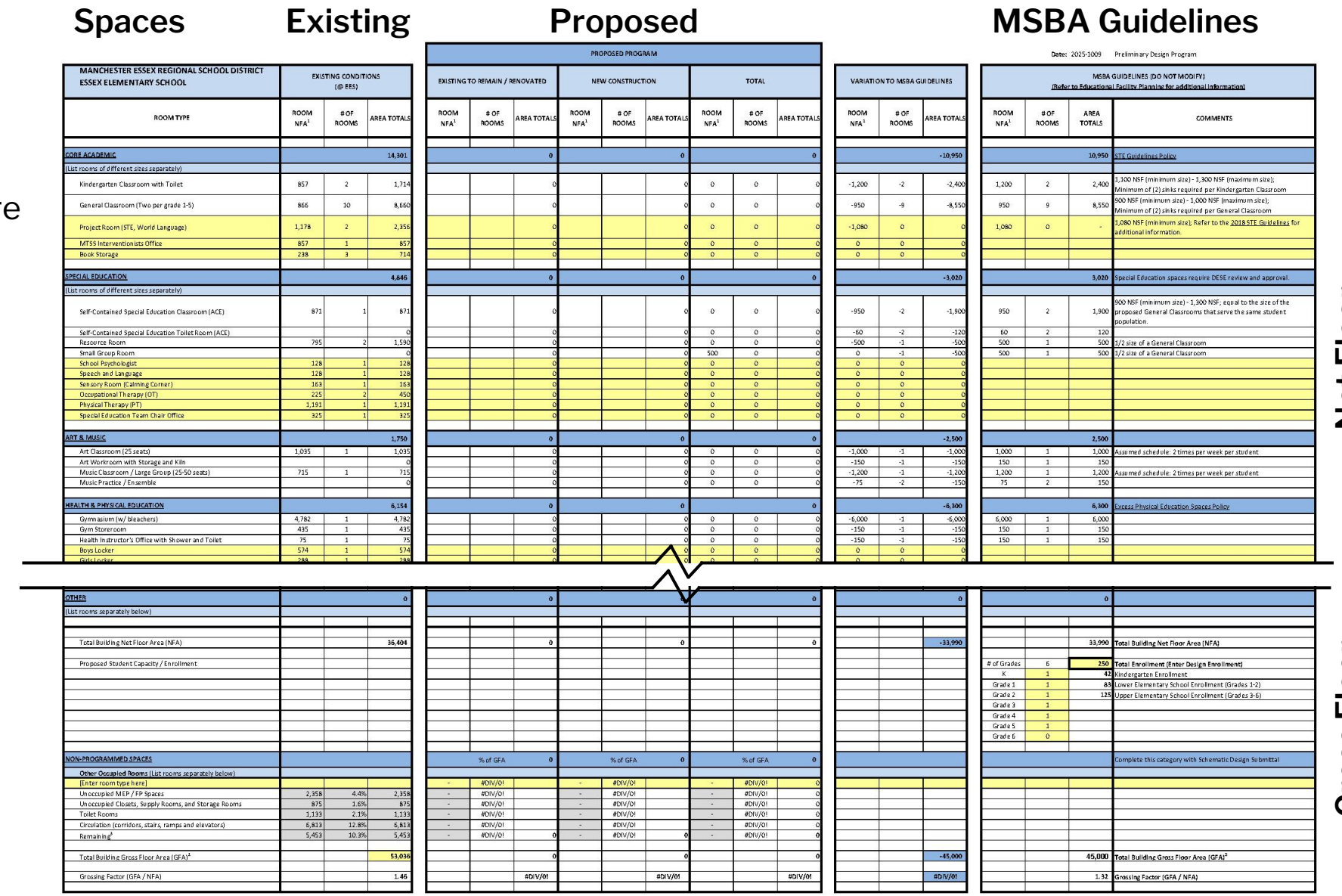
Updated Throughout Entire Project

Critical Impact on Reimbursement

Three Enrollment Options (165, 250 & 515 Students)

Tracks Building Areas

- Net Floor Area (NFA) is useable floor space inside the room
- Gross Floor Area (GFA) includes MEP, Storage, Toilets, Circulation and Walls



Spaces	Existing	Proposed							MSBA Guidelines			
MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT ESSEX ELEMENTARY SCHOOL	EXISTING CONDITIONS (@ EES)			PROPOSED PROGRAM EXISTING TO REMAIN / RENOVATED			NEW CONSTRUCTION			TOTAL			VARIATION TO MSBA GUIDELINES			Date: 2025-1009 Preliminary Design Program MSBA GUIDELINES (DO NOT MODIFY) (Refer to Educational Facility Planning for additional information)			
ROOM TYPE	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	ROOM NFA[1]	# OF ROOMS	AREA TOTALS	COMMENTS
CORE ACADEMIC			14,301			0			0			0			-10,950			10,950	STE Guidelines Policy
(List rooms of different sizes separately)																			
Kindergarten Classroom with Toilet	857	2	1,714			0			0	0	0	0	-1,200	-2	-2,400	1,200	2	2,400	1,100 NSF (minimum size) - 1,300 NSF (maximum size); Minimum of (2) sinks required per Kindergarten Classroom
General Classroom (Two per grade 1-5)	866	10	8,660			0			0	0	0	0	-950	-9	-8,550	950	9	8,550	900 NSF (minimum size) - 1,000 NSF (maximum size); Minimum of (2) sinks required per General Classroom
Project Room (STE, World Language)	1,178	2	2,356			0			0	0	0	0	-1,080	0	0	1,080	0	-	1,080 NSF (minimum size); Refer to the 2018 STE Guidelines for additional information.
MTSS Interventionists Office	857	1	857			0			0	0	0	0	0	0	0				
Book Storage	238	3	714			0			0	0	0	0	0	0	0				
SPECIAL EDUCATION			4,846			0			0			0			-3,020			3,020	Special Education spaces require DESE review and approval.
(List rooms of different sizes separately)																			
Self-Contained Special Education Classroom (ACE)	871	1	871			0			0	0	0	0	-950	-2	-1,900	950	2	1,900	900 NSF (minimum size) - 1,300 NSF; equal to the size of the proposed General Classrooms that serve the same student population.
Self-Contained Special Education Toilet Room (ACE)			0			0			0	0	0	0	-60	-2	-120	60	2	120	
Resource Room	795	2	1,590			0			0	0	0	0	-500	-1	-500	500	1	500	1/2 size of a General Classroom
Small Group Room			0			0			0	500	0	0	0	-1	-500	500	1	500	1/2 size of a General Classroom
School Psychologist	128	1	128			0			0	0	0	0	0	0	0				
Speech and Language	128	1	128			0			0	0	0	0	0	0	0				
Sensory Room (Calming Corner)	163	1	163			0			0	0	0	0	0	0	0				
Occupational Therapy (OT)	225	2	450			0			0	0	0	0	0	0	0				
Physical Therapy (PT)	1,191	1	1,191			0			0	0	0	0	0	0	0				
Special Education Team Chair Office	325	1	325			0			0	0	0	0	0	0	0				
ART & MUSIC			1,750			0			0			0			-2,500			2,500	
Art Classroom (25 seats)	1,035	1	1,035			0			0	0	0	0	-1,000	-1	-1,000	1,000	1	1,000	Assumed schedule: 2 times per week per student
Art Workroom with Storage and Kiln			0			0			0	0	0	0	-150	-1	-150	150	1	150	
Music Classroom / Large Group (25-50 seats)	715	1	715			0			0	0	0	0	-1,200	-1	-1,200	1,200	1	1,200	Assumed schedule: 2 times per week per student
Music Practice / Ensemble			0			0			0	0	0	0	-75	-2	-150	75	2	150	
HEALTH & PHYSICAL EDUCATION			6,154			0			0			0			-6,300			6,300	Excess Physical Education Spaces Policy
Gymnasium (w/ bleachers)	4,782	1	4,782			0			0	0	0	0	-6,000	-1	-6,000	6,000	1	6,000	
Gym Storeroom	435	1	435			0			0	0	0	0	-150	-1	-150	150	1	150	
Health Instructor's Office with Shower and Toilet	75	1	75			0			0	0	0	0	-150	-1	-150	150	1	150	
Boys Locker	574	1	574			0			0	0	0	0	0	0	0				
Girls Locker	288	1	288			0			0	0	0	0	0	0	0				
OTHER			0			0			0			0			0			0	
(List rooms separately below)																			
Total Building Net Floor Area (NFA)			36,404			0			0			0			-33,990			33,990	Total Building Net Floor Area (NFA)
Proposed Student Capacity / Enrollment																# of Grades	6	250	Total Enrollment (Enter Design Enrollment)
																K	1	42	Kindergarten Enrollment
																Grade 1	1	83	Lower Elementary School Enrollment (Grades 1-2)
																Grade 2	1	125	Upper Elementary School Enrollment (Grades 3-6)
																Grade 3	1		
																Grade 4	1		
																Grade 5	1		
																Grade 6	0		
NON-PROGRAMMED SPACES				% of GFA		0	% of GFA		0	% of GFA		0							Complete this category with Schematic Design Submittal
Other Occupied Rooms (List rooms separately below)																			
[Enter room type here]				-	#DIV/0!		-	#DIV/0!		-	#DIV/0!	0							
Unoccupied MEP / FP Spaces	2,358	4.4%	2,358	-	#DIV/0!		-	#DIV/0!		-	#DIV/0!	0							
Unoccupied Closets, Supply Rooms, and Storage Rooms	875	1.6%	875	-	#DIV/0!		-	#DIV/0!		-	#DIV/0!	0							
Toilet Rooms	1,133	2.1%	1,133	-	#DIV/0!		-	#DIV/0!		-	#DIV/0!	0							
Circulation (corridors, stairs, ramps and elevators)	6,813	12.8%	6,813	-	#DIV/0!		-	#DIV/0!		-	#DIV/0!	0							
Remaining[3]	5,453	10.3%	5,453	-	#DIV/0!	0	-	#DIV/0!	0	-	#DIV/0!	0							
Total Building Gross Floor Area (GFA)[2]			53,036			0			0			0			-45,000			45,000	Total Building Gross Floor Area (GFA)[2]
Grossing Factor (GFA / NFA)			1.46		#DIV/0!			#DIV/0!			#DIV/0!				#DIV/0!			1.32	Grossing Factor (GFA / NFA)

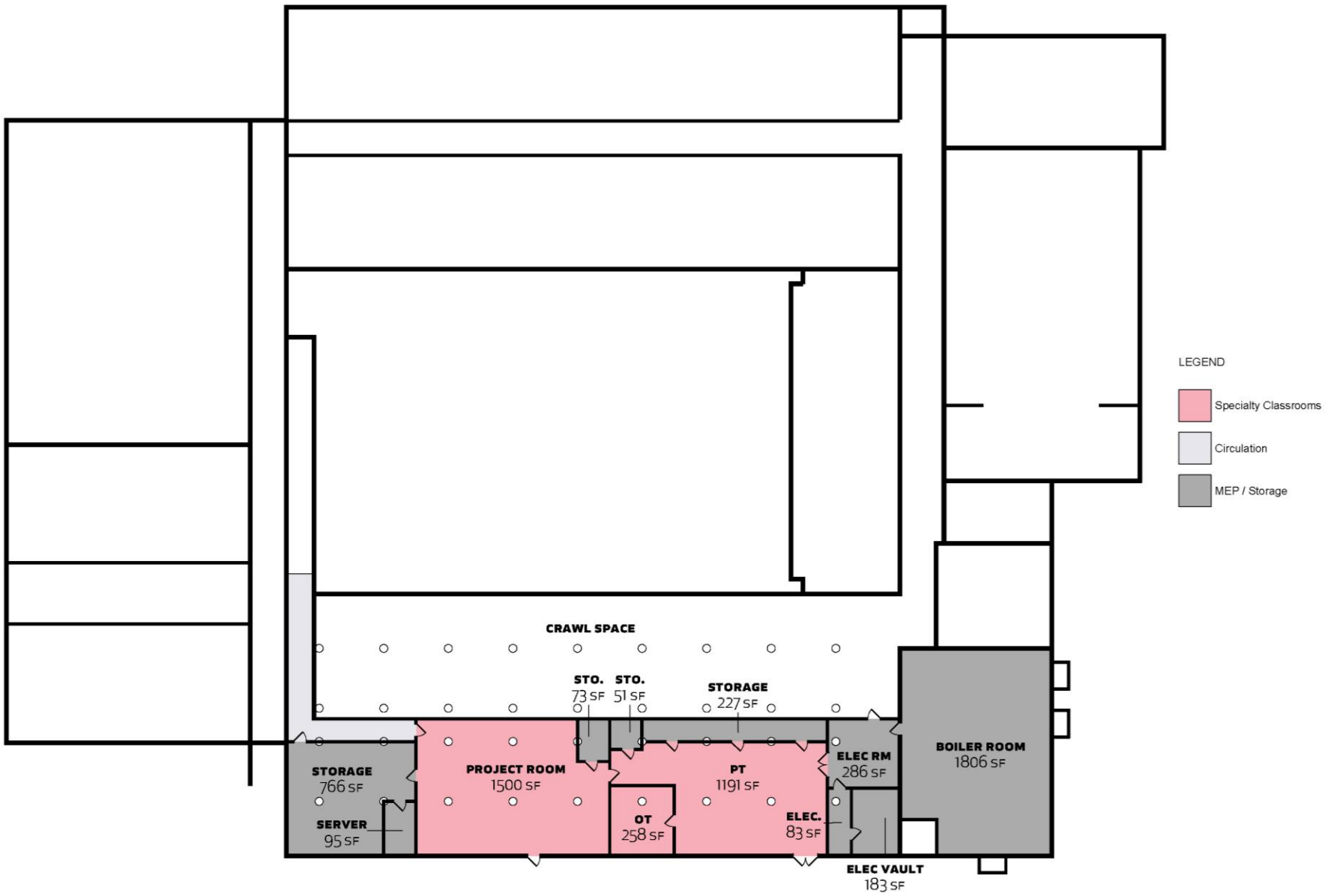
Net Floor Area (NFA)

Gross Floor Area (GFA)

Existing Floor Plans – First Floor



Existing Floor Plans - Basement



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Site Selection Working Group Report Out

Identified Sites

Statement of interest includes:

- Current Essex Elementary School
- Current Manchester Memorial Elementary School

Search of other potential sites in Essex:

Town of Essex owned parcels	112
Minimum 9.75 acres	16
Street access & utilities	7
Not used by other town function	1

→ **30 Apple St**

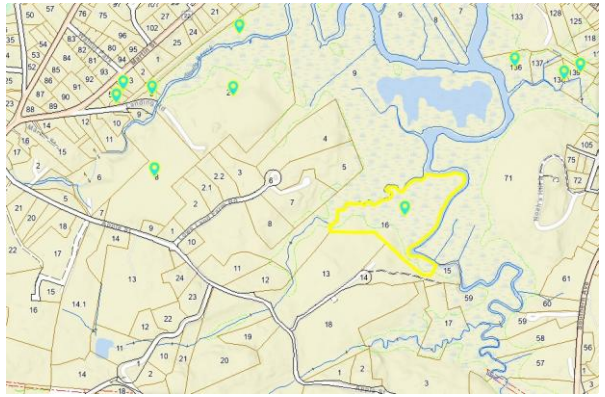
Town Hall, Spring Street Cemetery, Essex ES, Centennial Grove, DPW Transfer Station, Public Water Supply

Identified Sites

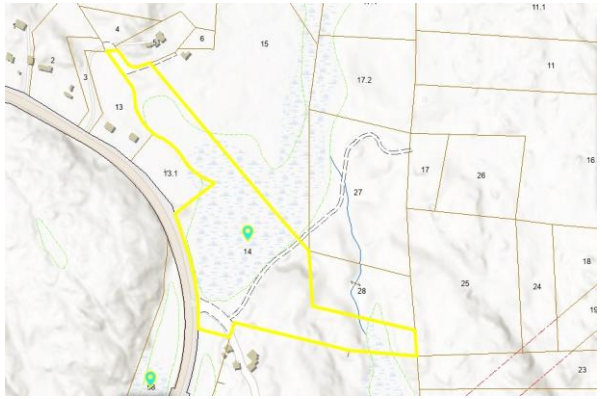
Sites Lacking Infrastructure - Road Access and/or Town Sewer & Water



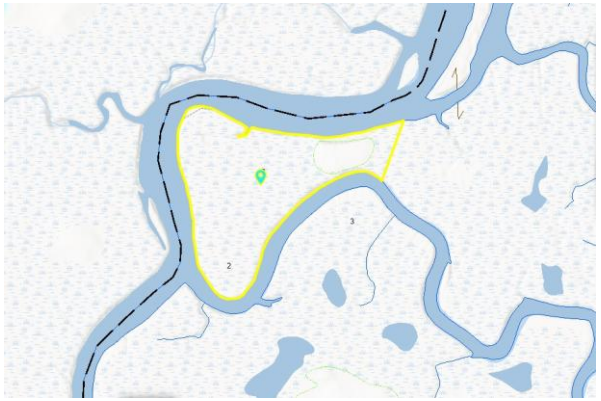
0-4 Conomo Point Rd (4 parcels)



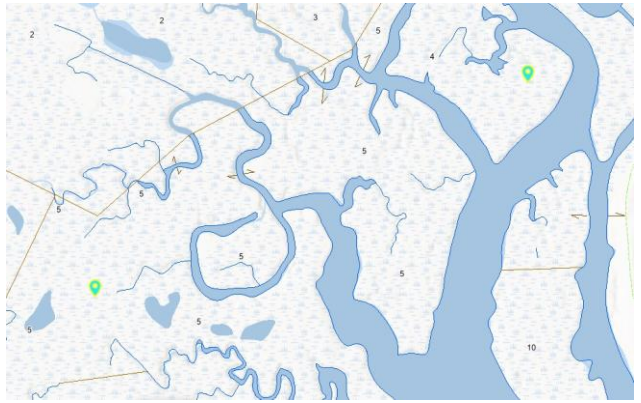
0 Apple St Rear



0 Southern Ave

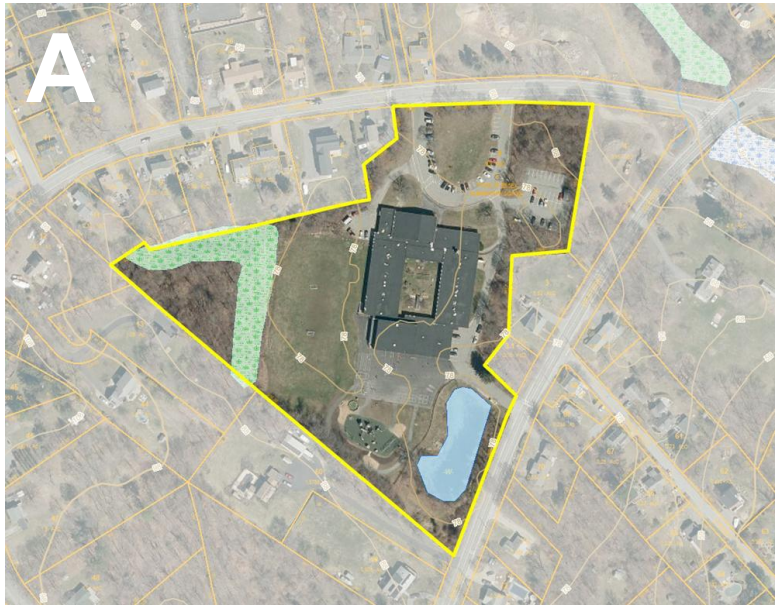


0 PODS Island



0 Hardy’s Creek Marsh (2 parcels)

Identified Sites



Current Essex Elementary School

12 Story Street, Essex MA



Current Manchester Memorial Elementary School

43 Lincoln Street, Manchester MA



Apple Street Site

30 Apple Street, Essex MA

Current Essex Elementary School -



Considerations:

Site Development

- Developed site utilities available currently supporting existing school. Capacities to be determined pending option selected (renovation, addition, or new construction).
- Site is adequately sized.
- Existing EES drawings show previous additions supported on footing foundations, no piles. Some exposed ledge visible. Geotechnical studies to acquire additional information.
- Recognized Environ. Condition (REC) - Oil release in Boiler Room; Business Environmental Risks (BERs) - Asbestos Containing Materials, Lead Based Paints, Urban Fill Soils
- Pond and wetland on site. MassDEP regulations for bank, and 100-ft buffer to wetlands. No additional town bylaws. No flood plain. Likely straightforward regulatory process.
- New building and site layout can be configured for future options.
- Project scope expected to have high level of MSBA reimbursement, similar to past MMES project
- Multiple site access points for construction. Likely lose play field during construction.

Current Essex Elementary School -



Considerations Continued:

Site Access
- Road widths currently acceptable for buses to existing EES
- Sidewalks on adjacent streets.
- Busing status quo

Community
- Current school site and grade configuration meet the Regional Agreement.
- Walking distance to Town Hall/Burnham Library and Memorial Park.
- Established identity for the community

Education
- Students likely lose play field during construction
- Potential construction phasing disruptions for options including renovations and additions.

Schedule
- No apparent schedule obstacles

Current Manchester Memorial ES



Considerations:

Site Development

- Developed site utilities in place to support existing school
- Site is adequately sized, however the MMES project fully built-out site leaving limited options for expansion.
- Existing MMES geotechnical report indicates ground improvement for footing support
- No identified environmental contaminants.
- Numerous jurisdictional areas (wetlands, flood plain, river/riverfront).
    - Site floodplain elevation includes rain garden and tennis courts. These areas also within 200-ft outer riparian zone, restricting area to be paved.
- Dense site already fully built-out with limited expansion options
- Additional work impact recent MMES project scope thereby reducing level of MSBA reimbursement.
- Construction activities on occupied school site with very limited available space.

Current Manchester Memorial ES



Considerations Continued:

Site Access
- Sidewalks on adjacent streets.
- Not walkable for students from Essex.
- Road widths currently acceptable for buses to MMES.
- Longer bus rides for some students from Essex to the MMES site
- Driveway to Summer St. will become service access only

Community
- Consolidation to MMES site would leave Essex without in-town K-4 per Regional Agreement
- Walking distance to Central St and adjacent to MS/HS
- Increased site density & vehicular traffic for school operations
- Loss of tennis courts likely to accommodate increased parking needs

Education
- Addition and/or renovation to MMES impact school operations and site circulation

Schedule
- Timeline to revise Regional Agreement and the regulatory process.

Apple Street Site



Considerations:

Site Development

- Simplified or no construction phasing for school operations
- New building and site layout can be configured for future options/growth.
- Off site utility developments needed are not MSBA Reimbursable:
  - Water on Apple St that will likely need increased capacity.
  - No sewer or drainage observed within Apple St.; Sewer Pump station in Landing Rd. likely needs upgraded capacity.
- No existing available geotechnical subsurface condition information. Geotechnical studies to acquire information.
- Recognized Environmental Condition (REC)- No groundwater monitoring program at the unlined Essex Landing Landfill; Business Environmental Risks (BERs) - Pesticides, former flower farm
- River/riverfront/flood plain on site to be managed with MEPA thresholds. No additional town bylaws.
- Two points of access available, with Landing Rd likely more appropriate for construction activity (verify bridge load capacity for construction vehicles).
- Noise of DPW adjacent to school.

Apple Street Site



Considerations Continued:

Site Access

- Existing road width to widen to support bus traffic, improve sightlines and safety for pedestrians and bikers
  - Adjust or rebuild two bridges
  - Move existing utility poles
  - Affect on resident properties
  - Not MSBA Reimbursable
- No sidewalks on Apple St or Landing Rd.
- Similar bus routing as current EES
- Existing challenges with buses maneuvering on Apple St.

Community

- No direct walking route or connecting sidewalks to town center (no positive aspects adjacent to DPW)
- Introducing school operations into smaller proportioned residential community

Education

- No disruption to existing schools
- Simplified or no construction phasing for school operations

Schedule

- Regulatory approval process, time, and cost for upgraded infrastructure.
- Past Town meetings regarding land acquisition have been unsuccessful twice.

Site Evaluation

Legend		
		Not Preferable
		Neutral
		Advantageous

DRAFT







ESSEX ELEMENTARY SCHOOL PROJECT SITE ALTERNATIVES		SITE A CURRENT ESSEX ES	SITE B CURRENT MMES	SITE C APPLE STREET
		12 STORY ST	43 LINCOLN ST	30 APPLE ST
General	Location	ESSEX	MANCHESTER	ESSEX
	Size	9.75 ACRES	11.313 ACRES	11.50 ACRES
Site Development	Town Owned			
	Adequate Buildable Area - (Current Site 9.75 Acres)			
	Utilities Access			
	Subsurface Conditions – Geotechnical (Bearing Capacity, Organics, Ledge)			
	Subsurface Conditions – Environmental Contaminants			
	Regulatory - Wetlands, Rivers and Streams, Flood Zones			
	Future Development Options and Flexibility			
	Reimbursement potential from MSBA (Offsite, Budget cap)			
	Construction Complexity – Access, Laydown, Phasing			
Site Access	Infrastructure - Bridges, Road Surface			
	Walkability - Distances, Sidewalks			
	Safety - Road Width, Sight Lines			
	Busing			
Community	Compatible with District Agreement			
	Access to other Community Resources			
	Minimize Impact on Neighbors			
Education	Meets needs of Educational Program			
	Construction Impact on Existing School Activities			
Schedule	No significant schedule risks - "Shovel Ready"			

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MEETING AGENDA

Meeting Date:	October 28, 2025
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria

Meeting Link: https://us06web.zoom.us/j/85349809336

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. Space Summary & Education Program Progress
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	10/28/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	J. Greco

Present	Name (* Voting Member)	Affiliation
√	Michelle Cresta*	Director of Finance & Operations
√	Pam Beaudoin*	Superintendent
√	Kim Provost*	Principal
√	Theresa Whitman*	SBC Co-Chair
	John Binieris*	SBC Co-Chair
√	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
√	Charlie Hay*	Architect School Building Experience
√	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
√	Tyler Virden*	Project Executive -Wise Construction / Paren
√	Annie Cameron*	Former SC Member and Memorial SBC Member
	Ariel Fernando Brian*	Architect - CBT
√	Jen Hocherman*	Architect - Partner SV Design
√	Michael Gerhardt*	Civil Engineer / Parent
√	Timonthy McDonald*	Architect - Onion Flats
√	Henry Ottenginer	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt	Facilities Manager
√	Emily Dwyer*	EES Teacher
√	Kim Field	EES Teacher
√	Rachelle Rousseau	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
√	John Albright	Project Manager - DWMP
	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
√	James LaPosta	Principal - JCJ Architecture
√	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
√	Jeff Elliott	Project Architect - JCJ Architecture
√	Emily Czarnecki	Principal (Interiors) – JCJ Architecture

√	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability
√	Brendhan Zubricki	Essex Town Manager

Item No.	Action Item	Ball in Court
6.5	Send out the full space summaries	Project Team
6.5	Send out the educational program	P. Beaudoin

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

Item No.		Description
8.1	**Call to Order & Intro:** Called to order by T. Whitman at 6:05pm, please refer to the attendee list.	Record
8.2	**Approval of October 14 - 2025, Meeting Minutes (Vote Expected):** **Roll Call Vote:** A motion to approve October 14, 2025, Meeting Minutes made by A. Cameron and seconded by H. Oettinger • **Yes: 11 | No: 0 | Absent/Abstain: 5**	Record

DORE + WHITTIER

	<table><tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr><tr><td>Michelle Cresta</td><td>Yes</td></tr><tr><td>Pam Beaudoin</td><td>Yes</td></tr><tr><td>Kim Provost</td><td>Absent</td></tr><tr><td>John Binieris</td><td>Absent</td></tr><tr><td>Theresa Whitman</td><td>Yes</td></tr><tr><td>Andy Oldeman</td><td>Yes</td></tr><tr><td>Charlie Hay</td><td>Yes</td></tr><tr><td>Gordon Brewster</td><td>Yes</td></tr><tr><td>Tyler Virden</td><td>Absent</td></tr><tr><td>Annie Cameron</td><td>Yes</td></tr><tr><td>Ariel Fernando Brian</td><td>Absent</td></tr><tr><td>Jen Hocherman</td><td>Absent</td></tr><tr><td>Michael Gerhardt</td><td>Yes</td></tr><tr><td>Timonthy McDonald</td><td>Yes</td></tr><tr><td>Henry Oettinger</td><td>Yes</td></tr><tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr><tr><td>Emily Dwyer</td><td>Yes</td></tr><tr><td>Kim Field</td><td>Advisor – No Vote</td></tr><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr><tr><td></td><td></td></tr></table>	
8.3	**Invoices & Commitments for Review and Approval (Vote Expected):** There were no invoices for approval at this meeting.	Record
8.4	**Removal of Apple Street from Site Selection (Vote Expected):**	Record

- C. Dell Angelo noted that the SBCreviewed this topic in depth for weeks and the project team had reviewed and provided the completed matrix.
    - J. Elliott noted JCJ updated the environmental impact of the site on the criteria matrix for Apple Street to yellow based on the previous SBC meeting discussion and recommendation.
- C. Dell Angelo noted that at the straw poll vote at the last meeting, the SBC agreed to remove Apple Street from the site and the ask now is to make an official vote.
- A. Cameron asked what the SBC and project team will need to provide to the MSBA to prove that they have done enough work to eliminate this option.
    - C.Dell Angelo noted that we believe what the project team have compiled so far, based on the criteria matrix, and the discussion, is sufficient and as part of the PDP submission to the MSBA.
    - A. Cameron noted she understands at this high level point in the project that costs cannot be understood with the magnitude of changes that would need to occur to make Apple Street viable. Given the information that has been presented, A. Cameron believes that the MSBA and the Town will support the removal of Apple Street.
    - P. Beaudoin noted that the MSBA wants to ensure the District studies the options to determine the most cost effective and fiscally responsible project, and based on the data provided, it seems Apple Street has the most cost implications related to site selection.

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Absent
John Binieris	Absent
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes

	<table><tr><td>Annie Cameron</td><td>Yes</td></tr><tr><td>Ariel Fernando Brian</td><td>Absent</td></tr><tr><td>Jen Hocherman</td><td>Yes</td></tr><tr><td>Michael Gerhardt</td><td>Yes</td></tr><tr><td>Timonthy McDonald</td><td>Yes</td></tr><tr><td>Henry Oettinger</td><td>Yes</td></tr><tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr><tr><td>Emily Dwyer</td><td>Yes</td></tr><tr><td>Kim Field</td><td>Advisor – No Vote</td></tr><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table> **Roll Call Vote:** A motion to remove Site C, Apple Street, as a potential site for the Essex Elementary School Project was made by G. Brewster and seconded by H. Oettinger • **Yes: 13 | No: 0 | Absent/Abstain: 3** Discussion: • A. Cameron noted that there will be a narrative created to share with both boards of selectmen to explain why this choice was made ○ A. Cameron noted she has a draft that will be reviewed by both P. Beaudoin and T. Whitman	
8.5	**Space Summary & Education Program Progress** • C. Dell Angelo shared that the project team has previously outlined as part of the PDP deliverables, that the District needs to develop the Educational Program, which drives the development of the three space summaries, based on the three enrollment configurations. At our last meeting, we reviewed the introduction of the two deliverables.C.Dell Angelo added that the space summaries will be shared with the SBC by Thursday this week and they will be asked for its acceptance at the 11/6/2025 meeting. • J. Elliott reviewed the space summaries slides showing the original Manchester Memorial School version, as well as the draft	Record

version of the proposed new Essex Elementary School with variations from the MSBA guidelines (Slide 8 - 10).

- R. Russo asked why the kindergarten classes are not listed.
  - J. Elliott noted that there are two classrooms for kindergarten, they were just not shown on the high variations from the MSBA guidelines slide. J. Elliott noted that they are included in the overall space summaries.
  - P. Beaudoin noted that this is just showing the line items with variations.
- C. Hay noted that it seems like the special educationline is way over and was wondering since it is a District wide program could they be moved to Manchester?
  - P. Beaudoin noted that Manchester is running out of space currently for special education and the RISE program is the largest of the programs. She noted they used to be in Essex but now they are in Manchester due to ADA accessibility. She added that 23% of the district population is involved in special education
  - C. Dell Angelo noted that we have seen this is change in schools on other projects and that recently there has been an increase in the creation of and need for special education space.
- P. Beaudoin asked if the space summary included the PT/multipurpose room.
  - J. Elliott noted yes, it is around 1,200 square feet.
- A. Cameron noted that it seems the Essex project is a larger percentage than the MSBA guidelines compared to the Manchester version.
  - T. Whitman noted it would be helpful to see the justifications for this space
  - C.Dell Angelo said that the educational program that will be reviewed by the MSBA is the driver and justification for the space.
- A. Cameron noted that it should be considered that some of these spaces may be outsourced in the future.
  - P. Beaudoin noted that special education space needs have consistently gone up and they expect them to keep increasing in the future.
- A. Cameron asked how much space is really needed for the addition to the full K-5 at Manchester Memorial grade configuration?

- P. Beaudoin noted that there would be a need for an increase in around 6 classrooms plus Pre-K along with any configurations required for the common space to fit everyone.

- C. Hay asked if there has been any analysis on the core/common spaces in the Manchester building?
  - J. Elliott noted there would be an increase needed of around 13,000 square feet.
- T. Whitman asked where the physical impact is shown for the EES K-3 grade configuration for the students that go to Manchester Memorial?
  - P. Beaudoin said they can physically take on grades 4 & 5 at Manchester Memorial but there will be educational impacts
- G. Brewster asked that for the K-5 option at Manchester would they need to add 40,000 square feet?
  - J. Elliott noted that it is correct and the existing building would have very little renovation.
- M. Gerhardt noted some observations such as there is a 63% increase over the MSBA guidelines for the proposed EES K-5 option and the Manchester project was only 31%. He added that based on the shown space summaries the Manchester Memorial had 230 square feet/student and the proposed Essex Elementary School is currently at 290 square feet/student
  - J. Elliott noted that some of the larger spaces are the same size but serve a lower number of students, which skews the student/SF numbers.
- M. Gerhardt noted when he does the math, he is missing some 6,000 square feet for the Essex Elementary School K-5.
  - J. Elliott noted that the MSBA template does not always use the full 1.5x grossing factor for every square foot.
- M. Gerhardt asks if the square footage over the guidelines is completely non-reimbursable?
  - J. Elliott noted that the MSBA will track all the deviations, compare it to the educational program, and ask the District questions to decide whether they will reimburse some of the spaces or not. He added they will reimburse more than just the 45,000 square foot guideline shown but that the template does not show what those values are. The final reimbursement number will be incorporated into the final project cost.

-
    - C. Dell Angelo noted they will work closely with the MSBA and DESE and when the educational program shows a strong need for the space the MSBA can and will likely reimburse the spaces.
  - M. Gerhardt asks if it is realistic that grades 4 and5 could fit into the Manchester building?
    - P. Beaudoin noted that if that is the case they will need 16 to 18 general classrooms so some programs will have to be displaced, and space will have to be used differently than it was designed for if large group spaces have to be taken.
    - T. Whitman noted it is important to show that there will be impact to the Manchester program if grades 4 and5 are moved over.
  - P. Beaudoin asked based on the projected square footage for EES would the school be designed as a single story building, or stacked like Manchester and how does this affect the square footage totals?
    - J. Elliott noted it does not affect it greatly and the 1.5x grossing factor considers circulation for both horizontal and vertical spaces. He noted that EES could very well be two stories creatingupper and lower schools, he added this is very common.
  - A. Oldeman noted that he has seen any special education that has to be outsourced often ends up being a higher operating cost for the District rathern than keeping in house.
- T. Whitman asked to confirm that the SBC will be voting on this at the next meeting.
  - C. Dell Angelo noted yes, and they will be sending all space summary documents Thursday, and the educational program on Monday. The SBC will be voting on whether to accept these at the next meeting, and the School Committee will vote on whether to accept the space summaries and whether to approve the educational program. C. Dell Angelo added to send any questions directly to the project team.
- C. Hay asked if there will be any more review of the space summaries by the project team to lower the number?
  - P. Beaudoin noted there may be some confusion around this as they are not coming up with the numbers, they are created by the educational program that drives what spaces are needed and the space summary templates creates the square footage.

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- C. Dell Angelo added that the MSBA provides the educational program template, and the District develops the information that is required for the District.

- J. Hocherman asked if there are standards across MSBA projects about what percentage of the square footage over the guidelines is normally accepted for reimbursement.
  - C. Dell Angelo notes yes, they can provide information.
- McDonald asked if there is a way to articulate the overage from what MSBA will not participate in and what that the District can afford?
  - T. Whitman thinks that is something that will not be known till they go till the voters as everyone will have a different number, but the job of the SBC is to create the most cost-effective school for the District.
- P. Beaudoin noted that as an educator the most important aspect should be the classrooms even if that means reducing the size of items such as the gym even though that is also needed.
- A. Cameron asked when the decisions to pull back scope due to cost will occur?
  - C. Dell Angelo noted we have not even started designing alternatives yet so we are not ready to discuss cost at this high level. C. Dell Angelo added that JCJ needs these space summary sheets to start developing design alternatives, and as the alternatives are reviewed with the SBC, there might be instances where one or more alternatives might be removed from the options within the PDP phase to winnow down the amount of options. C.Dell Angelo noted that at PSR they will really be focusing on around a smaller amount of options and at the end of PSR they will be choosing the preferredoption and that is when costs really start to be reviewed.
- J. LaPosta noted that this is a long process, and the space summary templates are not static, they will change throughout the process even after they are accepted at PDP. He noted that their job is to design the most efficient plan and the refining from the SBC will start as soon as designing starts. He added that the MSBA will not accept the project if it does not meet the educational program so they cannot refine too much too soon. J. LaPosta also said that a lot of efficiencies can be found for the buildings once they start being designed.
- T. Whitman asked to confirm what the SBC is accepting again.
  - C.Dell Angelo noted they are accepting the spaces that support the educational program, and this will not be finalized until the end of Schematic Design with the MSBA. C. Dell Angelo added that the educational program

	is really the document that is being approved by School Committee as if it were to change the School Committee will need to revote to approve it. • P. Beaudoin noted there are no classroom numbers or square footages included in the education program. • E. Dwyer provided an example from her experience on the Pentucket SBC about how the indoor track space was supported by their education program the SBC decided that it should not be included.	
8.6	**Schedule Update** • C. Dell Angelo provided an update to the schedule for the Preliminary Design Program (PDP) and the Preferred Schematic Report (PSR) (Slide 12). ○ T. Whitman asked if the open-door food truck could be scheduled on the day that the tour and community meeting. • R.Russo noted that the food truck comes right a dismal before the school tours and the community meeting.	Record
8.7	**Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting (Occurred after approval of meeting minutes)** • Please note that this agenda topic was taken out of order and reviewed at the beginning of the meeting after previous meeting minutes were approved. • B. Zubricki, the Town Administrator for Essex, joined the meeting to discuss the town shelter aspect of the proposed Essex Elementary School. ○ P. Beaudoin noted this is a general inquiry into the Town of Essex asking whether they have any changes to the current shelter plans for the Essex Elementary School. ○ B. Zubricki noted that the Town's emergency plan is for the Essex Elementary School to be the local shelter, and they would bring in Red Cross. However, Cape Ann general area is working to make Gordon College a widespread shelter. B. Zubricki noted that they would	Record

	need a generator, ability to cook, and a large space for gathering with heating and cooling capabilities. o J. Hocherman asked if this would impact on the structural aspect and cost of the project. o F. Pellegrini noted yes it would increase the category required for the structure. She added that they can make the school prepared for these things without designating the building as a certain level shelter. o B. Zubricki agreed with this path. o C.Dell Angelo noted she sent an email to the SBC with all the requirements that would be needed. o The committee agreed to move forward with the existing shelter in place capabilities.	
8.8	**Public Comment:** There was no public comment.	Record
8.9	**Reflections & Action Items** • P.Beaudoin noted that there have been conversation regarding the Town Meeting schedules as outlined within the MSBA project schedule for Fall 2026. P. Beaudoin stated it would be helpful to schedule a time to review this timeline with the Leadership team as well as certain chair members from boards within each Town. o T. Whitman agreed that the SBC should be involved and suggested that we empower P. Beaudoin to meet with the two Town Administrators for an initial conversation. The group supported this path. o C.Dell Angelo noted they could create a working group if that would be helpful o P. Beaudoin noted she will start first with an offline group and bring it forward if needed.	
8.10	**Adjourn:** **Roll Call Vote:** A motion to adjourn the meeting was made at 7:51pm by G. Brewster and seconded by A. Cameron • **Yes: 14 | No: 0 | Absent/Abstain: 2**	Record

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Yes
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brian	Yes
Jen Hocherman	Absent
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Yes
Steve Hunt	Advisor – No Vote
Emily Dwyer	Yes
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

Sincerely,
DORE + WHITTIER
Jacob Greco
Assistant Project Manager
Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 8

October 28, 2025 @ 6:00 PM

Manchester Essex Regional School District

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JCJ ARCHITECTURE

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. Space Summary & Education Program Progress
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. Space Summary & Education Program Progress
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. Space Summary & Education Program Progress
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. **Removal of Apple Street from Site Selection (Vote Expected)**
5. Space Summary & Education Program Progress
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

Site Evaluation

Legend	
	Not Preferable
	Neutral
	Advantageous







ESSEX ELEMENTARY SCHOOL PROJECT SITE ALTERNATIVES		SITE A CURRENT ESSEX ES	SITE B CURRENT MMES	SITE C APPLE STREET
		12 STORY ST	43 LINCOLN ST	30 APPLE ST
General	Location	ESSEX	MANCHESTER	ESSEX
	Size	9.75 ACRES	11.313 ACRES	11.50 ACRES
Site Development	Town Owned			
	Adequate Buildable Area - (Current Site 9.75 Acres)			
	Utilities Access			
	Subsurface Conditions – Geotechnical (Bearing Capacity, Organics, Ledge)			
	Environmental Contaminants			
	Regulatory - Wetlands, Rivers and Streams, Flood Zones			
	Future Development Options and Flexibility			
	Reimbursement potential from MSBA (Offsite, Budget cap)			
	Construction Complexity – Access, Laydown, Phasing			
Site Access	Infrastructure - Bridges, Road Surface			
	Walkability - Distances, Sidewalks			
	Safety - Road Width, Sight Lines			
	Busing			
Community	Compatible with Regional Agreement			
	Access to other Community Resources			
	Minimize Impact on Neighbors			
Education	Meets needs of Educational Program			
	Construction Impact on Existing School Activities			
Schedule	No significant schedule risks - "Shovel Ready"			

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. **Space Summary & Education Program Progress**
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

Space Summary – Variations from MSBA Guidelines

Manchester Memorial Elementary School: K-5, 335 Students

3 Core Classrooms	Increase total from 12 to 15 CRs (3 each, Grade 1-5) due to max class sizes. MSBA guideline based on 23 students per class.	3@ 950 NSF	2,850 NSF
2 PK Classrooms w/ Storage	District-wide integrated PK.	2 @ 1,200 NSF 1 @ 250 NSF	2,650 NSF
2 Project Rooms	MSBA has since revised guidelines to support 1,200 NSF of upper elementary STE.	2 @ 1,000 NSF	2,000 NSF
1 Self-Contained Special Education Classroom	Extra classroom to accommodate district-wide Intensive Reading and Written Language (IRWL) and the Supportive Alternative Individual Learning (SAIL).	1@ 950 NSF	950 NSF
2 Resource Rooms	IRWL and SAIL	2 @ 500 NSF	1,000 NSF
Gymnasium Increase	Bleacher seating.	1 @ 850 NSF	850 NSF
Book Storage	Program driven book storage.	1 @ 300 NSF	300 NSF

MSBA Guidelines **58,932 GFA** (x1.5 Grossing Factor)
Built Project **77,102 GFA**

Space Summary – Variations from MSBA Guidelines

Essex Elementary School: 250 Students, K-5

1 Core Classrooms	Increase total from 9 to 10 CRs (2 each, Grade 1-5) due to max class sizes. MSBA guideline based on 23 students per class.	1@ 950 NSF	950 NSF
2 PK Classrooms w/ Storage	District-wide integrated PK.	2 @ 1,200 NSF 1 @ 250 NSF	2,650 NSF
1Project (STE) and 1 World Language	MSBA guidelines allow for 1,200 NSF of upper elementary STE but not included in total below.	1 @ 1,080 NSF 1 @ 120 NSF 1 @ 950 NSF	2,150 NSF
MTSS Interventionists w/ Small Group	857 NSF existing lacks Small Group rooms.	2 @ 500 NSF 2 @ 250 NSF	1,500 NSF
Break-Out	Existing building lacks Break-Out spaces.	3@ 500 NSF	1,500 NSF
Special Education	RISE and ACE each with K-2 and 3-5 rooms, Small Group Rooms, OT, PT, and supporting spaces.	+ 5,325 NSF	5,325 NSF
Gymnasium Increase	Bleacher seating.	1 @ 850 NSF	850 NSF

MSBA Guidelines **45,000 GFA** (x1.5 Grossing Factor)
Existing **53,036 GFA** (7,759 GFA Basement)
Currently Proposed **73,673 GFA**

Space Summary – Grade Configurations

		Existing	MSBA Guidelines	Proposed
K-3 at **EES**	**165 Students**	53,036 GFA	29,700 GFA	60,777 GFA
K-5 at **EES**	**250 Students**	53,036 GFA	45,000 GFA	73,673 GFA
K-5 at **MMES**	**515 Students**	77,102 GFA	79,782 GFA	119,001 GFA

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. Space Summary & Education Program Progress
6. **Schedule Update**
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

Schedule Update/PDP

10/30/25-Draft Ed Program and Space Summaries to SBC

11/6/25 SBC Meeting- Accept Ed Program and Space Summary, Preliminary Evaluation of Alternatives

11/20/25 Comm Meeting #2-Site and Alternatives Review

11/25/25 SBC Meeting-Review Community Meeting #2 Feedback, Further Evaluation of Alternatives

12/9/25 Comm Meeting #3-Memorial ES with a tour and rerun of meetings #1 and #2

12/15/25 SBC Meeting-Final Evaluation of Alternatives with Preliminary Costs

12/19-12/30 Draft PDP to SBC

1/6/26 SBC Meeting-PDP Approval to MSBA, Initial Grade Configuration Discussion

Schedule Update/PSR

1/22/26 SBC Meeting-Alternatives with Grade Configuration Discussion

1/28/26 Comm Meeting #4-Share PDP results and Evaluation of Alternatives with Grade Configuration

2/9/26 SBC Meeting-Review Comm Meeting Feedback, Review Alternatives and Grade Configuration

2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing

3/10/26 SBC Meeting-Preferred Alternates if Necessary

3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration

3/30/26 Comm Meeting #5-Review Preferred Options

4/14/26 SBC Meeting-Review Comm Meeting #4 Feedback and Approval of Preferred Solution

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. Space Summary & Education Program Progress
6. Schedule Update
7. **Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting**
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. Space Summary & Education Program Progress
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. **Public Comment**
9. Reflections & Actions Items
10. Adjourn

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. Space Summary & Education Program Progress
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. **Reflections & Actions Items**
10. Adjourn

SBC Meeting Agenda – October 14, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 7 20251014
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Removal of Apple Street from Site Selection (Vote Expected)
5. Space Summary & Education Program Progress
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

MEETING AGENDA

Meeting Date:	November 6, 2025
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria

Meeting Link: https://us06web.zoom.us/j/85349809336

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 8 20251028
3. Invoices & Commitments for Review and Approval (Vote Expected)
    - DWMP Invoice No. 5 | $45,225.50
    - JCJ Invoice No. 2 | $29,025.00
4. Space Summary & Education Program Acceptance (Vote Expected)
5. Preliminary Evaluation of Alternatives Review
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

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Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	11/06/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	

Present	Name (* Voting Member)	Affiliation
√	Michelle Cresta*	Director of Finance & Operations
√	Pam Beaudoin*	Superintendent
√	Kim Provost*	Principal
√	Theresa Whitman*	SBC Co-Chair
	John Binieris*	SBC Co-Chair
√	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
√	Charlie Hay*	Architect School Building Experience
√	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
	Tyler Virden*	Project Executive -Wise Construction / Paren
√	Annie Cameron*	Former SC Member and Memorial SBC Member
	Ariel Fernando Brian*	Architect - CBT
	Jen Hocherman*	Architect - Partner SV Design
√	Michael Gerhardt*	Civil Engineer / Parent
√	Timonthy McDonald*	Architect - Onion Flats
√	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
√	Emily Dwyer*	EES Teacher
√	Kim Field	EES Teacher
√	Rachelle Rousseau	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
√	John Albright	Project Manager - DWMP
	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
√	James LaPosta	Principal - JCJ Architecture
√	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
√	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture

	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

Item No.	Action Item	Ball in Court

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

Item No.		Description
9.1	**Call to Order & Intro:** Called to order by T.Whitman at 6:00pm, please refer to the attendee list.	Record
9.2	**Approval of October 28 - 2025, Meeting Minutes (Vote Expected):** • T. Whitman noted that there were late revisions submitted for the minutes so they will be tabled until the next SBC meeting.	Record

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9.3	**Invoices & Commitments for Review and Approval (Vote Expected):** - T. Whitman noted that the Minuteman Press invoice was added late so it will be approved at the next SBC meeting. **Roll Call Vote:** A motion to approve the following invoices was made by E. Dwyer and seconded by A. Cameron • DWMP Invoice No. 6 | $46,485.50 • JCJ Invoice No. 2 | $29,846.21 Discussion: - G. Brewster asked if the invoices have been reviewed? o P.Beaudoin noted yes.	Record

Name	Yes/No/Abstain & Absent
Michelle Cresta	Absent
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Yes
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Absent
Annie Cameron	Yes
Ariel Fernando Brian	Absent
Jen Hocherman	Absent
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Yes
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

	• **Yes: 11 | No: 0 | Absent/Abstain: 5**	
9.4	**Space Summaries & Educational Program Acceptance (Vote Expected)** • C. Dell Angelo noted that she shared the space summaries last week and P. Beaudoin also provided the educational program. C. Dell Angelo added that both of those emails outlined important factors to consider while reviewing the documents. C. Dell Angelo noted that the goal tonight is for the SBC to accept these documents and from there they will go to School Committee for their acceptance of the space summaries and their approval of the educational program. ○ G. Brewster noted that originally, he struggled with understanding what was shared last week but after the information provided, he now understands how these numbers were generated. G. Brewster added that they are not the final numbers but how it is a starting point to reach the final square foot number. G. Brewster also noted he read a portion of the education program and was impressed with what he read. • P. Beaudoin noted that if anyone has questions about the education program, they should ask. P. Beaudoin noted that at a high level it is not about how many spaces there are and their sizes but is about how they use the spaces that they have and need. ○ A. Cameron noted the historic challenge has been that Essex is not a perfect 2/3rds to Manchester's whole so this could create issues such as needing 1.5 classrooms, which you cannot do, so you need to provide two. ○ A. Cameron asked if the admin still asserts that the classroom and small group instruction space that we designed at Memorial is still applicable in this school? • P. Beaudoin noted that is a modern education versus 1950's building design ○ A. Cameron asked how many revisions there has been since the Manchester Memorial education plan? • P.Beaudoin noted that the curriculum layout is still the same. The main changes are using breakout space and neighborhood-based classroom language. P. Beaudoin added that there are a lot more small group spaces needed, and flexibility is still a key.	

- A.Cameron agreed that there is a lot of language for flexible space. A. Cameron asked how you draw a limit through design and education to prevent overbuilding of these spaces?
  - E. Dwyer noted that one thing that was supported well in the educational program was the piece about differentiation. E. Dwyer added that sometimes you teach in large groups while at other times it is small groups and even within the smaller groups the students may learn better through visual or oral speech. E. Dwyer continued that there is a varying dynamic within the classroom and students gain value from having breakout time with teachers separate from the large classroom. E. Dwyer said that this is even more of an expectation now in education than it was five years ago.
  - P. Beaudoin stated that the underlying content from the education program came from the notes provided by the Director of Special Education, Director of Curriculum, K. Provost, staff, & the visioning sessions. P. Beaudoin noted that the educational program is really just a compiled narrative of this. P. Beaudoin said that even in spaces such as the cafeteria they have to accommodate students that cannot function in spaces that are large and loud. P. Beaudoin noted that this is not a specific space ask but is a type of space ask.
  - J. LaPosta noted that the statistics nationally mirror what Essex is seeing regarding the needs of students. He said that a lot of what the design input does is to not actually add space to the building but how the space is utilized. J. LaPosta noted that the use of specific furniture is greatly impactful along with the interior finish designs & colors of the spaces. Lastly, he noted that the implementation of systems such as audio enhancement can be very useful.

- A. Cameron asked if they currently have world language as it is in the educational program and how does the MSBA reimburse a program the district currently does not have?

- P. Beaudoin noted it is a program they used to have but it was cut due to funding and has always been a part of the program. P. Beaudoin does not think the MSBA will have an issue with it because it has always been a part of the programming in the past and will be in the future. P. Beaudoin added that they may not need their own classroom but will need a teacher planning space at the very least.

- A. Cameron asked about teacher planning rooms and if they are necessary as she does not think they are currently used often.
  - P. Beaudoin said that they are used by the teachers heavily as it acts as a "defacto" home base and stated that district wide there is a lack of space for teachers to work together, and this is an important item. P. Beaudoin said that the educators make the schools run and it is important for them to have adequate space
  - E. Dwyer shared an example of how when she works and collaborates with other teachers, they have to use one of their classrooms and create space to work. However, every week they have to restart & reset up the work because the classroom has to be utilized by the students the majority of the time.
    - K. Provost added that at the elementary level it is even more unproductive because they are using chairs and tables meant for small children not adults.
  - R. Russo noted it would be beneficial to have a shared space where they can store shared resources for their programs instead of everything living in their classrooms.
  - T. Whitman added that those adult spaces can be utilized for students also and are essentially flex space.
- A. Cameron asked if there is any scenario where they would not extend the Pre-K program to include two classrooms in the Essex Elementary School Project?
  - P. Beaudoin noted she could not recommend that and this year they have three classrooms and could have four classrooms if there was enough space. P. Beaudoin added that if the district has to go to universal Pre-K they will actually be under spaced even with the new classrooms.

- A. Cameron asked how the Manchester Memorial library commons have been functioning and if there is anything that would be done differently?
  - P. Beaudoin noted that she does not think so and it serves its purpose, but she does not think the school is utilizing the outdoor space associated with it enough. P. Beaudoin noted that school is still growing into the building and its space so she hopes that it will become utilized more.
- A. Cameron asked to clarify that project rooms are separate and different from art rooms.
  - P. Beaudoin noted yes, the project rooms can be signed out by classes to work on prolonged projects or be used for small presentations as some examples but are not designated for art classes.
- E. Dwyer noted that she has some questions about the details of the program specifics.
  - P. Beaudoin asked her to reach out separately to review the detailed aspects if the questions are not building & space related.
  - T. Whitman noted that it is okay for those discussions to take place outside the meeting as long as the SBC agrees that it is fine for changes to occur after they accept it.
    - C. Dell Angelo noted this is acceptable, common, as it is always changing, and that the project team can provide a summary of any changes that occur.

- M. Gerhardt asked if it was realistic that the Manchester Memorial School could actually handle the absorption of Essex's grades 4 & 5 without any changes?
  - P. Beaudoin noted yes, they can fit the kids in, but the building will not be used as it was designed. P. Beaudoin noted that they created a document that illustrates that classroom changes that would be needed.
  - A. Cameron asked if the quality of education will drop in this scenario?
    - P.Beaudoin noted yes, it would be overcrowded and is the worst option of the three for child development.
  - C. Dell Angelo added a reminder that the space summaries will be further refined and will not be locked in until the schematic design package is submitted. C. Dell Angelo noted that in the next agenda topic they will seem some of the first proposed options but added that based on the criteria these

will be graded on some options will be removed and some may expand into multiple different iterations or versions. C. Dell Angelo said that some of the options may not meet the educational program and therefor will be removed by the committee.
    - M. Gerhardt noted that is his point and asked if there should be a space summary, that is K-3 at Essex with an expansion of 4 & 5 at Manchester? M. Gerhardt noted that it seems like they are missing a piece.
    - C. Dell Angelo responded by explaining that the three space summaries are based on the three agreed upon enrollment configurations with the MSBA. These are laid out through the statement of interest and the feasibility study agreement.
- C. Hay noted he does not think that the space summaries are flawed and it may be that not putting an addition on the Manchester Memorial building is flawed. He added that this will all be fleshed out during the discussions around those options.
    - P. Beaudoin noted that it may just be that the original assertion that this is a feasible grande configuration is flawed.
- M. Gerhardt asked if they accept these space summaries and move forward with them is the SBC now taking off the option of expansion at the Manchester memorial building for the Essex K-3 grade configuration?
    - C. Hay answered by saying no and that these options will be fully vetted and reviewed for three more phases so everything will be considered.
    - J. LaPosta added as a reminder that any work at the Manchester Memorial building would not be reimbursable by the MSBA.
- T. Whitman asked to clarify if what she understands is correct. T. Whitman noted that the space summary is MSBA's template for reimbursable space, but any addition for that configuration, any editing or modifications you need to do at the Memorial School for just the forth & fifth grades to go over there wouldn't be reimbursable. Therefore, it's okay that they're not included in that space summary, because the SBC is not arguing that they would be reimbursable in any way?
    - J. LaPosta noted that in the MSBA's eyes the project for the K-3 grade configuration is only about the Essex students in those grades. The MSBA will not

	care what the District decides to do with the students in grades 4 & 5. J. LaPosta noted they will have an exception to undoing work they paid for at the Manchester Memorial Building and they may want money back. • M. Gerhardt asked what if they do not do any construction to the building, would the MSBA have any issues with reworking the educational plan that they just funded a building for? ▪ P. Beaudoin noted the MSBA does not approve or fund the educational plan they approve and fund the physical building. The purpose of the educational plan is to keep the project team in check and give them a basis for the design. ▪ C. Hay noted that the program they sold for Manchester is gone for the MSBA and they currently only care bout the Essex educational plan. • C. Dell Angelo noted that this is why there are three grade configurations or plans that need to be studied and that it is up to the District to figure out the best option. • C. Hay noted that every District and Town has a different view on education and how to teach so the MSBA does not care how you teach they just care about the space summaries, and the educational program is a roadmap to get to those space summaries. ○ T. Whitman asked if the grade configuration option to keep grades K-3 at an Essex site and move grades 4 & 5 to Manchester with no additions or work to the Manchester Memorial building will meet the educational program? • P. Beaudoin said that the only option that will meet with the educational program is the full K-5 school on the current Essex site. P. Beaudoin noted that this is because their program consists of the regional agreement and this is the only option that does not deviate from that. P. Beaudoin noted that they are not deviating from that either unless there is a cost-efficient reason to cause the committee to vote in that direction. • C. Dell Angelo noted she talked to the MSBA about the three design configurations and asked if it is viable to take of the Manchester Memorial site at the PDP phase due to information gathered so far.	

C. Dell Angelo noted that the MSBA heard from the district that there was a large contingent of the community that wanted it to be reviewed so it has to be carried till PSR and that is when it can be eliminated if necessary.
    - C. Hay noted that no one should worry about carrying the Manchester Memorial options through PDP because once the project is into the PSR they can start removing options.
- A. Cameron asked if the current special education programs will have a large lifespan to support these new spaces
    - P. Beaudoin noted they have longevity and if the cohort changes, they could morph, but she does not predict that and sees these programs increasing in need.
    - K. Provost noted that legally you cannot run the K-5 program in one room due to age restrictions so that is why they often take up multiple rooms.
- P. Beaudoin reviewed the graphic she passed out showing the configuration of the Manchester memorial building if Essex grades 4 & 5 were added in.
- P. Beaudoin noted there is a whole community section in the educational program and noted she built in the goal of adding community track and field space.
    - A. Cameron said it is good to throw everything in and see what can actually be done.

Roll Call Vote: A motion to accept the presented space summaries and educational plan to be sent to the school committee for their acceptance and approval respectively made by P. Beaudoin and seconded by H. Oettinger.

Discussion: No further discussion.

Name	Yes/No/Abstain & Absent
Michelle Cresta	Absent
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Yes
Theresa Whitman	Yes
Andy Oldeman	Yes

	<table><tr><td>Charlie Hay</td><td>Yes</td></tr><tr><td>Gordon Brewster</td><td>Yes</td></tr><tr><td>Tyler Virden</td><td>Absent</td></tr><tr><td>Annie Cameron</td><td>Yes</td></tr><tr><td>Ariel Fernando Brian</td><td>Absent</td></tr><tr><td>Jen Hocherman</td><td>Absent</td></tr><tr><td>Michael Gerhardt</td><td>Yes</td></tr><tr><td>Timonthy McDonald</td><td>Yes</td></tr><tr><td>Henry Oettinger</td><td>Yes</td></tr><tr><td>Emily Dwyer</td><td>Yes</td></tr><tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr><tr><td>Kim Field</td><td>Advisor – No Vote</td></tr><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table> **Yes: 12 | No: 0 | Absent/Abstain: 4**	

9.5	**Preliminary Evaluation of Alternatives Review**
	
	• J. Elliott reviewed the preliminary evaluation of alternatives including the seven proposed options for the three different grade configurations along with the draft evaluation matrix (Slide 10 - 18). Please view the presentation to see each induvial option along with the associated facts and considerations.
	  ○ C. Hay asked if there should be another option showing an addition at Manchester Memorial?
	  • J. Elliott noted that the MSBA's project would just be the K-3 at Essex and would not include the work done in Manchester.
	  • P. Beaudoin noted that if there was an addition at the Manchester Memorial for the EES K-3 option it would have to be a completely separate district-led project and not included with the Essex MSBA project.
	  • C. Dell Angelo agreed but said it would be an important consideration to be included for that EES K-3 option.
		Record

- P. Beaudoin noted that these options are not on here because they are viable, the goal is to decide if they are or not.
- E. Dwyer asked with renovations how does something such as abatement work?
  - J. Elliott said it would be done during the summer or multiple summers. There would be multiple phases with the exact quantity that is unknown at this time.
- A. Cameron asked how major system upgrades happen during the addition/renovations?
  - J. Elliott noted it would be completed during summers.
  - J. LaPosta said that it can also be done in phases but that adds cost.
- J. LaPosta added that unlike the code upgrade option, the addition/renovation options allow for adjacency changes and rework within the walls of the building.
- M. Gerhardt noted that the new construction options seem to infringe on wetland areas and asked if the project team is engaging anyone to review it.
  - J. Elliott noted yes, they are conducting wetland flagging and will review this, J. Elliot noted that if the new option cannot go in the shown location it would have to become a multi-phased new construction option instead of just the two phases listed
- A. Oldeman asked what the gross area of Manchester Memorial was?
  - C. Dell Angelo noted 77,000 square feet
- C. Dell Angelo noted that all the playgrounds will need to be expanded in the full K-5 at Manchester Memorial along with all the base building additions.
- T. Whitman noted that the expanded car park on option B1.1 looks like it would create issues with the Manchester Con Com and the storm water management plan.
- C. Dell Angelo noted that on option B1.1 any of the existing buildings that are touched by the MSBA will implement a cost recovery from the original project, and it will reduce their grant.

- T. Whitman noted that at the most recent school committee meetings the currently proposed grade configurations were shared and the final comment from the committee was "why is this even being reviewed and when can it be removed?". T. Whitman noted that the school committee may conduct their own vote to not amend the regional agreement in parallel to the SBCs process.

- C.Dell Angelo asked the SBC members to review the evaluation criteria matrix as homework and let the project team know of any additions and/or changes.
- J. LaPosta noted the most helpful and productive route now is to finalize the criteria matrix to be able to evaluate the alternatives.
- P. Beaudoin asked if she is correct if the addition at the Manchester Memorial is within 20,000 total square feet of the new building at the Essex site?
    - J. Elliott noted it is close to that; the fully new construction option of K-5 at Essex's current site would be around 33,000 square feet larger than the K-5 addition at the Manchester memorial building.
    - A. Cameron asked if option B1.1 really accommodates everything needed?
    - P. Beaudoin noted yes but it is still going to be a tight fit.
    - M. Gerhardt noted that what happens is that you do not have to build a whole new cafeteria or gymnasium and that is why so much square footage is saved.
    - P. Beaudoin added that the common spaces would not fit the full student population anymore.
    - A. Cameron noted that for option B1.1 if one or two developments occurred there would be severe lack of space as there is no room for another addition at the Manchester Memorial site.
        - J. Elliott noted that is a good point and there would be no room for a future 20% expansion.
- T. McDonald asked about the structure of the building, the ceiling height, the classroom size and layout for options A0.1/A0.2. T. McDonald asked when a study of how this would really work is presented?
    - J. LaPosta noted this would all occur in the next phase, the PSR.
- A. Oldeman noted that these are the required steps per the MSBA and they have to go through them. A. Oldeman said that at the Memorial project the code upgrade was actually more expensive.
- P. Beaudoin noted she has received questions about how the SBC and project team will study the impact of traffic of adding more students to the Manchester memorial building. P. Beaudoin also asked if the building would look very institutional.
    - J. LaPosta noted their goal is to always make the best building they can and they will review the traffic.
- M. Gerhardt asked if a criteria item could be that a follow-up project would be needed?
    - C. Dell Angelo noted yes everything can be a criteria item and that would be an important one.

9.6	**Schedule Update**
	
	• C. Dell Angelo reviewed the upcoming schedule for PDP and PSR (Slide 19)
	  ○ T. Whitman noted that if grade configurations are decided in March that would not be enough time to add it to the spring town meeting.
	  • C. Dell Angelo noted that there would not need to be a town meeting to vote for that unless the school committee votes to amend the regional agreement.
	  ○ C. Hay noted he is uneasy with providing costs at this high level.
	  • C.Dell Angelo noted that they have to provide costs in the PDP document which will be public, but they can present ranges to the public in community meetings or even just different amounts of dollar signs.
	  • J. LaPosta noted that it is really for comparative use between the options to help get a better understanding of the range for each option.
	  • C. Dell Angelo added that the cost estimators are extremely conservative at this level also.
		Record

9.7	**Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting** There was no other topics	Record
9.8	**Public Comment:** There was no public comment	Record
9.9	**Reflections & Action Items**	

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<table>
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- T.Whitman noted that she saw a presentation in a meeting last night by 1623 Studios and thinks that they could be a benefit for the project and could conduct a video building tour.

</td><td></td></tr>
<tr><td>9.10</td><td>

Adjourn:

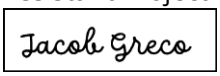
Roll Call Vote: A motion to adjourn the meeting was made at 7:59pm by A. Oldeman and seconded by E. Dwyer

<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Absent</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
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</table>

Yes: 12 | No: 0 | Absent/Abstain: 4

</td><td>Record</td></tr>
</table>

Sincerely,
DORE + WHITTIER
Jacob Greco
Assistant Project Manager



Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 9

November 6, 2025 @ 6:00 PM

Manchester Essex Regional School District

DORE + WHITTIER

JCJ ARCHITECTURE

SBC Meeting Agenda – November 6, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 8 20251028
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - DWMP Invoice No. 6 | $46,485.50
   - JCJ Invoice No. 2 | $29,846.21
4. Space Summary & Education Program Acceptance (Vote Expected)
5. Preliminary Evaluation of Alternatives Review
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

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8. Public Comment
9. Reflections & Actions Items
10. Adjourn

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8. Public Comment
9. Reflections & Actions Items
10. Adjourn

Space Summary – Variations from MSBA Guidelines

Manchester Memorial Elementary School: K-5, 335 Students

3 Core Classrooms	Increase total from 12 to 15 CRs (3 each, Grade 1-5) due to max class sizes. MSBA guideline based on 23 students per class.	3@ 950 NSF	2,850 NSF
2 PK Classrooms w/ Storage	District-wide integrated PK.	2 @1,200 NSF 1 @ 250 NSF	2,650 NSF
2 Project Rooms	MSBA has since revised guidelines to support 1,200 NSF of upper elementary STE.	2 @1,000 NSF	2,000 NSF
1 Self-Contained Special Education Classroom	Extra classroom to accommodate district-wide Intensive Reading and Written Language (IRWL) and the Supportive Alternative Individual Learning (SAIL).	1@ 950 NSF	950 NSF
2 Resource Rooms	IRWL and SAIL	2 @ 500 NSF	1,000 NSF
Gymnasium Increase	Bleacher seating.	1 @ 850 NSF	850 NSF
Book Storage	Program driven book storage.	1 @ 300 NSF	300 NSF

MSBA Guidelines **58,932 GFA**
Built Project **77,102 GFA**

(x1.5 Grossing Factor)

Space Summary – Variations from MSBA Guidelines

Essex Elementary School: 250 Students, K-5

1 Core Classrooms	Increase total from 9 to 10 CRs (2 each, Grade 1-5) due to max class sizes. MSBA guideline based on 23 students per class.	1@ 950 NSF	950 NSF
2 PK Classrooms w/ Storage	District-wide integrated PK.	2 @ 1,200 NSF 1 @ 250 NSF	2,650 NSF
1Project (STE) and 1 World Language	MSBA guidelines allow for 1,200 NSF of upper elementary STE but not included in total below.	1 @ 1,080 NSF 1 @ 120 NSF 1 @ 950 NSF	2,150 NSF
MTSS Interventionists w/ Small Group	857 NSF existing lacks Small Group rooms.	2 @ 500 NSF 2 @ 250 NSF	1,500 NSF
Break-Out	Existing building lacks Break-Out spaces.	3@ 500 NSF	1,500 NSF
Special Education	RISE and ACE each with K-2 and 3-5 rooms, Small Group Rooms, OT, PT, and supporting spaces.	+ 5,325 NSF	5,325 NSF
Gymnasium Increase	Bleacher seating.	1 @ 850 NSF	850 NSF

MSBA Guidelines 45,000 GFA
Existing 53,036 GFA
Currently Proposed 73,673 GFA

(x1.5 Grossing Factor)

Space Summary – Grade Configurations

		Existing	MSBA Guidelines	Proposed
K-3 at **EES**	**165 Students**	53,036 GFA	29,700 GFA	60,777 GFA
K-5 at **EES**	**250 Students**	53,036 GFA	45,000 GFA	73,673 GFA
K-5 at **MMES**	**515 Students**	77,102 GFA	79,782 GFA	119,001 GFA

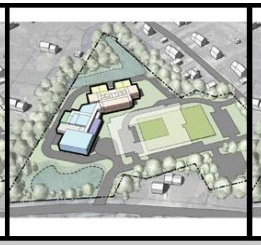
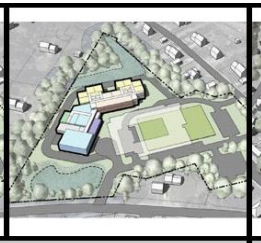
SBC Meeting Agenda – November 6, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 8 20251028
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - DWMP Invoice No. 6 | $46,485.50
   - JCJ Invoice No. 2 | $29,846.21
4. Space Summary & Education Program Acceptance (Vote Expected)
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8. Public Comment
9. Reflections & Actions Items
10. Adjourn

Design Alternatives






ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment	165	250	165	250	165	250	515
	Grade Configuration	K-3	K-5	K-3	K-5	K-3	K-5	K-5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD

Design Alternatives

OPTION A0.1
165 STUDENTS
K-3
CODE UPGRADE/BASE REPAIR
53,036 GFA RENOVATION

OPTION A0.2
250 STUDENTS
K-5
CODE UPGRADE/BASE REPAIR
53,036 GFA RENOVATION

CONSIDERATIONS
- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE
  A0.1: MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)
  A0.2: MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT



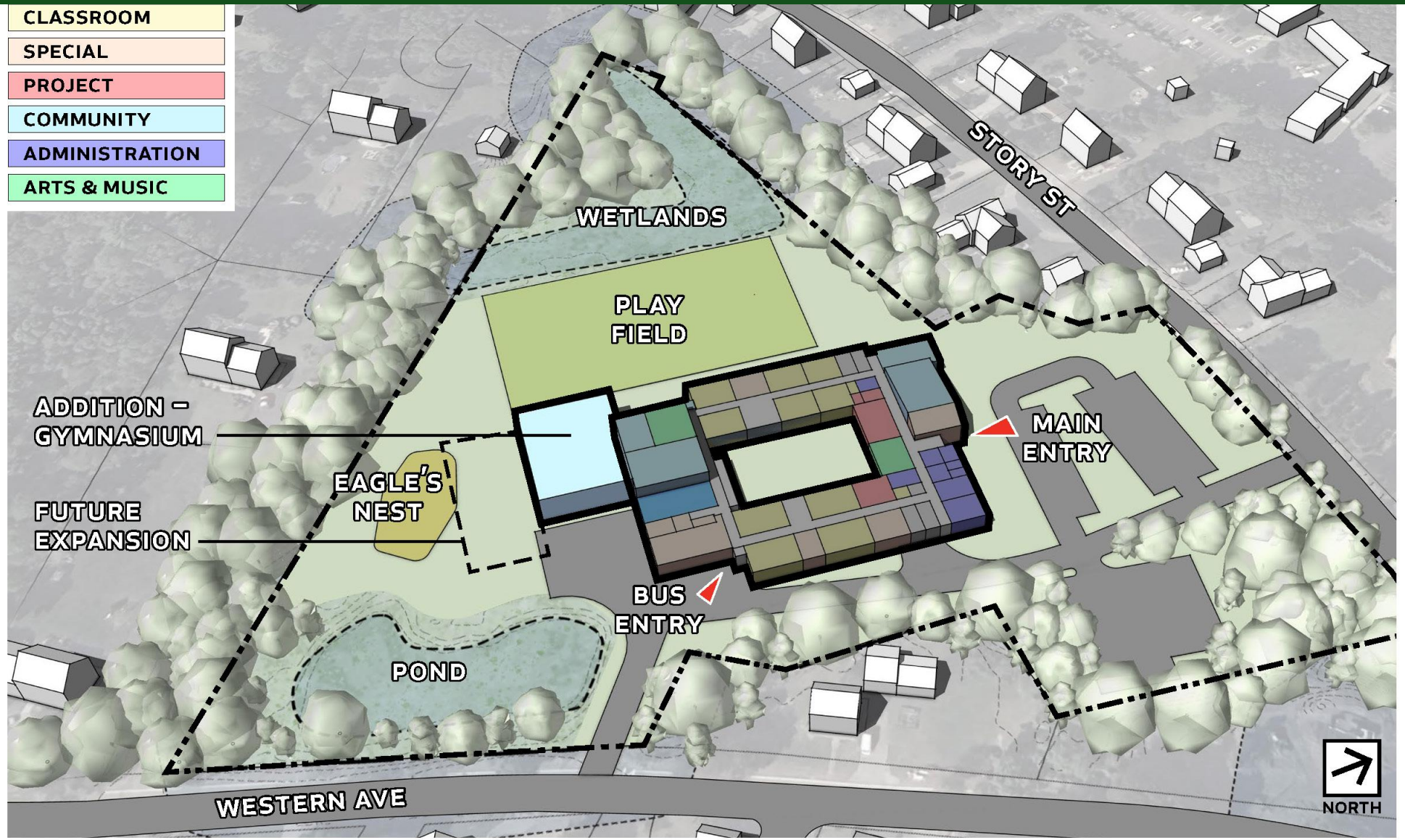
Design Alternatives

OPTION A1.1

165 STUDENTS
K-3
ADDITION/RENOVATION

53,036 GFA RENOVATION
7,741 GFA ADDITION

TOTAL: 60,777 GFA



CONSIDERATIONS

- FULL-SIZE GYM COULD BE ACCOMMODATED IN AN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

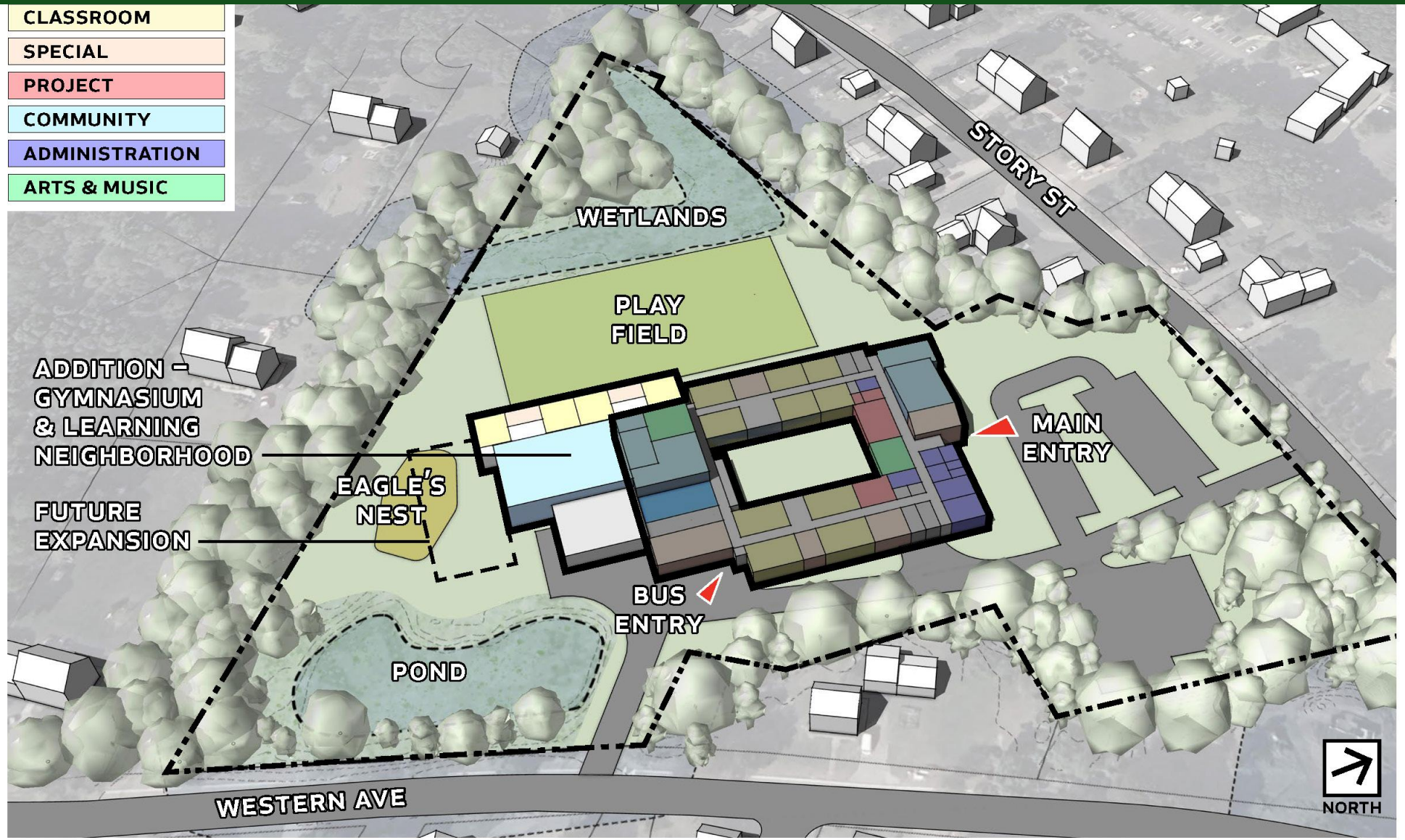
Design Alternatives

OPTION A1.2

250 STUDENTS
K-5
ADDITION/RENOVATION

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA



CONSIDERATIONS

- FULL-SIZE GYM COULD BE ACCOMMODATED IN AN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (4 CLASSROOMS) COULD BE ACCOMMODATED IN AN ADDITION

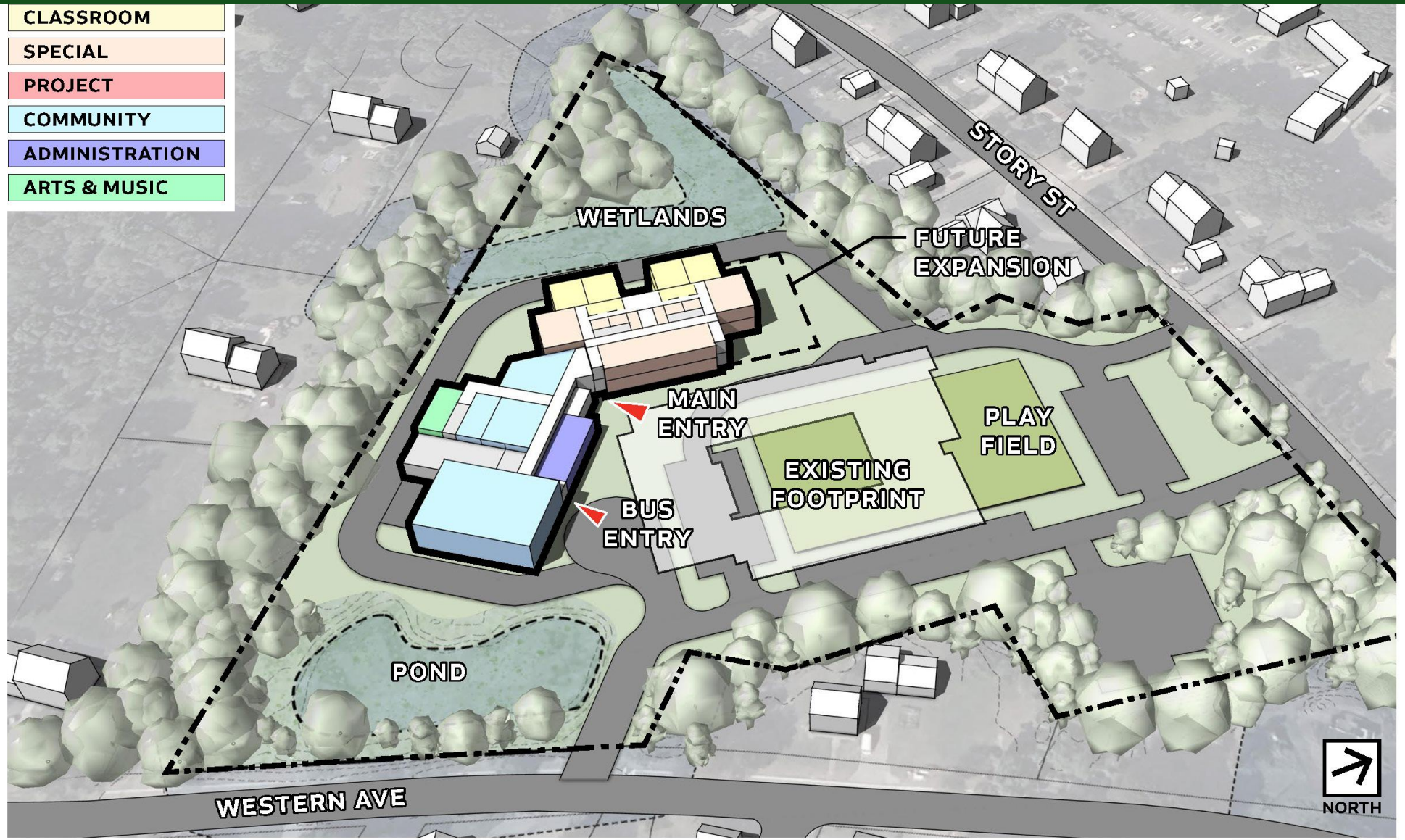
Design Alternatives

OPTION A2.1

165 STUDENTS
K-3
NEW

60,777 GFA NEW

TOTAL: 60,777 GFA



CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE PROVIDED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- LEARNING NEIGHBORHOOD INTEGRATE SPECIAL EDUCATION AND INTERVENTIONISTS
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

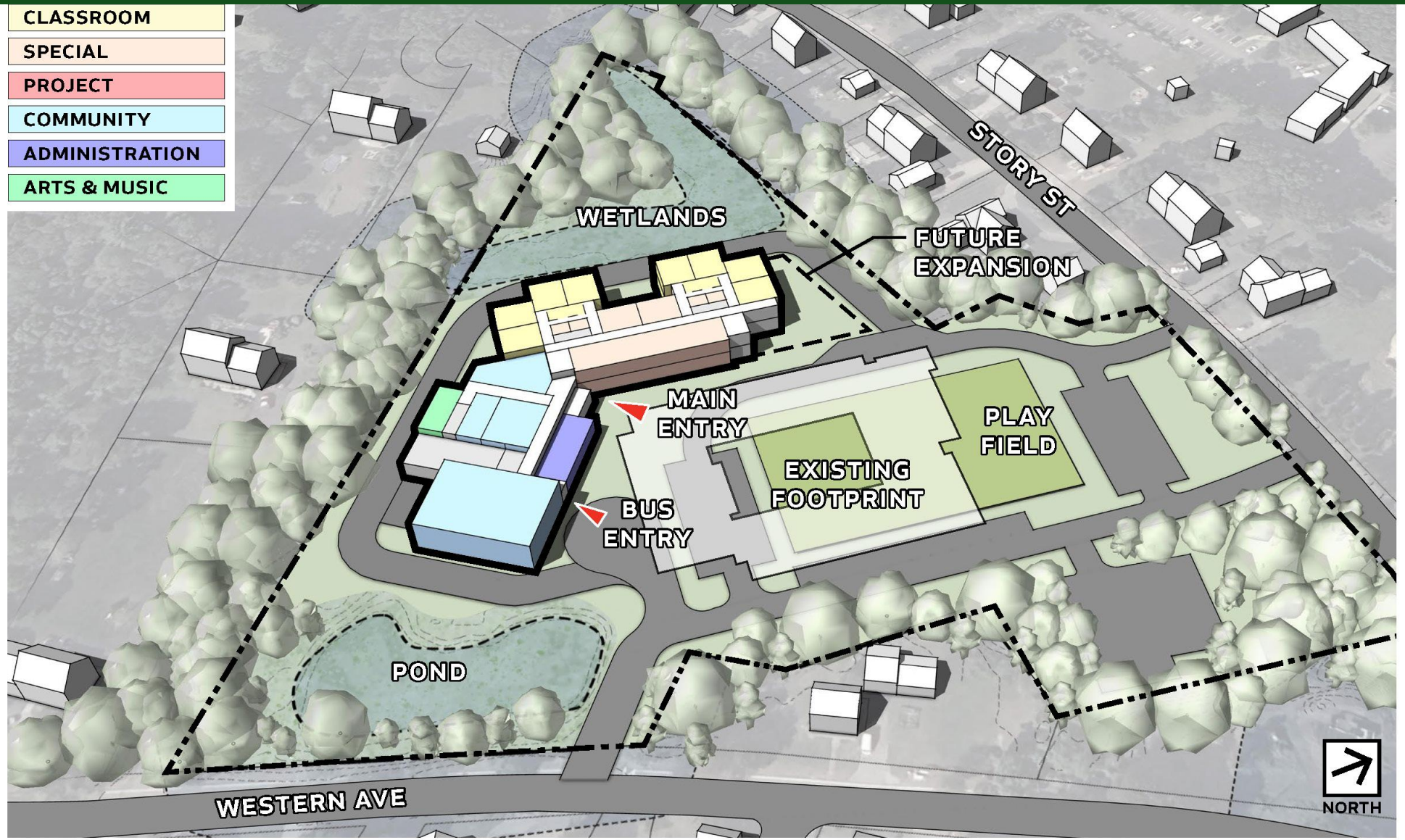
Design Alternatives

OPTION A2.2

250 STUDENTS
K-5
NEW

73,673 GFA NEW

TOTAL: 73,673 GFA



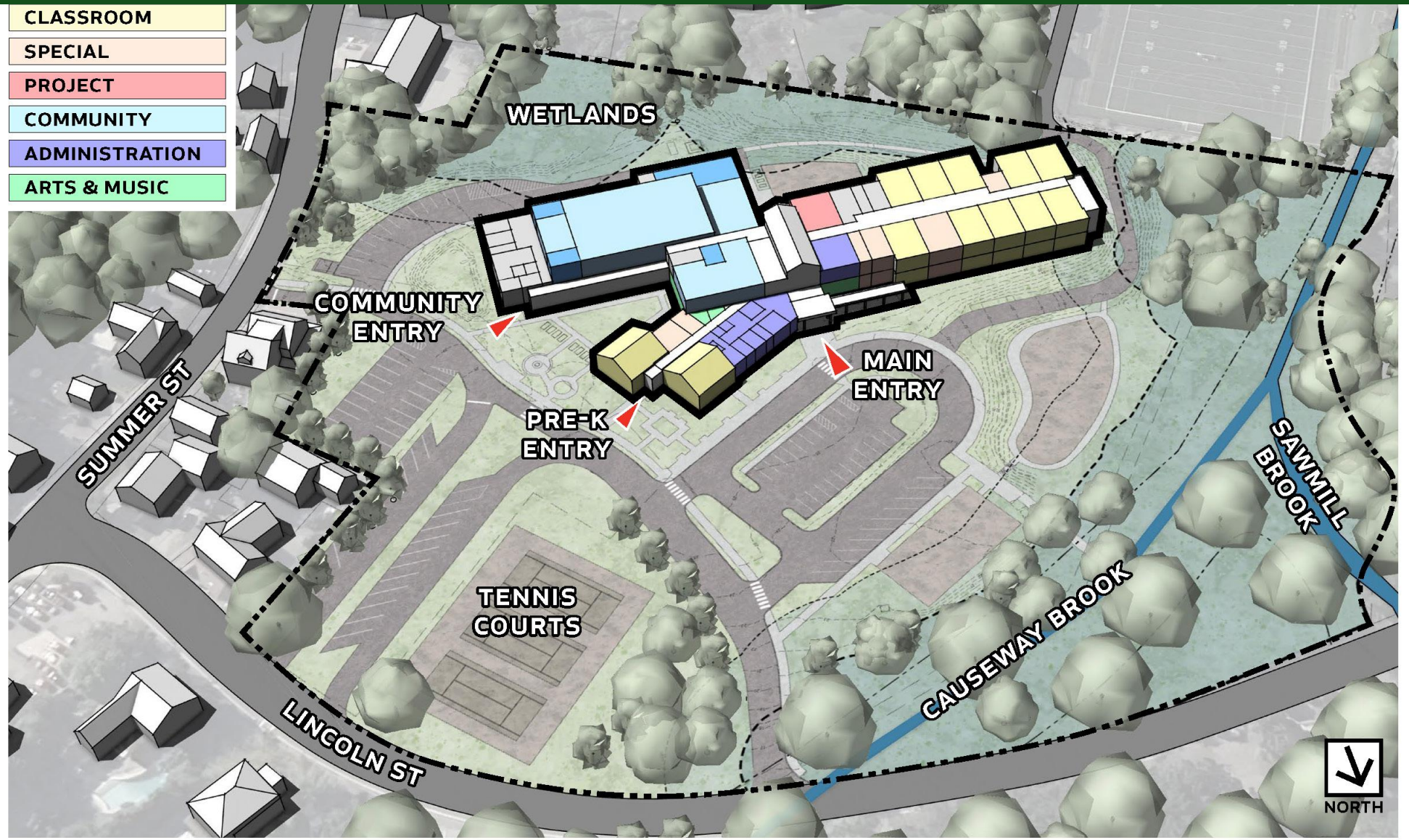
CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE PROVIDED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- LEARNING NEIGHBORHOOD INTEGRATE SPECIAL EDUCATION AND INTERVENTIONISTS

Design Alternatives

EXISTING MMES
335 STUDENTS
K-5

77,102 GFA EXISTING



Design Alternatives

OPTION B1.1

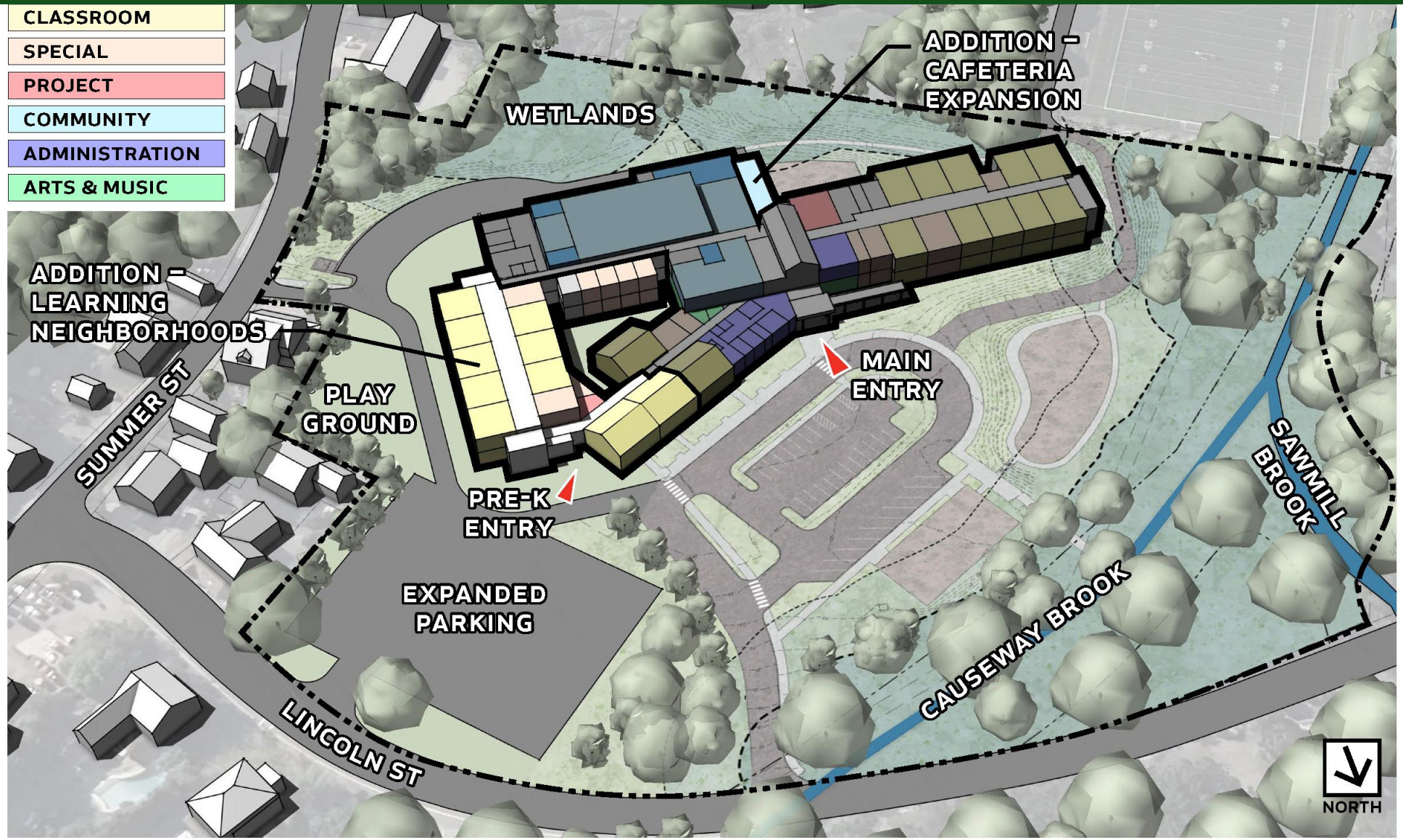
515 STUDENTS
K-5
ADDITION/RENOVATION

77,102 GFA EXISTING/RENO
41,899 GFA NEW

TOTAL: 119,001 GFA

CONSIDERATIONS

- SITE AMENITIES WILL BE LIMITED SUCH AS PLAY SPACE AND PARKING CAPACITY
- REMOVAL OF TENNIS COURTS LIKELY
- NO FUTURE EXPANSION POTENTIAL
- BUILDING CODE AREA LIMITATIONS REQUIRES FIRE WALLS SEPARATING ADDITIONS
- COMMUNITY ENTRY AND NEAR-BY PARKING COMPROMISED BY ADDITION LOCATION
- NUMEROUS ISSUES ASSOCIATED WITH ELIMINATING A SCHOOL IN ESSEX (TRAVEL, BUSING, AFTERSCHOOL PROGRAMS, REGIONAL AGREEMENT, ETC.)



Design Alternatives

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
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General	Enrollment	165	250	165	250	165	250	515
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	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
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	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program							
	Equity across the District							
	Future Growth and Expansion							
	Flexible and Adaptable Spaces							
	Construction Impact on Existing School Activities							
Community	Compatible with Regional Agreement							
	Heart of Essex Community / Sense of Place							
	Community Use Opportunities							
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones							
	Neighborhood Traffic Impact							
	Bus and Parent Drops - Safety & Efficiency							
	Parking Capacity							
	Play and Athletics Fields							
Building	Existing Facility Deficiencies Addressed							
	Entries Visible / Unobstructed Sight Lines							
Cost & Schedule	Cost Effective							
	Maximize MSBA Grant Reimbursement							
	Phasing Minimizes Construction Duration							
	Swing Space not Required							
	Construction Access and Staging							
	Reduce Operational Costs over Lifespan of Building							

DRAFT

SBC Meeting Agenda – November 6, 2025 @ 6:00 PM

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9. Reflections & Actions Items
10. Adjourn

Schedule Update/PDP

10/30/25-Draft Ed Program and Space Summaries to SBC

11/6/25 SBC Meeting- Accept Ed Program and Space Summary, Preliminary Evaluation of Alternatives

11/20/25 Comm Meeting #2-Site and Alternatives Review

11/25/25 SBC Meeting-Review Community Meeting #2 Feedback, Further Evaluation of Alternatives

12/9/25 Comm Meeting #3-Memorial ES with a tour and rerun of meetings #1 and #2

12/15/25 SBC Meeting-Final Evaluation of Alternatives with Preliminary Costs

12/19-12/30 Draft PDP to SBC

1/6/26 SBC Meeting-PDP Approval to MSBA, Initial Grade Configuration Discussion

Schedule Update/PSR

1/22/26 SBC Meeting-Alternatives with Grade Configuration Discussion

1/28/26 Comm Meeting #4-Share PDP results and Evaluation of Alternatives with Grade Configuration

2/9/26 SBC Meeting-Review Comm Meeting Feedback, Review Alternatives and Grade Configuration

2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing

3/10/26 SBC Meeting-Preferred Alternates if Necessary

3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration

3/30/26 Comm Meeting #5-Review Preferred Options

4/14/26 SBC Meeting-Review Comm Meeting #4 Feedback and Approval of Preferred Solution

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

SBC Meeting Agenda – November 6, 2025 @ 6:00 PM

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8. Public Comment
9. Reflections & Actions Items
10. Adjourn

MEETING AGENDA

Meeting Date:	November 25, 2025
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria

Meeting Link: https://us06web.zoom.us/j/85349809336

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 8 20251028
    - SBC Meeting No. 9 20251106
3. Invoices & Commitments for Review and Approval (Vote Expected)
    - Minuteman Press Invoice | $3,127.81
4. Community Meeting #2 Feedback
5. Sustainability Working Group Update
6. Work Plan Review (Vote Expected)
7. Further Evaluate Alternatives
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	11/25/2025
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	

Present	Name (* Voting Member)	Affiliation
√	Michelle Cresta*	Director of Finance & Operations
√	Pam Beaudoin*	Superintendent
√	Kim Provost*	Principal
	Theresa Whitman*	SBC Co-Chair
	John Binieris*	SBC Co-Chair
√	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
	Charlie Hay*	Architect School Building Experience
√	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
√	Tyler Virden*	Project Executive -Wise Construction / Paren
√	Annie Cameron*	Former SC Member and Memorial SBC Member
√	Ariel Fernando Brian*	Architect - CBT
	Jen Hocherman*	Architect - Partner SV Design
	Michael Gerhardt*	Civil Engineer / Parent
√	Timonthy McDonald*	Architect - Onion Flats
√	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
√	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
√	Emily Dwyer*	EES Teacher
√	Kim Field	EES Teacher
√	Rachelle Rousseau	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
√	Christina Dell Angelo	Project Executive - DWMP
√	John Albright	Project Manager - DWMP
√	Rachel Rincon	Assistant Project Manager - DWMP
√	Jacob Greco	Assistant Project Manager - DWMP
√	James LaPosta	Principal - JCJ Architecture
√	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
√	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture

	Mike Pirollo	Principal – MLP Integrated Design
√	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

Item No.	Action Item	Ball in Court
10.7	Project team to send out filled in Criteria Matrix	DWMP/JCJ

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

Item No.		Description
10.1	**Call to Order & Intro:** Called to order by P. Beaudoin at 6:03pm, please refer to the attendee list.	Record
10.2	**Approval of October 28, 2025 & November 6, 2025, Meeting Minutes (Vote Expected):** A motion to approve the October 28, 2025 & November 6 - 2025, Meeting Minutes was made by E. Dwyer and seconded by H. Oettinger. Discussion: None. Roll Call Vote:	Record

<table>
<tr>
<td></td>
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<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Absent</td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Absent</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brian</td><td>Yes</td></tr>
<tr><td>Jen Hocherman</td><td>Absent</td></tr>
<tr><td>Michael Gerhardt</td><td>Absent</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>
Yes: 11 | No: 0 | Absent/Abstain: 5
</td>
<td></td>
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<tr>
<td>10.3</td>
<td>
Invoices & Commitments for Review and Approval (Vote Expected):

A motion to approve the following invoices was made by G. Brewster and seconded by H. Oettinger
Minuteman Press Invoice | $3,127.81

Discussion: None.

Roll Call Vote:
<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
</table>
</td>
<td>Record</td>
</tr>
</table>

DORE + WHITTIER

	<table><tr><td>Pam Beaudoin</td><td>Yes</td></tr><tr><td>Kim Provost</td><td>Yes</td></tr><tr><td>John Binieris</td><td>Absent</td></tr><tr><td>Theresa Whitman</td><td>Absent</td></tr><tr><td>Andy Oldeman</td><td>Yes</td></tr><tr><td>Charlie Hay</td><td>Absent</td></tr><tr><td>Gordon Brewster</td><td>Yes</td></tr><tr><td>Tyler Virden</td><td>Yes</td></tr><tr><td>Annie Cameron</td><td>Yes</td></tr><tr><td>Ariel Fernando Brian</td><td>Yes</td></tr><tr><td>Jen Hocherman</td><td>Absent</td></tr><tr><td>Michael Gerhardt</td><td>Absent</td></tr><tr><td>Timonthy McDonald</td><td>Yes</td></tr><tr><td>Henry Oettinger</td><td>Yes</td></tr><tr><td>Emily Dwyer</td><td>Yes</td></tr><tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr><tr><td>Kim Field</td><td>Advisor – No Vote</td></tr><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table> • **Yes: 11 | No: 0 | Absent/Abstain: 5**	
10.4	**Community Meeting No. 2 Feedback** • C. Dell Angelo noted that community meeting No. 2 was conducted last week. The attendance was lower than the first, most likely due to the fact that the Apple Street site location was removed from the options. Community Meeting No. 3 will be held at Manchester Memorial Elementary School on December 9th with school tours before it. • G. Brewster noted that it was a good meeting although lightly attended	Record
10.5	**Sustainability Working Group Update**	Record

- E. Haggstrom shared an update from the sustainability working group including recommended incentives targets, an overview of LEED, and other general topics (Slides 7 - 26).
    - T. McDonald commented that aside from the operational energy savings, the optimized stretch code is important when connected to the climate targets that the state is trying to reach by changing the code. It is a different perspective now than when the Manchester Memorial project was underway.
        - E. Haggstrom noted that the code has been developed more in MA to be more stringent since the Manchester Memorial Elementary School (MMES) Project as it is built around the state's goal of reaching decarbonization by 2050. The stretch code in MA really sets the baseline for what the building will have, whereas the Opt-In Stretch Code will add another layer that will help the building be all electric and get the needed incentives.
    - A.Cameron noted that Essex is no longer doing the stretch code and asked if this is something the town should change in the coming years.
        - E. Haggstrom noted the town does not have to change anything at a municipal level, but the MSBA does require that the stretch code be met.
    - A. Brain asked if a mixed fuel pathway is taken, will they still get the incentive points?
        - E. Haggstrom noted yes, but all utility incentives would be gone, and it has been found that all electric is the most cost-effective option.
    - G. Brewster asked why the Essex project would be buying the charging stations when Manchester purchased them separately after the project was completed.
        - E. Haggstrom noted that they want to include it in the design to see what the most cost-effective option will be, either including it in the project or purchasing them separately after the project as Manchester did.
    - G. Brewster noted on the current Essex site there are multiple construction options being proposed and asked how this affects the LEED evaluation.
        - E. Haggstrom noted that it depends on how much addition is included in the addition/renovation options as they will have to bring any renovated building up to the stretch code, but the LEED approach will be very similar.

- T. McDonald asked what the EUI target for the Manchester Memorial Project was and noted that the Essex building may be 20% to 30% more efficient with today's technology.
  - E. Haggstrom noted he does not know what the EUI was for the MMES but does not think the Essex project will be significantly higher than Manchester Memorial as it is a very efficient building. The Essex project will be targeting an EUI of 25.
- T. Virden asked if there are any towns or cities where the grid may not be able to meet the requirements of these new projects.
  - E. Haggstrom noted he had not run into any grid issues or them not being able to support the needs
  - A. Oldeman added that sometimes the services do have to be upgraded to support a new building and that may be an easy lift or more complicated and expensive as it differs on every project.
- A. Oldeman noted that although air source heat pumps have been making advancements, they are still not guaranteed to be as reliable as some older options are like a gas fired water heater.
- A. Brain noted that LEED version 5 has new points for climate resiliency and thinks those may be easy points to obtain if the project updates to that version. A. Brain also noted that it would be good for the project to target a LEED Gold and if it ended up being LEED Silver that would still be okay and asked if there was any incentive from the state to get LEED Gold.
  - E. Haggstrom noted there is no incentive from the state for LEED Gold and the process decided on by the working group was to target LEED Silver as they did in Manchester with a possibility for LEED Gold if certain pieces fall correctly.
- A. Cameron noted that all this discussion about the LEED scorecard is for 12 Story Street and asked if this should be a consideration on the criteria matrix as it would be harder to achieve the same points at the MMES site.
  - J. Elliott noted they did add a line to the matrix criteria under site for “meets sustainability goals”. In Manchester there is a footprint issue which could complicate the process but for the majority of the other criteria they do not see a differentiator.

DORE + WHITTIER

<table>
<tr>
<td>10.6</td>
<td>

Work Plan Review (Vote Expected)

- C. Dell Angelo noted this agenda item is part of the checklist process needed to submit the Preliminary Design Program and is an approval of the Microsoft Project Schedule for the project.

A motion to approve the work plan for the Preliminary Design Program was made by E. Dwyer and seconded by G. Brewster

Discussion: None

Roll Call Vote:

<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td></td></tr>
<tr><td>Theresa Whitman</td><td></td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td></td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brian</td><td>Yes</td></tr>
<tr><td>Jen Hocherman</td><td></td></tr>
<tr><td>Michael Gerhardt</td><td></td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>

- **Yes: 11 | No: 0 | Absent/Abstain: 5**

</td>
<td>Record</td>
</tr>
</table>

10.7	**Further Evaluation of Alternatives**
	
	• J. Elliot reviewed the current Preliminary Design Alternatives and updates that have been made since the last meeting where they were shown (Slides 29 - 39).
	  ○ K .Field asked why the bus looks like it is pulling in the same direction as the cars are pulling out on option A0.1.
	  • J. Elliott noted it is two-way traffic, but it will have to be reviewed further for sight lines and turn radius.
	  ○ C. Dell Angelo noted that the project team can make an attempt to fill out the criteria matrix and can share it with the committee to be reviewed at the next meeting.
	  ○ P. Beaudoin shared that if the project moves forward at the MMES site, the students from Essex would need five (5) buses due to the elimination of all the current walking students.
	  ○ H. Oettinger asked if any of the Essex site options have routes where the buses and parent pick-up/drop-off do not intersect.
	  • J. Elliott noted that the existing access points could remain which would keep them separate.
	  • J. LaPosta noted that these are just diagrams on how they would be. The intersections would have to be designed further.
	  ○ E. Dwyer commented that some of these traffic arrows are going in the wrong direction and most of the plans should have the bus arrows reversed.
		Record

10.8	**Schedule Update** • C.Dell Angelo reviewed the upcoming meetings and schedule (Slides 41-42)	Record
10.9	**Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting** There was no other topics	Record

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<table>
<tr><td>10.10</td><td>Public Comment:

There was no public comment</td><td>Record</td></tr>
<tr><td>10.11</td><td>Reflections & Action Items

• C.Dell Angelo noted the current action item is for the project team to send out a filled-out criteria matrix to the SBC prior to the next SBC Meeting.</td><td>Record</td></tr>
<tr><td>10.12</td><td>Adjourn:

A motion to adjourn the meeting was made at 7:13 pm by A. Cameron and seconded by H. Oettinger.

Roll Call Vote:

<table>
<tr><td>Name</td><td>Yes/No/Abstain & Absent</td></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
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<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
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<tr><td>Charlie Hay</td><td>Absent</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
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<tr><td>Ariel Fernando Brian</td><td>Yes</td></tr>
<tr><td>Jen Hocherman</td><td>Absent</td></tr>
<tr><td>Michael Gerhardt</td><td>Absent</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
</table>
</td><td>Record</td></tr>
</table>

	Steve Hunt	Advisor – No Vote	
	Kim Field	Advisor – No Vote	
	Rachelle Rousseau	Advisor – No Vote	
	David Pereen	Advisor – No Vote	
	Lisa O'Donnell	Advisor – No Vote	

- **Yes: 11 | No: 0 | Absent/Abstain: 5**

Sincerely,
DORE + WHITTIER
Jacob Greco
Assistant Project Manager

Jacob Greco

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 10

November 25, 2025 @ 6:00 PM

Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

SBC Meeting Agenda – November 25, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - ➢ SBC Meeting No. 8 20251028
   - ➢ SBC Meeting No. 9 20251106
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - ➢ Minuteman Press Invoice | $3,127.81
4. Community Meeting #2 Feedback
5. Sustainability Working Group Update
6. Work Plan Review
7. Further Evaluate Alternatives
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

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- **Essex Elementary School**
- Manchester Essex Regional School District

- Sustainability Working Group Report Out

- November 25, 2025



Overview

1. Goals of the Sustainability Working Group
2. Recommended Incentives Target
3. Introduction to LEED
4. Preliminary Draft LEED Scorecard
   Story Street Site
5. Review of Point Targets by Category
6. MMES Site Challenges
7. Open Discussion
8. Next Steps

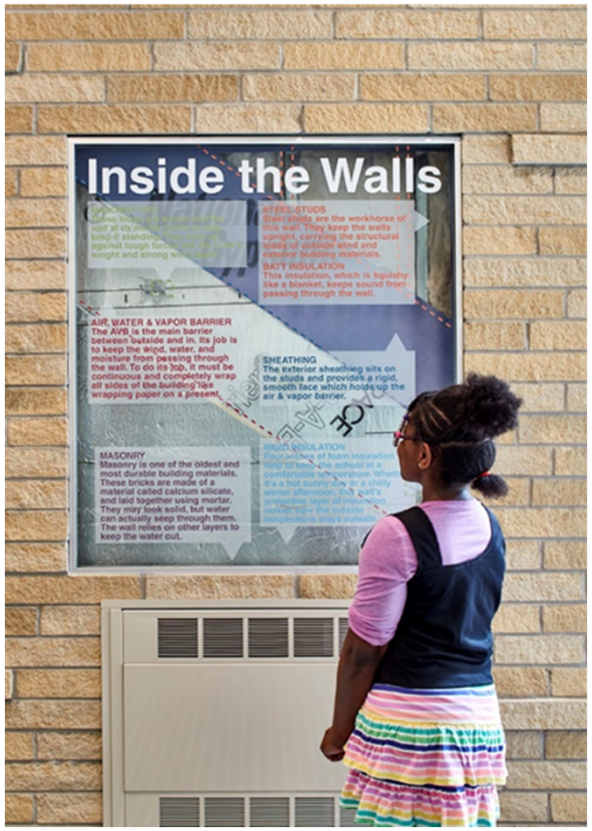


Goals of the Sustainability Working Group

- **Prioritize Learning**
  - Create spaces that **improve learning outcomes**
  - Provide **healthy indoor environments**
  - Offer **training** opportunities for students, staff, and teachers

- **Maximize Value to the District**
  - Minimize first-cost, operational, and maintenance costs
  - Maximize available incentives

- **Align with Manchester Memorial**

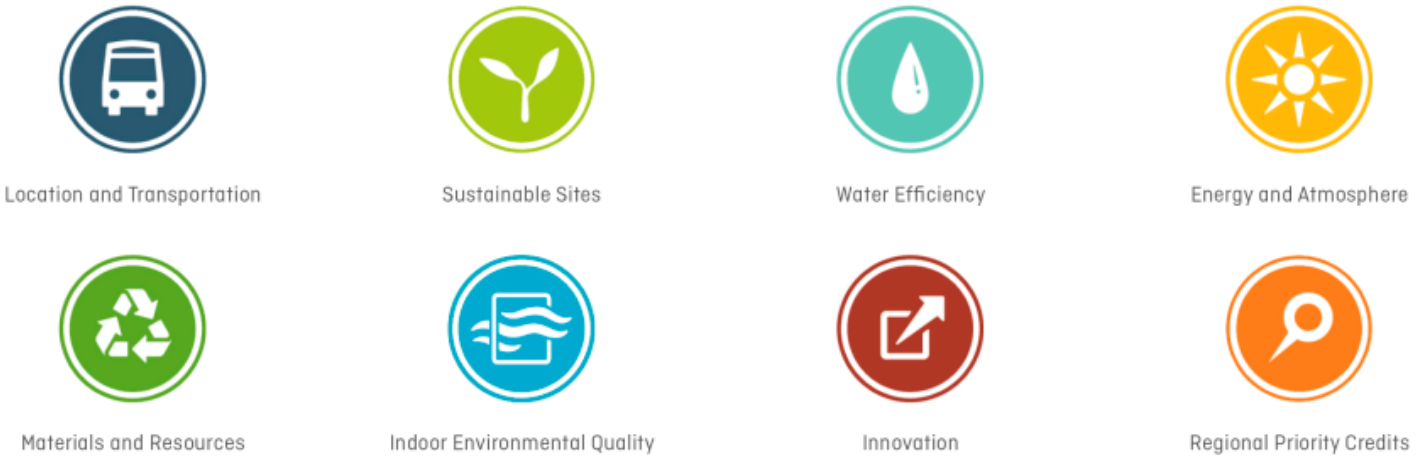


Recommended Incentive Targets

- **Required:**
  - Achieve **Silver** using LEED-Schools v4.0 / v4.1
  - Achieve a minimum of 3 (out of 7) points in the following:
    - MR – Building Product Disclosure and Optimization, v4.1 – Material Ingredients (1 point)
    - EQ – Low Emitting Materials, v4.1 (1 point)
    - EQ – Indoor Air Quality Assessment, v4.0 (1 point)
  - Meet the MA DOER "Stretch Code Green Community" standards
  - Be "solar ready"

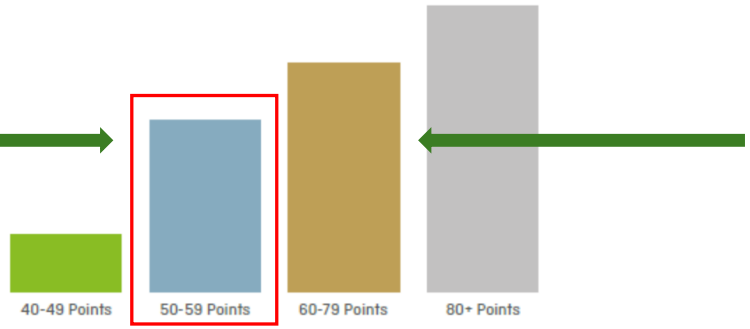
- **Recommendation**
  - Meet the MA DOER "Opt-In Specialized Stretch Energy Code" (All-electric pathway) - **3% Additional Reimbursement**
  - Earn 5 (out of 7) of the points listed above (MR/EQ) – **1% Additional Reimbursement**
  - Target Mass Saves Path 1 Incentives Program (preliminary EUI target of 25 and Full Electrification)

Introduction to LEED



The number of points that a project earns determines its level of LEED® certification.

Essex MSBA Minimum Target + Manchester Memorial (MMES) Target



Manchester Memorial (MMES) Achieved Gold!

Preliminary Draft Scorecard

LEED v4 for BD+C: Schools
Project Checklist

Project Name: New Construction - Essex Site
Project Address: 12 Story Street, Essex, MA 01929
Date: November 2025

Y	?	N			
		1	Credit	Integrative Process	1

Y	?	N		Location and Transportation	15
0	0	0	Credit	LEED for Neighborhood Development Location	15
1			Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
2		3	Credit	Surrounding Density and Diverse Uses	5
		4	Credit	Access to Quality Transit	4
		1	Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

Y	?	N		Sustainable Sites	12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
1			Credit	Site Assessment	1
1		1	Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
3			Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
	1		Credit	Site Master Plan	1
1			Credit	Joint Use of Facilities	1

Y	?	N		Water Efficiency	12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
2	1	4	Credit	Indoor Water Use Reduction	7
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

Y	?	N		Energy and Atmosphere	31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
5	1		Credit	Enhanced Commissioning - MSBA	6
8	2	6	Credit	Optimize Energy Performance	16
1			Credit	Advanced Energy Metering - Code	1
		2	Credit	Demand Response	2
		5	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
			Credit	~~Green Power and Carbon Offsets~~	2

Y	?	N		Materials and Resources	13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
1	1	3	Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

Y	?	N		Indoor Environmental Quality	16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1		1	Credit	Indoor Air Quality Assessment	2
		1	Credit	Thermal Comfort	1
1		1	Credit	Interior Lighting	2
		3	Credit	Daylight	3
		1	Credit	Quality Views	1
		1	Credit	Acoustic Performance	1

Y	?	N		Innovation	6
1			Credit	Innovation credit one: Sustainable Purchasing Lamps	1
1			Credit	Innovation credit two: LEED O+M Starter Kit	1
1			Credit	EP: BPDO - Material Ing (40 products from 10 manuf)	1
1			Credit	EP: Low Emitting	1
1			Credit	EP: BPDO - EPD	1
1			Credit	LEED Accredited Professional	1

Y	?	N		Regional Priority	4
1			Credit	Regional Priority: Open Space (1pt)	1
1			Credit	Regional Priority: Optimize Energy (8pts)	1
	1		Credit	Regional Priority: WBLCA (2pts)	1
		1	Credit	Regional Priority: Indoor Water (4pts)	1
				Alt: REC (2pts), High Priority Site (2pts)	

Y	?	N			
54	10	46	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

LEED Silver required per MSBA #61

- **Preliminary Draft Score Card**
- 12 Story Street Site

- **Initial Results:**
- Location and Transportation **4**
- Sustainable Sites **10**
- Water Efficiency **5**
- Energy and Atmosphere **14**
- Materials and Resources **5**
- Indoor Environmental Quality **8**
- Innovation **6**
- Regional Priority **2**

- **Proposed Target: 54 points** (Silver 50 - 59)

Scorecards are preliminary drafts for discussion purposes only. Design team will continue to evaluate and revise these scorecards as the design develops

Location & Transportation [4]

MMES ✅
- Sensitive Land Protection (1)

MMES ✅
- Surrounding Density & Diversity of Uses (2)

- Bicycle Facilities (Maybe 1)

MMES ✅
- Provide bike parking and bike lanes on site consistent with MMES

MMES ✅
- Provide shower and changing facilities consistent with MMES
- Team to continue to evaluate options for covered bike parking



MMES ✅
- Green Vehicles (1)
  - 10% of parking spaces to be EV Ready (Required by MA DOER Stretch Energy Code – MSBA Minimum)
  - Evaluate the cost difference between District providing charging stations or purchasing PPA after construction

MMES

Sustainable Sites [10]

MMES ✅
- Site Assessment (1) – Required by MSBA

MMES ✅
- Site Development – Protect or Restore Habitat (1)
  - *This point will not be possible for Addition/Renovation Options at Story St*

MMES ✅
- Open Space (1)

MMES ✅
- Rainwater Management (3)
  - System to be designed to accommodate 90th Percentile Storm (10-year storm)
  - Team continuing to evaluate use of Rain Gardens consistent with MMES

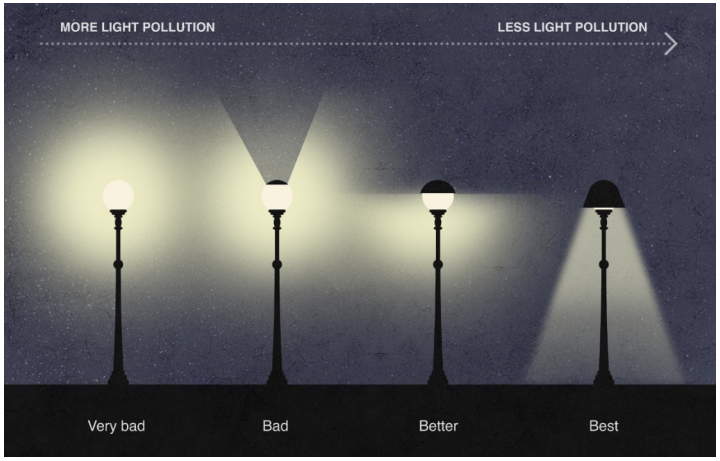


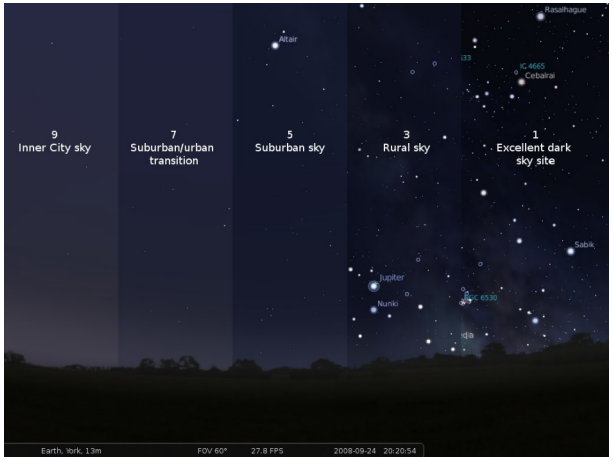
MMES

Sustainable Sites [10]

MMES ✅
- Heat Island Reduction (2)
  - Integrate roof and paving materials consistent with MMES

MMES ✅
- Light Pollution Reduction (1)





MMES ✅
- Joint Use of Facilities (1)

Water Efficiency [5]

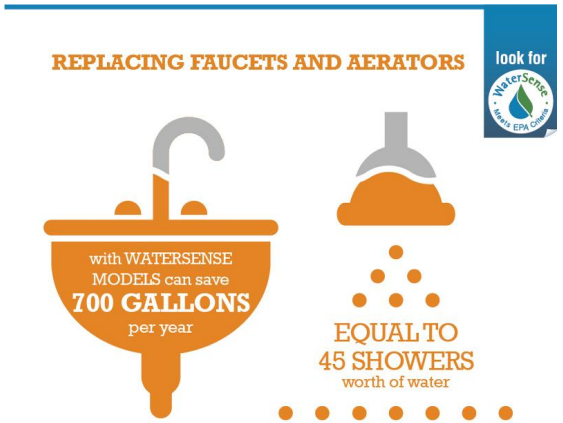
MMES ✅
- Outdoor Water Use Reduction (2)
  - No irrigation consistent with MMES

MMES ✅
- Indoor Water Use Reduction (2)
  - Utilize the same fixtures as MMES

MMES ✅
- Water Metering



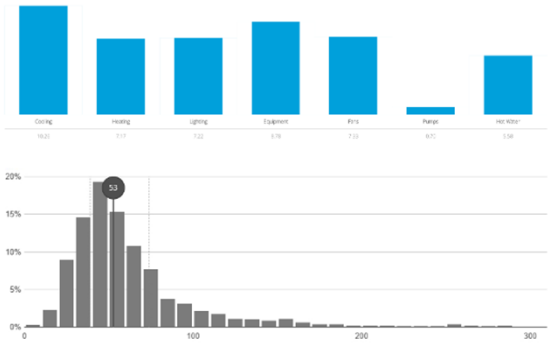


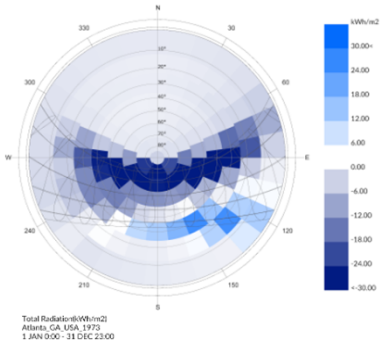


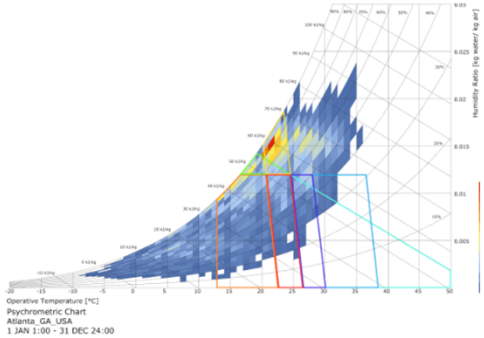
Energy and Atmosphere [14]

MMES ✅
- Enhanced Commissioning (5)
  - Required by MSBA

MMES ✅
- Optimize Energy Performance (8)
  - *LEED has raised their benchmark since completion of MMES making it harder to achieve. MMES achieved 11 points*







MMES ✅
- Advanced Energy Metering (1)

Materials and Resources [5]

- Building Life Cycle Impact Reduction (1)
  - JCJ can perform an initial Life Cycle Assessment evaluating Embodied Carbon
  - **Recommendation:** Target 5% reduction to Embodied Carbon to achieve (1) additional point and (1) bonus Rregional Priority point

- Building Product Disclosure and Optimization (BPDO) – Environmental Product Declarations (EPDs) (1)

MMES ✅

- BPDO – Material Ingredients (1)
  - Aligned with additional MSBA reimbursement incentive

MMES ✅

- Construction and Demolition Waste Management (2)

MMES ✅

Indoor Environmental Quality [8]

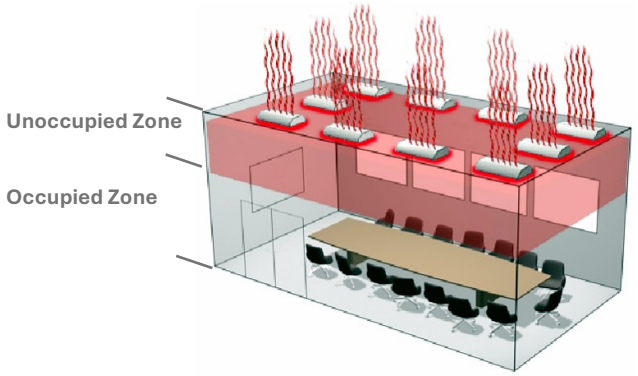
MMES ✅
- Enhanced Air Quality Strategies (2)

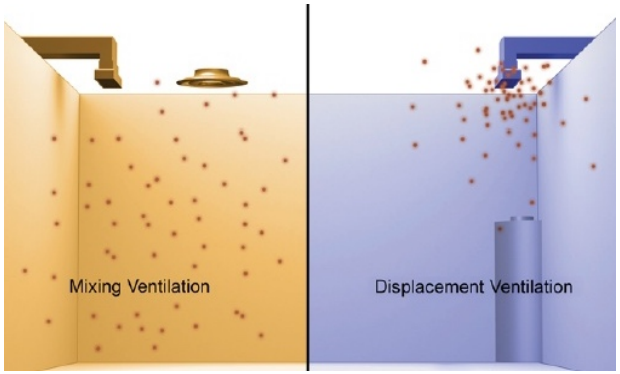
MMES ✅
- Low-Emitting Materials (3)
  - Aligned with additional MSBA reimbursement incentive

MMES ✅
- Construction Indoor Air Quality Management Plan

MMES ✅
- Indoor Air Quality Assessment (1)
  - Aligned with additional MSBA reimbursement incentive

MMES ✅
- Interior Lighting





Displacement Ventilation was implemented at MMES to provide improved energy efficiency and air quality

Innovation [6] & Regional Priority [2]

MMES ✅
- Sustainable Purchasing: Lamps (1)

MMES ✅
- LEED Operations & Maintentance (O+M) Starter Kit (1)
  - To expand on existing MMED O+M Starter Kit

MMES ✅
- Exceptional Peformance: BPDO – Material Ingredients (1)
- Exceptional Peformance: Low Emitting Materials (1)

MMES ✅
- Exceptional Performance: BPDO – EPD (1)

MMES ✅
- LEED Accredited Professional (1)



MMES ✅

MMES ✅
- Open Space (1)
- Optimize Energy Performance (8 pt minimum) (1)

Preliminary Draft Scorecard

LEED v4 for BD+C: Schools
Project Checklist

Project Name: Addition/Renovation - MMES Site
Project Address: 43 Lincoln Street, Manchester-by-the-Sea 01944
Date: November 2025

Y	?	N			
		1	Credit	Integrative Process	1

Y	?	N	Location and Transportation	15
0	0	0	Credit	LEED for Neighborhood Development Location	15
1			Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
2		3	Credit	Surrounding Density and Diverse Uses	5
		4	Credit	Access to Quality Transit	4
		1	Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

Y	?	N	Sustainable Sites	12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
1			Credit	Site Assessment	1
		2	Credit	**Site Development – Protect or Restore Habit**	2
	1		Credit	**Open Space**	1
3			Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
	1		Credit	Site Master Plan	1
1			Credit	Joint Use of Facilities	1

Y	?	N	Water Efficiency	12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
2	1	4	Credit	Indoor Water Use Reduction	7
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

Y	?	N	Energy and Atmosphere	31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
5	1		Credit	Enhanced Commissioning - MSBA	6
8	2	6	Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering - Code	1
		2	Credit	Demand Response	2
		5	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
			Credit	~~Green Power and Carbon Offsets~~	2

Y	?	N	Materials and Resources	13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
1		4	Credit	**Building Life-Cycle Impact Reduction**	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

Y	?	N	Indoor Environmental Quality	16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1		1	Credit	Indoor Air Quality Assessment	2
		1	Credit	Thermal Comfort	1
1		1	Credit	Interior Lighting	2
		3	Credit	Daylight	3
		1	Credit	Quality Views	1
		1	Credit	Acoustic Performance	1

Y	?	N	Innovation	6
1			Credit	Innovation credit one: Sustainable Purchasing Lamps	1
1			Credit	Innovation credit two: LEED O+M Starter Kit	1
1			Credit	EP: BPDO - Material Ing (40 products from 10 manuf)	1
1			Credit	EP: Low Emitting	1
1			Credit	EP: BPDO - EPD	1
1			Credit	LEED Accredited Professional	1

Y	?	N	Regional Priority	4
	1		Credit	**Regional Priority: Open Space (1pt)**	1
1			Credit	~~Regional Priority: Optimize Energy (0pts)~~	1
		1	Credit	**Regional Priority: WBLCA (2pts)**	1
		1	Credit	Regional Priority: Indoor Water (4pts)	1
				Alt: REC (2pts), High Priority Site (2pts)	

51	10	49	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

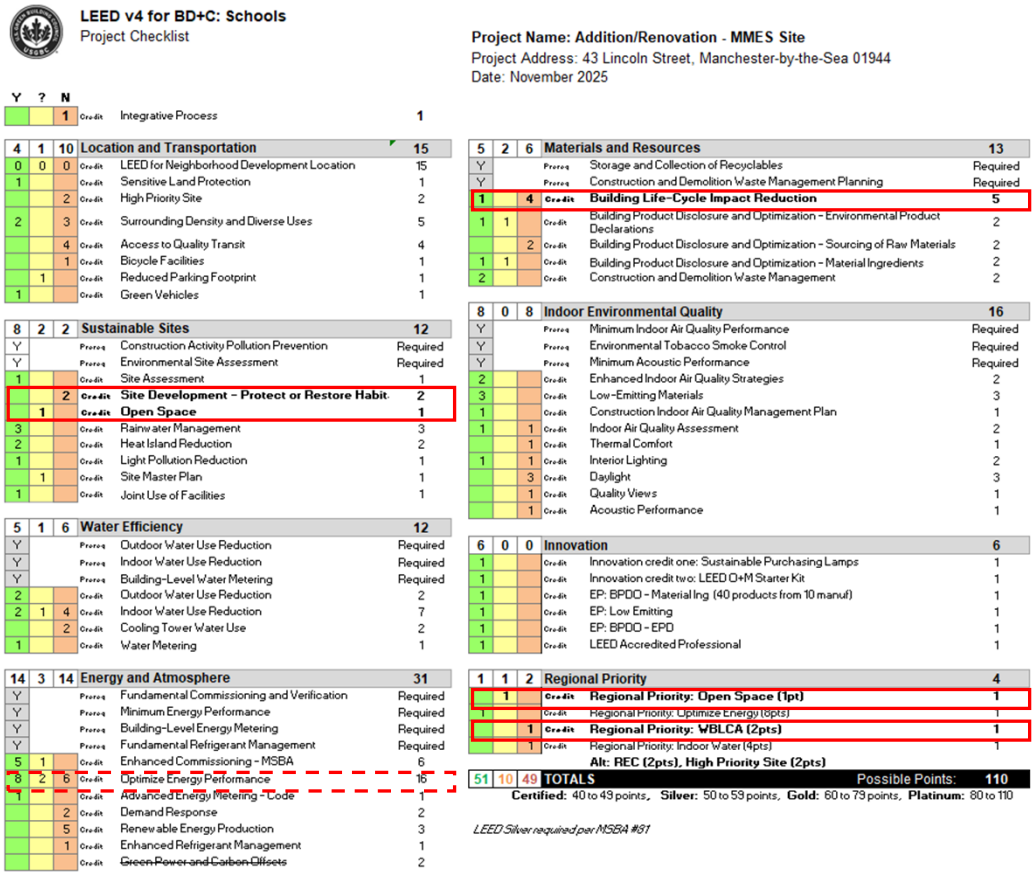
LEED Silver required per MSBA #81

- **Site Challenges:**

- Site Development – Protect or Restore Habitat
- Open Space & Regional Priority Point
- Rainwater Management
- Optimize Energy Performance & Incentive Programs
- Building Life-Cycle Impact Reduction & Regional Priority Point

Scorecards are preliminary drafts for discussion purposes only. Design team will continue to evaluate and revise these scorecards as the design develops

Preliminary Draft Scorecard



LEED v4 for BD+C: Schools
Project Checklist

Project Name: Addition/Renovation - MMES Site
Project Address: 43 Lincoln Street, Manchester-by-the-Sea 01944
Date: November 2025

Y	?	N			
		1	Credit	Integrative Process	1

4	1	10	**Location and Transportation**		15
0	0	0	Credit	LEED for Neighborhood Development Location	15
1			Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
2		3	Credit	Surrounding Density and Diverse Uses	5
		4	Credit	Access to Quality Transit	4
		1	Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

8	2	2	**Sustainable Sites**		12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
1			Credit	Site Assessment	1
		2	Credit	**Site Development – Protect or Restore Habit**	2
	1		Credit	**Open Space**	1
3			Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
	1		Credit	Site Master Plan	1
1			Credit	Joint Use of Facilities	1

5	1	6	**Water Efficiency**		12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
2	1	4	Credit	Indoor Water Use Reduction	7
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

14	3	14	**Energy and Atmosphere**		31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
5	1		Credit	Enhanced Commissioning - MSBA	6
8	2	6	Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering - Code	1
		2	Credit	Demand Response	2
		5	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
			Credit	~~Green Power and Carbon Offsets~~	2

5	2	6	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
1		4	Credit	**Building Life-Cycle Impact Reduction**	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

8	0	8	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1		1	Credit	Indoor Air Quality Assessment	2
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1		1	Credit	Interior Lighting	2
		3	Credit	Daylight	3
		1	Credit	Quality Views	1
		1	Credit	Acoustic Performance	1

6	0	0	**Innovation**		6
1			Credit	Innovation credit one: Sustainable Purchasing Lamps	1
1			Credit	Innovation credit two: LEED O+M Starter Kit	1
1			Credit	EP: BPDO - Material Ing (40 products from 10 manuf)	1
1			Credit	EP: Low Emitting	1
1			Credit	EP: BPDO - EPD	1
1			Credit	LEED Accredited Professional	1

1	1	2	**Regional Priority**		4
	1		Credit	**Regional Priority: Open Space (1pt)**	1
1			Credit	~~Regional Priority: Optimize Energy (6pts)~~	1
		1	Credit	**Regional Priority: WBLCA (2pts)**	1
		1	Credit	Regional Priority: Indoor Water (4pts)	1
				Alt: REC (2pts), High Priority Site (2pts)	

51	10	49	**TOTALS**	Possible Points: 110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

LEED Silver required per MSBA #81

- **Preliminary Draft Score Card**
- 43 Lincoln Street Site

- **Initial Results:**
- Location and Transportation **4**
- Sustainable Sites **8**
- Water Efficiency **5**
- Energy and Atmosphere **14**
- Materials and Resources **5**
- Indoor Environmental Quality **8**
- Innovation **6**
- Regional Priority **1**

- **Proposed Target: 51 points** (Silver 50 - 59)

Scorecards are preliminary drafts for discussion purposes only. Design team will continue to evaluate and revise these scorecards as the design develops

MMES Site Challenges

- Site Development – Protect or Restore Habitat
  - *This point will not be possible for Addition/Renovation Options at MMES Site*
- Open Space & Regional Priority Point
  - *This point will be challenging for the MMES Site*
- Rainwater Management
  - *Relocation and/or expansion of Rain Gardens at MMES site will be challenging given site constraints*
- Optimize Energy Performance & Incentive Programs
  - *Although MMES is very energy efficient, it was built prior to the adoption of the DOER Stretch Energy Code and the changes in Utility incentives which requires Full Electrification. The use of natural gas at MMES will add complexity and potential cost to achieve these credits and incentives. Addition/Renovation also adds complexity to the LEED credit process.*
- Building Life-Cycle Impact Reduction & Regional Priority Point
  - *Connection to existing MMES building may limit construction techniques due to compatibility with existing construction and may add additional complexity and cost. Team will continue to study this if this site is selected.*

Open Discussion



Next Steps

- Submit PDP to MSBA in Jan 2026
- Submit PSR to MSBA in April 2026
- Schematic Design Development occurs May through November 2026
  - Mass Save Program– Complete the MOU

    (Memorandum of Understanding)
  - Sustainability Working Group Meeting #3

    Early to mid Schematic Design

    Refinement of LEED scorecard to align with proposed site and design



MMES

Thank you!

Contact us for questions/follow-up.

Colleen Ryan Soden, LEED BD+C

Soden Sustainability: Director

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Kelley Tapia, AIA, WELL AP, LEED BD+C, Fitwel Ambassador

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E: kelley@sodensustainability.com

Eric Haggstrom, AIA, LEED AP, Fitwel Ambassador

JCJ Architecture: Director of Sustainability

E: ehaggstrom@jcj.com

SBC Meeting Agenda – November 25, 2025 @ 6:00 PM

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2. Previous Topics & Meeting Minutes (Vote Expected)
   - ➢ SBC Meeting No. 8 20251028
   - ➢ SBC Meeting No. 9 20251106
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12. Adjourn

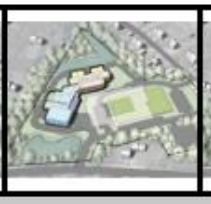
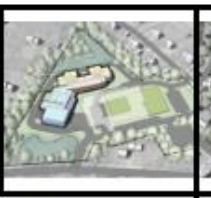
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Design Alternatives





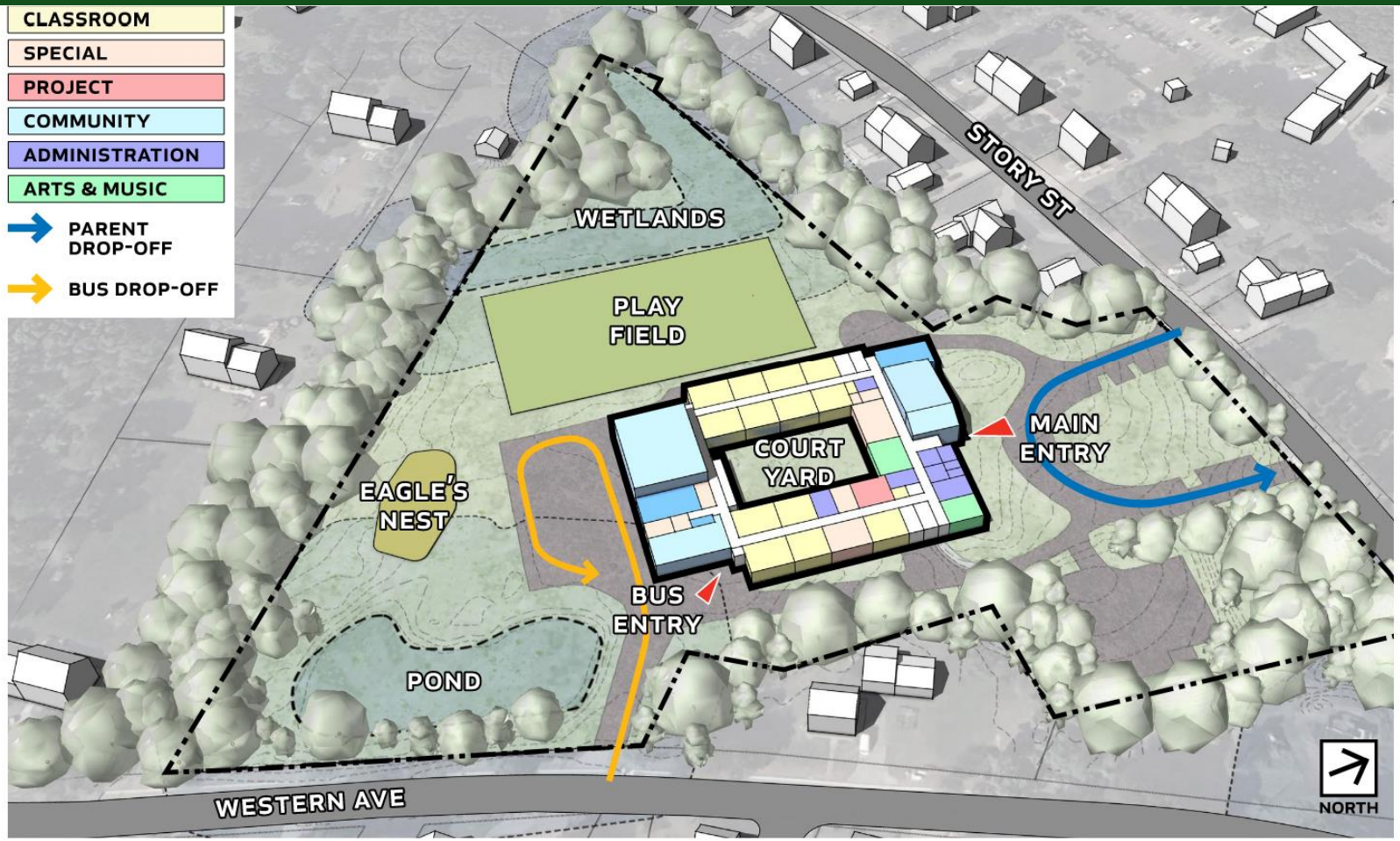




ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD

Design Alternatives

EXISTING ESSEX ELEMENTARY
K – 5
200 STUDENTS

53,036 GFA EXISTING

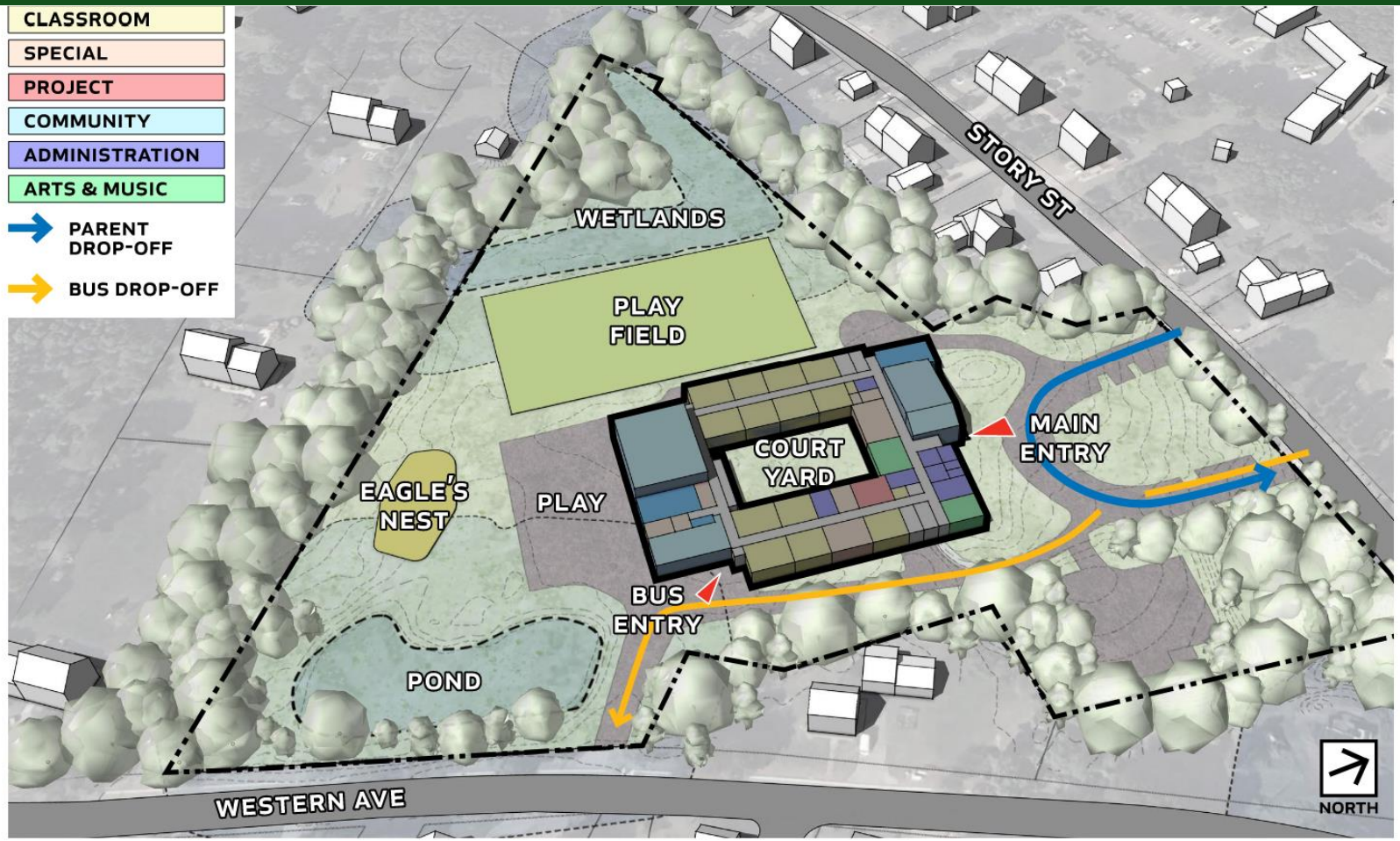


Design Alternatives

OPTION A0.1

PRE-K – 3
165 STUDENTS + 30 PRE-K
CODE UPGRADE/BASE REPAIR

53,036 GFA RENOVATION



CONSIDERATIONS

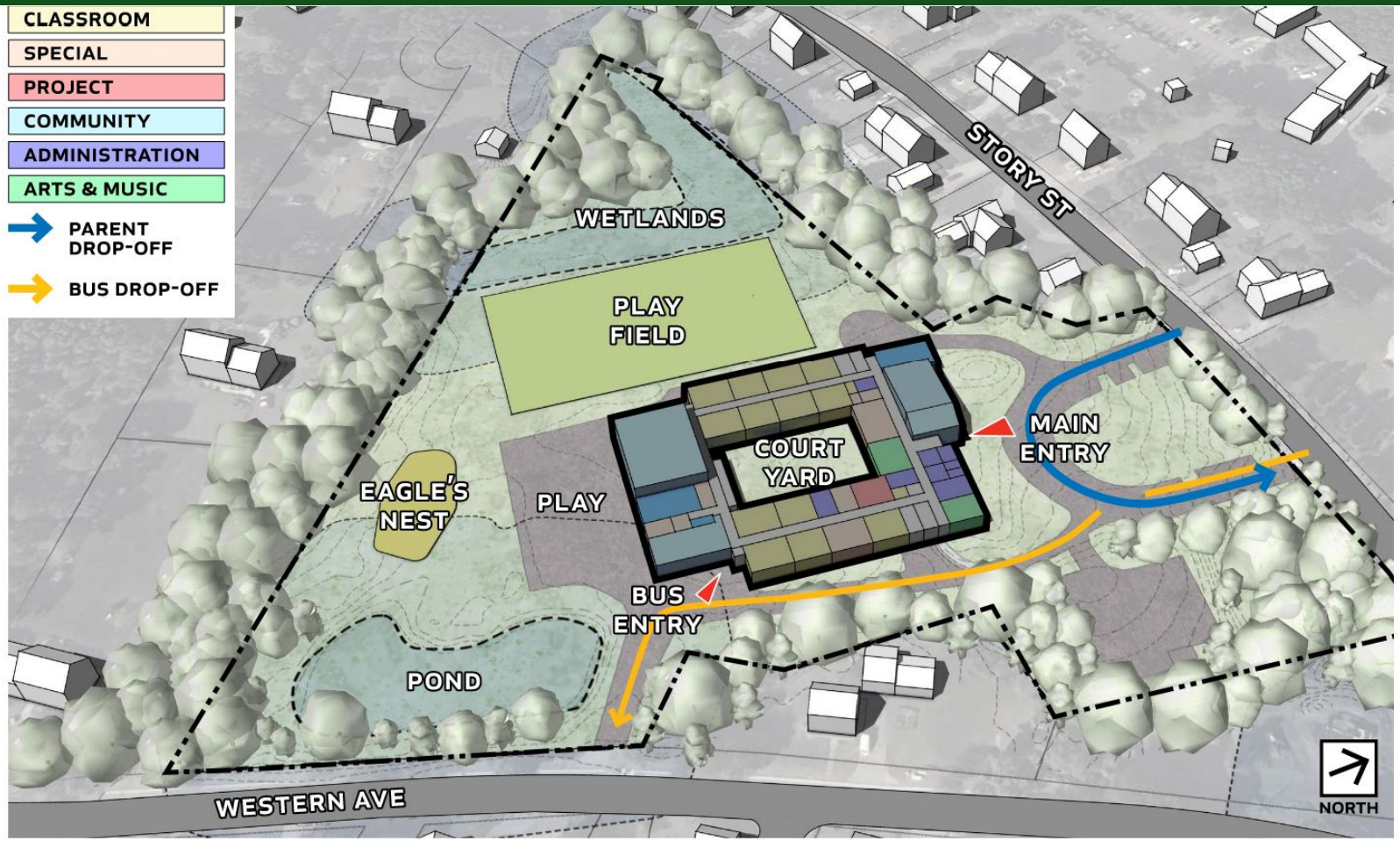
- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

Design Alternatives

OPTION A0.2

PRE-K – 5
250 STUDENTS + 30 PRE-K
CODE UPGRADE/BASE REPAIR

53,036 GFA RENOVATION



CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE

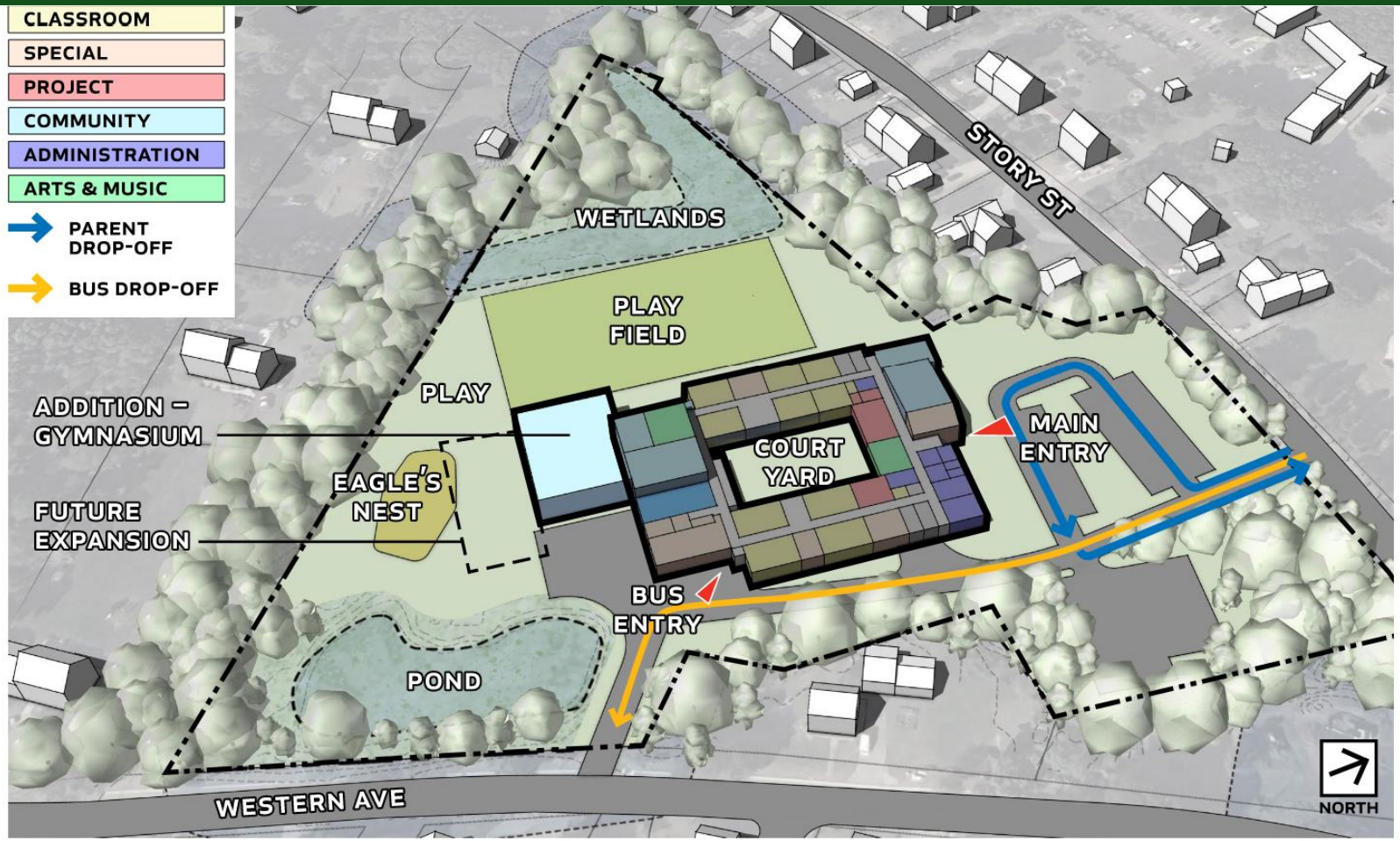
Design Alternatives

OPTION A1.1

PRE-K – 3
165 STUDENTS + 30 PRE-K
ADDITION/RENOVATION

53,036 GFA RENOVATION
7,741 GFA ADDITION

TOTAL: 60,777 GFA



CONSIDERATIONS

- FULL-SIZE GYM COULD BE ACCOMMODATED IN AN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

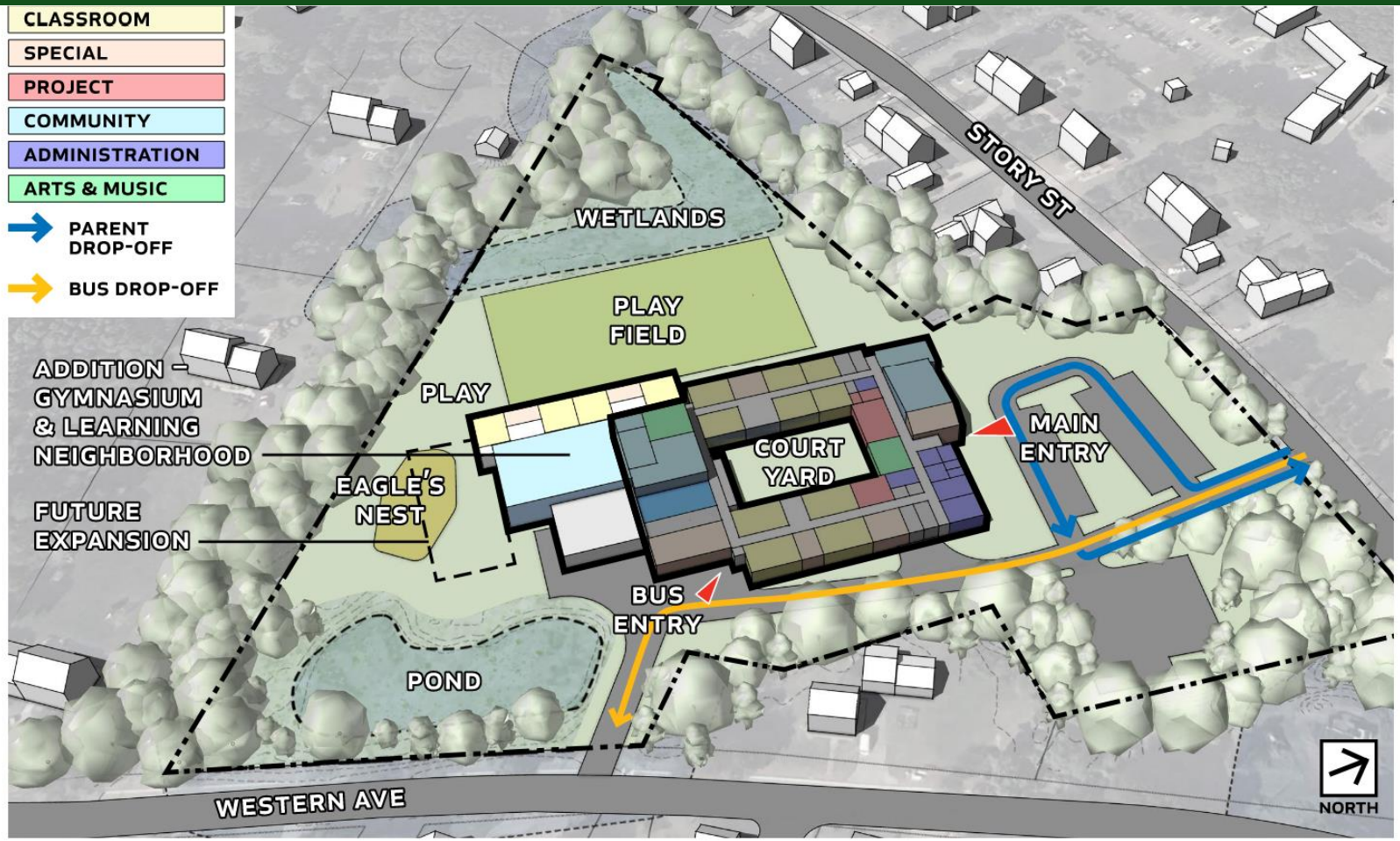
Design Alternatives

OPTION A1.2

PRE-K – 5
250 STUDENTS + 30 PRE-K
ADDITION/RENOVATION

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA



CONSIDERATIONS

- FULL-SIZE GYM COULD BE ACCOMMODATED IN AN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (4 CLASSROOMS) COULD BE ACCOMMODATED IN AN ADDITION

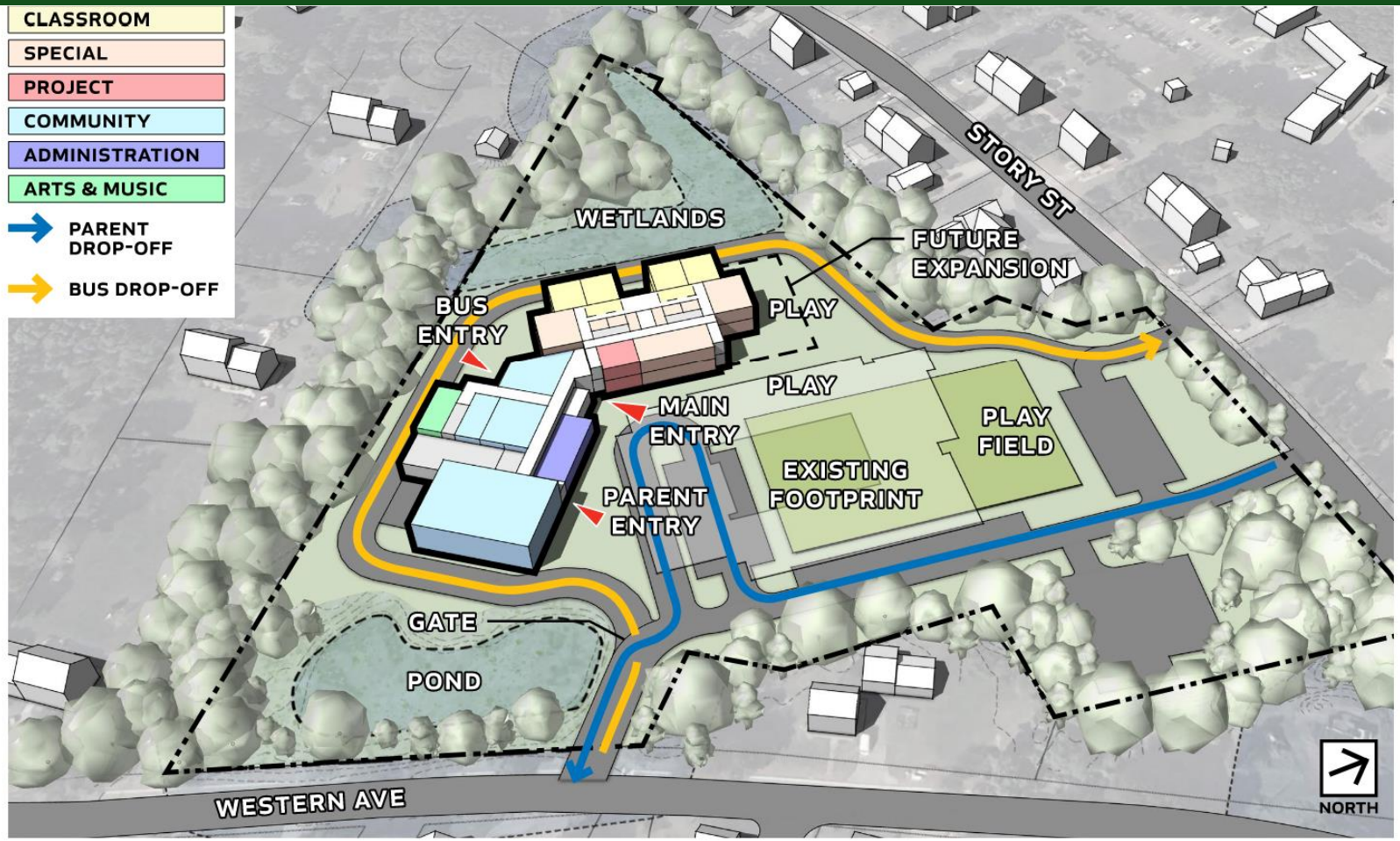
Design Alternatives

OPTION A2.1

PRE-K – 3
165 STUDENTS + 30 PRE-K NEW

60,777 GFA NEW

TOTAL: 60,777 GFA



CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

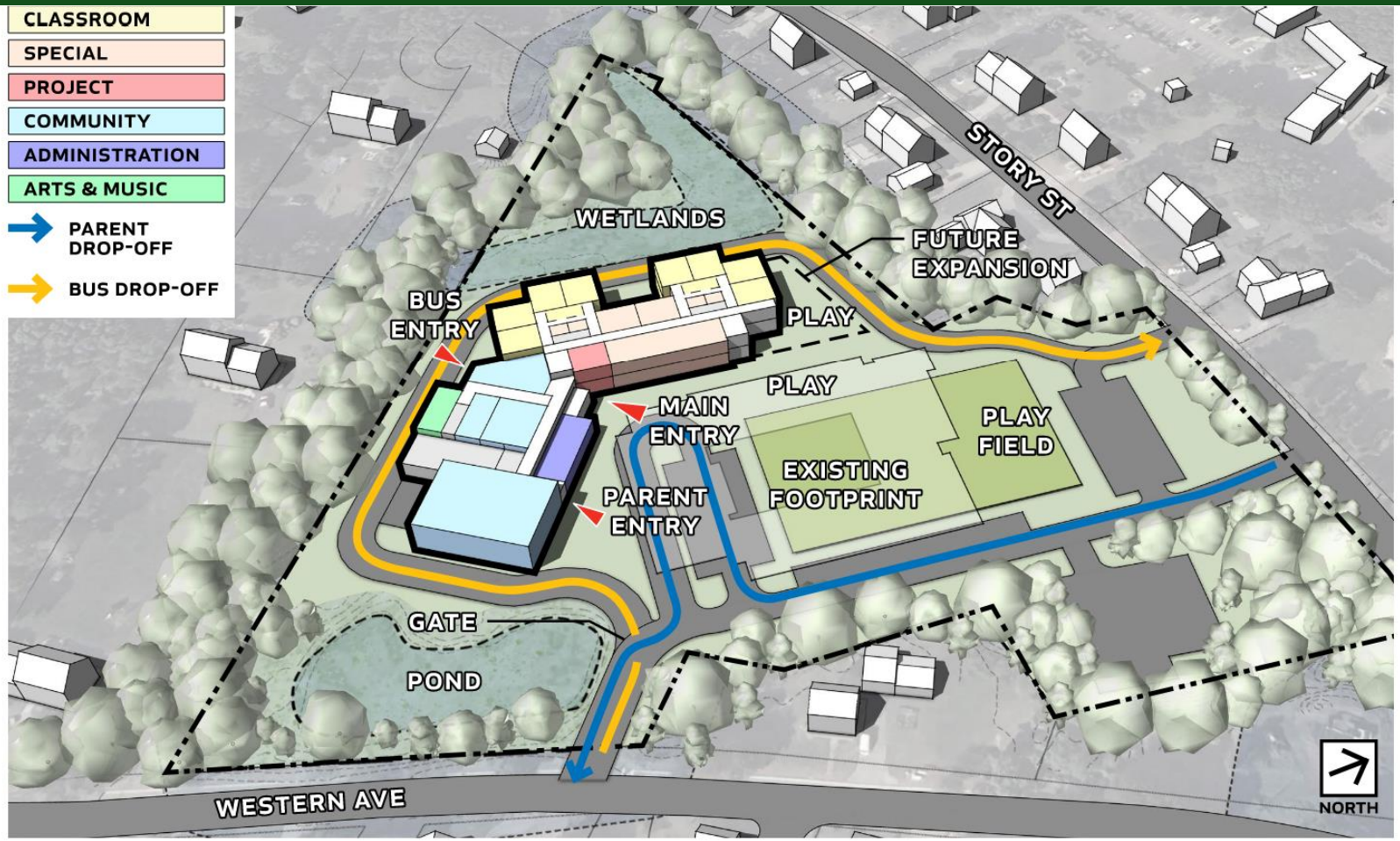
Design Alternatives

OPTION A2.2

PRE-K – 5
250 STUDENTS + 30 PRE-K NEW

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
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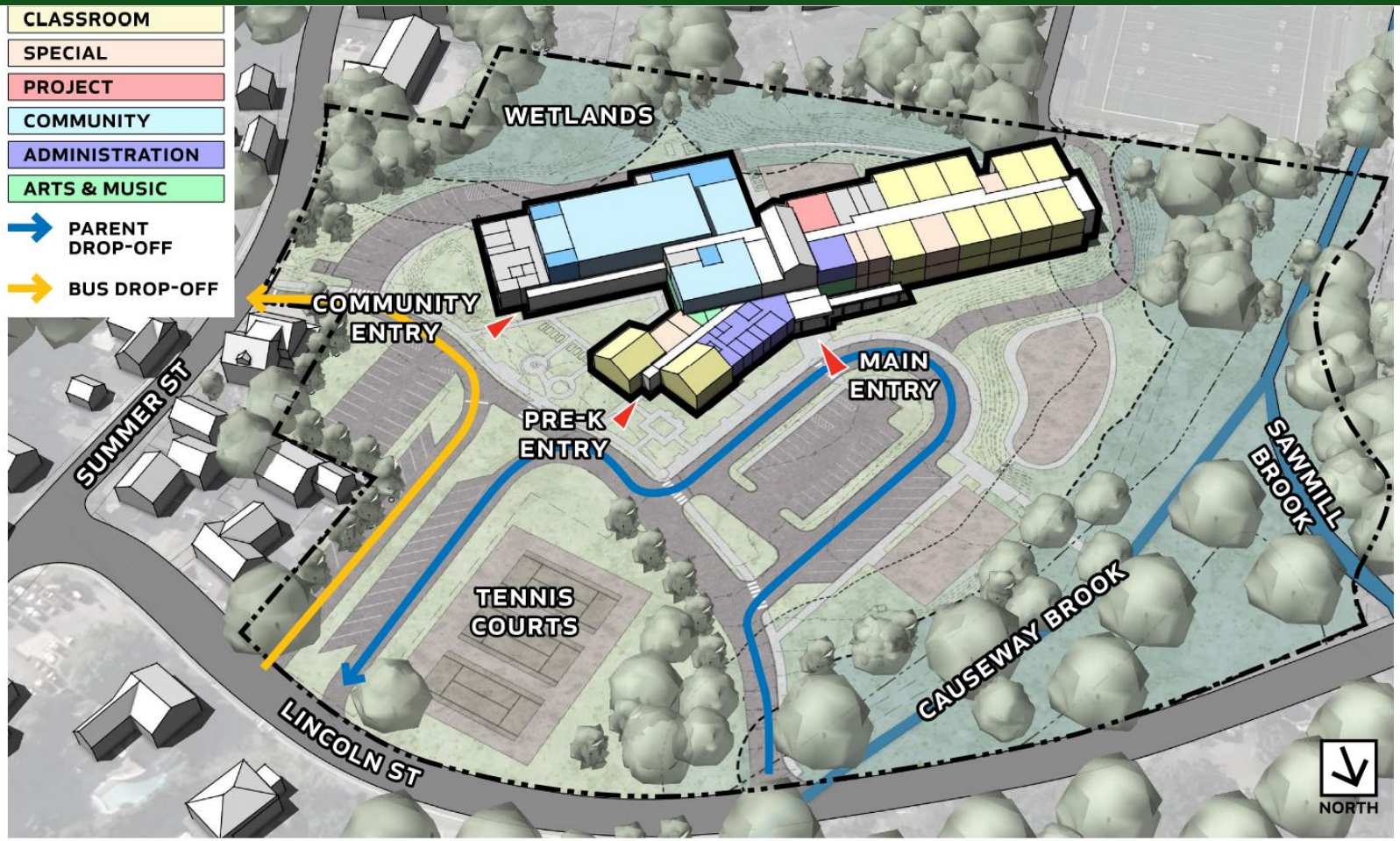
Design Alternatives

EXISTING MANCHESTER MEMORIAL

PRE-K – 5

335 STUDENTS + 45 PRE-K

77,102 GFA EXISTING



Design Alternatives

OPTION B1.1

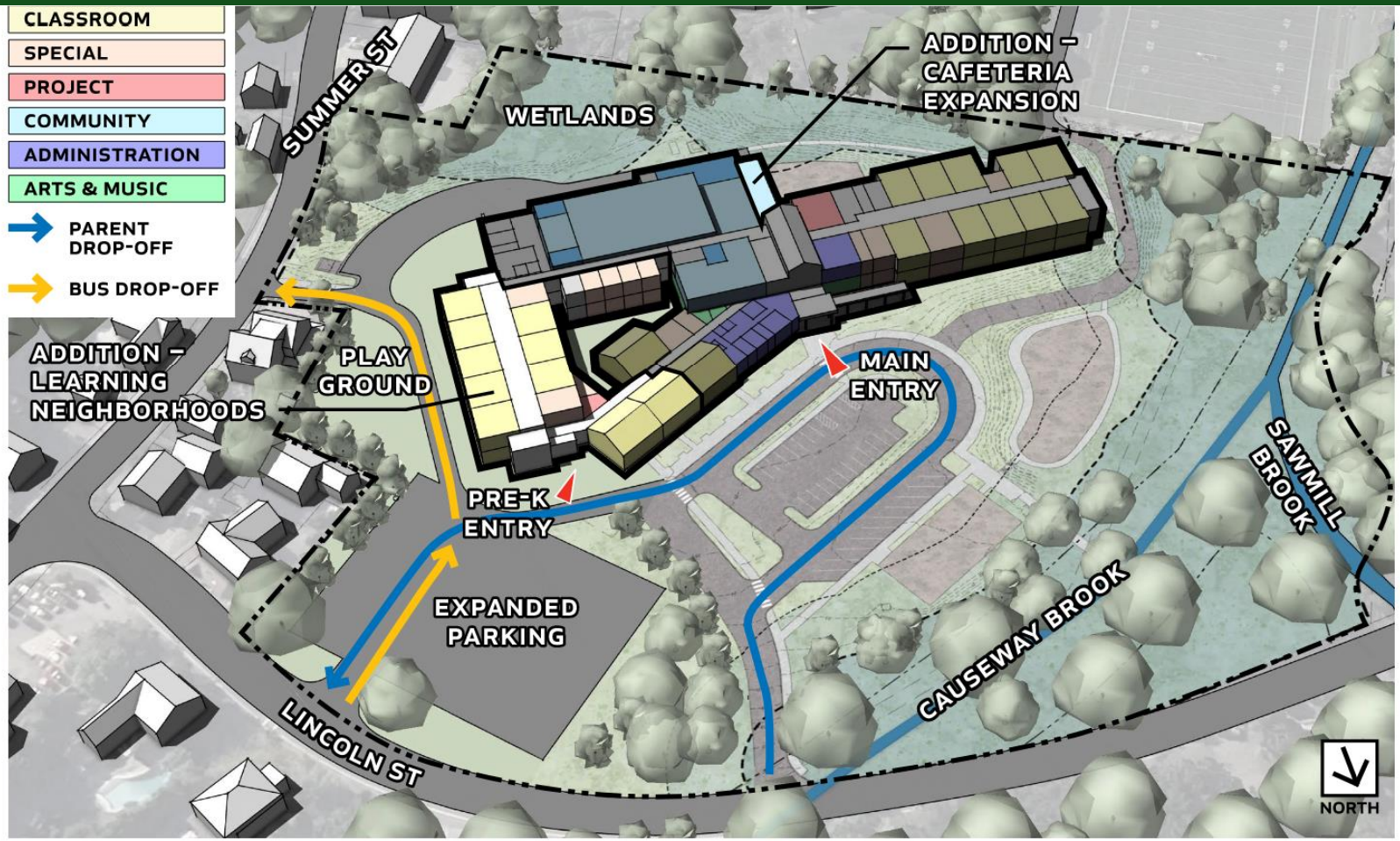
PRE-K –5
515 STUDENTS + 60 PRE-K
ADDITION/RENOVATION

77,102 GFA EXISTING/RENO
41,899 GFA NEW

TOTAL: 119,001 GFA

CONSIDERATIONS

- SITE AMENITIES WILL BE LIMITED SUCH AS PLAY SPACE AND PARKING CAPACITY
- REMOVAL OF TENNIS COURTS LIKELY
- NO FUTURE EXPANSION POTENTIAL
- BUILDING CODE AREA LIMITATIONS REQUIRES FIRE WALLS SEPARATING ADDITIONS
- COMMUNITY ENTRY AND NEAR-BY PARKING COMPROMISED BY ADDITION LOCATION
- NUMEROUS ISSUES ASSOCIATED WITH ELIMINATING A SCHOOL IN ESSEX (TRAVEL, BUSING, AFTERSCHOOL PROGRAMS, REGIONAL AGREEMENT, ETC.)



Design Alternatives

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
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	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
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	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program at EES							
	Meets Needs of Educational Program at MMES							
	Equity across the District							
	Future Growth and Expansion							
	Flexible and Adaptable Spaces							
	Construction Impact on Existing School Activities							
Community	Compatible with Regional Agreement							
	Heart of Essex Community / Sense of Place							
	Walkability for Essex Student Population							
	Neighborhood Traffic Impact							
	Community Use Opportunities							
	Disruption to Manchester							
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones							
	Bus and Parent Drops - Safety & Efficiency							
	Parking Capacity							
	Play and Athletics Fields (inc. MMES Tennis Courts)							
	Meets Sustainability Goals - Bike Paths, Rain Garden							
Building	Existing Facility Deficiencies Addressed							
	Entries Visible / Unobstructed Sight Lines							
Cost & Schedule	Total Project Cost							
	Maximize MSBA Grant Reimbursement							
	Phasing Minimizes Construction Duration							
	Modular Classroom Swing Space not Required							
	Construction Access and Staging							
	Reduce Operational Costs - Utilities, Maintenance							
	Reduce Operational Costs - Staff, Transport							

SBC Meeting Agenda – November 25, 2025 @ 6:00 PM

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12. Adjourn

Schedule Update/PDP

11/25/25 SBC Meeting-Review Community Meeting #2 Feedback, Further Evaluation of Alternatives

12/9/25 Comm Meeting #3-Memorial ES with a tour and rerun of meetings #1 and #2

12/15/25 SBC Meeting-Final Evaluation of Alternatives with Preliminary Costs

12/19-12/30 Draft PDP to SBC

1/6/26 SBC Meeting-PDP Approval to MSBA, Initial Grade Configuration Discussion

Schedule Update/PSR

1/22/26 SBC Meeting-Alternatives with Grade Configuration Discussion

1/28/26 Comm Meeting #4-Share PDP results and Evaluation of Alternatives with Grade Configuration

2/9/26 SBC Meeting-Review Comm Meeting Feedback, Review Alternatives and Grade Configuration

2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing

3/10/26 SBC Meeting-Preferred Alternates if Necessary

3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration

3/30/26 Comm Meeting #5-Review Preferred Options

4/14/26 SBC Meeting-Review Comm Meeting #4 Feedback and Approval of Preferred Solution

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

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4. Community Meeting #2 Feedback
5. Sustainability Working Group Update
6. Work Plan Review
7. Further Evaluate Alternatives
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

SBC Meeting Agenda – November 25, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - ➢ SBC Meeting No. 8 20251028
   - ➢ SBC Meeting No. 9 20251106
3. Invoices & Commitments for Review and Approval (Vote Expected)
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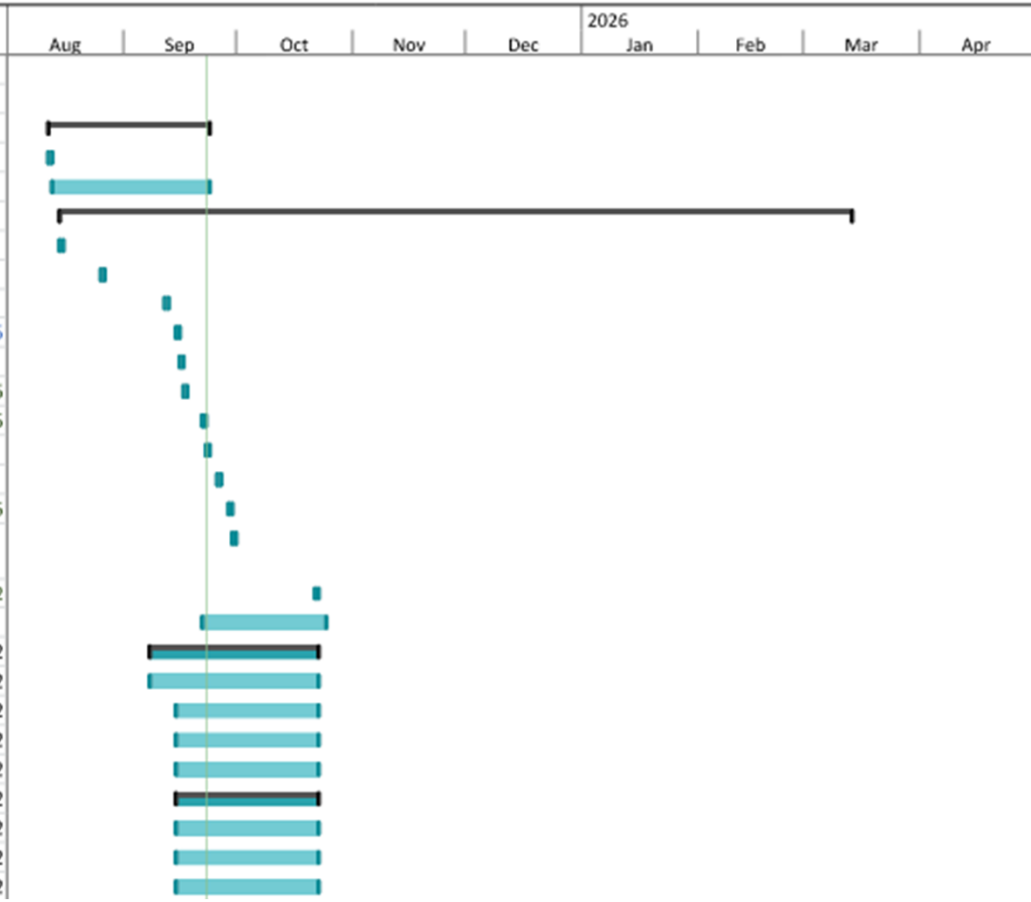
SBC Meeting Agenda – November 25, 2025 @ 6:00 PM

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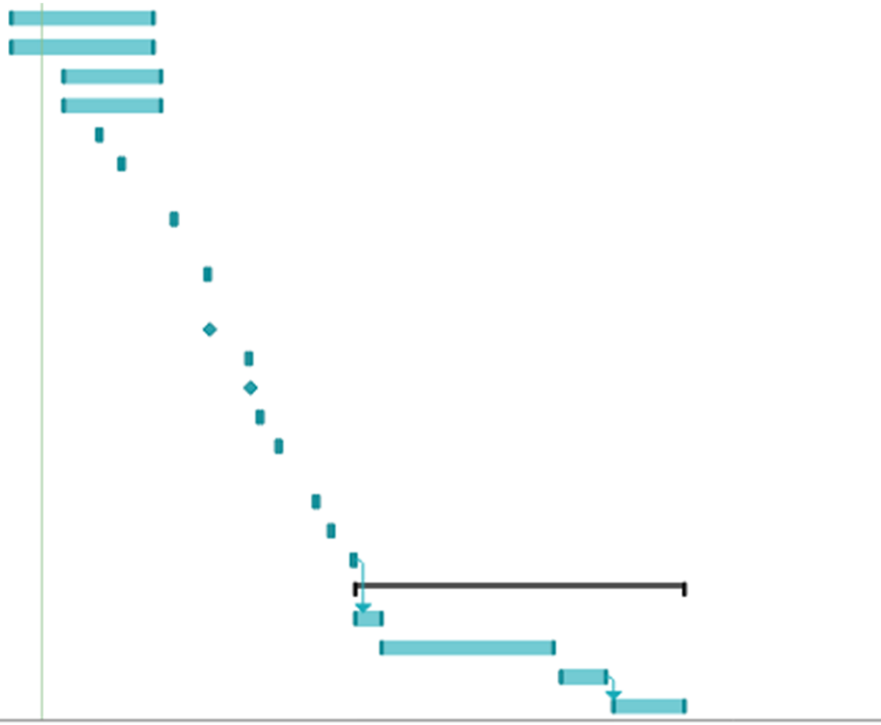
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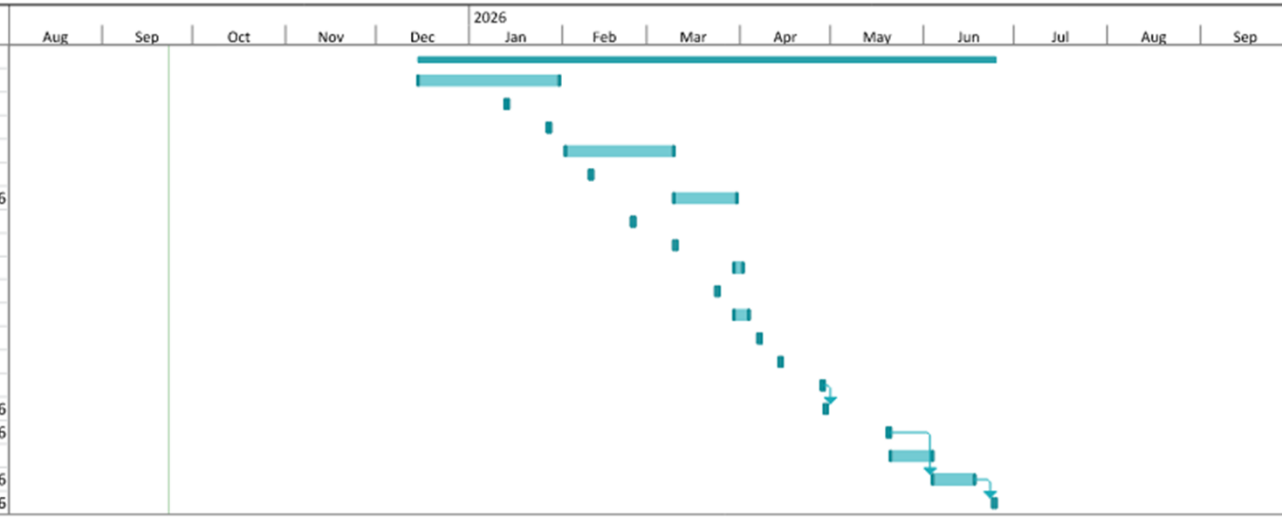
ID	Task Name	Duration	Start	Finish
1	Manchester Essex Regional School District			
2	**Essex Elementary School**			
3	**Designer Selection**	**31 days**	**Tue 8/12/25**	**Tue 9/23/25**
4	MSBA Designer Selection	1 day	Tue 8/12/25	Tue 8/12/25
5	Execute Contract	30 days	Wed 8/13/25	Tue 9/23/25
6	**Module 3: Feasibility Phase - PDP**	**151 days**	**Fri 8/15/25**	**Fri 3/13/26**
7	Kick Off Meeting: Dore + Whittier & District	1 day	Fri 8/15/25	Fri 8/15/25
8	SBC Meeting #4: Kick Off with JCJ	1 day	Tue 8/26/25	Tue 8/26/25
9	ESS Communications Working Group Meeting	1 day	Fri 9/12/25	Fri 9/12/25
10	SBC Meeting #5: Workplan Review, Evaluation Framework	1 day	Mon 9/15/25	Mon 9/15/25
11	Educational Visioning #1: Launch & Priorities	1 day	Tue 9/16/25	Tue 9/16/25
12	Educational Visioning #2: Shadow Day	1 day	Wed 9/17/25	Wed 9/17/25
13	Educational Visioning #3: Development, Belonging, Grad Configura	1 day	Mon 9/22/25	Mon 9/22/25
14	Kick Off Meeting with MSBA	1 day	Tue 9/23/25	Tue 9/23/25
15	Educational Visioning #4: School Tours	1 day	Fri 9/26/25	Fri 9/26/25
16	Educational Visioning #5: Workshop-Specific Program Needs & Adj	1 day	Mon 9/29/25	Mon 9/29/25
17	SBC Meeting #6: Educational Visioning Update, Site Development Requirements, Sustainability Goals	1 day	Tue 9/30/25	Tue 9/30/25
18	Educational Visioning #6: Teaching, Learning & Space	1 day	Wed 10/22/2	Wed 10/22/2
19	Educational Visioning #7: Workshop Special Education & Related Se	25 days	Mon 9/22/25	Fri 10/24/25
20	**Existing Conditions Building Investigations**	33 days	Mon 9/8/25	Wed 10/22/2
21	Architectural	33 days	Mon 9/8/25	Wed 10/22/2
22	Regulated Materials	28 days	Mon 9/15/25	Wed 10/22/2
23	Structural	28 days	Mon 9/15/25	Wed 10/22/2
24	MEP/FP Systems (Possible Hydrant Flow Tests)	28 days	Mon 9/15/25	Wed 10/22/2
25	**Existing Conditions Site Investigations**	28 days	Mon 9/15/25	Wed 10/22/2
26	Civil and Infrastructure	28 days	Mon 9/15/25	Wed 10/22/2
27	Phase 1 Environmental Assessments	28 days	Mon 9/15/25	Wed 10/22/2
28	Geotechnical Studies	28 days	Mon 9/15/25	Wed 10/22/2



29	Environmental Noise Surveys	28 days	Mon 9/15/25	Wed 10/22/2
30	Traffic	28 days	Mon 9/15/25	Wed 10/22/2
31	Food Service Program Meeting	20 days	Mon 9/29/25	Fri 10/24/25
32	Security Program Meeting	20 days	Mon 9/29/25	Fri 10/24/25
33	Community Meeting #1: Process, Schedule, Existing Conditions	1 day	Wed 10/8/25	Wed 10/8/25
34	SBC Meeting #7: Review Community Meeting #1 Feedback, Initial Space Summary	1 day	Tue 10/14/25	Tue 10/14/25
35	SBC Meeting #8: Preliminary Evaluation of Alternatives (Review), Acceptance of Space Summary	1 day	Tue 10/28/25	Tue 10/28/25
36	SBC Meeting #9: Preliminary Evaluation of Alternatives (Draft), Acceptance of Educational Program	1 day	Thu 11/6/25	Thu 11/6/25
37	Submit PDP Alternatives to Cost Estimator	0 days	Fri 11/7/25	Fri 11/7/25
38	Cost Estimate Reconciliation	1 day	Mon 11/17/2	Mon 11/17/2
39	SC Approval of Educational Program & Acceptance of Space Summa	0 days	Tue 11/18/25	Tue 11/18/25
40	Community Meeting #2: Sites & Alternatives Considered	1 day	Thu 11/20/25	Thu 11/20/25
41	SBC Meeting #10: Review Community Meeting #2 Feedback and Cost Estimate	1 day	Tue 11/25/25	Tue 11/25/25
42	Submit Draft PDP to SBC	1 day	Fri 12/5/25	Fri 12/5/25
43	Community Meeting #3: Review Draft PDP Results with Costs	1 day	Tue 12/9/25	Tue 12/9/25
44	SBC Meeting #11: Vote Approval of PDP	1 day	Mon 12/15/2	Mon 12/15/2
45	**MSBA PDP Submission and Review**	**64 days**	**Tue 12/16/25**	**Fri 3/13/26**
46	Submit PDP to MSBA	5 days	Tue 12/16/25	Mon 12/22/2
47	MSBA Review PDP and Comment - Timeframe TBD	34 days	Tue 12/23/25	Fri 2/6/26
48	Respond MSBA Comments and Resubmit	10 days	Mon 2/9/26	Fri 2/20/26
49	MSBA Accept PDP - Timeframe TBD	15 days	Mon 2/23/26	Fri 3/13/26



ID	Task Name	Duration	Start	Finish
50	**Module 3: Feasibility Phase - Preferred Schematic Report (PSR)**			
51	Further Development of Alternates	35 days	Mon 12/15/2	Fri 1/30/26
52	SBC Meeting #12	1 day	Tue 1/13/26	Tue 1/13/26
53	SBC Meeting #13	1 day	Tue 1/27/26	Tue 1/27/26
54	Development of Preferred Solution	26 days	Mon 2/2/26	Mon 3/9/26
55	SBC Meeting #14:	1 day	Tue 2/10/26	Tue 2/10/26
56	Cost Estimate	15 days	Tue 3/10/26	Mon 3/30/26
57	SBC Meeting #15	1 day	Tue 2/24/26	Tue 2/24/26
58	SBC Meeting #16	1 day	Tue 3/10/26	Tue 3/10/26
59	Reconciliation of Estimate	3 days	Mon 3/30/26	Wed 4/1/26
60	SBC Meeting #17	1 day	Tue 3/24/26	Tue 3/24/26
61	Community Meeting #4: Review Preferred Solution	5 days	Mon 3/30/26	Fri 4/3/26
62	Submit Draft PSR for SBC Review	1 day	Tue 4/7/26	Tue 4/7/26
63	SBC Meeting #18	1 day	Tue 4/14/26	Tue 4/14/26
64	SBC Meeting #19: Approval of PSR	1 day	Tue 4/28/26	Tue 4/28/26
65	PSR Submission to MSBA	1 day	Wed 4/29/26	Wed 4/29/26
66	MSBA Facilities Assessment Subcommittee Presentation Meeting	1 day	Wed 5/20/26	Wed 5/20/26
67	MSBA Review	10 days	Thu 5/21/26	Wed 6/3/26
68	Respond to MSBA PSR Comments	10 days	Thu 6/4/26	Wed 6/17/26
69	MSBA Board of Directors Approval of PSR	1 day	Wed 6/24/26	Wed 6/24/26



MEETING AGENDA

Meeting Date:	December 15, 2025
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link:	https://us06web.zoom.us/j/85349809336

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 10 – November 25, 2025
3. Invoices & Commitments for Review and Approval (Vote Expected)
    - Dore + Whittier Management Partners | $51,587.00
    - JCJ Architecture | $58,635.00
4. Community Meeting #3 Feedback
5. Final Review of Alternatives with Preliminary Costs
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	12/15/25
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
✓	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
✓	John Binieris*	SBC Co-Chair
	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
✓	Charlie Hay*	Architect School Building Experience
✓	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
	Tyler Virden*	Project Executive -Wise Construction / Paren
	Annie Cameron*	Former SC Member and Memorial SBC Member
	Ariel Fernando Brian*	Architect - CBT
	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
✓	Timonthy McDonald*	Architect - Onion Flats
	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
✓	Lisa O'Donnell	Design & Construction / Essex Planning Board
✓	Steve Hunt*	Facilities Manager
✓	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
	Rachelle Rousseau	EES Teacher
✓	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
✓	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
✓	Jacob Greco	Assistant Project Manager - DWMP
	James LaPosta	Principal - JCJ Architecture
✓	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
✓	Dustin Lombardi	Architect - JCJ Architecture
✓	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

Item No.	Action Item	Ball in Court
	Update the evaluation spreadsheet by adding a new criteria/row for sustainability/energy efficiency, changing A1.1 educational program rating for Essex from 2 to 0, making both B1.1 educational program ratings neutral (or same value) with a footnote explaining the new program creation, and adding a row for "Additional work required at Manchester Memorial to be funded by the district.	JCJ
	Share the updated evaluation spreadsheet with the group, incorporating all discussed changes. 3. Christina: Send the PDP (Preliminary Design Program) submission to the committee for review ahead of the January 6th meeting.	JCJ
	Send the PDP (Preliminary Design Program) submission to the committee for review ahead of the January 6th meeting.	DWMP
	Provide the committee with preliminary MSBA reimbursement calculations/estimates for new construction and addition/renovation options (not B1.1), for internal group use, within a few days.	DWMP
	Review the PDP submission over the holiday break and provide any questions or feedback to DWMP before the January 6th meeting.	MERSD SBC

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

DORE + WHITTIER

<table>
<tr><td>Item No.</td><td>Description</td><td></td></tr>
<tr><td>11.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 6:04pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>11.2</td><td>Approval of November 25, 2025, Meeting Minutes (Vote Expected):

A motion to approve November 25, 2025 Meeting Minutes was made by K. Provost and seconded by M. Gerhardt.

<u>Discussion</u>: None.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Yes</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Absent</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Absent</td></tr>
<tr><td>Annie Cameron</td><td>Absent</td></tr>
<tr><td>Ariel Fernando Brian</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Absent</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Absent</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>
Yes: 10| No: 0 | Absent/Abstain: 6</td><td>Record</td></tr>
</table>

DORE + WHITTIER

11.3	**Invoices & Commitments for Review and Approval (Vote Expected):** A motion to approve the following invoices was made by C. Hay and seconded by G. Brewster. Dore + Whittier Management Partners Invoice | $51,587.00 JCJ Architecture Invoice | $58,635.08 <u>Discussion:</u> ➢ G. Brewster commented that very few consultant charges have been incurred to date and asked whether this is where the team should be at this stage. ➢ F. Pellegrini responded that there are two "buckets" of fees: o The first is the base fee, which includes JCJ and consultants as the project progresses through the PSR, PDP, and Schematic phases. o The second is an allowance that covers various consultants as they perform specific tasks. ➢ F. Pellegrini further explained as an example, a phase 1 study with the environmental engineer was billed when the task was determined to be ready to proceed. While consultants are billing, their work falls under the base scope, so it is not called out separately and is considered part of the overall fee <u>Roll Call Vote:</u>	Record

Name	**Yes/No/Abstain & Absent**
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Yes
Theresa Whitman	Yes
Andy Oldeman	Absent
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Absent
Annie Cameron	Absent
Ariel Fernando Brian	Absent
Jen Hocherman	Absent
Michael Gerhardt	Yes
Timonthy McDonald	Yes

	<table><tr><td>Henry Oettinger</td><td>Absent</td></tr><tr><td>Emily Dwyer</td><td>Yes</td></tr><tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr><tr><td>Kim Field</td><td>Advisor – No Vote</td></tr><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table> • **Yes: 10 | No: 0 | Absent/Abstain: 16**	
11.4	**Community Meeting No. 3 Feedback** • C. Dell Angelo shared that it was encouraging to see people attend and tour Memorial School. Although they were personally very familiar with the building, it was valuable to hear feedback from others who appreciated the design, how it reflects the educational program, and how effectively it functions within the space. – people did come out and tour the school. The people liked the design etc. went through the whole presentation and covered everything from first and second meeting. Thought it went well. • C. Dell Angelo continued that the team received several good questions and proceeded with the full presentation, as some online attendees were new and it was important to cover previously discussed material. She noted that it appeared the discussion was productive. • P. Beaudoin remarked that the meeting was very conversational compared to the previous two, noting the smaller setting and attendance (approximately four), allowed for more back-and-forth discussion. • G. Brewster asked, was there a general impression of those who hadn't seen Manchester Memorial Elementary School before? • T. Whitman responded that it depends on one's individual outlook, noting that a variety of perspectives were represented among those who toured the building and that there did not appear to be a universal viewpoint. • C. Dell Angelo noted that attendees seemed pleased to learn more about the process the team is following. She explained that many had not previously heard this information and appreciated understanding that the project is working with the MSBA, follows a prescribed process, and is still in the early stages. • G. Brewster asked whether any attendees expressed a preference for a specific option under consideration—such as choosing a	Record

	particular renovation option—or whether anyone indicated a preference for constructing a new school. • T. Whitman shared that she received feedback from at least one attendee regarding a preferred path; however, this feedback was not provided during or in conjunction with the building tour. • P. Beaudoin noted that there was some discussion about the site's capacity to accommodate an additional 40,000 square feet. Attendees were able to visualize the potential location and what would be impacted, which generated further conversation. • T. McDonald commented that the team effectively articulated the pros and cons of the various schemes. While some attendees might have had preconceived ideas—such as assuming a new school should be built in Essex or that the school in Manchester should remain untouched, the team clearly communicated the financial, community, and infrastructural considerations. This approach provided attendees with comprehensive information and minimized the opportunity for premature judgments. • T. Whitman noted the value of having a condensed version of the first two community meeting presentations. While recordings of the full meetings are available, the condensed version provides a shorter option for those who do not want to commit to four hours of viewing. The condensed presentation is available on the project website.	
11.5	**Final Review of Alternatives with Preliminary Costs: (Slide** **Design Alternatives: (Slide 7)** • C. Dell Angelo stated that at the previous meeting, the team reviewed the project alternatives in preparation for advancing to the PDP cost estimate exercise. Since then, meetings were held with both PM&C and A.M. Fogarty—PM&C serving as the project cost estimator and A.M. Fogarty as JCJ's estimator. C. Dell Angelo noted that she has worked extensively with both firms on school projects and emphasized their experience and expertise in school construction across the Commonwealth. • C. Dell Angelo explained that the team spent time reviewing and reconciling the cost estimates to ensure alignment between the estimators to an acceptable percentage. To begin the discussion at this meeting, the team planned to review the spreadsheet outlining the project alternatives. The spreadsheet reflects JCJ's preliminary evaluation of each option against the established criteria, using a scale ranging from highly desirable to highly undesirable. • J. Elliott presented the design alternatives, noting that the options were developed to best reflect conversations held to date.	Record

Code Upgrade Options (A0.1 + A0.2)

- Two code upgrade options were reviewed, focused on base repairs while maintaining the existing building footprint.
- These options are smaller than the space summaries required to meet program needs and would be undersized for the desired educational program, resulting in negative evaluation marks.
- Community Impact: Scored lower due to impacts on Essex, including walkability concerns.
- Cost and Schedule: Multi-phased construction with occupied renovations.
- Operations: Slightly negative operational impact for PreK–3.
    - P. Beaudoin shared concerns regarding operational costs.

Addition/Renovation Options (A1.1 + A1.2)

- Addition/renovation options were sized appropriately with building additions.
- Differences between K–3 and K–5 configurations were discussed.
    - G. Brewster asked why community scoring differed between options.
    - J. Elliott explained that community-related challenges were factored into the scoring, including the impact of splitting special education programs, traffic considerations and student walkability to school.
    - P. Beaudoin suggested the experience score should be changed to neutral (0), noting that splitting students contradicts the district's social-emotional mission and creates disruption by moving students between communities.
    - M. Gerhardt asked about future growth and expansion; J. Elliott responded that for either option, future expansion could be accommodated by building on the fields.
    - E. Dwyer asked whether the site scored green due to wetland avoidance. J. Elliott confirmed the smaller footprint allows the project to stay off wetlands.

New Construction Options (A2.1 + A2.2)

- New construction showed similar trends of negative impacts moving the 4th and 5th grade to Manchester Memorial.
- The K–5 option scored substantially more favorably (green).

Addition/Renovation MMES (B1.1)

- This option did not score well for impact on students for the Essex and Manchester communities.
    - M. Gerhardt shared concern about this option.

- P. Beaudoin noted the need to create a new school identity and expressed continued concern about relocating grades 3–5, citing the potential negative impact on school culture and the learning environment.
- The experience score was suggested to be revised to neutral (0).

Memorial School Capacity Discussion

- L. O'Donnell asked whether Memorial School could absorb grades 4 and 5 without upgrades.
  - J. Elliott responded that while project rooms currently exist, reorganization would be required and clarified that any such reconfiguration would no longer be part of the project scope.
  - M. Gerhardt noted that an additional project would likely be required, though the scope of that work is not yet defined.
  - P. Beaudoin clarified that there is an assumption that the students would fit neatly into Memorial School due to perceived excess capacity; however, when the spaces were mapped, this would require taking project rooms offline, using rooms not intended for instructional purposes, and would leave no room for future growth.
  - P. Beaudoin suggested adding a separate cost line item to account for district-funded reconfiguration work at Memorial School.

Additional Clarifications

- E. Dwyer asked whether Option A1.2 involved moving walls.
  - J. Elliott responded that spaces would be right-sized to meet the educational space program. Where classrooms are currently undersized, the team would, where feasible, combine multiple rooms and create smaller breakout spaces.
- G. Brewster commented that Option A1.2 would involve massive changes, characterizing it as a "brand new 1950s building."

Sustainability and Energy Discussion

- T. McDonald asked do we have an EUI that was projected for the existing school and therefore can we compare the two schools.
- D. Lombardi stated the projected EUI was 42.
- T. McDonald noted this suggests roughly a 50% energy savings compared to the Manchester building.
- J. Elliott agreed to add sustainability criteria to the evaluation.

Preliminary Design Program Exercise (Slide 8)

- C. Dell Angelo reminded members about the pricing exercise and that the cost estimates presented are for comparing options only, not predicting final project costs. C. Dell Angelo noted that major design variables have not yet been determined and emphasized that the figures should not be interpreted as the eventual project budget.
- C. Dell Angelo shared a graph from the MSBA website showing average construction costs per square foot based on MSBA data. She noted that the averages exclude site costs and are based on new construction only and are intended to illustrate cost trends rather than project-specific estimates.
    - These averages exclude site costs.
    - Figures are based on new construction only and intended to show cost trends.
    - Currently where we are in the PDP phase for construction costs per square foot, we are at $923 for the Essex Elementary School. (Based off new construction only)
- Total Project Cost ranges were presented as approximately $45 million to $95 million.

MSBA Reimbursement and Cost Context (Slides 9-10)

- T. Whitman asked whether costs reflected MSBA reimbursement.
- C. Dell Angelo clarified reimbursement cannot be determined at this preliminary phase; clearer estimates will come during the PSR phase.
- J. Elliott noted cost should not yet drive decision-making.
- C. Hay expressed concern about how costs would be perceived publicly and the need for defensible figures. It will be important to explain how costs have escalated so much.
- C. Dell Angelo emphasized numbers are conservative estimates based on assumptions, not finalized designs. Geotechnical work has not yet been completed, and many variables remain unknown.
- T. Whitman stated the figures provide a comparison framework.

Program Size and Educational Considerations

- C. Hay noted that size and square footage drive costs and suggested exploring options under 70,000 SF.
- C. Dell Angelo noted that as the design is refined, the square footage may decrease for efficiency; however, even a 250-student school requires a gymnasium, cafeteria, and kitchen, all of which have regulated sizes.
- C. Hay asked why it is important for the substantially separate special education programs to remain in Essex and whether Manchester could accommodate them to reduce the size of the Essex project.

	• P. Beaudoin responded that some programming needs to remain in Essex to maintain an appropriate balance between the two buildings. • K. Provost noted it would be a disservice to Essex students to centralize programs in Manchester due to social impacts. **Market Conditions** • C. Dell Angelo shared feedback from other construction companies currently working on school projects, noting that the cost appeared high, but understanding that this is at a very preliminary stage. • The cost is expected to start high, with potential for adjustment over time. **Public Perception and Communication** • E. Dwyer emphasized that this process is standard for all districts and that it is the committee's responsibility to clearly explain estimates to both communities. • T. McDonald added that cost increases should be contextualized, noting the significant impact of COVID on construction costs. **MSBA Requirements** • C. Hay asked whether MSBA would participate in options that do not meet the educational program. • C. Dell Angelo confirmed MSBA will not support non-compliant options. **Next Steps** • C. Dell Angelo stated that a PDP submission will be sent and approval will be requested at the January 6 meeting. • Grade configurations will begin to be discussed at that meeting. • M. Gerhardt noted that decisions affecting Manchester Memorial School and the regional agreement will be challenging without clearer impacts.	
11.6	**Schedule Update** • C.Dell Angelo reviewed the upcoming meetings and schedule (Slides 12-13)	Record
11.7	**Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting:** None.	Record
11.8	**Public Comment:** None.	Record
11.9	**Reflections & Action Items:** None.	Record

DORE + WHITTIER

<table>
<tr>
<td>11.10</td>
<td>
Adjourn: A motion to adjourn the meeting was made at 7:39 pm by E. Dwyer and seconded by K. Provost.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Absent</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Absent</td></tr>
<tr><td>Annie Cameron</td><td>Absent</td></tr>
<tr><td>Ariel Fernando Brian</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Absent</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Absent</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>
Yes: 9 | No: | Absent/Abstain: 7
</td>
<td>Record</td>
</tr>
</table>

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File

The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 11

December 15, 2025 @ 6:00 PM

DORE + WHITTIER

JCJARCHITECTURE

SBC Meeting Agenda – December 15, 2025 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - ➢ SBC Meeting No. 10 – November 25, 2025
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - ➢ Dore + Whittier Invoice | $51,587.00
   - ➢ JCJ Invoice | $58,635.00
4. Community Meeting #3 Feedback
5. Final Review of Alternatives with Preliminary Costs
6. Schedule Update
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

SBC Meeting Agenda – December 15, 2025 @ 6:00 PM

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10. Adjourn

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10. Adjourn

Design Alternatives

DRAFT

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program at EES	0	0	2	4	2	4	2
	Meets Needs of Educational Program at MMES	0	4	0	4	0	4	0
	Equity across the District	0	0	0	4	0	4	0
	Future Growth and Expansion	2	2	2	2	4	4	0
	Flexible and Adaptable Spaces	0	0	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	0	2	2	0
Community	Compatible with Regional Agreement	0	4	0	4	0	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	1	4	1	4	1	4	0
	Neighborhood Traffic Impact	1	4	1	4	1	4	0
	Community Use Opportunities	1	4	1	4	1	4	0
	Disruption to Manchester	1	4	1	4	1	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	4	1	1	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	2	4	4	0
	Parking Capacity	2	2	2	2	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	2	4	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	2	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	0	4	4	2
	Maximize MSBA Grant Reimbursement	4	4	4	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	0	4	4	1
	Modular Classroom Swing Space not Required	4	0	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Utilities, Maintenance	1	2	1	2	1	2	2
	Reduce Operational Costs - Staff, Transport	1	2	1	2	1	2	2

Preliminary Design Program Pricing Exercise

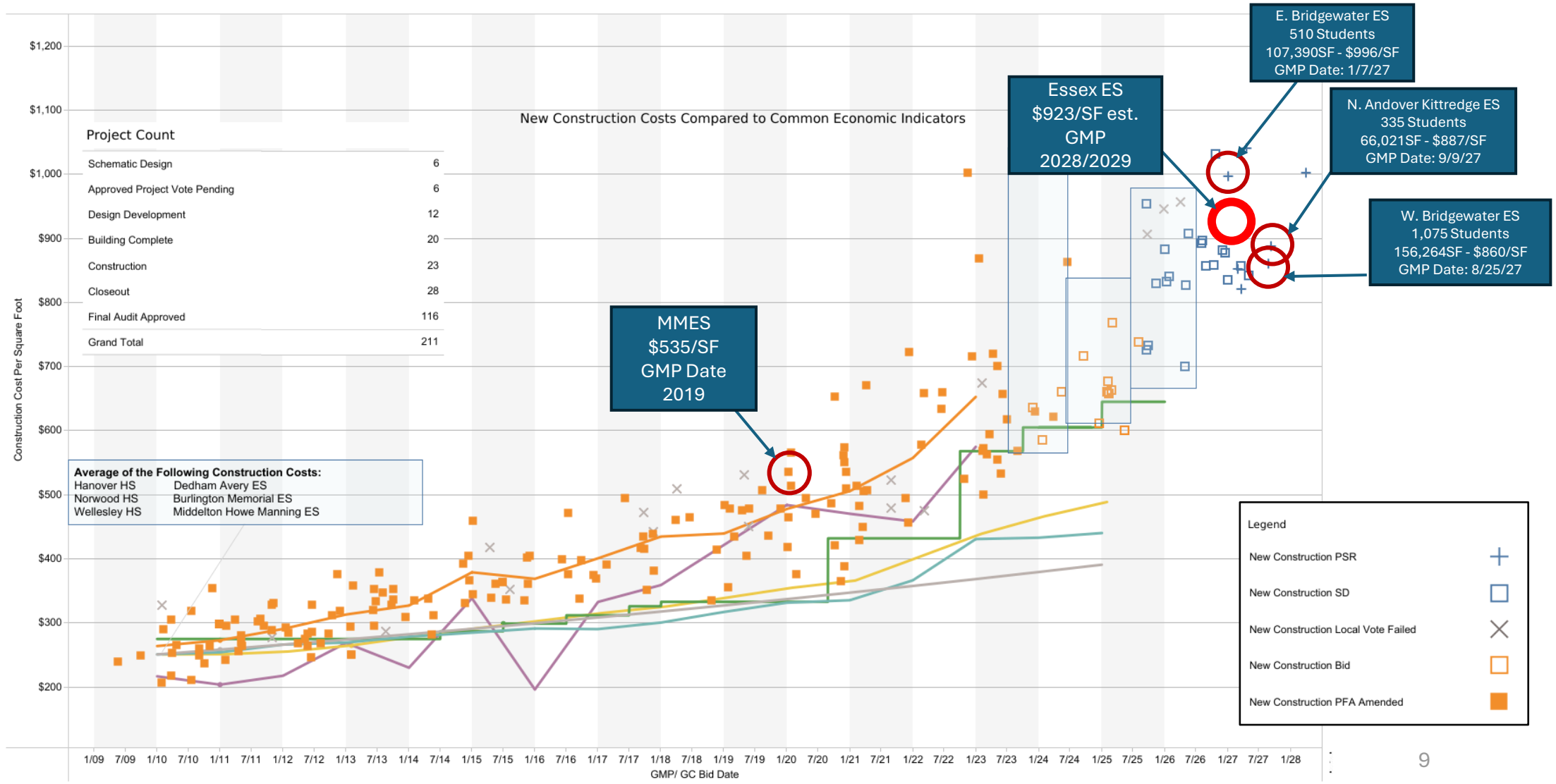
The costs for the various PDP Options indicated above are intended to be an analysis of the relative costs between options and **NOT** a prediction of the actual final cost of any individual option. Major variables such as geotechnical, site grading, structural system and final MEP systems have yet to be designed in detail so costs will vary significantly from the benchmark cost estimating included as part of this PDP cost analysis.

The costs outlined in this report should not be represented as the FINAL construction budget.

This PDP Design Submission cost estimate was produced from narratives and outline drawings dated November 06, 2025, prepared by JCJ Architecture and their design team.

Preliminary Design Program Pricing Exercise

Construction Cost per SF Averages per MSBA Data



Design Alternatives

Est. Total Project Cost PSF $870-$1470

DRAFT

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program at EES	0	0	2	4	2	4	2
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	Equity across the District	0	0	0	4	0	4	0
	Future Growth and Expansion	2	2	2	2	4	4	0
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	Construction Impact on Existing School Activities	0	0	0	0	2	2	0
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	Parking Capacity	2	2	2	2	4	4	0
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	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
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	Entries Visible / Unobstructed Sight Lines	0	0	0	0	4	4	2
	Maximize MSBA Grant Reimbursement	4	4	4	4	4	4	0
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	Modular Classroom Swing Space not Required	4	0	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Utilities, Maintenance	1	2	1	2	1	2	2
	Reduce Operational Costs - Staff, Transport	1	2	1	2	1	2	2
	Total Project Cost	$45M-50M	$45M-50M	$75M-80M	$90M-95M	$80M-85M	$90M-95M	$70M-80M

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10. Adjourn

Schedule Update/PDP

12/19-12/30 Draft PDP to SBC

1/6/26 SBC Meeting-PDP Approval to MSBA, Initial Grade Configuration Discussion

Schedule Update/PSR

1/26/26 SBC Meeting-Alternatives with Grade Configuration Discussion

1/28/26 Comm Meeting #4-Share PDP results and Evaluation of Alternatives with Grade Configuration

2/9/26 SBC Meeting-Review Comm Meeting Feedback, Review Alternatives and Grade Configuration

2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing

3/10/26 SBC Meeting-Preferred Alternates if Necessary

3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration

3/30/26 Comm Meeting #5-Review Preferred Options

4/14/26 SBC Meeting-Review Comm Meeting #4 Feedback and Approval of Preferred Solution

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

SBC Meeting Agenda – December 15, 2025 @ 6:00 PM

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MEETING AGENDA

Meeting Date:	January 6, 2026
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link:	https://us06web.zoom.us/j/84472035402

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 11 – December 15, 2025
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. Preliminary Design Program Approval (Vote Expected)
5. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
6. Public Comment
7. Reflections & Actions Items
8. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	1/6/26
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
✓	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
✓	John Binieris*	SBC Co-Chair
✓	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
✓	Charlie Hay*	Architect School Building Experience
✓	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
✓	Tyler Virden*	Project Executive -Wise Construction / Paren
✓	Annie Cameron*	Former SC Member and Memorial SBC Member
✓	Ariel Fernando Brain*	Architect - CBT
	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
✓	Timonthy McDonald*	Architect - Onion Flats
✓	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
✓	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
✓	Rachelle Russo	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
✓	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
✓	James LaPosta	Principal - JCJ Architecture
✓	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
	Dustin Lombardi	Architect - JCJ Architecture
✓	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

DORE + WHITTIER

Item No.	Action Item	Ball in Court
1	Return on January 26th to formally vote to remove Site B (B1.1) and the Pre-K through 3 grade configuration (.1 options) from further consideration in the PSR phase.	SBC
2	Update materials and presentations for the January 28th community meeting to reflect the removal of Site B and Pre-K through 3 options and prepare to communicate rationale to the public.	JCJ/D+W
3	Share feedback on the proposed November town meeting/December debt exclusion schedule with town board chairs and gather their input.	MERSD
4	Focus future design work and detailed planning only on the remaining viable options (per straw poll results), and document in the PSR report the reasons for removing Site B and the .1 options.	JCJ/D+W
5	Continue to work with town administrators and financial advisors to model borrowing/timeline scenarios and schedule a meeting in January to review potential scenarios.	MERSD
6	Submit schematic design to cost estimators by mid-August for reconciliation in early-to-mid September.	JCJ/D+W
7	Complete schematic design in time for November town meetings and December debt exclusion vote and prepare updated cost estimates for presentation.	JCJ/D+W
8	Ensure that the need for additional work/costs at Memorial School for the .1 options (if considered) is clearly communicated and documented for public understanding, including potential need for additional debt exclusion and regional agreement vote.	JCJ/D+W

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

DORE + WHITTIER

<table>
<tr><td>Item No.</td><td>Description</td><td></td></tr>
<tr><td>12.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 6:03pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>12.2</td><td>Approval of December 15, 2025, Meeting Minutes (Vote Expected):

A motion to approve December 15, 2025, Meeting Minutes was made by E. Dwyer and seconded by H. Ottenginer.

Discussion: None.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Abstain</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Abstain</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
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<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>
Yes: 12| No: 0 | Absent/Abstain: 4</td><td>Record</td></tr>
<tr><td>11.3</td><td>Preliminary Design Program Approval:</td><td>Record</td></tr>
</table>

C. Dell Angelo stated that the team has been working on this item for several months and, as Teresa noted, the preliminary design program and submission to the MSBA involve multiple components. He indicated that any questions should be raised in advance and requested the committee's approval at this meeting to proceed with submitting the materials to the MSBA by the end of the week.

P. Beaudoin thanked the team for organizing the effort, noting that while a few small items were handled internally, the majority of the work was completed by JCJ and Doran Whittier, and expressed appreciation for their assistance.

G. Brewster commented that the document was extremely thorough and informative, noting that it provided valuable insight into the project's goals, school operations, and space requirements. He commended the team on producing a high-quality document.

VOTE: A motion to submit the Preliminary Design Program to the MSBA was made by G. Brewster and seconded by H. Ottenginer.

Name	**Yes/No/Abstain & Absent**
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Absent
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brain	Absent
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Yes
Henry Oettinger	Yes
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote

	<table><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table> • **Yes: 14| No: 0 | Absent/Abstain: 2**	
11.4	**Initial Grade Configuration Discussion:** C. Dell Angelo reminded the committee of the project's current status, noting that this meeting marked an important milestone with the approval and submission of the Preliminary Design Program (PDP). C. Dell Angelo stated that the project is now entering the Preferred Schematic Report (PSR) phase and further explained that during the initial phase, three different grade configurations were studied, and that the PSR phase will focus on more in-depth discussion and committee feedback on these options. C. Dell Angelo emphasized the importance of receiving feedback on the grade configurations to allow JCJ to proceed with due diligence, further design development, and refinement by eliminating options that are no longer necessary to study moving forward. J. Elliott provided a brief overview of the discussions held prior to the holidays and summarized the revisions made since that time. J. Elliott explained that the draft previously presented generated significant discussion regarding whether the educational program requirements were being met at both Essex and Manchester. Revisions were made to reflect those discussions. J. Elliott noted that the K–3 configuration presents significant challenges in meeting the educational program requirements. He explained that the two K–5 options involving an addition and new construction were shown as favorable ("green") for both Essex Elementary and Manchester. The base K–5 code upgrade option was noted as split due to building size limitations, as the existing building is undersized for a full code upgrade. J. Elliott further stated that Option B1.1 at Manchester was revised to a neutral designation. While it remains a K–5 approach, merging the two schools would require substantial district-level effort, making the option neither clearly advantageous nor disadvantageous. Additional revisions were made in the building category to reflect work required by the district at Manchester. This applies to the K–3 options that relocate grades 4 and 5 to Manchester and would fall outside the scope of the Essex Elementary project. As a result, those three K–3 options were	Record

marked negatively (“red”), while the remaining options were shown as neutral.

Under cost and schedule, an operational cost related to sustainability was added. J. Elliott explained that the code upgrade options limit opportunities to improve energy performance, as the existing building envelope would receive only minor repairs rather than long-term energy efficiency upgrades. These options were therefore marked negatively.

J. Elliott concluded that the matrix serves as a visual summary of the discussions and analysis developed over the past several months and begins to highlight which options perform more favorably overall, while others lag in meeting project goals.

(John Binerez and Brain Joined the meeting)

Discussion:

- A. Cameron asked for clarification regarding the evaluation table, specifically the “meets educational needs” criterion. A. Cameron noted that not all factors appear to carry equal weight and questioned whether options that do not meet the educational program requirements should be considered nonviable. A. Cameron asked whether this was the intended approach for reviewing and assessing the options. J. LaPosta responded that Annie was correct, stating that meeting the educational program is a foundational element of the evaluation process. He explained that this is why the educational program is developed first, prior to evaluating building options. He noted that the MSBA places significant emphasis on educationally appropriate facilities and that, when the project is reviewed by the Facilities Assessment Subcommittee, they will assess whether the proposed building meets the educational program developed by the district. While the criteria are not formally weighted, he emphasized that meeting the educational program is a critical and foundational consideration.
- T. Whitman stated that the concept of a straight code upgrade or base repair meeting the educational needs is an issue that will need to be addressed, particularly with the broader public. T. Whitman noted that, while it may not be an immediate part of the current process, future discussions may need to consider whether an option exists between Alternatives A1.1 and A1.2—one that goes beyond a basic code upgrade but represents the minimum level of work necessary to meet the educational program. T. Whitman acknowledged that this level of investment may be greater than some stakeholders anticipate but emphasized that there will be public interest in understanding the minimum scope required to

	meet educational needs and that the project team should be prepared to explain this clearly, whether it aligns with existing options or suggests future refinement. T. Whitman also noted that, at the School Committee level, the project team studied the school-merger (Site B) option in response to input from town boards and community members during recent budget discussions. However, it is stated that there is limited interest in pursuing a merger of the two schools unless there is a substantial financial advantage that clearly outweighs the disadvantages identified. Based on the current cost ranges presented, T. Whitman indicated that Site B does not appear to offer sufficient financial benefit to justify moving forward and suggested that the School Committee is likely to view the option similarly. ➢ J. Binieris stated that, unless there is a significant cost savings, community members would generally prefer to maintain a neighborhood school within their own community. ➢ G. Brewster asked for clarification, noting whether a sufficiently low cost at Manchester could make that option viable, even though it has multiple negative ("red") factors. He asked if that was the point being made. T. Whitman clarified that, at the School Committee level, the group had already recognized the negative impacts of the options (prior to them being formally identified in the table). T. Whitman explained that the Committee's perspective is that an option would only be considered if the cost savings were so substantial that it could not be ignored by taxpayers. Otherwise, given the educational and other disadvantages, such an option is not seen as viable. T. Whitman noted that this perspective is supported by the very preliminary cost estimates presented. P. Beaudoin noted that some of the original planning assumed that students could be accommodated within the existing building structure, potentially requiring only minor modifications to common spaces. ➢ A. Oldeman noted that this point will be important moving forward, particularly in discussions with the Finance Committee. He explained that there is an observation that school enrollment has been declining, leading some to assume that there may be capacity to absorb additional classrooms in the K–3 or 4–5 configurations. ➢ E. Dwyer commented that, similar to B1.1, Options .1 do not meet the educational needs at either school and include numerous other negative factors. E. Dwyer specifically addressed Option A2.1 (K–3 configuration), noting multiple downsides, including impacts on student mental health and equity concerns due to an additional school transition. Based on these considerations and feedback received, E. Dwyer stated that these options should be given less consideration moving forward.	

- T. McDonald asked for a simple way to explain the cost difference of Option A0.2 compared to the other options. He noted that, while A0.2 does not meet the educational needs at Essex Elementary, its preliminary cost is $30–40 million less than other options. He questioned how to clearly articulate why this option is not viable, despite the lower cost, since looking at the numbers alone could be misleading.
- C. Hay stated that spending $50 million on a project that does not improve the educational program is not fiscally responsible. He explained that, while such a project may renovate the building, it would not increase its size, capacity, or programmatic values, providing upgrades without addressing the core educational needs. C. Hay emphasized that decision-making should consider the value to the community, not just the dollar amount, and concluded that investing in a project that leaves the layout and program unchanged does not make sense from a responsible fiscal perspective.
- T. Whitman asked the design team to clarify that the very broad cost estimates presented are for comparative purposes only. T. Whitman confirmed that these figures do not differentiate between reimbursable and non-reimbursable costs through the MSBA. C. Dell Angelo confirmed that the current estimates are based solely on overall project costs at this stage. C. Dell Angelo explained that in the next phase—the Preferred Schematic Report (PSR) phase—the team can provide estimated ranges for the effective MSBA reimbursement rate and the corresponding dollar value. C. Dell Angelo confirmed that this topic will be addressed in more detail during the PSR phase.
- C. Hay noted that if the MSBA reimbursement were, for example, 30%, the cost differences between options could be reduced, potentially making Options A0.1 or A0.2 comparable in total cost to A1.1, A1.2, and other options.
- M. Gerhardt agreed with points made by C. Hay and T. Whitman, suggesting that using analogies can help the public understand the evaluation. He compared the situation to renovating a public safety building: one would not renovate a fire station if it could not accommodate fire trucks. Similarly, renovating a school that does not meet the core educational needs would not be a sensible investment. He emphasized that framing the discussion in relatable terms will be helpful for public conversations moving forward.
- T. Whitman agreed and emphasized the importance of helping the public understand how educational needs have evolved. He noted that education today and, in the future, differs from what many adults experienced growing up. Regarding the assessment that a code upgrade does not meet the educational program, he

	explained that this determination comes from the project team. He stressed that public discussions should include context about why the educational program includes specific requirements (X, Y, and Z), helping the community understand the long-term value of investing in a building designed to serve students for the next 50 years. ➢ T. Whitman noted that a more immediate topic for discussion is the Pre-K through 3 versus Pre-K through 5 configurations. He expressed interest in hearing committee members' perspectives on this matter and noted that he has not yet received any additional input. ➢ P. Beaudoin expressed strong concern about the Pre-K through 3 configuration and stated that he could not recommend it, though he acknowledged that the committee would move forward if it were the majority decision. He explained that splitting the student population between schools would conflict with both the educational program and the regional agreement, which guarantee that students are educated within their own communities. P. Beaudoin used an analogy, comparing it to sending some children to live elsewhere, highlighting the disruption caused by multiple transitions. P. Beaudoin noted that creating a cohort that requires approximately 80 students to leave their community school and integrate into another school with an already established culture would place undue stress on students. P. Beaudoin emphasized that this scenario could compromise student success and create a precarious situation for the affected cohort. ➢ P. Beaudoin recalled that the original proposal for the elementary schools involved placing Pre-K through 2 or 3 in one community and grades 4–5 in another, ensuring that all students experienced the same transitions and were grouped with peers of the same grade level. While educators may have differing opinions on whether that model is ideal, it provided consistency in transitional experiences. He noted that the current Pre-K through 3 configurations would isolate a specific cohort, preventing them from sharing the same transitional experience as their peers. ➢ A. Cameron stated that she was not going to defend the current proposal. She expressed concern that the ".1" options result in an ineffective educational program and fail to meet the needs of students at both schools. A. Cameron noted that these options would be costly, as they would require work at Memorial School as well as additional work at MMES. Cameron emphasized that this approach would increase costs while also reducing the overall educational experience. A. Cameron referenced a 2014 study, stating that this would have been the appropriate time to discuss a different school configuration. Since significant investments were	

already made in Memorial School, she questioned the practicality of attempting to make the current proposal fit the existing site. A. Cameron concluded that continuing in this direction felt fruitless.

- K. Provost stated that she completely agreed with the previous comments. K. Provost noted that significant time and effort had been invested in establishing parity between the two elementary schools to ensure that students in grades K–5 have similar educational experiences. K. Provost expressed concern that pursuing a K–3 configuration with grades 4–5 located elsewhere would place a group of students at a disadvantage and would undo the parity that the district has worked hard to achieve.
- T. Whitman responded to the previous point by referencing the cost difference between options A1.1 and A1.2, noting an estimated range of approximately $10–20 million. T. Whitman questioned whether a comparable level of investment would be required at Memorial School to make the proposal workable. T. Whitman suggested that, depending on whether costs fell at the higher or lower end of each option, the overall figures could ultimately align more closely.
- P. Beaudoin said she was unsure how to account for this and while noting that there is also a time and cost factor associated with securing a regional agreement vote to split the Essex population.
- C. Dell Angelo clarified that this approach would require two separate votes outside of the MSBA project itself. She explained that a regional agreement vote would first be required in both towns to gain approval before proceeding to a town vote on the proposed project. This process would occur separately from any work planned at Memorial School, if that option were pursued.
- K. Fields noted that all ".1" options are separate, district-funded projects and are not covered by the current or proposed Essex building project. She emphasized the need to clearly communicate to the public that any work at Memorial School would require additional funding from the towns.
- P. Beaudoin noted concerns that relocating 4th and 5th grade Essex students to Memorial would be a costly temporary solution. This move would fully utilize existing classroom space and require the conversion of project and small-group learning areas into classrooms. It was further noted that any future increase in enrollment would be difficult to accommodate, as Memorial has no capacity for expansion. In such a scenario, the district could be forced to relocate students again, potentially back to Essex, without facilities designed to support that shift. The PreK–3 models discussed were noted to lack built-in flexibility for future enrollment growth.

	➢ T. McDonald asked why there is no projected cost associated with relocating 4th and 5th grade students to Memorial, noting that including such a cost is an important consideration. ➢ C. Dell Angelo explained that the relocation of 4th and 5th grade students to Memorial falls outside the grade configuration being studied with MSBA. As such, any costs or requirements for modifying Memorial to accommodate these grades are not included in the current project scope and are unknown. C. Dell Angelo further explained that MSBA would apply a cost recovery percentage, since Memorial School was recently constructed within the last five years. ➢ A. Cameron asked if it's possible to eliminate some options tonight as some are not viable? C. Dell Angelo responded yes, it would come off from the options that we're going to study during the PSR phase. ➢ J. Laposta noted that at the conclusion of the PSR, the report will need to document the rationale for removing options, including the discussion and decisions made, the criteria they did not meet, and the reasoning for the vote to remove them. J. Laposta explained that in the next phase, the options remaining on the table will be developed in more detail. So far, only high-level "bubble diagrams" have been created, including space templates and the educational program. The next phase will include detailed site plans, consideration of site conditions and regulatory issues, and more precise cost estimates for each option. He emphasized that focusing on fewer options allows for more productive use of time and resources, as spending effort on options unlikely to advance can be counterproductive. He also noted that initial diagrams may evolve into sub-options, with different layouts and room arrangements, as the design process progresses toward the Preferred Schematic Report (PSR). ➢ C. Dell Angelo noted that significant work remains and reaching a consensus on focusing efforts on specific options would be the most effective next step. ➢ T. Whitman shared she was in favor of doing a straw poll tonight and coming back for an official vote on January 26th. A straw poll was conducted to remove Option B1.1 (Current MMES Site), with agreement from the SBC. A straw poll was conducted to remove Options A0.1, A1.1, and A2.1 (Pre-K–3 grade configuration), with agreement from the SBC.	
11.5	**Schedule Review:**	Record

<table>
<tr><td></td><td>C. Dell Angelo reviewed the project timeline and noted that the feasibility and schematic design phases remain tight. After review by the project team, JCJ, and Dore + Whittier, a revised schedule was proposed to hold town meetings in November and a debt exclusion vote in December. This adjustment would allow adequate time to complete the schematic design report and finalize the project budget with the MSBA.1/26/26 SBC Meeting-Alternatives with Grade Configuration Discussion

<u>Upcoming Meetings:</u>
1/28/26 Comm Meeting #4-Share PDP results and Evaluation of Alternatives with Grade Configuration
2/9/26 SBC Meeting-Review Comm Meeting#4Feedback, Review Alternatives and Grade Configuration
2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing
3/10/26 SBC Meeting-Preferred Alternates if Necessary
3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration
3/30/26 Comm Meeting #5-Review Preferred Options
4/14/26 SBC Meeting-Review Comm Meeting #5Feedback and Approval of Preferred Solution
4/28/26 SBC Meeting-Approved PSR Submission to MSBA</td><td></td></tr>
<tr><td>11.6</td><td>Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting: None.</td><td>Record</td></tr>
<tr><td>11.7</td><td>Public Comment: None.</td><td>Record</td></tr>
<tr><td>11.8</td><td>Reflections & Action Items: None.</td><td>Record</td></tr>
<tr><td>11.9</td><td>Adjourn: A motion to adjourn the meeting was made at 7:10 pm by A. Cameron and seconded by G. Brewster.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
</table></td><td>Record</td></tr>
</table>

	Annie Cameron	Yes
	Ariel Fernando Brian	Yes
	Jen Hocherman	Yes
	Michael Gerhardt	Yes
	Timonthy McDonald	Yes
	Henry Oettinger	Yes
	Emily Dwyer	Yes
	Steve Hunt	Advisor – No Vote
	Kim Field	Advisor – No Vote
	Rachelle Rousseau	Advisor – No Vote
	David Pereen	Advisor – No Vote
	Lisa O'Donnell	Advisor – No Vote

- **Yes: 15 | No: 0 | Absent/Abstain: 1**

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 12

January 6, 2026 @ 6:00 PM

Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

SBC Meeting Agenda – January 6, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - ➢ SBC Meeting No. 11 – December 15, 2025
3. Preliminary Design Program Approval (Vote Expected)
4. Initial Grade Configuration Discussion
5. Schedule Review
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – January 6, 2026 @ 6:00 PM

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Design Alternatives

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program at EES	0	0	0	4	0	4	2
	Meets Needs of Educational Program at MMES	0	4	0	4	0	4	2
	Equity across the District	0	0	0	4	0	4	0
	Future Growth and Expansion	2	2	2	2	4	4	0
	Flexible and Adaptable Spaces	0	0	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	0	2	2	0
Community	Compatible with Regional Agreement	0	4	0	4	0	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	1	4	1	4	1	4	0
	Neighborhood Traffic Impact	1	4	1	4	1	4	0
	Community Use Opportunities	1	4	1	4	1	4	0
	Disruption to Manchester	1	4	1	4	1	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	4	1	1	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	2	4	4	0
	Parking Capacity	2	2	2	2	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	2	4	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	2	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	0	4	4	2
	Additional work at MMES (separate project by District)	0	2	0	2	0	2	N/A
Cost and Schedule	Maximize MSBA Grant Reimbursement	4	4	4	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	0	4	4	1
	Modular Classroom Swing Space not Required	4	0	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	0	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	1	2	1	2	1	2	2
	Reduce Operational Costs - Staff, Transport	1	2	1	2	1	2	2
	Total Project Cost	$45M-50M	$45M-50M	$75M-80M	$90M-95M	$80M-85M	$90M-95M	$70M-80M

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Schedule Update/PSR

1/26/26 SBC Meeting-Alternatives with Grade Configuration Discussion

1/28/26 Comm Meeting #4-Share PDP results and Evaluation of Alternatives with Grade Configuration

2/9/26 SBC Meeting-Review Comm Meeting #4 Feedback, Review Alternatives and Grade Configuration

2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing

3/10/26 SBC Meeting-Preferred Alternates if Necessary

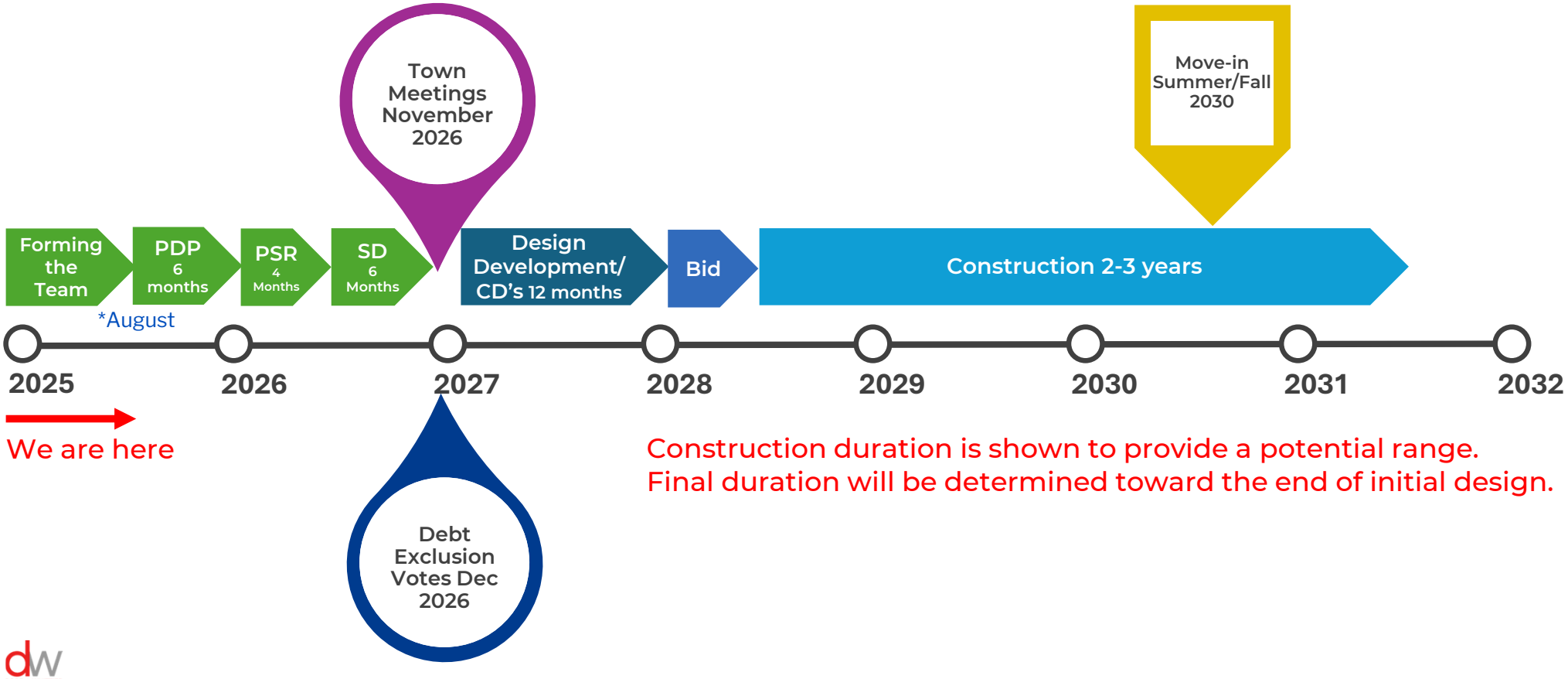
3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration

3/30/26 Comm Meeting #5-Review Preferred Options

4/14/26 SBC Meeting-Review Comm Meeting #5 Feedback and Approval of Preferred Solution

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

Anticipated Project Timeline



Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

SBC Meeting Agenda – January 6, 2026 @ 6:00 PM

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5. Schedule Review
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

MEETING AGENDA

Meeting Date:	January 26, 2026
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	Zoom

Meeting Link: https://us06web.zoom.us/j/86519891529

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
    - SBC Meeting No. 12 – January 6, 2026
3. Invoices & Commitments for Review and Approval (Vote Expected)
    - Dore + Whittier Management Partners | $55,392.00
    - JCJ Architecture | $77,476.75
4. Preliminary Design Program MSBA Comments
5. Design Alternatives Review (Vote Expected)
6. Site Update
7. Design Update
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	1/26/26
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
✓	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
	John Binieris*	SBC Co-Chair
✓	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
✓	Charlie Hay*	Architect School Building Experience
✓	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
✓	Tyler Virden*	Project Executive -Wise Construction / Paren
✓	Annie Cameron*	Former SC Member and Memorial SBC Member
	Ariel Fernando Brain*	Architect - CBT
✓	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
	Timonthy McDonald*	Architect - Onion Flats
✓	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
✓	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
✓	Rachelle Russo	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
✓	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
✓	James LaPosta	Principal - JCJ Architecture
✓	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
	Dustin Lombardi	Architect - JCJ Architecture
✓	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

DORE + WHITTIER

Item No.	Action Item	Ball in Court
1	Review presentation materials in advance of next meeting and send comments/feedback to Christina as soon as possible.	SBC Members
2	Further refine design options based on tonight's feedback and prepare updated iterations for next SBC meeting.	JCJ
3	Distribute the November wetlands report and boring logs with highlighted results to Christina for distribution to the SBC.	JCJ
4	Follow up via email to Christina (and then SBC) with information about the outlet pipe/daylighting of the eastern intermittent stream.	JCJ
5	Prepare phasing diagrams for upcoming design presentations.	JCJ
6	Review feedback and meeting schedule in upcoming Thursday project team meeting; consider need for additional working group meetings or extended meeting times.	DWMP, JCJ

- **Please click here for the presentation**
    - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

DORE + WHITTIER

<table>
<tr><td>Item No.</td><td>Description</td><td></td></tr>
<tr><td>13.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 6:02pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>13.2</td><td>Approval of January 6, 2026, Meeting Minutes (Vote Expected):

A motion to approve January 6, 2026, Meeting Minutes was made by G. Brewster and seconded by H. Ottenginer.

Discussion: None.

P. Beaudoin and A. Oldeman joined the meeting at 6:06 p.m.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Yes</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Absent</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>
Yes: 13| No: 0 | Absent/Abstain: 3</td><td>Record</td></tr>
</table>

DORE + WHITTIER

13.3	**Invoices and Commitments for Approval (Vote Expected):** A motion to approve the following invoices was made by E. Dwyer and seconded by H. Oettinger. Dore + Whittier Management Partners Invoice | $55,392.00 JCJ Architecture Invoice | $77,476.75 Discussion: M. Cresta recommended approval. Roll Call Vote:	Record

Name	**Yes/No/Abstain & Absent**
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Absent
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brain	Absent
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Yes
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 13| No: 0 | Absent/Abstain: 3**

13.4	**Preliminary Design Program MSBA Comments** Christina Dell Angelo stated that the PDP submission was sent to the MSBA following the January 6 SBC meeting. She explained that MSBA has provided preliminary clarifying questions related to local approvals, meeting minutes, and other administrative items. C. Dell Angelo noted that the team is working with MSBA to respond and plans to submit responses by Wednesday, end of day. C. Dell Angelo added that formal PDP comments are expected thereafter, with a 14-business-day response period, and that any updates will be shared as they become available. Discussion: • A. Cameron asked for clarification on the MSBA review process, specifically whether it is an iterative process in which MSBA asks questions and the team responds back and forth until MSBA is satisfied, or if the process follows a different structure. C. Dell Angelo responded that the process depends on the submission. She noted that the PDP does not require an MSBA board meeting, that it was submitted in January, and that the team is awaiting MSBA's response. She added that preliminary questions have been received and that formal comments are expected in the coming weeks.	Record
13.5	**Design Alternatives Review (Vote Expected):** T. Whitman stated that the committee took a straw poll on January 6 regarding keeping Pre-K through 5 at Essex Elementary. She explained that two straw polls were conducted: one to eliminate the Manchester Memorial site as a full-merge option, and a second to eliminate the split-grade options. She noted that school committee members were informed and invited to comment, but no input was received. C. Dell Angelo stated that the topic is on the agenda for a formal vote, based on the January 6 meeting discussions. She explained that this would leave options A0.2, A1.2, and A2.2 on the table for study during the Preferred Schematic Report phase. She noted that multiple discussions on the options have already taken place, and the purpose now is to move forward with a formal vote on the outlined options. Discussion: • A. Cameron asked if the topic had been presented to the school committee and whether any issues were raised. T. Whitman responded that the school committee was fully updated and invited to ask questions or provide comments, either during the meeting or	Record

afterward. She noted that it was not a voting item and that no concerns or feedback have been received.

- M. Gerhardt asked for clarification regarding option B1.1, confirming that it is being eliminated and that the team is not required to continue studying it, noting that one option from each color category (orange, pink, and blue) must be chosen. C. Dell Angelo confirmed that is correct.

VOTE:
A motion to advance options A0.2, A1.2, A2.2, thereby eliminating the remaining options, was made by A. Cameron and seconded by E. Dwyer

Roll Call Vote:

Name	**Yes/No/Abstain & Absent**
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Absent
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brain	Absent
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Yes
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 13| No: 0 | Absent/Abstain: 3**

13.6	**Site Update:** F. Pellegrini stated that a site working group will be meeting in the coming weeks and that initial, high-level information from the wetlands and geotechnical reports was being shared with the committee. F. Pellegrini explained that the purpose of the wetlands report is to inform site planning related to building additions and new construction locations. F. Pellegrini summarized that three wetland areas were identified on the site: a bordering vegetated wetland on the western side of the existing school building connected to a pond through an older catch basin system that does not meet current MassDEP regulations; the pond itself, which overflows through an intermittent stream toward Western Avenue and Alewife Brook; and a third wetland area on the eastern side of the site, also identified as an intermittent stream. F. Pellegrini noted that all wetlands have 100-foot buffer zones and that the design team is accounting for these as planning continues and added that further analysis will be conducted by the civil engineer and discussed with the site working group before returning to the committee Discussion: • A. Cameron asked whether changes to the existing pond and stormwater system could cause the intermittent stream to dry up or no longer be considered a wetland. F. Pellegrini responded that any modifications would require full MassDEP compliance and review by the Site Working Group, noting that the preliminary approach is to avoid altering the system, though changes could affect stream flow. • H. Oettinger asked when wetland flagging was completed and whether the intermittent stream follows existing drainage infrastructure or a natural course. F. Pellegrini confirmed that the wetlands report and flagging were completed in late October 2025 and explained that the pond discharges through an underground outlet that daylights at the intermittent stream. She stated she would confirm whether the stream remains exposed off-site. • M. Gerhardt asked whether the wetlands report would be distributed to the Site Working Group. F. Pellegrini confirmed that it would. • A. Cameron asked whether the pond could be lost if the existing system no longer feeds it. F. Pellegrini stated she would confirm this with the project engineers. • J. Elliott noted that the pond is classified as a wetland and would likely need to be replaced in kind if removed, making relocation costly, and that the design team is therefore working around its current location.	Record

	• F. Pellegrini provided a high-level overview of the geotechnical report, noting that it was received the prior week and is intended to inform subsurface conditions, including soil, bedrock, and groundwater, to guide design decisions and upcoming cost estimates for the Preferred Schematic Report. She reported that six borings were conducted at three general locations on the site: the northern playfield area, the southwest portion of the site, and south of the existing school building. She stated that refusal, assumed to be bedrock, was encountered at depths ranging from approximately 1.4 to 22.5 feet, consistent with granite typical to the area. Based on these findings, she noted that the geotechnical engineer is recommending conventional spread footings rather than deep foundations. She added that groundwater monitoring is ongoing, with observed groundwater levels ranging from approximately six inches to six feet below grade. She summarized standard recommendations from the report, including under-slab and perimeter drainage, tying roof and area drains into solid piping, waterproofing and damp-proofing at foundations, and grading away from the building, noting that these are common practices and presented no significant concerns. Ms. Pellegrini also noted that the shallow bedrock may require mechanical removal or blasting in certain areas and that the report includes recommendations for vibration monitoring and pre-construction surveys to protect the existing school and neighboring properties. She stated that these topics will be discussed in greater detail with the Site Working Group. • G. Brewster asked whether additional borings would be required once the building footprint is determined. F. Pellegrini and J. LaPosta confirmed that the current borings are preliminary and that additional, more detailed borings will be conducted once the building footprint and utility alignments are finalized. • G. Brewster commented that the findings appear positive, noting that no exotic foundation systems are anticipated, which is favorable from a cost perspective. J. LaPosta agreed, adding that the results allow the design team to begin considering ways to minimize rock removal and better plan for utility installation. • C. Hay asked which borings encountered shallow bedrock, noting the cost implications of rock removal. F. Pellegrini stated she would provide detailed boring locations and results by follow-up, as reviewing the logs during the meeting would delay discussion. J. LaPosta noted that the geotechnical report would be distributed and that the design team is evaluating ways to adjust the building footprint and elevation to reduce rock removal. J. Elliott explained that multiple borings in areas such as B2 and B3 encountered shallow refusal, confirming bedrock rather than isolated boulders.	

	• M. Gerhardt asked whether environmental sampling had been conducted. F. Pellegrini responded that sampling has not yet occurred and that hazardous materials investigations are scheduled for February school vacation. • T. Virden asked whether space may be needed for ground-source heating systems given site constraints. F. Pellegrini responded that sustainability and MEP considerations will be addressed in upcoming working group discussions. • G. Brewster and C. Hay stated that ground-source (geothermal) systems are not required to meet energy code requirements and noted that compliance can be achieved through building design alone. C. Hay cautioned that ground-source systems are typically the most expensive renewable option and emphasized the importance of cost sensitivity, particularly given uncertainty around federal grant funding. T. Virden expressed relief at this clarification, noting challenges with geothermal systems on other projects. J. LaPosta stated that ground-source systems are uncommon on the firm's projects due to high initial costs. • F. Pellegrini noted that an upcoming working group meeting will focus on mechanical systems and that multiple system options will be evaluated for each alternative. • C. Dell Angelo stated that ground-source heat pumps were not part of the project's initial assumptions and noted that there are alternative strategies to meet energy use intensity requirements without relying on such systems. • F. Pellegrini confirmed that the project team will further evaluate energy and mechanical system options with the consultant at the next meeting.	
13.7	**Design Update:** Jeff Elliott presented a design update following the prior meeting's straw poll, noting that the three preferred options were advanced with further development of internal floor plans. He stated that site and landscape concepts were discussed in a recent charrette and will be refined further, but the current presentation focused on building layouts. **A.** Option A0.2 (Code Upgrade) was described as a repair and code-compliance project with no program expansion. Existing space deficiencies would remain, including undersized classrooms and gymnasium, and construction would require significant phasing and use of modular classrooms. Site work would include code-driven accessibility improvements such as walkways, parking, and pavement repairs. Lower-level program spaces would remain unchanged.	Record

B. Option A1.2 (Addition/Renovation) includes a 20,000-square-foot addition centered on a new full-size gymnasium with stage and a community entry. The addition would also provide a learning neighborhood for Grades 4–5, creating swing space to support phased construction. The existing gym would be repurposed for music and media uses. Existing classroom wings would be renovated into learning neighborhoods, with Grades 2–3 on the west side and Kindergarten–Grade 1 on the east side, each with breakout and small-group spaces and direct access to the courtyard for outdoor learning. A project room would be added at the north end of the courtyard near the main entry. Kitchen expansion would occur by shifting into the cafeteria, and the former stage area would be converted to a physical therapy space. On the lower level, Option A1.2 proposes two Pre-K classrooms with a separate entrance, potential dedicated drop-off, and limited parking. An outdoor Pre-K play area would connect to the courtyard via an accessible ramp.

C. Option A2.2 is a new single-phase building, 73,000 sq. ft., two stories. The footprint extends into the wetlands buffer at each end and gets close to the existing gym corner. Building in one phase reduces cost and phasing complexity. We're coordinating site access, and the footprint may be adjusted as program and layouts are refined.The main entry has a secure vestibule with office views across the site. The community wing includes a media center, dining with a movable partition, and a full-size gym with stage, allowing assemblies of multiple scales. The academic wing has K–1 and Pre-K/special ed on the lower floor, grades 2–5 on the second floor, with breakout spaces, ACE/RISE programs, and flexible support areas. Pre-K could have a dedicated entry and outdoor play area.

Discussion:

- G. Brewster asked about the future use of the boiler and sub-basement mechanical spaces. J. Elliott responded that mechanical layouts are preliminary and will evolve as system decisions are refined, noting that electrification could reduce boiler space needs while increasing electrical room requirements. He added that mechanical space allocations currently align with MSBA guidelines and will be finalized during schematic design.
- A. Cameron asked about risks of building within the buffer zone (blue shaded areas) and requested clarification. J. Elliott explained that Essex follows state wetlands regulations, with no additional bylaws, and the site team is tracking this for approvals. F. Pellegrini noted they must demonstrate no negative impact, similar to Manchester Memorial, and believed it could be addressed.

	• A. Cameron then asked about the A2.2 classroom layout, particularly the first-floor pre-K/K1 and second-floor other grades, seeking educators' feedback. K. Provost said the layout maintains proximity of grade-level neighborhoods, similar to Memorial, and the separation works. J. Elliott added that the design clusters breakout spaces into L-shaped learning neighborhoods, improving on the linear spaces at Manchester. K. Provost appreciated the neighborhood feel and open entry. • P. Beaudoin asked whether RISE should stay on the first floor and about art placement, but liked the grade-level configuration. J. Elliott noted program placement would be prioritized given the limited footprint, with flexibility for media center and other spaces. • K. Field asked about playground location relative to the cafeteria for efficient student transitions. J. Elliott described multiple outdoor connections near the gym, kitchen, classrooms, media center, and pre-K, as well as a potential larger field subject to site constraints. • C. Hay asked whether alternative options, such as two additions, were considered for swing space and cost management, and whether the gym could be used temporarily with partitions. J. Elliott confirmed the gym could serve temporary purposes, and that a detailed phasing plan is still in development. J. Elliott explained that the single-footprint design for the 73,000 sq. ft. building was the most practical and economical. He noted that relocating pre-K would require a larger addition and that partial demolition is expensive and constrained by the existing boiler room. The proposed configuration offers the most flexibility but other options remain open. • J. Hocherman asked about the pre-K and kindergarten wing extending near the wetlands and whether phased demolition could allow the building to shift further from the wetlands. J. Elliott confirmed the wing does not enter the wetlands but is within the regulated buffer and that construction sequencing would need to be considered. • H. Oettinger suggested rotating the A2.2 layout about 45 degrees to get all wings out of wetland buffers. J. Elliott noted that rotation would overlap parts of the existing building, requiring phased construction and temporary swing space. He confirmed it is viable but has cost implications due to multiple site mobilizations. H. Oettinger added that rotation would require less adjustment on A1.2. J. Elliott explained that field layout and property line considerations limit rotation but adjustments could be made to prioritize wetland avoidance. • E. Dwyer asked whether the bus loop behind the building would still fit with the 100-foot buffer and whether play spaces conflicted with the loop. J. Elliott confirmed the bus loop is feasible and could be	

gated for safety, and that site circulation can be managed to separate buses from children.

- E. Dwyer commented that the hub space should reflect the community's character and be sensitive to noise. J. Elliott agreed, noting that interior finishes, colors, and acoustics have not been finalized and that the hub may differ from the model at Manchester.
- G. Brewster asked Jeff where they were in the process, noting it seemed early and before refining options. J. Elliott explained they started with multiple sites, narrowed from three to two sites, and from seven options to three. The next step is to select one preferred schematic option to move from PSR into schematic design, refining phasing, approach, and budget over the next few months. J. LaPosta agreed with G. Brewster, emphasizing this phase is an initial pass. He noted tonight's feedback, along with work from site engineers and landscape architects, may lead to sub-options or slight modifications, especially regarding wetlands. J. LaPosta agreed, noting input at this stage is valuable.
- E. Dwyer asked about the proposed elevator location. J. Elliott explained the elevator is near the corner of the media center, in the one-story part of the building close to the K1 Learning Neighborhood, across the hall. It generally needs to be near the front door but in the two-story portion. Emily Dwyer noted she appreciated the neighborhood layouts, highlighting the integration of K2, ACE, and RISE programs to maximize shared spaces and student integration.
- T. Whitman suggested that anyone with additional ideas or thoughts could send them to C. Dell Angelo, who would distribute them. C. Dell Angelo confirmed that process and noted Jen's chat comment about flipping the classroom wing on option 2.2 so classrooms could be built first. She emphasized this phase is for exploring options and refining layouts.
- P. Beaudoin asked if it would be possible to build in front of the existing building. J. Elliott explained that area is challenging—tight due to the loop road, slopes, exposed ledge, and wooded areas. Initially considered, it now seems like a more expensive option. G. Brewster asked if J. Elliot was referring to the current plan, which J. Elliot confirmed, pointing out the area near the North Arrow and the higher staff parking lot off the page. J. Elliott added that building there would require a phased solution: construct a classroom wing, demolish part of the existing building (possibly the eastern side), and build over it to create an L-shaped configuration. He noted it's less forgiving than working around wetlands.

F. Pellegrini outlined design activities for the next 6–8 weeks: reviewing geotechnical reports, vetting alternatives, and updating the SBC. Key meetings include:

- Educators meeting (Feb 5): Review design against educational program, check adjacencies, and space efficiency.
- MEP working group (Feb 4): Evaluate three system proposals per alternative.
- First responders (Feb 10): Review safety tactics and gather feedback.
- Phase 2 studies (Feb 6–16): Wetlands, Geotech, HAZMAT, and regulated materials surveys during winter vacation. Supplemental Geotech and contour studies follow.
- Site Safety & Security group: End of February.

All work will produce a report for cost estimators by mid-March.

C. Dell Angelo clarified the educators meeting is a high-level leadership review; teacher input comes later.

Discussion:

- P. Beaudoin highlighted priorities: RISE placement relative to the elevator, clustering art/music with media center, and efficiency of breakout spaces.
- G. Brewster noted that with alternatives developing through January and February, only 2–3 meetings left may be insufficient for iterative feedback. He suggested a small group planning approach, as done for the Memorial Schools project. C. Dell Angelo agreed, noting prior long meetings and proposing focused design working groups to allow timely, detailed input. C. Dell Angelo noted that the team is meeting as frequently as during the Memorial Project and needs time to incorporate the day's feedback on remaining design options.
- G. Brewster expressed concern that the current schedule may not allow sufficient time for detailed feedback. He referenced the Memorial Project, where a small group met directly with the architects to provide targeted input, and suggested having copies of the drawings to mark up outside the meeting.
- P. Beaudoin questioned whether such working groups are allowed at this stage, noting that rules may differ now. G. Brewster clarified that the meetings would not involve quorums or decisions but would allow more direct feedback to the design team.
- C. Hay recommended trusting the project team and cautioned against anticipating problems prematurely. G. Brewster reiterated concerns about limited time to provide comments.
- C. Dell Angelo explained that presentations are distributed in advance for review and noted that similar focused meetings during

	the Memorial Project occurred after a preferred option had been identified, not during the PSR phase. G. Brewster recalled one Boston meeting during PSR to narrow options, while C. Hay maintained that focused meetings were later in design development. • C. Dell Angelo emphasized that the current goal is to refine multiple options into a single preferred solution. Brewster acknowledged this but remained concerned about the two-week interval until the next meeting. C. Dell Angelo responded that the project team will review the schedule in their Thursday meeting to determine if additional working groups or meetings are needed to address feedback from today. • T. Whitman reminded the committee of the tight timeline and emphasized the importance of submitting feedback promptly. She encouraged members to reflect on any additional thoughts, send them in advance, and review upcoming materials as soon as they are distributed to maximize the efficiency of meetings during this critical phase. • C. Dell Angelo added that the next meeting may require more time than the usual couple of hours to thoroughly review the design.	
13.8	**Schedule Update:** • 1/28/26 Comm Meeting #4-Share PDP results and Evaluation of Alternatives with Grade Configuration • 2/9/26 SBC Meeting-Review Comm Meeting #4 Feedback, Review Alternatives and Grade Configuration • 2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing • 3/10/26 SBC Meeting-Preferred Alternates if Necessary • 3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration • 3/30/26 Comm Meeting #5-Review Preferred Options • 4/14/26 SBC Meeting-Review Comm Meeting #5 Feedback and Approval of Preferred Solution • 4/28/26 SBC Meeting-Approved PSR Submission to MSBA	Record
13.9	**Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting:** None.	Record
13.10	**Public Comment:** None.	Record
13.11	**Reflections & Action Items:** None.	Record
13.12	**Adjourn:** A motion to adjourn the meeting was made at 7:46 pm by G. Brewster and seconded by H. Oettinger. Roll Call Vote:	Record

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Absent
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brian	Absent
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Yes
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 13 | No: 0 | Absent/Abstain: 3**

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 13

January 26, 2026 @ 6:00 PM

Manchester Essex Regional School District

DORE + WHITTIER

JCJ ARCHITECTURE

SBC Meeting Agenda – January 26, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 12 – January 6, 2026
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - Dore + Whittier Management Partners | $55,392.00
   - JCJ Architecture | $77,476.75
4. Preliminary Design Program MSBA Comments
5. Design Alternatives Review (Vote Expected)
6. Site Update
7. Design Update
8. Schedule Review
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

SBC Meeting Agenda – January 26, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 12 – January 6, 2026
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - Dore + Whittier Management Partners | $55,392.00
   - JCJ Architecture | $77,476.75
4. Preliminary Design Program MSBA Comments
5. Design Alternatives Review (Vote Expected)
6. Site Update
7. Design Update
8. Schedule Review
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

SBC Meeting Agenda – January 26, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 12 – January 6, 2026
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - Dore + Whittier Management Partners | $55,392.00
   - JCJ Architecture | $77,476.75
4. Preliminary Design Program MSBA Comments
5. Design Alternatives Review (Vote Expected)
6. Site Update
7. Design Update
8. Schedule Review
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

SBC Meeting Agenda – January 26, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 12 – January 6, 2026
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - Dore + Whittier Management Partners | $55,392.00
   - JCJ Architecture | $77,476.75
4. Preliminary Design Program MSBA Comments
5. Design Alternatives Review (Vote Expected)
6. Site Update
7. Design Update
8. Schedule Review
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

SBC Meeting Agenda – January 26, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 12 – January 6, 2026
3. Invoices & Commitments for Review and Approval (Vote Expected)
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4. Preliminary Design Program MSBA Comments
5. Design Alternatives Review (Vote Expected)
6. Site Update
7. Design Update
8. Schedule Review
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

Design Alternatives

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program at EES	0	0	0	4	0	4	2
	Meets Needs of Educational Program at MMES	0	4	0	4	0	4	2
	Equity across the District	0	0	0	4	0	4	0
	Future Growth and Expansion	2	2	2	2	4	4	0
	Flexible and Adaptable Spaces	0	0	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	0	2	2	0
Community	Compatible with Regional Agreement	0	4	0	4	0	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	1	4	1	4	1	4	0
	Neighborhood Traffic Impact	1	4	1	4	1	4	0
	Community Use Opportunities	1	4	1	4	1	4	0
	Disruption to Manchester	1	4	1	4	1	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	4	1	1	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	2	4	4	0
	Parking Capacity	2	2	2	2	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	2	4	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	2	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	0	4	4	2
	Additional work at MMES (separate project by District)	0	2	0	2	0	2	N/A
Cost and Schedule	Maximize MSBA Grant Reimbursement	4	4	4	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	0	4	4	1
	Modular Classroom Swing Space not Required	4	0	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	0	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	1	2	1	2	1	2	2
	Reduce Operational Costs - Staff, Transport	1	2	1	2	1	2	2
	Total Project Cost	$45M-50M	$45M-50M	$75M-80M	$90M-95M	$80M-85M	$90M-95M	$70M-80M

SBC Meeting Agenda – January 26, 2026 @ 6:00 PM

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10. Public Comment
11. Reflections & Actions Items
12. Adjourn

Wetlands – Essex Elementary School Site

- Small pond in southern corner appears integrated into the school's existing drainage system, however, does not meet current MASS DEP regulations for stormwater management. This is considered a pond with a 100-foot Buffer Zone.
- Small "intermittent" stream located on eastern edge is the outlet from the pond where it daylights from the discharge culvert before traveling to the larger stream which flows under Story Street and Western Ave. There is a 100-foot Buffer Zone.
- Western edge qualifies as a Bordering Vegetated Wetland. Based on the 1975 drainage plan, catch basins in this area discharge water to the pond in the southern corner. There is a 100-foot Buffer Zone.



Preliminary Geotechnical Engineering- Essex Elementary School Site

- Subsurface exploration documents subsurface soil, bedrock, and groundwater conditions to provide geotechnical engineering recommendations for:
  - Foundations of proposed building or addition
  - Lowest level slabs
  - Groundwater considerations
  - Lateral earth pressures on foundation walls
  - Seismic considerations
  - Construction considerations
- 6 borings completed to depths ranging from 1.4 to 22.5 feet below existing ground surface. Refusal is anticipated bedrock generally consisting of granite.
- Recommended new foundation design are conventional spread footings.
- Groundwater observation well was observed to range from 0.6 to 6.0 feet below ground surface. Given shallow depth to groundwater, recommendations include:
  - Underslab and perimeter foundation drainage be provided at new construction areas
  - Area drains, roof drains and downspouts be tied to dedicated solid pipe drainage system
  - Waterproofing in specific locations and damp proofing for foundation walls
  - Exterior site grades slope away from the school building
- Pre-Construction survey and vibration monitoring of rock removal recommended during construction, as well as, groundwater controls.

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Design Update

OPTION A0.2

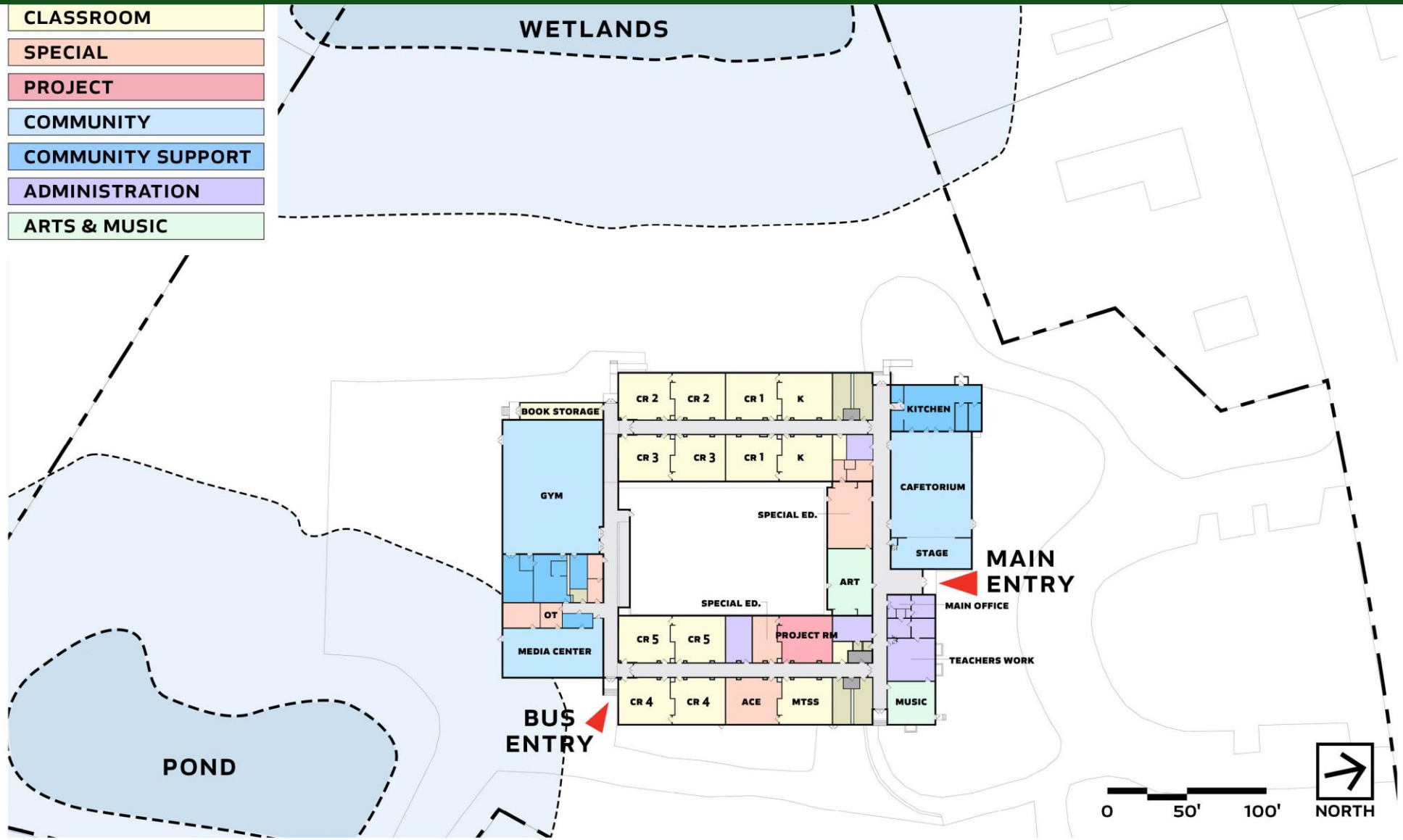
MAIN LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K
CODE UPGRADE/BASE REPAIR

53,036 GFA RENOVATION

CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE



Design Update

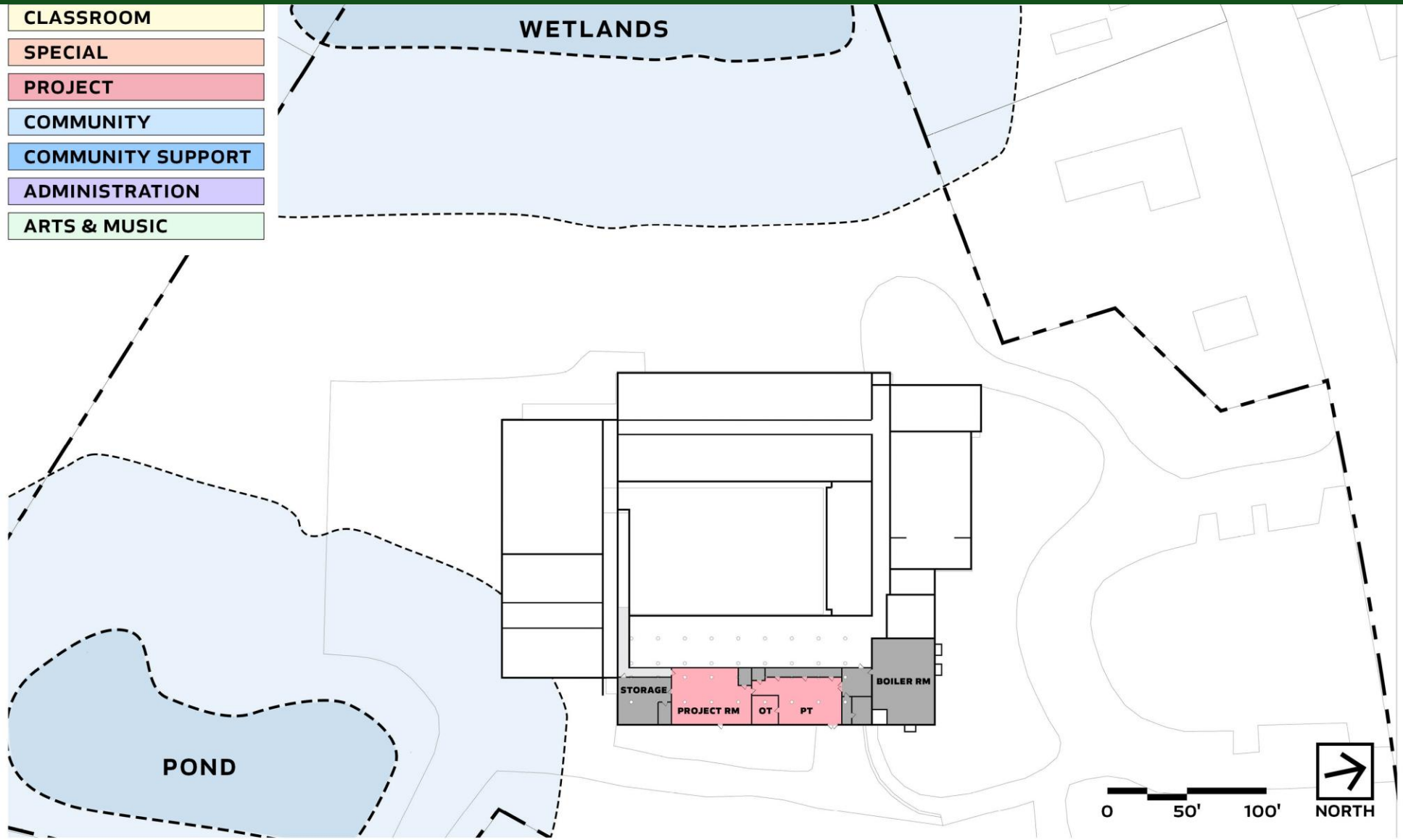
OPTION A0.2

LOWER LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K
CODE UPGRADE/BASE REPAIR

53,036 GFA RENOVATION

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
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Design Update

OPTION A1.2

MAIN LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K
ADDITION/RENOVATION

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA



CONSIDERATIONS

- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (4 CLASSROOMS) ACCOMMODATED IN ADDITION

Design Update

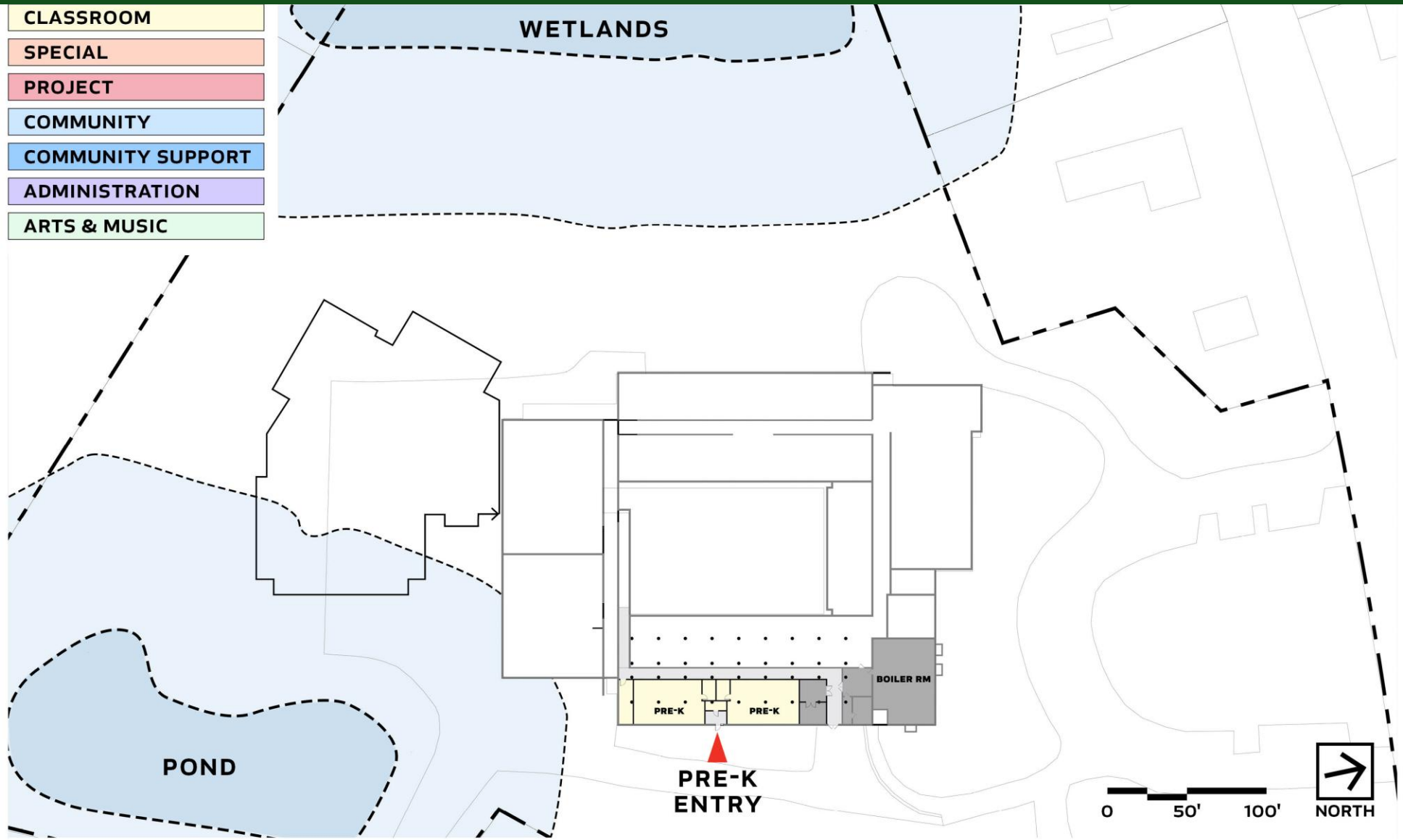
OPTION A1.2

LOWER LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K
ADDITION/RENOVATION

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA



CONSIDERATIONS

- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (4 CLASSROOMS) ACCOMMODATED IN ADDITION

Design Update

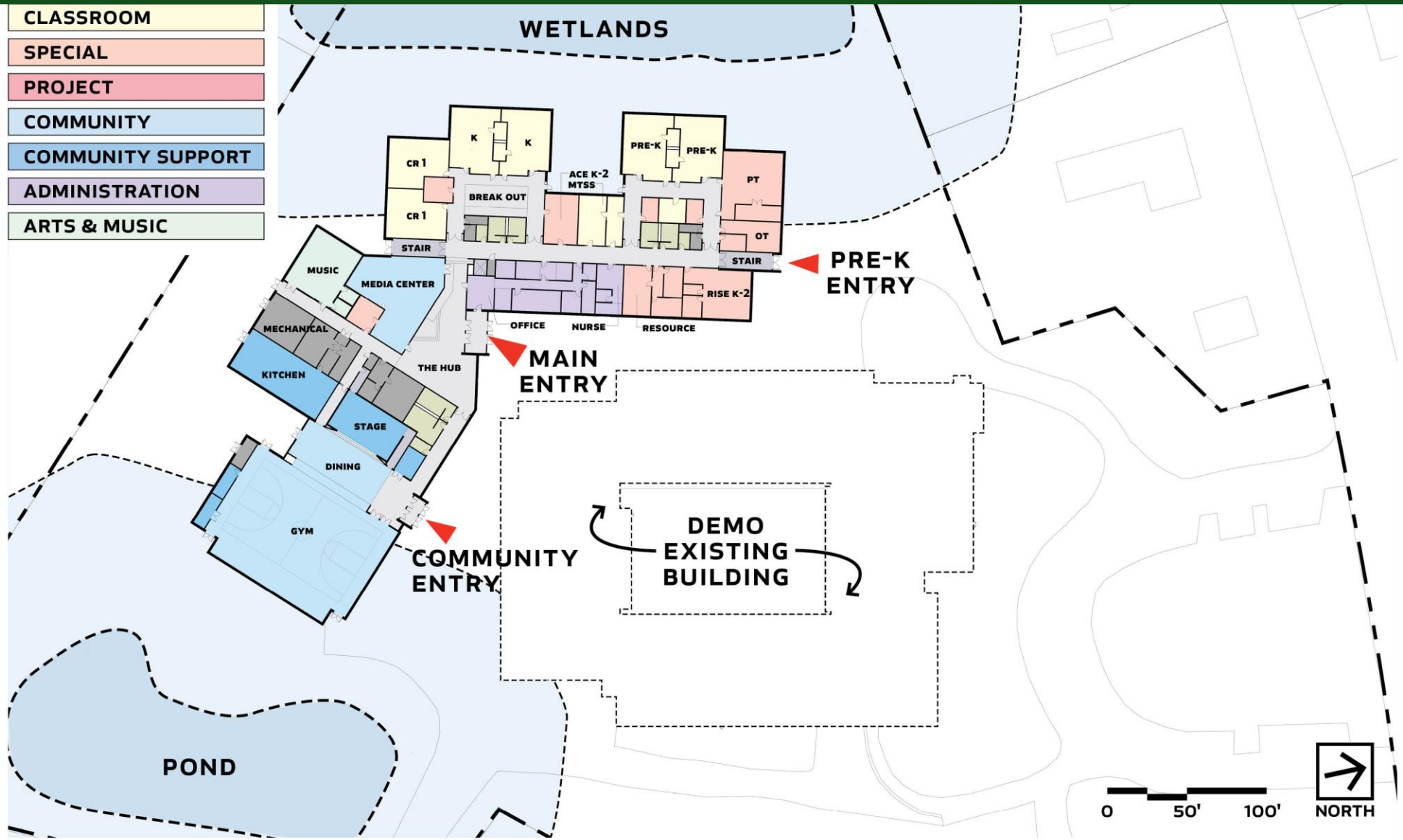
OPTION A2.2

FIRST FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K NEW

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

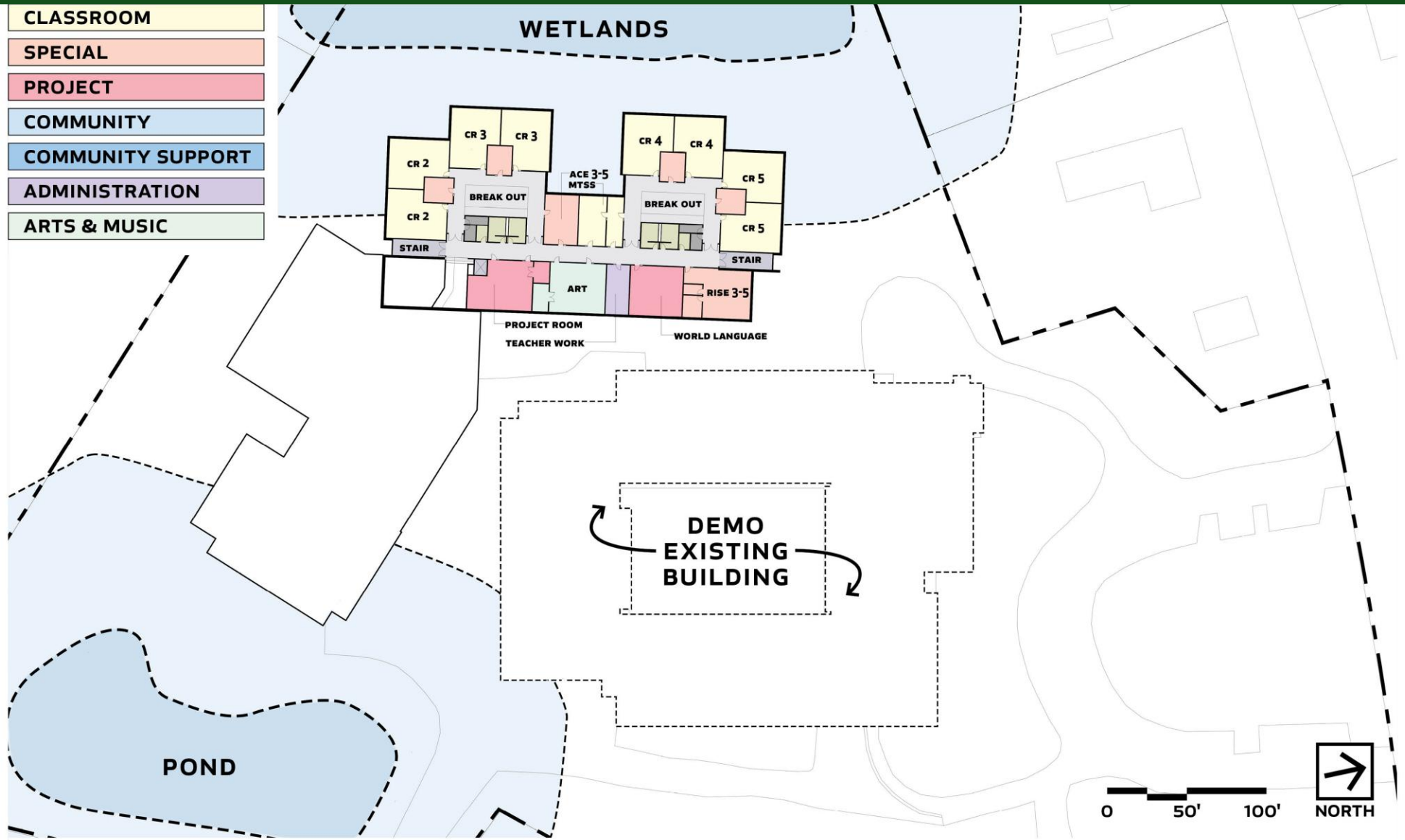
OPTION A2.2

SECOND FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K NEW

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

Design Update

Design Team activities planned during the PSR Phase

- Review the Preliminary Geotechnical Report for siting of an addition or new building, initial structural design, influence on site layout and civil
- Alternatives are developed throughout January and February 2026 with design updates provided during our SBC meetings.
- Educator's Meeting planned for February 5th, 2026
- MEP Working Group Meeting #1 planned for February 4th, 2026 to discuss proposed systems for each Alternative
- First Responder Meeting occurring February 10th, 2026
- Phase II studies begin during EES Winter Vacation (February 16th week)
- Regulated Building Materials Survey occurs during EES Winter Vacation (February 16th week)
- Supplemental Geotechnical studies occur during EES Winter Vacation (February 16th week) specific to addition and new building proposed locations
- Site, Safety & Security Working Group #1 planned for February 25th, 2026
- Submission to Cost Estimators occurs mid March 2026

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Schedule Update/PSR

1/28/26 Comm Meeting #4-Share PDP results and Evaluation of Alternatives with Grade Configuration

2/9/26 SBC Meeting-Review Comm Meeting #4 Feedback, Review Alternatives and Grade Configuration

2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing

3/10/26 SBC Meeting-Preferred Alternates if Necessary

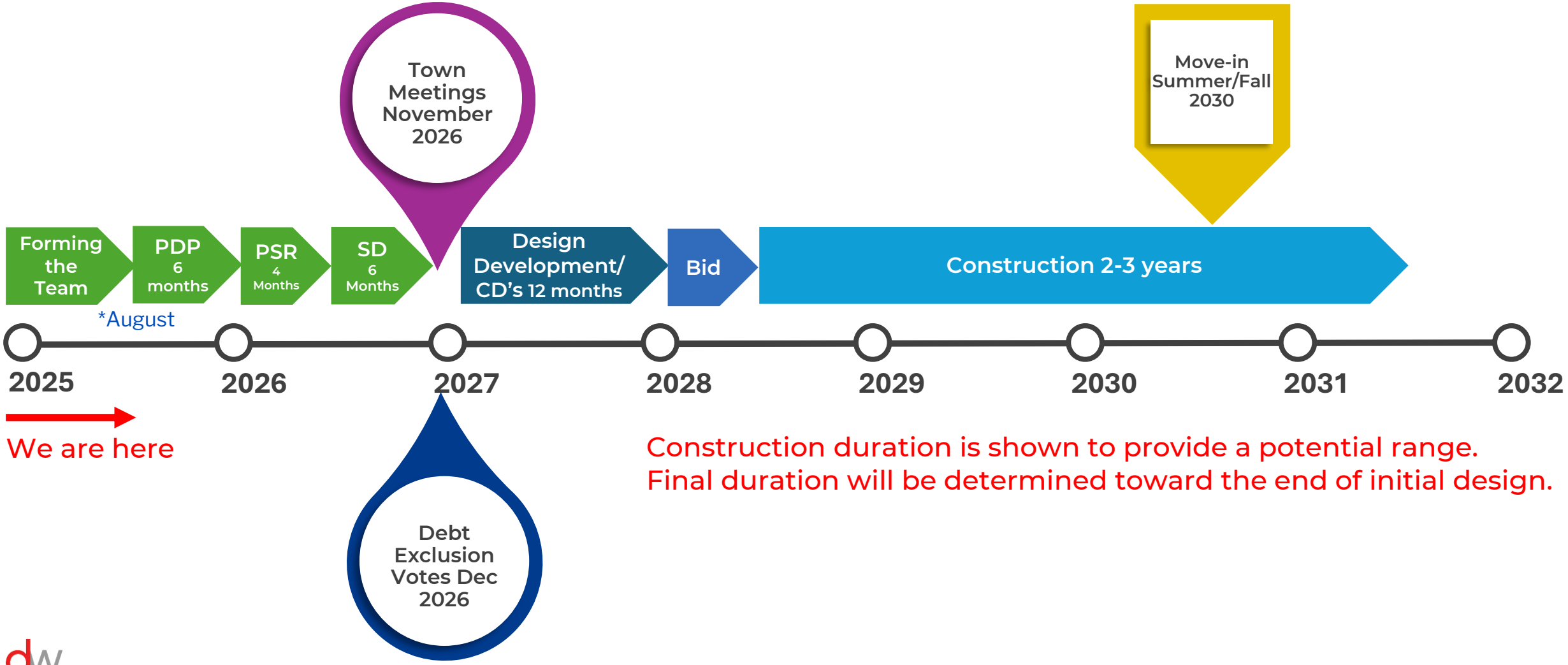
3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration

3/30/26 Comm Meeting #5-Review Preferred Options

4/14/26 SBC Meeting-Review Comm Meeting #5 Feedback and Approval of Preferred Solution

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

Anticipated Project Timeline



Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

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10. Public Comment
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12. Adjourn

MEETING AGENDA

Meeting Date:	February 9, 2026
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link:	https://us06web.zoom.us/j/86341159540

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices & Commitments for Review and Approval (Vote Expected)
4. MEP Working Group Update
5. Design Update
6. Criteria Matrix Review
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	2/9/26
Location:	Hybrid (Essex Elementary School Cafeteria & Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
✓	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
✓	John Binieris*	SBC Co-Chair
✓	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
✓	Charlie Hay*	Architect School Building Experience
	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
✓	Tyler Virden*	Project Executive -Wise Construction / Paren
	Annie Cameron*	Former SC Member and Memorial SBC Member
	Ariel Fernando Brain*	Architect - CBT
✓	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
✓	Timonthy McDonald*	Architect - Onion Flats
	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
	Lisa O'Donnell	Design & Construction / Essex Planning Board
✓	Steve Hunt*	Facilities Manager
✓	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
✓	Rachelle Russo	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
✓	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
	James LaPosta	Principal - JCJ Architecture
✓	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
	Dustin Lombardi	Architect - JCJ Architecture
✓	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

DORE + WHITTIER

Item No.	Action Item	Ball in Court
1	Refine and further develop floor plans and site plans for all required scenarios—including code upgrade, at least one addition/renovation, at least one new construction, and pre-K–5 scenarios for 365 and 515 students—to the same level of detail, including cost estimates, for PSR submission.	JCJ
2	Conduct a test fit and additional study of a three-story building option, focusing on placement along the north side of the site to take advantage of grade changes, reduce circulation challenges, and assess its educational and operational feasibility.	JCJ
3	Analyze the impact of relocating the pre-K classrooms from the lower level in the addition/renovation option and provide updated plans as discussed.	JCJ
4	Review and, where possible, enhance the parking count and site circulation, including drop-off and parking layouts, to ensure sufficient parking and safe, efficient traffic flow, and present updated analysis to the committee.	JCJ
5	Provide a cost comparison of different MEP system options—including utility incentives and lifecycle costs—during the schematic design phase, as part of the life cycle cost analysis for the MEP working group.	JCJ
6	Coordinate with the geotechnical consultant to delay bedrock probe locations until site planning reaches a comfort level; once options are refined, collaborate with JCJ, structural, and civil engineers to plan and execute the probe program in March.	JCJ
7	Members interested in joining or transferring to MEP or other working groups should email Pam, Christina, and Rachel to request assignment changes.	SBC
8	Present updated floor plans, site plans, and cost estimates at the next scheduled meeting on March 10th, incorporating feedback from the current committee discussion.	JCJ
9	Prepare materials for the March 30th community meeting that clearly present the preferred options for public review and comment.	JCJ

- **Please click here for the presentation**
    - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

DORE + WHITTIER

<table>
<tr><td>Item No.</td><td>Description</td><td></td></tr>
<tr><td>14.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 6:04pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>14.2</td><td>Approval of January 26, 2026, Meeting Minutes (Vote Expected):

A motion to approve January 26, 2026, Meeting Minutes was made by M. Cresta seconded by K. Provost.

Discussion: None.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Absent</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Yes</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Absent</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Absent</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Absent</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Yes</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Absent</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>
Yes: 10| No: 0 | Absent/Abstain: 6</td><td>Record</td></tr>
</table>

DORE + WHITTIER

14.3	**Invoices and Commitments for Approval (Vote Expected):** A motion to approve the following invoices was made by K. Provost and seconded by M. Cresta. Dore + Whittier Management Partners Invoice | $44,288.00 JCJ Architecture Invoice | $40,137.13 Discussion: M. Cresta recommended approval. Roll Call Vote:	Record

Name	**Yes/No/Abstain & Absent**
Michelle Cresta	Yes
Pam Beaudoin	Absent
Kim Provost	Yes
John Binieris	Yes
Theresa Whitman	Yes
Andy Oldeman	Absent
Charlie Hay	Yes
Gordon Brewster	Absent
Tyler Virden	Yes
Annie Cameron	Absent
Ariel Fernando Brain	Absent
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Yes
Henry Oettinger	Absent
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 10| No: 0 | Absent/Abstain: 6**

14.4	**MEP Working Group Update:** F. Pellegrini stated that this was the first MEP Working Group meeting and that the purpose was primarily introductory. She explained that the team reviewed mechanical and plumbing systems that would be appropriate for a project of this size. She clarified that no decisions were made regarding any specific system at this stage. Instead, the various systems proposed will be carried through the PSR phase. Once a preferred plan or scheme is identified, the team will conduct a lifecycle analysis to determine the most appropriate system. She noted several key considerations that will guide the evaluation of MEP systems. These include improving indoor air quality through high-level filtration such as MERV 13 and MERV 14 filters; achieving very high energy efficiency through strategies like energy recovery and demand-controlled ventilation; and maintaining a high level of thermal comfort for occupants. She also emphasized the importance of controlling system noise, both to enhance occupant comfort and to support LEED-related objectives. Additionally, she discussed the importance of automatic temperature controls and the implementation of a Building Management System (BMS). She explained that the BMS will be a critical tool for monitoring and managing building performance and that it will be a frequent topic of discussion as the project progresses. F. Pellegrini reviewed the mechanical systems under consideration for the Code Upgrade/System Repair option at Essex Elementary School, noting that this approach would primarily involve replacing the existing unit ventilators and gas-fired boiler plant. She clarified that this is one path specific to a repair scenario, while the other options are more aligned with renovation, addition, or new construction. She outlined the second option: an air source VRF system with a DOAS. She explained that this system offers lower piping costs, requires no boiler or chiller plant, and provides both heating and cooling within classroom cabinets. However, maintenance must occur outside school hours since units are located in occupied spaces, and some heater noise may be present. She noted this system is currently included in the PDP estimate as a baseline, with full cost comparisons to follow in the PSR phase. She then described the third option: a VAV displacement system with passive radiant heating and cooling panels, similar to the system at Manchester Memorial School. She highlighted benefits such as improved pollutant removal, lower noise due to low air velocity, effective moisture control in high-occupancy areas, and no need for condensate drains or	Record

refrigerant piping. She strongly recommended ceiling-mounted radiant panels to avoid impacts to furniture layouts and educational programming.

Finally, she addressed the geothermal option, noting prior informal discussions. Due to on-site bedrock conditions, she explained that further evaluation is needed to determine the cost implications of drilling required wells.

F. Pellegrini reviewed four domestic hot water system options. The first, a high-efficiency gas boiler, uses natural gas to heat water but may face challenges related to utility incentives and the broader direction of gas use in Massachusetts. The second, electric resistance heating, is simple to operate and maintain and aligns well with current utility incentives. Third, an air source heat pump uses electricity and refrigerant to extract heat from the air and transfer it to the water; it also aligns with incentives but is more complex than electric resistance. The fourth, a water source heat pump, extracts heat from a water source such as a well and ties into site considerations, including bedrock and associated drilling costs.

She emphasized that this was a high-level review and no decisions have been made; all options will advance into the PSR phase for further evaluation.

She also noted the value of supplemental radiant heating and cooling panels, which enhance thermal comfort and provide redundancy if the primary system is offline. Finally, she confirmed that a Building Management System (BMS) will be included regardless of the selected system, allowing for zone control, occupancy scheduling, lighting control, and overall system management. The next discussion will occur once a preferred scheme is selected, at which point lifecycle and cost analyses will begin.

P. Beaudoin arrived at 6:13PM.

Discussion:

- C. Hay asked whether the decision on the preferred solution would happen during schematic? F. Pellegrini responded that during PDP, option 2 was used for the cost estimate. As we move through PSR, we are going to ask the cost estimators to give cost feedback on different systems then will move into schematic design. C. Hay commented he is not sure why option 4 is still on the table. F. Pellegrini explained that the working group did not want to remove it from the conversation but if the SBC members want to remove it they can. T. Whitman noted there is value in keeping it for now as people in the public may ask “Did you consider Geothermal?”. Once

	there is a number associated with it that discussion will be easy to have for this group. • T. Whitman asked if Manchester Memorial has option 3 (VAB Displacement System) what is the rationale for using option 2 in PDP? F. Pellegrini noted that Manchester Memorial currently uses a gas-fired backup boiler. She explained that the team carried Option 2 (electric resistance) in the PDP based on the state's shift away from gas toward all-electric buildings. Option 3 (air source heat pump) remains under consideration, but the PDP estimate reflects this updated direction. C. Hay asked whether utility incentives now apply only to all-electric buildings. E. Haggstrom acknowledged that incentives are increasingly favoring all-electric solutions, supporting the decision to prioritize electric options moving forward. • S. Hunt asked whether a cost analysis would be provided comparing the impact of utility rebates versus other options, seeking clarification on how incentives affect overall system costs. E. Haggstrom explained that during schematic design, once options are narrowed, a full life cycle cost analysis will be conducted. This analysis will cover 30–50 years and include system replacement, maintenance, upfront, and estimated operating costs. He added that the MEP Working Group will receive comprehensive information to make an informed decision, including consideration of federal, state, and utility incentives. • T. McDonald asked about Option 3 (air source heat pump), noting that it could be paired with an electric resistance backup instead of gas. He explained that on a similar project, gas was not allowed in the building, requiring a backup electric system. He suggested keeping Option 3 on the table, as he believes it remains a strong option with this approach. • T. McDonald expressed interest in joining the MEP Working Group. T. Whitman noted that anyone wishing to join any working group should contact P. Beaudoin and the DWMP team.	
14.5	**Design Update:** J. Elliott reported that, following a robust discussion at the last SBC meeting, the team incorporated feedback and completed another review of the design options. He noted that the Code Upgrade option remains unchanged, as the program is constrained by the existing building. He then highlighted the wetlands and 100-foot buffer impacts shown on the plan. The pond at the lower left is straightforward, but the intermittent watercourse to the right extends its buffer into the east wing. At the top of the site, mapped	Record

	wetlands extend toward the service/loading and kitchen area, placing the westernmost classrooms and kitchen within the buffer. He concluded that avoiding all wetlands buffer impacts would be very difficult. J. Elliott reviewed the Add/Reno option presented last week, which includes just over 20,000 SF for a gym, stage, and four classrooms (Grades 4–5), providing swing space for renovations. A key challenge is the lower level, which in the initial scheme housed two Pre-K classrooms—separate but not ideally adjacent to kindergarten. The site plan shows a full perimeter access road, revised play areas, and a slightly reduced field. Circulation is challenging, with the community entry and main parking on opposite sides. The team considered a single-Story Street entry for better queuing, with buses entering from Astoria Street and some intermingling with Pre-K drop-off. A refinement increases the addition by roughly 4,000 SF to relocate Pre-K into the new construction, creating an early childhood cluster (Pre-K–Grade 1) with the gym and stage. Grades 4–5 shift to the lower wing, forming two learning neighborhoods with courtyard access. This removes student use from the lower level and could be phased if needed. A further adjustment shifts the addition west, replacing the perimeter road with a turnaround. This allows adjacent early childhood drop-off and improved community access, though most parking remains along the north edge near Story Street. These represent two of the three primary options: Code Upgrade and Add/Reno. ** J. Elliott provided a design update to the SBC. He shared an overview of each of the potential options and phasing approaches. • Code Upgrade/Base Repair: A0.2 • Addition/Renovation: A1.2-A, A1.2-B • New Construction: A2.2-A, A2.2-B J. Elliott also introduced the idea of a three-story elementary school offering a smaller footprint. <u>Discussion:</u> • K. Provost asked if the code upgrade includes pre-K classrooms. J. Elliott confirmed there are none due to space constraints. C. Dell Angelo clarified that no walls are moved in the code upgrade.	

	• T. Whitman expressed support for the admin changes and praised the location of the Young Learning Center and the roundabout drop-off. • C. Hay asked about site parking. J. Elliott said no parking count was done but the district was consulted. C. Hay noted that parking in the front horseshoe is not visually appealing. • M. Gerhardt asked about playfield size. J. Elliott responded it is U10; U12 would be the next size up. • C. Hay asked if Option A2.2-B offers a larger field. J. Elliott said no, though there may be room to expand. • T. Whitman commented she is open to a three-story building with a smaller footprint because it could offer flexibility, even if less convenient. C. Dell Angelo and C. Hay noted that three-story elementary schools are not uncommon. • P. Beaudoin asked how much additional real estate a three-story building would provide. J. Elliott said JCJ has not yet explored this. C. Hay noted potential benefits from the site's ledge. • S. Hunt asked about square footage costs for building up instead of out. J. Elliott said it would likely be more efficient and cost-effective, with a smaller foundation footprint. • E. Dwyer expressed interest in seeing the three-story fit and appreciated Option A2.2A's site plan for maintaining a neighborhood feel, whereas A2.2B felt more compact and less neighborhood-focused. • K. Field raised concerns that a three-story building may look traditional and lack collaborative spaces, but she is not dismissing it. J. Elliott explained the example school in New Haven, Connecticut, has different educational programming, limiting breakout spaces. K. Field reiterated preference for Option A2.2A. • P. Beaudoin prefers Option A1.2B. • K. Field noted concerns with drop-off for A1.2B. J. Elliott explained that the existing building's central location limits options but the team will continue improving the layout. • T. Whitman asked for feedback on the courtyard. R. Russo noted students don't typically use it due to lack of direct access but would if convenient. C. Dell Angelo mentioned maintenance challenges, and K. Provost said it is used once a week for a club but not to full potential. • J. Hocherman raised concerns about drop-off distance in A1.2B, noting long paths of travel. C. Hay said it requires further study. • E. Dwyer noted the courtyard is underutilized and adding a classroom on that side could be disruptive • M. Gerhardt thanked the team for their work and noted the project's complexity. He suggested reconsidering the northeast corner of the site. While previously discounted due to grade	

changes toward Story Street and Western Avenue, the three-story concept may allow the slope to be used advantageously. Given site constraints and the goal of a single-phase build to control costs, he proposed shifting the building north and partially embedding the gym in the northeast corner, similar to the below-grade gym at the high school/middle school. Story Street could serve as emergency access along the north side. He requested a quick blocking study to assess feasibility. J. Elliott noted that a similar strategy has been implemented in a prior design. In that example, the playscape sits at the rear of the building along a slope, while the second story—housing the media center—has walkout access. Both wings of the building connect via bridges or align at grade. He suggested a comparable but reversed approach here: placing the main entrance and office at an intermediate level on the south side, while using the site's slope to support a three-story scheme. J. Elliott agreed that this concept is worth further study.

- A. Oldeman noted it is still early and more detail will follow next phase. He favors the original L-shaped new construction option on the existing field, though he is open to the three-story concept. He asked whether, as with the Memorial project, the renovation/addition option could cost more than new construction and whether seismic upgrades to the existing structure would be required. F. Pellegrini responded we would have to bring it up to meet current code so that it is going to be an issue.
- Charlie stated that a two-phase approach is manageable and not necessarily problematic. He expressed concern that the graphics for Option A may appear more appealing than Option B. However, he emphasized that Option B still has strong potential, could function well on the site, may be more efficient, and could ultimately be less expensive to build.
- M. Gerhardt asked whether the L-shaped plan could shift south to allow a single-phase build. J. Elliott said the schemes are largely interchangeable and Option B could be reworked to match Option A's footprint and potentially be built in one phase. M. Gerhardt noted this would narrow the community bar and improve circulation, whereas the angled scheme has a deeper floor plate that tightens the rear. J. Elliott cautioned that extending the classroom wing toward the property line would bring it closer to the pond and elongate the layout.
- K. Provost expressed concern about a three-story design for a school serving 250 students. She noted that this would average roughly 80 students per level, which feels disproportionate and potentially inefficient for a building of that height. She indicated she is trying to better understand the rationale for that approach. M. Gerhardt clarified that a three-story building would have two full

	floors of classrooms, with the lower level serving mainly as support space—not three full floors of instruction. C. Hay mentioned or just have Pre-K on the ground floor. K. Provost noted that upper grades frequently collaborate with lower grades and administration. Placing admin on the lowest level could increase travel for fourth and fifth graders. • K. Field asked whether the three-story footprint would support the desired "neighborhood" learning environment, noting that this is what most teachers are most excited about. J. Elliott responded that the neighborhood breakout space concept is independent of the building's number of stories, and the two factors can be considered separately. • C. Dell Angelo shared that a recently completed three-story elementary school in Lexington (Pre-K–5) successfully implemented group neighborhoods between grades 1–2, 3–4, and 5. These clusters, located just outside classrooms, resemble the layout observed in Wellesley. The school started with 350 students and later expanded to 515 due to redistricting. Teachers initially had concerns similar to those raised here, but once the school began using the space, they found it highly effective and well-received.	

14.8	**Schedule Update:**
	• 2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing
	• 3/10/26 SBC Meeting-Preferred Alternates if Necessary
	• 3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration
	• 3/30/26 Comm Meeting #5-Review Preferred Options
	• 4/14/26 SBC Meeting-Review Comm Meeting #5 Feedback and Approval of Preferred Solution
	• 4/28/26 SBC Meeting-Approved PSR Submission to MSBA
	
	Discussion:
	• C. Hay asked which options will be priced, noting uncertainty about A, B, or C for new construction.
	• C. Dell Angelo clarified that MSBA requires all options from the enrollment certification, even though the group narrowed to Pre-K–5 and eliminated Memorial sites. This includes:
	  ○ Code upgrade
	  ○ At least one addition/renovation
	  ○ At least one new construction
	MSBA also requires options for both 365- and 515-student scenarios. Jeff, Fawn, and their team will create floor and site plans at the same level of detail as current preferred options, which will be sent to the cost estimator. At least five options will be included in the PSR cost estimate.
		Record

<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>14.9</td><td>Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting: None.</td><td>Record</td></tr>
<tr><td>14.10</td><td>Public Comment: None.</td><td>Record</td></tr>
<tr><td>14.11</td><td>Reflections & Action Items:
F. Pellegrini reviewed a recent SBC discussions on wetlands and geotechnical findings. Six borings at three locations revealed that five encountered bedrock relatively quickly. The consultant recommends conducting a series of probes to map the bedrock contours, but only once the preferred new construction locations—addition or new building—are determined. The probes will be coordinated with JCJ, the structural engineer, and the civil engineer to ensure maximum value. Once planned, the probes will inform cost estimating by providing accurate quantities. This work is expected to proceed around March.</td><td>Record</td></tr>
<tr><td>14.12</td><td>Adjourn: A motion to adjourn the meeting was made at 7:41 pm by C. Hay and seconded by P. Beaudoin.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Yes</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Absent</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Absent</td></tr>
<tr><td>Ariel Fernando Brian</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Yes</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Absent</td></tr>
<tr><td>Henry Oettinger</td><td>Absent</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
</table>
</td><td>Record</td></tr>
</table>

	Rachelle Rousseau	Advisor – No Vote	
	David Pereen	Advisor – No Vote	
	Lisa O'Donnell	Advisor – No Vote	

- **Yes: 11 | No: 0 | Absent/Abstain: 5**

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 14

February 9, 2026 @ 6:00 PM

DORE + WHITTIER

SBC Meeting Agenda – February 9, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 13 – January 26, 2026
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - Dore + Whittier Management Partners | $44,288.00
   - JCJ Architecture | $40,137.13
4. MEP Working Group Update
5. Design Update
6. Schedule Review
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

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Mechanical and Plumbing System Considerations

- Improved Air Quality*
- High Level of Filtration (MERV-13/14)*
- High Energy Efficiency
- Energy Recovery & Demand Ventilation
- High Level of Thermal Comfort
- Low Noise Operation
- Automatic Temperature Control and Building Energy Management System

** Additional IAQ & Filtration methods can be added to all proposed systems.*

Mechanical Systems Discussed

Option 1 (Code Upgrades): Replacement Unit Ventilator System w/ High Efficiency Gas-Fired Boiler Plant and Air-Source Heat Pump Unit Ventilators w/ Energy Recovery and CO2 Demand Control Ventilation (Uses Fossil Fuel)

Option 2: Air-Source VRF (Variable Refrigerant Flow) and DOAS (Dedicated Outdoor Air Systems w/ Air Source Heat Pump) for Classrooms/Office & Air Source Heat Pump Rooftop Units for Auditorium, Gym, Cafeteria, with Supplemental Electric heating for entryways, storage, and utility rooms. (Fossil Fuel Free) *Currently within Cost Estimate.*

Option 3: VAV Displacement System w/ Passive Radiant Cooling/Heating Panels and High Efficiency Air-Source to Hydronic Heat Pump Chiller/Heating Plant & Backup Boiler (gas) * for Hot Water Perimeter Heating (Fossil Fuel for Backup Only)

Option 4: Option 3 with Geothermal Hydronic Heat Pump Chiller/Heating Plant with small Electric Boiler for Backup. (Fossil Fuel Free)

Note Availability of gas for back up heating to be reviewed with Gas Utility Co. Energy usage of gas or electric backup boiler typically not factored into energy modeling. Difference in first cost between gas and electric boiler plant and emergency generator sizes shall be factored into the LCCA.*

Hot Water Heater Systems Discussed

Option 1: High Efficiency Gas Boiler- Natural gas heats water

Option 2: Electric Resistance - Electrical heating elements heat water

Option 3: Air Source Heat Pump – Electricity and refrigerant extracts heat from the air and transfers to the water

Option 4: Water Source Heat Pump - Electricity and refrigerant extracts heat from a water source and transfers to the water

Additional Considerations

Supplemental Heating/Cooling with Radiant Panels

Building Energy Management System (BMS)

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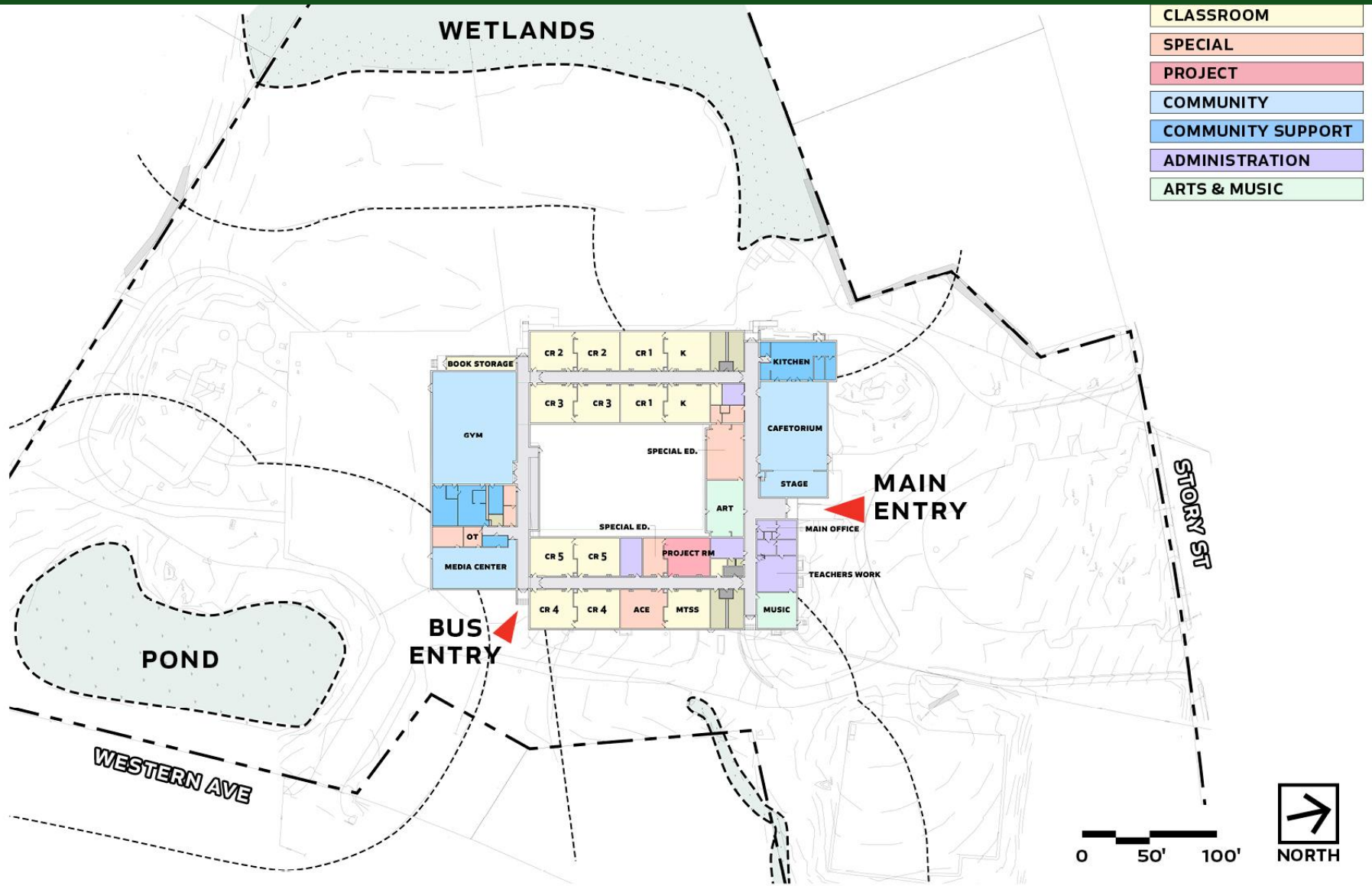
Design Update

OPTION A0.2
CODE UPGRADE/ BASE REPAIR

MAIN FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CONSIDERATIONS
- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE



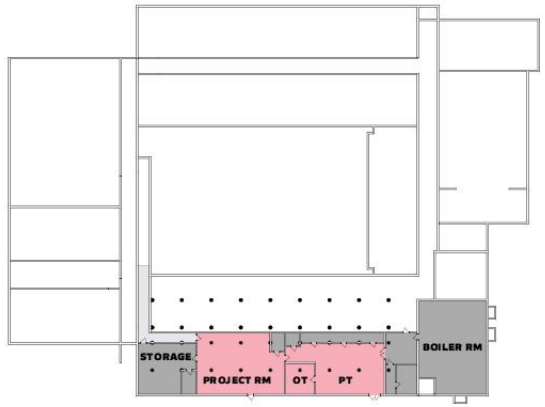
OPTION A0.2
CODE UPGRADE/
BASE REPAIR

LOWER FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
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- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE

0 50' 100'

NORTH

Design Update

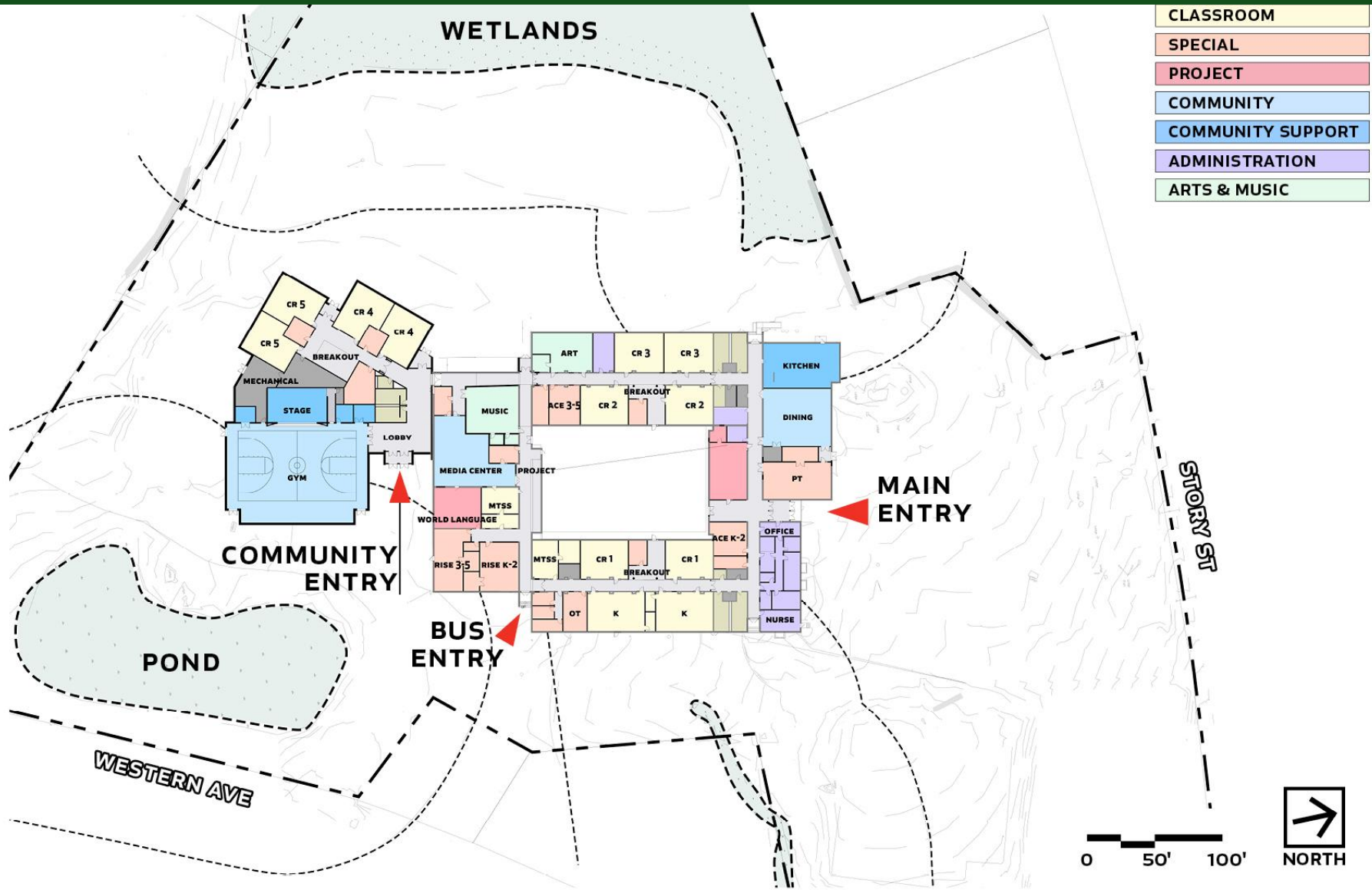
OPTION A1.2-A ADDITION/ RENOVATION

MAIN FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA



CONSIDERATIONS

- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (4 CLASSROOMS) ACCOMMODATED IN ADDITION
- STUDENT OCCUPIED SPACES IN EXISTING LOWER LEVEL

OPTION A1.2-A ADDITION/ RENOVATION

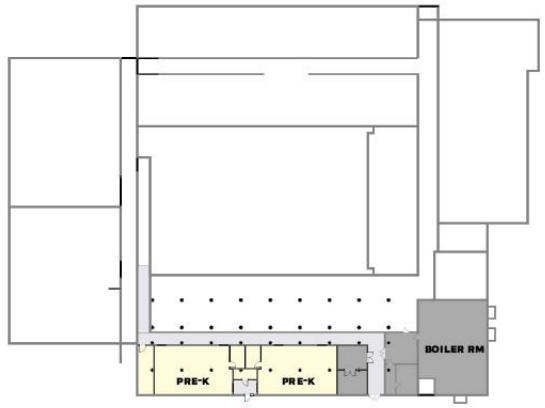
LOWER FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA

- CLASSROOM
- SPECIAL
- PROJECT
- COMMUNITY
- COMMUNITY SUPPORT
- ADMINISTRATION
- ARTS & MUSIC



PRE-K ENTRY

0 50' 100'

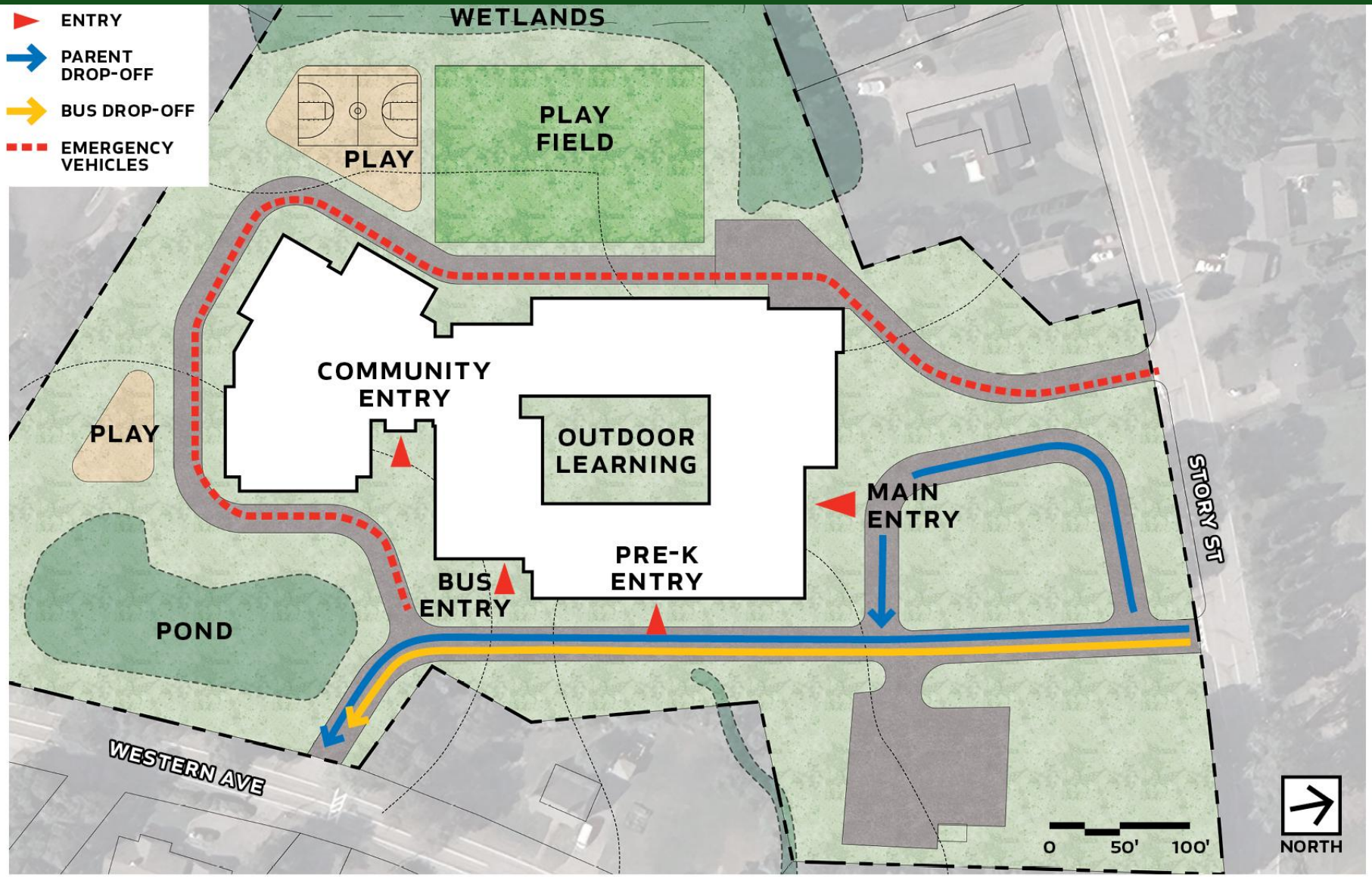
NORTH

CONSIDERATIONS

- FULL-SIZE GYM ACCOMODATED IN ADDITION
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- SWING SPACE (4 CLASSROOMS) ACCOMMODATED IN ADDITION
- STUDENT OCCUPIED SPACES IN EXISTING LOWER LEVEL

OPTION A1.2-A

SITE PLAN



Design Update

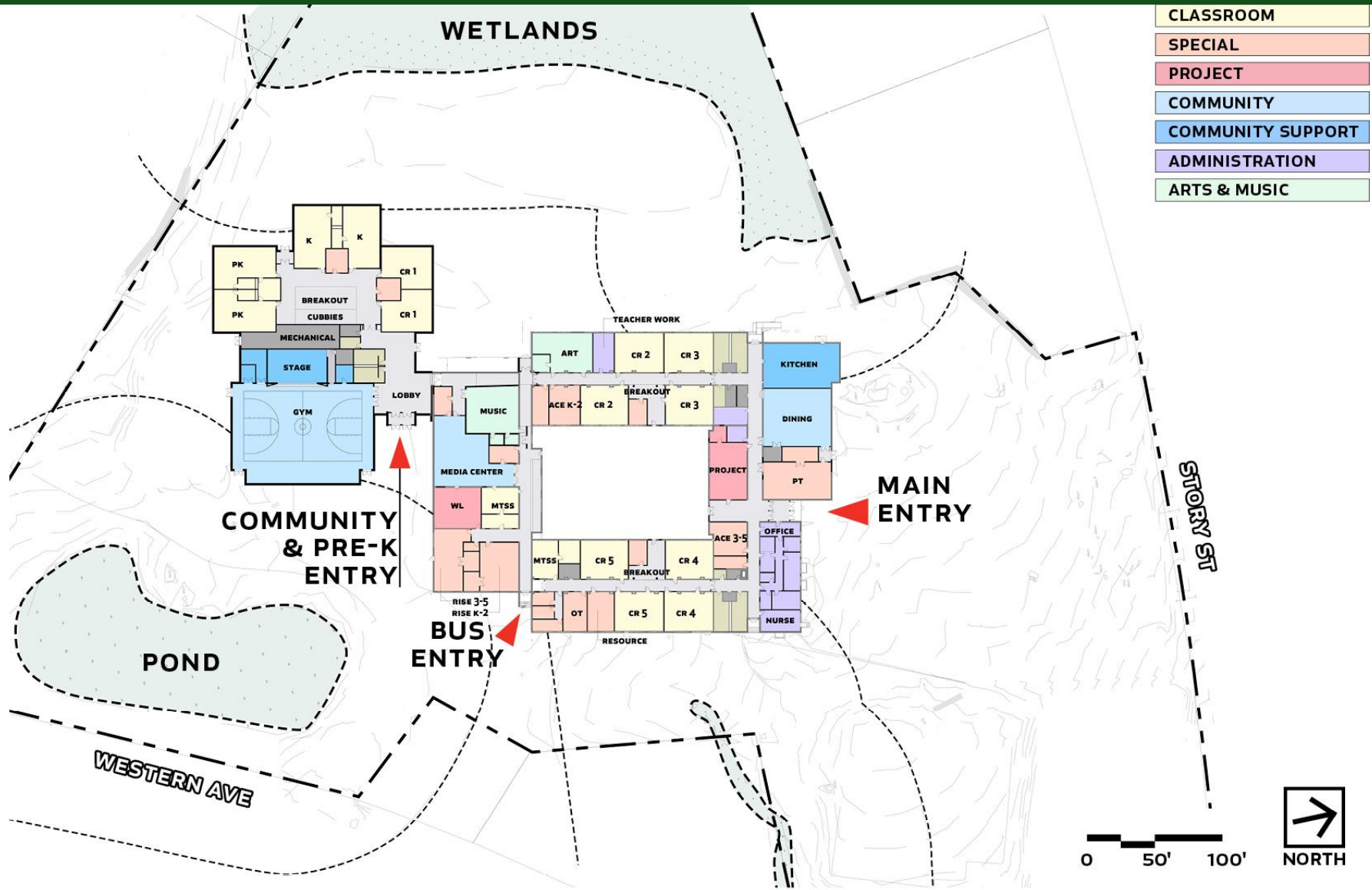
OPTION A1.2-B ADDITION/ RENOVATION

MAIN FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
24,637 GFA ADDITION

TOTAL: 77,673 GFA



CONSIDERATIONS

- ADDITIONAL 4000 GFA NEW CONSTRUCTION TO REMOVE STUDENT OCCUPIED SPACES FROM EXISTING LOWER LEVEL
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

OPTION A1.2-B ADDITION/ RENOVATION

LOWER FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

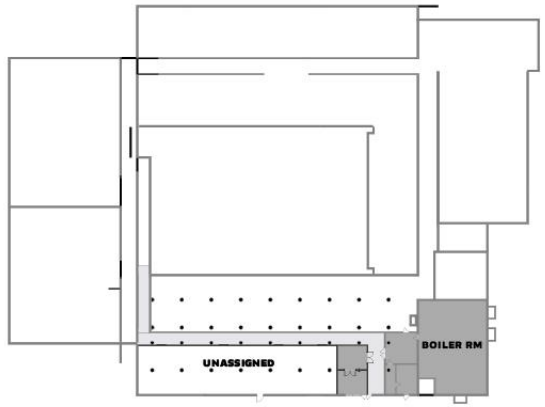
53,036 GFA RENOVATION
24,637 GFA ADDITION

TOTAL: 77,673 GFA

CONSIDERATIONS

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- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

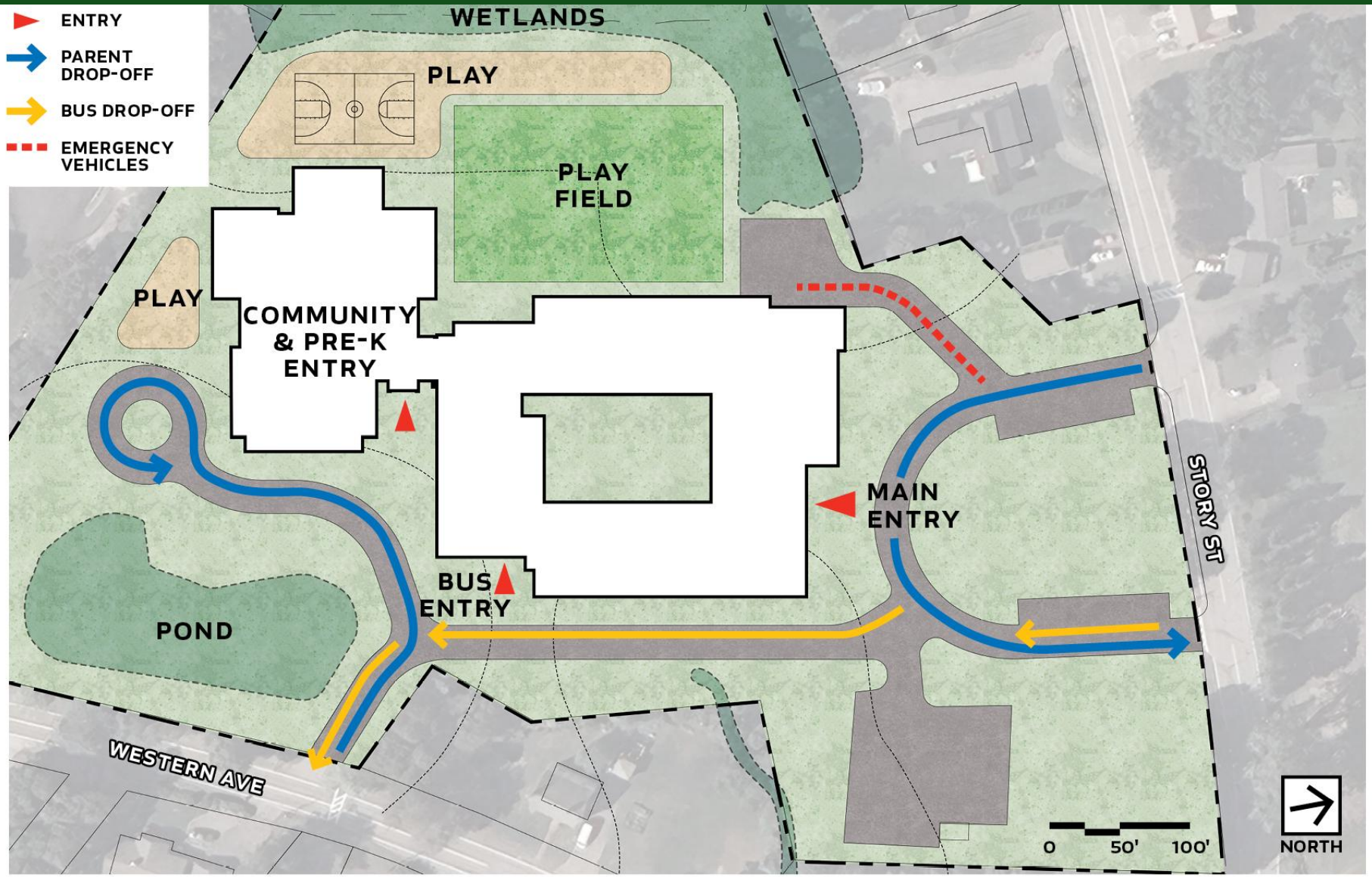
CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



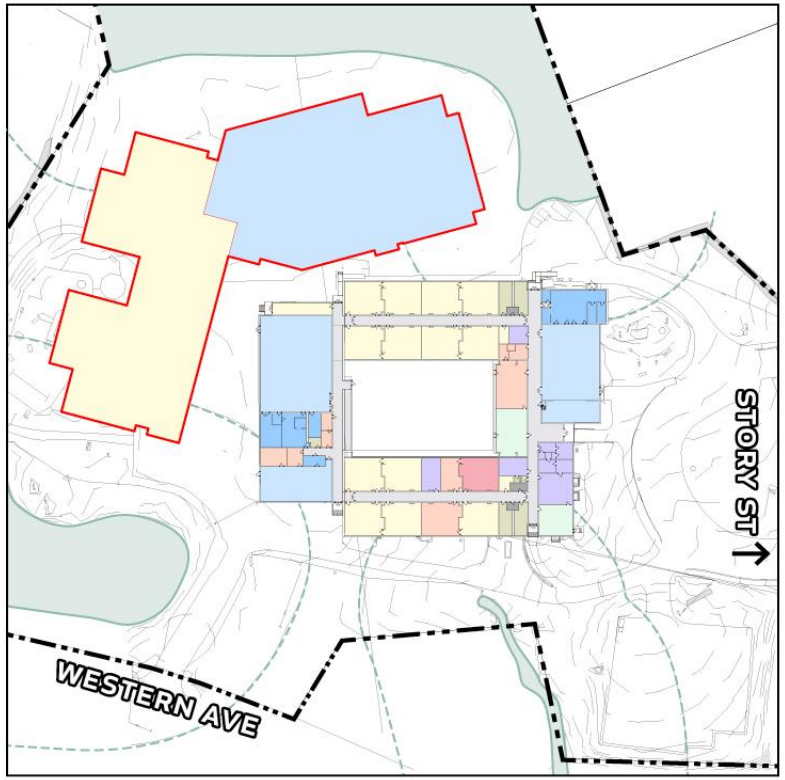
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NORTH

OPTION A1.2-B

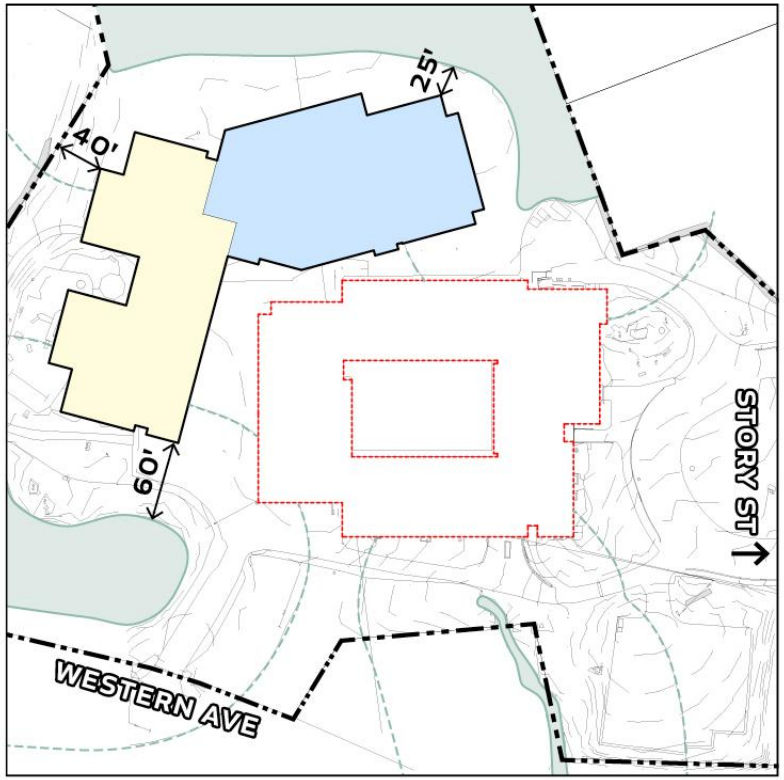
SITE PLAN



PHASING APPROACH A



PHASE 1

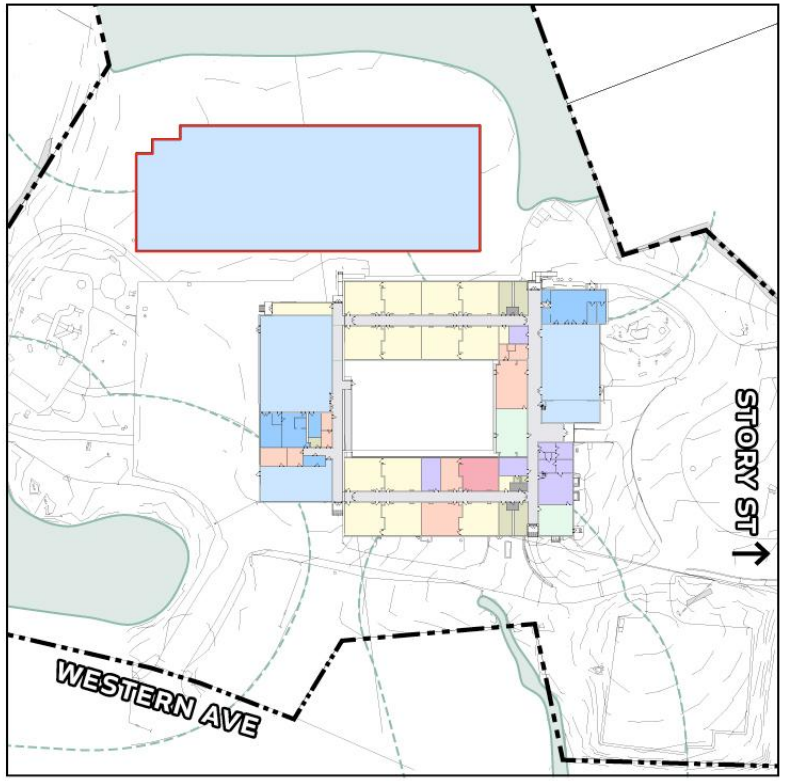


PHASE 2

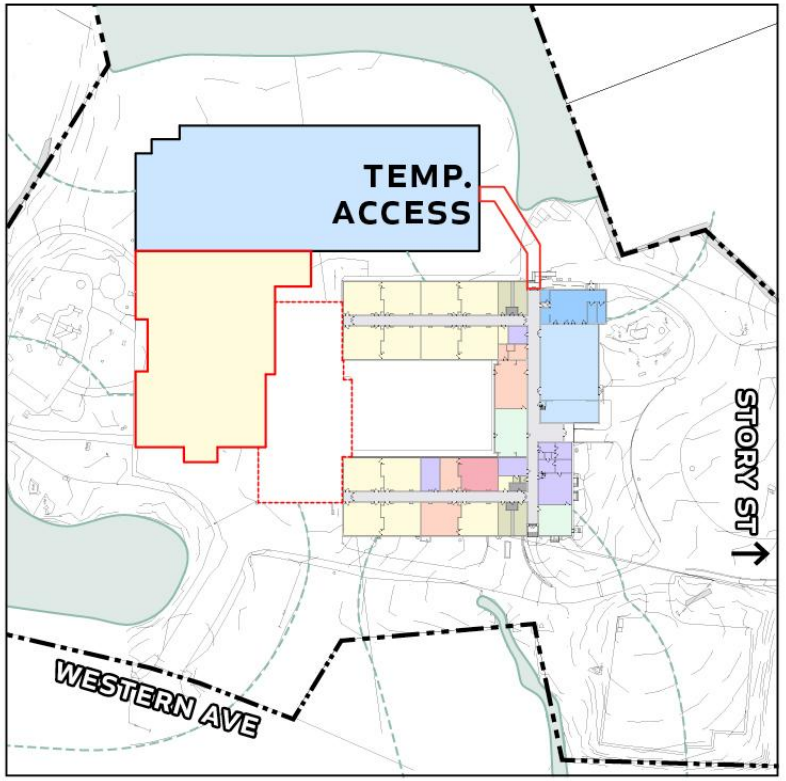
– ALL NEW BUILDING CONSTRUCTION COMPLETED IN SINGLE PHASE.

0 100' 200' NORTH

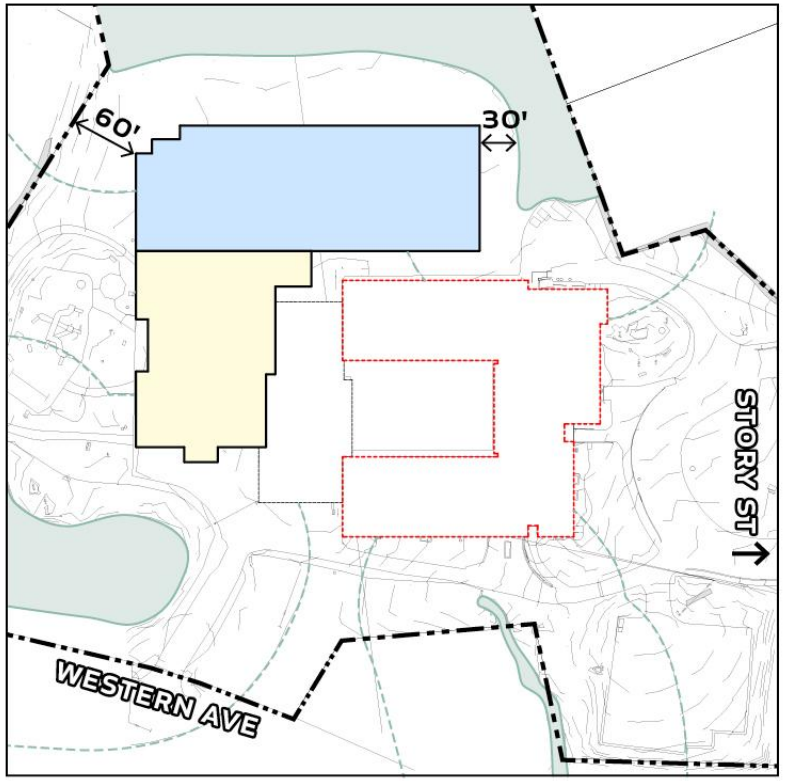
PHASING APPROACH B



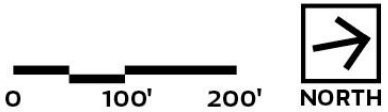
PHASE 1



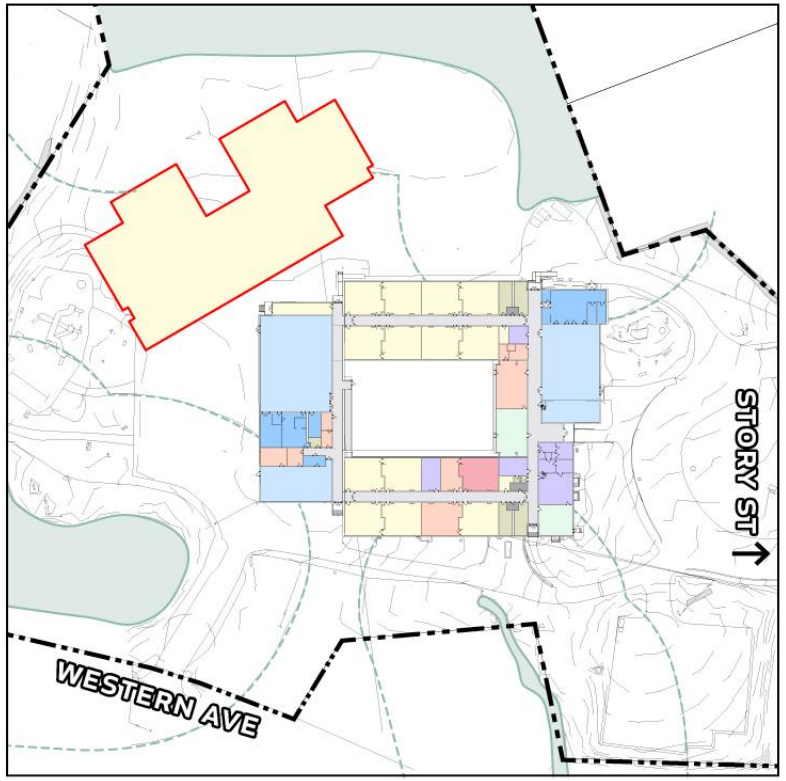
PHASE 2



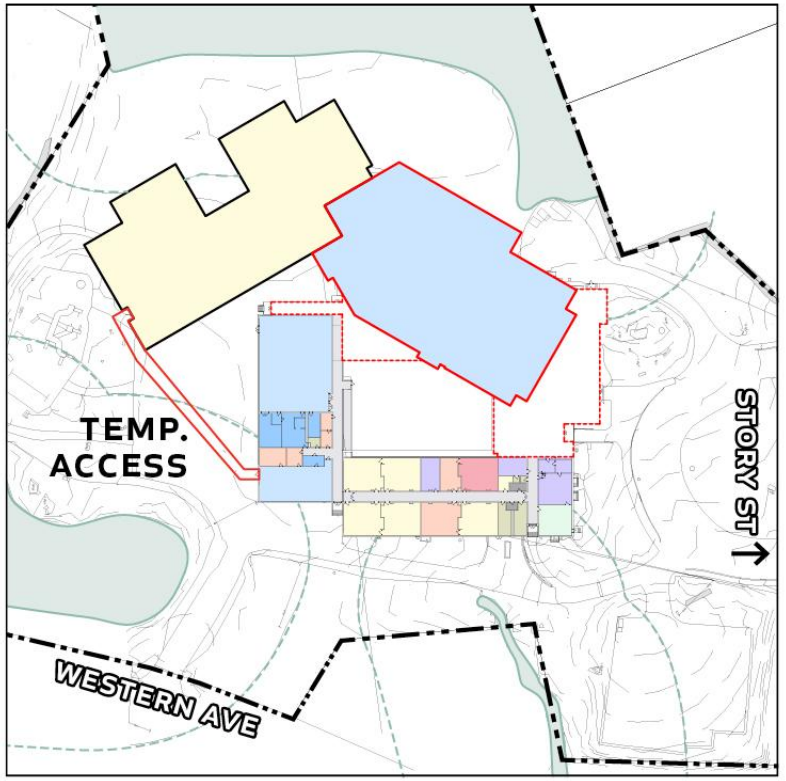
PHASE 3



PHASING APPROACH C

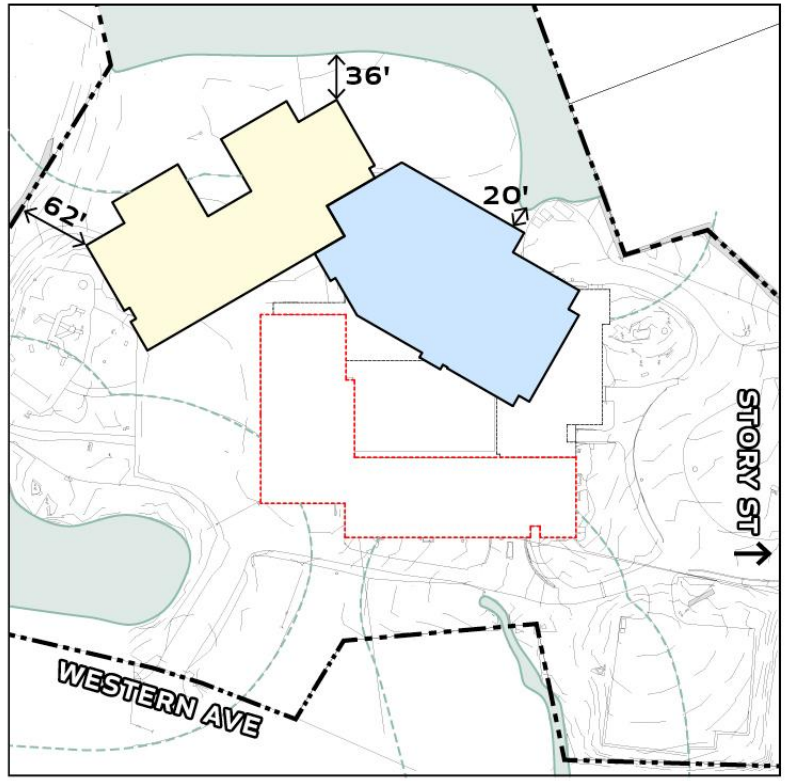


PHASE 1



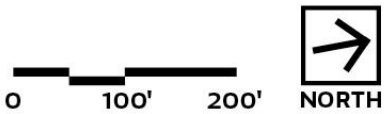
PHASE 2

- CONSTRUCTION ACCESS AND SCHOOL CIRCULATION ON THE SITE AND BETWEEN BUILDINGS WILL BE DIFFICULT TO MANAGE.

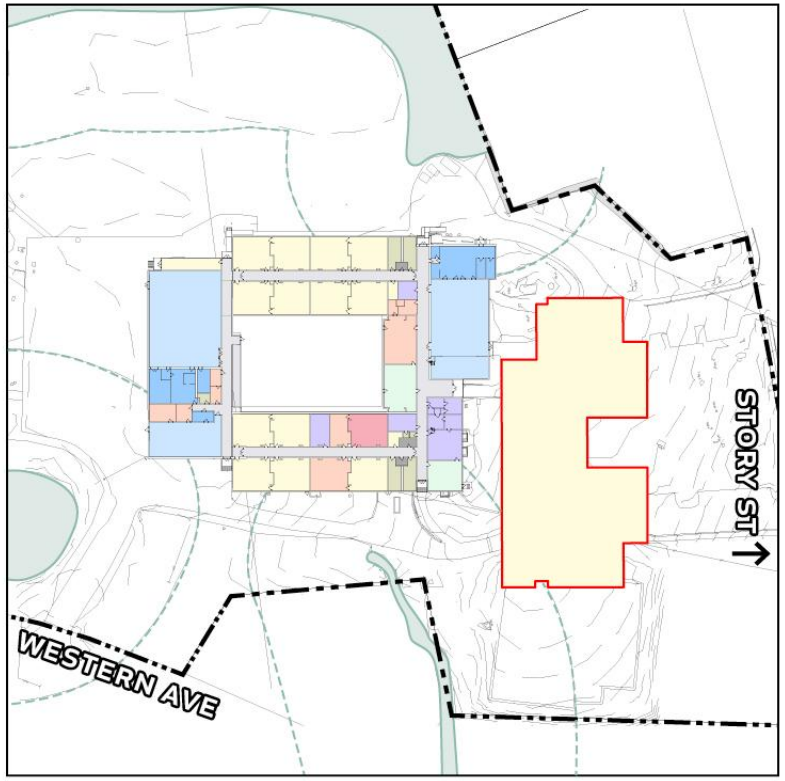


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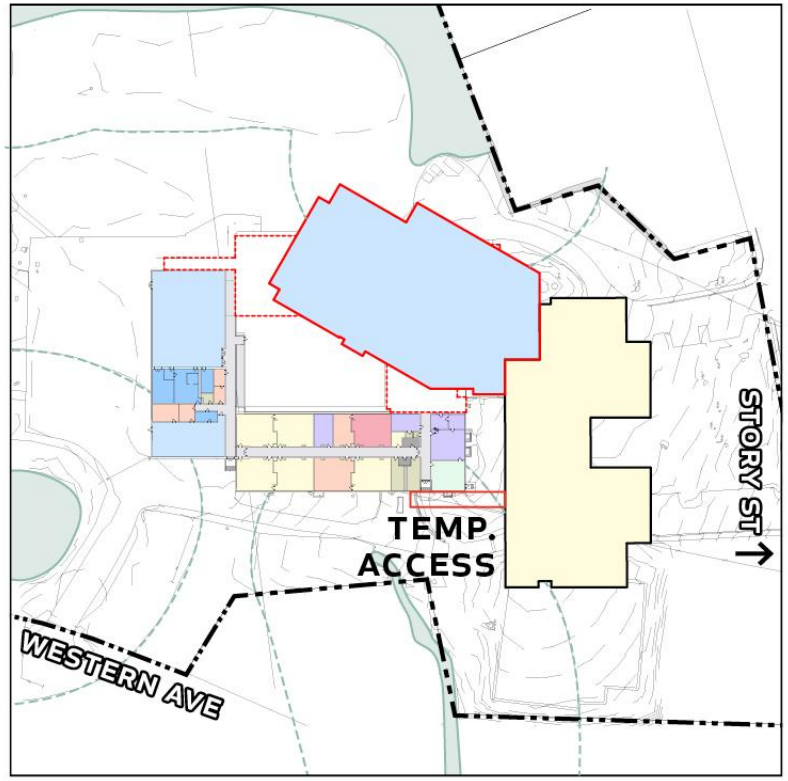
- LIMITED OPTIONS FOR FIELD LOCATION (10' SLOPE DOWN TO STORY STREET)



PHASING APPROACH D

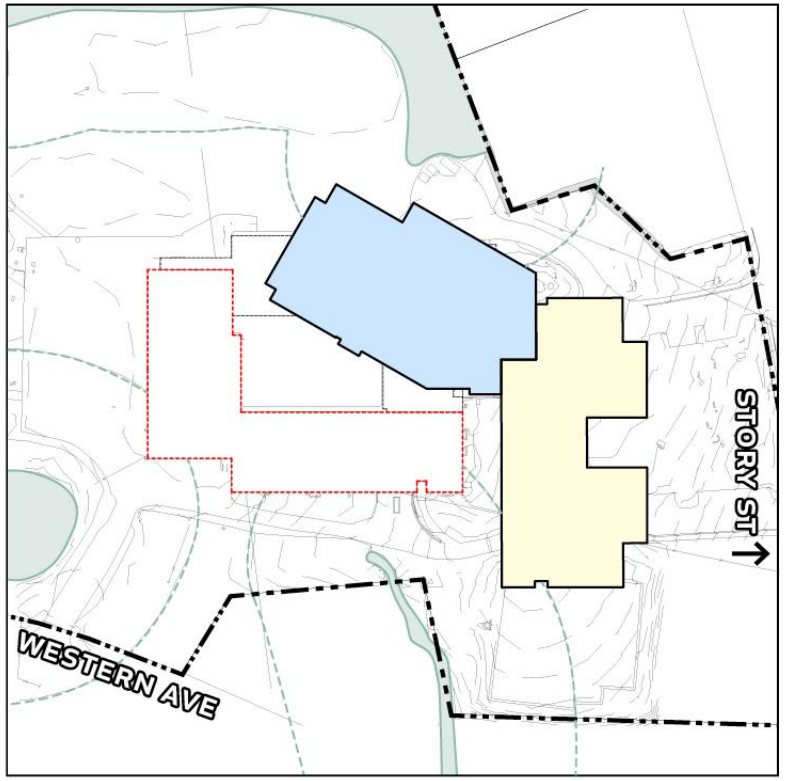


PHASE 1



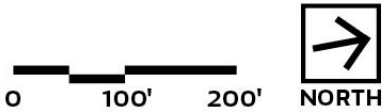
PHASE 2

– SCHOOL ACCESS TO THE SITE WILL BE LIMITED TO WESTERN AVE.

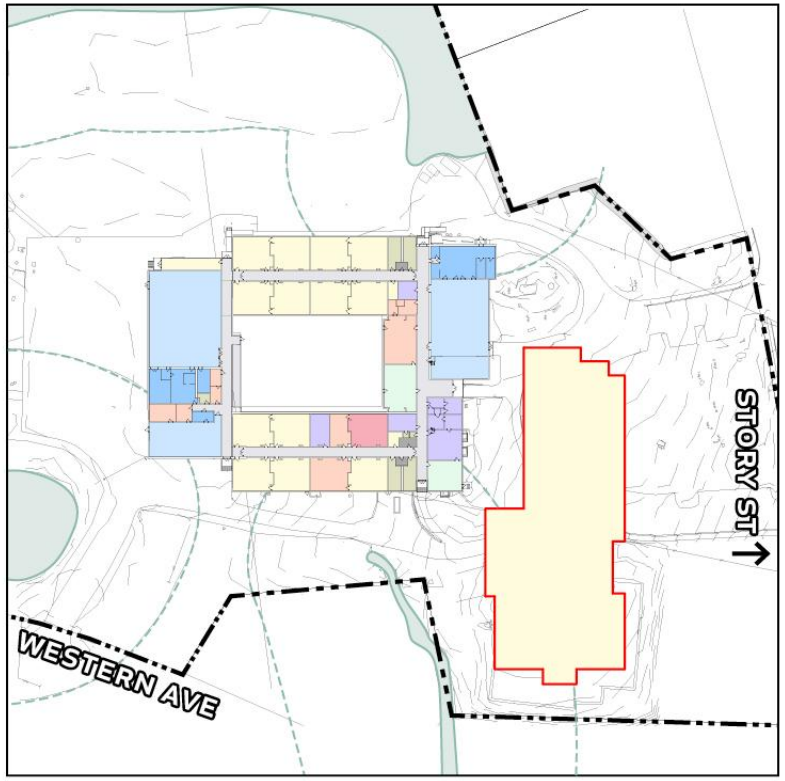


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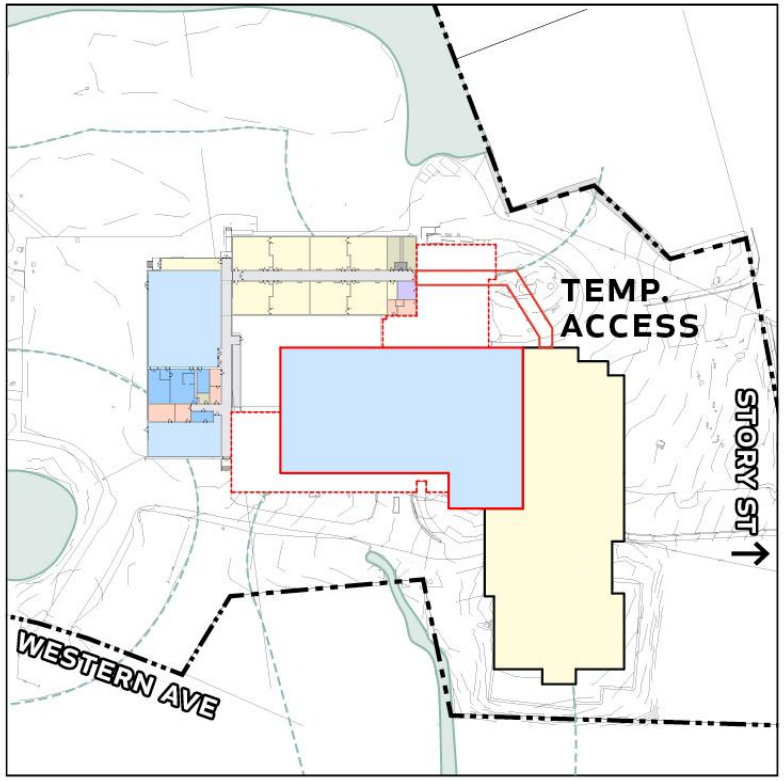
– SLOPE COMPLICATES LOCATION OF PLAY AREAS IN CLOSE PROXIMITY TO BUILDING.



PHASING APPROACH E

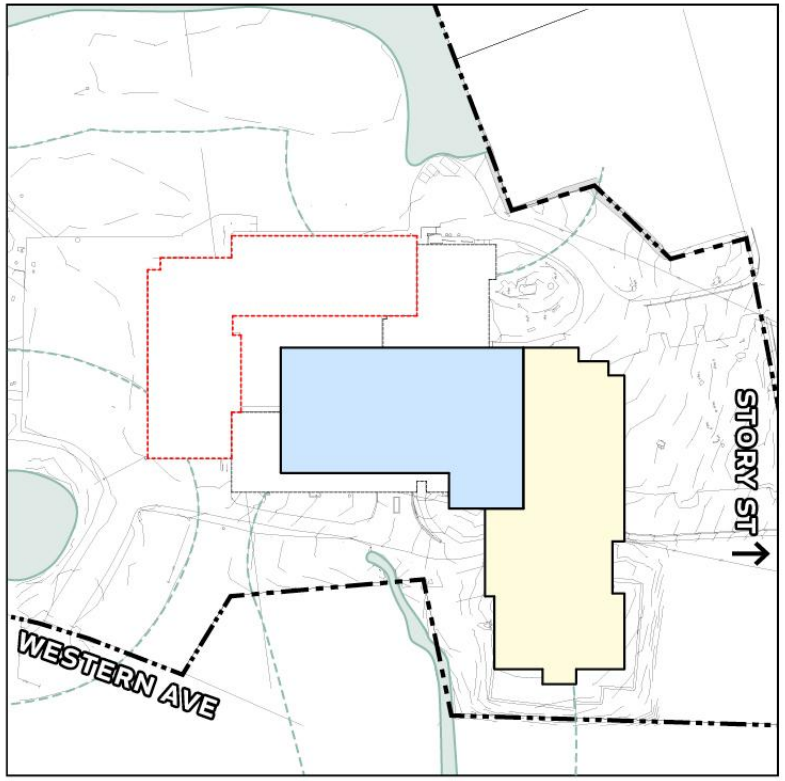


PHASE 1



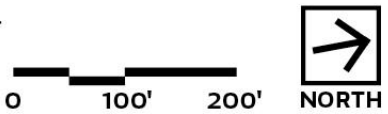
PHASE 2

- CONSTRUCTION ACCESS AND SCHOOL CIRCULATION ON THE SITE AND BETWEEN BUILDINGS WILL BE DIFFICULT TO MANAGE.



PHASE 3

- FULL PERIMETER ACCESS NOT POSSIBLE. SLOPE COMPLICATES LOCATION OF PLAY AREAS IN CLOSE PROXIMITY TO BUILDING.



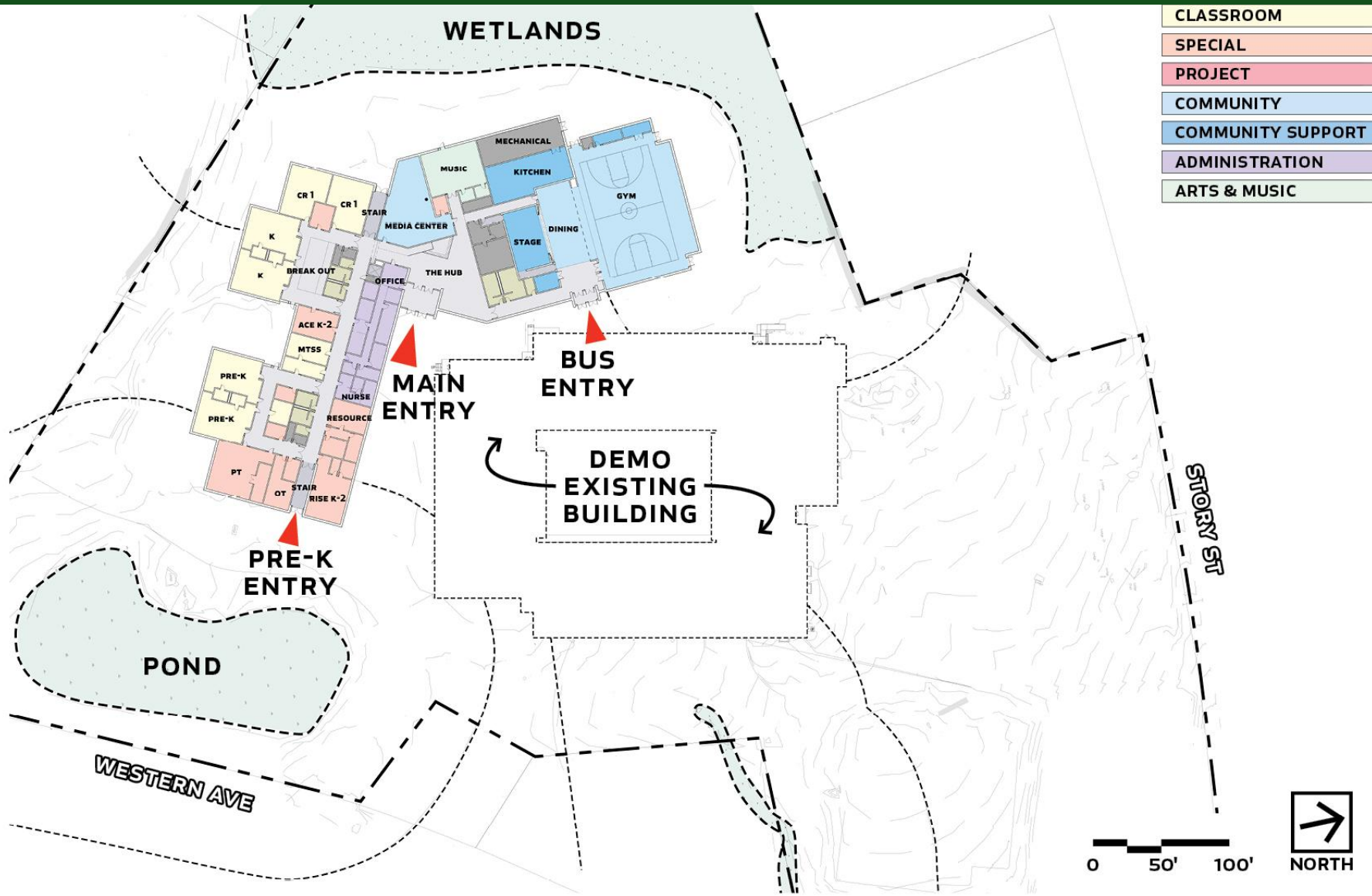
Design Update

OPTION A2.2-A
NEW CONSTRUCTION

FIRST FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

OPTION A2.2-A
NEW CONSTRUCTION

SECOND FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA



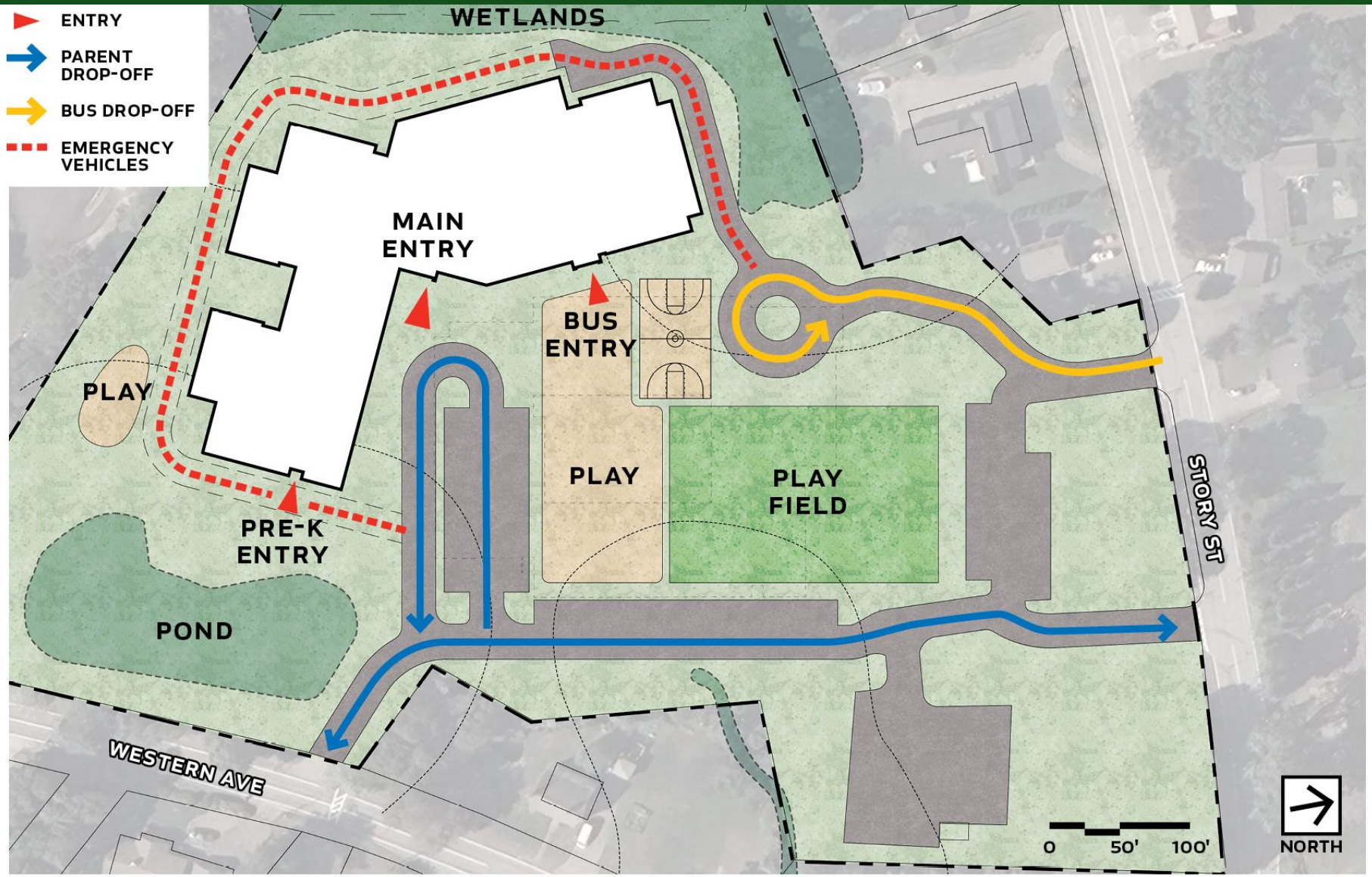
CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
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- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

0 50' 100'
NORTH

OPTION A2.2-A

SITE PLAN



Design Update

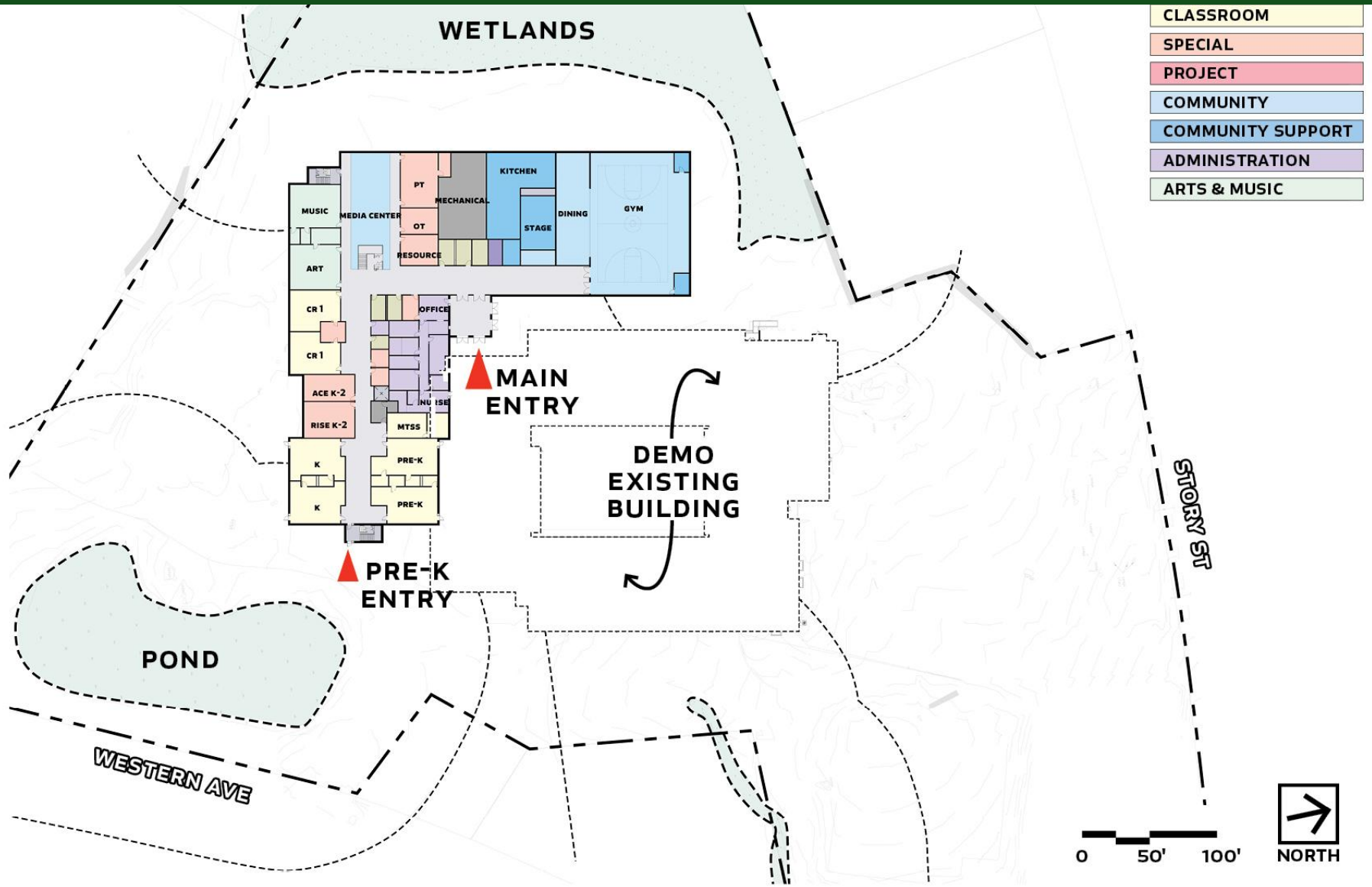
OPTION A2.2-B
NEW CONSTRUCTION

FIRST FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES ENABLED BY DEMOLITION OF 1970'S ADDITION
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OPTION A2.2-B
NEW CONSTRUCTION

SECOND FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
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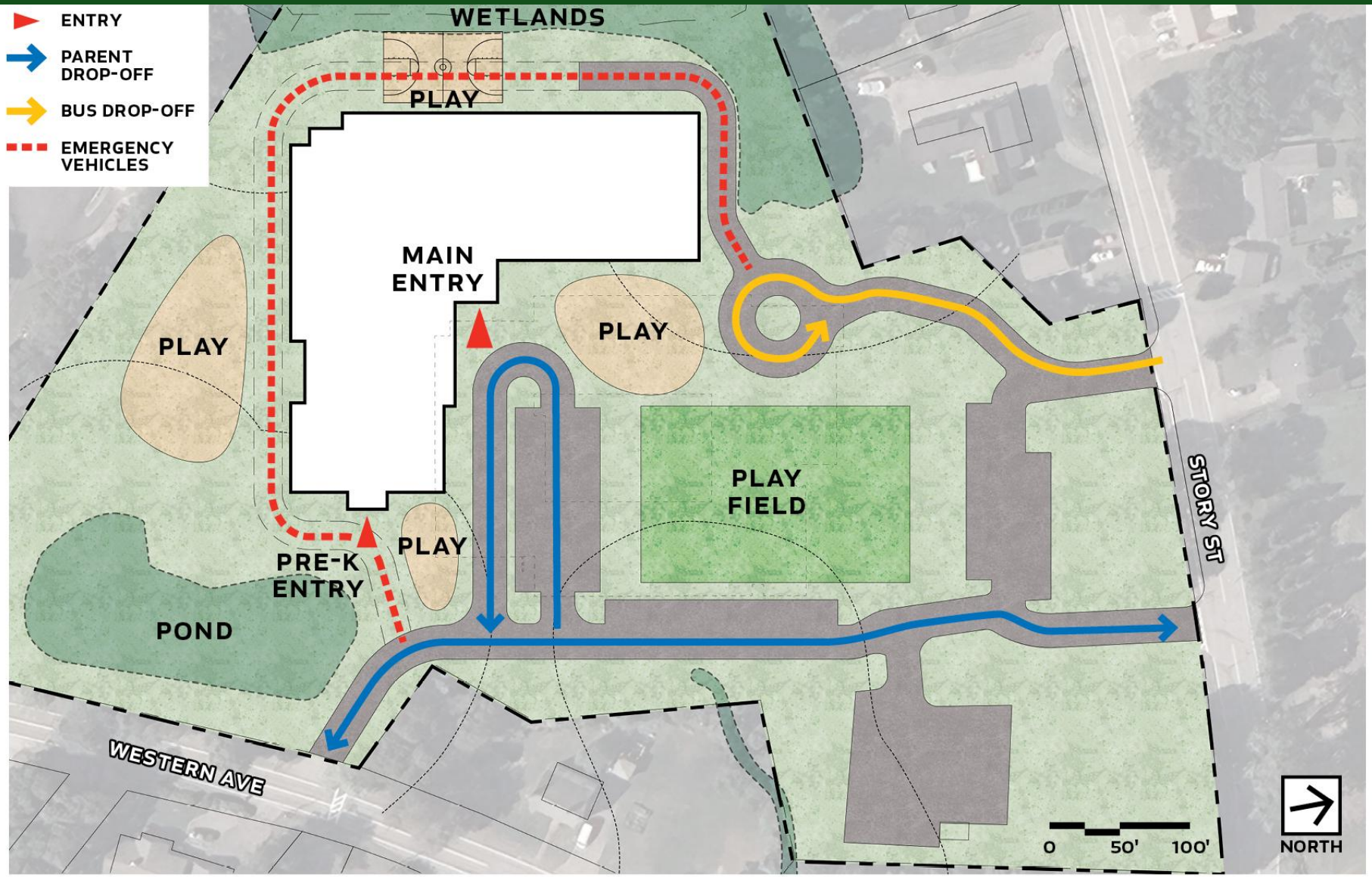
CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

0 50' 100'

NORTH

OPTION A2.2-B

SITE PLAN



Can an Elementary School be Three-Stories?

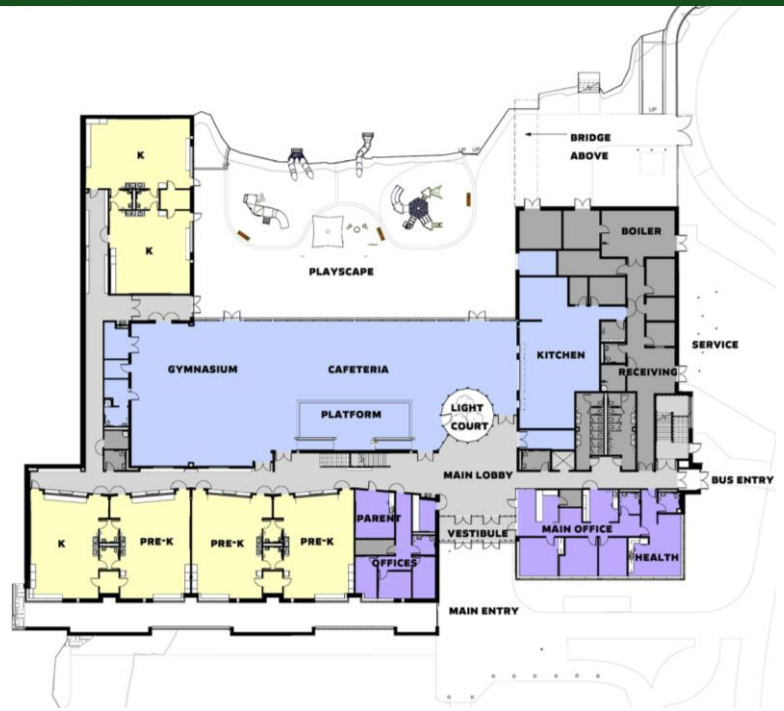




Barack H. Obama Magnet University School - New Haven, CT

490 Students, Grades Pre-K – 4

Can an Elementary School be Three-Stories?



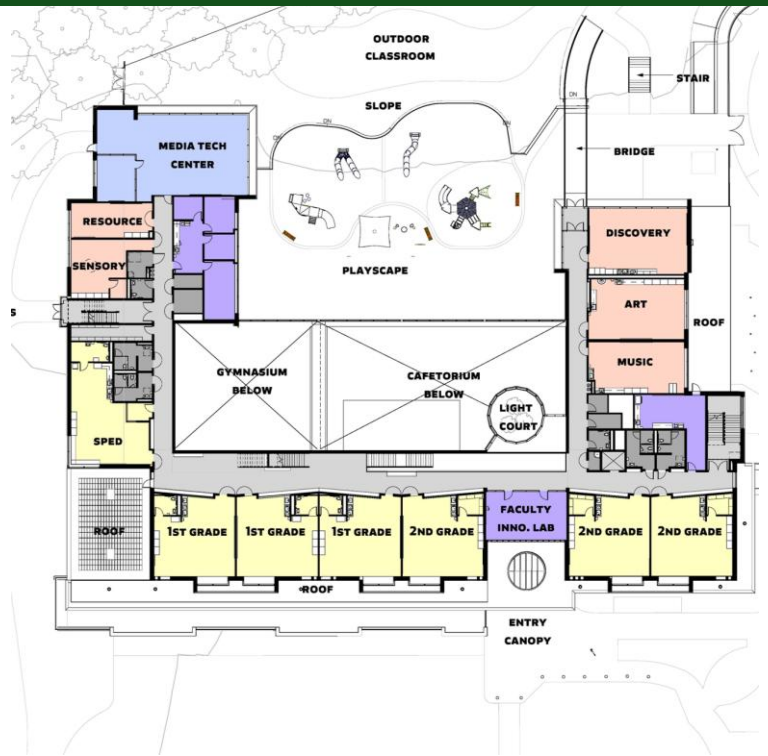
Floor 1

Administration & Nurse

Cafeteria / Gymnasium

Pre-K

K



Floor 2

Grades 1 & 2

Media Center

Art & Music

Project Room



Floor 3

Grades 3 & 4

SBC Meeting Agenda – February 9, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 13 – January 26, 2026
3. Invoices & Commitments for Review and Approval (Vote Expected)
   - Dore + Whittier Management Partners | $44,288.00
   - JCJ Architecture | $40,137.13
4. MEP Working Group Update
5. Design Update
6. Schedule Review
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

Schedule Update/PSR

2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing

3/10/26 SBC Meeting-Preferred Alternates if Necessary

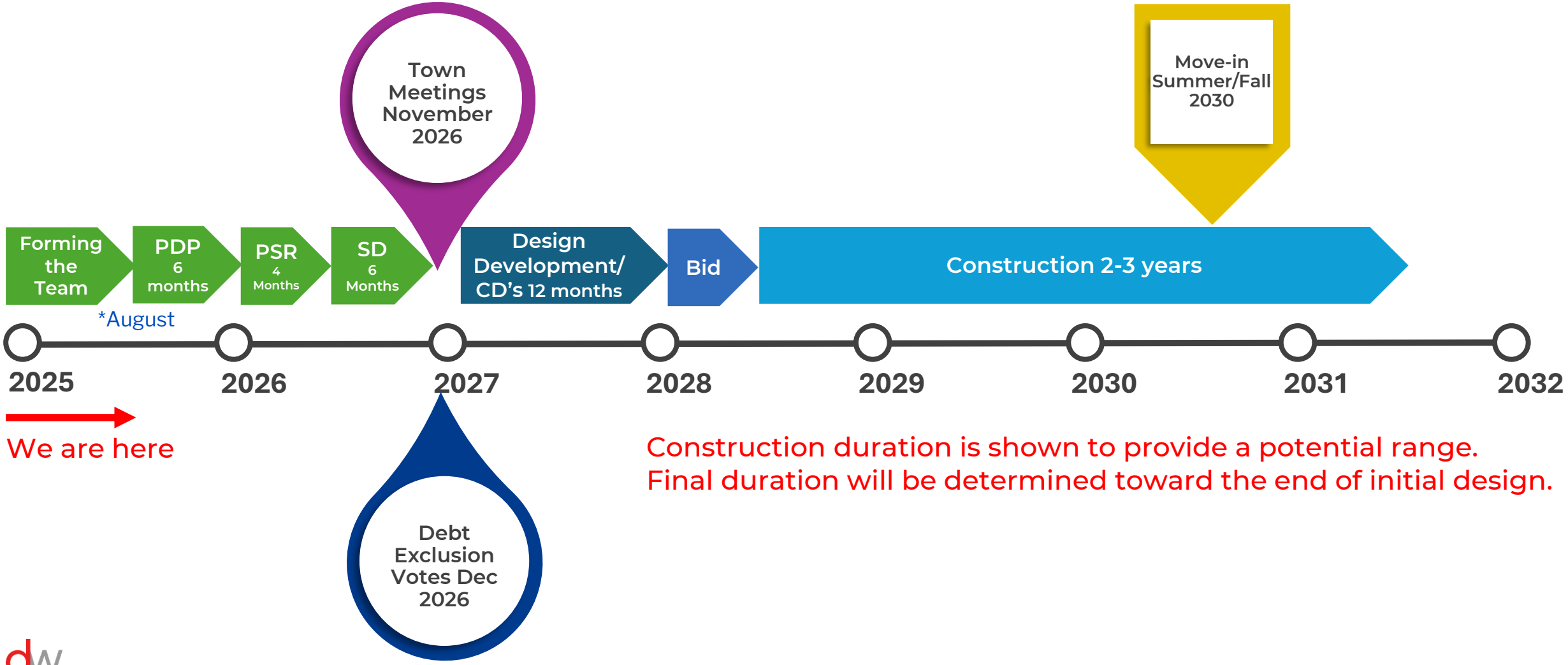
3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration

3/30/26 Comm Meeting #5-Review Preferred Options

4/14/26 SBC Meeting-Review Comm Meeting #5 Feedback and Approval of Preferred Solution

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

Anticipated Project Timeline



Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

SBC Meeting Agenda – February 9, 2026 @ 6:00 PM

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5. Design Update
6. Schedule Review
7. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
8. Public Comment
9. Reflections & Actions Items
10. Adjourn

MEETING AGENDA

Meeting Date:	February 24, 2026
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	Zoom

Meeting Link: https://us06web.zoom.us/j/87688387158

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Design Update
4. Criteria Matrix Review
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	2/24/26
Location:	Remote (Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
✓	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
✓	John Binieris*	SBC Co-Chair
✓	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
✓	Charlie Hay*	Architect School Building Experience
✓	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
	Tyler Virden*	Project Executive -Wise Construction / Paren
	Annie Cameron*	Former SC Member and Memorial SBC Member
✓	Ariel Fernando Brain*	Architect - CBT
✓	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
✓	Timonthy McDonald*	Architect - Onion Flats
	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
✓	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
✓	Rachelle Russo	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
	James LaPosta	Principal - JCJ Architecture
	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
	Dustin Lombardi	Architect - JCJ Architecture
	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

Item No.	Action Item	Ball in Court
1	Provide the current design plans to the cost estimators by March 11 for pricing of all required options.	JCJ
2	Request that the cost estimators track and report the cost differences in foundation systems between Scheme A/B and Scheme F, noting trade-offs related to the reduced building footprint and higher foundation costs.	JCJ
3	Schedule a Communications Working Group meeting within the next week to discuss strategy and messaging for the upcoming community meeting, including how options will be presented and how feedback will be collected.	DWMP
4	Review and incorporate feedback regarding breakout spaces in the "almost three-story" design for the next iteration.	JCJ
5	Develop presentation materials for the next community meeting, clearly distinguishing MSBA-required options from committee-preferred options, and plan methods for structured public feedback (e.g., sticky notes, QR code survey).	JCJ/DWMP
6	Evaluate phasing options for the three-story scheme (Option F), including the feasibility of keeping the existing gym operational during construction, and report findings to the committee.	JCJ
7	Assess whether program locations (e.g., the art room) in the three-story scheme can be adjusted to reduce vertical travel for Pre-K students.	JCJ
8	At the next meeting, review and consider narrowing the design options to be presented as preferred options at the upcoming community meeting, based on committee consensus.	SBC

- **Please click here for the presentation**
    - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

DORE + WHITTIER

<table>
<tr><td>Item No.</td><td>Description</td><td></td></tr>
<tr><td>15.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 6:02pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>15.2</td><td>Approval of February 9, 2026, Meeting Minutes (Vote Expected):

A motion to approve February 9, 2026, Meeting Minutes was made by K. Provost seconded by M. Cresta.

Discussion: None.

P. Beaudoin and M. Gerhardt joined the meeting.

Roll Call Vote:
<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Yes</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Abstain</td></tr>
<tr><td>Tyler Virden</td><td>Absent</td></tr>
<tr><td>Annie Cameron</td><td>Absent</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Yes</td></tr>
<tr><td>Jen Hocherman</td><td>Yes</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Absent</td></tr>
<tr><td>Emily Dwyer</td><td>Absent</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>
Yes: 11 | No: 0 | Absent/Abstain: 5</td><td>Record</td></tr>
</table>

15.3	**Design Update:** J. Elliot reported that the design options have minor adjustments and refinements based on prior feedback. The updates were presented to ensure the committee has the most current information as discussions on preferred options continue. The design options include: • Code Upgrade/Base Repair: A0.2 • Addition/Renovation: A1.2-A, A1.2-B • New Construction: A2.2-A, A2.2-B Discussion: • G. Brewster asked whether the building is now oriented primarily to Western Avenue rather than Story Street. J. Elliott confirmed and noted the plan includes a Pre-K drop-off on Story Street, which could also serve as a secondary parent drop-off depending on scheduling. G. Brewster noted the Story Street elevation may function as the back of the school and should relate to the surrounding neighborhood. J. Elliott responded that the elevation would likely contain classroom spaces rather than large volumes, with window scale and material choices helping create a more residential character. G. Brewster commented that the configuration frees up more space for fields and play areas. J. Elliott added that the academic wing and part of the community wing could be built in an initial phase, with the kitchen, dining, and gym completed in a shorter second phase. He noted the school could temporarily operate without a gym or kitchen—using outdoor activity space and boxed lunches—to simplify demolition and construction sequencing. • T. McDonald said his main question relates to phasing and sequencing. He noted the scheme has many strengths, including increased open space and better engagement with surrounding streets. T. McDonald asked whether it would be reasonable for the school to operate for a year without certain spaces, such as the gym and kitchen. J. Elliott noted the team has been considering the same question. T. McDonald added that a similar concern arose with another option that overlaps the existing building and said operating without those spaces may be possible but would be a key scheduling and programming consideration for the school. P. Beaudoin said operating without the gym for a year is doable but may not be reasonable, as it affects PE, town meetings, and youth sports. Creative solutions could make it feasible, but public support is unknown, so further assessment is needed.	Record

	• C. Hay said the addition/renovation option has improved and fits well on the site, highlighting larger fields and outdoor space as key assets. He raised phasing concerns, especially keeping the existing gym operational. Temporary utilities and circulation are challenges, but partial occupancy could allow faster construction. He noted turning the back to Story Street is acceptable, with efficiency prioritized. J. LaPosta said the Pre-K entry off Story Street could serve as the main entrance during phasing, and the building, though three stories, would functionally feel like two. C. Hay agreed, noting minimal adjustment is needed for pre-K students. • M. Gerhardt asked if the gym could be lowered with pre-K to reduce the 40-foot massing on Story Street and suggested stacking the academic wing. J. Elliott said lowering the gym breaks the two-story feel, disconnects it from fields and dining, and requires more rock removal and retaining walls, making it less cost-effective. He added the three-story massing is only visible at the pre-K entry; from the streets it reads as two stories, and façade articulation and materials help reduce visual impact. J. LaPosta noted that roof lines, grading, and materials can further minimize perceived mass. • K. Field asked about pre-K circulation in the three-story building, noting that going to the art room would require two flights of stairs and questioned if that could be a concern. J. Elliott responded that the team isn't yet certain which programs pre-K will use. He confirmed the art room is currently on the second floor but said alternate configurations could be considered if it affects the scheme's viability. P. Beaudoin shared that the Pre-K uses the library at Memorial Elementary School. J. Elliott explained that the gym, dining, and media center are expected to be the main circulation drivers, which is why a central stair was placed at the media center. • K. Field said all design options are strong but noted that Design A2.2B (L-shaped) is her least favorite. She explained that the music room and stage are too far apart, making it harder for upper elementary students to move between lessons and carry instruments. • A. Oldeman asked about the current square footage, noting an earlier drawing showed ~74,000 gsf. J. Elliott confirmed 73,673 gsf. A. Oldeman compared it to Memorial School, thinking Essex had about 100 fewer students. C. Dell Angelo clarified Memorial had 335 students including 30 pre-K, confirming the 77,000 gsf figure and noting admin, gym, kitchen, and dining spaces drive much of the total. A. Oldeman acknowledged and said he expected a slightly larger difference under the MSBA formula. • T. Whitman asked if pre-K must open with the academic wing or if its space could be preserved during phasing for temporary use. P.	

	Beaudoin said pre-K doesn't need to start simultaneously and its expansion could be delayed a year, though using the classrooms for dining isn't ideal. She confirmed there's flexibility in phasing the pre-K space. • A. Brain said the Story Street scheme is compelling, frames the site well, and the south-facing entry is nice. He suggested keeping the old gym temporarily and felt the 40-foot height is fine if the façade fits the neighborhood. • C. Hay raised three points: 1. Temporary dining could use classrooms in the old gym wing, with boxed lunches. 2. The taller Story Street façade won't feel overwhelming if handled with proper materials and proportions; much of it faces fields, not houses. 3. Square footage concerns—at 73,673 sf, people may compare it to Manchester (77,000 sf), so any reduction helps, though the plan is already efficient. • T. McDonald noted that the Story Street facade is primarily a design issue, observing that the stair could either fragment the building or serve as a light-filled, functional space. He suggested comparing the foundation requirements for a two- versus three-story design to assess potential cost savings. • T. Whitman asked Jeff Elliott about trade-offs between reduced footprint and higher foundation costs. Jeff explained that cost estimators analyze Schemes A, B, and F to quantify differences. • T. Whitman highlighted that the new design reduces interaction with the wetlands, improves traffic flow to the western avenue side, and provides larger fields that benefit the broader community. • K. Field emphasized the importance of breakout spaces, preferring Design 2.2A and suggesting adjustments to improve student collaboration areas in the new design. • Michael Gerhardt asked whether the additional field space could include a track, noting that the community has raised concerns about the district lacking one and wondering if it would be considered for this site. J. Elliott responded he did not think a track would fit.	
15.4	**Criteria Matrix Review:** • Jeff Elliott reviewed the PDP-phase criteria matrix, noting that the two least preferred schemes—the 165-student addition/renovation and the 515-student Renault/Manchester option—were grayed out but still carried forward for MSBA. The remaining 250-student options, including the code upgrade and new options A, B, and F, largely retained prior ratings, with some adjustments: Ad Renault was downgraded for potential reimbursement impact due to 4,000 additional square feet; Option A was least disruptive to existing	Record

<table>
<tr><td></td><td>school activities, while B and F were more intrusive; wetlands impact was slightly lower for F; and Option F provided the best athletic field access. Option A was single-phase construction, while B and F required multiple phases. Total project costs are not yet available, and feedback is invited over the next two weeks to help prioritize options.
• C. Dell Angelo summarized next steps, noting that based on J. Elliott's presentation and the criteria matrix, the team should confirm whether to proceed with pricing all options discussed. She emphasized that doing so would provide actual cost comparisons beyond the PDP estimates and ensure compliance with MSBA requirements for the five options.</td><td></td></tr>
<tr><td>15.5</td><td>Schedule Update:
• 3/10/26 SBC Meeting-Preferred Alternates if Necessary
• 3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration
• 3/30/26 Comm Meeting #5-Review Preferred Options
• 4/14/26 SBC Meeting-Review Comm Meeting #5 Feedback and Approval of Preferred Solution
• 4/28/26 SBC Meeting-Approved PSR Submission to MSBA</td><td>Record</td></tr>
<tr><td>15.6</td><td>Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting: None.</td><td>Record</td></tr>
<tr><td>15.7</td><td>Public Comment: None.</td><td>Record</td></tr>
<tr><td>15.8</td><td>Reflections & Action Items: None.</td><td>Record</td></tr>
<tr><td>15.9</td><td>Adjourn: A motion to adjourn the meeting was made at 7:16 pm by M. Gerhardt and seconded by G. Brewster.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Yes</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Absent</td></tr>
<tr><td>Annie Cameron</td><td>Absent</td></tr>
</table>
</td><td>Record</td></tr>
</table>

	Ariel Fernando Brian: Yes Jen Hocherman: Yes Michael Gerhardt: Yes Timonthy McDonald: Yes Henry Oettinger: Absent Emily Dwyer: Absent Steve Hunt: Advisor – No Vote Kim Field: Advisor – No Vote Rachelle Rousseau: Advisor – No Vote David Pereen: Advisor – No Vote Lisa O'Donnell: Advisor – No Vote • **Yes: 12 | No: 0 | Absent/Abstain: 4**	

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 15

February 24, 2026 @ 6:00 PM

DORE + WHITTIER

SBC Meeting Agenda – February 24, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 14 – February 9, 2026
3. Design Update
4. Criteria Matrix Review
5. Schedule Review
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – February 24, 2026 @ 6:00 PM

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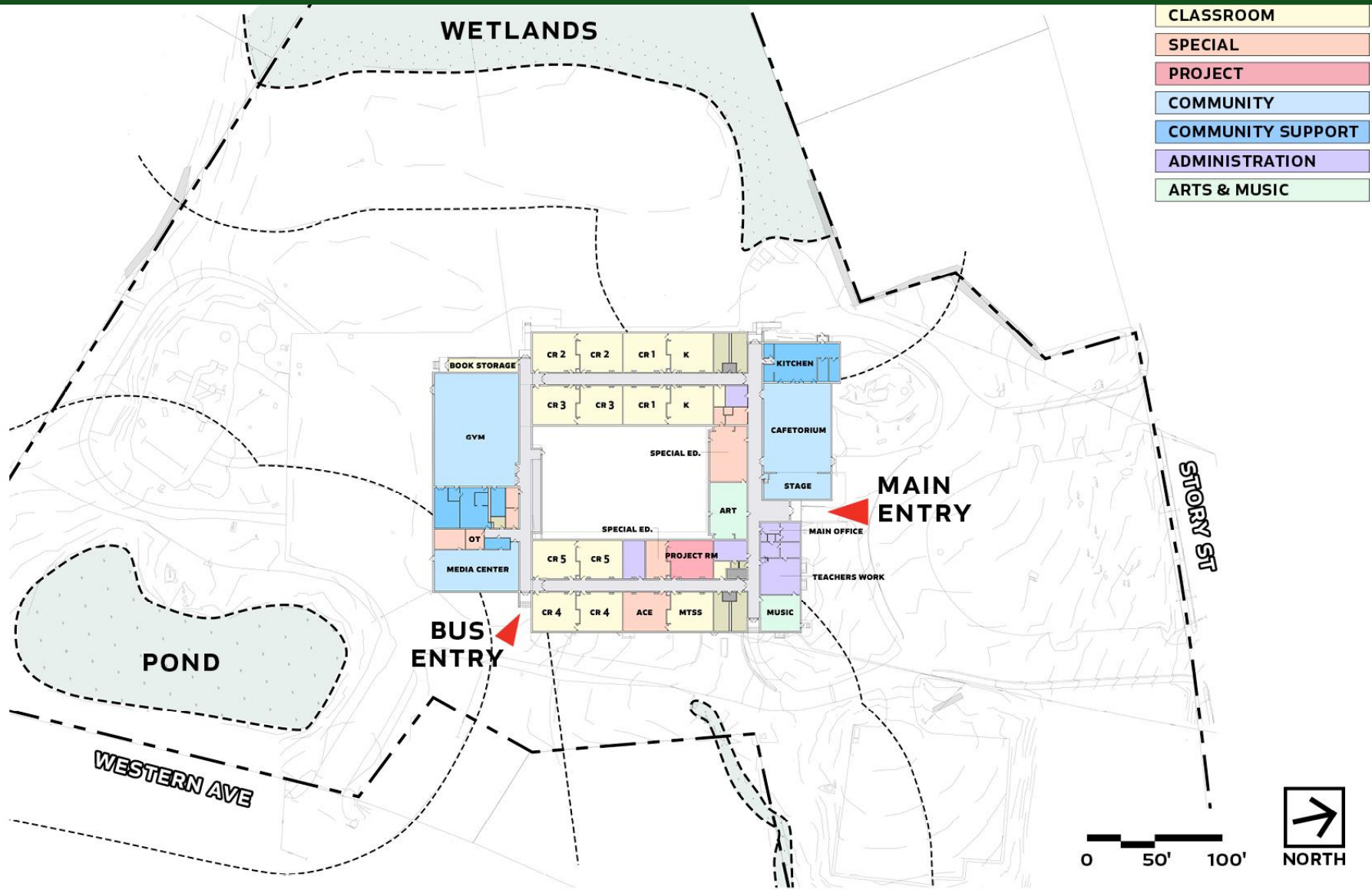
Design Update

OPTION A0.2
CODE UPGRADE/ BASE REPAIR

MAIN FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CONSIDERATIONS
- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE



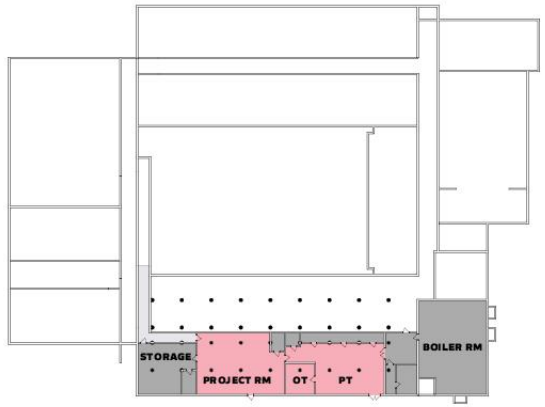
OPTION A0.2
CODE UPGRADE/
BASE REPAIR

LOWER FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



CONSIDERATIONS

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- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE

0 50' 100'

NORTH

Design Update

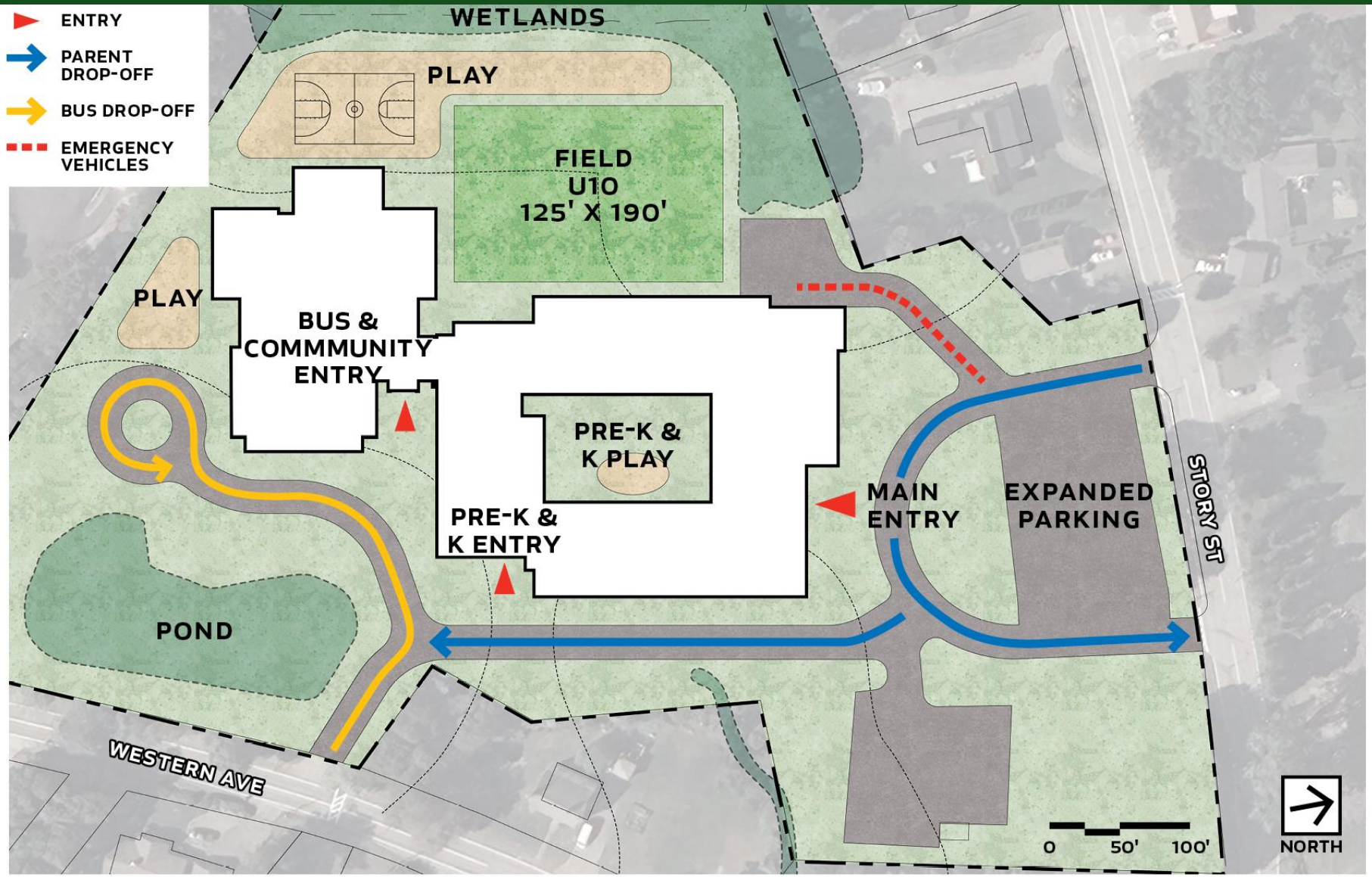
OPTION A1.2-B ADDITION/ RENOVATION

SITE PLAN

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
24,637 GFA ADDITION

TOTAL: 77,673 GFA



CONSIDERATIONS

- ADDITIONAL 4000 GFA NEW CONSTRUCTION TO REMOVE STUDENT OCCUPIED SPACES FROM EXISTING LOWER LEVEL
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

Design Update

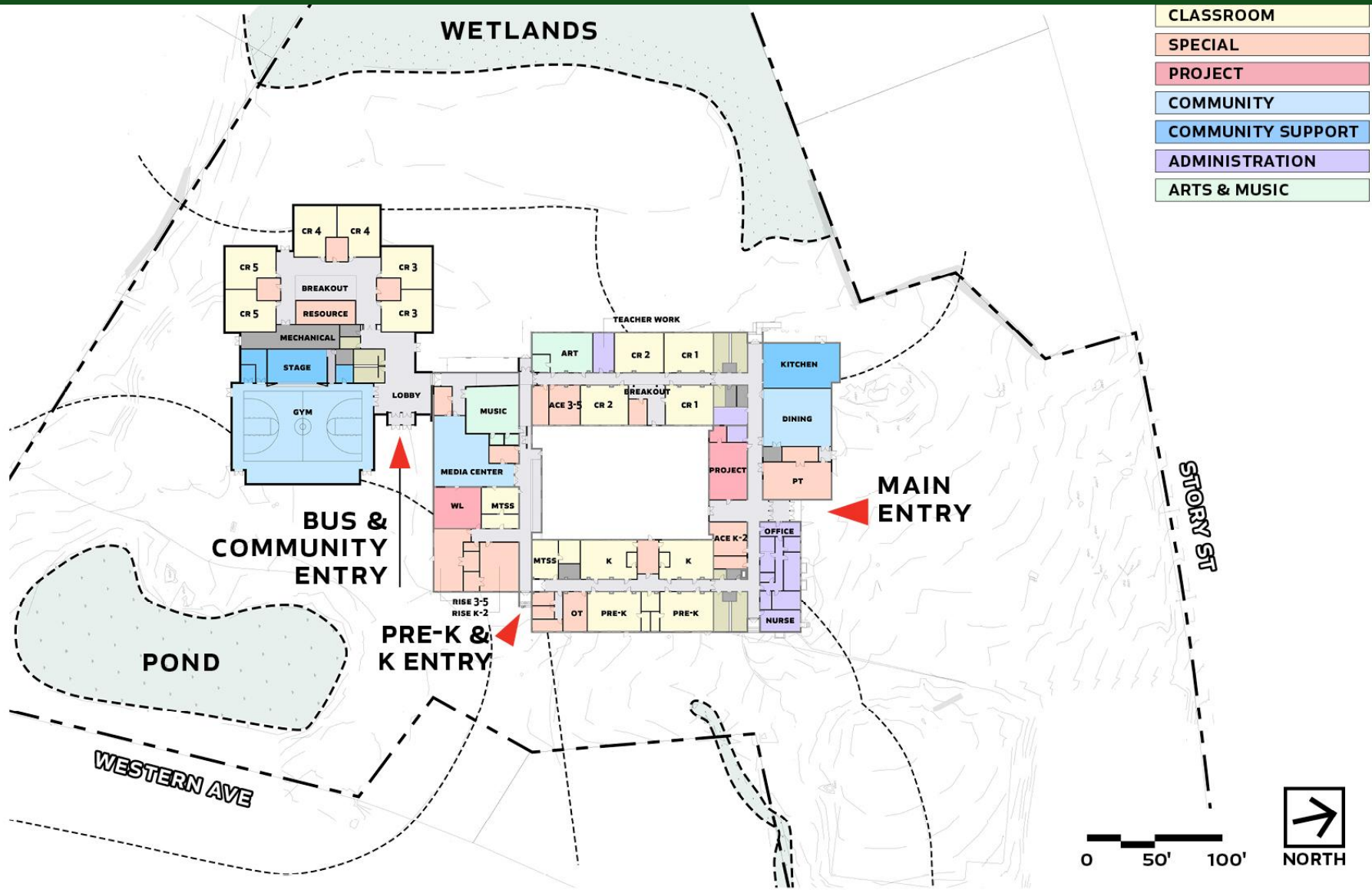
OPTION A1.2-B ADDITION/ RENOVATION

MAIN FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
24,637 GFA ADDITION

TOTAL: 77,673 GFA



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OPTION A1.2-B ADDITION/ RENOVATION

LOWER FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

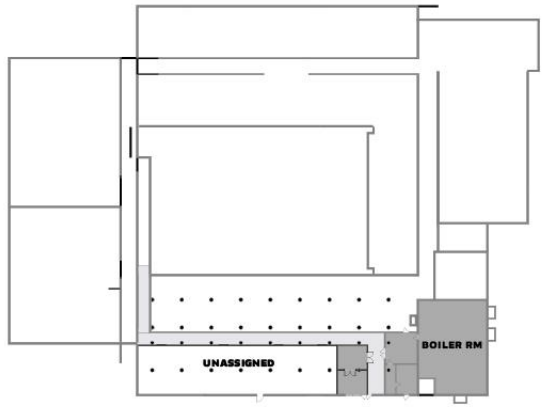
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TOTAL: 77,673 GFA

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CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



0 50' 100'
NORTH

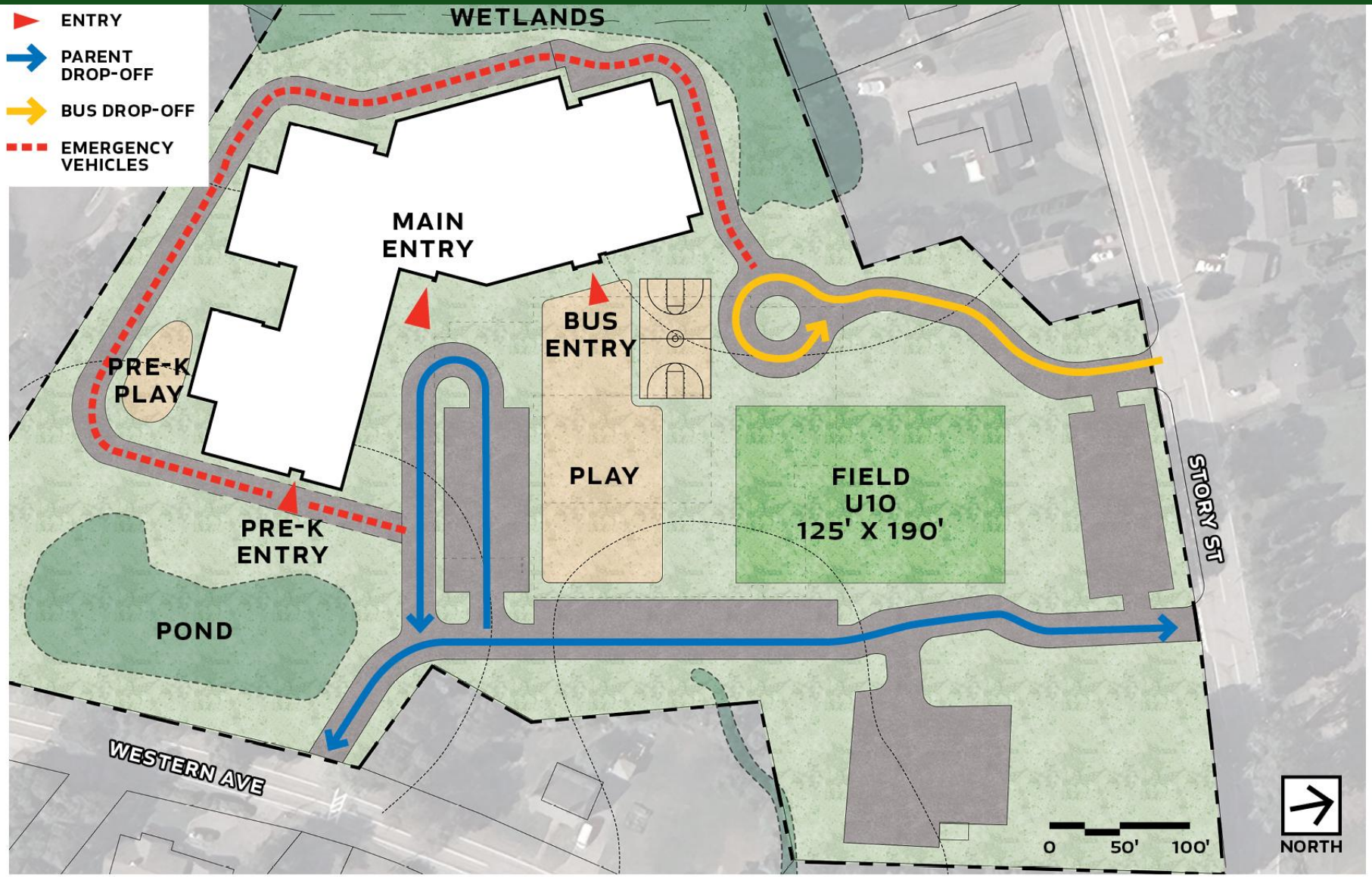
OPTION A2.2-A
NEW CONSTRUCTION

SITE PLAN

PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS

- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

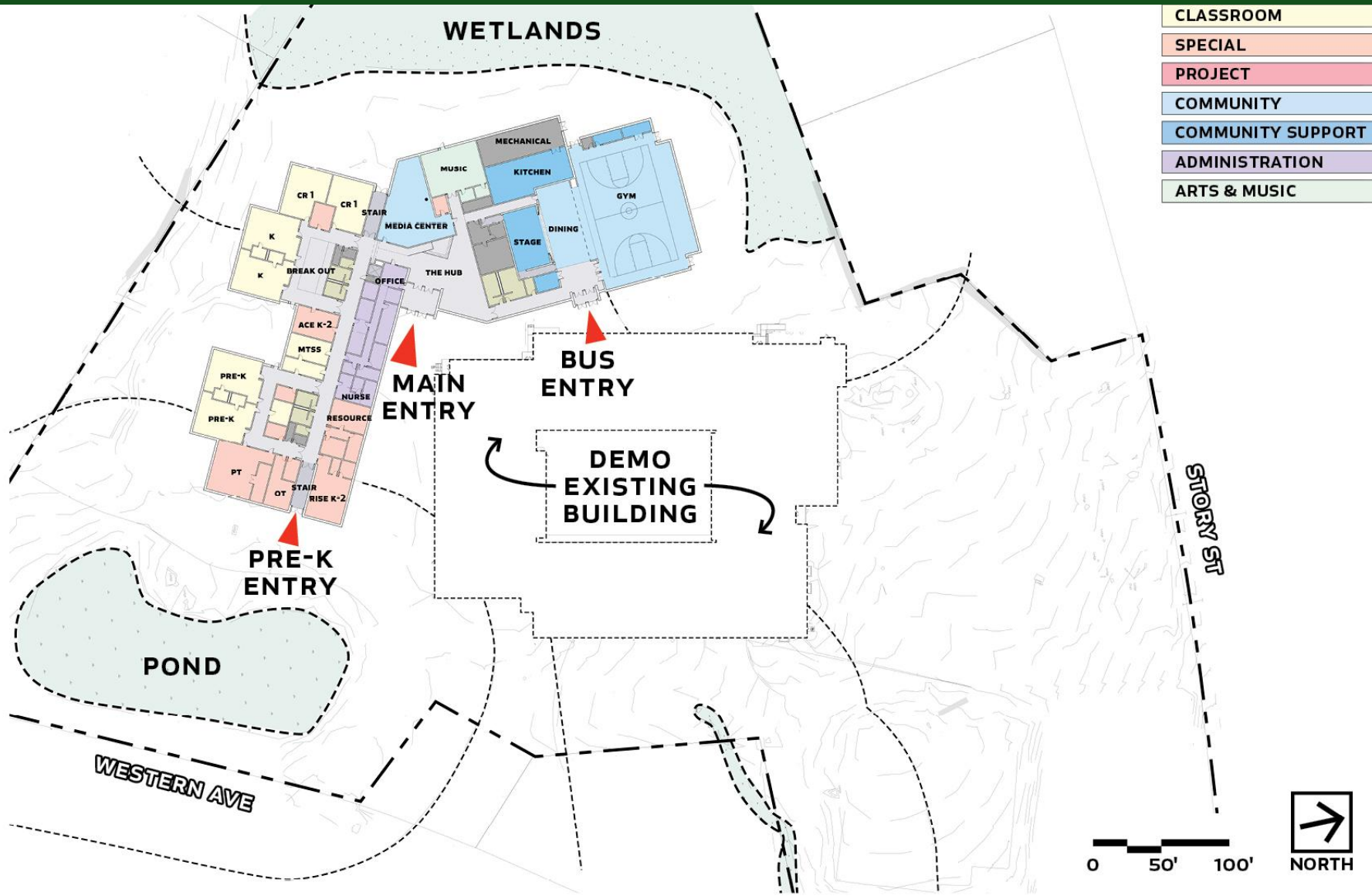
Design Update

OPTION A2.2-A
NEW CONSTRUCTION

FIRST FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

OPTION A2.2-A
NEW CONSTRUCTION

SECOND FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA



- CLASSROOM
- SPECIAL
- PROJECT
- COMMUNITY
- COMMUNITY SUPPORT
- ADMINISTRATION
- ARTS & MUSIC

CONSIDERATIONS
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0 50' 100'

NORTH

Design Update

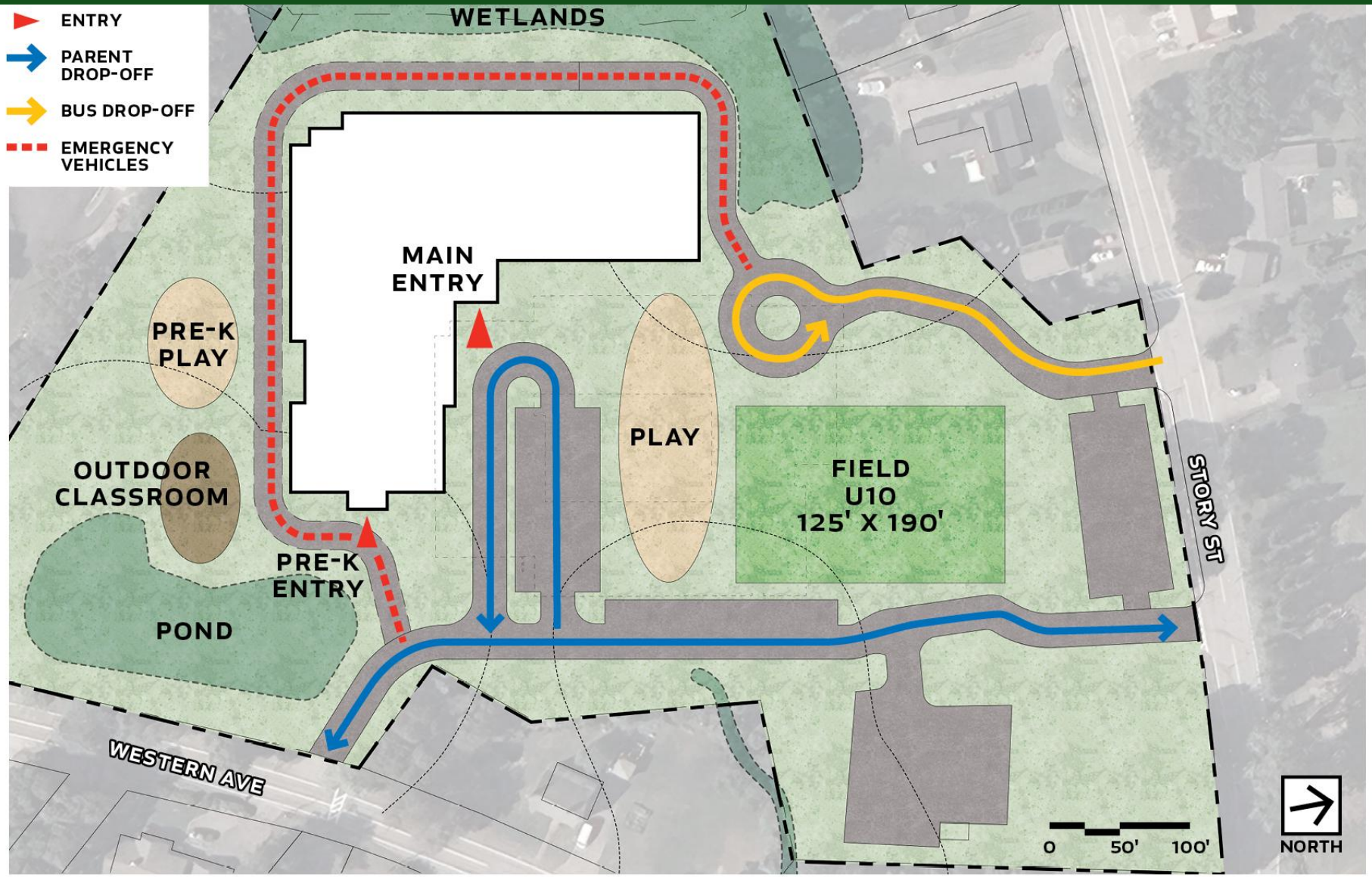
OPTION A2.2-B
NEW CONSTRUCTION

SITE PLAN

PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS

- NEW CONSTRUCTION SPLIT INTO TWO PHASES ENABLED BY DEMOLITION OF 1970'S ADDITION
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

Design Update

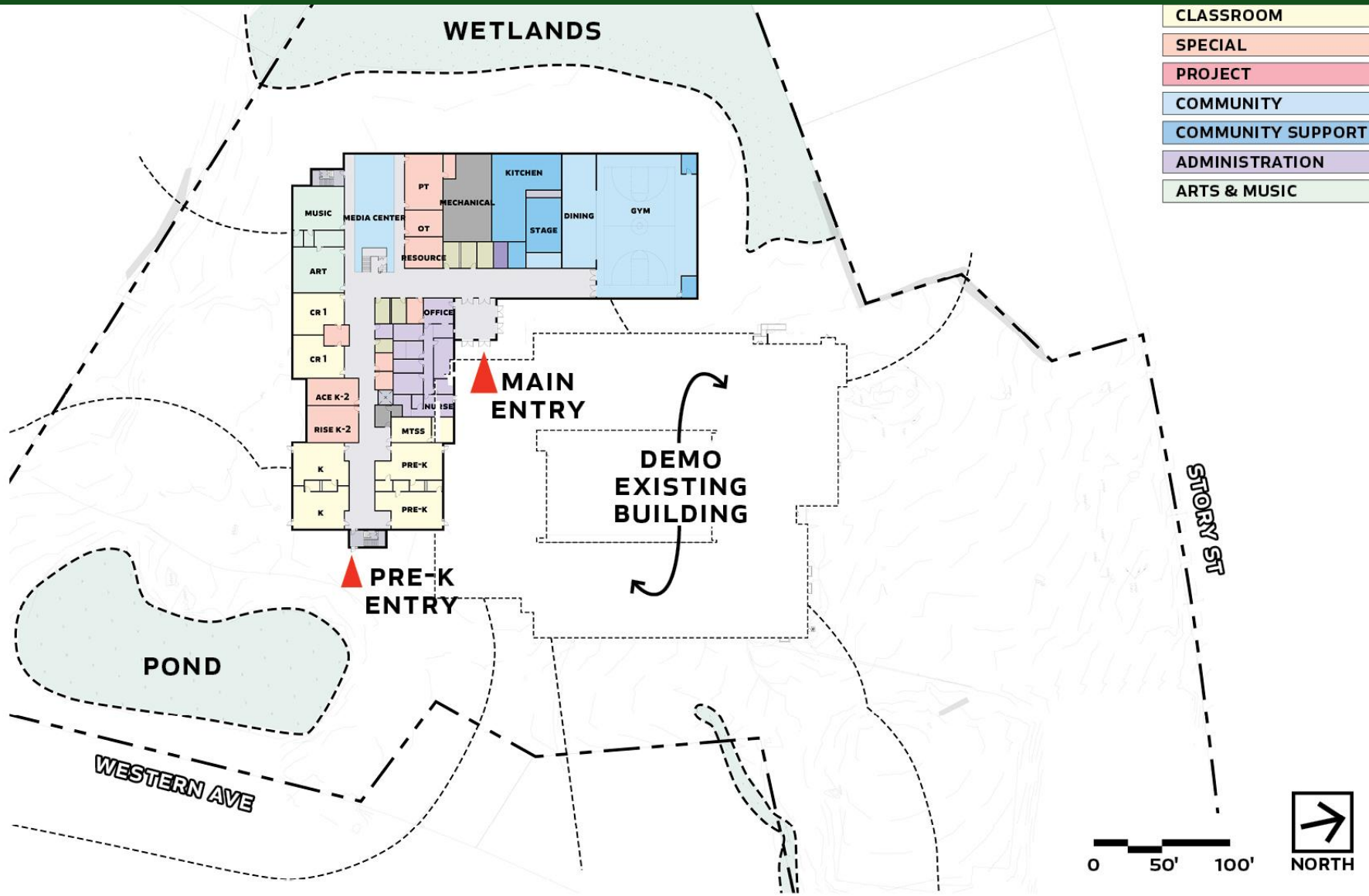
OPTION A2.2-B
NEW CONSTRUCTION

FIRST FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
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- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL



OPTION A2.2-B
NEW CONSTRUCTION

SECOND FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
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CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

0 50' 100'

NORTH

OPTION A2.2-F
NEW CONSTRUCTION

SITE PLAN

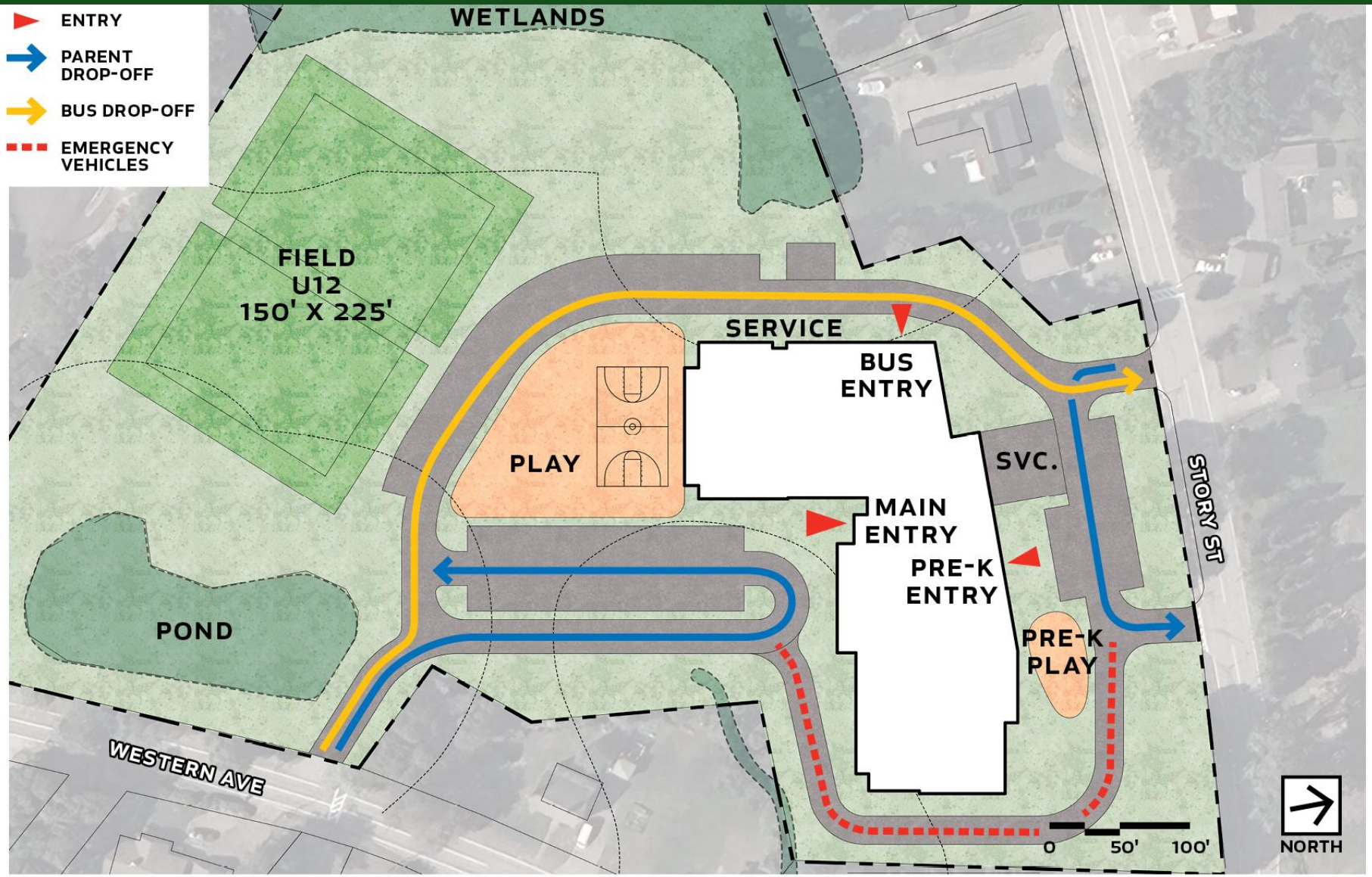
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS

- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



Design Update

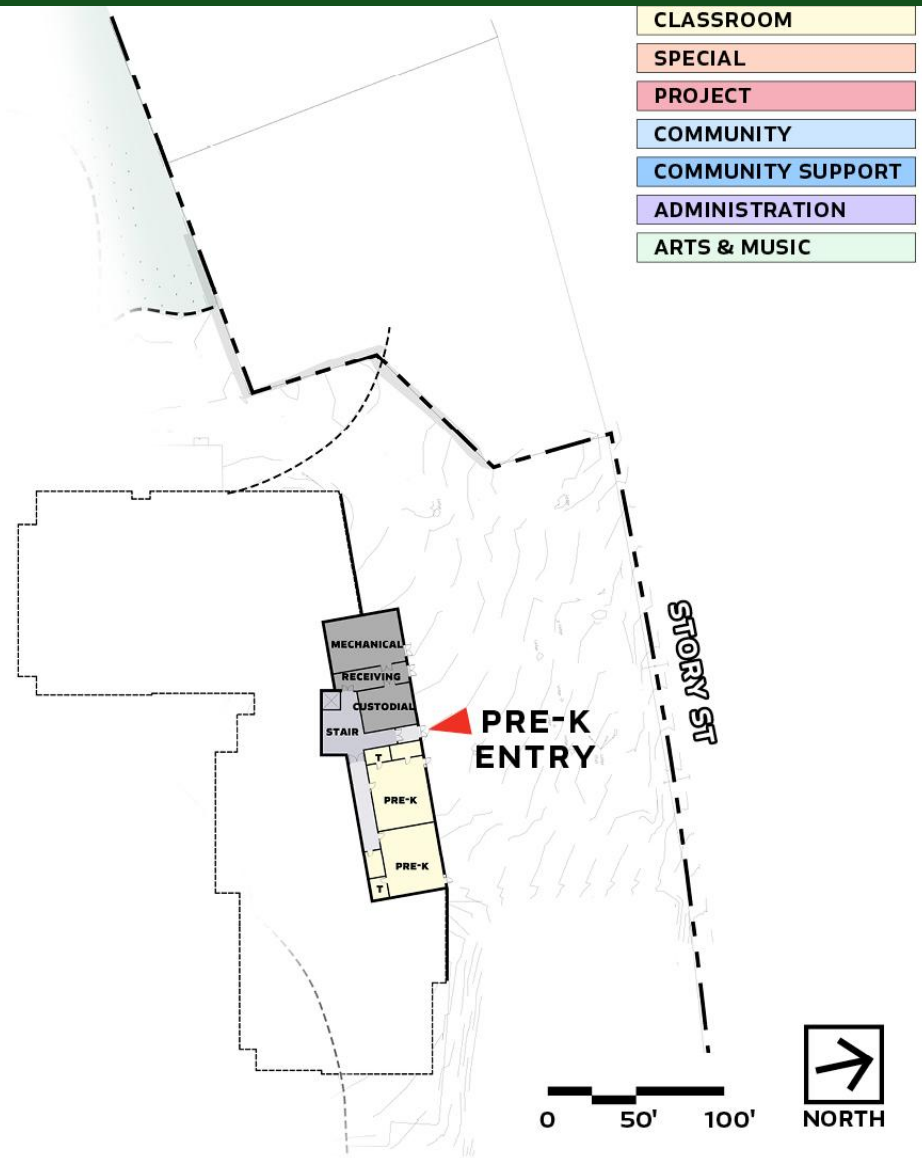
OPTION A2.2-F
NEW CONSTRUCTION

LOWER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
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Design Update

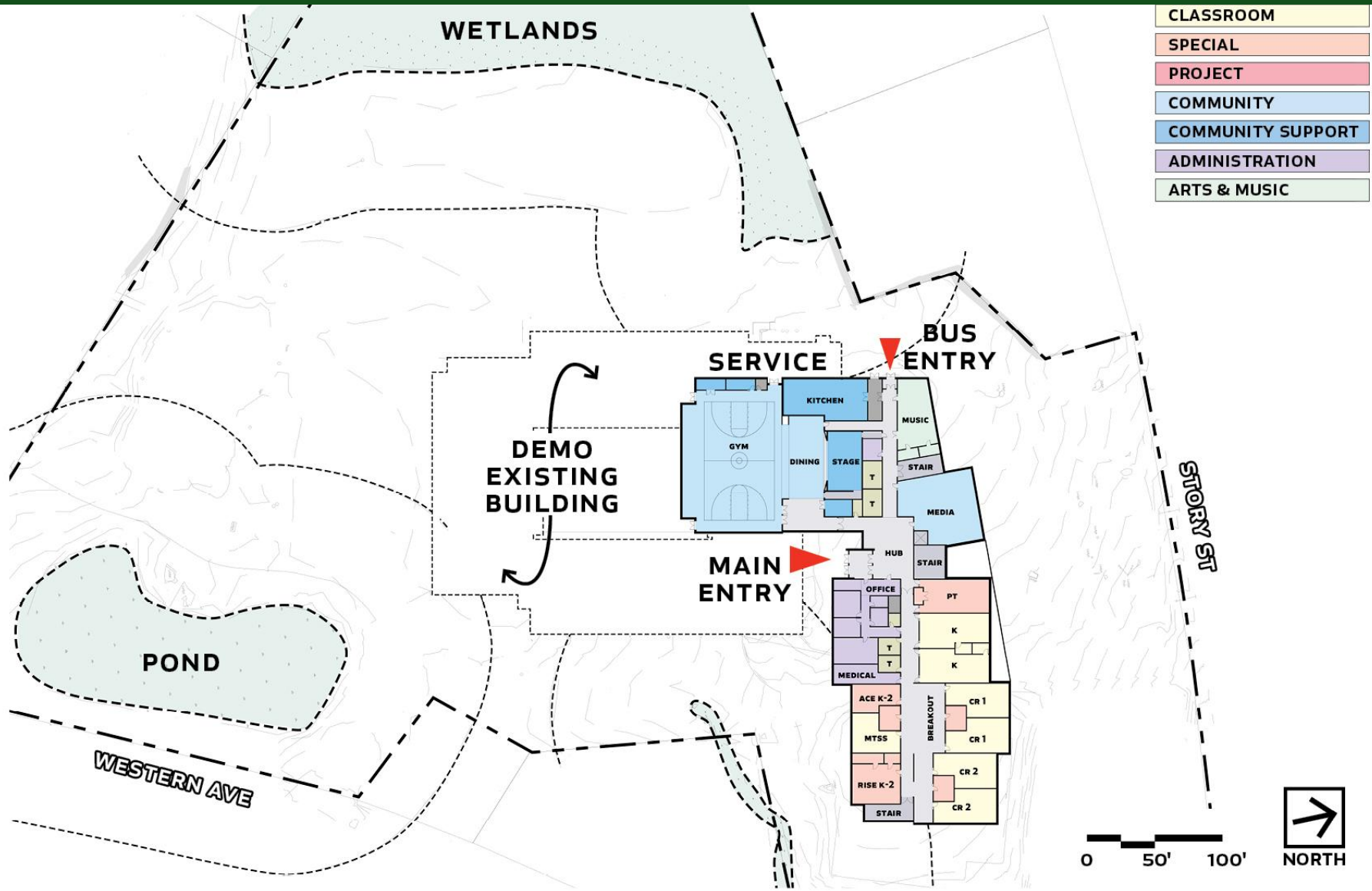
OPTION A2.2-F
NEW CONSTRUCTION

MAIN LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



OPTION A2.2-F
NEW CONSTRUCTION

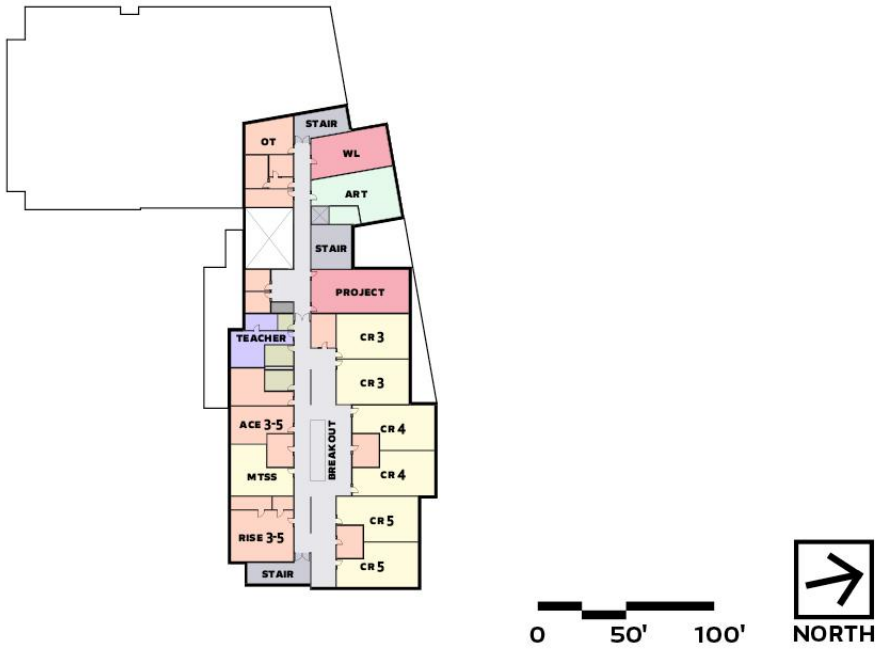
UPPER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

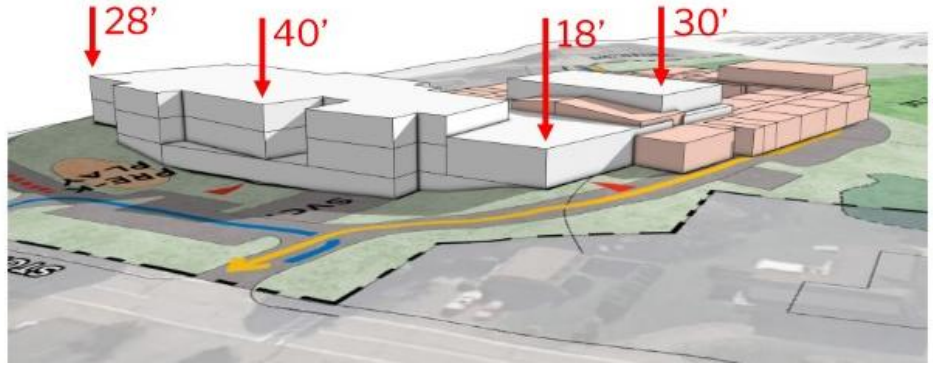


THREE-STORY
MASSING STUDY









SBC Meeting Agenda – February 24, 2026 @ 6:00 PM

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Criteria Matrix Review

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable






ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES PREFERRED SCHEMATIC REPORT (PSR)		SITE A CURRENT EES						SITE B CURRENT MMES
		A0.2	A1.1	A1.2 - B	A2.2 - A	A2.2 - B	A2.2 - F	B1.1
		Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	250 + 30	165 + 30	250 + 30	250 + 30	250 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	0	0	0	77,102 GFA
	New Area	0	7,741 GFA	24,637 GFA	73,673 GFA	73,673 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	60,777 GFA	77,673 GFA	73,673 GFA	73,673 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	2	3	3	TBD
Education	Meets Needs of Educational Program at EES	0	0	4	4	4	4	2
	Meets Needs of Educational Program at MMES	4	0	4	4	4	4	2
	Equity across the District	0	0	4	4	4	4	0
	Future Growth and Expansion	2	2	2	4	4	4	0
	Flexible and Adaptable Spaces	0	4	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	2	1	1	0
Community	Compatible with Regional Agreement	4	0	4	4	4	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	4	1	4	4	4	4	0
	Neighborhood Traffic Impact	4	1	4	4	4	4	0
	Community Use Opportunities	4	1	4	4	4	4	0
	Disruption to Manchester	4	1	4	4	4	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	1	1	2	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	4	4	4	0
	Parking Capacity	2	2	2	4	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	3	3	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	4	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	4	4	4	2
	Additional work at MMES (separate project by District)	N/A	0	N/A	N/A	N/A	N/A	INC.
Cost and Schedule	Maximize MSBA Grant Reimbursement	4	4	1	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	4	2	2	1
	Modular Classroom Swing Space not Required	0	4	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	4	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	2	1	2	2	2	2	2
	Reduce Operational Costs - Staff, Transport	2	1	2	2	2	2	2
	Total Project Cost							

SBC Meeting Agenda – February 24, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 14 – February 9, 2026
3. Design Update
4. Criteria Matrix Review
5. Schedule Review
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

Schedule Update/PSR

3/10/26 SBC Meeting-Preferred Alternates if Necessary

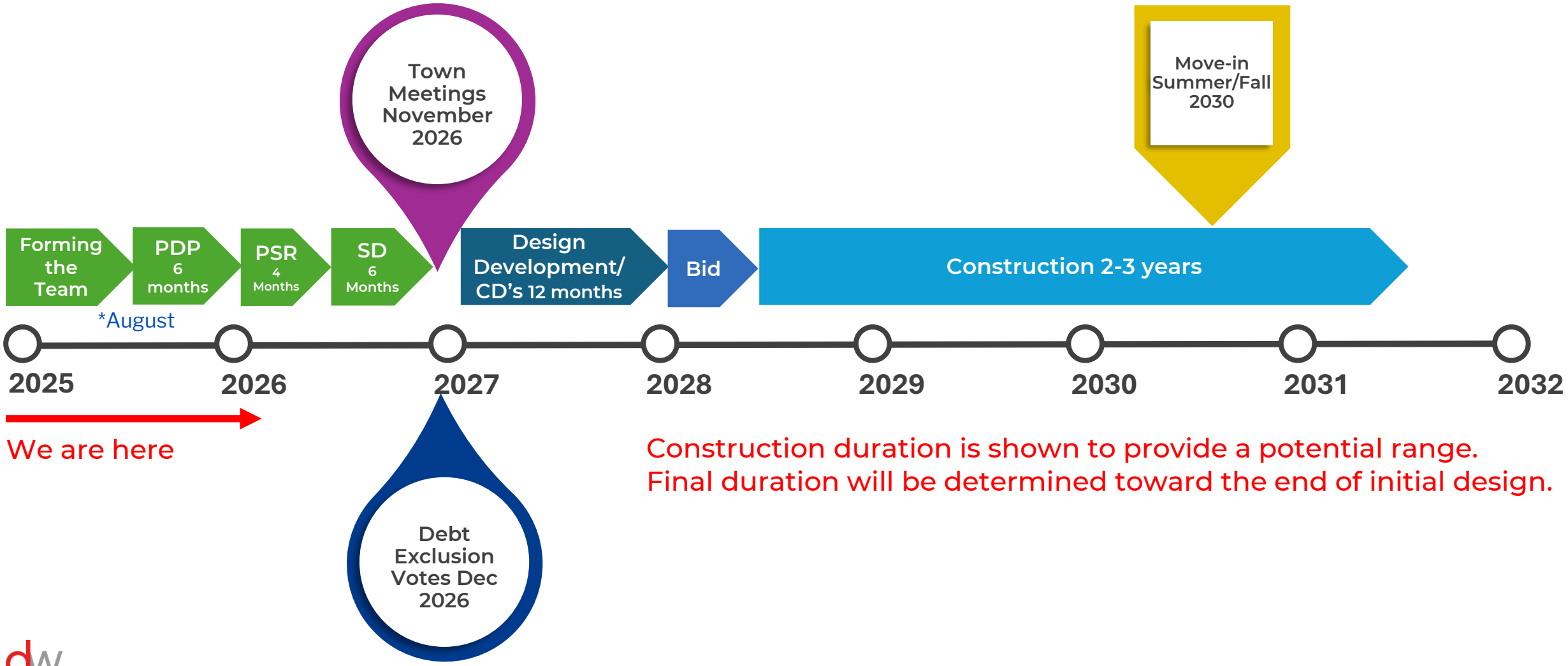
3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration

3/30/26 Comm Meeting #5-Review Preferred Options

4/14/26 SBC Meeting-Review Comm Meeting #5 Feedback and Approval of Preferred Solution

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

Anticipated Project Timeline



Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

DORE + WHITTIER

SBC Meeting Agenda – February 24, 2026 @ 6:00 PM

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SBC Meeting Agenda – February 24, 2026 @ 6:00 PM

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7. Public Comment
8. Reflections & Actions Items
9. Adjourn

MEETING AGENDA

Meeting Date:	March 10, 2026
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link:	https://us06web.zoom.us/j/86278873513

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	3/10/26
Location:	Remote (Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
✓	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
	John Binieris*	SBC Co-Chair
	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
✓	Charlie Hay*	Architect School Building Experience
✓	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
✓	Tyler Virden*	Project Executive -Wise Construction / Paren
✓	Annie Cameron*	Former SC Member and Memorial SBC Member
✓	Ariel Fernando Brain*	Architect - CBT
✓	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
✓	Timonthy McDonald*	Architect - Onion Flats
✓	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
✓	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
✓	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
✓	Rachelle Russo	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
	James LaPosta	Principal - JCJ Architecture
✓	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
	Dustin Lombardi	Architect - JCJ Architecture
✓	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

Item No.	Action Item	Ball in Court
1	Send documentation regarding 2002 underground fuel oil tank removal (or lack thereof) to Stephen Hunt and Michelle.	JCJ
2	Conduct supplemental subsurface investigations (probes for bedrock contours) in April, preferably during April school vacation.	JCJ
3	Submit all design options to cost estimators.	JCJ
4	Organize and hold community meeting on March 24th (6pm design update/public feedback session) and April 16th (cost estimates review), including preparation of posters, presentation, and post-it feedback collection.	All
6	Provide cost estimates for both grass and artificial turf field options for the new construction scheme.	JCJ
7	Update site plan graphics to more accurately reflect service/mechanical access and correct any misleading representations of service parking/loading areas.	JCJ
8	Consider and provide feedback on the possibility of relocating the bus entry closer to the pre-K or main entry, as discussed. 9	JCJ
9	Develop phasing diagrams for each option to clarify construction phasing for public review and cost estimation.	JCJ
10	Review and confirm precise timeline for town meeting and ballot vote (November/December 2026) and communicate to group after checking MSBA submission and schematic design deadlines.	All

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

DORE + WHITTIER

<table>
<tr><td>Item No.</td><td>Description</td><td></td></tr>
<tr><td>16.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 6:03pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>16.2</td><td>Approval of February 24, 2026, Meeting Minutes (Vote Expected):

A motion to approve February 24, 2026, Meeting Minutes was made by G. Brewster seconded by M. Cresta.

Discussion: None.

P. Beaudoin joined the meeting.

Roll Call Vote:
<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Absent</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Abstain</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Yes</td></tr>
<tr><td>Jen Hocherman</td><td>Yes</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table></td><td>Record</td></tr>
</table>

<table>
<tr><td></td><td>

- **Yes: 13 | No: 0 | Absent/Abstain: 3**

</td><td></td></tr>
<tr><td>16.3</td><td>

Invoices and Commitments for Approval (Vote Expected):

A motion to approve the following invoices was made by G. Brewster and seconded by A. Cameron.

Dore + Whittier Management Partners Invoice | $46,010.00
JCJ Architecture Invoice | $35,077.13

Discussion: M. Cresta recommended approval.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Absent</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Yes</td></tr>
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<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
</table>

</td><td></td></tr>
</table>

	<table><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table> • **Yes: 14| No: 0 | Absent/Abstain: 2**	
16.4	**Site, Safety & Security Working Group Update:** C. Dell Angelo stated that Essex SBC held a first responders meeting the prior week to review initial site safety and security considerations for the memorial project during the preferred schematic report phase, presenting key information and gathering feedback, and then shared the same material with the site safety and security working group the following Friday for additional input, noting that while further discussion and decisions will occur in the schematic design phase, the goal at this stage is to introduce the topic, start the dialogue, and incorporate early stakeholder feedback. F. Pellegrini stated that Essex SBC met with first responders and, a week later, the working group, beginning with a review of existing security measures at Manchester Memorial that would carry over to the proposed Essex Elementary School, including secured vestibules with a bullet-resistant transaction window, the Raptor visitor system, security cameras, communicating classroom doors, access control, and intrusion detection with silent alarms and duress buttons, noting that specific details will be refined once a preferred option is selected; he added that emergency response planning will be further developed with the district and first responders, and that site plan feedback favored a full emergency access drive with controlled gates, clear emergency features such as Knox boxes, and dual access from Story Street and Western Avenue, with next steps focused on advancing these elements during schematic design. Discussion: • T. Whitman asked whether school security measures are regulated or primarily based on best practices, noting it seemed to be the latter. F. Pellegrini responded that security measures are typically shaped through coordination with first responders, as preferences vary by town or city—particularly with fire departments depending on their equipment and site approach—while also noting that there are general guidelines that inform the process. P. Beaudoin commented that the district works closely with first responders to balance security with a welcoming school environment, noting that design features like sight lines enhance safety without measures like metal detectors, which are not considered appropriate for elementary schools, and emphasized that any increased security	Record

	standards would need consistent application district-wide while remaining developmentally appropriate for K–12 students. • F. Pellegrini shared that, working with the security consultant and landscape architect, they are applying Crime Prevention Through Environmental Design to guide movement from public to private spaces, using materials and vehicular deterrents like bollards to create a secure progression into the school. • M. Gerhardt noted that first responders requested full vehicular access around the building, but clarified—as Tyler pointed out—that this is a preference, not a requirement; he added that the current school and the renovation/expansion option both lack complete emergency access, and highlighted a potential conflict between site planning for playing fields and first responder access that should be considered when evaluating options.	
16.5	**Communications Working Group Update:** C. Dell Angelo provided an update on the Communications Working Group, explaining that they met last Friday to plan two upcoming community meetings: on March 24th, there will be a design update and public feedback session with JCJ presenting the current options, posters displayed on easels, and attendees providing comments via post-its, followed by the regularly scheduled SBC meeting at 7 p.m. to review the options and initial feedback; the second meeting will be on April 16th, two days after the SBC meeting presenting cost estimates for the options, with the process ensuring SBC review first, community feedback second, and a planned return to the SBC on March 28th for approval of the PSR submission and preferred option to the MSBA. C. Dell Angelo shared that they've been working with Dave Kartunen, an experienced consultant familiar to Pam and other districts in the Commonwealth, who produced a video explaining the feasibility process and the current phase of the PSRPs; the video is featured on the project website and being shared through district channels to inform the community, and additional videos are planned for future phases, including one on the preferred option with cost details and another on schematic design.	Record
16.6	**Design Update:** F. Pellegrini provided a design update, noting that consultants have been preparing the PSR report and schematic design. During February break, the school was scanned for hazardous materials, and MABIT conducted Phase 2 studies—including sampling, well installation, and ground-penetrating radar—to confirm the 2002 fuel oil tank removal, with no cost-impacting	Record

issues found. He added that educators met on February 25th, first responder and site safety/security meetings occurred in late February and early March, and McPhail will perform supplemental subsurface investigations in April to map bedrock contours, timed for student vacation. F. Pellegrini addressed a recent SBC question regarding the code upgrade/repair alternative and whether it would require upgrading the existing structural system. He explained that if the gravity (vertical) or lateral (horizontal) loads are altered by the repairs—or if the SBC elects to upgrade the structure—current code requirements would apply. Since mechanical, electrical, plumbing, and fire protection upgrades will likely affect these loads, the PSR cost estimates include a structural code upgrade for the existing school, with the option to revisit the decision during schematic design if needed.

J. Elliott reported that the Educators' Meeting on February 25, 2026, reviewed the design options, focusing on space templates and alignment with the educational program. Key points included eliminating two MTSS small group rooms in favor of classroom-associated small group spaces (reducing area by 750 GSF); locating the World Language and Art rooms near the Media Center for flexibility and technology integration; organizing classrooms in grade-level pairs with communicating doors; placing ACE and RISE programs near peers and the elevator if on an upper level; and designing site plans to maximize field size, adjacency to play areas, and clear sightlines by minimizing parked cars.

J. Elliott reported that the design options have minor adjustments and refinements based on prior feedback. The updates were presented to ensure the committee has the most current information as discussions on preferred options continue.

The design options include:

- Code Upgrade/Base Repair: A0.2
- Addition/Renovation: A1.2-A, A1.2-B
- New Construction: A2.2-A, A2.2-B, A2.2-F

Jeff Elliott reported that the site plan matrix has been updated with all plans developed and non-preferred enrollment options (165 and 515) shaded out. The only content change was lowering the education program score for the A1.2B Adreno option from 4 to 3 due to split gym and adjacency challenges. While key spaces like world language, media, and art are accommodated, the music room's proximity to classrooms is less ideal. Overall, Elliott noted that the F option is the strongest, best meeting the educational program and site needs, though pre-K adjacency could be improved, and he welcomed further input on fine-tuning.

	Discussion: • G. Brewster asked whether the upcoming work would involve additional borings to locate bedrock across the site, F. Pellegrini clarified that the work involves probes, not full borings; the probes are shallower and will be used to identify the bedrock contours below grade. F. Pellegrini stated that the intent is to conduct the probes in April so the resulting bedrock information will be available for cost estimating during the schematic design phase. • A. Cameron commented that, although she had missed some meetings, she learned from Lisa and Gordon that any work inside the existing concrete block building would require seismic upgrades to meet MSBA's 50-year building standard, which can be complex and costly; she noted this was different from Memorial, which had some wood framing, and emphasized the importance of preparing for the requirements and potential expenses. F. Pellegrini acknowledged that the code upgrade/repair alternative will have a significant cost impact and noted that, when compared to an addition/renovation or new construction, it may not provide the best value, though final decisions will depend on the completed cost estimates. • T. Whitman asked whether structural upgrades are included in the add-renovation option, and F. Pellegrini confirmed that they are. • E. Dwyer noted that the proposed relocation of the music room, brought up in recent discussions, should consider its proximity to classrooms and student workspaces, emphasizing that even with improved soundproofing, adjacency could impact learning environments. • A. Cameron, K. Fields and G. Brewster shared their dislike for option A.1.2-B • A. Cameron questioned the purpose of the breakout space, asking if its size could be reduced to achieve savings. J. Elliott explained that the breakout space could be adjusted in both schemes if needed, noting that while it currently accommodates lockers and meets the space template targets, schematic design layouts with furniture will clarify the actual scale and help determine if the space is oversized or appropriate. • G. Brewster asked J. Elliott for his opinion on which of the two 2.2 options, A or B, he would prefer. J. Elliott stated that he prefers Option A over B, citing the economic advantage of constructing it in a single phase and noting that Option B does not offer enough additional benefit to outweigh that advantage. • K. Field asked, whether a high school–sized soccer field is necessary? P. Beaudoin commented that the project can serve as both a school and community asset, particularly by supporting	

youth sports, and noted ongoing discussions about improving the existing field to better function as a community resource.

- E. Dwyer noted that while she understands the reasoning behind the layout (A2.2-F), the current design separates established grade-level team groupings—specifically second and third grade—which could hinder collaboration, as the district typically operates in K–1, 2–3, and 4–5 teams that share data and work closely together.
- T. Whitman noted that the option is no longer being referred to as a three-story building and asked for clarification for the record; Lisa O'Donnell explained that under zoning definitions, a basement is more than half below grade and does not count as a story, and since the lower level is partially below ground and smaller in footprint, it would be classified as a basement rather than a third story based on building height and elevation criteria.
- C. Hay asked whether the field is being priced as a turf field or a grass field. J. Elliott clarified that artificial turf is not being included in the pricing. C. Hay and P. Beaudoin recommended pricing the field both as turf and as grass for comparison.
- K. Provost thanked J. Elliott and his team, noting that the updated design represents a significant improvement from the educator meeting, particularly in the adjacencies, community entrance, art/media/tech layout, and the more thoughtful distribution of special education spaces throughout the building.
- G. Brewster questioned whether the lower level is necessary given its limited program use, and J. Elliott responded that it provides an additional building entry point—particularly for Pre-K access from Story Street—which helps distribute circulation, reduce congestion, and minimize conflicts between parent drop-off, buses, and service access. P. Beaudoin states that Pre-K is needed and the program needs to go somewhere. P. Beaudoin commented that a Pre-K entrance facing Story Street could create a warm, welcoming experience rather than feeling like a back-of-building condition, noting its similarity to the Memorial School layout where Pre-K has a more community-facing entry, and suggested this approach could be appealing. T. McDonald agreed with P. Beaudoin, noting that placing Pre-K at the Story Street side makes the scheme work well with the site, turns what could feel like the back of the building into a welcoming entrance, leverages the topography for a grade-level entry, and creates visually appealing building volumes.
- P. Beaudoin asked if the service entrance could be swapped with the bus entry, similar to Memorial, so that bus drop-off is closer to the Pre-K entrance while the service entrance, with loading docks, is located further back. Jeff Elliott explained that the building currently has two separate service zones: one for mechanical access on the lower floor and another behind the kitchen for food service loading,

<table>
<tr><td></td><td>with dumpsters located across from the bus loop near the wetlands, keeping service areas separate from the bus entry. C. Hay clarified that the lower-level access is primarily for the mechanical space, not true service, and suggested updating the site rendering so it doesn't appear as a large parking or loading area, since actual loading occurs by the cafeteria. C. Hay added that the graphic should be corrected, noting that typical mechanical or electrical rooms only require occasional single-vehicle access, such as a pickup truck for maintenance, not a full loading area.
• T. McDonald suggested enhancing the stair "knuckle" by making landings multifunctional—such as small sitting or reading areas for Pre-K and K—so the space serves more than just circulation and helps activate the central area.</td><td></td></tr>
<tr><td>16.7</td><td>Schedule Update:
• 3/24/26 SBC Meeting --Final Review of Alternatives and Grade Configuration
• 4/14/26 SBC Meeting - Feedback and Approval of Preferred Solution
• 4/16/26 Community Meeting – Cost Review
• 4/28/26 SBC Meeting --Approved PSR Submission to MSBA</td><td>Record</td></tr>
<tr><td>16.8</td><td>Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting: None.</td><td>Record</td></tr>
<tr><td>16.9</td><td>Public Comment: None.</td><td>Record</td></tr>
<tr><td>16.10</td><td>Reflections & Action Items: None.</td><td>Record</td></tr>
<tr><td>16.11</td><td>Adjourn: A motion to adjourn the meeting was made at 7:46 pm by P. Beaudoin and seconded by H. Oettinger.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Absent</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
</table></td><td>Record</td></tr>
</table>

Annie Cameron	Yes
Ariel Fernando Brian	Yes
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Yes
Henry Oettinger	Yes
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 14 | No: 0 | Absent/Abstain: 2**

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 16

March 10, 2026 @ 6:00 PM

DORE + WHITTIER

JCJARCHITECTURE

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - Dore + Whittier Management Partners | $
   - JCJ Architecture | $35,077.13
4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 15 – February 24, 2026
3. Invoices and Commitments for Approval (Vote Expected)
   - Dore + Whittier Management Partners | $
   - JCJ Architecture | $35,077.13
4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - ➢ Dore + Whittier Management Partners | $
   - ➢ JCJ Architecture | $35,077.13
4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - ➢ Dore + Whittier Management Partners | $
   - ➢ JCJ Architecture | $35,077.13
4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - ➢ Dore + Whittier Management Partners | $
   - ➢ JCJ Architecture | $35,077.13
4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - ➢ Dore + Whittier Management Partners | $
   - ➢ JCJ Architecture | $35,077.13
4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

Design Update

- Existing Building Scan occurred the week of February 16, 2026.
- Mabbett Environmental Scientists started their Phase II study and the hazardous material review the week of February 16, 2026.
- Educator's Meeting on February 25, 2026 offered beneficial feedback to update the plans of some Alternatives.
- The initial First Responder Meeting occurred on February 27, 2026.
- Site, Safety and Security Working Group Meeting #1 occurred on March 6, 2026.
- McPhail is targeting their supplemental subsurface investigations (rock probes) to occur during the EES April vacation period.

Design Update

Educator's Meeting occurred on February 25, 2026 to review the Design Options:

- Overall review of Space Template and program alignment with Educational Program.
- MTSS interventionist (2) Small Group rooms can be deleted; instead use Small Group rooms associated with Classrooms. Area reduction of 750 GSF.
- The World Language room is intended to be a flexible technology-rich space, preferably adjacent to the Media Center.
- The Art room is also preferably located near the Media Center.
- Classrooms to be organized by grade-level pairs, adjacent with communicating door.
- Ace and Rise preferably close to their peers, as well as the elevator if on an upper level.
- Site plans should maximize field size and adjacency to play areas, avoiding parked cars for improved sightlines.

OPTION A0.2
CODE UPGRADE/ BASE REPAIR

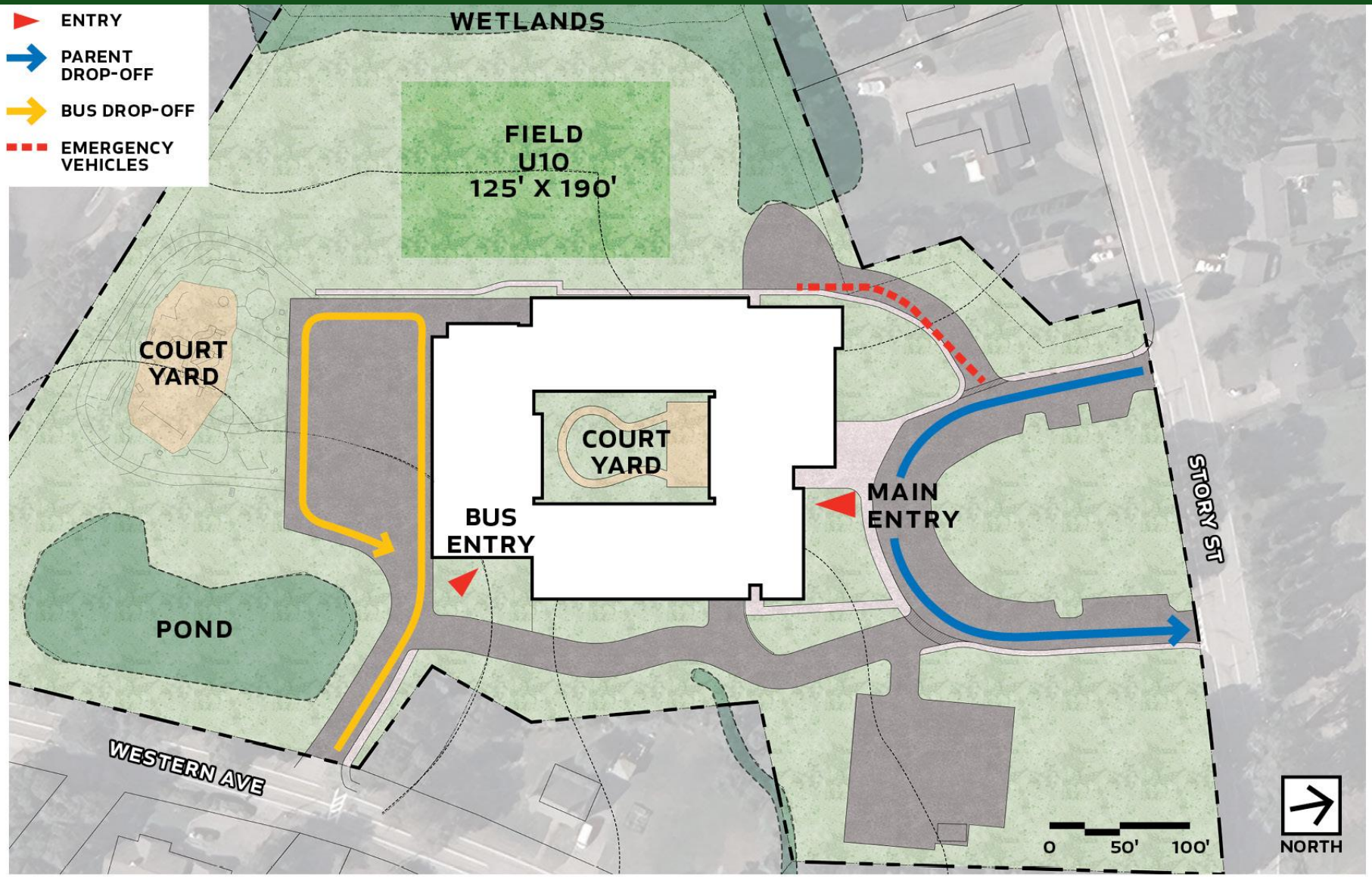
SITE PLAN

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE



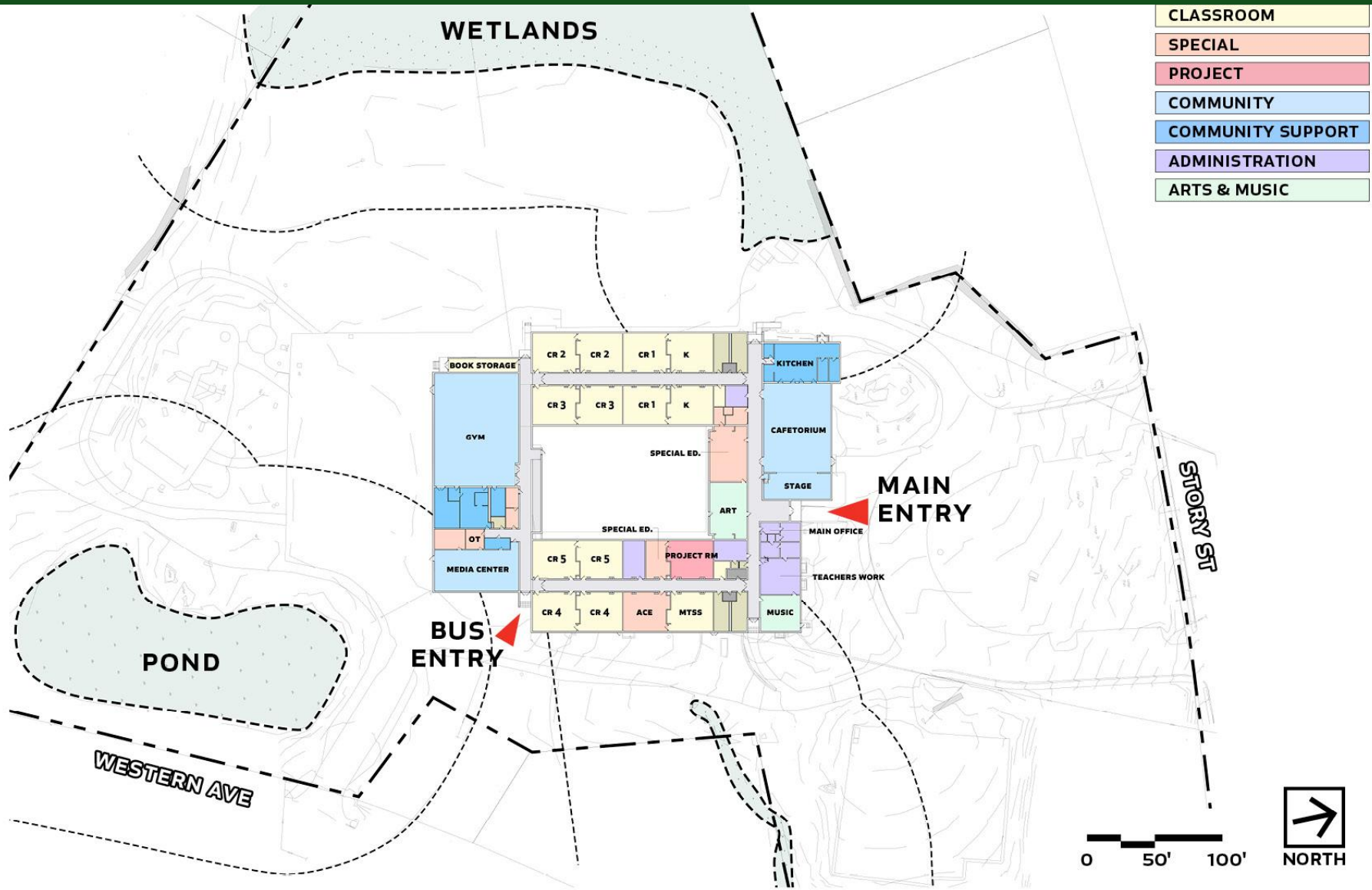
Design Update

OPTION A0.2
CODE UPGRADE/ BASE REPAIR

MAIN FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CONSIDERATIONS
- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE



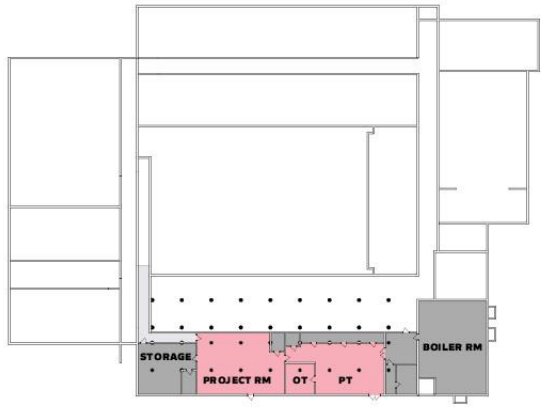
OPTION A0.2
CODE UPGRADE/
BASE REPAIR

LOWER FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE

0 50' 100'
NORTH

Design Update

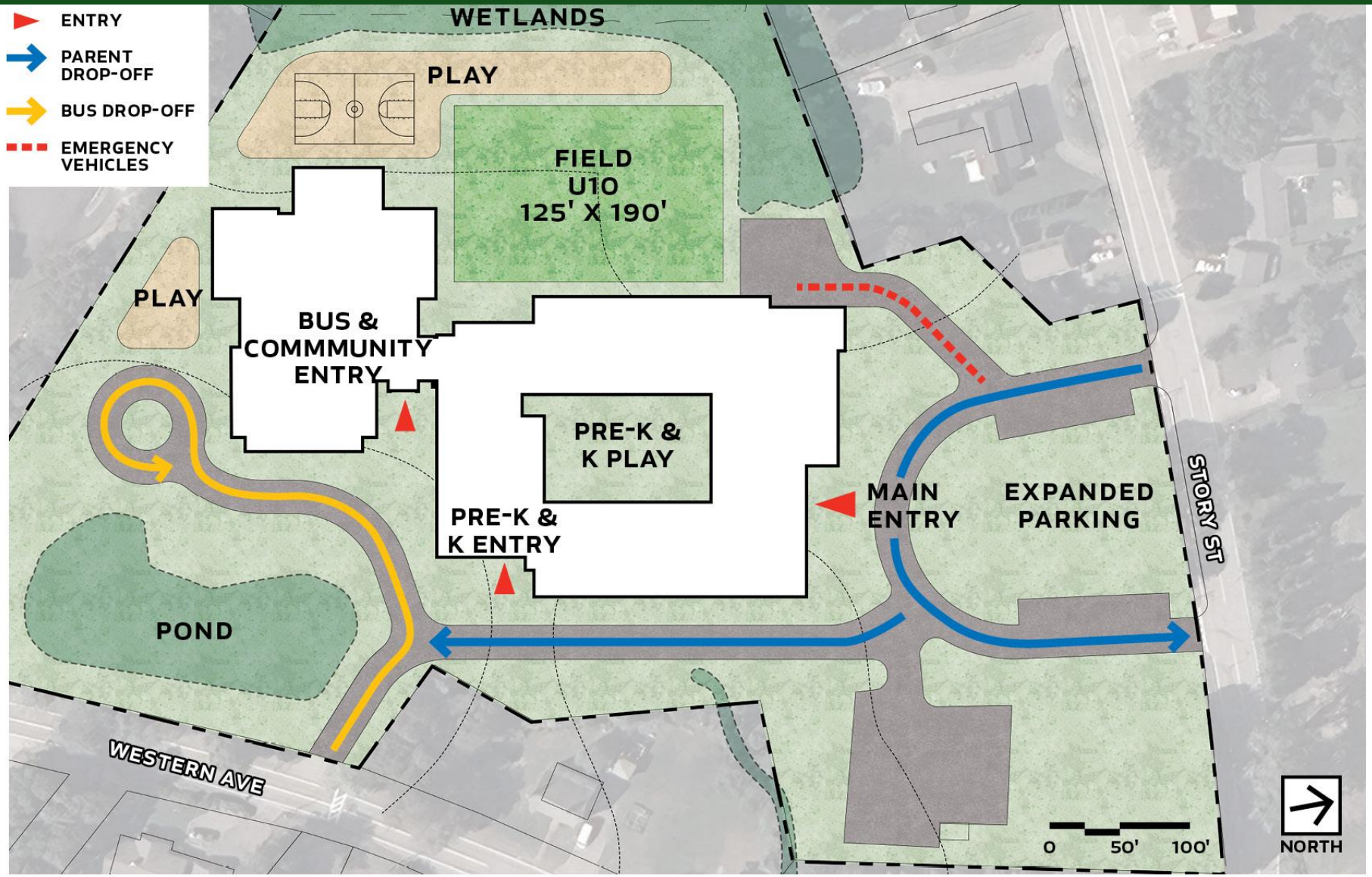
OPTION A1.2-B ADDITION/ RENOVATION

SITE PLAN

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
23,887 GFA ADDITION

TOTAL: 76,923 GFA



CONSIDERATIONS

- ADDITIONAL 4000 GFA NEW CONSTRUCTION TO REMOVE STUDENT OCCUPIED SPACES FROM EXISTING LOWER LEVEL
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

Design Update

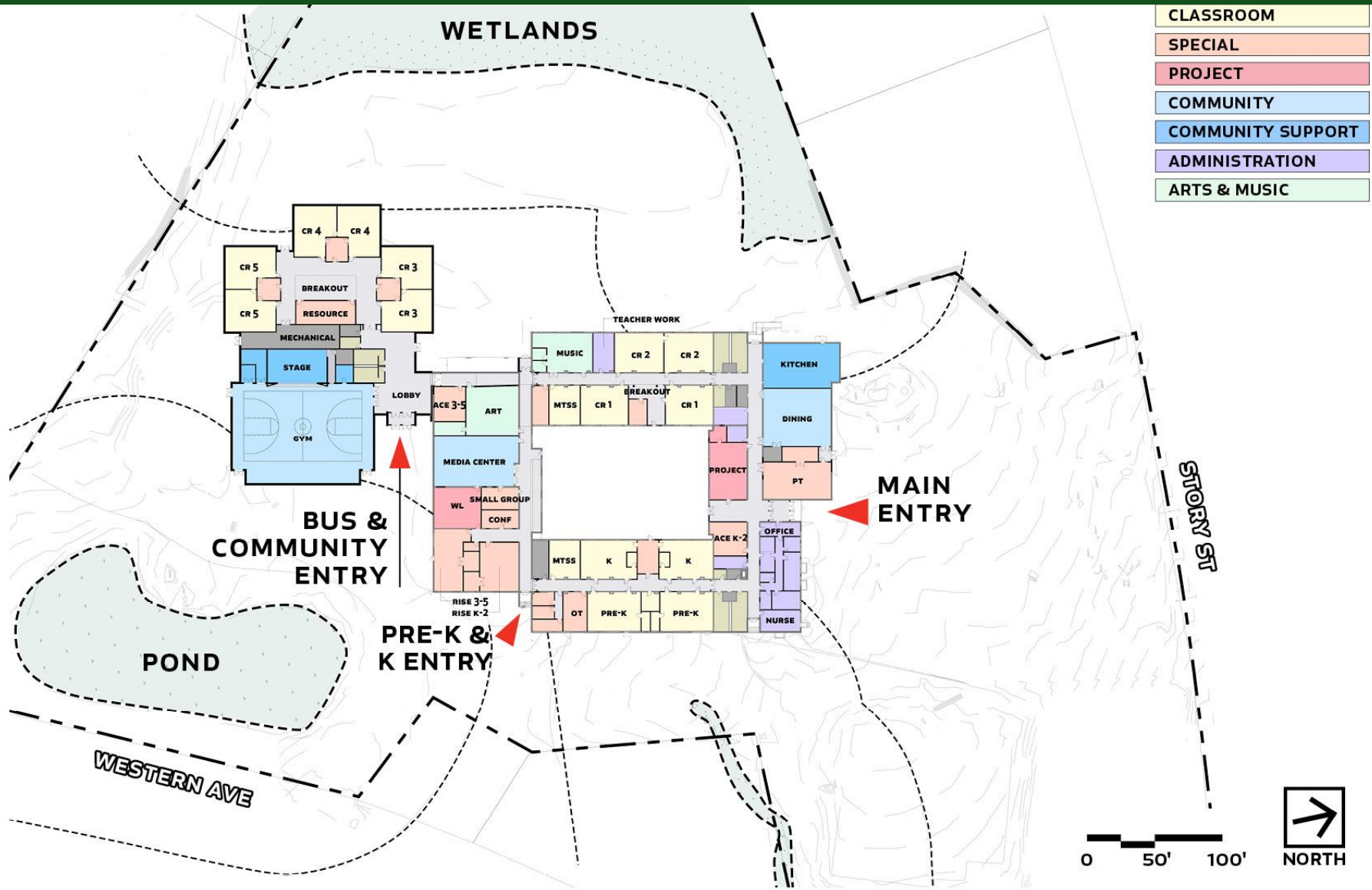
OPTION A1.2-B ADDITION/ RENOVATION

MAIN FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
23,887 GFA ADDITION

TOTAL: 76,923 GFA



CONSIDERATIONS

- ADDITIONAL 4000 GFA NEW CONSTRUCTION TO REMOVE STUDENT OCCUPIED SPACES FROM EXISTING LOWER LEVEL
- FULL-SIZE GYM ACCOMODATED IN ADDITION
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- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

OPTION A1.2-B ADDITION/ RENOVATION

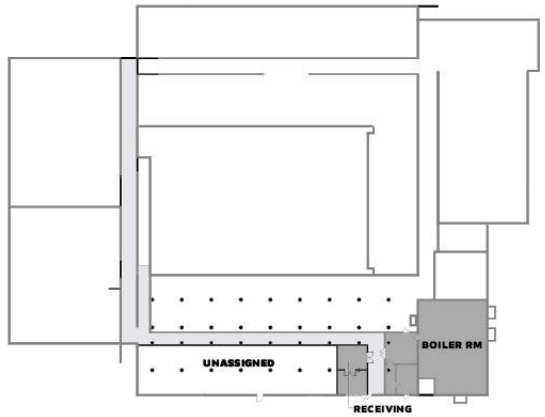
LOWER FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
23,887 GFA ADDITION

TOTAL: 76,923 GFA

- CLASSROOM
- SPECIAL
- PROJECT
- COMMUNITY
- COMMUNITY SUPPORT
- ADMINISTRATION
- ARTS & MUSIC



CONSIDERATIONS

- ADDITIONAL 4000 GFA NEW CONSTRUCTION TO REMOVE STUDENT OCCUPIED SPACES FROM EXISTING LOWER LEVEL
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

0 50' 100'

NORTH

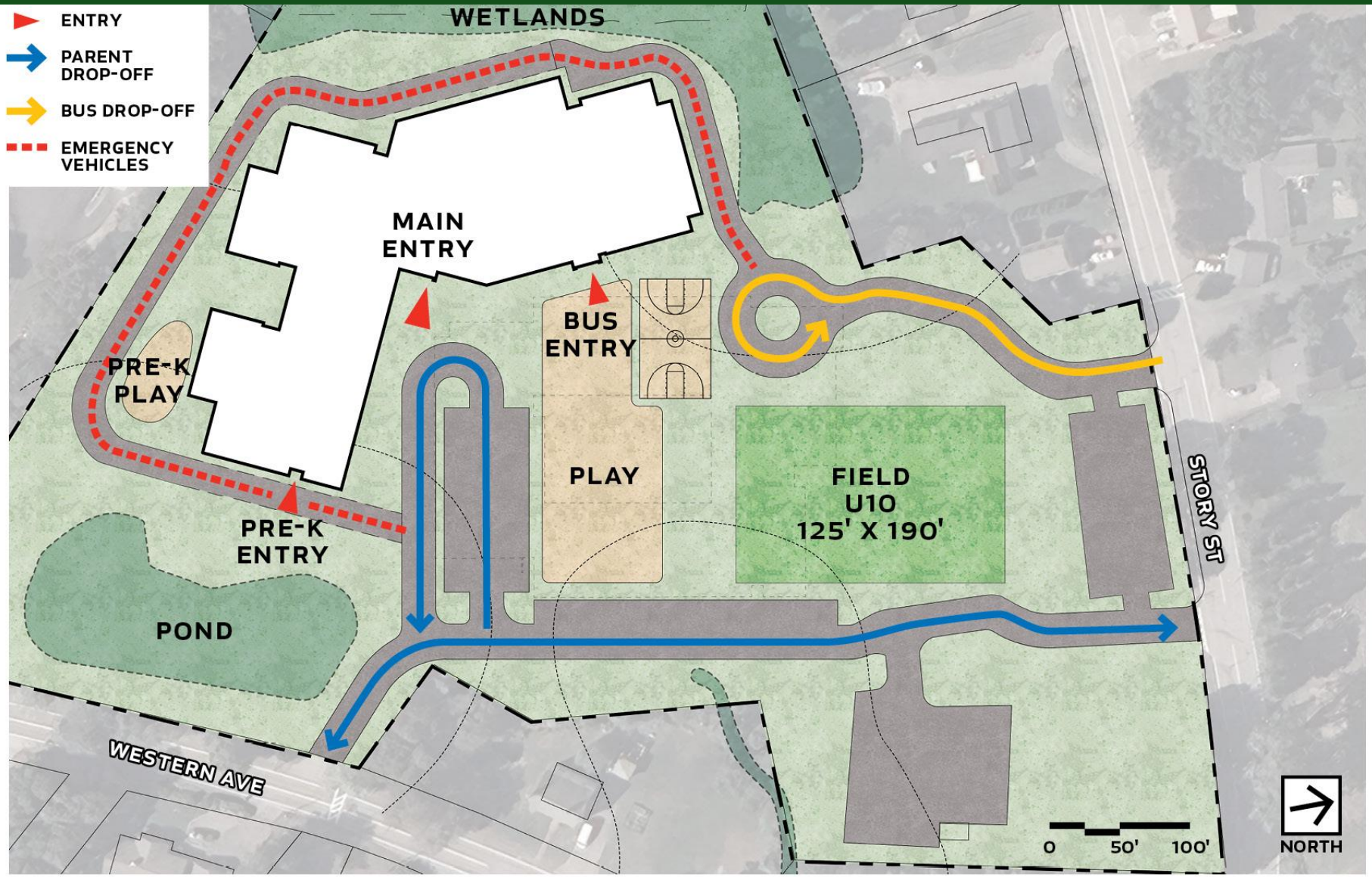
Design Update

OPTION A2.2-A
NEW CONSTRUCTION

SITE PLAN
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA



CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

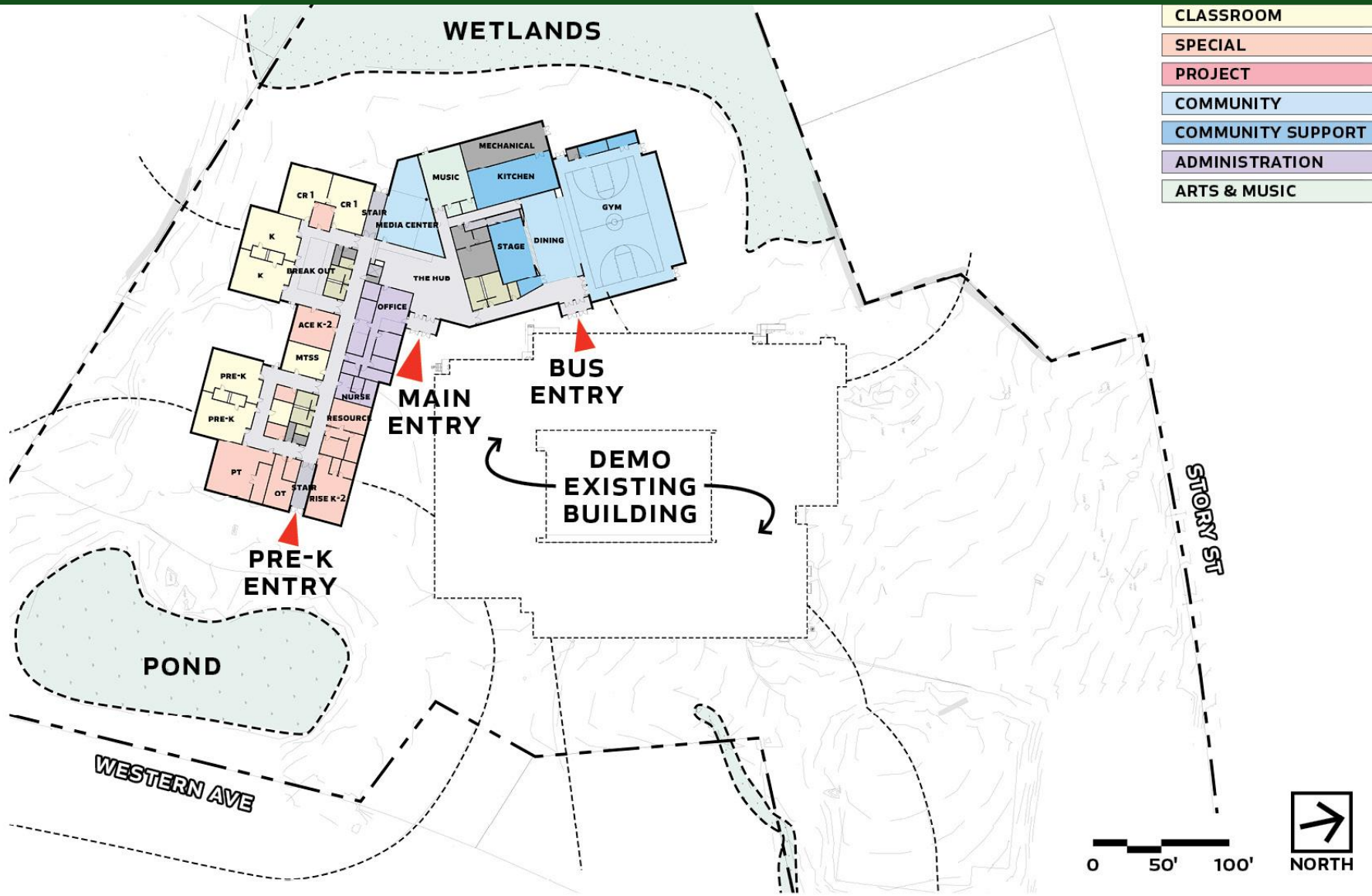
Design Update

OPTION A2.2-A
NEW CONSTRUCTION

FIRST FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA



CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

OPTION A2.2-A
NEW CONSTRUCTION

SECOND FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA



- CLASSROOM
- SPECIAL
- PROJECT
- COMMUNITY
- COMMUNITY SUPPORT
- ADMINISTRATION
- ARTS & MUSIC

CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

0 50' 100'

NORTH

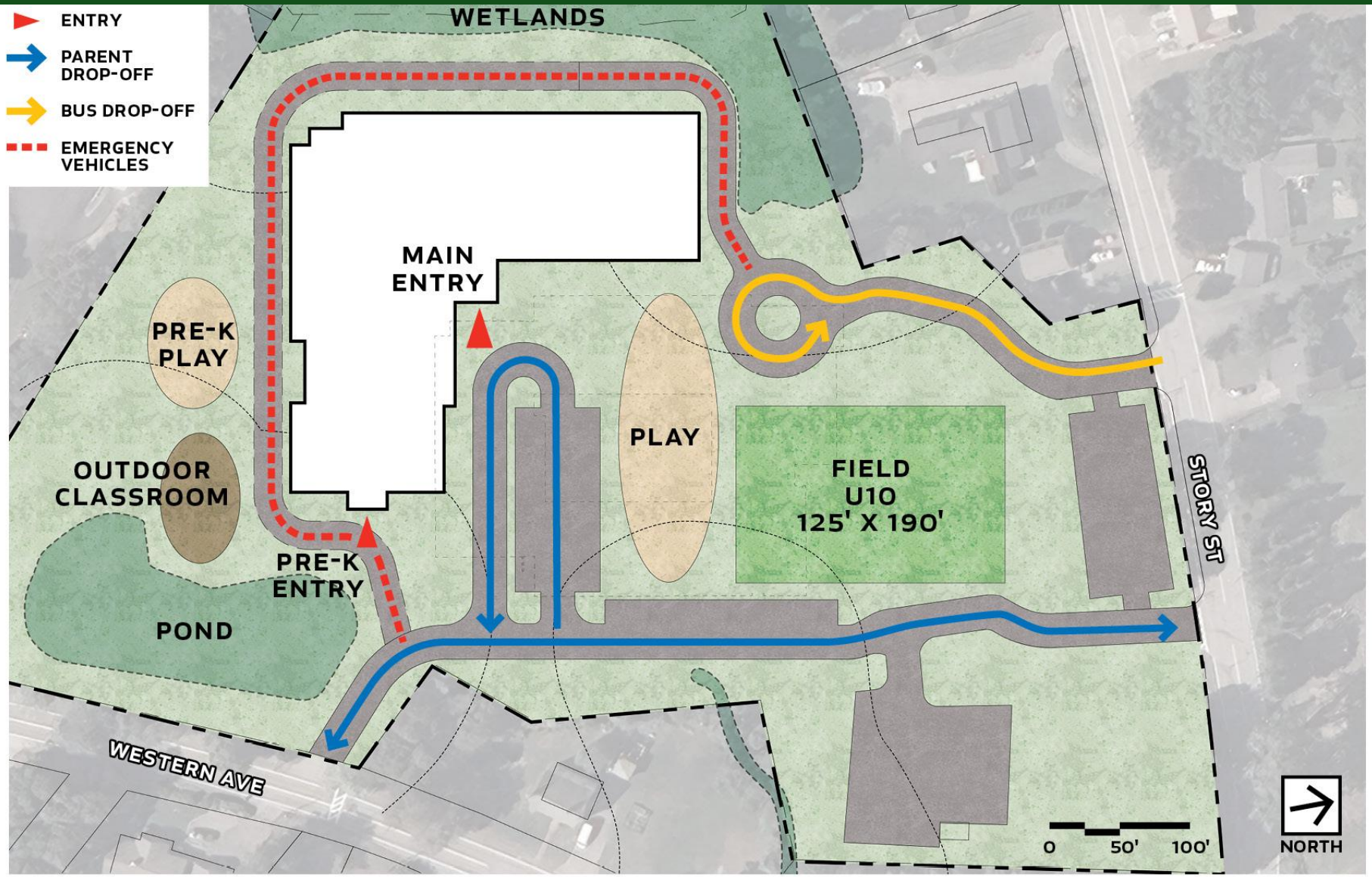
OPTION A2.2-B
NEW CONSTRUCTION

SITE PLAN

PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA



CONSIDERATIONS

- NEW CONSTRUCTION SPLIT INTO TWO PHASES ENABLED BY DEMOLITION OF 1970'S ADDITION
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

Design Update

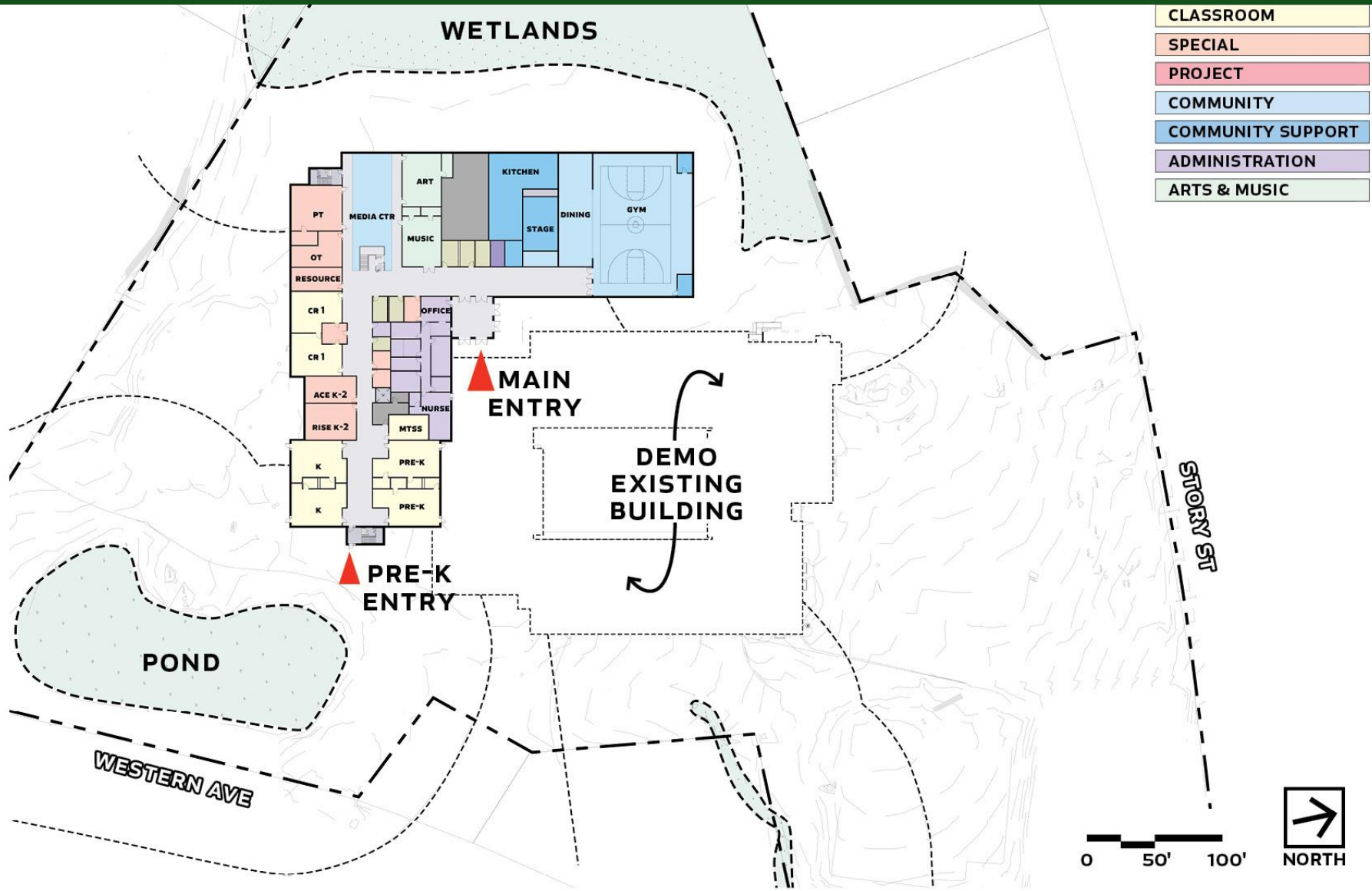
OPTION A2.2-B
NEW CONSTRUCTION

FIRST FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES ENABLED BY DEMOLITION OF 1970'S ADDITION
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED



Design Update

OPTION A2.2-B
NEW CONSTRUCTION

SECOND FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA



CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES ENABLED BY DEMOLITION OF 1970'S ADDITION
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

0 50' 100'
NORTH

Design Update

OPTION A2.2-F
NEW CONSTRUCTION

SITE PLAN

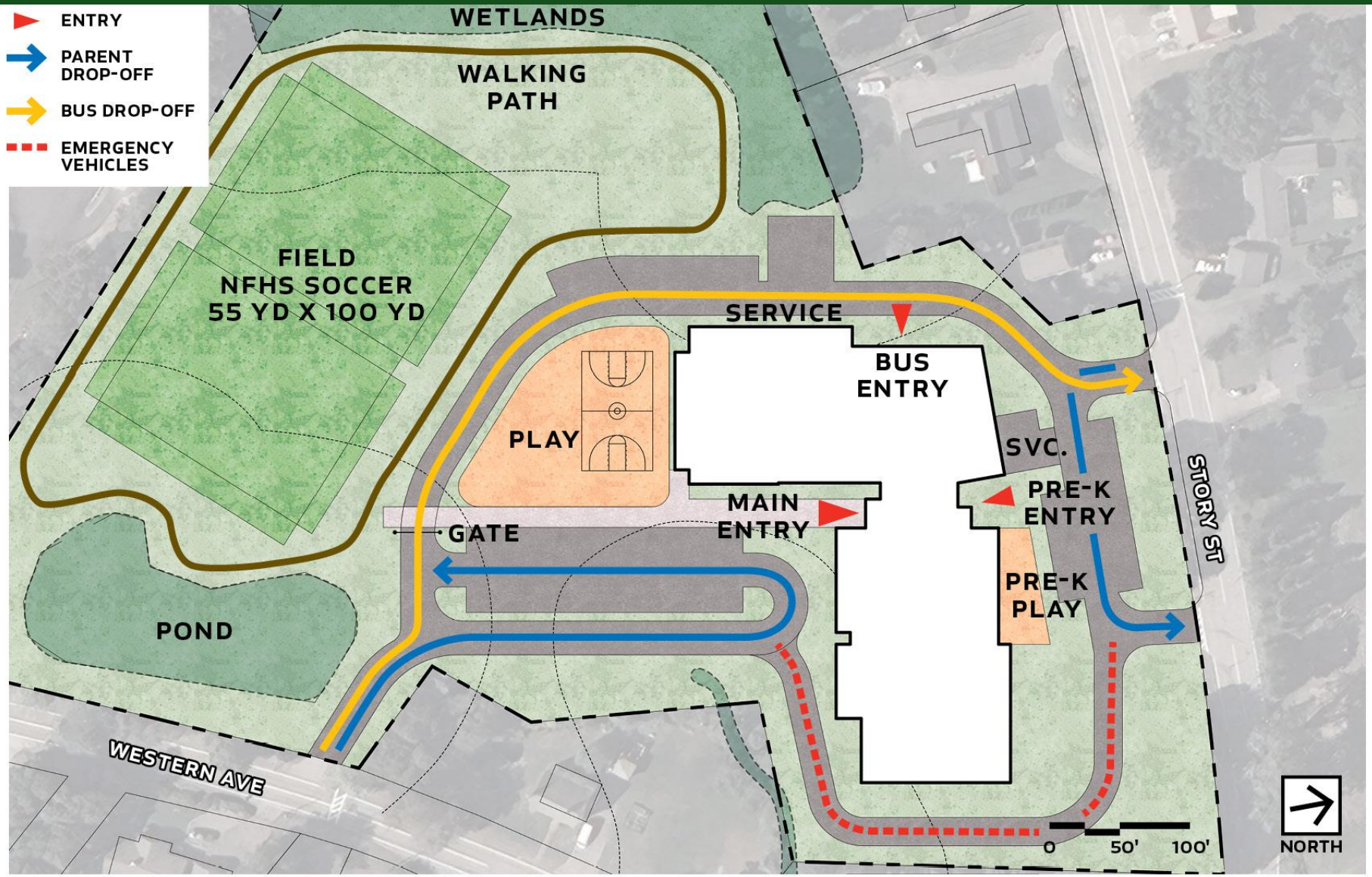
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA

CONSIDERATIONS

- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



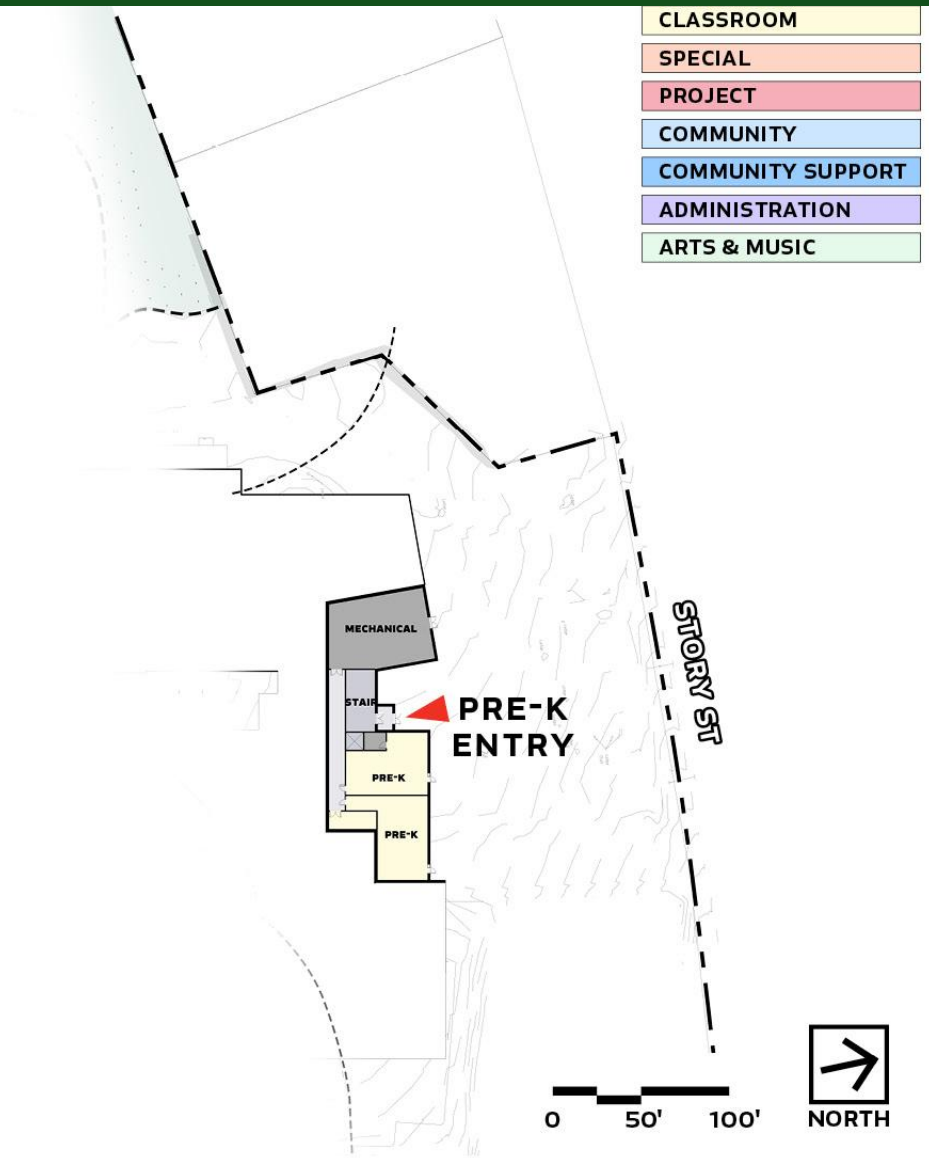
OPTION A2.2-F
NEW CONSTRUCTION

LOWER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



Design Update

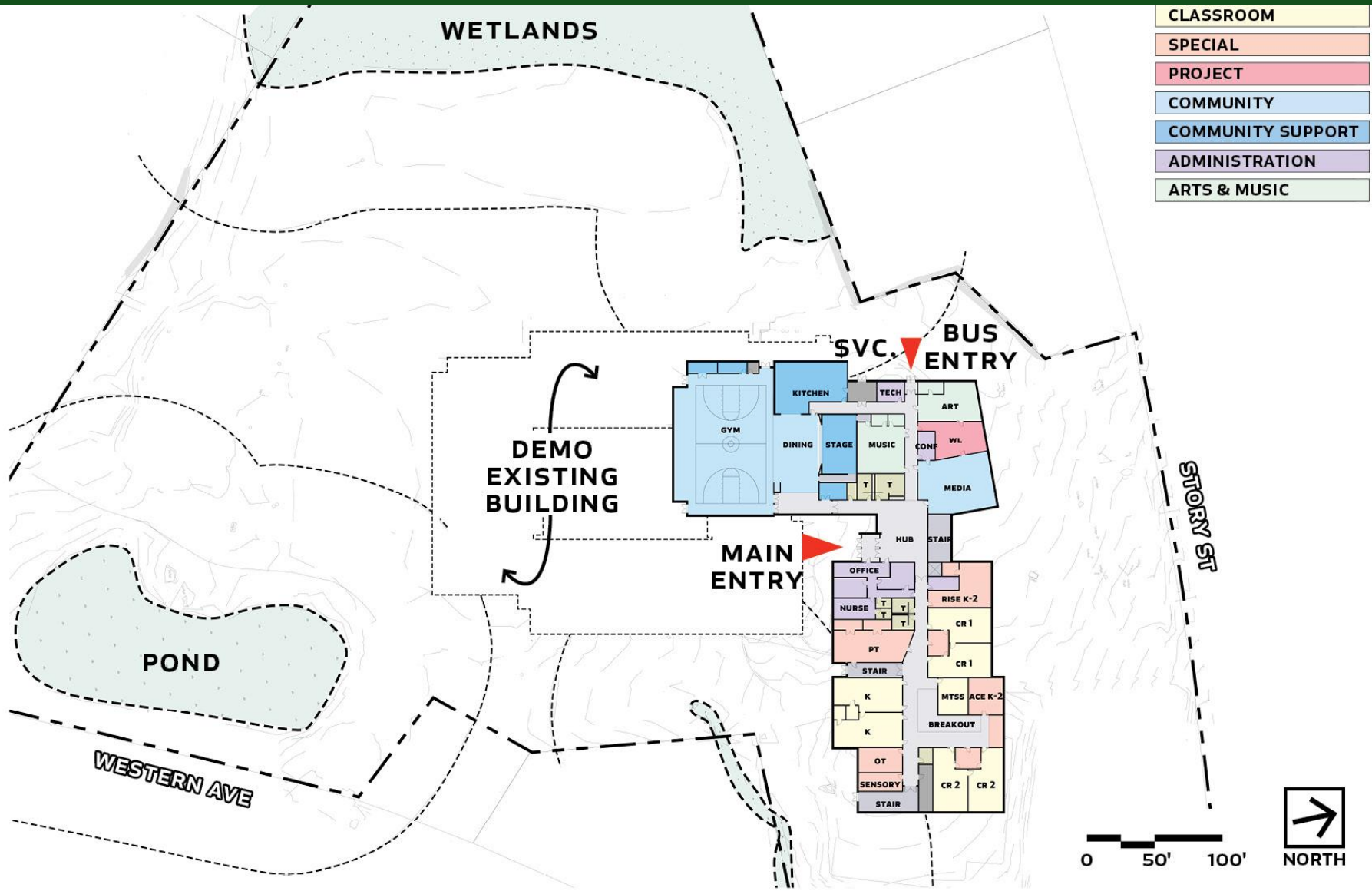
OPTION A2.2-F
NEW CONSTRUCTION

MAIN LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
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OPTION A2.2-F
NEW CONSTRUCTION

UPPER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,923 GFA NEW

TOTAL: 72,923 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



Design Update

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES PREFERRED SCHEMATIC REPORT (PSR)		SITE A CURRENT EES						SITE B CURRENT MMES
		A0.2	A1.1	A1.2 - B	A2.2 - A	A2.2 - B	A2.2 - F	B1.1
		Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	250 + 30	165 + 30	250 + 30	250 + 30	250 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	0	0	0	77,102 GFA
	New Area	0	7,366 GFA	23,887 GFA	72,923 GFA	72,923 GFA	72,923 GFA	41,149 GFA
	Total Area	53,036 GFA	60,402 GFA	76,923 GFA	72,923 GFA	72,923 GFA	72,923 GFA	118,251 GFA
	Construction Duration	40 months	42 months	48 months	40 months	46 months	46 months	40 months
Education	Meets Needs of Educational Program at EES	0	0	3	3	3	4	2
	Meets Needs of Educational Program at MMES	4	0	4	4	4	4	2
	Equity across the District	0	0	4	4	4	4	0
	Future Growth and Expansion	2	2	2	4	4	4	0
	Flexible and Adaptable Spaces	0	4	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	2	1	1	0
Community	Compatible with Regional Agreement	4	0	4	4	4	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	4	1	4	4	4	4	0
	Neighborhood Traffic Impact	4	1	4	4	4	4	0
	Community Use Opportunities	4	1	4	4	4	4	0
	Disruption to Manchester	4	1	4	4	4	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	1	1	2	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	4	4	4	0
	Parking Capacity	2	2	2	4	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	3	3	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	4	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	4	4	4	2
	Additional work at MMES (separate project by District)	N/A	0	N/A	N/A	N/A	N/A	INC.
Cost and Schedule	Maximize MSBA Grant Reimbursement	4	4	1	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	4	2	2	1
	Modular Classroom Swing Space not Required	0	4	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	4	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	2	1	2	2	2	2	2
	Reduce Operational Costs - Staff, Transport	2	1	2	2	2	2	2
	Total Project Cost							

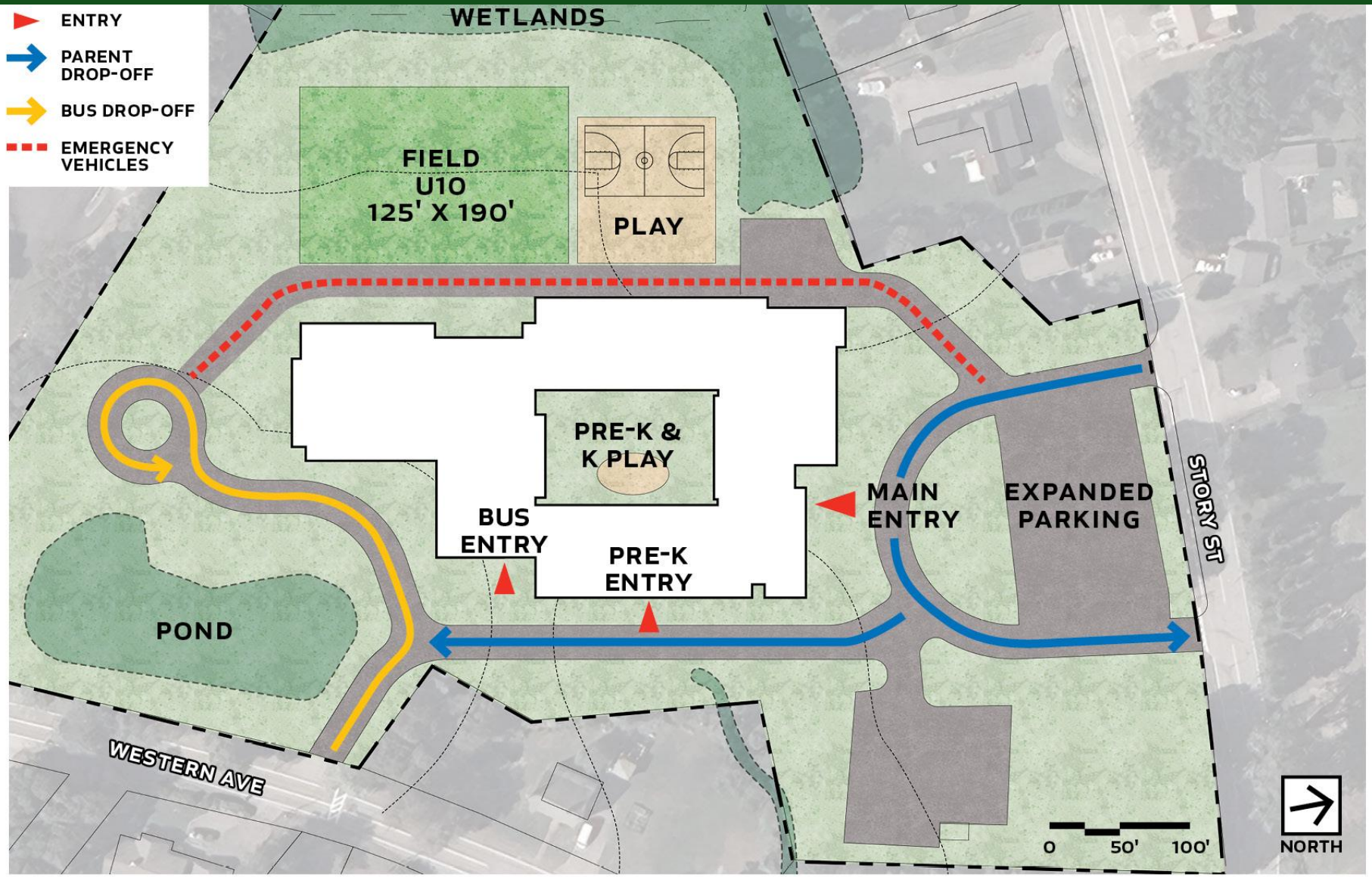
OPTION A1.1 ADDITION/ RENOVATION

SITE PLAN

PRE-K – 3
165 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
7,366 GFA ADDITION

TOTAL: 60,402 GFA



CONSIDERATIONS

- NOT A PREFERRED APPROACH AS K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)

Design Update

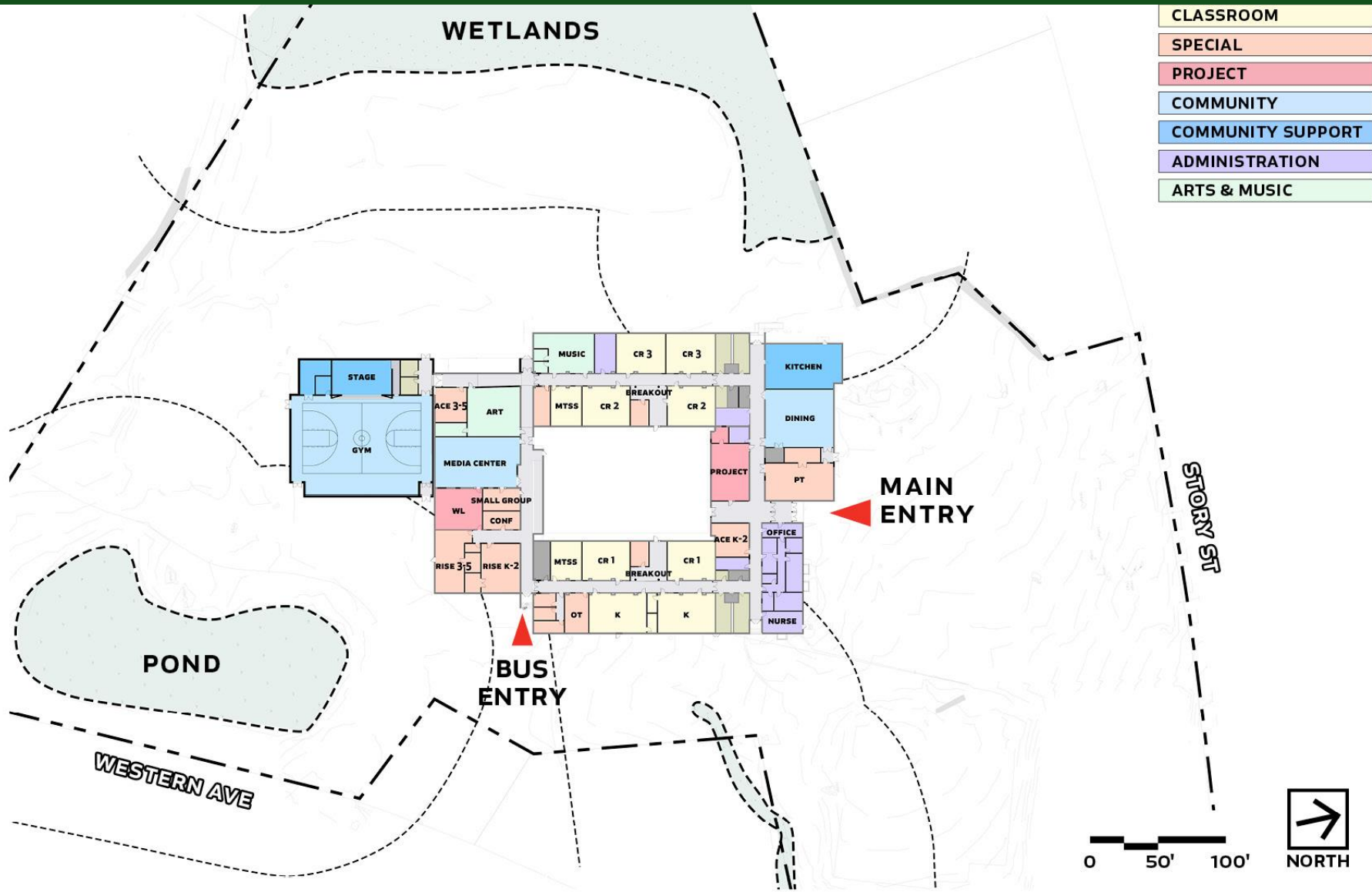
OPTION A1.1 ADDITION/ RENOVATION

MAIN FLOOR

PRE-K – 3
165 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
7,366 GFA ADDITION

TOTAL: 60,402 GFA



CONSIDERATIONS

- NOT A PREFERRED APPROACH AS K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT
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- MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)

OPTION A1.1 ADDITION/ RENOVATION

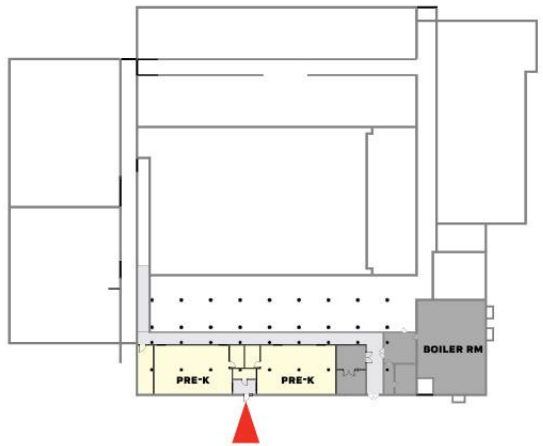
LOWER FLOOR

PRE-K – 3
165 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
7,366 GFA ADDITION

TOTAL: 60,402 GFA

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



0 50' 100'

NORTH

CONSIDERATIONS

- NOT A PREFERRED APPROACH AS K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)

Design Update

OPTION B1.1 ADDITION/ RENOVATION

SITE PLAN

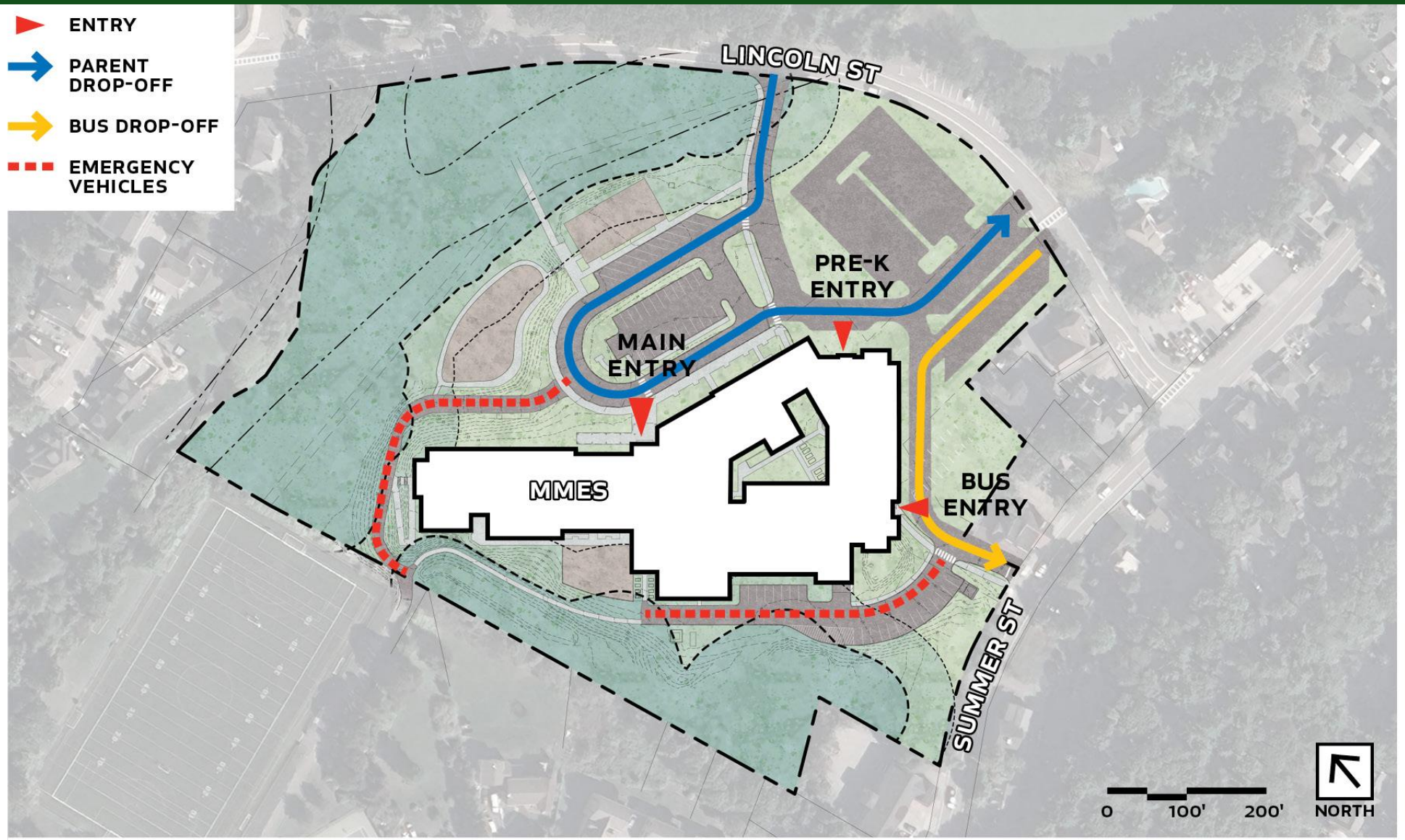
PRE-K – 5
515 STUDENTS + 30 PRE-K

7,102 GFA RENOVATION
41,149 GFA ADDITION

TOTAL: 118,251 GFA

CONSIDERATIONS

- NOT A PREFERRED APPROACH AS REMOVAL OF SCHOOL FROM ESSEX REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT
- SITE AMENITIES NEGATIVELY IMPACTED INCLUDING REMOVAL OF TENNIS COURTS
- NO FUTURE EXPANSION POTENTIAL
- BUILDING CODE AREA LIMITATIONS REQUIRE FIRE WALLS SEPARATING ADDITIONS
- MSBA GRANT REIMBURSEMENT IMPACTS



Design Update

OPTION B1.1 ADDITION/ RENOVATION

MAIN FLOOR

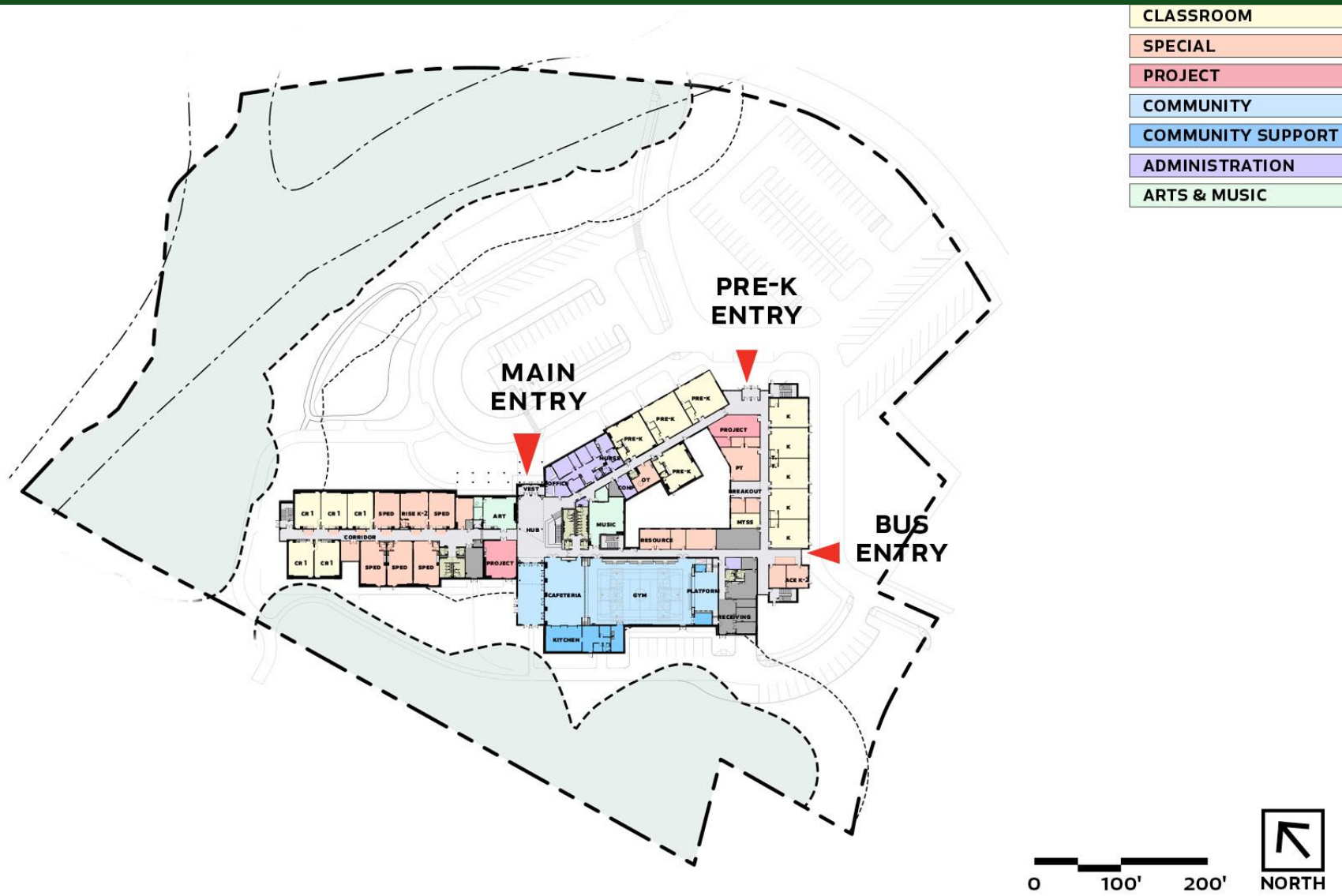
PRE-K – 5
515 STUDENTS + 30 PRE-K

7,102 GFA RENOVATION
41,149 GFA ADDITION

TOTAL: 118,251 GFA

CONSIDERATIONS

- NOT A PREFERRED APPROACH AS REMOVAL OF SCHOOL FROM ESSEX REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT
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- BUILDING CODE AREA LIMITATIONS REQUIRE FIRE WALLS SEPARATING ADDITIONS
- MSBA GRANT REIMBURSEMENT IMPACTS



OPTION B1.1 ADDITION/ RENOVATION

UPPER FLOOR

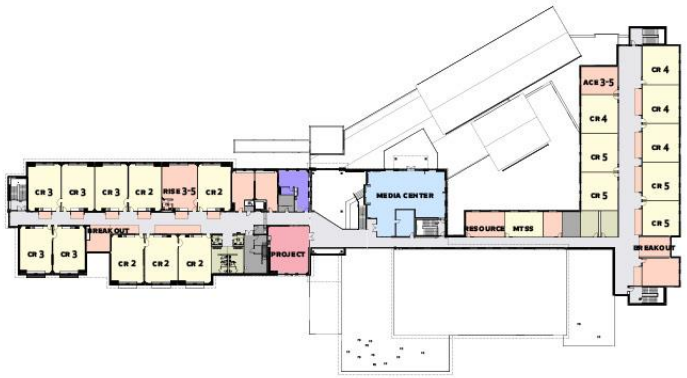
PRE-K – 5
515 STUDENTS + 30 PRE-K

7,102 GFA RENOVATION
41,149 GFA ADDITION

TOTAL: 118,251 GFA

CONSIDERATIONS

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- BUILDING CODE AREA LIMITATIONS REQUIRE FIRE WALLS SEPARATING ADDITIONS
- MSBA GRANT REIMBURSEMENT IMPACTS



CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

0 100' 200'
NORTH

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - ➢ Dore + Whittier Management Partners | $
   - ➢ JCJ Architecture | $35,077.13
4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

Schedule Update/PSR

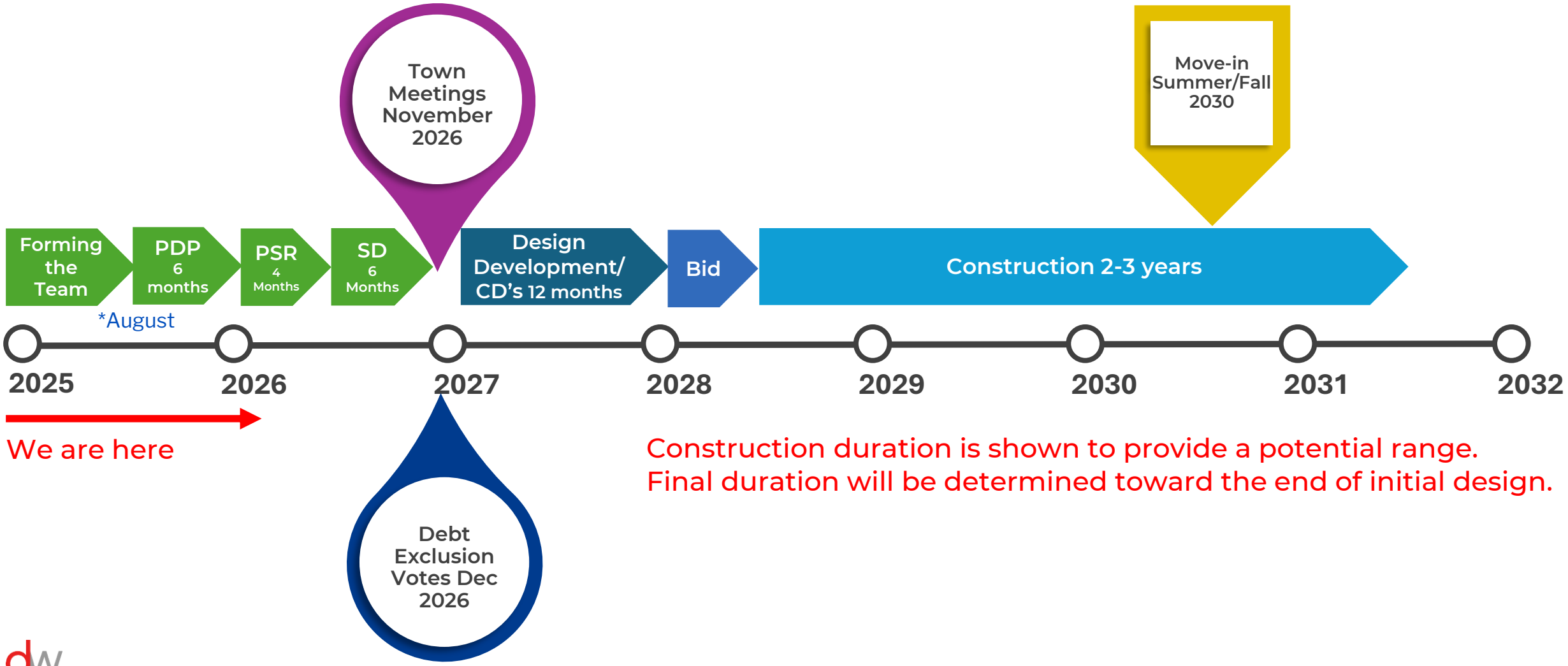
3/24/26 Comm Meeting/SBC Meeting-Design Walkthrough/Final Review of Alternatives and Grade Configuration

4/14/26 SBC Meeting-Review Comm Meeting #5 Feedback and Approval of Preferred Solution

4/16/26 Comm Meeting #6-Cost Review

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

Anticipated Project Timeline



Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

DORE + WHITTIER

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - ➢ Dore + Whittier Management Partners | $
   - ➢ JCJ Architecture | $35,077.13
4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - ➢ Dore + Whittier Management Partners | $
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5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. **Public Comment**
10. Reflections & Actions Items
11. Adjourn

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
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5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. **Reflections & Actions Items**
11. Adjourn

SBC Meeting Agenda – March 10, 2026 @ 6:00 PM

1. Call to Order & Intro
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3. Invoices and Commitments for Approval (Vote Expected)
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4. Site, Safety & Security Working Group Update
5. Communications Working Group Update
6. Design Update
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

MEETING AGENDA

Meeting Date:	March 24, 2026
Meeting Time:	7:00PM – 9:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link:	https://us06web.zoom.us/j/88457635815

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	3/24/26
Location:	Remote (Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
✓	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
✓	John Binieris*	SBC Co-Chair
	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
	Charlie Hay*	Architect School Building Experience
✓	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
✓	Tyler Virden*	Project Executive -Wise Construction / Paren
✓	Annie Cameron*	Former SC Member and Memorial SBC Member
	Ariel Fernando Brain*	Architect - CBT
✓	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
✓	Timonthy McDonald*	Architect - Onion Flats
✓	Henry Ottenginer*	Manchester Conservation Committee / Education Background
✓	David Pereen	Resident / Plumbing & Fire
	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
✓	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
✓	Rachelle Russo	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
✓	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
✓	James LaPosta	Principal - JCJ Architecture
✓	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
	Dustin Lombardi	Architect - JCJ Architecture
✓	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

Item No.	Action Item	Ball in Court
1	Document and collect the post-it notes comments from the design posters, then archive them.	JCJ, DWMP
2	Move the design posters to the town hall auditorium for public viewing and return them in time for the meeting on the 14th.	SBC
3	Create and display a QR code poster with the design boards to allow for digital feedback submission.	SBC/DWMP
4	Fill out and return the feedback form (emailed by Rachel) with preferences and pros/cons for the design options.	SBC
5	Present initial cost estimates for the design options at the April 14th building committee meeting.	JCJ/DWMP
6	Be prepared to discuss and possibly take a straw poll on preferred options at the April 14th meeting, with official approval to follow after the April 16th community meeting if needed.	SBC
7	At the April 28th meeting, prepare for formal approval of the preferred schematic report submission to the MSBA.	SBC

- **Please click here for the presentation**
  - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

DORE + WHITTIER

<table>
<tr><td>Item No.</td><td>Description</td><td></td></tr>
<tr><td>17.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 7:11pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>17.2</td><td>Approval of March 10, 2026, Meeting Minutes (Vote Expected):

A motion to approve March 10, 2026, Meeting Minutes was made by A. Cameron seconded by G. Brewster.

Discussion: None.

Roll Call Vote:
<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Yes</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Absent</td></tr>
<tr><td>Charlie Hay</td><td>Absent</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Yes</td></tr>
<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Yes</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
</table></td><td>Record</td></tr>
</table>

Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 13 | No: 0 | Absent/Abstain: 3**

17.3

Invoices and Commitments for Approval (Vote Expected):

A motion to approve the following invoices was made by G. Brewster and seconded by A. Cameron.

Kartoon EDU Invoice | $3,180.00
MinuteMan Invoice | $3,021.13

Discussion: M. Cresta recommended approval.

Roll Call Vote:

Name	**Yes/No/Abstain & Absent**
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Yes
Theresa Whitman	Yes
Andy Oldeman	Absent
Charlie Hay	Absent
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brain	Absent
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Yes

	<table><tr><td>Henry Oettinger</td><td>Yes</td></tr><tr><td>Emily Dwyer</td><td>Yes</td></tr><tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr><tr><td>Kim Field</td><td>Advisor – No Vote</td></tr><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table> • **Yes: 13| No: 0 | Absent/Abstain: 3**	
16.6	**Design Update:** C. Dell Angelo stated that the purpose of the evening's SBC meeting was to allow community members to review the design options displayed and provide feedback. Attendees shared input through discussions and written comments on sticky notes. She noted that the project team will collect and review all feedback and compile a summary report for the full Building Committee in the coming days. C. Dell Angelo added that the next step is a cost estimate reconciliation with the project team and two independent estimators. Updated cost estimates for the remaining design options will be presented to the committee on April 14. Discussion: • A. Cameron asked whether the poster boards displaying the design options would be available for viewing elsewhere. J. LaPosta responded that the boards could be left with the committee, as was done for Memorial, if desired. He added that the team would first document the sticky note feedback before collecting and archiving the comments. T. Whitman suggested leaving them at the town hall auditorium. C. Dell Angelo further noted that community members who may not have provided feedback during the session are still encouraged to do so. She stated that committee members may reach out to individuals for additional input, and community members may also submit feedback directly. She reminded the group that the project website, linked through the school district's website, includes a comments section for submitting feedback on any of the design options. P. Beaudoin recommended a QR Code poster for community member feedback. • T. Whitman noted a productive discussion on the Education Plan, including the need for space, changes in student population since	Record

	the K–8 model, and how education has evolved. She described the conversation as useful. • K. Field reported that former students, now adults, asked about the need for varied student spaces. She said the discussion focused on evolving student needs, instructional flexibility, and creating safe environments. She noted questions about tax impacts but described the educational discussion as positive. She added that one attendee emphasized the importance of larger athletic fields based on past limitations. • T. Whitman reported similar conversations regarding tax impacts. She noted that attendees appreciated reviewing the design options but were primarily interested in understanding the associated costs. She added that this information will be important for the next community meeting. • C. Dell Angelo clarified that the next meeting would include cost estimates for the design options, and not tax implications. She emphasized the importance of being clear about what will be presented. C. Dell Angelo noted that the project is still in an early phase and that the upcoming figures are preliminary cost estimates. She reminded attendees that additional estimates will be developed as the design progresses and that costs will continue to be refined over time. • A. Cameron asked when value engineering or reductions in square footage would typically occur, referencing prior projects and asking when design adjustments such as reducing corridor space would begin. J. LaPosta responded that this process typically begins in the schematic design phase. He explained that the current stage is focused on developing comparable options for evaluation, including cost, program fit, and other criteria. Once a preferred option is selected, the project moves into schematic design, where plans are developed in greater detail and opportunities for reductions are evaluated. He added that at the end of that phase, the design is effectively finalized and submitted for approval. • T. McDonald asked whether, at an order-of-magnitude level, there is a way to provide a percentage-based estimate of potential tax impacts based on the initial budget figures. He inquired whether they could offer even a rough range (e.g., 2% or 5% increase) to help provide community members with perspective. P. Beaudoin explained that tax impact communication will occur after schematic design, once a committee-approved cost is established. She said the project team will then work with the towns to develop a publishable, data-driven tax impact figure that reflects local property values and avoids informal estimates. She added that this coordination would likely take place in September and October ahead of a November town meeting.	

	• L. O'Donnell emphasized the importance of maintaining parity between Essex and Manchester students. She stated that Essex students should receive the same educational opportunities as those in the new Memorial School. She cautioned that reducing program space could compromise educational quality and urged the committee to keep equitable student experience as a priority. • T. Whitman asked whether the cost estimates will include information on ongoing maintenance impacts, such as whether a smaller building footprint would reduce long-term maintenance costs and potentially offset upfront expenses. J. Elliot responded that the cost estimates will focus on first costs, including construction and overall project costs, and will not include ongoing maintenance impacts.	
16.7	**Schedule Update:** • 4/14/26 SBC Meeting – Cost Review, Feedback and Approval of Preferred Solution • 4/16/26 Community Meeting – Cost Review • 4/28/26 SBC Meeting - Approve PSR Submission to MSBA	Record
16.8	**Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting:** None.	Record
16.9	**Public Comment:** • Shelly Bradbury asked whether the cost estimates have a fixed duration, such as being valid for six months, and whether they are locked in or adjusted over time due to potential inflation. She noted that estimates provided now may change before town meeting and asked how that variability is handled. • Sgt. Collier shared an example from another state where the school project cost increased after approval due to inflation. He asked whether the final price presented to voters will be fixed or if there is a possibility that costs could fluctuate after approval.	Record
16.10	**Reflections & Action Items:** None. J. LaPosta explained that the project is currently using early-stage cost estimates based on preliminary drawings and system descriptions. He noted that two independent estimators, one engaged by the design team and one by the owner's team—prepare estimates separately and then reconcile them together with the project team to reach an agreed-upon figure. He stated that these estimates include contingencies for undeveloped design details and escalation factors tied to projected construction timing	Record

<table>
<tr><td></td><td>and market conditions. Because each design option may have a different construction duration, escalation assumptions vary accordingly.

LaPosta added that once a preferred option is selected, the project will enter schematic design, where more detailed drawings and specifications are developed. A new, more refined estimate will then be produced using the same reconciliation process. He said this later estimate becomes the number presented for town approval, MSBA submission, and eventual project funding, and that it is intended to be the figure used through construction.

C. Dell Angelo stated that while she is not aware of projects going back to voters for additional funding, she noted that during COVID there were unusual cases where bids exceeded expectations due to market conditions. She emphasized the importance of achieving accurate cost estimates by the end of schematic design so that a final number can be locked in with both the MSBA and the towns.

C. DellAngelo stated that she is currently working with cost estimators on another project and noted that they regularly coordinate with construction managers, general contractors, and subcontractors to stay informed on market conditions, including escalation and tariff factors. She said these inputs are incorporated into the estimating process to help ensure the project remains at or under budget when it goes to bid.

T. Whitman clarified that the upcoming community meeting will function similarly to a public hearing, allowing for real-time back-and-forth questions and answers. She distinguished this from standard public comment periods during regular business meetings, noting that attendees at the community meeting will be able to engage directly in discussion.</td><td></td></tr>
<tr><td>17.11</td><td>Adjourn: A motion to adjourn the meeting was made at 7:55 pm by G. Brewster and seconded by A. Cameron.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Yes</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
</table>
</td><td>Record</td></tr>
</table>

Andy Oldeman	Absent
Charlie Hay	Absent
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brian	Absent
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Yes
Henry Oettinger	Yes
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 13 | No: 0 | Absent/Abstain: 3**

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 17

March 24, 2026 @ 7:00 PM

DORE + WHITTIER

JCJ ARCHITECTURE

SBC Meeting Agenda – March 24, 2026 @ 7:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – March 24, 2026 @ 7:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 16 – March 10, 2026
3. Invoices and Commitments for Approval (Vote Expected)
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – March 24, 2026 @ 7:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - kartoonEDU| $3,180.00
   - MinuteMan| $3,021.13
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – March 24, 2026 @ 7:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

Design Update

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES PREFERRED SCHEMATIC REPORT (PSR)		SITE A CURRENT EES						SITE B CURRENT MMES
		A0.2	A1.1	A1.2 - B	A2.2 - A	A2.2 - B	A2.2 - F	B1.1
		Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	250 + 30	165 + 30	250 + 30	250 + 30	250 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	0	0	0	77,102 GFA
	New Area	0	7,366 GFA	23,887 GFA	72,923 GFA	72,923 GFA	72,923 GFA	41,149 GFA
	Total Area	53,036 GFA	60,402 GFA	76,923 GFA	72,923 GFA	72,923 GFA	72,923 GFA	118,251 GFA
	Construction Duration	40 months	42 months	48 months	40 months	46 months	46 months	40 months
Education	Meets Needs of Educational Program at EES	0	0	3	3	3	4	2
	Meets Needs of Educational Program at MMES	4	0	4	4	4	4	2
	Equity across the District	0	0	4	4	4	4	0
	Future Growth and Expansion	2	2	2	4	4	4	0
	Flexible and Adaptable Spaces	0	4	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	2	1	1	0
Community	Compatible with Regional Agreement	4	0	4	4	4	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	4	1	4	4	4	4	0
	Neighborhood Traffic Impact	4	1	4	4	4	4	0
	Community Use Opportunities	4	1	4	4	4	4	0
	Disruption to Manchester	4	1	4	4	4	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	1	1	2	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	4	4	4	0
	Parking Capacity	2	2	2	4	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	3	3	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	4	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	4	4	4	2
	Additional work at MMES (separate project by District)	N/A	0	N/A	N/A	N/A	N/A	INC.
Cost and Schedule	Maximize MSBA Grant Reimbursement	4	4	1	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	4	2	2	1
	Modular Classroom Swing Space not Required	0	4	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	4	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	2	1	2	2	2	2	2
	Reduce Operational Costs - Staff, Transport	2	1	2	2	2	2	2
	Total Project Cost							

SBC Meeting Agenda – March 24, 2026 @ 7:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

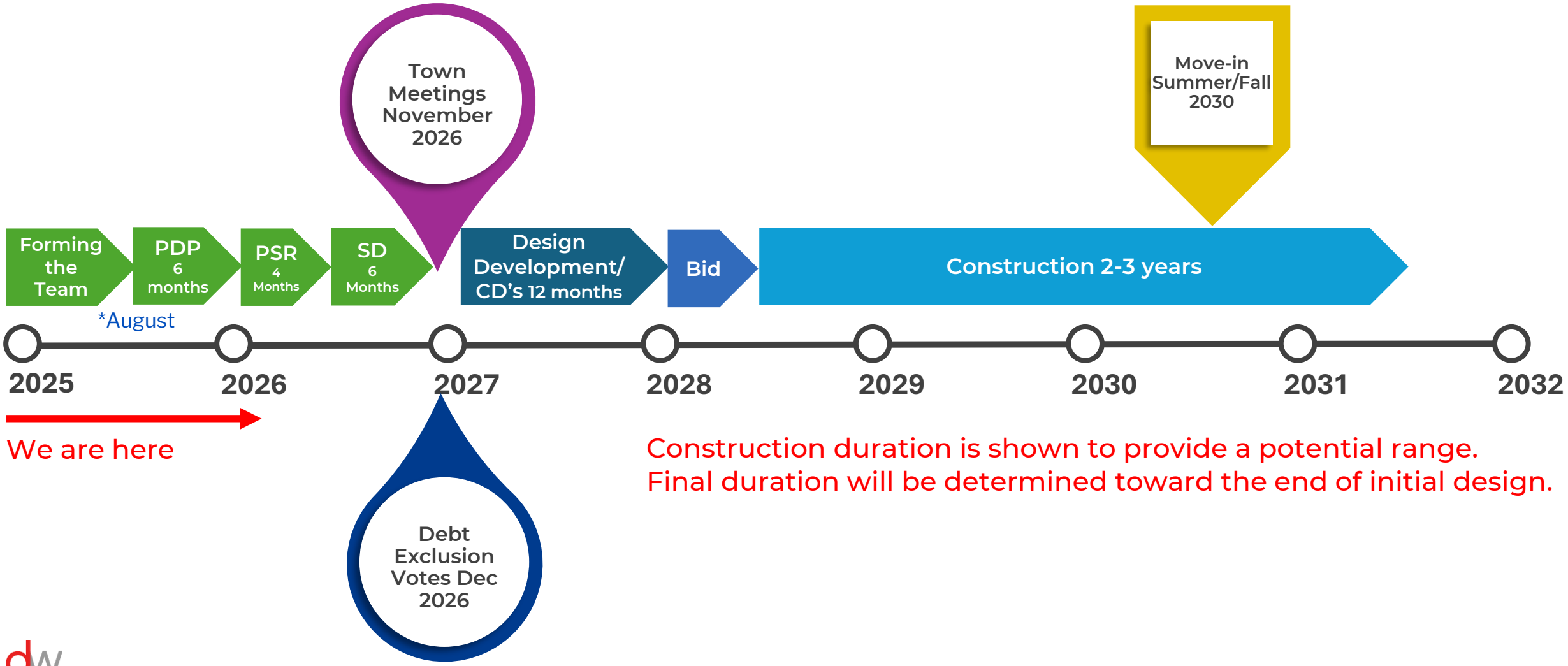
Schedule Update/PSR

4/14/26 SBC Meeting- Cost Review, Approval of Preferred Solution

4/16/26 Comm Meeting #5- Cost Review

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

Anticipated Project Timeline



Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

DORE + WHITTIER

SBC Meeting Agenda – March 24, 2026 @ 7:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – March 24, 2026 @ 7:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – March 24, 2026 @ 7:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – March 24, 2026 @ 7:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Review Design Alternatives
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

MEETING AGENDA

Meeting Date:	April 14, 2026
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link:	https://us06web.zoom.us/j/84921905835

---

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Feedback from Community Meeting 03/24/2026
5. Design Alternatives - PDP Review Comments from MSBA
6. Design Alternatives - Preliminary Costs
7. Schedule Update
8. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
9. Public Comment
10. Reflections & Actions Items
11. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	4/14/26
Location:	Remote (Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
✓	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
✓	John Binieris*	SBC Co-Chair
✓	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
✓	Charlie Hay*	Architect School Building Experience
✓	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
	Tyler Virden*	Project Executive -Wise Construction / Paren
✓	Annie Cameron*	Former SC Member and Memorial SBC Member
✓	Ariel Fernando Brain*	Architect - CBT
	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
	Timonthy McDonald*	Architect - Onion Flats
✓	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
✓	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
✓	Rachelle Russo	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
✓	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
✓	James LaPosta	Principal - JCJ Architecture
	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
	Dustin Lombardi	Architect - JCJ Architecture
✓	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

DORE + WHITTIER

Item No.	Action Item	Ball in Court
1	Update presentation/matrix to reflect that code upgrade option is presumed non-reimbursable by MSBA and remove/revise green indicator for MSBA grant reimbursement on code upgrade option before Thursday's community meeting	JCJ
2	Send out list of working group members to all SBC members	DWMP
3	Respond to doodle polls for working group participation	SBC
4	Review schematic design schedule with Fawn and confirm approach for community meetings, then report back at 4/28 meeting	JCJ/DWMP
5	Schedule meeting to discuss community engagement events (Happy as a Clam 5K, ClamFest, Chamber of Commerce events) and determine appropriate timing/structure for June/September community meetings	All
6	Update cost estimate sheets to show CM at risk consistently across all options for Thursday's presentation	DWMP/JCJ

- **Please click here for the presentation**
    - **This will be referenced in the meeting minutes with slide numbers called out to refer to.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

DORE + WHITTIER

<table>
<tr><th>Item No.</th><th>Description</th><th></th></tr>
<tr><td>18.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 6:06pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>18.2</td><td>Approval of March 24, 2026, Meeting Minutes (Vote Expected):

A motion to approve March 24, 2026, Meeting Minutes, was made by G. Brewster seconded by A. Cameron.

Discussion: None.

Roll Call Vote:
<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Yes</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Yes</td></tr>
<tr><td>Charlie Hay</td><td>Abstain</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Absent</td></tr>
<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Yes</td></tr>
<tr><td>Jen Hocherman</td><td>Absent</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Absent</td></tr>
<tr><td>Henry Oettinger</td><td>Yes</td></tr>
</table></td><td>Record</td></tr>
</table>

	<table><tr><td>Emily Dwyer</td><td>Absent</td></tr><tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr><tr><td>Kim Field</td><td>Advisor – No Vote</td></tr><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table> • **Yes: 11 | No: 0 | Absent/Abstain: 5**	
18.3	**Invoices and Commitments for Approval (Vote Expected):** A motion to approve the following invoices was made by A. Cameron and seconded by G. Brewster. DWMP| $47,094.50 JCJ | $71,857.40 Discussion: M. Cresta recommended approval. C. Dell Angelo shared there will be an OPM contract amendment at the next SBC meeting. C. Dell Angelo stated that DWMP met with the district, including Pam and Michelle, approximately one month earlier to review cash flow projections for the OPM line item in the feasibility study agreement. She noted that funds under the current contract are nearly depleted and outlined the need for a contract amendment to extend funding through the feasibility study phase and schematic design. She added that the amendment was not presented at this meeting, but discussions with the district are ongoing to ensure adequate funding. M. Cresta explained that, compared to the Memorial Project, the feasibility study costs were previously much lower due to a fixed-fee structure. She noted that the Massachusetts School Building Authority now requires OPM services to be billed on a time-and-materials basis, increasing overall costs beyond initial expectations. She stated that $1.5 million was originally appropriated by the two towns and the district for the feasibility study, excluding anticipated MSBA reimbursements. She added that MSBA reimbursement funding is expected to offset increased costs, with approximately $300,000 in additional DWMP expenses and an estimated $500,000 in additional MSBA reimbursement. She concluded that these additional funds will be incorporated into the project upon approval. P. Beaudoin clarified that the OPM and designer contracts differ in structure, noting that the OPM contract is time-and-materials, whereas the designer contract is a lump-sum agreement. Roll Call Vote:	

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Yes
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Absent
Annie Cameron	Yes
Ariel Fernando Brain	Yes
Jen Hocherman	Absent
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Yes
Emily Dwyer	Absent
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 12| No: 0 | Absent/Abstain: 4**

18.4	**Community Meeting Feedback:** J. Elliot noted that seven options were originally considered, including enrollment scenarios of 165, 250, and 515 students, and that pricing had been completed through the PDP phase. He stated that the 165 and 515 enrollment options were then eliminated, leaving the 250-enrollment scenario as the focus. He explained that five alternatives were evaluated within this enrollment, including site	Record

	considerations such as traffic flow, wetlands, parking, emergency access, and playfields, as well as building layout and organization. He added that the options included code upgrade, addition/renovation, and new construction approaches. J. Elliot noted that on March 24th, a gallery walk was held to present the five options, and the matrix was updated to reflect the removal of the two eliminated enrollment scenarios. He further stated that the feedback collected from the community, the SBC, and staff was compiled for review. K. Provost stated that during a faculty meeting, all design options were presented to staff. She noted that staff were then asked to complete the same feedback forms used in the community process, providing an opportunity for staff input on all design alternatives and ensuring they were included in the review process. J. Elliot stated that all feedback was consolidated and color-coded based on the sticky notes, with positive comments identified in green and negative comments in red. (refer to presentation, slides 9-13) <u>Discussion:</u> • M. Gerhardt inquired about feedback related to Pre-K and Kindergarten students potentially needing to use stairs to access special programs, referencing concerns about adjacency between early childhood spaces and other areas such as specials and the cafeteria. He specifically asked for staff input on this issue in relation to option A2.2F, noting that the Pre-K space in that layout is located at a distance from key destinations, requiring use of stairs to move through the building. K. Provost responded that students would adapt to the layout and become accustomed to navigating the building, including the use of stairs as needed.	
18.5	**Design Alternatives – PDP Review Comments from MSBA:** Preliminary Design Program (PDP) Review Comments received from the MSBA. Space Templates for all three Enrollment scenarios (165, 250 and 515 students) were reviewed: • All newly constructed Special Education Classrooms shall be a minimum of 900 nsf. ACE rooms increased from 600 nsf to 900 nsf. • School Psychologist recategorized from 'Special Education' to 'Administration and Guidance.'	

	• Storage areas in RISE, Physical Therapy and Pre-K totaling 800 nsf recategorized to 'Non-Programmed Spaces.' Results in a reduction of building gross floor area due to how the grossing factor is applied. • Approximate reduction to each design alternative is a reduction of approximately 500 gfa. (Code Upgrade remains unchanged.) • Space templates, design diagrams and cost estimates have all been aligned with these revised building gross floor areas for the upcoming PSR submission.	

18.6	**Design Alternatives – Preliminary Costs:**
	
	PSR Preliminary Costs:
	• D. Lombardi shared what the cost estimators consider…
	  ○ Site layouts and features
	  ○ Architectural floor plan layout and square footage
	  ○ An outline specification that describes **intent** for civil, landscape, architectural materials, interior finishes, structural systems, MEP/FP/FA systems, IT/AV and sustainability goals
	  ○ Estimated construction duration
	  ▪ Phasing for new construction and phasing for the abatement & demolition
	  ▪ Modulars if assumed necessary
	  ○ Escalation based upon estimated construction duration
	
	PSR Pricing Exercise:
	• The costs shown for the various PSR options are intended for comparative analysis only and do not represent the final project costs for any individual option.
	• Major variables including geotechnical conditions, site grading, structural systems, and final MEP design – are still under development. As these elements are refined, costs may vary significantly from the current benchmark estimates.
	• Accordingly, the figures presented in this report should not be interpreted as the final construction budget.
	• This PSR Design Submission cost estimate was produced from narratives and outline drawings dated, prepared by JCJ Architecture and their design team. The estimation package was issued on March 11th.
	
	C. Dell Angelo explained that the slide is similar to one previously presented during cost estimate discussions and is sourced from the MSBA construction cost analysis on their website. She highlighted comparable elementary school projects, including Essex Elementary School, to show the	

project's position relative to others in various phases—some slightly behind, ahead, or at a similar stage. She noted that construction costs per square foot are generally consistent across projects, ranging from approximately $877 per square foot for projects in the schematic design phase to the project's current estimate in the feasibility phase. She concluded that the project is tracking in line with other elementary school projects within the MSBA process.

C. Dell Angelo reviewed the estimated costs for each of the options. (refer to presentation, slide 36)

C. Dell Angelo noted that there are two construction delivery methods—Design-Bid-Build and Construction Manager at Risk—and that the SBC will need to vote on a preferred method after an option is selected. There is a premium for CM at Risk.

Discussion:

- T. Whitman stated a preference to hold the vote on a preferred option on Thursday, allowing SBC members time to consider input and to take the official vote following the community meeting feedback. C. Dell Angelo agreed to hold the vote on Thursday but emphasized that a final selection must be made at the next SBC meeting.
- C. Hay recommended only comparing the CM at Risk total project costs.
- P. Beaudoin explained that, for those not in the field, a simple way to understand the distinction is that more complex projects are more likely to use the Construction Manager at Risk method, as it involves assuming greater responsibility for delivering the project on time and within budget while managing complexities. She noted that simpler, more straightforward projects may be better suited to the Design-Bid-Build method, where, despite some risk, the relative simplicity makes the project easier to deliver.
- T. Virden stated that he was concerned about the $51 million estimate for the code upgrade, noting it is significantly lower than the other options. He questioned whether that level of investment would meet the educational program and asked if all soft costs, particularly those related to phasing and implementation, have been fully accounted for. He also asked how the option could be presented differently to better reflect its value. T. Whitman asked whether the option should be considered viable if it does not meet the educational program. C. Dell Angelo responded that the MSBA will only reimburse a code upgrade project if it meets the educational program and noted that this option does not.

- C. Hay shared concern that the code upgrade project would be disruptive for students and educators, noting that it would require the use of modular classrooms, take four classrooms offline at a time, and involve up to ten construction phases. Also, it is a non-reimbursable project.
- P. Beaudoin reminded the SBC that the code upgrade is strictly an upgrade and would maintain the existing building configuration. J. Elliot confirmed that there would be no educational program enhancements under this option.
- A. Oldeman stated that he was curious about the cost of the code upgrade, noting it is relatively lower than the Memorial project. He referenced that Memorial included significant cost impacts from structural seismic upgrades and a different building architecture and construction type. He added that while those factors may explain the difference, he had expected the code upgrade cost to be more closely aligned with the other options. D. Lombardi responded that the Manchester project had a very difficult layout, noting that it was highly sprawling with many single-loaded corridors, which resulted in a larger amount of exterior wall, additional windows, and increased building envelope due to its configuration. He contrasted this with Essex, explaining that its courtyard design results in a much more compact building footprint.
- T. Virden stated that Options A and B presented several complications. He expressed a preference for Option F, citing site constraints and grade changes as key considerations.
- SBC members stated that Option A2.2F provided strong value to the community and also reduced paving and building setback impacts on the property, helping to address abutter concerns. They further noted that the option avoids impacts to wetlands, provides improved supervision and safety for students with the playspace located behind the building, and offers the best adjacencies for programs.
- The formal vote will be taken at the 4/16/26 SBC Meeting.

<u>Straw Poll (Include Non-voting members):</u>

Option	**Votes**
Option A.02	
Option A1.2-B	
Option A2.2-A	
Option A2.2-B	
Option A2.2-F	T. Virden, H. Oettinger, M. Gerhardt, A. Oldeman, L. O'Donnell, P. Beaudoin, K. Provost,

<table>
<tr><td></td><td><table><tr><td></td><td>A. Brain, K. Field, R. Russo, C. Hay, G. Brewster, M. Cresta, T. Whitman, A. Cameron, J. Binieris</td></tr></table></td><td></td></tr>
<tr><td>18.7</td><td>Schedule Update:
4/16/26 Community Meeting – Cost Review
4/16/26 SBC Meeting – Select Preferred Option
4/28/26 SBC Meeting - Approve PSR Submission to MSBA
5/12/26 SBC Meeting
5/26/26 SBC Meeting
6/4/26 Community Meeting #6
6/9/26 SBC Meeting
6/23/26 SBC Meeting
7/14/26 SBC Meeting
7/28/26 SBC Meeting
8/11/26 SBC Meeting
8/25/26 Community Meeting #7
8/25/26 SBC Meeting
9/8/26 SBC Meeting
9/22/26 SBC Meeting
10/13/26 SBC Meeting
10/27/26 SBC Meeting
10/29/26 Community Meeting #8
11/10/26 SBC Meeting
11/24/26 SBC Meeting
Numerous working group meetings will be scheduled over the next couple of months. R. Rincon will distribute the working group member list to the SBC for review. R. Rincon will also schedule the next Communications Working Group meeting.</td><td>Record</td></tr>
<tr><td>18.8</td><td>Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting: None.</td><td>Record</td></tr>
<tr><td>18.9</td><td>Public Comment: None.</td><td>Record</td></tr>
<tr><td>18.10</td><td>Reflections & Action Items: None.</td><td>Record</td></tr>
<tr><td>18.11</td><td>Adjourn: A motion to adjourn the meeting was made at 8:00 pm by G. Brewster and seconded by A. Cameron.

Roll Call Vote:<table><tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr><tr><td>Michelle Cresta</td><td>Yes</td></tr><tr><td>Pam Beaudoin</td><td>Yes</td></tr></table></td><td>Record</td></tr>
</table>

Kim Provost	Yes
John Binieris	Yes
Theresa Whitman	Yes
Andy Oldeman	Yes
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brian	Yes
Jen Hocherman	Absent
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Yes
Emily Dwyer	Absent
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 13 | No: 0 | Absent/Abstain: 3**

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 18

April 14, 2026 @ 6:00 PM

DORE + WHITTIER

JCJ ARCHITECTURE

SBC Meeting Agenda – April 14, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Feedback from Community Meeting 03/24/2026
5. Design Alternatives - PDP Review Comments from MSBA
6. Design Alternatives - Preliminary Costs
7. Preferred Option (Vote Expected)
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

SBC Meeting Agenda – April 14, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 17 – March 24, 2026
3. Invoices and Commitments for Approval (Vote Expected)
4. Feedback from Community Meeting 03/24/2026
5. Design SchedAlternatives - PDP Review Comments from MSBA
6. Design Alternatives - Preliminary Costs
7. Preferred Option (Vote Expected)
8. ule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

SBC Meeting Agenda – April 14, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - DWMP | $47,094.50
   - JCJ | $71,857.40
4. Feedback from Community Meeting 03/24/2026
5. Design Alternatives - PDP Review Comments from MSBA
6. Design Alternatives - Preliminary Costs
7. Preferred Option (Vote Expected)
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

SBC Meeting Agenda – April 14, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Feedback from Community Meeting 03/24/2026
5. Design Alternatives - PDP Review Comments from MSBA
6. Design Alternatives - Preliminary Costs
7. Preferred Option (Vote Expected)
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

Design Alternative Matrix from PDP Approval Jan. 6, 2026

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1 Code Upgrade/ Base Repair	A0.2 Code Upgrade/ Base Repair	A1.1 Addition/ Renovation	A1.2 Addition/ Renovation	A2.1 New Construction	A2.2 New Construction	B1.1 Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program at EES	0	0	0	4	0	4	2
	Meets Needs of Educational Program at MMES	0	4	0	4	0	4	2
	Equity across the District	0	0	0	4	0	4	0
	Future Growth and Expansion	2	2	2	2	4	4	0
	Flexible and Adaptable Spaces	0	0	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	0	2	2	0
Community	Compatible with Regional Agreement	0	4	0	4	0	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	1	4	1	4	1	4	0
	Neighborhood Traffic Impact	1	4	1	4	1	4	0
	Community Use Opportunities	1	4	1	4	1	4	0
	Disruption to Manchester	1	4	1	4	1	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	4	1	1	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	2	4	4	0
	Parking Capacity	2	2	2	2	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	2	4	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	2	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	0	4	4	2
	Additional work at MMES (separate project by District)	0	2	0	2	0	2	N/A
Cost and Schedule	Maximize MSBA Grant Reimbursement	4	4	4	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	0	4	4	1
	Modular Classroom Swing Space not Required	4	0	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	0	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	1	2	1	2	1	2	2
	Reduce Operational Costs - Staff, Transport	1	2	1	2	1	2	2
	Total Project Cost	$45M-50M	$45M-50M	$75M-80M	$90M-95M	$80M-85M	$90M-95M	$70M-80M

PDP to PSR

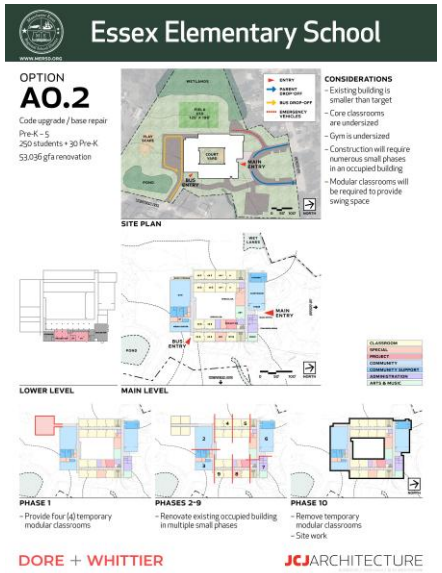
Discussion of Alternatives at close of PDP Phase and start of PSR Phase:

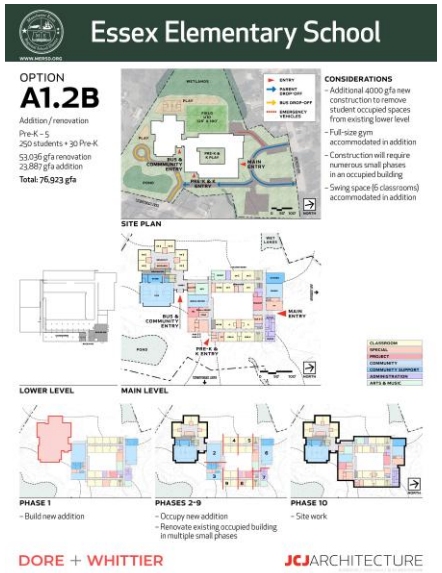
- Site evaluation of opportunities and challenges
- Understanding MERSD goals, creation of the Space Summaries and confirmation of the Ed. Program.
- Alternatives meeting Educational Program
- Enrollment / Grade Configuration options within the Alternatives

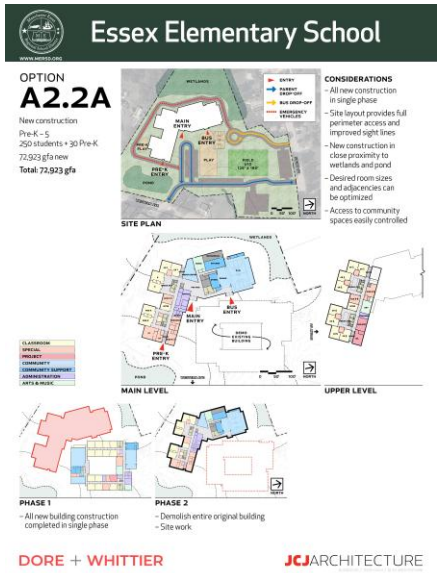
Discussions during PSR phase:

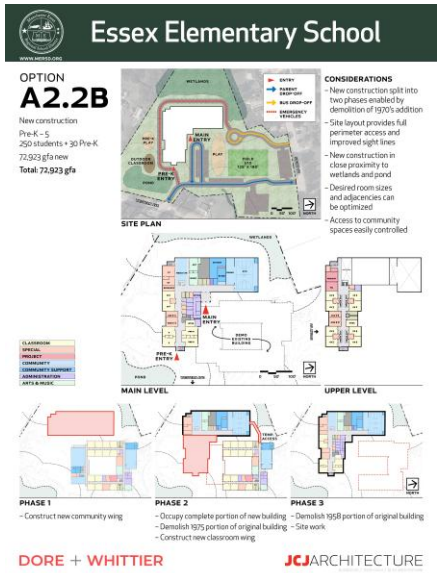
- Details of Enrollment / Grade Configuration: financial, school space implications, student social emotional impact, traffic impacts, physical site impacts, MSBA reimbursement affect, and community
  - Eliminated165 and 515 Enrollment Options (Alternatives A1.1 and B1.1)
  - Focus on 250 Enrollment Option for which five Alternatives have been developed
- Refinement of Site Layouts: wetlands, parking, emergency access drives, play areas, fields, loading and entry points into the school
- Refinement of Building Layouts: Code Upgrade, Reno/Add, New Construction options; Interior layout refinements per SBC and MERSD feedback, and the start of massing considerations

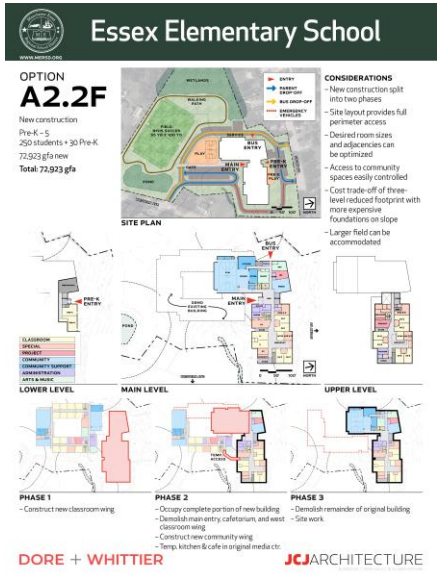
Feedback from Community Meeting 03/24/2026

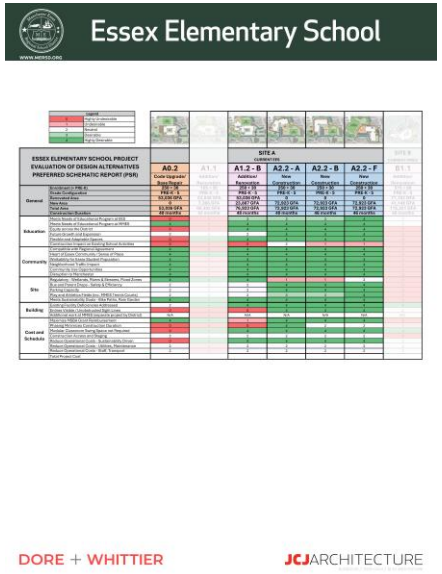














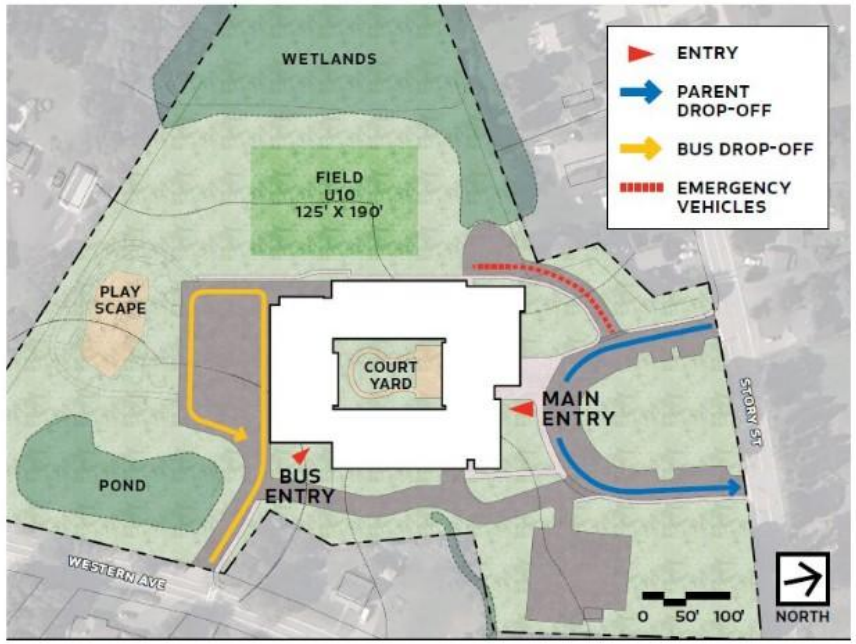
Feedback from Community Meeting 03/24/2026

OPTION A0.2

Code upgrade / base repair

Pre-K – 5
250 students + 30 Pre-K

53,036 gfa renovation



SBC FEEDBACK

- Meeting Ed Prog challenge
- No benefit considering cost, phasing, disruption to EES
- Construction phasing impact on education
- Mech, Struc, & Sustainable upgrades too extensive
- Worst-Not equal resource to other district students
- Worst-Not ideal educational experience
- Significant funds for little improvement
- Does not meet educational program
- Not provide parity in district

COMMUNITY FEEDBACK

- Doesn't meet Program
- Gym too small
- Main Entrance should be on Western Ave

STAFF FEEDBACK

- Huge disruption to learning & teachers.
- No thank you
- No-Too costly for old building
- Existing space not conducive to needs
- No
- Likely uncover more serious/costly issues in renovation
- Dislike

Feedback from Community Meeting 03/24/2026

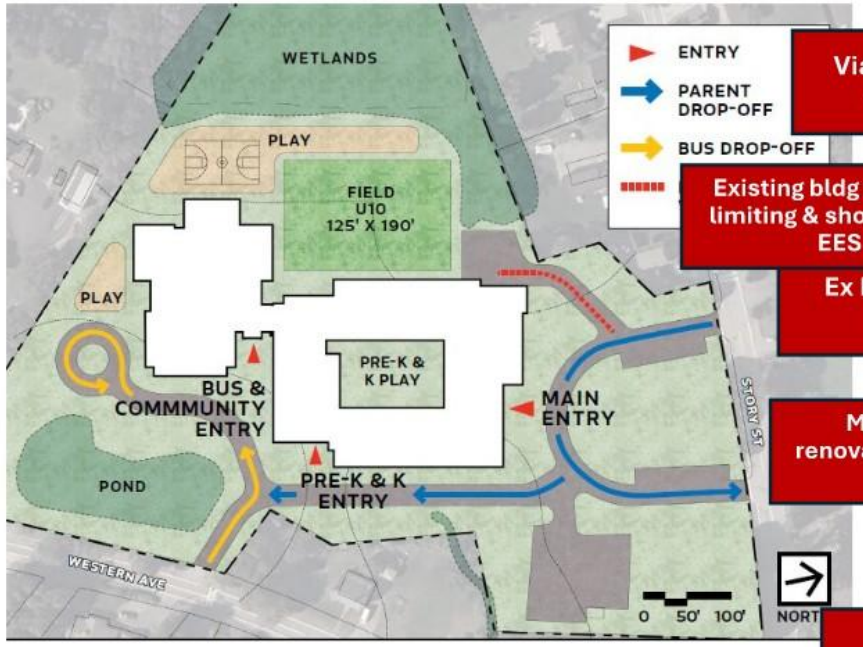
OPTION A1.2B

Addition / renovation

Pre-K – 5
250 students + 30 Pre-K

53,036 gfa renovation
23,887 gfa addition

Total: 76,923 gfa



SBC FEEDBACK

- Viable Phasing but less efficient
- Existing bldg constraints for teachers & students
- Circulation cumbersome
- Existing bldg footprint limiting & shortchange EES
- Basketball court poorly located
- Ex bldg. not worth renovating
- Largest overall building size may increase costs
- Mech, Struc, & Sustainable upgrades too extensive
- Disruptive to EES. Reasonable only if big cost savings
- Multiple small renovations disruptive, costly
- large footprint limits opportunities & outdoor play space
- Limited emergency access drive
- Long distance of travel
- Long time to construct
- Dislike how tight field is to building

COMMUNITY FEEDBACK

- Big building footprint
- Only consider if significant cost savings
- Huge
- Gym & Outdoor Play are a great distance
- PreK play area distracting to students
- Courtyard is not efficient use of space

STAFF FEEDBACK

- Too many phases
- Not preferred
- Too disruptive during school
- Nurse far from lower grades
- Too spread out
- Too costly for old building
- Remove existing building
- Nice addition but other designs better

Feedback from Community Meeting 03/24/2026

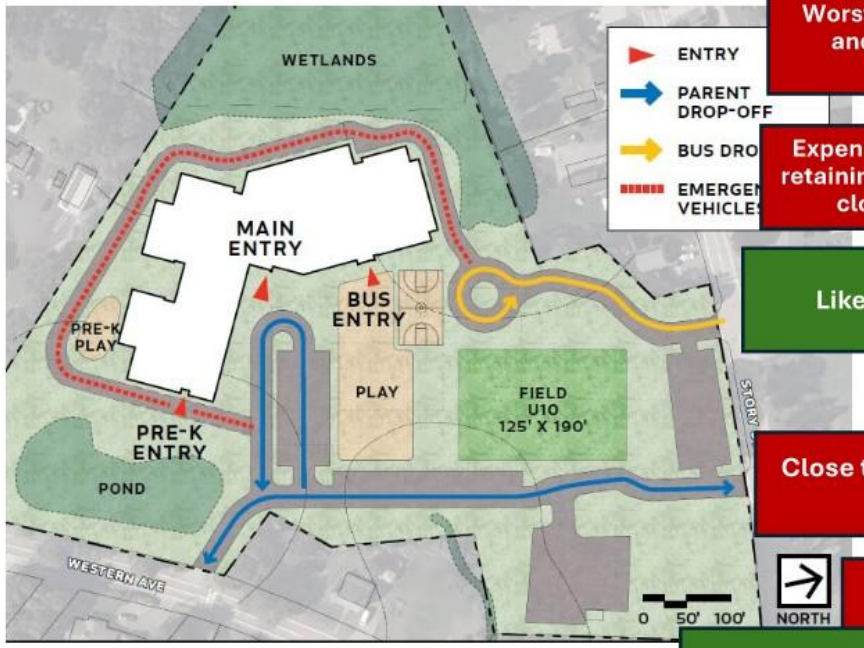
OPTION A2.2A

New construction

Pre-K – 5
250 students + 30 Pre-K

72,923 gfa new

Total: 72,923 gfa



SBC FEEDBACK

- Worst of 2.2 schemes and recommend removing
- Increase impact on wetland
- Single phase & no temp facilities good for EES
- Expensive regrading & retaining walls for fields close to street
- Inefficient site circulation pushes out parking & play
- Like geometry
- Top two: Like phasing
- Flr plans efficient w/ good adjacency of programs
- Like location & emergency drive
- Good option but compromised site
- Close to neighbors in back
- Limited Field
- Close to wetlands add complications
- Distributed parking across site
- A lot of paving
- Close to wetlands / potential regulatory issues
- Like best
- First choice

COMMUNITY FEEDBACK

- Do not like how much of the lot is taken up with paving
- Best play area
- Like bldg. has no disruption to current class
- Does not need to be phased

STAFF FEEDBACK

- Only 1 Phase
- Like grade level wings
- Wetlands potential an issue in long run
- Play too close to road
- Great design
- Good breakout spaces / neighborhood feel
- Avoid Specials on 2nd Flr because Prek/K use of stairs
- Nurse should be central
- Close to wetland
- 1st choice: layout, less phasing, neighborhoods
- Short hallways
- 1st choice: Move only once & is set back from roads
- Stay in school while building new
- Grade level neighborhoods & flexible breakout
- Like grade level community

Feedback from Community Meeting 03/24/2026

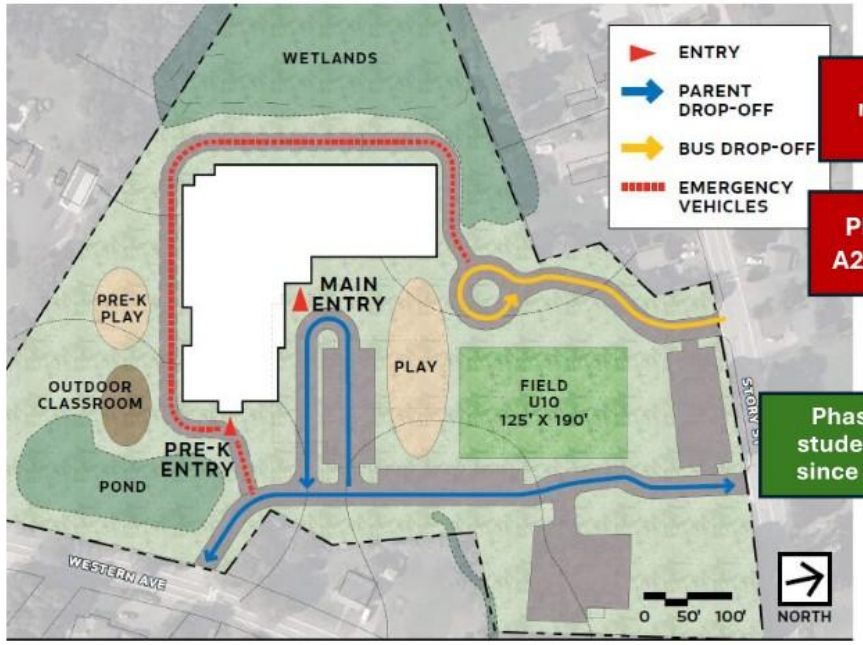
OPTION A2.2B

New construction

Pre-K – 5
250 students + 30 Pre-K

72,923 gfa new

Total: 72,923 gfa



SBC FEEDBACK

- Still expensive regrading & retaining walls for fields
- A lot of paving
- Increase impact on wetland
- Phasing worse than A2.2A without benefit
- Close to neighbors in back
- Close to wetlands add complications
- Proximity of PreK and K seem good
- Plan efficient w/ good adjacency of program
- Phasing Impact on student perhaps less since Gym demo first
- Close to wetland-Road appears in wetland-Regulatory
- Inefficient site circulation pushes out parking & play
- Multiphase construction and temp facilities costly
- Construction phasing

COMMUNITY FEEDBACK

- Is Media Center a hallway?

STAFF FEEDBACK

- No to hallways instead of neighborhoods
- Community spaces are controlled
- Dislike long hallways / loses community feel
- Break out rooms nice
- Grade level clustering, outdoor classroom
- Outdoor classroom
- Avoid Specials on 2nd Flr because Prek/K use of stairs
- Not like proximity to wetlands
- More centralized drop-off area (pro or con?)
- Generally like set-up
- Play too close to road

Feedback from Community Meeting 03/24/2026

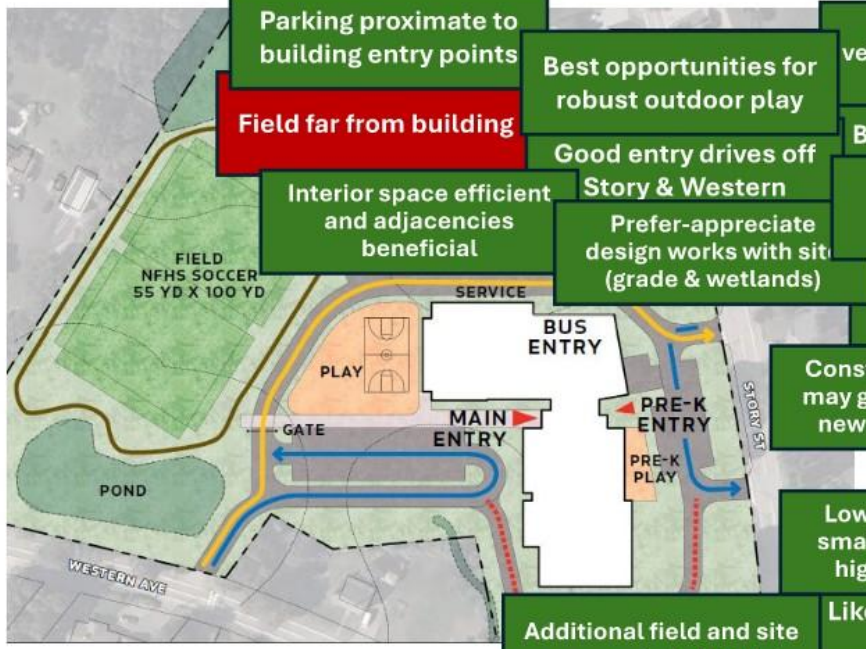
OPTION A2.2F

New construction

Pre-K – 5
250 students + 30 Pre-K

72,923 gfa new

Total: 72,923 gfa



SBC FEEDBACK

- Parking proximate to building entry points
- Field far from building
- Best opportunities for robust outdoor play
- Good entry drives off Story & Western
- Interior space efficient and adjacencies beneficial
- Prefer-appreciate design works with sit (grade & wetlands)
- Most efficient site, vehicle circulation tight and not cross
- Best building layout
- Separating Pre-K makes sense
- Location better than other A2.2 schemes
- Basketball court in good location
- Superior design
- Proper use of wet areas
- Top two: Improved site facilities
- Top two, But phasing & sch. neighborhood street concern
- Best with site and field for community, Floor plate away from wetlands
- Construction phasing may get students into new spaces fastest
- On wet site, less paving better (permeable)
- Music next to Platform and higher ceilings
- Walking path
- Less intruding on neighbors
- Maximizing outdoor play space
- Lower maintenance small footprint worth higher construct $
- Adequate parking and logical sequence for bus and car drop off
- Separate Pre-K entry & parking good for staggered sched
- Additional field and site serves whole District
- Like main entry off Western
- Second choice-cool design!
- Offers most benefit for the investment of tax dollars
- Nothing feels hidden- Play & field easily seen
- Good construction phasing approach w/ temp. gym & café

COMMUNITY FEEDBACK

- Less building on wetland
- Like separate Pre-K entry
- I like the phasing
- Small footprint
- Can bldg. move away from wetland?
- Clustered specials
- More fields for District
- Utilizes underused space (parking lots)

STAFF FEEDBACK

- 1st choice: Away from wetland & best use of land for community
- More space for activities
- Best Opt: Best use of land for community & play away from roads.
- Like community spaces
- Best for wetlands & large outdoor areas (add outdoor clssrm?)
- Great design
- Concerned if cross 'street' to field
- Controlled community spaces
- Like Best: Breakout spaces & Large field
- Removed from wetland
- 3 levels
- Walking Path & Separate Pre-K level
- Walking path & Athletic field
- Neighborhood feel
- 2nd choice: Like less K-2 & 3-5 groupings
- Larger field will be selling point for community

SBC Meeting Agenda – April 14, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Feedback from Community Meeting 03/24/2026
5. Design Alternatives - PDP Review Comments from MSBA
6. Design Alternatives - Preliminary Costs
7. Preferred Option (Vote Expected)
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

Design Update – PDP Submission MSBA Comments

Preliminary Design Program (PDP) Review Comments received from the MSBA.

Space Templates for all three Enrollment scenarios (165, 250 and 515 students) were reviewed:

- All newly constructed Special Education Classrooms shall be a minimum of 900 nsf. ACE rooms increased from 600 nsf to 900 nsf.
- School Psychologist recategorized from 'Special Education' to 'Administration and Guidance.'
- Storage areas in RISE, Physical Therapy and Pre-K totaling 800 nsf recategorized to 'Non-Programmed Spaces.' Results in a reduction of building gross floor area due to how the grossing factor is applied.
- Approximate reduction to each design alternative is a reduction of approximately 500 gfa. (Code Upgrade remains unchanged.)
- Space templates, design diagrams and cost estimates have all been aligned with these revised building gross floor areas for the upcoming PSR submission.

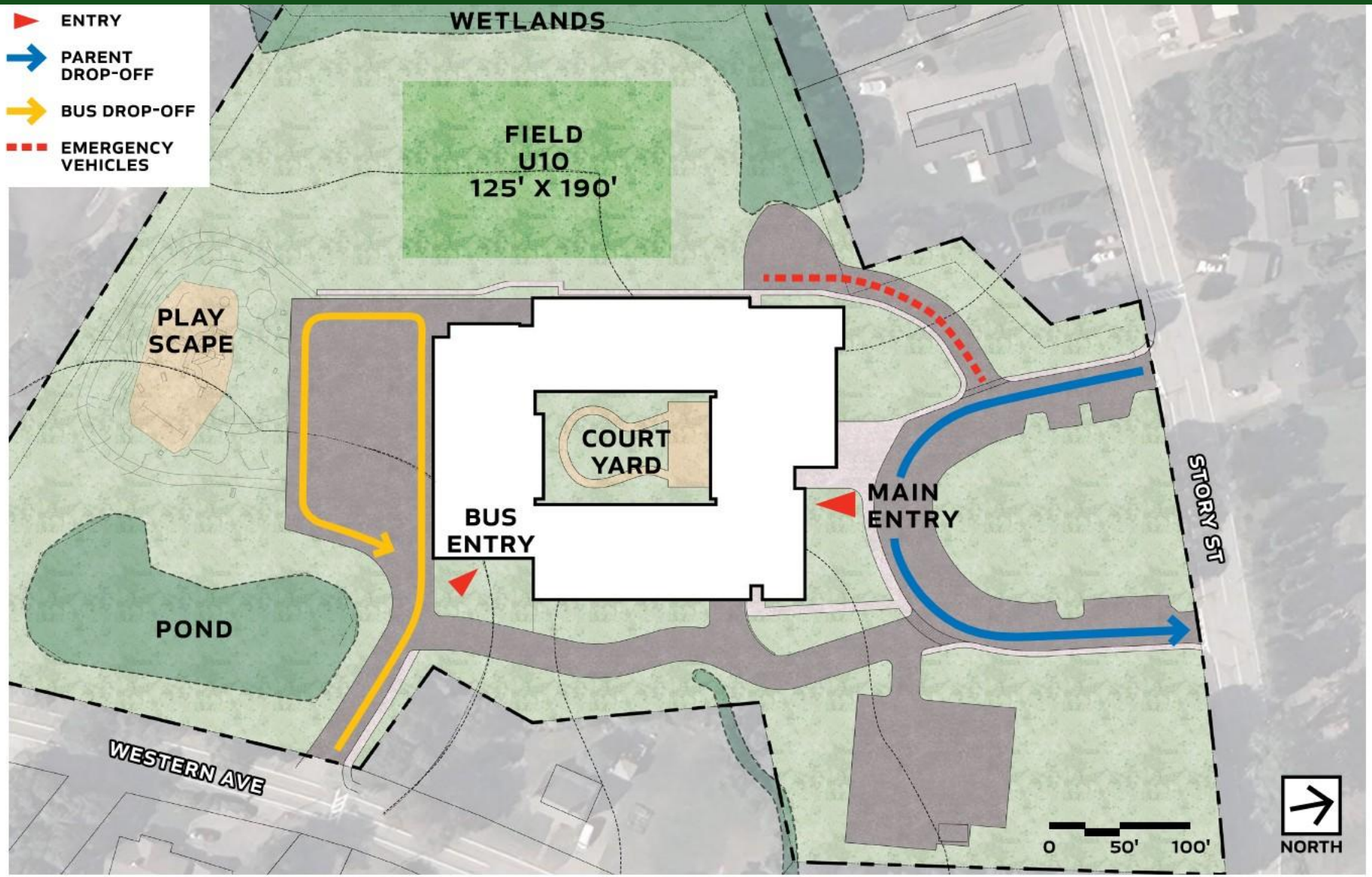
Design Update – PDP Submission MSBA Comments

OPTION AO.2
CODE UPGRADE/ BASE REPAIR

SITE PLAN
PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CONSIDERATIONS
- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE



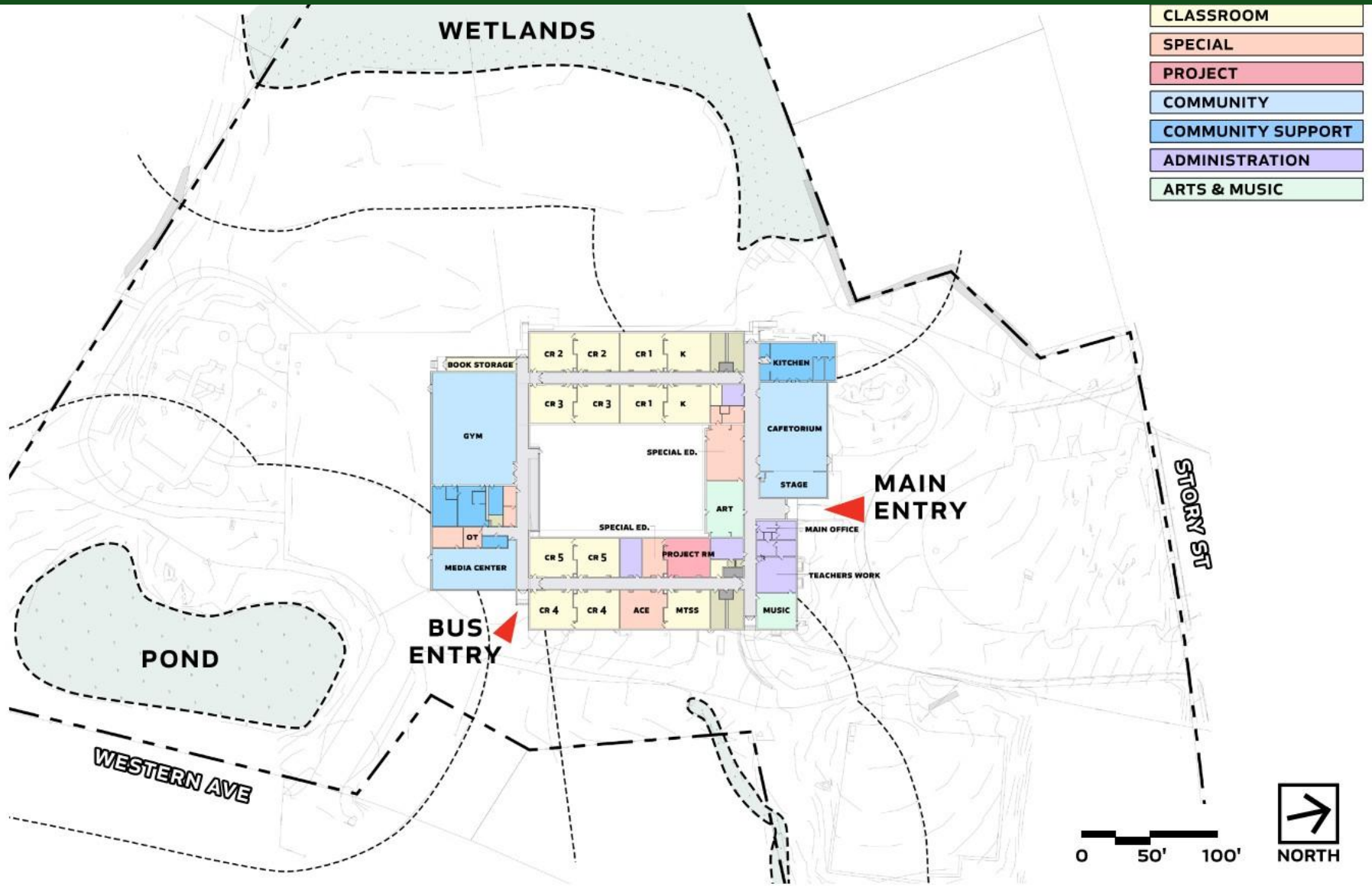
Design Update – PDP Submission MSBA Comments

OPTION A0.2
CODE UPGRADE/ BASE REPAIR

MAIN LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CONSIDERATIONS
- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
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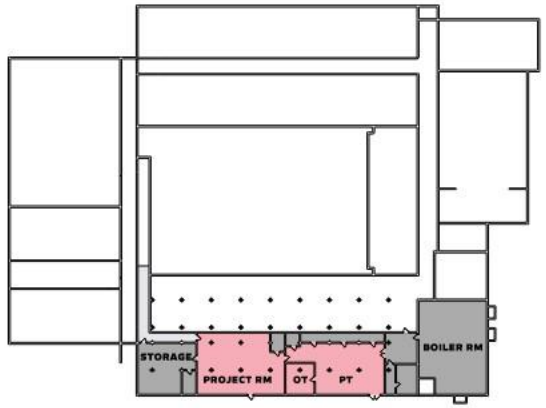
OPTION A0.2
CODE UPGRADE/ BASE REPAIR

LOWER LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
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0 50' 100'
NORTH

Design Update – PDP Submission MSBA Comments

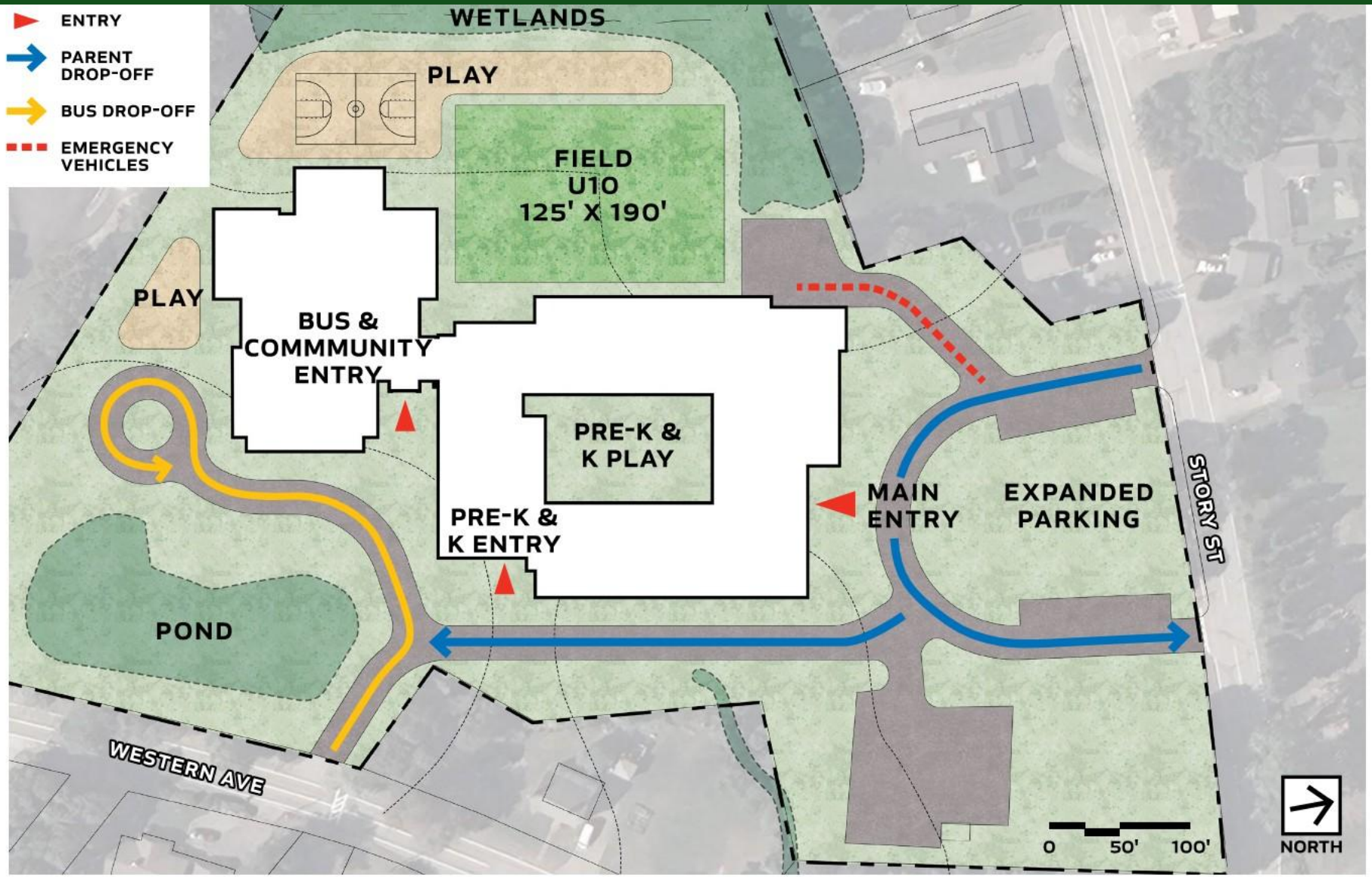
OPTION A1.2-B ADDITION/ RENOVATION

SITE PLAN

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
23,407 GFA ADDITION

TOTAL: 76,443 GFA



CONSIDERATIONS

- ADDITIONAL 4000 GFA NEW CONSTRUCTION TO REMOVE STUDENT OCCUPIED SPACES FROM EXISTING LOWER LEVEL
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

Design Update – PDP Submission MSBA Comments

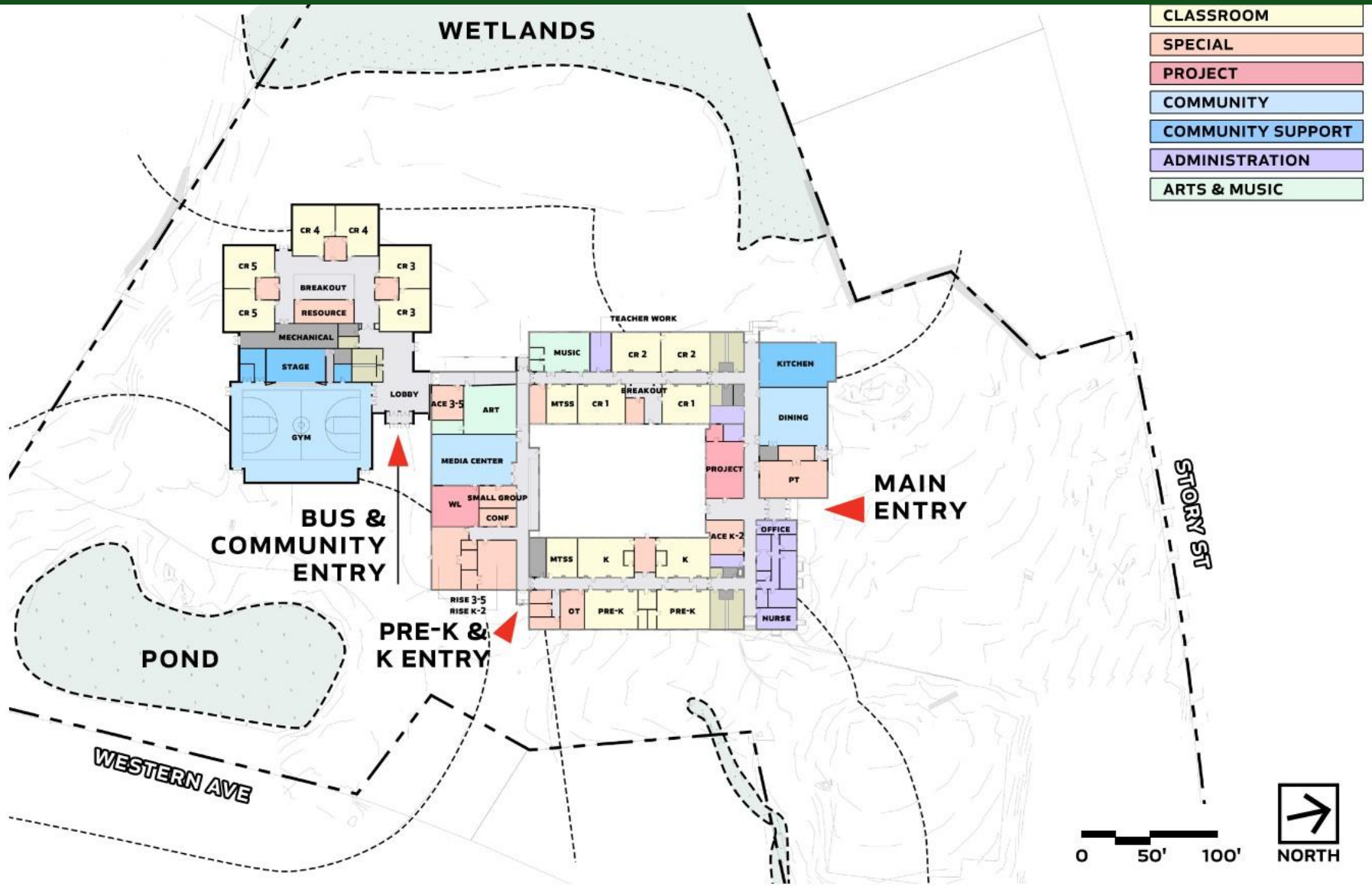
OPTION A1.2-B ADDITION/ RENOVATION

MAIN LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
23,407 GFA ADDITION

TOTAL: 76,443 GFA



CONSIDERATIONS

- ADDITIONAL 4000 GFA NEW CONSTRUCTION TO REMOVE STUDENT OCCUPIED SPACES FROM EXISTING LOWER LEVEL
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

OPTION A1.2-B ADDITION/ RENOVATION

LOWER LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K

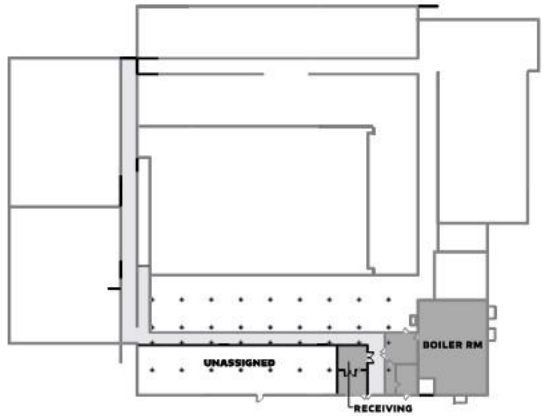
53,036 GFA RENOVATION
23,407 GFA ADDITION

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- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



0 50' 100' NORTH

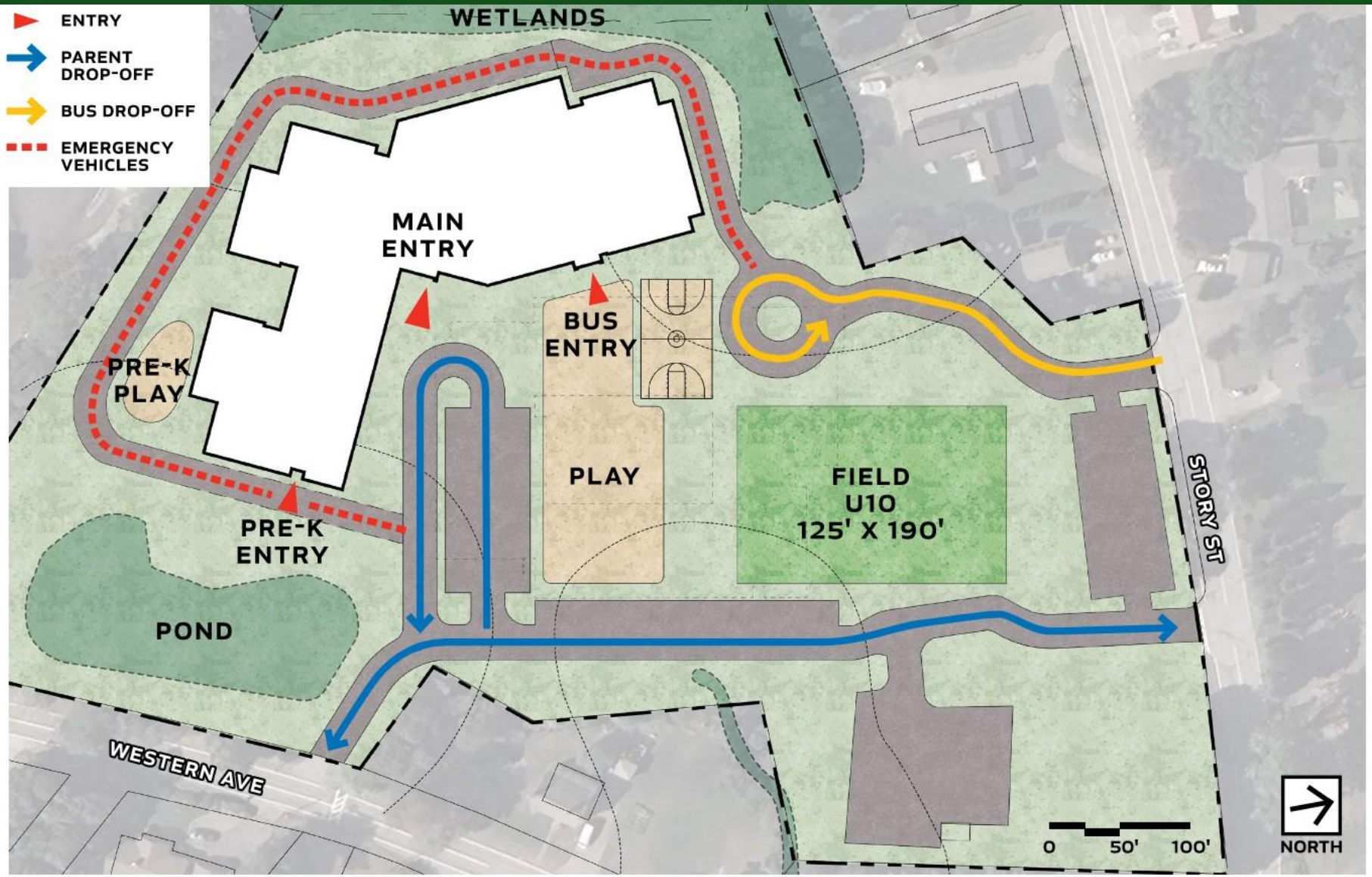
Design Update – PDP Submission MSBA Comments

OPTION A2.2-A
NEW CONSTRUCTION

SITE PLAN
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA



CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

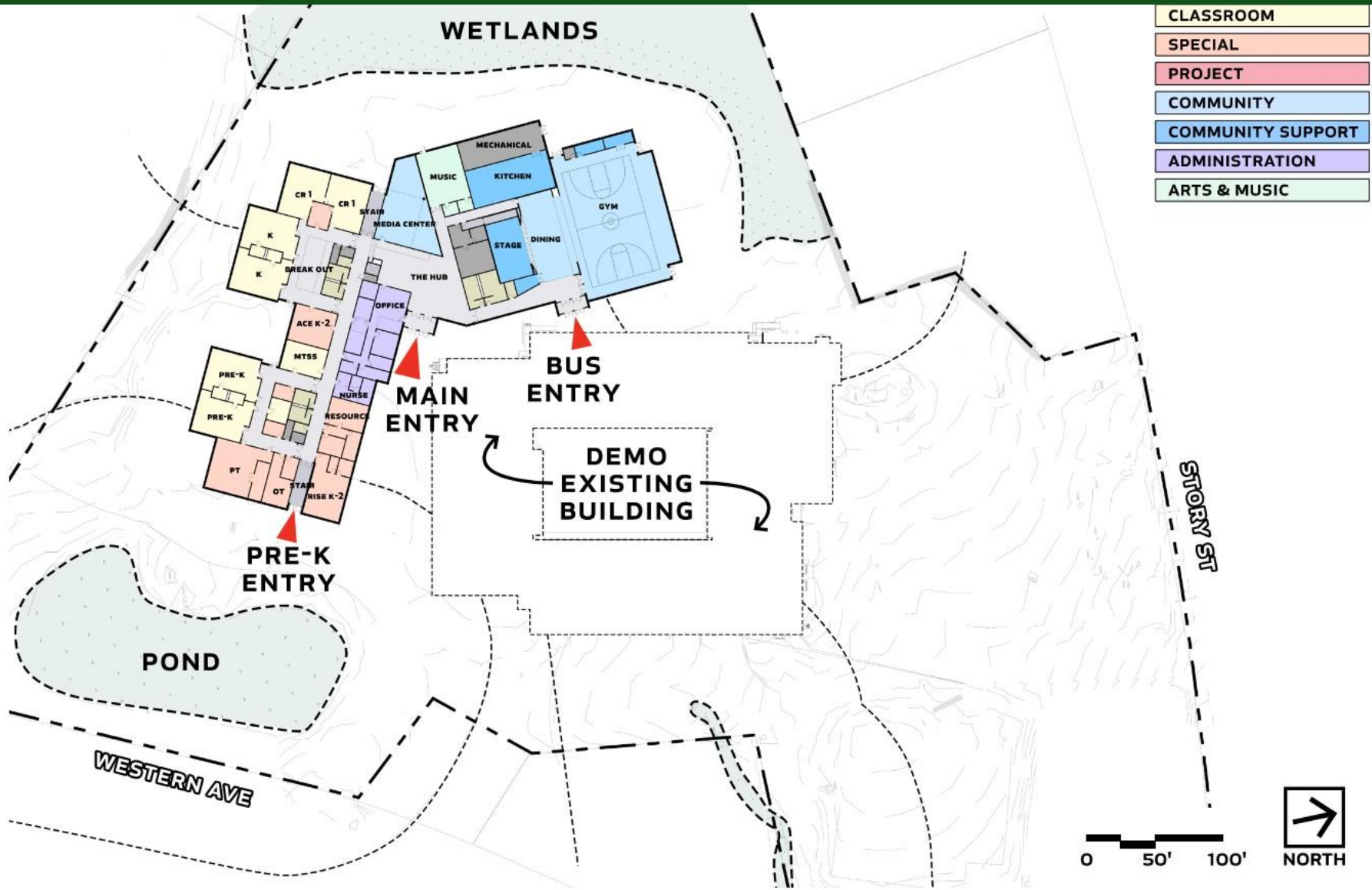
Design Update – PDP Submission MSBA Comments

OPTION A2.2-A
NEW CONSTRUCTION

MAIN LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA



CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

OPTION A2.2-A
NEW CONSTRUCTION

UPPER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA



- CLASSROOM
- SPECIAL
- PROJECT
- COMMUNITY
- COMMUNITY SUPPORT
- ADMINISTRATION
- ARTS & MUSIC

CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

0 50' 100'

NORTH

Design Update – PDP Submission MSBA Comments

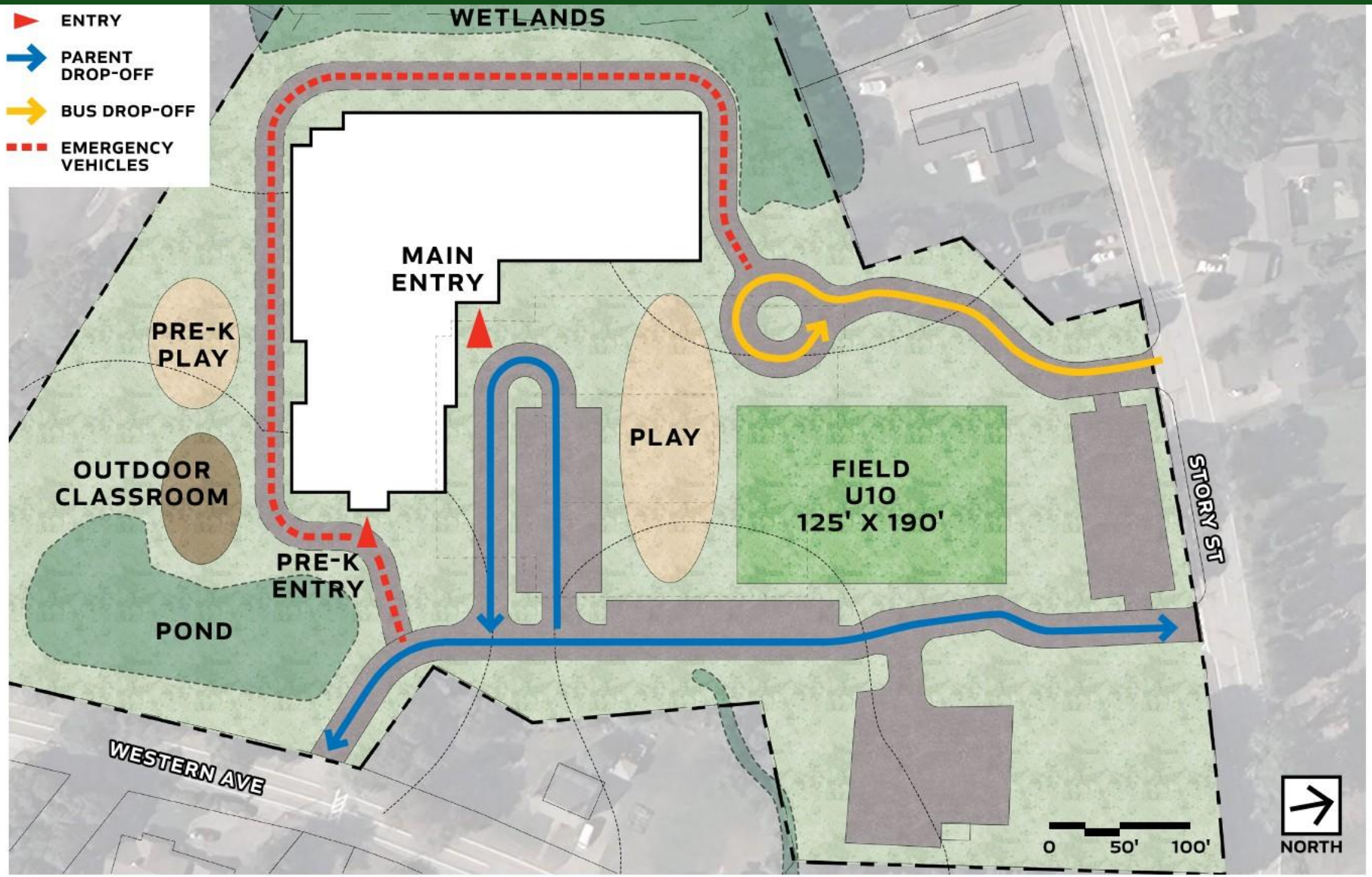
OPTION A2.2-B
NEW CONSTRUCTION

SITE PLAN

PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA



CONSIDERATIONS

- NEW CONSTRUCTION SPLIT INTO TWO PHASES ENABLED BY DEMOLITION OF 1970'S ADDITION
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

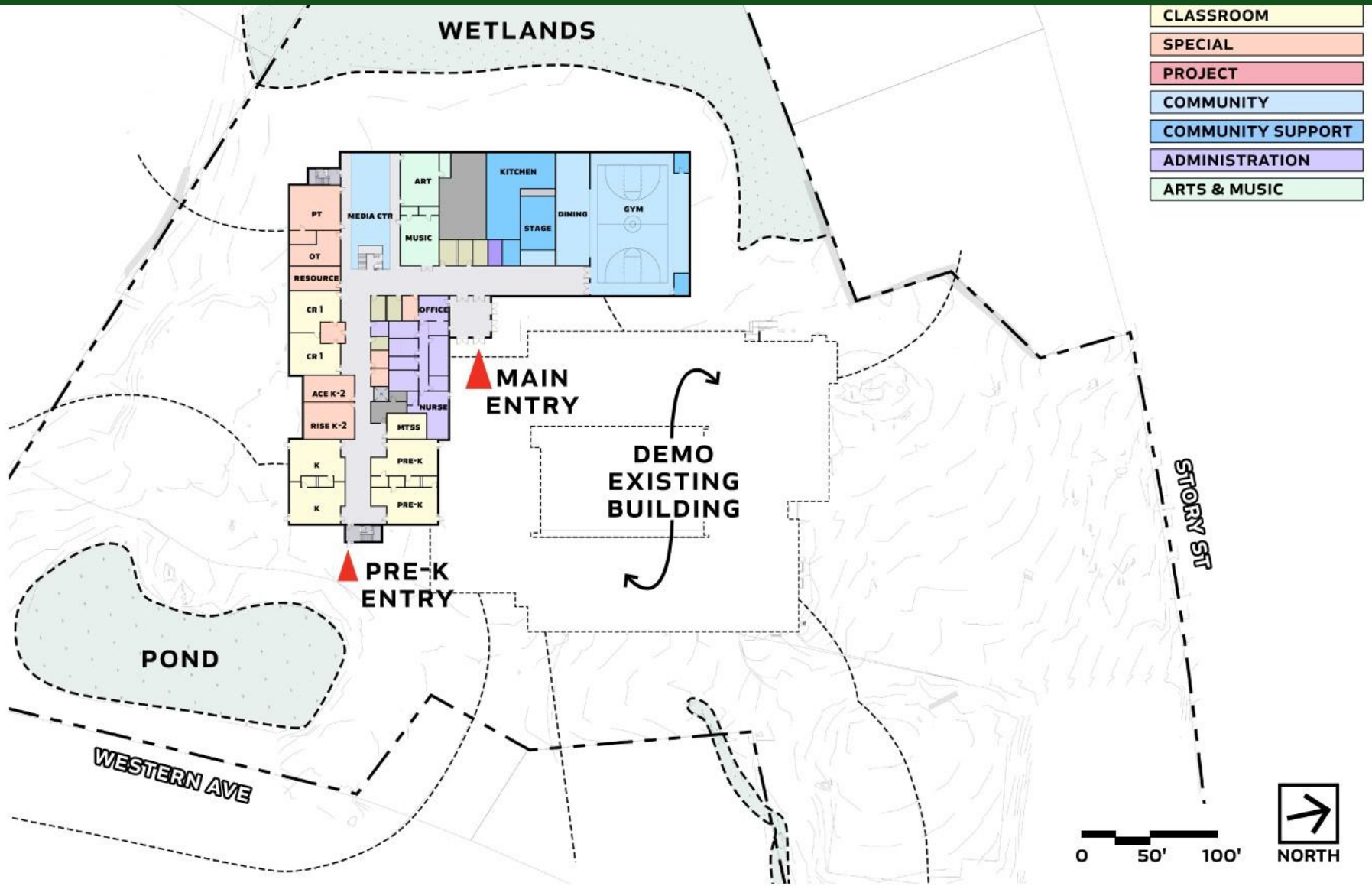
Design Update – PDP Submission MSBA Comments

OPTION A2.2-B
NEW CONSTRUCTION

MAIN LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA



CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES ENABLED BY DEMOLITION OF 1970'S ADDITION
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
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- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

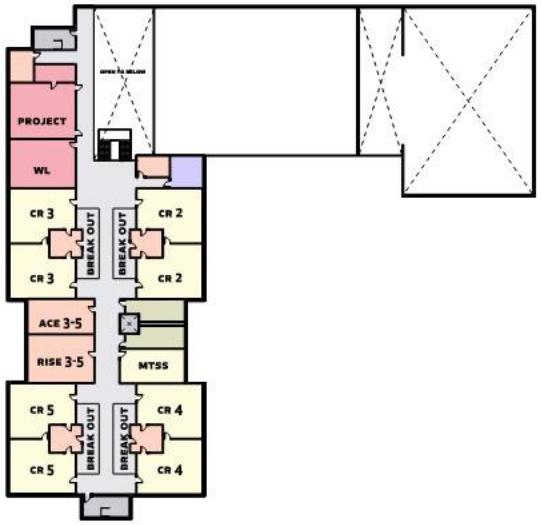
Design Update – PDP Submission MSBA Comments

OPTION A2.2-B
NEW CONSTRUCTION

UPPER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA



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PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES ENABLED BY DEMOLITION OF 1970'S ADDITION
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- NEW CONSTRUCTION IN CLOSE PROXIMITY TO WETLANDS AND POND
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED

0 50' 100'
NORTH

Design Update – PDP Submission MSBA Comments

OPTION A2.2-F
NEW CONSTRUCTION

SITE PLAN

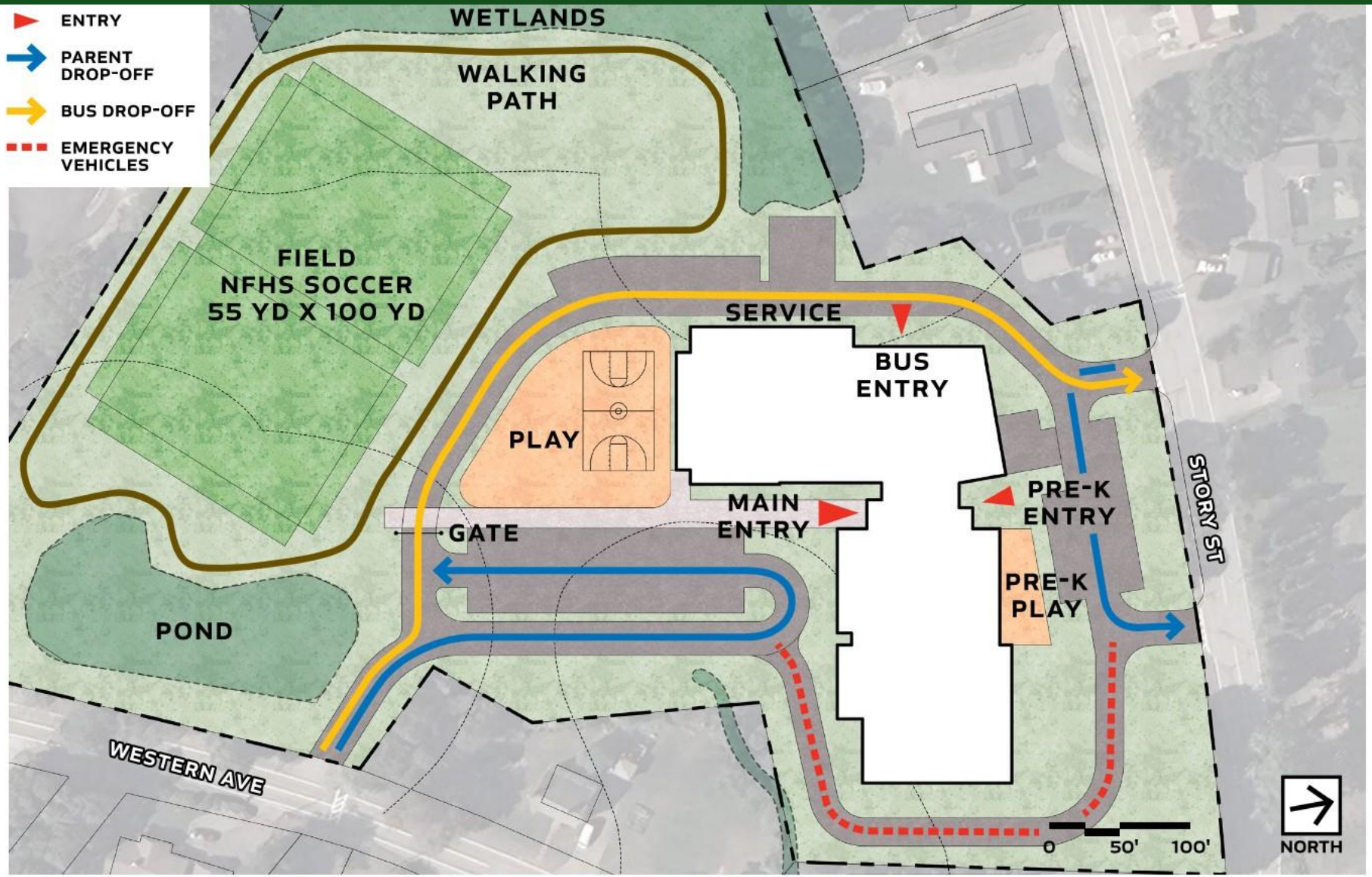
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA

CONSIDERATIONS

- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



Design Update – PDP Submission MSBA Comments

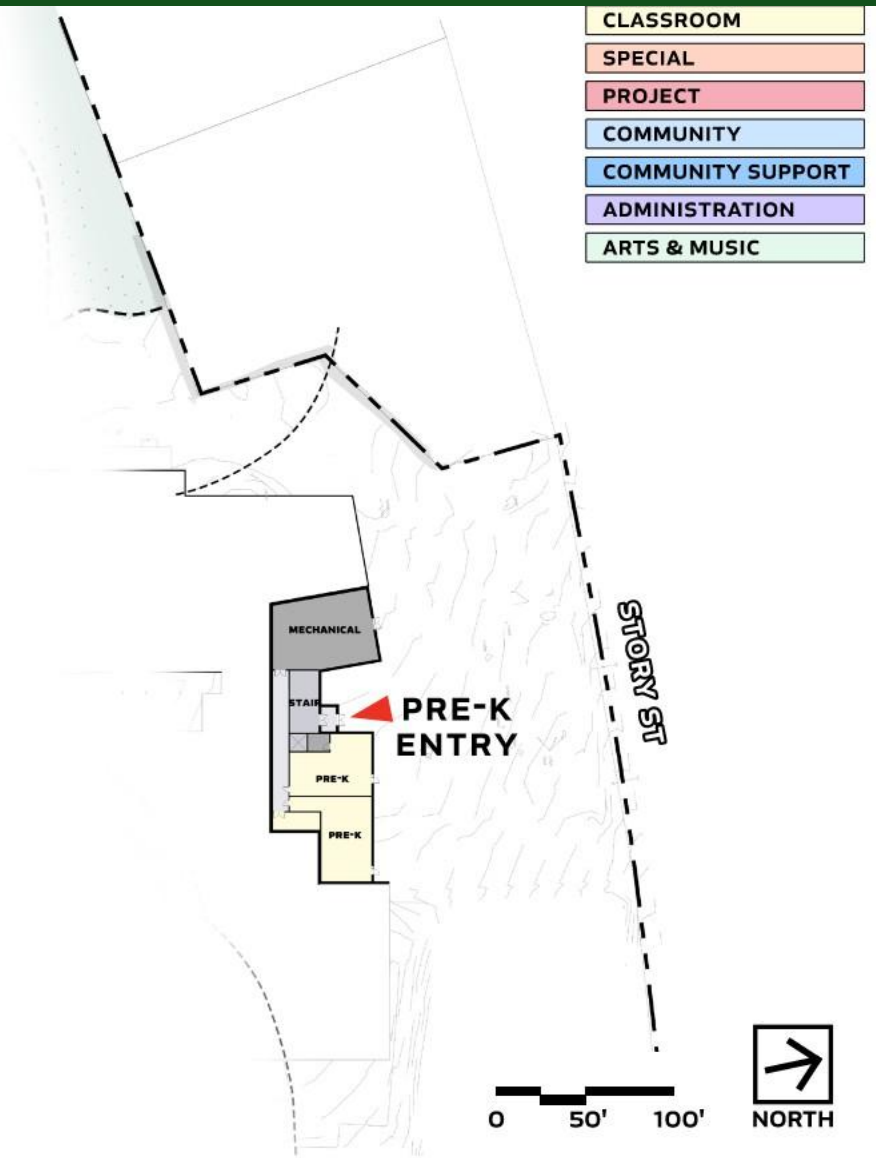
OPTION A2.2-F
NEW CONSTRUCTION

LOWER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
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- LARGER FIELD CAN BE ACCOMODATED



Design Update – PDP Submission MSBA Comments

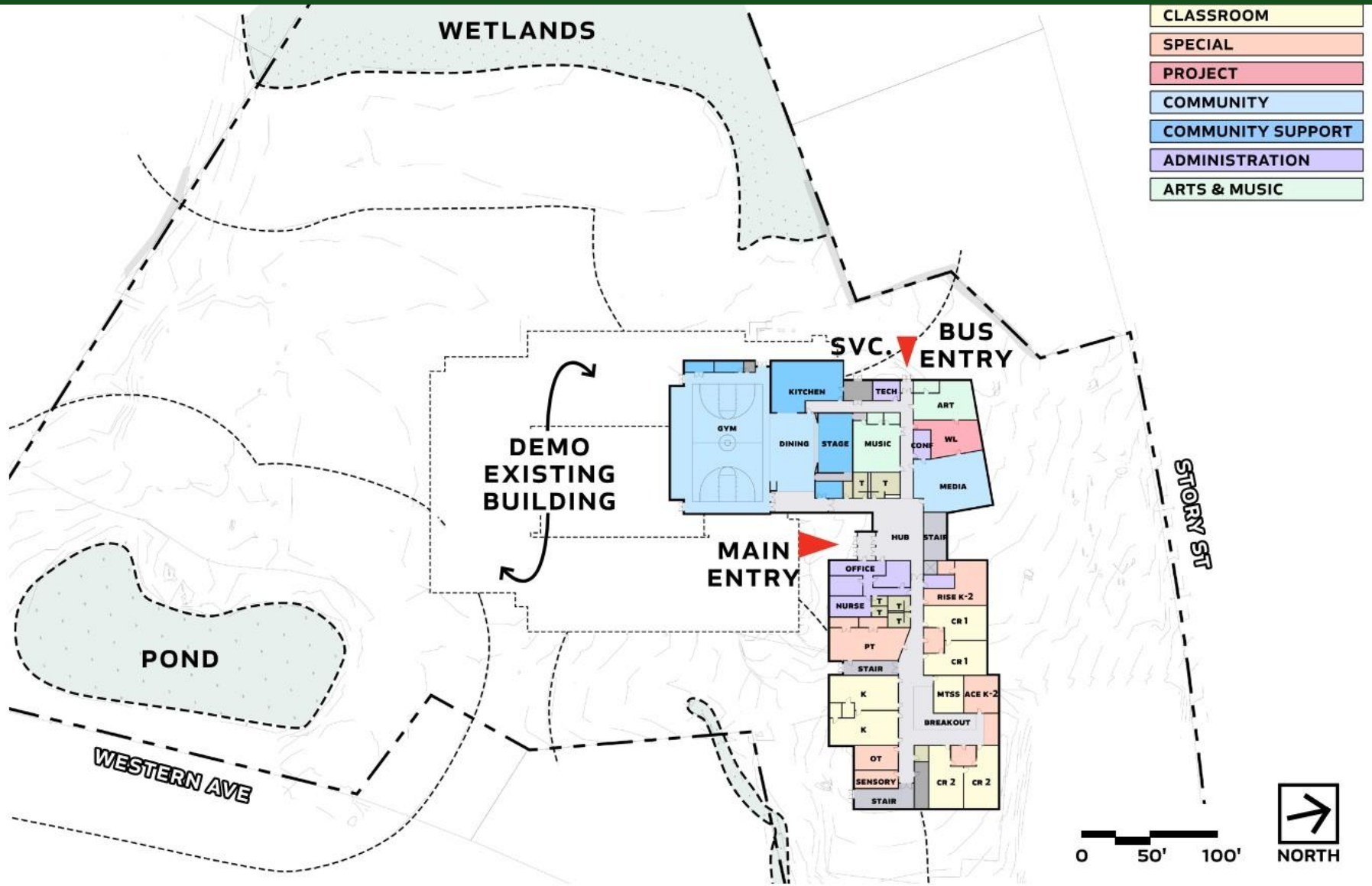
OPTION A2.2-F
NEW CONSTRUCTION

MAIN LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



OPTION A2.2-F
NEW CONSTRUCTION

UPPER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



SBC Meeting Agenda – April 14, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Feedback from Community Meeting 03/24/2026
5. Design Alternatives - PDP Review Comments from MSBA
6. Design Alternatives - Preliminary Costs
7. Preferred Option (Vote Expected)
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

Preferred Schematic Report Preliminary Costs

Cost Estimators consider:

- Site layouts and features
- Architectural floor plan layout and square footage
- An outline specification that describes **intent** for civil, landscape, architectural materials, interior finishes, structural systems, MEP/FP/FA systems, IT/AV and sustainability goals
- Estimated construction duration
  - Phasing for new construction and phasing for the abatement & demolition
  - Modulars if assumed necessary
- Escalation based upon estimated construction duration

Preferred Schematic Report Pricing Exercise

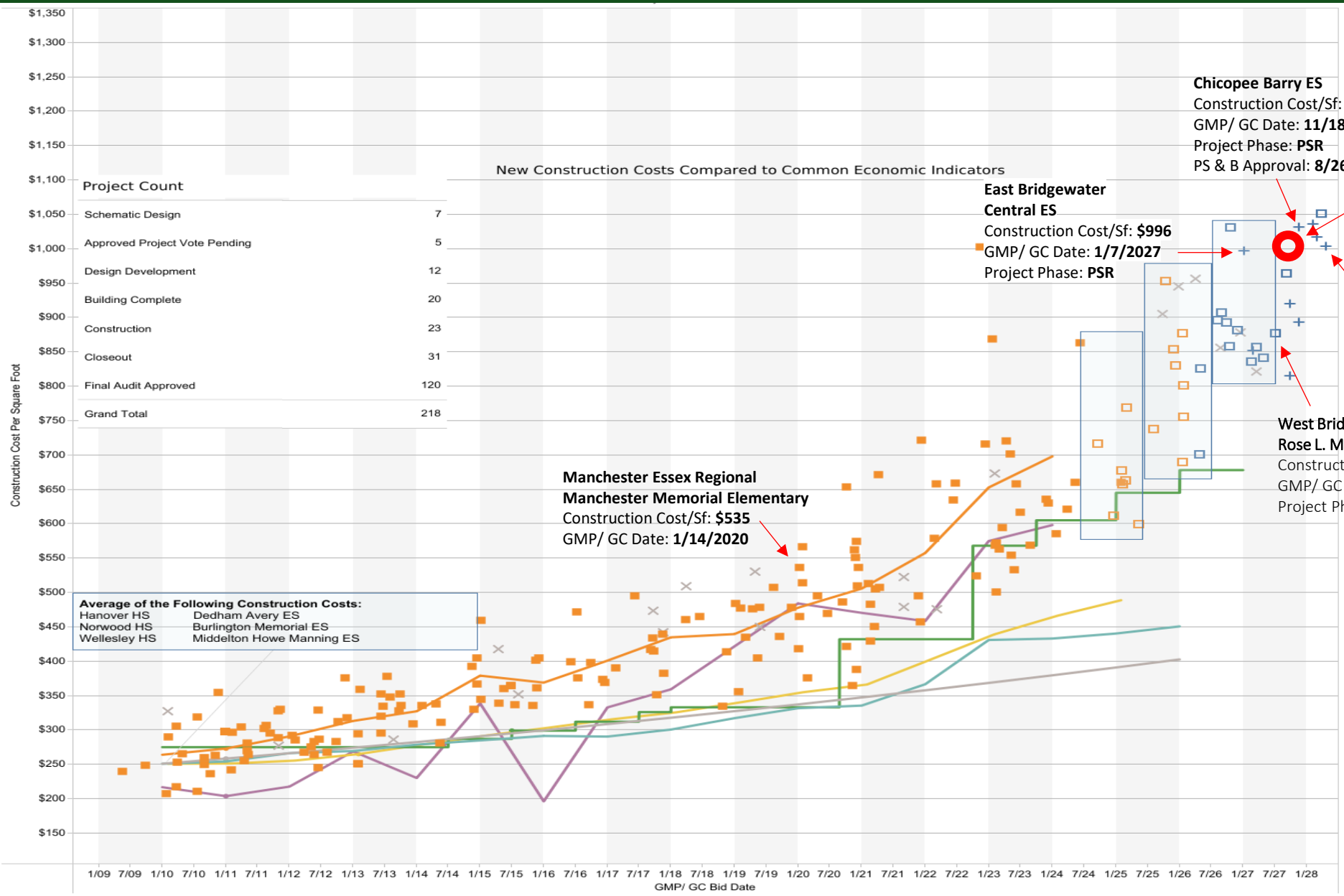
- The costs shown for the various PSR options are intended for comparative analysis only and do not represent the final project costs for any individual option.

- Major variables including geotechnical conditions, site grading, structural systems, and final MEP design – are still under development. As these elements are refined, costs may vary significantly from the current benchmark estimates.

- Accordingly, the figures presented in this report should not be interpreted as the final construction budget.

- This PSR Design Submission cost estimate was produced from narratives and outline drawings dated , prepared by JCJ Architecture and their design team. The estimation package was issued on March 11th.

MSBA Construction Cost Analysis (Construction Cost per SF Averages per MSBA Data)



Preferred Schematic Report Estimated Cost Review

Scope Option	Scope Description	GSF	PM&C Estimate ($)	A.M. Fogarty Estimate ($)	Total Construction $psf
Option A0.2	Code Upgrade/Base Repair - No architetcural	53,036	$ 40,194,433	$ 40,362,783	**$ 40,000,000**
Option A1.1	Addition/Renovation - PRE-K - 3 (165 Students)	60,072	$ 62,117,400	$ 62,622,231	**$ 62,000,000**
Option A1.2B	Addition/Renovation - PRE-K - 3 (165 Students)	76,433	$ 74,567,157	$ 74,006,271	**$ 74,000,000**
Option A2.2A	New Construction - PRE-K - 5 (250 Students) CM@R	72,443	$ 72,172,490	$ 73,302,360	**$ 73,000,000**
Option A2.2A	New Construction - PRE-K - 5 (250 Students) DBB	72,443	$ 68,563,866	$ 68,171,195	**$ 68,000,000**
Option A2.2B	New Construction - PRE-K - 3 (165 Students)	72,443	$ 73,150,405	$ 74,166,511	**$ 74,000,000**
Option A2.2F	New Construction - PRE-K - 5 (250 Students)	72,443	$ 74,497,482	$ 73,855,341	**$ 74,000,000**
Option B1.1	Addition/Renovation - Current MMES, PRE-K - 5 (515 Students)	45,368	$ 49,352,274	$ 50,062,896	**$ 50,000,000**

Scope Option	Soft cost (20-23%)	Owner Contingency (5%)	Modulars	Total Project Cost	Project cost $psf	12-21% effective reimbursement	Total Project Cost with estimated effective Reimbursement
Option A0.2	**$ 8,000,000**	**$ 2,000,000**	**$ 1,400,000**	**$ 51,000,000**	$ 962	$ 10,710,000.00	$ 40,290,000.00
Option A1.1	**$ 14,260,000**	**$ 3,100,000**		**$ 79,000,000**	$ 1,315	$ 16,590,000.00	$ 62,410,000.00
Option A1.2B	**$ 17,020,000**	**$ 3,700,000**		**$ 95,000,000**	$ 1,243	$ 19,950,000.00	$ 75,050,000.00
Option A2.2A	**$ 14,600,000**	**$ 3,650,000**		**$ 91,000,000**	$ 1,256	$ 19,110,000.00	$ 71,890,000.00
Option A2.2A	**$ 13,600,000**	**$ 3,400,000**		**$ 85,000,000**	$ 1,173	$ 17,850,000.00	$ 67,150,000.00
Option A2.2B	**$ 14,800,000**	**$ 3,700,000**		**$ 93,000,000**	$ 1,284	$ 19,530,000.00	$ 73,470,000.00
Option A2.2F	**$ 14,800,000**	**$ 3,700,000**		**$ 93,000,000**	$ 1,284	$ 19,530,000.00	$ 73,470,000.00
Option B1.1	**$ 11,500,000**	**$ 2,500,000**		**$ 64,000,000**	$ 1,411	$ 7,680,000.00	$ 56,320,000.00

***Estimates based on CM@R Delivery Method, except A2.2A includes DBB option**
***Effective Reimbursement Rate is subject to change**

Preferred Schematic Report Matrix

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES PREFERRED SCHEMATIC REPORT (PSR)		SITE A CURRENT EES						SITE B CURRENT MMES
		A0.2	A1.1	A1.2 - B	A2.2 - A	A2.2 - B	A2.2 - F	B1.1
		Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	250 + 30	165 + 30	250 + 30	250 + 30	250 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	0	0	0	77,102 GFA
	New Area	0	7,036 GFA	23,407 GFA	72,443 GFA	72,443 GFA	72,443 GFA	40,368 GFA
	Total Area	53,036 GFA	60,072 GFA	76,443 GFA	72,443 GFA	72,443 GFA	72,443 GFA	117,470 GFA
	Construction Duration	40 months	42 months	48 months	32 months	36 months	36 months	40 months
Education	Meets Needs of Educational Program at EES	0	0	3	3	3	4	2
	Meets Needs of Educational Program at MMES	4	0	4	4	4	4	2
	Equity across the District	0	0	4	4	4	4	0
	Future Growth and Expansion	2	2	2	4	4	4	0
	Flexible and Adaptable Spaces	0	4	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	2	1	1	0
Community	Compatible with Regional Agreement	4	0	4	4	4	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	4	1	4	4	4	4	0
	Neighborhood Traffic Impact	4	1	4	4	4	4	0
	Community Use Opportunities	4	1	4	4	4	4	0
	Disruption to Manchester	4	1	4	4	4	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	1	1	2	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	4	4	4	0
	Parking Capacity	2	2	2	4	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	3	3	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	4	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	4	4	4	2
	Additional work at MMES (separate project by District)	N/A	0	N/A	N/A	N/A	N/A	INC.
Cost and Schedule	Maximize MSBA Grant Reimbursement	4	4	1	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	4	2	2	1
	Modular Classroom Swing Space not Required	0	4	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	4	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	2	1	2	2	2	2	2
	Reduce Operational Costs - Staff, Transport	2	1	2	2	2	2	2
	Total Project Cost	$51M	$79M	$95M	$91M	$93M	$93M	$64M

B1.1 Considerations/Unknows:

- Community Support
- Regional Agreement
  2 Town Meetings (1 for amending agreement Nov 2026, 1 for project approval Spring 2027) approx. 6-12+ months
- Extension of Feasibility Study
  additional funding necessary $500-$750K
- Pencils Down till November
- Demo and Abatement of the Existing Essex ES ~$1M
- Traffic Concerns
- Conservation Commission
- Tennis Court Relocation
- MSBA Cost Recovery
- Physical Space (need to further evaluate, offsite parking)
- Operational Costs
- Maintaining the existing Essex ES approx. ???
- EES returned to Town of Essex, if intended to be repurpose, assume add/reno costs (without Reimbursement)

SBC Meeting Agenda – April 14, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. Feedback from Community Meeting 03/24/2026
5. Design Alternatives - PDP Review Comments from MSBA
6. Design Alternatives - Preliminary Costs
7. Preferred Option (Vote Expected)
8. Schedule Update
9. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
10. Public Comment
11. Reflections & Actions Items
12. Adjourn

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Schedule Update

APRIL

4/16 – Community Meeting #5 (Cost Review)

4/28 – SBC Meeting (Approve PSR Submission to MSBA)

MAY

5/12 – SBC Meeting

5/26 – SBC Meeting

JUNE

6/4 – Community Meeting #6

6/9 – SBC Meeting

6/23 – SBC Meeting

JULY

7/14 – SBC Meeting

7/28 – SBC Meeting

AUGUST

8/11 – SBC Meeting

8/25 – Community Meeting #7?

8/25 - SBC Meeting?

SEPTEMBER

9/8 – SBC Meeting

9/22 – SBC Meeting

OCTOBER

10/13 – SBC Meeting

10/27 – SBC Meeting

10/29 – Community Meeting #8

NOVEMBER

11/10 – SBC Meeting

11/24 – SBC Meeting

Working Groups Schedule Update

MEP

Meeting #1 - May 4th or May 6th
Meeting #2 – June 15th or 16th

Site, Safety, and Security

Meeting #2 – May 29th

Exterior Design

Meeting #1 – May 13th
Meeting #2 – June 18th or June 20th

Interior Design

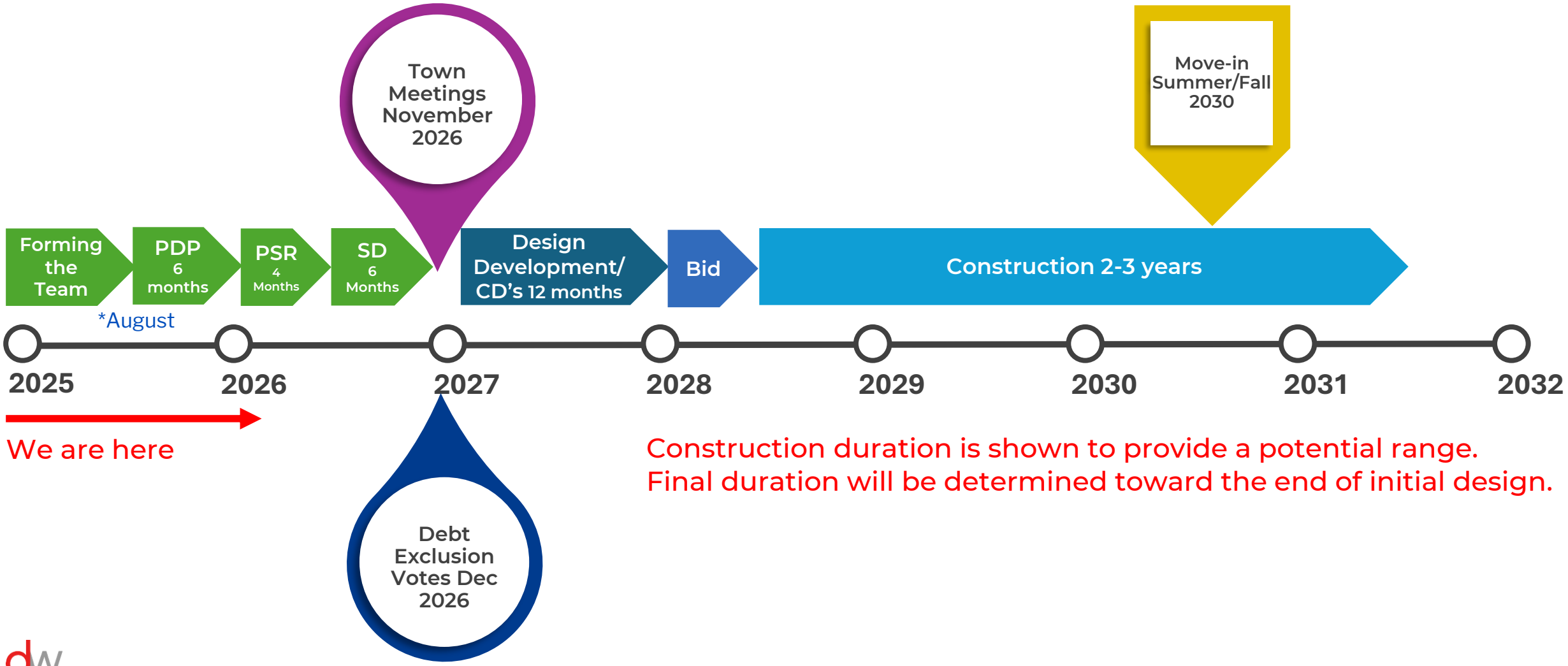
Meeting #1 – May 13th
Meeting #2 – June 18th or June 20th

Sustainability

Meeting #2 – June 17th

**Times are TBD

Anticipated Project Timeline



Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

DORE + WHITTIER

SBC Meeting Agenda – April 14, 2026 @ 6:00 PM

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10. **Public Comment**
11. Reflections & Actions Items
12. Adjourn

SBC Meeting Agenda – April 14, 2026 @ 6:00 PM

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10. Public Comment
11. Reflections & Actions Items
12. Adjourn

MEETING AGENDA

Meeting Date:	April 16, 2026
Meeting Time:	7:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting (Tentative)
Location:	This meeting will be a hybrid meeting (both in-person and remote) at Essex Elementary School Cafeteria
Meeting Link:	https://us06web.zoom.us/j/89745854633

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1. Call to Order & Intro
2. Preferred Option (Vote Expected)
3. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	4/16/26
Location:	Remote (Zoom)	Time:	7:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
	John Binieris*	SBC Co-Chair
	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
✓	Charlie Hay*	Architect School Building Experience
✓	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
	Tyler Virden*	Project Executive -Wise Construction / Paren
✓	Annie Cameron*	Former SC Member and Memorial SBC Member
✓	Ariel Fernando Brain*	Architect - CBT
	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
	Timonthy McDonald*	Architect - Onion Flats
	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
✓	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
✓	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
✓	Rachelle Russo	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
✓	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
✓	James LaPosta	Principal - JCJ Architecture
	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
	Dustin Lombardi	Architect - JCJ Architecture
✓	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

DORE + WHITTIER

- **Please click here for the agenda**
  - **This will be referenced in the meeting minutes.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

<table>
<tr><td>Item No.</td><td>Description</td><td></td></tr>
<tr><td>19.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 7:24pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>19.2</td><td>Preferred Option (Vote Expected):

A motion to move forward with Option A2.2F was made by E. Dwyer and seconded by G. Brewster.

Discussion: T. Whitman noted that attendance at the Tuesday meeting was higher, and that those present expressed support for this option. While those individuals were not in attendance for this session and their votes are not recorded here, their previously expressed support is reflected in the record.

Roll Call Vote:
<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Absent</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
<tr><td>Andy Oldeman</td><td>Absent</td></tr>
<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Yes</td></tr>
<tr><td>Tyler Virden</td><td>Absent</td></tr>
<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Yes</td></tr>
<tr><td>Jen Hocherman</td><td>Absent</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Absent</td></tr>
</table></td><td>Record</td></tr>
</table>

DORE + WHITTIER

Henry Oettinger	Absent
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 9 | No: 0 | Absent/Abstain: 7**

19.3 **Adjourn:** A motion to adjourn the meeting was made at 7:28 pm by G. Brewster and seconded by A. Cameron. — Record

Roll Call Vote:

Name	**Yes/No/Abstain & Absent**
Michelle Cresta	Absent
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Absent
Theresa Whitman	Yes
Andy Oldeman	Absent
Charlie Hay	Yes
Gordon Brewster	Yes
Tyler Virden	Absent
Annie Cameron	Yes
Ariel Fernando Brian	Yes
Jen Hocherman	Absent
Michael Gerhardt	Yes
Timonthy McDonald	Absent
Henry Oettinger	Absent
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote

	Rachelle Rousseau	Advisor – No Vote	
	David Pereen	Advisor – No Vote	
	Lisa O'Donnell	Advisor – No Vote	

- **Yes: 9 | No: 0 | Absent/Abstain: 7**

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.

MEETING AGENDA

Meeting Date:	April 28, 2026
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School
Project Number:	202306980020
Meeting Purpose:	School Building Committee Meeting
Location:	Zoom

Meeting Link: https://us06web.zoom.us/j/86714778523

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1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
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4. PSR Submission Approval (Vote Expected)
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

DORE + WHITTIER

Project:	Essex Elementary School	Project No:	
Subject:	School Building Committee Meeting	Meeting Date:	4/28/26
Location:	Remote (Zoom)	Time:	6:00 PM
Distribution:	Attendees, Project File	Prepared By:	R. Rincon

Present	Name (* Voting Member)	Affiliation
✓	Michelle Cresta*	Director of Finance & Operations
✓	Pam Beaudoin*	Superintendent
✓	Kim Provost*	Principal
✓	Theresa Whitman*	SBC Co-Chair
	John Binieris*	SBC Co-Chair
	Andy Oldeman*	Manchester Finance Committee / Mechanical Engineer
✓	Charlie Hay*	Architect School Building Experience
	Gordon Brewster*	Engineer, Sr. Proj. Manager, Owner's PM, former Member of MERMHS & Memorial building
✓	Tyler Virden*	Project Executive -Wise Construction / Paren
✓	Annie Cameron*	Former SC Member and Memorial SBC Member
	Ariel Fernando Brain*	Architect - CBT
✓	Jen Hocherman*	Architect - Partner SV Design
✓	Michael Gerhardt*	Civil Engineer / Parent
✓	Timonthy McDonald*	Architect - Onion Flats
	Henry Ottenginer*	Manchester Conservation Committee / Education Background
	David Pereen	Resident / Plumbing & Fire
	Lisa O'Donnell	Design & Construction / Essex Planning Board
	Steve Hunt*	Facilities Manager
✓	Emily Dwyer*	EES Teacher
✓	Kim Field	EES Teacher
✓	Rachelle Russo	EES Teacher
	Mike Burton	Project Director / Partner - DWMP
✓	Christina Dell Angelo	Project Executive - DWMP
✓	John Albright	Project Manager - DWMP
✓	Rachel Rincon	Assistant Project Manager - DWMP
	Jacob Greco	Assistant Project Manager - DWMP
	James LaPosta	Principal - JCJ Architecture
✓	Fawn Pellegrini	Senior Project Manager - JCJ Architecture
✓	Dustin Lombardi	Architect - JCJ Architecture
✓	Jeff Elliott	Project Architect - JCJ Architecture
	Emily Czarnecki	Principal (Interiors) – JCJ Architecture
	Mike Pirollo	Principal – MLP Integrated Design
	Eric Haggstrom	Sustainability Director – JCJ Architecture
	Kelley Tapia	Soden Sustainability

DORE + WHITTIER

- **Please click here for the agenda**
  - **This will be referenced in the meeting minutes.**
- **Below is a summation of key points, please view the recording here for full transcript and chapter summaries.**

<table>
<tr><td>Item No.</td><td>Description</td><td></td></tr>
<tr><td>20.1</td><td>Call to Order & Intro: Called to order by T. Whitman at 6:03pm, please refer to the attendee list.</td><td>Record</td></tr>
<tr><td>20.2</td><td>Approval of April 14, 2026, and April 16, 2026, Meeting Minutes (Vote Expected):

A motion to approve April 14, 2026, Meeting Minutes, was made by A. Cameron seconded by E. Dwyer.

Discussion: None.

Roll Call Vote:
<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
<tr><td>John Binieris</td><td>Absent</td></tr>
<tr><td>Theresa Whitman</td><td>Yes</td></tr>
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<tr><td>Charlie Hay</td><td>Yes</td></tr>
<tr><td>Gordon Brewster</td><td>Absent</td></tr>
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<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Yes</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Absent</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
</table></td><td>Record</td></tr>
</table>

Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 11 | No: 0 | Absent/Abstain: 5**

A motion to approve April 16, 2026, Meeting Minutes, was made by A. Cameron seconded by E. Dwyer.

Discussion: None.

Roll Call Vote:

Name	**Yes/No/Abstain & Absent**
Michelle Cresta	Abstain
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Absent
Theresa Whitman	Abstain
Andy Oldeman	Absent
Charlie Hay	Yes
Gordon Brewster	Absent
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brain	Absent
Jen Hocherman	Abstain
Michael Gerhardt	Yes
Timonthy McDonald	Yes
Henry Oettinger	Absent
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote

	<table><tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr><tr><td>David Pereen</td><td>Advisor – No Vote</td></tr><tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr></table> • **Yes: 8 | No: 0 | Absent/Abstain: 8**	
20.3	**Invoices and Commitments for Approval (Vote Expected):** A motion to approve the following invoices was made by A. Cameron and seconded by M. Cresta. DWMP Amendment #2: $7,500.00 Discussion: C. Dell Angelo reported that there are two contract amendments under consideration. The first amendment is for Doran Whittier Management Partner Services and involves extending services through the end of the schematic design phase, as discussed at the previous meeting. The team recently met with the MSBA to review what this extension means in terms of amending the feasibility study agreement between the MSBA and the district. As a result, the district will need to work with legal counsel and bond counsel to determine how the amended agreement should be structured, particularly given how funds were appropriated between the two towns. This process must be completed with the MSBA before the amendment to this contract can be approved. The second amendment pertains to PM&C and covers cost estimates prepared for the PDP and PSR phases. Approval of this amendment is being requested at this meeting so that payment can be issued for those completed cost estimates. M. Gerhardt questioned whether funds should be reallocated at the time work is authorized rather than after completion. C. Dell Angelo explained that they are currently seeking approval of an amendment to cover additional services and allow payment for two completed cost estimates, noting that invoices are received only after work is performed and are based on the specific scope. Mike expressed concern that the process appears retroactive and suggested amendments should occur prior to work being completed. P. Beaudoin asked whether this was due to financial constraints or standard practice; C. Dell Angelo clarified that this is typical and such expenses are treated as “other project costs,” outside the main contract. M. Gerhardt also inquired about PM&C’s contracting process, and Christina explained that engagements are often based on prior working relationships, with authorization sometimes given verbally and formal cost details provided after the work is completed, adding that she can supply a breakdown at a future meeting.	Record

DORE + WHITTIER

Roll Call Vote:

Name	Yes/No/Abstain & Absent
Michelle Cresta	Yes
Pam Beaudoin	Yes
Kim Provost	Yes
John Binieris	Absent
Theresa Whitman	Yes
Andy Oldeman	Absent
Charlie Hay	Yes
Gordon Brewster	Absent
Tyler Virden	Yes
Annie Cameron	Yes
Ariel Fernando Brain	Absent
Jen Hocherman	Yes
Michael Gerhardt	Yes
Timonthy McDonald	Yes
Henry Oettinger	Absent
Emily Dwyer	Yes
Steve Hunt	Advisor – No Vote
Kim Field	Advisor – No Vote
Rachelle Rousseau	Advisor – No Vote
David Pereen	Advisor – No Vote
Lisa O'Donnell	Advisor – No Vote

- **Yes: 11| No: 0 | Absent/Abstain: 5**

20.4	**PSR Submission Approval (Vote Expected):** A motion to submit the PSR to the MSBA was made by A. Cameron and seconded by C. Hay. Discussion: None	Record

<table>
<tr>
<td></td>
<td>Roll Call Vote:
<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Yes</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
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<tr><td>Gordon Brewster</td><td>Absent</td></tr>
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<tr><td>Annie Cameron</td><td>Yes</td></tr>
<tr><td>Ariel Fernando Brain</td><td>Absent</td></tr>
<tr><td>Jen Hocherman</td><td>Yes</td></tr>
<tr><td>Michael Gerhardt</td><td>Yes</td></tr>
<tr><td>Timonthy McDonald</td><td>Yes</td></tr>
<tr><td>Henry Oettinger</td><td>Absent</td></tr>
<tr><td>Emily Dwyer</td><td>Yes</td></tr>
<tr><td>Steve Hunt</td><td>Advisor – No Vote</td></tr>
<tr><td>Kim Field</td><td>Advisor – No Vote</td></tr>
<tr><td>Rachelle Rousseau</td><td>Advisor – No Vote</td></tr>
<tr><td>David Pereen</td><td>Advisor – No Vote</td></tr>
<tr><td>Lisa O'Donnell</td><td>Advisor – No Vote</td></tr>
</table>
Yes: 11 | No: 0 | Absent/Abstain: 5
</td>
<td></td>
</tr>
<tr>
<td>20.5</td>
<td>Schedule Update:

5/12/26 SBC Meeting
5/26/26 SBC Meeting
6/4/26 Community Meeting #6
6/9/26 SBC Meeting
6/23/26 SBC Meeting
7/14/26 SBC Meeting
7/28/26 SBC Meeting

</td>
<td>Record</td>
</tr>
</table>

<table>
<tr><td></td><td>

- 8/11/26 SBC Meeting
- 8/25/26 Community Meeting #7
- 8/25/26 SBC Meeting
- 9/8/26 SBC Meeting
- 9/22/26 SBC Meeting
- 10/13/26 SBC Meeting
- 10/27/26 SBC Meeting
- 10/29/26 Community Meeting #8
- 11/10/26 SBC Meeting
- 11/24/26 SBC Meeting

</td><td></td></tr>
<tr><td>20.6</td><td>Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting: None</td><td>Record</td></tr>
<tr><td>20.7</td><td>Public Comment: None</td><td>Record</td></tr>
<tr><td>20.8</td><td>Reflections & Action Items: None</td><td>Record</td></tr>
<tr><td>20.9</td><td>Adjourn: A motion to adjourn the meeting was made at 6:33 pm by E. Dwyer and seconded by M. Gerhardt.

Roll Call Vote:

<table>
<tr><th>Name</th><th>Yes/No/Abstain & Absent</th></tr>
<tr><td>Michelle Cresta</td><td>Absent</td></tr>
<tr><td>Pam Beaudoin</td><td>Yes</td></tr>
<tr><td>Kim Provost</td><td>Yes</td></tr>
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<tr><td>Emily Dwyer</td><td>Yes</td></tr>
</table>
</td><td>Record</td></tr>
</table>

	Steve Hunt	Advisor – No Vote	
	Kim Field	Advisor – No Vote	
	Rachelle Rousseau	Advisor – No Vote	
	David Pereen	Advisor – No Vote	
	Lisa O'Donnell	Advisor – No Vote	
	Yes: 9 | No: 0 | Absent/Abstain: 7		

Sincerely,
DORE + WHITTIER
Rachel Rincon
Assistant Project Manager

Rachel L. Rincon

Cc: Attendees, File
The above is my summation of our meeting. If you have any additions and/or corrections, please contact me for incorporation into these minutes.



Essex Elementary School Project

SBC Meeting No. 20

April 28, 2026 @ 6:00 PM

DORE + WHITTIER

JCJARCHITECTURE

SBC Meeting Agenda – April 28, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
4. PSR Submission Approval (Vote Expected)
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – April 28, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
   - SBC Meeting No. 18 – April 14, 2026
   - SBC Meeting No. 19 – April 16, 2026
3. Invoices and Commitments for Approval (Vote Expected)
4. PSR Submission Approval (Vote Expected)
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – April 28, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
3. Invoices and Commitments for Approval (Vote Expected)
   - DWMP Amendment No. 1 - $300,000.00
   - DWMP Amendment No. 2 - $7,500.00
4. PSR Submission Approval (Vote Expected)
5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

SBC Meeting Agenda – April 28, 2026 @ 6:00 PM

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7. Public Comment
8. Reflections & Actions Items
9. Adjourn

Schedule Update

MAY

5/12 – SBC Meeting
5/26 – SBC Meeting

JUNE

6/4 – Community Meeting #6
6/9 – SBC Meeting
6/23 – SBC Meeting

JULY

7/14 – SBC Meeting
7/28 – SBC Meeting

AUGUST

8/11 – SBC Meeting
8/25 – Community Meeting #7
8/25 - SBC Meeting

SEPTEMBER

9/8 – SBC Meeting
9/22 – SBC Meeting

OCTOBER

10/13 – SBC Meeting
10/27 – SBC Meeting
10/29 – Community Meeting #8

NOVEMBER

11/10 – SBC Meeting
11/24 – SBC Meeting

Working Groups Schedule Update

MEP

Meeting #1 - May 4th at 10:00AM
Meeting #2 – June 15th or 16th

Site, Safety, and Security

Meeting #2 – May 29th at 9:00AM

Exterior Design

Meeting #1 – May 13th
Meeting #2 – June 18th or June 20th

Interior Design

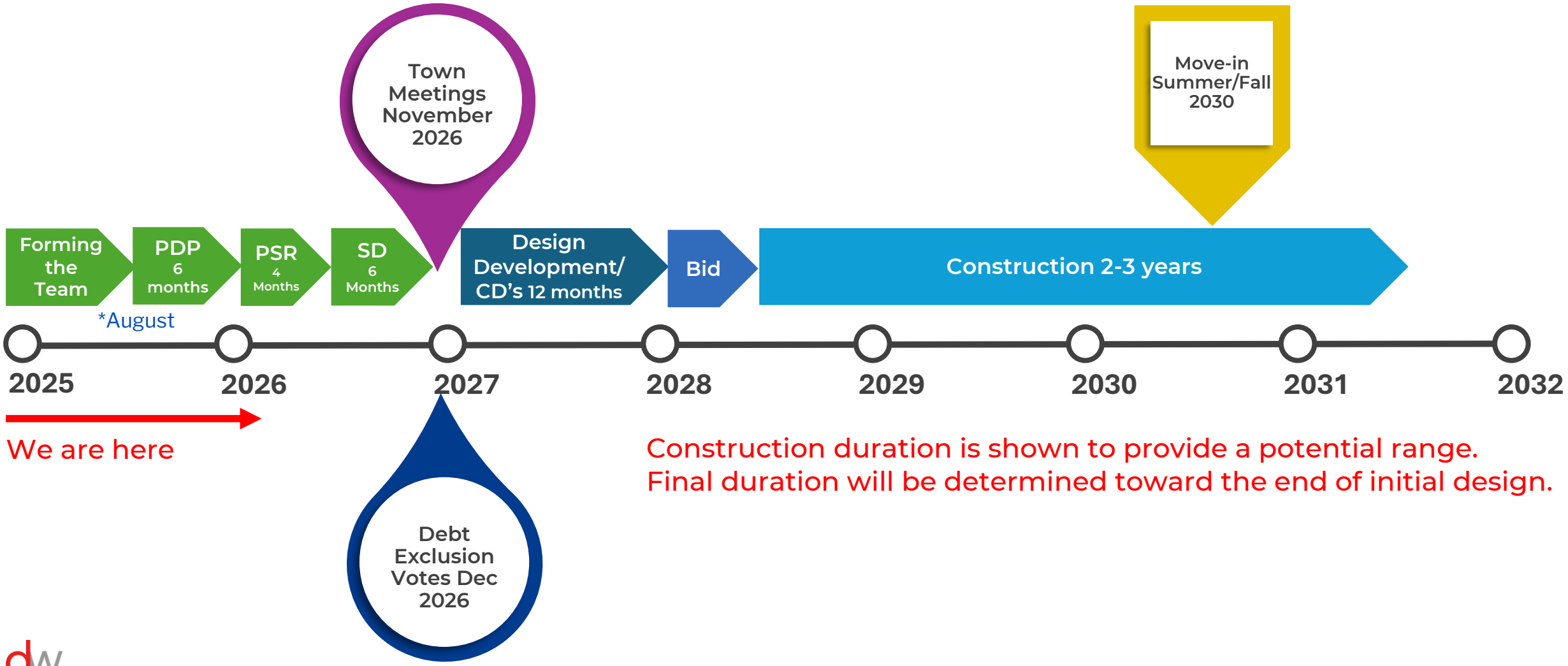
Meeting #1 – May 13th
Meeting #2 – June 18th or June 20th

Sustainability

Meeting #2 – June 17th at 9:00AM

**Times are TBD

Anticipated Project Timeline



Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

DORE + WHITTIER

SBC Meeting Agenda – April 28, 2026 @ 6:00 PM

1. Call to Order & Intro
2. Previous Topics & Meeting Minutes (Vote Expected)
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SBC Meeting Agenda – April 28, 2026 @ 6:00 PM

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SBC Meeting Agenda – April 28, 2026 @ 6:00 PM

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SBC Meeting Agenda – April 28, 2026 @ 6:00 PM

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5. Schedule Update
6. Other Topics not Reasonably Anticipated 48 Hours Prior to the Meeting
7. Public Comment
8. Reflections & Actions Items
9. Adjourn

MEETING AGENDA

Meeting Date:	October 8, 2025
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee – Community Meeting No. 1
Location:	In person at Essex Elementary School cafeteria (12 Story Street, Essex MA) and online via Zoom.

Join Zoom: https://us06web.zoom.us/j/86021208740

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1. Project Team Introduction
2. MSBA Process and Schedule
3. Existing Conditions
4. Site Analysis
5. Educational Programming
6. Next Steps
7. Q&A

Essex Elementary School Project
Community Meeting No. 01
October 8, 2025 @ 6:00 PM



Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

Agenda

1. Project Team Introduction
2. MSBA Process and Schedule
3. Existing Conditions
4. Site Analysis
5. Educational Programming
6. Next Steps
7. Q&A

Organization/ Project Team



Massachusetts School Building Authority

Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

Process


Middle High School
Memorial Elementary School
Essex Elementary School

Project Team

Dore + Whittier Team

Michael Burton
Partner In Charge

Christina Dell Angelo
Project Director

John Albright
Project Manager

Jacob Greco
Assistant Project Manager

JCJ Architecture Team

Jim LaPosta
Principal in Charge

Fawn Pellegrini
Project Manager

Jeff Elliott
Project Architect

Emily Czarnecki
Interior Designer

School Building Committee

Pam Beaudoin
Superintendent of Schools/SBC

Michelle Cresta
Director of Finance & Ops/SBC

Theresa Whitman
SC/SBC Co-Chair

John Binieris
SC/SBC Co-Chair

Annie Cameron
Essex Select Board/SBC

Tyler Virden
Project Executive/SBC

Gordon Brewster
OPM/SBC

Charlie Hay
Architect/SBC

Kim Provost
Essex Elementary School
Principal/SBC

Henry Oettinger
Manchester ConCom/SBC

Tim McDonald
Architect/SBC

Andy Oldeman
Manchester Finance
Committee/SBC

Lisa O'Donnell
Essex Planning Board/SBC
Advisor

Ariel Fernando Brain
Architect/SBC

Jen Hocherman
Architect/SBC

Michael Gerhardt
Civil Engineer/SBC

David Pereen
Plumbing/Fire Design/SBC
Advisor

Emily Dwyer
Essex ES Teacher Rep

Rachelle Russo
Essex ES Teacher Rep/SBC
Advisor

Kim Field
Essex ES Teacher Rep/SBC
Advisor

Steve Hunt
Facilities Director/SBC Advisor

MSBA Process



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Who is the Massachusetts School Building Authority (MSBA)?

A quasi-independent government authority created to reform the process of funding capital improvement projects in the Commonwealth's public schools.

The MSBA strives to work with local communities to create affordable, sustainable, and energy efficient schools across Massachusetts.

Collaborating with municipalities to equitably invest in finding the right-sized, most fiscally responsible and educationally appropriate solutions to create safe, sound, and sustainable learning environments.

MSBA Process



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Where do MSBA grant funds come from? How are they issued?

The MSBA has a dedicated revenue source of 1% from the state's 6.25% annual sales tax collections.



Grant funds are issued to the district using a "pay-as-you-go" reimbursement system for the duration of the project.

More than $16.6 billion issued to-date to cities, towns, and regional school districts for school construction projects.

MSBA Process

How does MSBA determine the level of financial support for projects?

Reimbursement rates are calculated based on a formula that is established in M.G.L ch.70B § 10

The formula starts all districts at a base rate of 31% (of eligible project costs).

The base rate may be adjusted based on three socioeconomic factors:

- **Community income factor**
- **Community property wealth factor**
- **Community poverty factor**

Essex ES Base Rate is 31%

6% potentially available from Green School (4%) incentive points and District maintenance policy (2%)

MSBA Process

What does “eligible project cost” mean?

The MSBA uses a total project budget template to apply and calculate their funding policies to determine the grant amount

The MSBA’s reimbursement rate is applied to “eligible project costs” to determine the MSBA’s participation on each budget line-item.

- **Construction and Site $605/sf + $73/sf**
- **Furniture, Fixtures & Equipment (FF&E) $1,995/sf**
- **Technology Equipment $1,570/sf**

There are funding caps on certain budget items, as well as “categorically ineligible” items that the MSBA will not participate in.

- **Pools, Field Houses, Elementary School Auditoriums, Central Offices, Senior Centers, site acquisition, and offsite improvements**

MSBA Process

These caps and ineligible costs will have an impact to the final (or "effective") reimbursement.

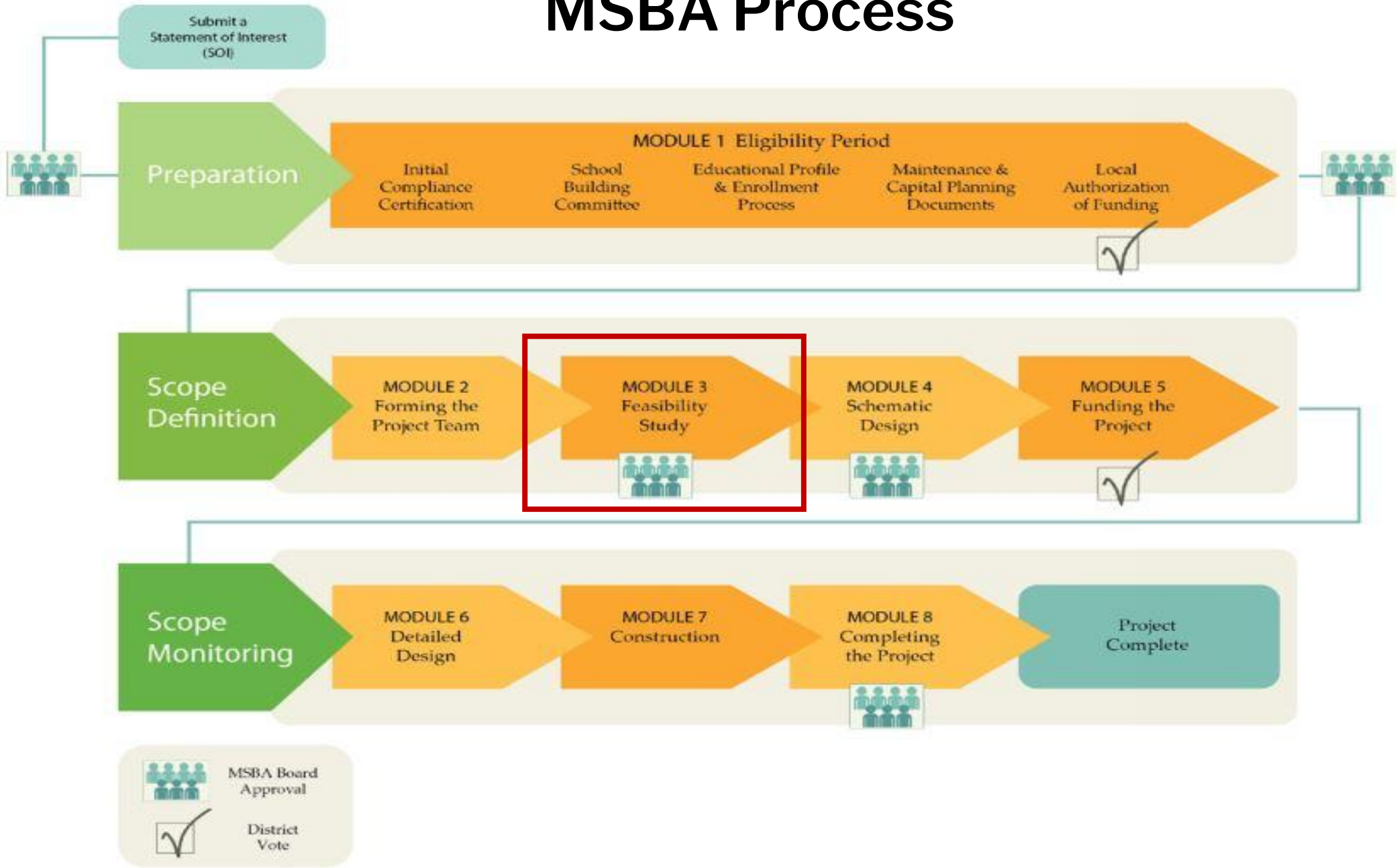
Memorial E.S. Example:

- **Base Rate of 31%**
- **CM@ Risk 1% (no longer applicable)**
- **Maintenance 1.93%**
- **Energy Efficient School 2% (has increased)**

MSBA reimbursement rate 35.93%

"Effective" reimbursement rate ~23% = $11.5 Million from the State

MSBA Process



Feasibility Phase Process

Preliminary Design Program (PDP)

- Identify the issues/articulate the educational plan
- List options to be studied in PSR

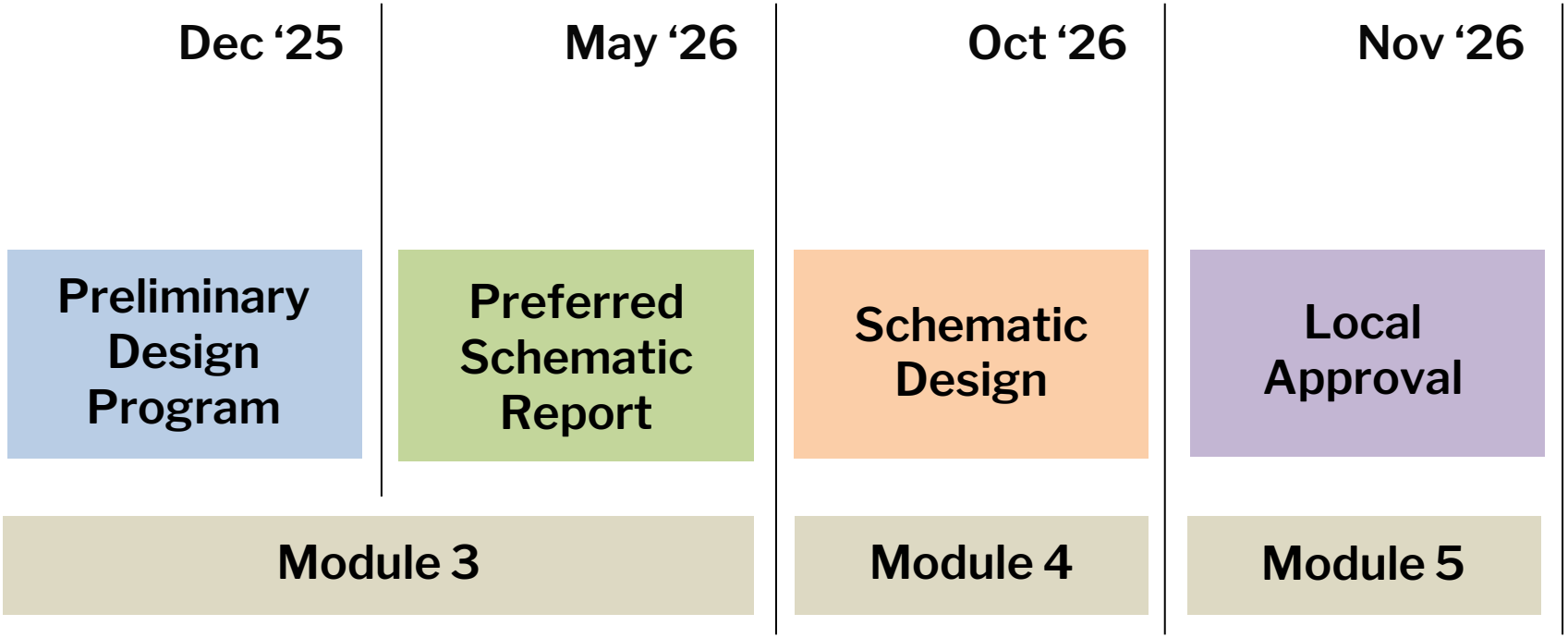
Preliminary Schematic Report (PSR)

- Evaluate the site and building options/select a preferred option

Schematic Design (SD)

- Develop schematic drawings and specifications to establish the project budget

Feasibility Phase Schedule



Community input is important throughout the process

Feasibility Phase Process

Local Approvals

- *Receive local funding approval in Essex and Manchester-by-the-Sea*
  - Approval November 2026
  - Depending upon preferred option

If Project is Approved

Proceed to detailed design and construction

Feasibility Phase Requirements

MSBA Requires Development of Several Options including:		
Renovation Only	Addition/Renovation	New Construction

Feasibility Phase Requirements

Feasibility Study Enrollment Configurations to be Studied for Essex Students		
Grades PreK-3 165 Students *Sited in Essex w/Grades 4 & 5 Integrated into Memorial*	Grades PreK-5 250 Students Sited in Essex	Pre-K to 5 515 Students Sited at Manchester Memorial with all Essex & Manchester students in one school
SC Program Vote/Redistricting		SC Program Vote/Redistricting
SC Vote to Amend Regional Agreement		SC Vote to Amend Regional Agreement
Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment		Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment

Essex & Manchester Town Meeting Full Project Vote & Debt Exclusion Vote

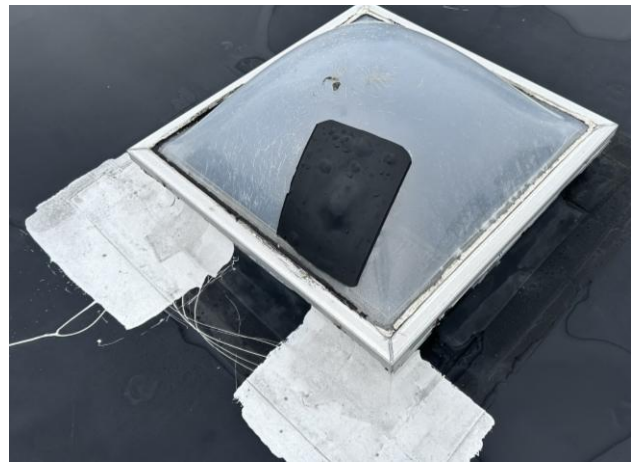
Building History

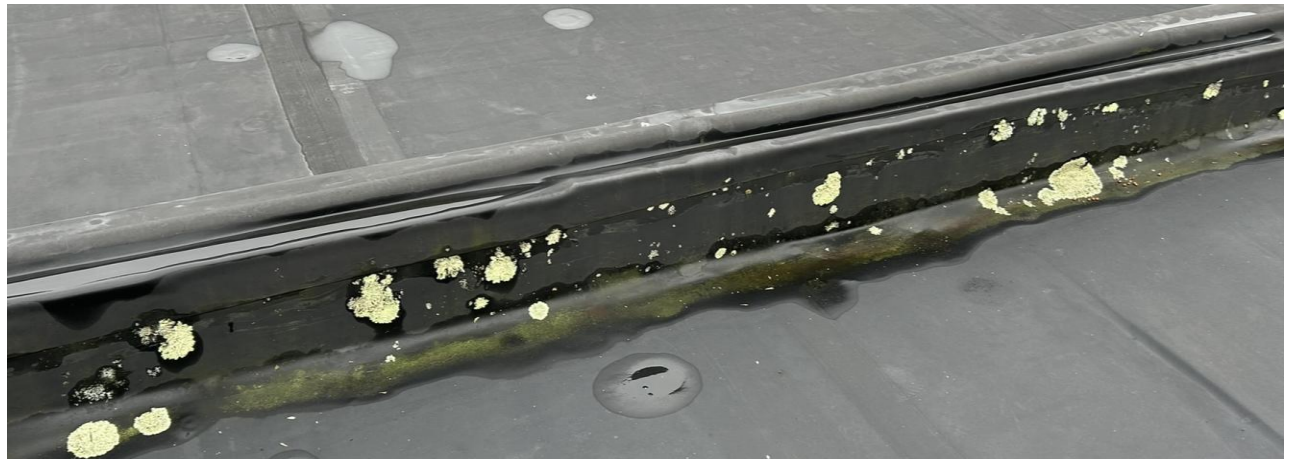
The Essex Elementary School building

1. Total building is approximately 52,900 SF
2. Originally built in 1957 (68 Years)
3. Addition provided in 1975 (50 Years) (media center and gymnasium)
4. The design team's existing investigations began and are ongoing.
5. Mechanical, electrical & plumbing systems has exceeded life expectancy
6. Roofing, windows and building materials are deteriorating

Existing Conditions









The roofing system is at life expectancy. There are several repairs, underlayment appears compromised, and water is ponding, so moisture is not shedding quickly.

Existing Conditions

Shedding water away from the school building through roofing and site drainage is important.
Moisture accelerates:

- Spalling at the existing roof eave
- Lichen on the masonry
- Compromises at the concrete foundation
- Plant growth occurring in unplanned or undesirable areas
- Deterioration of the original wood windows











Existing Conditions

Accessibility is being reviewed to enable students, staff and visitors of various abilities to enter the school together (not separate due to physical need, or otherwise). Some of the items included in this review of the site conditions and the school interior include:

- Exterior grade changes
- Interior level changes
- Pitch of sloped walkways and ramps
- Handrail design
- Push/pull clearances at doorways
- Circulation space & turn around space
- Mounting heights of accessories, plumbing, and equipment
- Furniture
- Signage





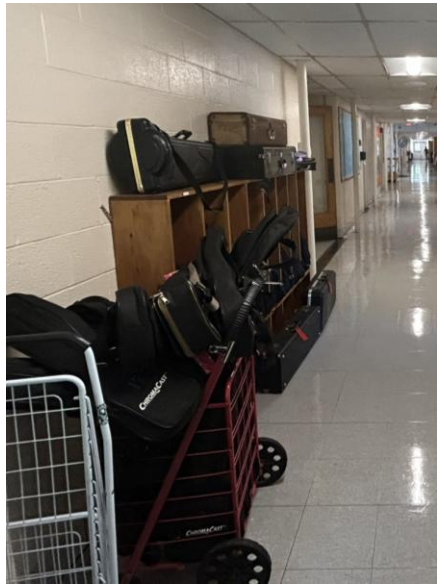


Existing Conditions

- Mechanical, electrical, plumbing systems are beyond or at life expectancy.
- Exhaust fans, unit ventilators and boiler are worn.
- Portable fans are seen throughout the school to supplement air circulation
- Interior finishes are buckling.
- Wood windows are deteriorating.
- The water heating system is at the end of its useful life. The mixing value is leaking.

- Considerations include:
- Efficiency of operation (operational costs for the District)
- Efficiency to heat, cool, dehumidify and provide fresh air circulation
- Availability of parts quickly for future repairs







Existing Conditions







Existing Conditions





Entry and exit sequence for students, staff, and visitors is being reviewed with the District to support the operational needs.

Identified Sites

Statement of interest includes:

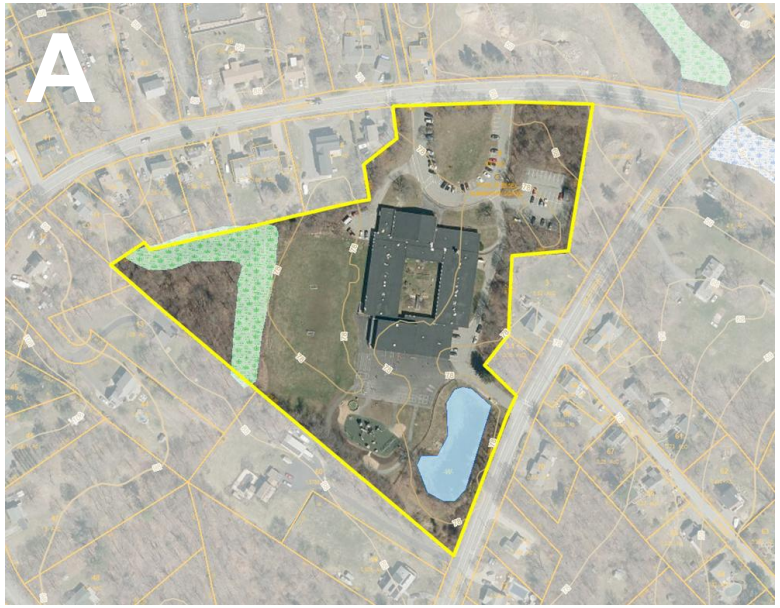
- Current Essex Elementary School
- Current Manchester Memorial Elementary School

Search of other potential sites in Essex:

Town of Essex owned parcels	112
Minimum 9.75 acres	16
Street access & utilities	7
Not used by other town function	1 → 30 Apple St

Town Hall, Spring Street Cemetery, Essex ES, Centennial Grove, DPW Transfer Station, Public Water Supply

Identified Sites



Current Essex Elementary School

12 Story Street, Essex MA



Current Manchester Memorial Elementary School

43 Lincoln Street, Manchester MA



Apple Street Site

30 Apple Street, Essex MA

Current Essex Elementary School



Opportunities

- Established identity in the community
- Developed site utilities
- Multiple options for site access

Constraints

- Construction activities on occupied school site
  Wetlands & pond
- Some topography on north side of site

Unknowns

- Soil conditions proximate to wetlands

Current Manchester Memorial ES



Opportunities

- Developed site utilities

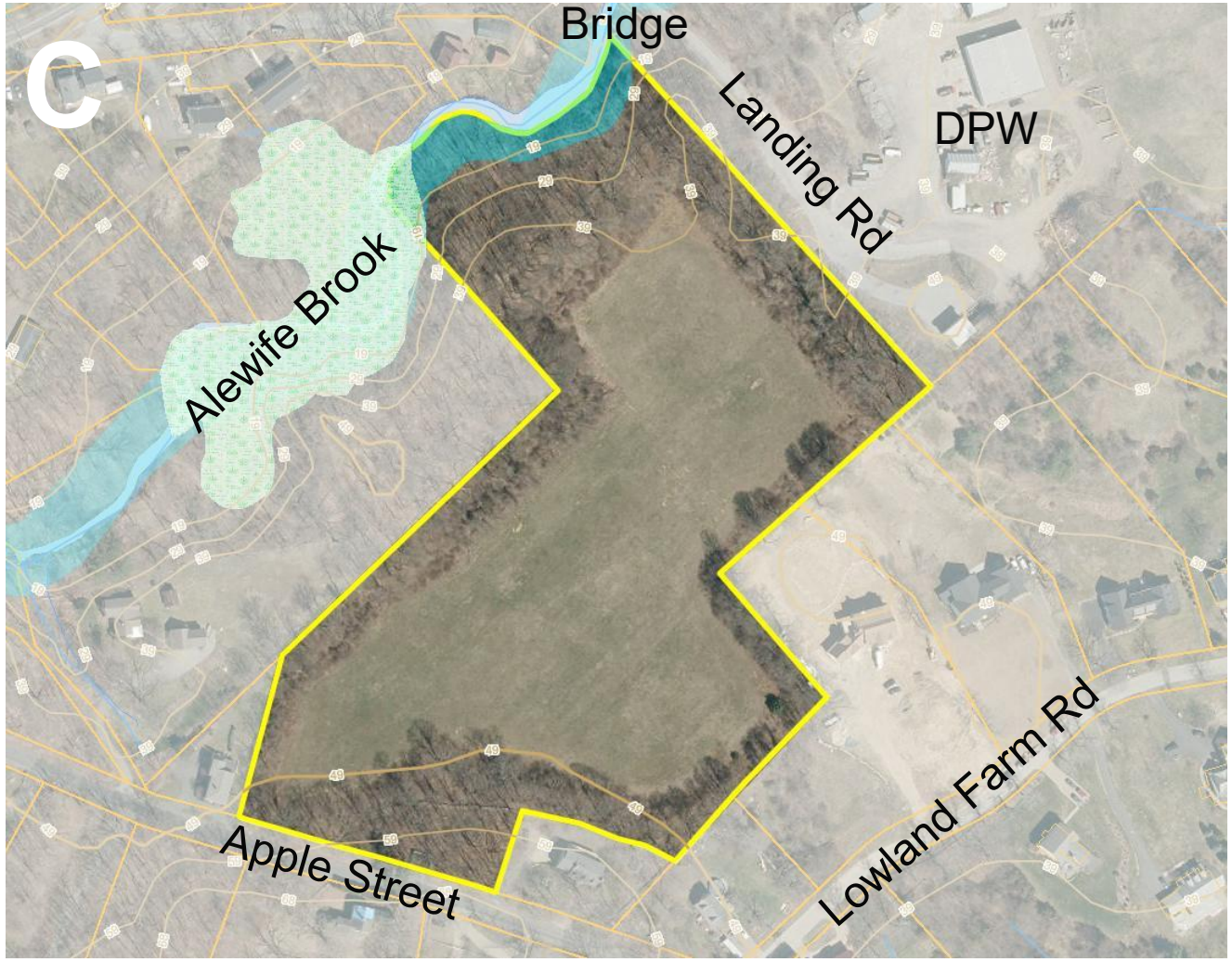
Constraints

- Construction activities on occupied school site
- Dense site with limited expansion options
- Wetlands and flood zone
- Transportation from Essex to Manchester
- Regional Agreement

Unknowns

- MSBA funding considerations

Apple Street Site



Opportunities

- No disruption to existing schools
- Construction phasing

Constraints

- Undeveloped site
- Restricted site access
- Impacts to adjacent residences

Unknowns

- Environmental risks

Site Evaluation Criteria

Legend	
	Not Preferable
	Neutral
	Advantageous







ESSEX ELEMENTARY SCHOOL PROJECT SITE ALTERNATIVES		SITE A CURRENT ESSEX ES	SITE B CURRENT MMES	SITE C APPLE STREET
		12 STORY ST	43 LINCOLN ST	30 APPLE ST
General	Location	ESSEX	MANCHESTER	ESSEX
	Size	9.75 ACRES	11.313 ACRES	11.50 ACRES
Site Development	Town Owned	●	●	●
	Adequate Buildable Area - Target minimum of 8 Usable Acres			
	Utilities Access			
	Subsurface Conditions – Geotechnical (Bearing Capacity, Organics, Ledge)			
	Subsurface Conditions – Environmental Contaminants			
	Regulatory - Wetlands, Rivers and Streams, Flood Zones			
	Future Development Options and Flexibility			
	Reimbursement potential from MSBA (Offsite, Budget cap)			
	Construction Complexity – Access, Laydown, Phasing			
Site Access	Infrastructure - Bridges, Road Surface			
	Walkability - Distances, Sidewalks			
	Safety - Road Width, Sight Lines			
	Busing			
Community	Compatible with District Agreement			
	Access to other Community Resources			
	Minimize Impact on Neighbors			
Education	Meets needs of Educational Program			
	Construction Impact on Existing School Activities			
Schedule	No significant schedule risks - "Shovel Ready"			

DRAFT

Educational Programming

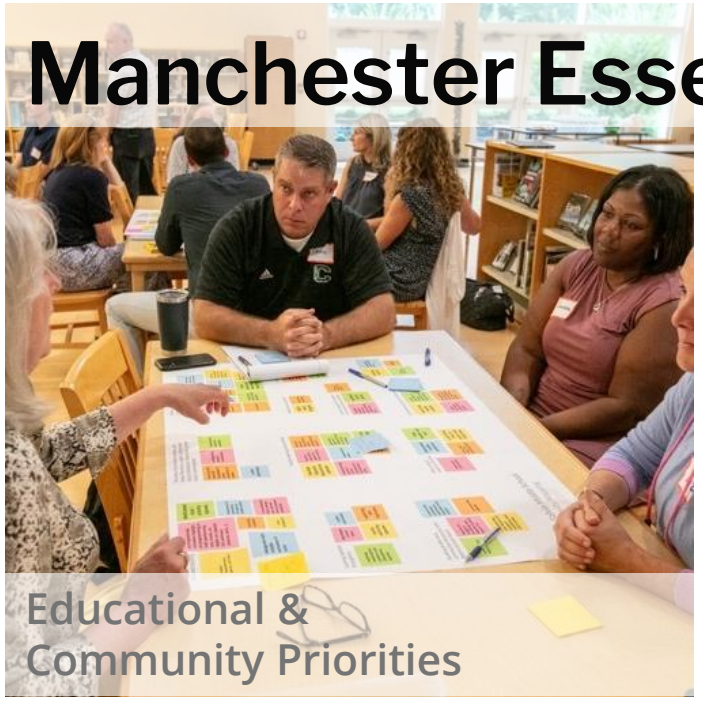
During the Feasibility phase, the District and its team collaborate to document their Educational Program.

- **The Educational Program enables an evaluation and creation of an initial space summary.**
- **Then the team evaluates the site and grade configuration alternatives to recommend the most cost effective and educationally appropriate preferred solution.**

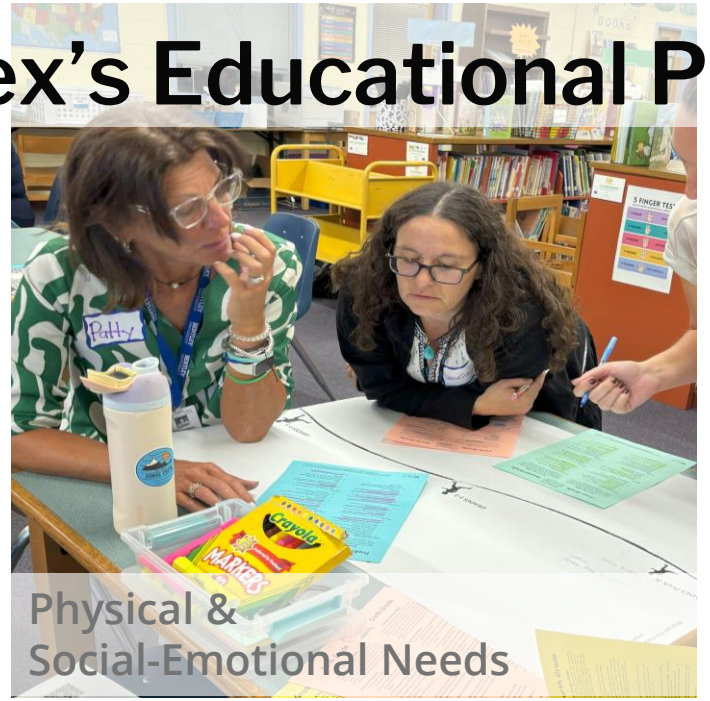
The Educational Program is developed through programming workshops to:

- **Build a shared understanding**
- **Envision through an educational and scenario-based lens**
- **Align renovated or new spaces with the educational program**

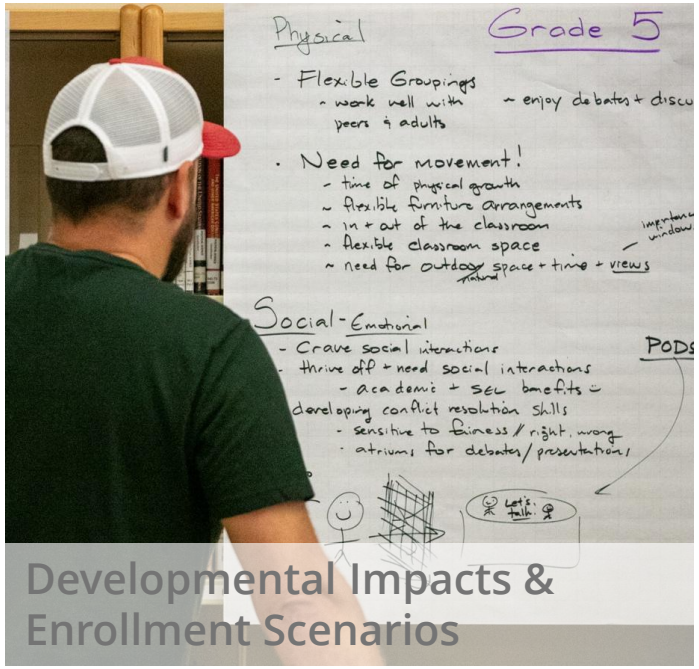
Manchester Essex's Educational Program



Educational &
Community Priorities



Physical &
Social-Emotional Needs



Developmental Impacts &
Enrollment Scenarios

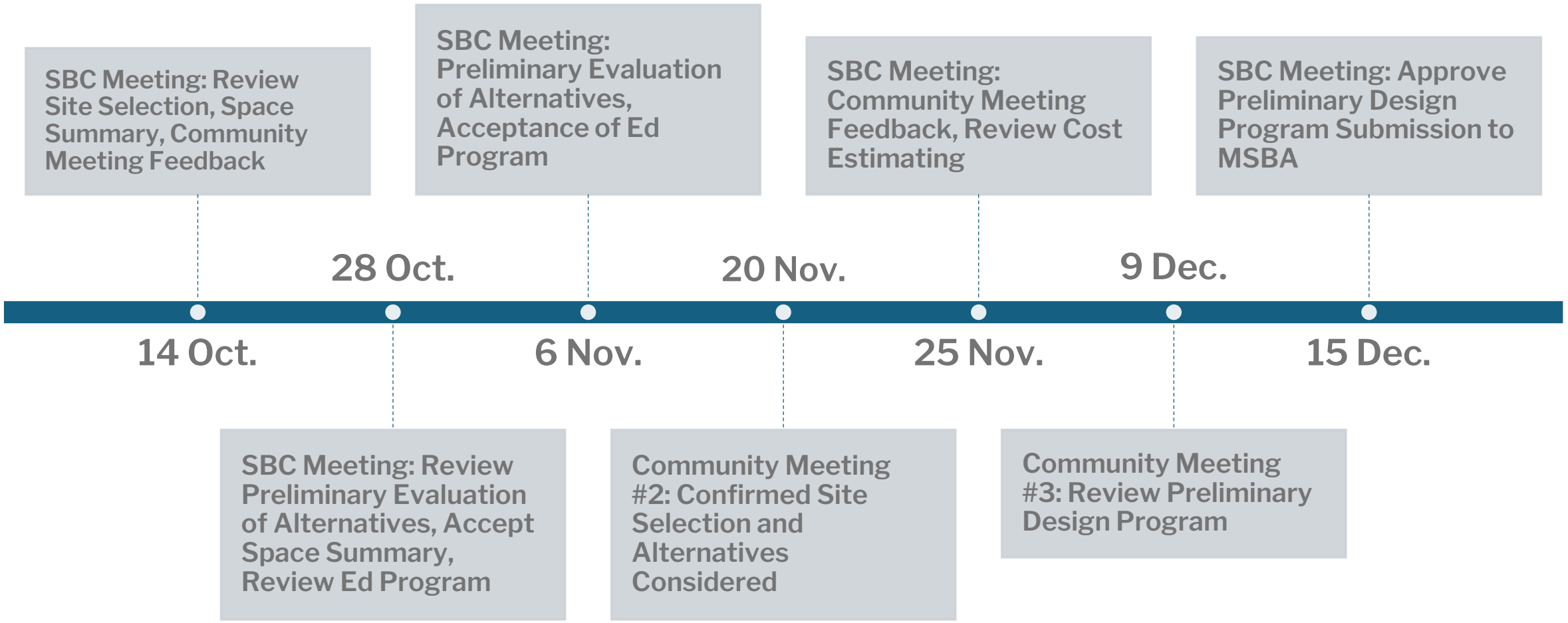


Program
Adjacencies



High-Quality
Instructional Practices

Upcoming Meetings/Next Steps



Project Website



Thank you!



MEETING AGENDA

Meeting Date:	November 20, 2025
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee – Community Meeting No. 2
Location:	In person at Essex Elementary School cafeteria (12 Story Street, Essex MA) and online via Zoom.

Join Zoom: https://us06web.zoom.us/j/82584703859

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1. Project Overview
2. Review of Potential Sites
3. Preliminary Review of Alternatives
4. Next Steps
5. Q&A

Essex Elementary School Project
Community Meeting No. 02
November 20, 2025 @ 6:00 PM



Agenda

1. Project Overview
2. Review of Sites
3. Preliminary Review of Alternatives
4. Next Steps
5. Q&A

Organization/ Project Team



Massachusetts School Building Authority

Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

Project Team

Dore + Whittier Team

Michael Burton
Partner In Charge

Christina Dell Angelo
Project Director

John Albright
Project Manager

Jacob Greco
Assistant Project Manager

Rachel Rincon
Assistant Project Manager

JCJ Architecture Team

Jim LaPosta
Principal in Charge

Dustin Lombardi
Project Architect

Fawn Pellegrini
Project Manager

Jeff Elliott
Project Architect

Emily Czarnecki
Interior Designer

School Building Committee

Pam Beaudoin
Superintendent of Schools/SBC

Michelle Cresta
Director of Finance & Ops/SBC

Theresa Whitman
SC/SBC Co-Chair

John Binieris
SC/SBC Co-Chair

Annie Cameron
Essex Select Board/SBC

Tyler Virden
Project Executive/SBC

Gordon Brewster
OPM/SBC

Charlie Hay
Architect/SBC

Kim Provost
Essex Elementary School Principal/SBC

Henry Oettinger
Manchester ConCom/SBC

Tim McDonald
Architect/SBC

Andy Oldeman
Manchester Finance Committee/SBC

Lisa O'Donnell
Essex Planning Board/SBC Advisor

Ariel Fernando Brain
Architect/SBC

Jen Hocherman
Architect/SBC

Michael Gerhardt
Civil Engineer/SBC

David Pereen
Plumbing/Fire Design/SBC Advisor

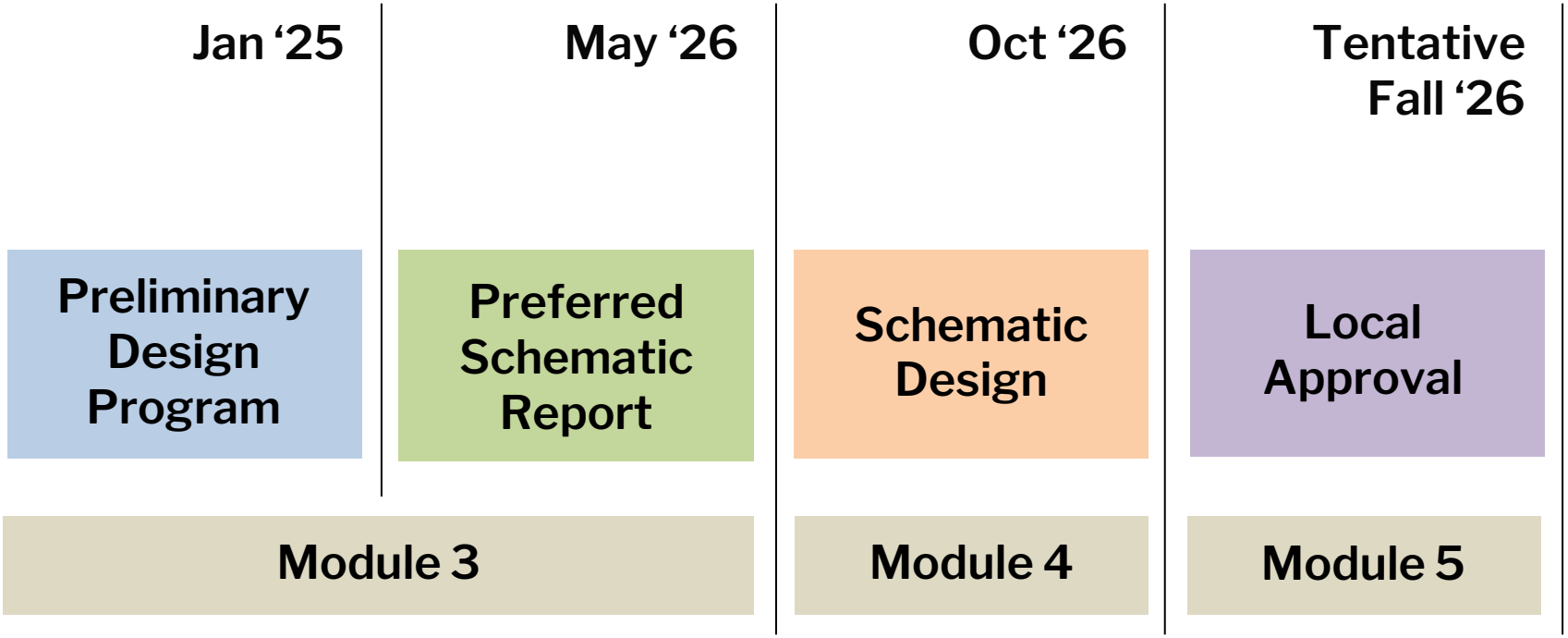
Emily Dwyer
Essex ES Teacher Rep

Rachelle Russo
Essex ES Teacher Rep/SBC Advisor

Kim Field
Essex ES Teacher Rep/SBC Advisor

Steve Hunt
Facilities Director/SBC Advisor

Feasibility Phase Schedule



Timeline is subject to change during the process

Feasibility Phase Requirements

MSBA Requires Development of Several Options including:		
Renovation Only	Addition/Renovation	New Construction

Feasibility Phase Requirements

Feasibility Study Enrollment Configurations to be Studied for Essex Students		
Grades PreK-3 165 Students *Sited in Essex w/Grades 4 & 5 Integrated into Memorial*	Grades PreK-5 250 Students Sited in Essex	Pre-K to 5 515 Students Sited at Manchester Memorial with all Essex & Manchester students in one school
SC Program Vote/Redistricting		SC Program Vote/Redistricting
SC Vote to Amend Regional Agreement		SC Vote to Amend Regional Agreement
Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment		Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment

Essex & Manchester Town Meeting Full Project Vote & Debt Exclusion Vote

Identified Sites

Statement of interest includes:

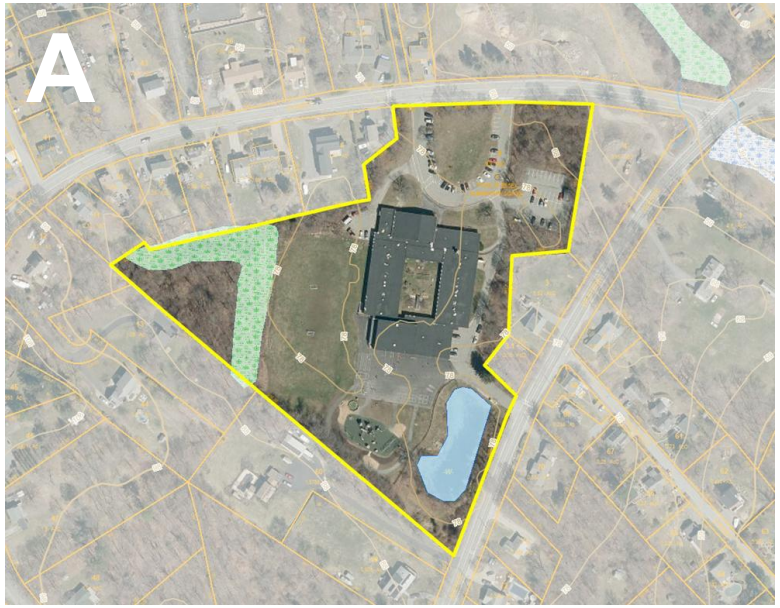
- Current Essex Elementary School
- Current Manchester Memorial Elementary School

Search of other potential sites in Essex:

Town of Essex owned parcels	112
Minimum 9.75 acres	16
Street access & utilities	7
Not used by other town function	1 → 30 Apple St

Town Hall, Spring Street Cemetery, Essex ES, Centennial Grove, DPW Transfer Station, Public Water Supply

Identified Sites



Current Essex Elementary School

12 Story Street, Essex MA



Current Manchester Memorial Elementary School

43 Lincoln Street, Manchester MA



Apple Street Site

Removed

30 Apple Street, Essex MA

Current Essex Elementary School



Opportunities

- Established identity in the community
- Developed site utilities
- Multiple options for site access
- Sidewalks on adjacent streets

Constraints

- Construction activities on occupied school site
- Wetlands & pond
- Exposed ledge on north side of site

Current Manchester Memorial ES



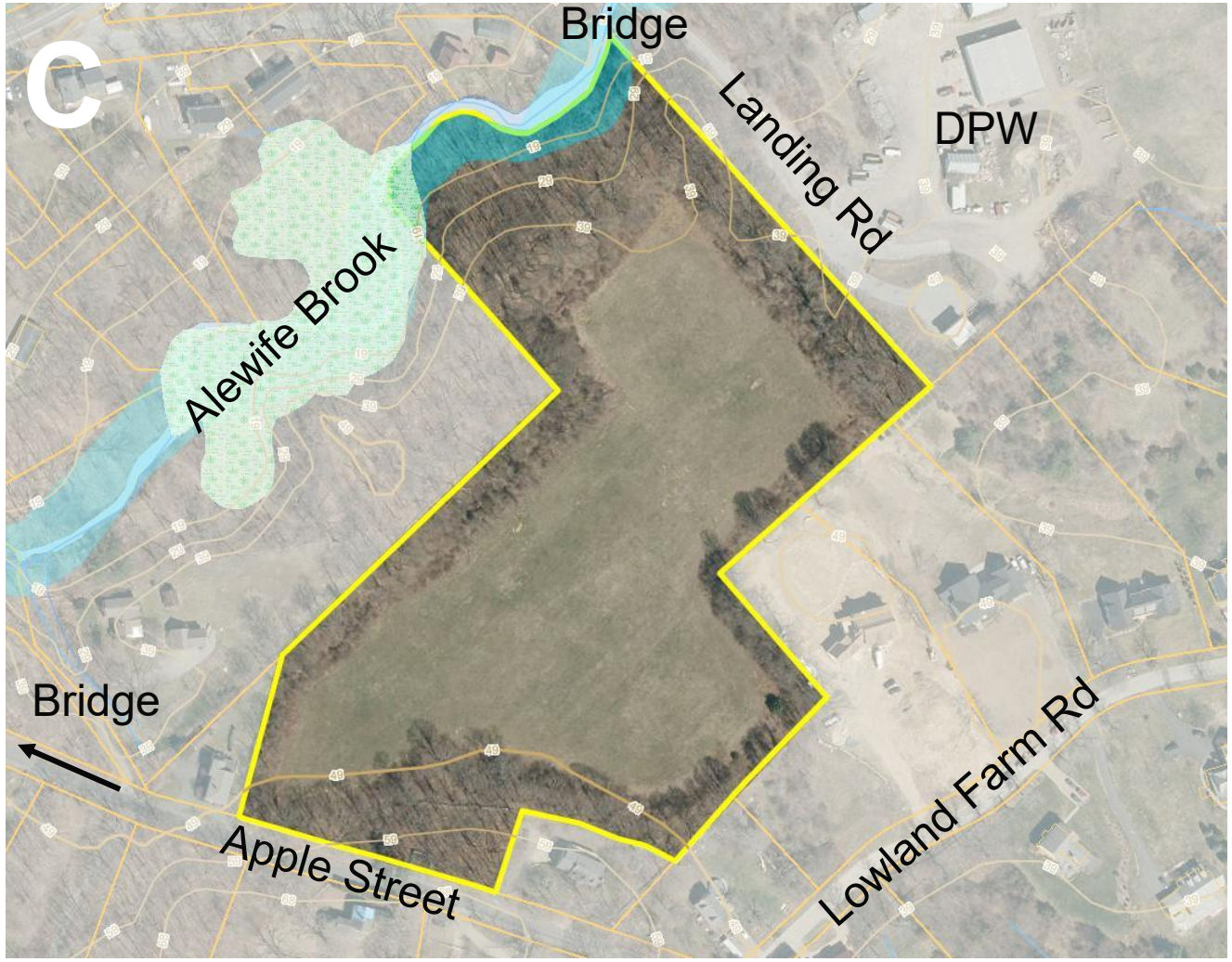
Opportunities

- Developed site utilities

Constraints

- Construction activities on occupied school site
- Dense site already fully built out
- Loss of tennis courts
- Wetlands and flood zone
- Transportation from Essex to Manchester
- Regional Agreement
- MSBA funding considerations

Apple Street Site



Opportunities

- No disruption to existing schools
- Simplified construction phasing

Constraints

- Restricted site access
- No sidewalks
- Municipal utilities are undersized
- Offsite developments are not MSBA reimbursable
- Impacts to adjacent residences / land acquisition for road widening
- Regional Agreement Amendment

Site Evaluation

Legend	
	Not Preferable
	Neutral
	Advantageous







ESSEX ELEMENTARY SCHOOL PROJECT SITE ALTERNATIVES		SITE A CURRENT ESSEX ES	SITE B CURRENT MMES	SITE C APPLE STREET
		12 STORY ST	43 LINCOLN ST	30 APPLE ST
General	Location	ESSEX	MANCHESTER	ESSEX
	Size	9.75 ACRES	11.313 ACRES	11.50 ACRES
Site Development	Town Owned			
	Adequate Buildable Area - (Current Site 9.75 Acres)			
	Utilities Access			
	Subsurface Conditions – Geotechnical (Bearing Capacity, Organics, Ledge)			
	Environmental Contaminants			
	Regulatory - Wetlands, Rivers and Streams, Flood Zones			
	Future Development Options and Flexibility			
	Reimbursement potential from MSBA (Offsite, Budget cap)			
	Construction Complexity – Access, Laydown, Phasing			
Site Access	Infrastructure - Bridges, Road Surface			
	Walkability - Distances, Sidewalks			
	Safety - Road Width, Sight Lines			
	Busing			
Community	Compatible with Regional Agreement			
	Access to other Community Resources			
	Minimize Impact on Neighbors			
Education	Meets needs of Educational Program			
	Construction Impact on Existing School Activities			
Schedule	No significant schedule risks - "Shovel Ready"			

Design Alternatives









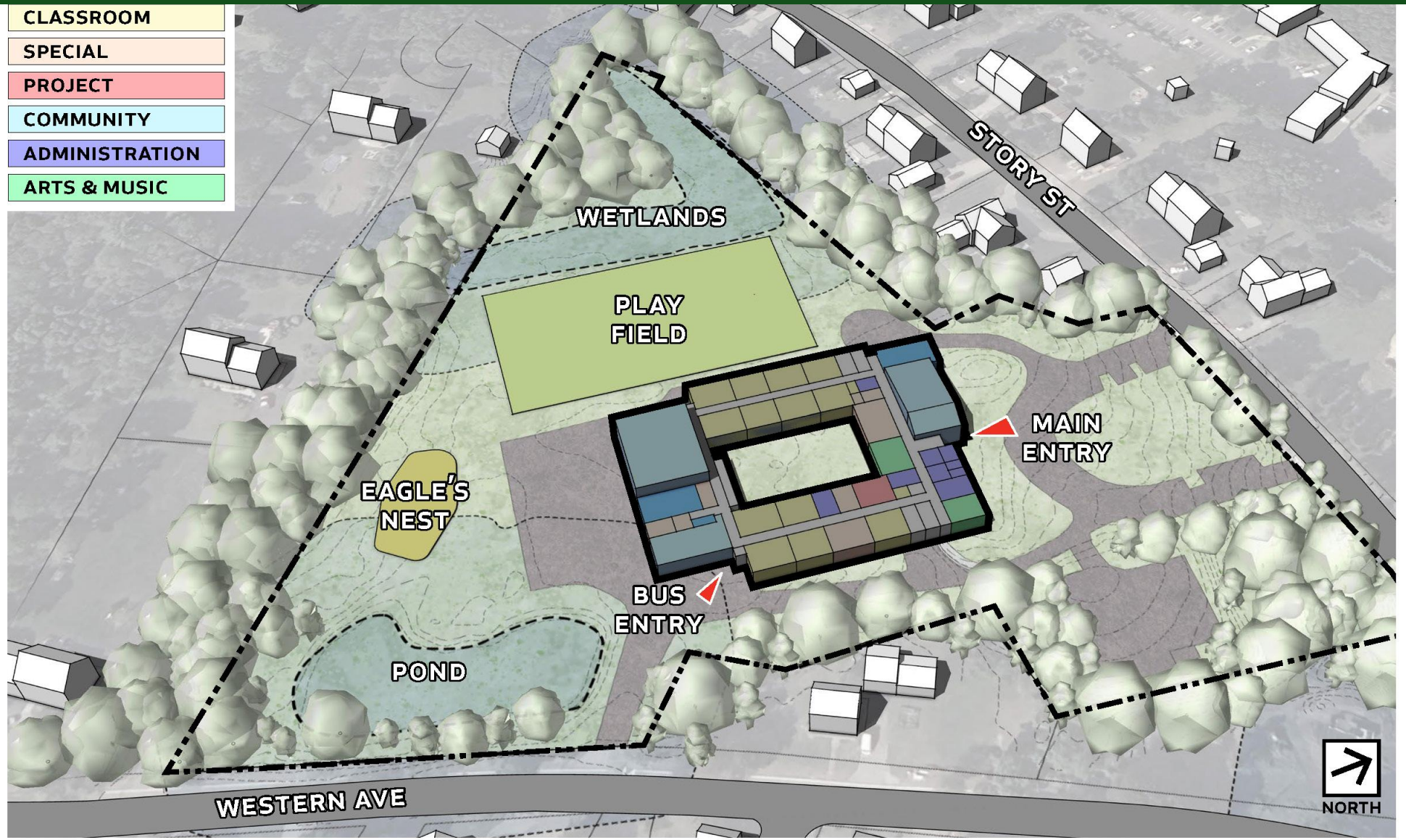
ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment	165	250	165	250	165	250	515
	Grade Configuration	K-3	K-5	K-3	K-5	K-3	K-5	K-5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD

Design Alternatives

OPTION A0.1
165 STUDENTS
K-3
CODE UPGRADE/BASE REPAIR
53,036 GFA RENOVATION

OPTION A0.2
250 STUDENTS
K-5
CODE UPGRADE/BASE REPAIR
53,036 GFA RENOVATION

CONSIDERATIONS
- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE
  A0.1: MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)
  A0.2: MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT



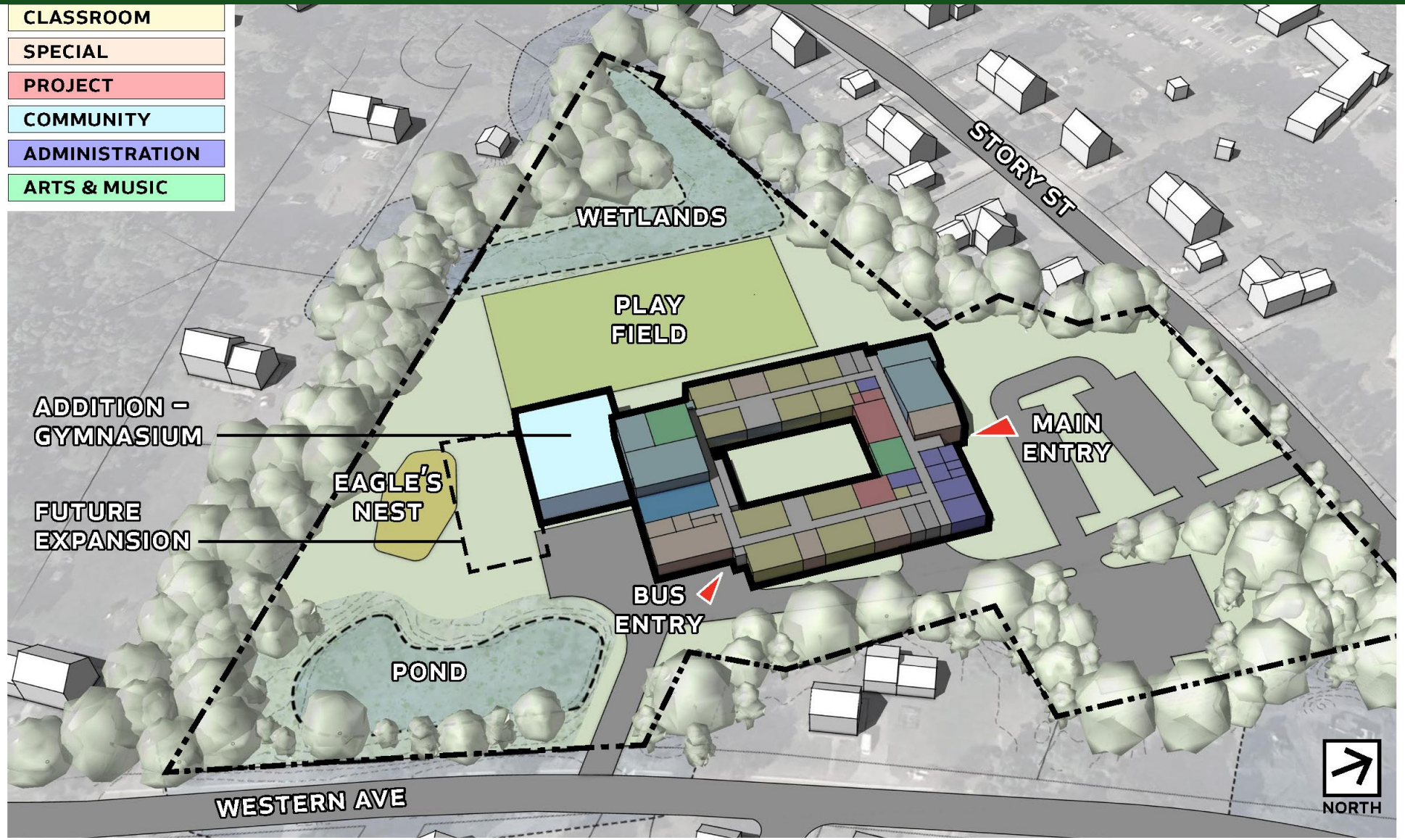
Design Alternatives

OPTION A1.1

165 STUDENTS
K-3
ADDITION/RENOVATION

53,036 GFA RENOVATION
7,741 GFA ADDITION

TOTAL: 60,777 GFA



CONSIDERATIONS

- FULL-SIZE GYM COULD BE ACCOMMODATED IN AN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

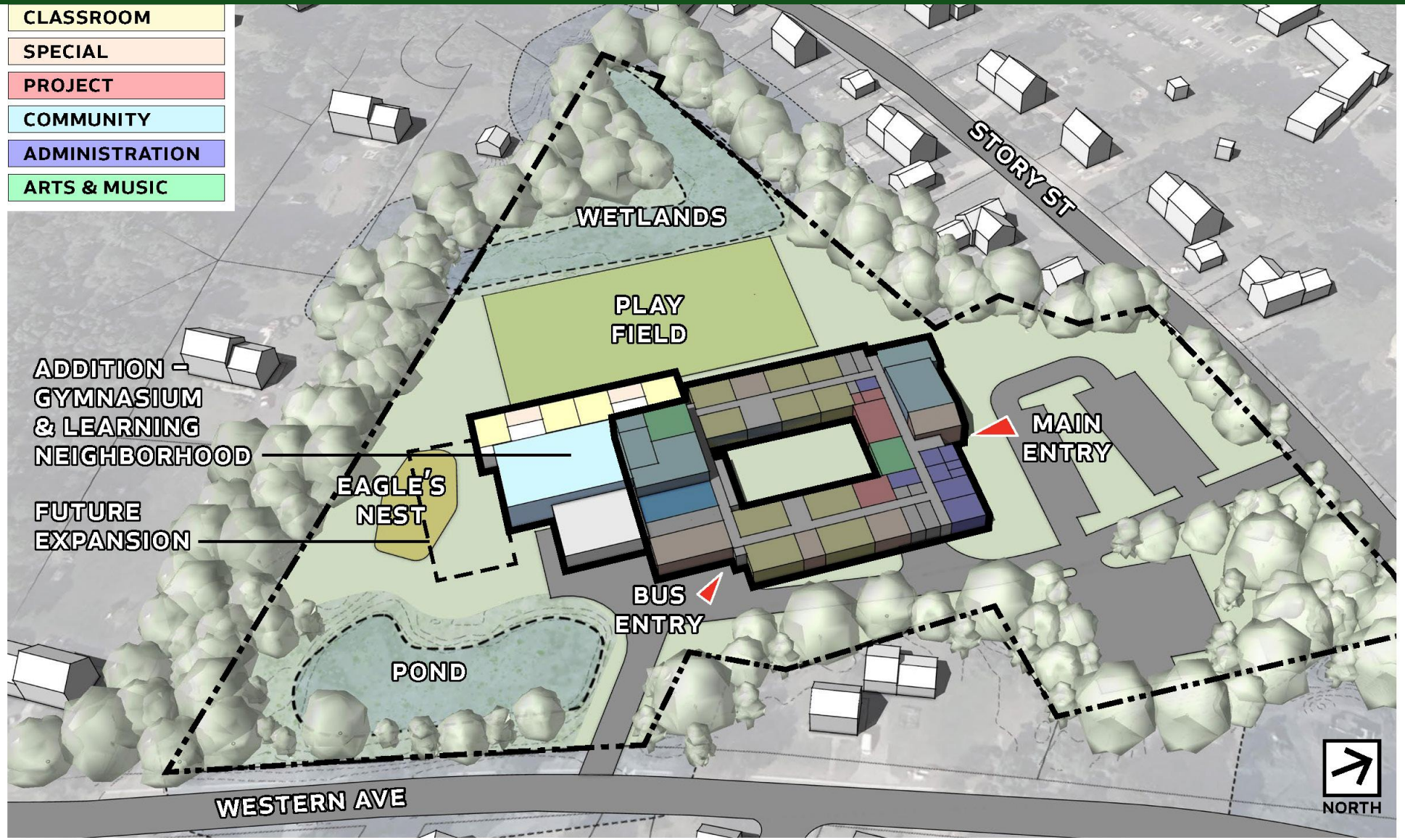
Design Alternatives

OPTION A1.2

250 STUDENTS
K-5
ADDITION/RENOVATION

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA



CONSIDERATIONS

- FULL-SIZE GYM COULD BE ACCOMMODATED IN AN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (4 CLASSROOMS) COULD BE ACCOMMODATED IN AN ADDITION

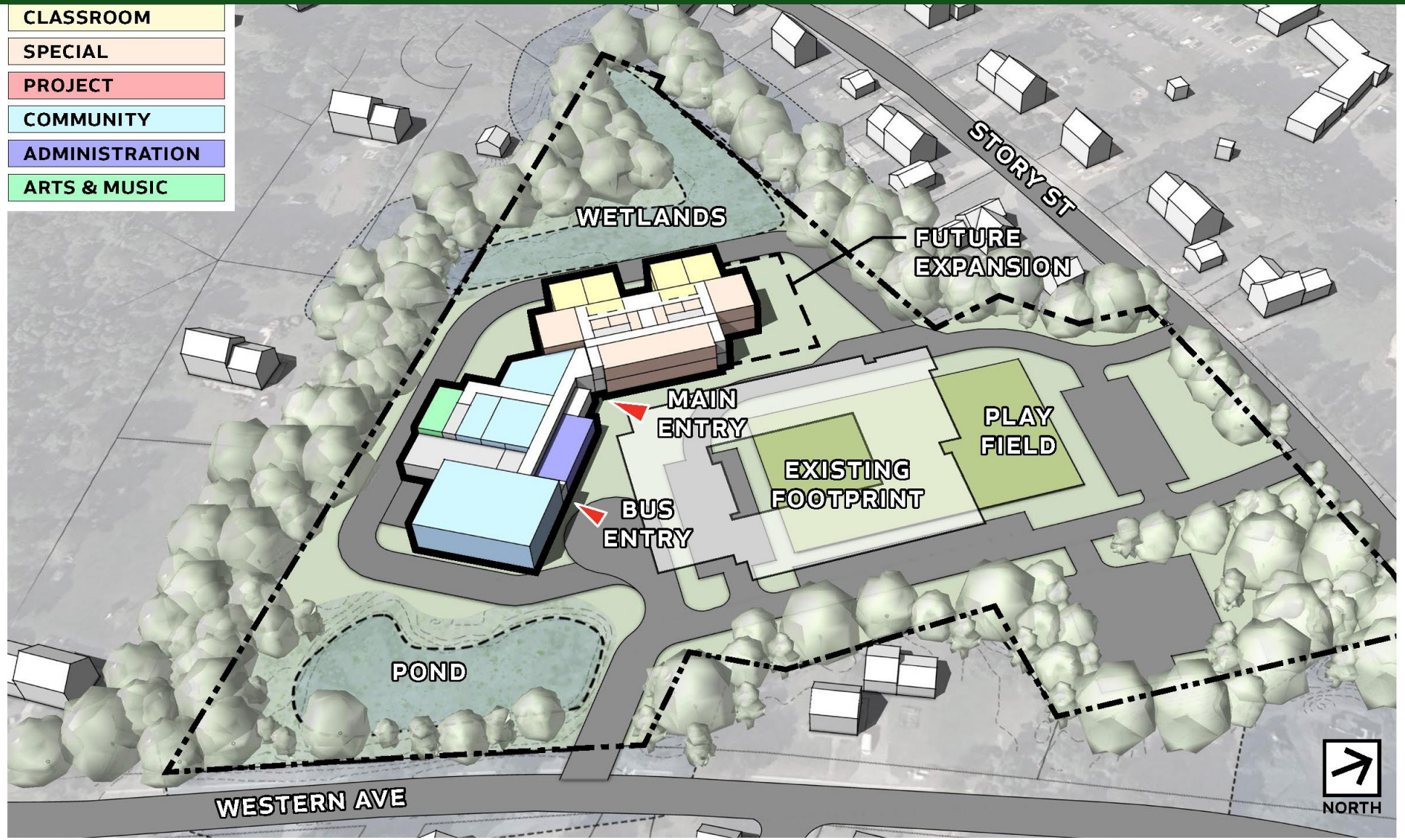
Design Alternatives

OPTION A2.1

165 STUDENTS
K-3
NEW

60,777 GFA NEW

TOTAL: 60,777 GFA



CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE PROVIDED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- LEARNING NEIGHBORHOOD INTEGRATE SPECIAL EDUCATION AND INTERVENTIONISTS
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

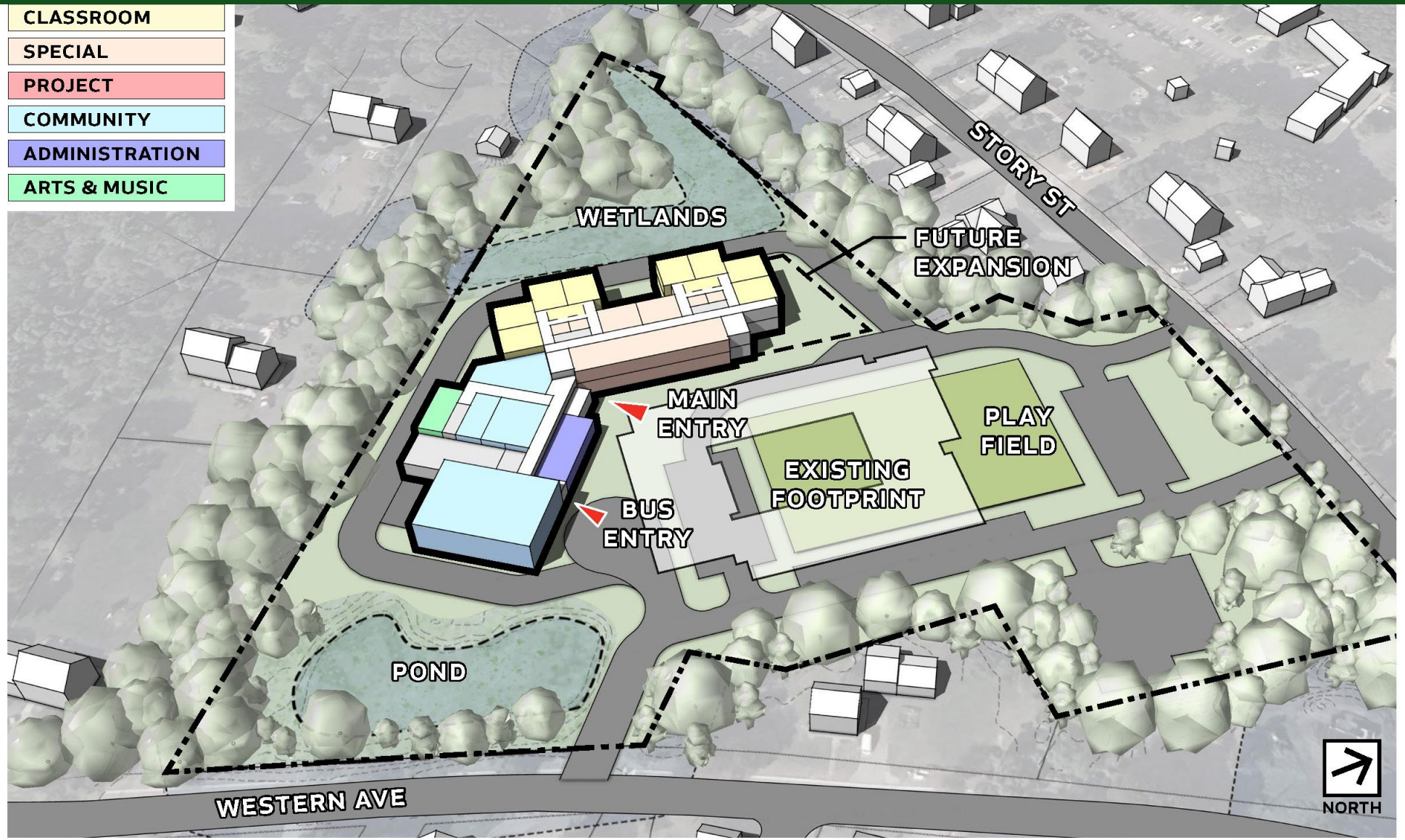
Design Alternatives

OPTION A2.2

250 STUDENTS
K-5
NEW

73,673 GFA NEW

TOTAL: 73,673 GFA



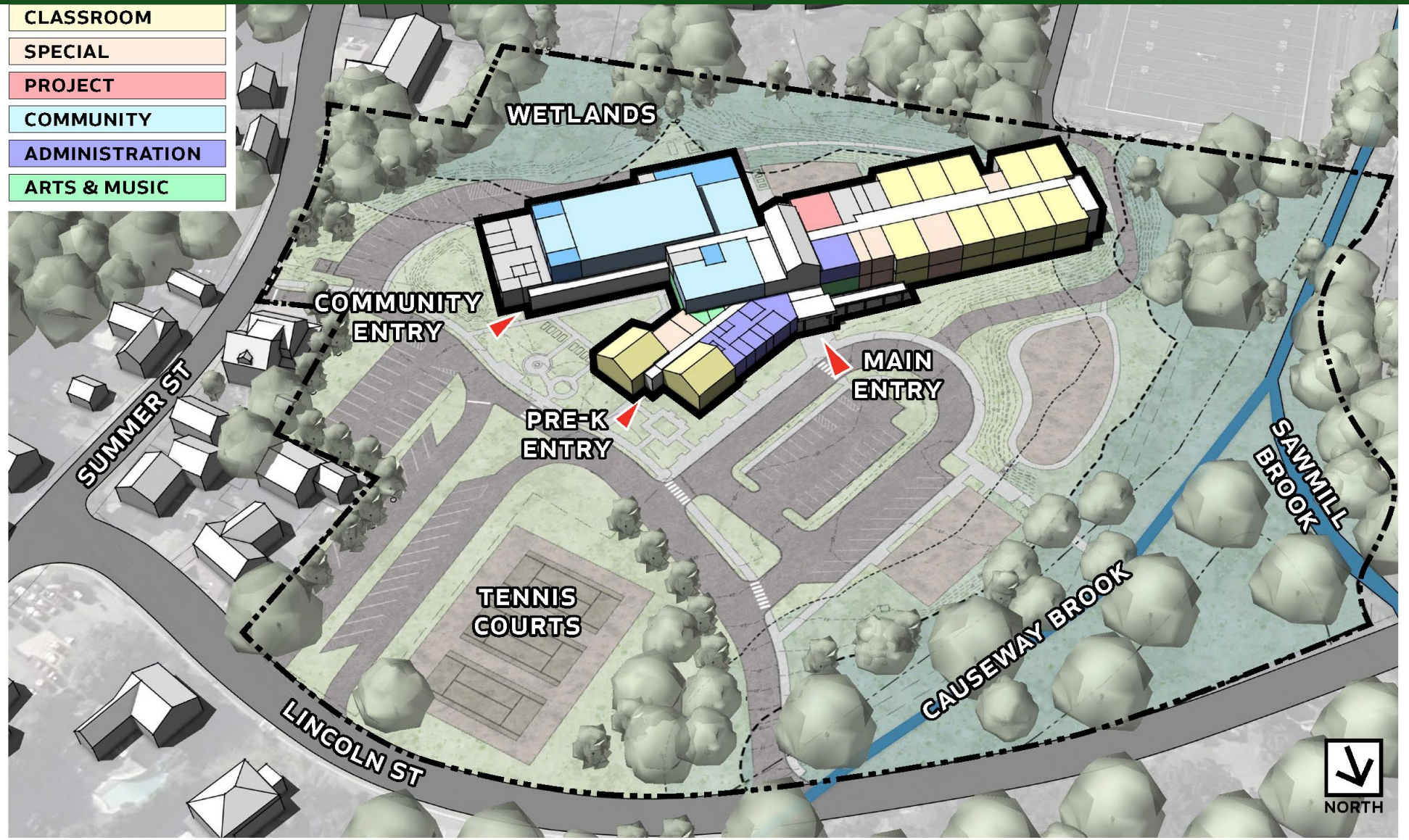
CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE PROVIDED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- LEARNING NEIGHBORHOOD INTEGRATE SPECIAL EDUCATION AND INTERVENTIONISTS

Design Alternatives

EXISTING MMES
335 STUDENTS
K-5

77,102 GFA EXISTING



Design Alternatives

OPTION B1.1

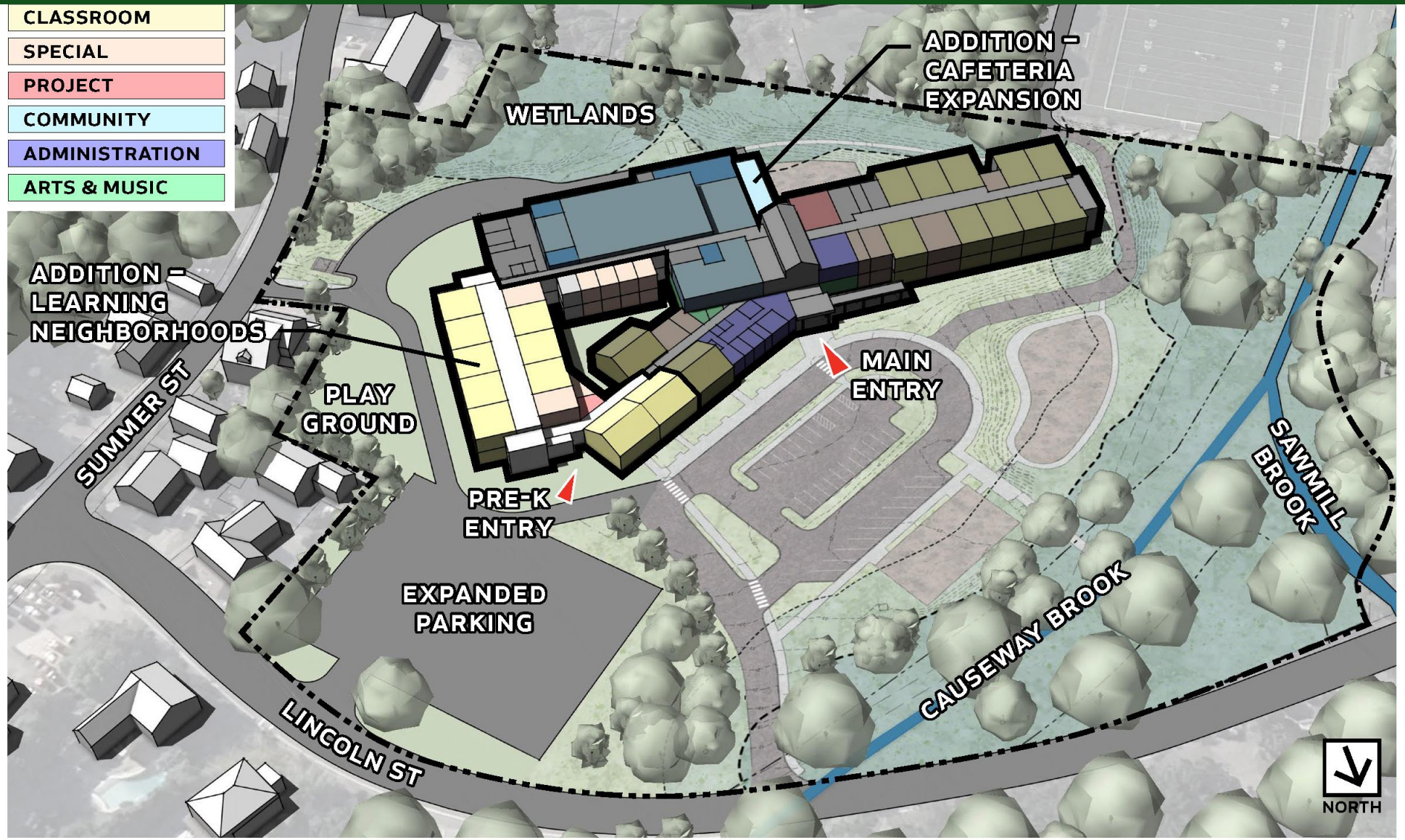
515 STUDENTS
K-5
ADDITION/RENOVATION

77,102 GFA EXISTING/RENO
41,899 GFA NEW

TOTAL: 119,001 GFA

CONSIDERATIONS

- SITE AMENITIES WILL BE LIMITED SUCH AS PLAY SPACE AND PARKING CAPACITY
- REMOVAL OF TENNIS COURTS LIKELY
- NO FUTURE EXPANSION POTENTIAL
- BUILDING CODE AREA LIMITATIONS REQUIRES FIRE WALLS SEPARATING ADDITIONS
- COMMUNITY ENTRY AND NEAR-BY PARKING COMPROMISED BY ADDITION LOCATION
- NUMEROUS ISSUES ASSOCIATED WITH ELIMINATING A SCHOOL IN ESSEX (TRAVEL, BUSING, AFTERSCHOOL PROGRAMS, REGIONAL AGREEMENT, ETC.)



Next Steps/Upcoming Meetings

12/9/2025 Community Meeting No. 3

- Located at Manchester Memorial Elementary School building tour @4:30, meeting starts at 6pm

1/6/2026 SBC Approval for the Preliminary Design Program to the MSBA

1/28/2026 Community Meeting No. 4

- Located at Essex Elementary School building tour @4:30, meeting starts at 6pm

Q&A

Mersdessexelementaryproject.com

MEETING AGENDA

Meeting Date:	December 9, 2025
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee – Community Meeting No. 3
Location:	In person at Manchester Memorial Elementary School cafeteria (43 Lincoln Street, Manchester-by-the-Sea, MA) and online via Zoom.

Join Zoom: https://us06web.zoom.us/j/81635599071

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1. Project Team Introduction
2. MSBA Process and Schedule
3. Existing Conditions
4. Review of Potential Sites
5. Preliminary Review of Alternatives
6. Educational Programming
7. Next Steps
8. Q&A

Essex Elementary School Project
Community Meeting No. 03
December 9, 2025 @ 6:00 PM



Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

Agenda

1. Project Team Introduction
2. MSBA Process and Schedule
3. Existing Conditions
4. Review Potential Sites
5. Preliminary Review of Alternatives
6. Educational Programming
7. Next Steps
8. Q&A

Organization/ Project Team



Massachusetts School Building Authority

Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

Process


Middle High School
Memorial Elementary School
Essex Elementary School

Project Team

Dore + Whittier Team

Michael Burton
Partner In Charge

Christina Dell Angelo
Project Director

John Albright
Project Manager

Jacob Greco
Assistant Project Manager

Rachel Rincon
Assistant Project Manager

JCJ Architecture Team

Jim LaPosta
Principal in Charge

Dustin Lombardi
Project Architect

Fawn Pellegrini
Project Manager

Jeff Elliott
Project Architect

Emily Czarnecki
Interior Designer

School Building Committee

Pam Beaudoin
Superintendent of Schools/SBC

Michelle Cresta
Director of Finance & Ops/SBC

Theresa Whitman
SC/SBC Co-Chair

John Binieris
SC/SBC Co-Chair

Annie Cameron
Essex Select Board/SBC

Tyler Virden
Project Executive/SBC

Gordon Brewster
OPM/SBC

Charlie Hay
Architect/SBC

Kim Provost
Essex Elementary School Principal/SBC

Henry Oettinger
Manchester ConCom/SBC

Tim McDonald
Architect/SBC

Andy Oldeman
Manchester Finance Committee/SBC

Lisa O'Donnell
Essex Planning Board/SBC Advisor

Ariel Fernando Brain
Architect/SBC

Jen Hocherman
Architect/SBC

Michael Gerhardt
Civil Engineer/SBC

David Pereen
Plumbing/Fire Design/SBC Advisor

Emily Dwyer
Essex ES Teacher Rep

Rachelle Russo
Essex ES Teacher Rep/SBC Advisor

Kim Field
Essex ES Teacher Rep/SBC Advisor

Steve Hunt
Facilities Director/SBC Advisor

MSBA Process



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Who is the Massachusetts School Building Authority (MSBA)?

A quasi-independent government authority created to reform the process of funding capital improvement projects in the Commonwealth's public schools.

The MSBA strives to work with local communities to create affordable, sustainable, and energy efficient schools across Massachusetts.

Collaborating with municipalities to equitably invest in finding the right-sized, most fiscally responsible and educationally appropriate solutions to create safe, sound, and sustainable learning environments.

MSBA Process



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Where do MSBA grant funds come from? How are they issued?

The MSBA has a dedicated revenue source of 1% from the state's 6.25% annual sales tax collections.



Grant funds are issued to the district using a "pay-as-you-go" reimbursement system for the duration of the project.

More than $16.6 billion issued to-date to cities, towns, and regional school districts for school construction projects.

MSBA Process

How does MSBA determine the level of financial support for projects?

Reimbursement rates are calculated based on a formula that is established in M.G.L ch.70B § 10

The formula starts all districts at a base rate of 31% (of eligible project costs).

The base rate may be adjusted based on three socioeconomic factors:

- **Community income factor**
- **Community property wealth factor**
- **Community poverty factor**

Essex ES Base Rate is 31%

6% potentially available from Green School (4%) incentive points and District maintenance policy (2%)

MSBA Process

What does “eligible project cost” mean?

The MSBA uses a total project budget template to apply and calculate their funding policies to determine the grant amount

The MSBA’s reimbursement rate is applied to “eligible project costs” to determine the MSBA’s participation on each budget line-item.

- **Construction and Site $605/sf + $73/sf**
- **Furniture, Fixtures & Equipment (FF&E) $1,995/sf**
- **Technology Equipment $1,570/sf**

There are funding caps on certain budget items, as well as “categorically ineligible” items that the MSBA will not participate in.

- **Pools, Field Houses, Elementary School Auditoriums, Central Offices, Senior Centers, site acquisition, and offsite improvements**

MSBA Process

These caps and ineligible costs will have an impact to the final (or "effective") reimbursement.

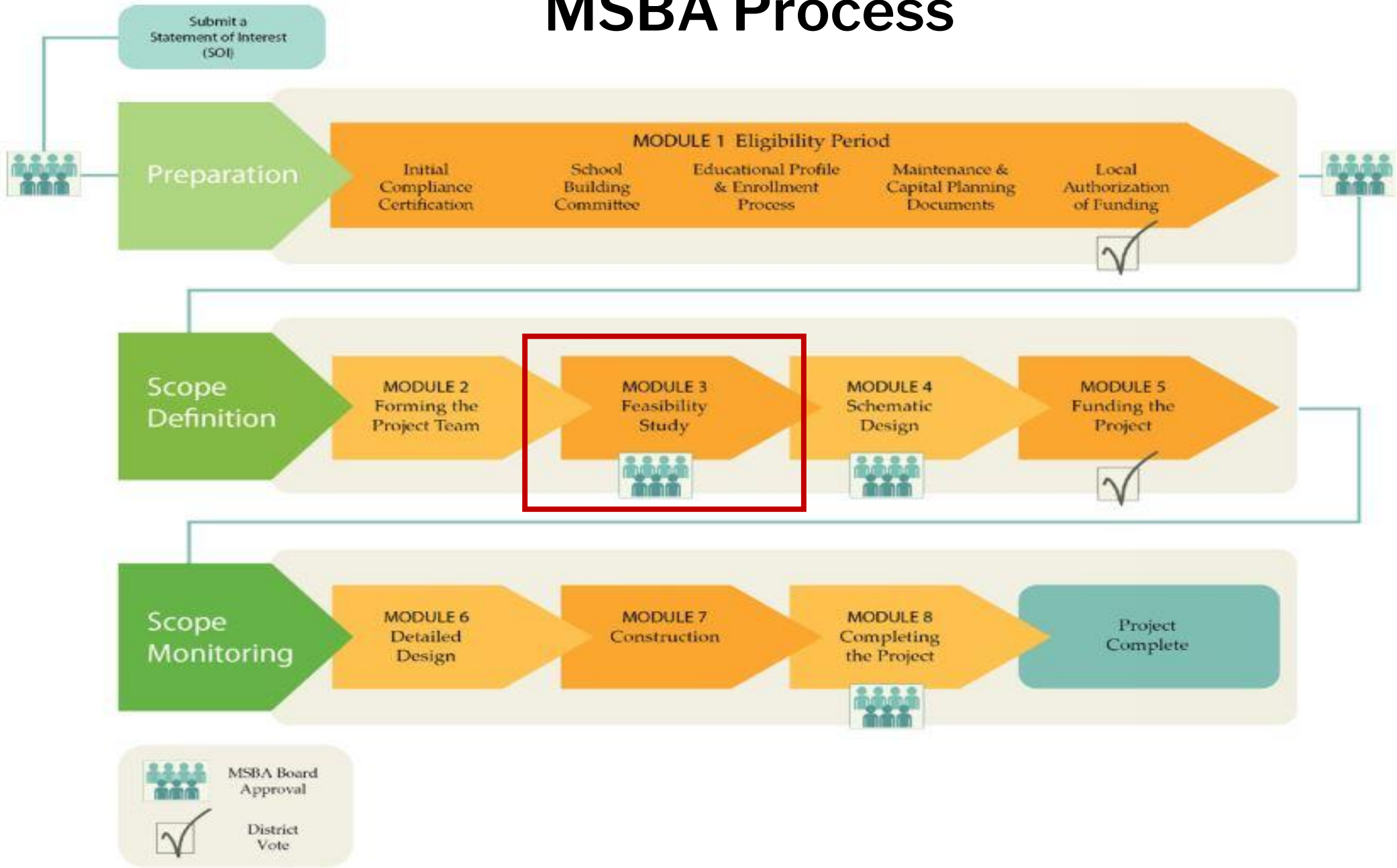
Memorial E.S. Example:

- **Base Rate of 31%**
- **CM@ Risk 1% (no longer applicable)**
- **Maintenance 1.93%**
- **Energy Efficient School 2% (has increased)**

MSBA reimbursement rate 35.93%

"Effective" reimbursement rate ~23% = $11.5 Million from the State

MSBA Process



Feasibility Phase Process

Preliminary Design Program (PDP)

- Identify the issues/articulate the educational plan
- List options to be studied in PSR

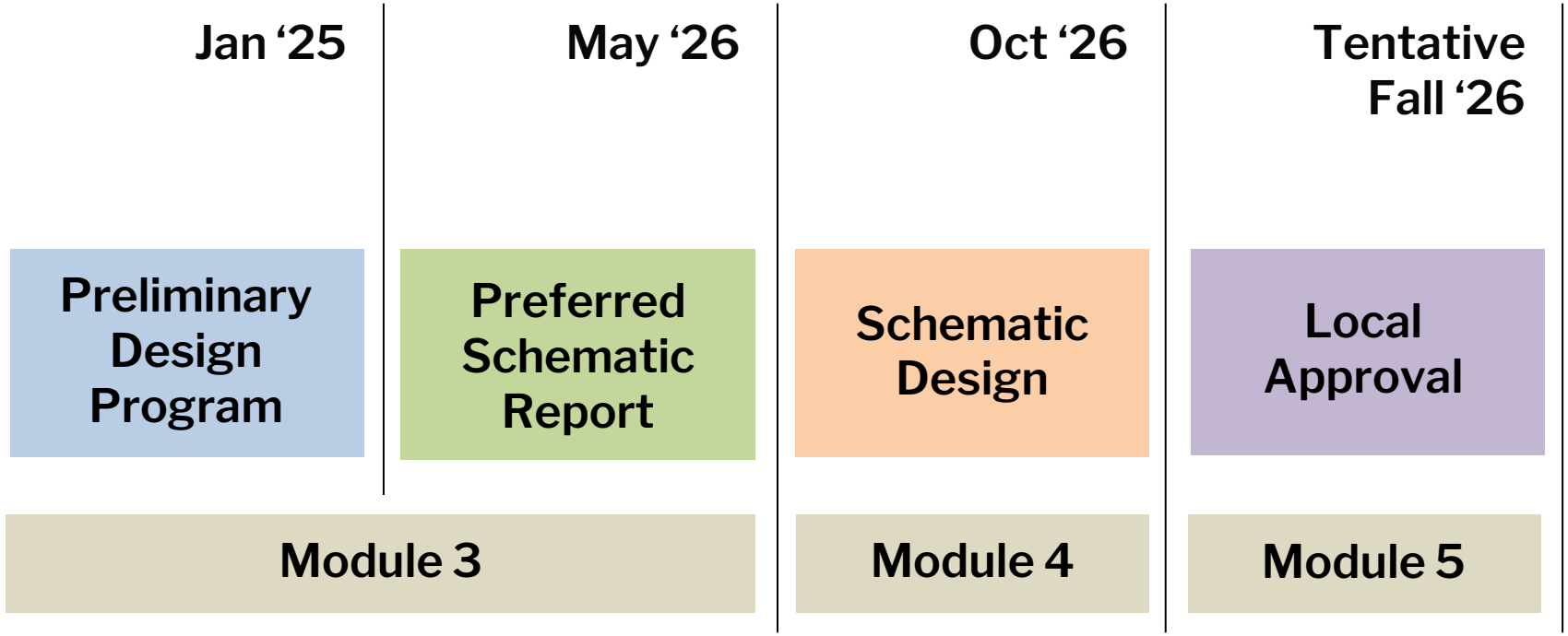
Preliminary Schematic Report (PSR)

- Evaluate the site and building options/select a preferred option

Schematic Design (SD)

- Develop schematic drawings and specifications to establish the project budget

Feasibility Phase Schedule



Timeline is subject to change during the process

Feasibility Phase Requirements

MSBA Requires Development of Several Options including:		
Renovation Only	Addition/Renovation	New Construction

Feasibility Phase Requirements

Feasibility Study Enrollment Configurations to be Studied for Essex Students		
Grades PreK-3 165 Students *Sited in Essex w/Grades 4 & 5 Integrated into Memorial*	Grades PreK-5 250 Students Sited in Essex	Pre-K to 5 515 Students Sited at Manchester Memorial with all Essex & Manchester students in one school
SC Program Vote/Redistricting		SC Program Vote/Redistricting
SC Vote to Amend Regional Agreement		SC Vote to Amend Regional Agreement
Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment		Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment
Essex & Manchester Town Meeting Full Project Vote & Debt Exclusion Vote		

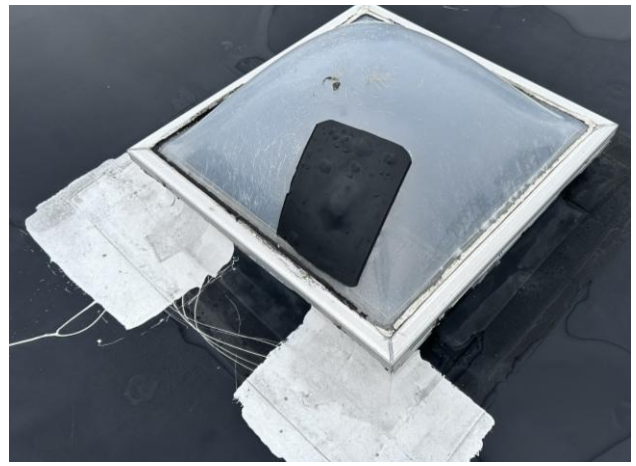
Building History

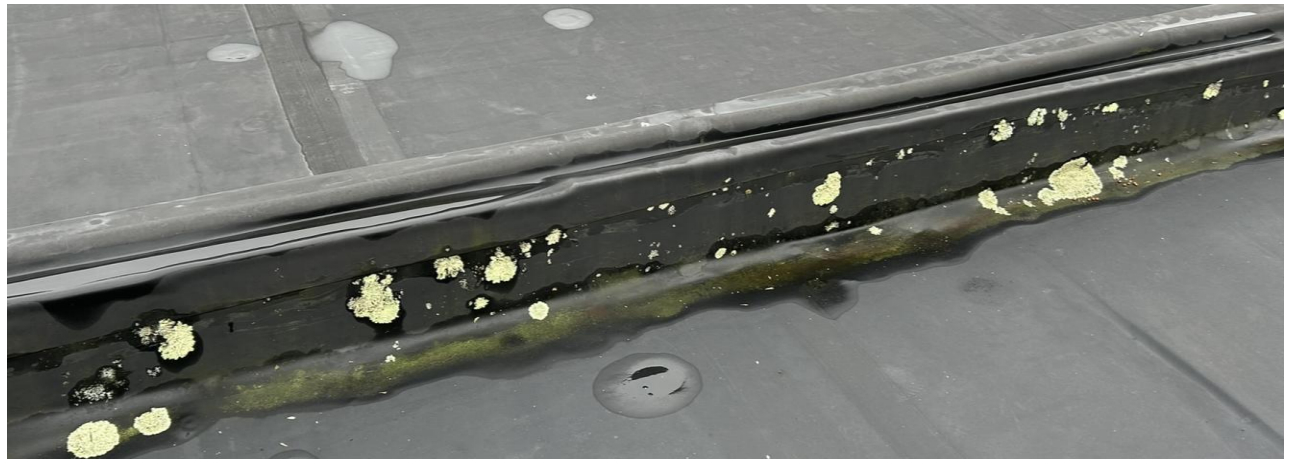
The Essex Elementary School building

1. Total building is approximately 52,900 SF
2. Originally built in 1957 (68 Years)
3. Addition provided in 1975 (50 Years) (media center and gymnasium)
4. The design team's existing investigations began and are ongoing.
5. Mechanical, electrical & plumbing systems has exceeded life expectancy
6. Roofing, windows and building materials are deteriorating

Existing Conditions









The roofing system is at life expectancy. There are several repairs, underlayment appears compromised, and water is ponding, so moisture is not shedding quickly.

Existing Conditions

Shedding water away from the school building through roofing and site drainage is important.
Moisture accelerates:

- Spalling at the existing roof eave
- Lichen on the masonry
- Compromises at the concrete foundation
- Plant growth occurring in unplanned or undesirable areas
- Deterioration of the original wood windows











Existing Conditions

Accessibility is being reviewed to enable students, staff and visitors of various abilities to enter the school together (not separate due to physical need, or otherwise). Some of the items included in this review of the site conditions and the school interior include:

- Exterior grade changes
- Interior level changes
- Pitch of sloped walkways and ramps
- Handrail design
- Push/pull clearances at doorways
- Circulation space & turn around space
- Mounting heights of accessories, plumbing, and equipment
- Furniture
- Signage







Existing Conditions

- Mechanical, electrical, plumbing systems are beyond or at life expectancy.
- Exhaust fans, unit ventilators and boiler are worn.
- Portable fans are seen throughout the school to supplement air circulation
- Interior finishes are buckling.
- Wood windows are deteriorating.
- The water heating system is at the end of its useful life. The mixing value is leaking.

- Considerations include:
- Efficiency of operation (operational costs for the District)
- Efficiency to heat, cool, dehumidify and provide fresh air circulation
- Availability of parts quickly for future repairs







Existing Conditions







Existing Conditions





Entry and exit sequence for students, staff, and visitors is being reviewed with the District to support the operational needs.

Identified Sites

Statement of interest includes:

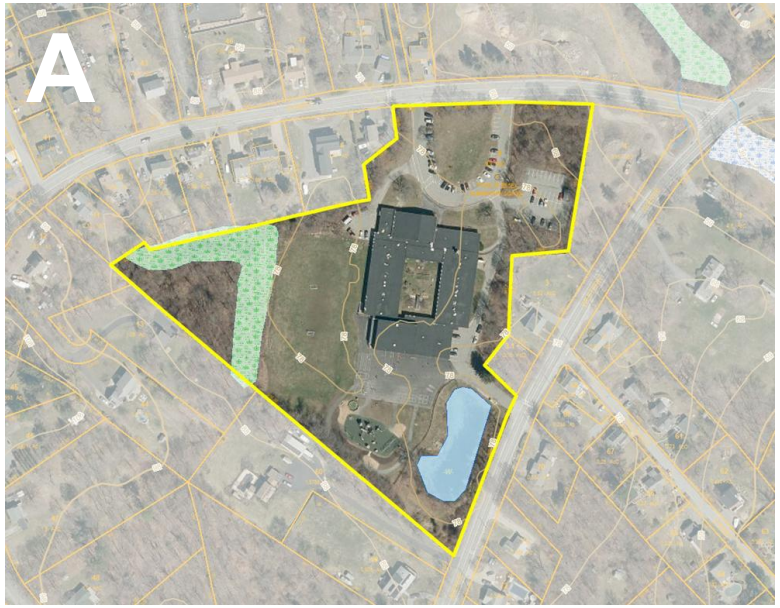
- Current Essex Elementary School
- Current Manchester Memorial Elementary School

Search of other potential sites in Essex:

➢	Town of Essex owned parcels	112
➢	Minimum 9.75 acres	16
➢	Street access & utilities	7
➢	Not used by other town function	1 → 30 Apple St

Town Hall, Spring Street Cemetery, Essex ES, Centennial Grove, DPW Transfer Station, Public Water Supply

Identified Sites



Current Essex Elementary School

12 Story Street, Essex MA



Current Manchester Memorial Elementary School

43 Lincoln Street, Manchester MA



Apple Street Site

Removed

30 Apple Street, Essex MA

Current Essex Elementary School



Opportunities

- Established identity in the community
- Developed site utilities
- Multiple options for site access
- Sidewalks on adjacent streets

Constraints

- Construction activities on occupied school site
- Wetlands & pond
- Exposed ledge on north side of site

Current Manchester Memorial ES



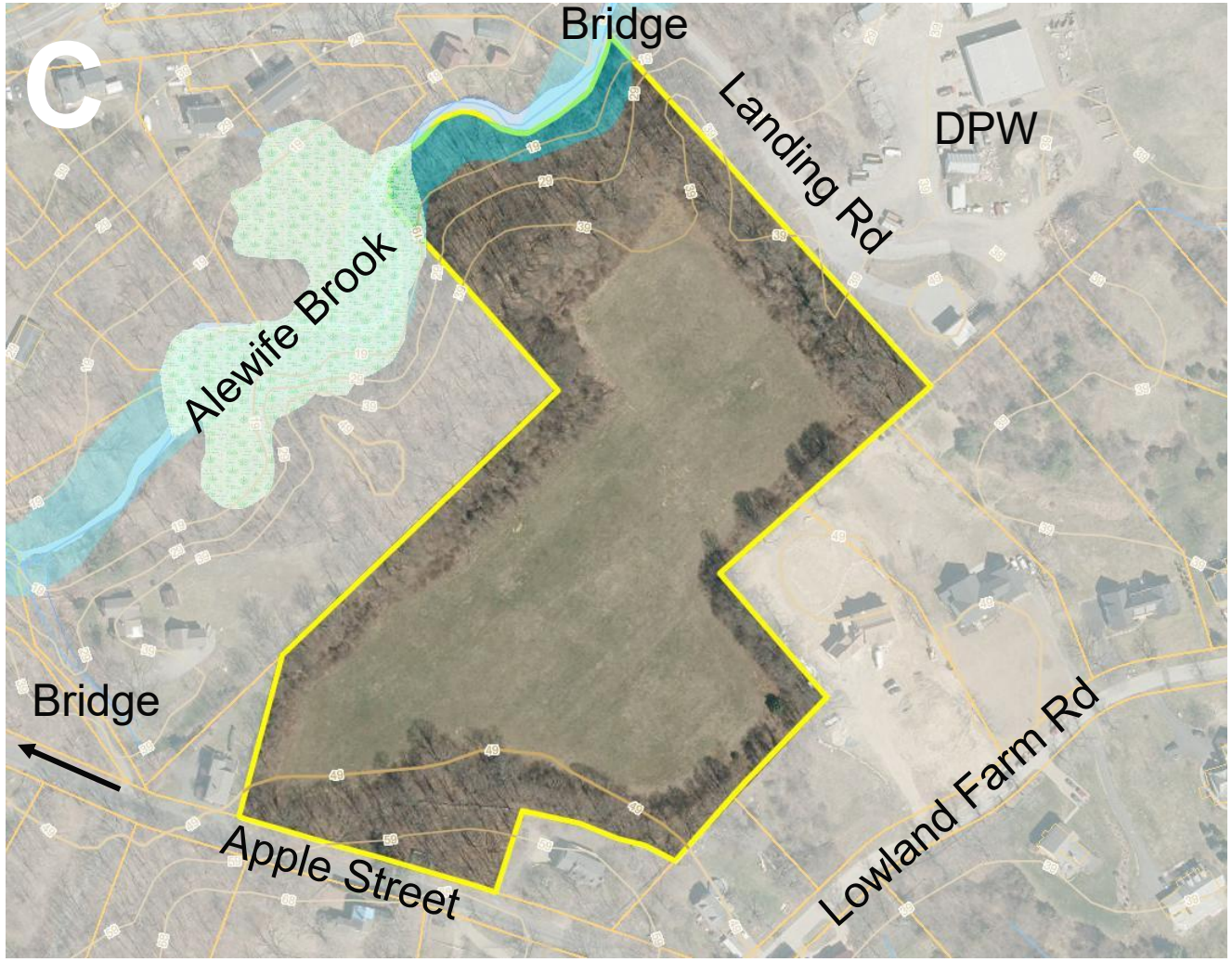
Opportunities

- Developed site utilities

Constraints

- Construction activities on occupied school site
- Dense site already fully built out
- Loss of tennis courts
- Wetlands and flood zone
- Transportation from Essex to Manchester
- Regional Agreement
- MSBA funding considerations

Apple Street Site



Opportunities

- No disruption to existing schools
- Simplified construction phasing

Constraints

- Restricted site access
- No sidewalks
- Municipal utilities are undersized
- Offsite developments are not MSBA reimbursable
- Impacts to adjacent residences / land acquisition for road widening
- Regional Agreement Amendment

Site Evaluation

Legend	
	Not Preferable
	Neutral
	Advantageous







ESSEX ELEMENTARY SCHOOL PROJECT SITE ALTERNATIVES		SITE A CURRENT ESSEX ES	SITE B CURRENT MMES	SITE C APPLE STREET
		12 STORY ST	43 LINCOLN ST	30 APPLE ST
General	Location	ESSEX	MANCHESTER	ESSEX
	Size	9.75 ACRES	11.313 ACRES	11.50 ACRES
Site Development	Town Owned			
	Adequate Buildable Area - (Current Site 9.75 Acres)			
	Utilities Access			
	Subsurface Conditions – Geotechnical (Bearing Capacity, Organics, Ledge)			
	Environmental Contaminants			
	Regulatory - Wetlands, Rivers and Streams, Flood Zones			
	Future Development Options and Flexibility			
	Reimbursement potential from MSBA (Offsite, Budget cap)			
	Construction Complexity – Access, Laydown, Phasing			
Site Access	Infrastructure - Bridges, Road Surface			
	Walkability - Distances, Sidewalks			
	Safety - Road Width, Sight Lines			
	Busing			
Community	Compatible with Regional Agreement			
	Access to other Community Resources			
	Minimize Impact on Neighbors			
Education	Meets needs of Educational Program			
	Construction Impact on Existing School Activities			
Schedule	No significant schedule risks - "Shovel Ready"			

Design Alternatives

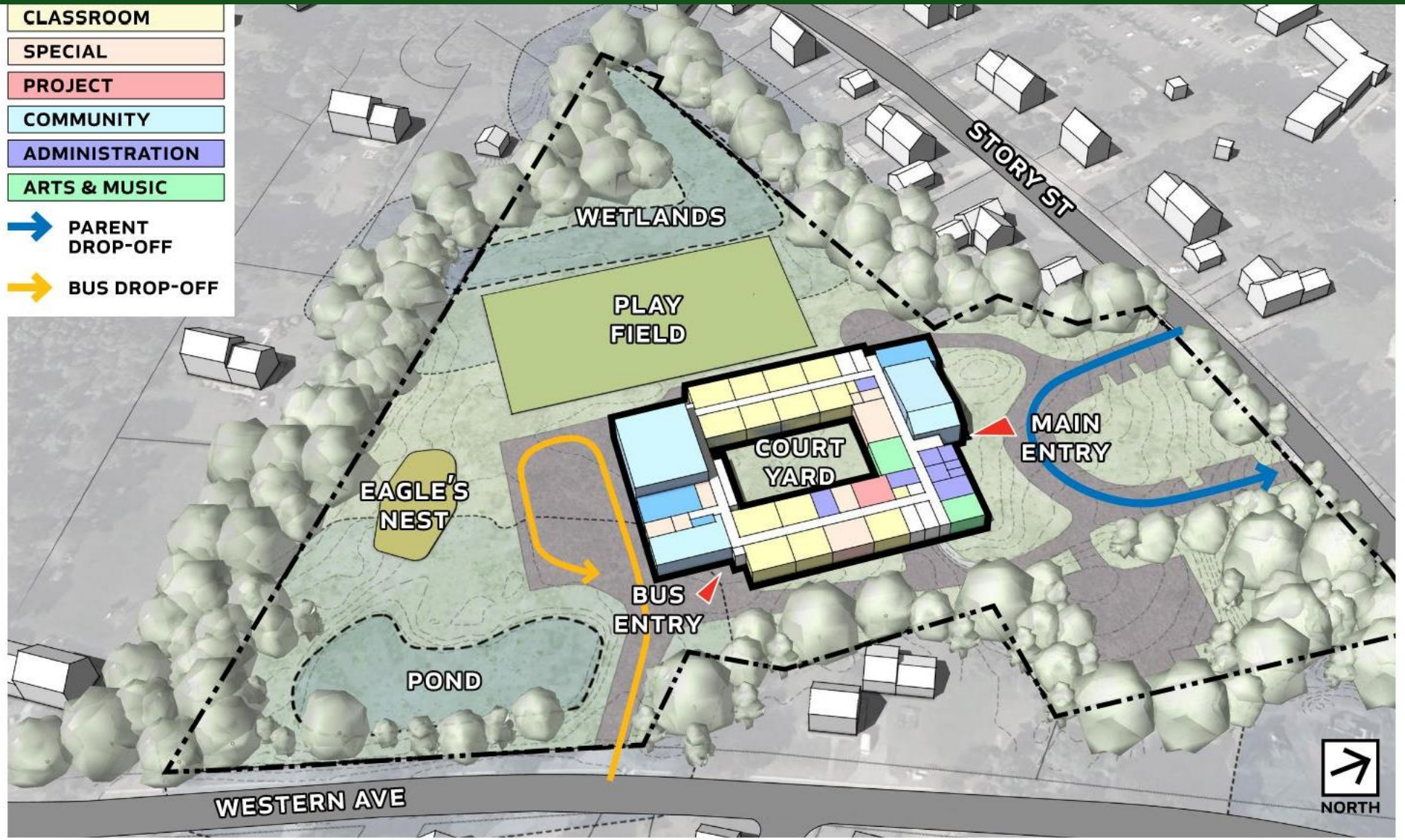


ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD

Design Alternatives

EXISTING ESSEX ELEMENTARY
K – 5
200 STUDENTS

53,036 GFA EXISTING



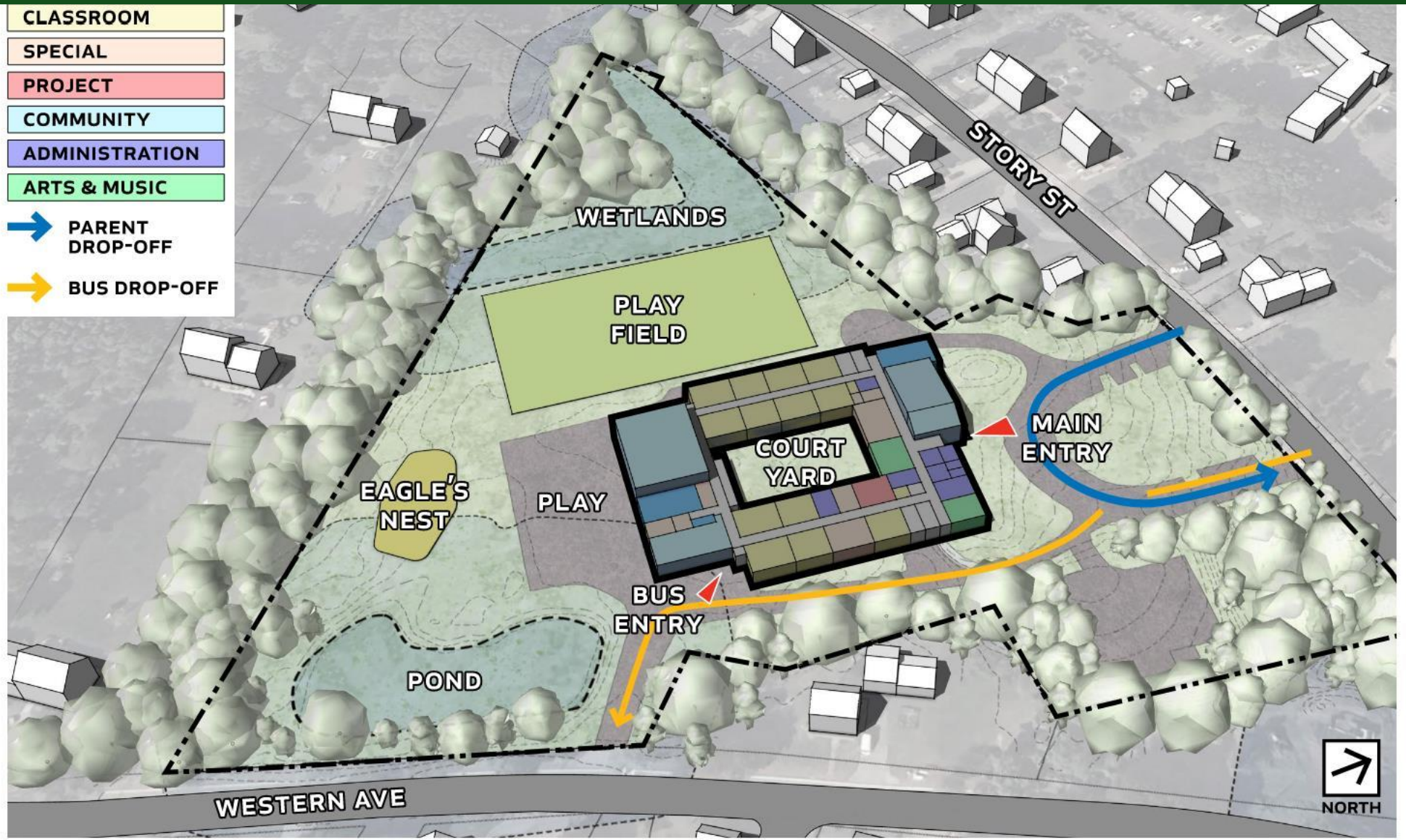
Design Alternatives

OPTION A0.1

PRE-K – 3
165 STUDENTS + 30 PRE-K
CODE UPGRADE/BASE REPAIR

53,036 GFA RENOVATION

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
ADMINISTRATION
ARTS & MUSIC
PARENT DROP-OFF
BUS DROP-OFF



CONSIDERATIONS

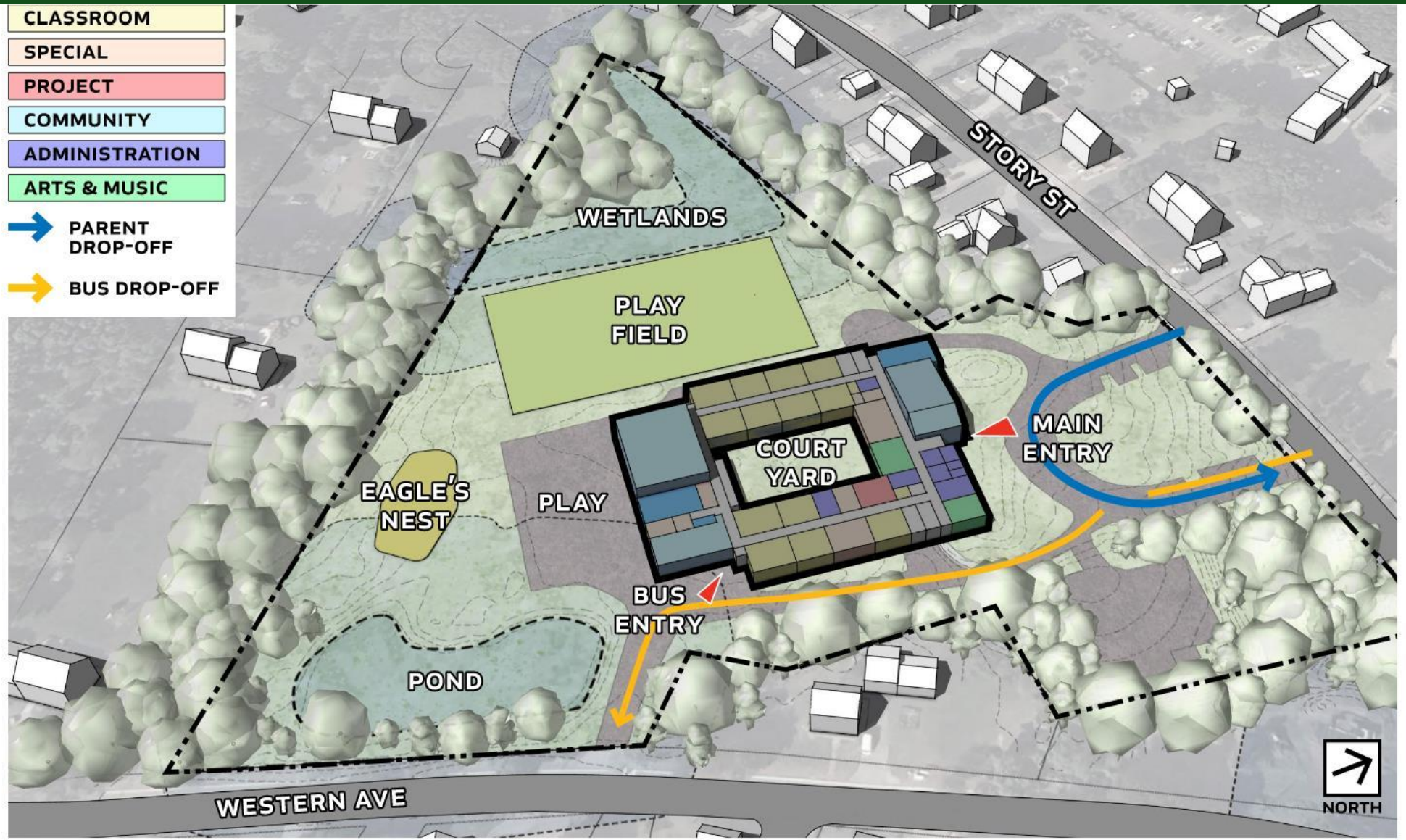
- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

Design Alternatives

OPTION A0.2

PRE-K – 5
250 STUDENTS + 30 PRE-K
CODE UPGRADE/BASE REPAIR

53,036 GFA RENOVATION



CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE

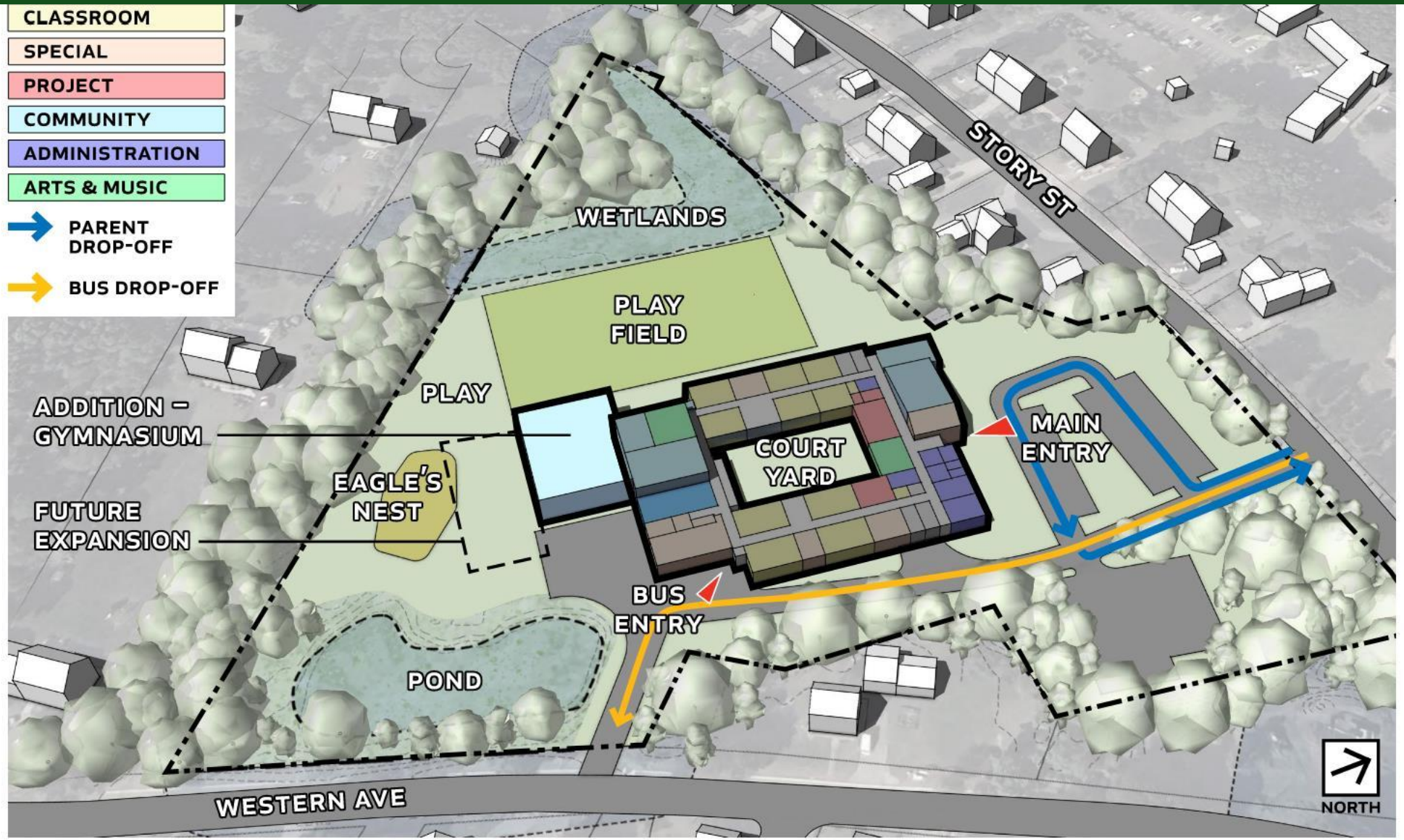
Design Alternatives

OPTION A1.1

PRE-K – 3
165 STUDENTS + 30 PRE-K
ADDITION/RENOVATION

53,036 GFA RENOVATION
7,741 GFA ADDITION

TOTAL: 60,777 GFA



CONSIDERATIONS

- FULL-SIZE GYM COULD BE ACCOMMODATED IN AN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MOVING GRADES 4-5 TO MMES CREATES SWING SPACE (4 CLASSROOMS)
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

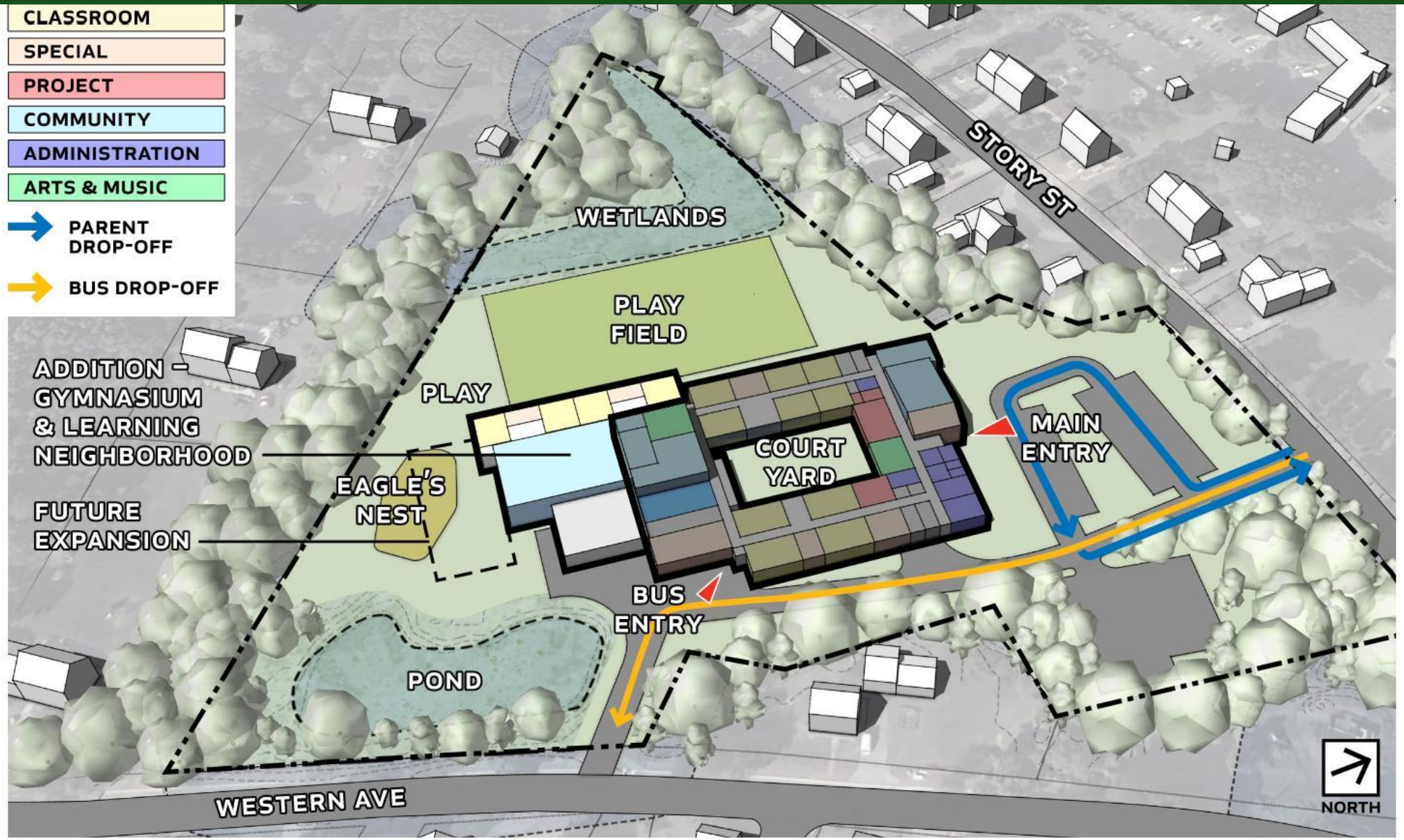
Design Alternatives

OPTION A1.2

PRE-K – 5
250 STUDENTS + 30 PRE-K
ADDITION/RENOVATION

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA



CONSIDERATIONS

- FULL-SIZE GYM COULD BE ACCOMMODATED IN AN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (4 CLASSROOMS) COULD BE ACCOMMODATED IN AN ADDITION

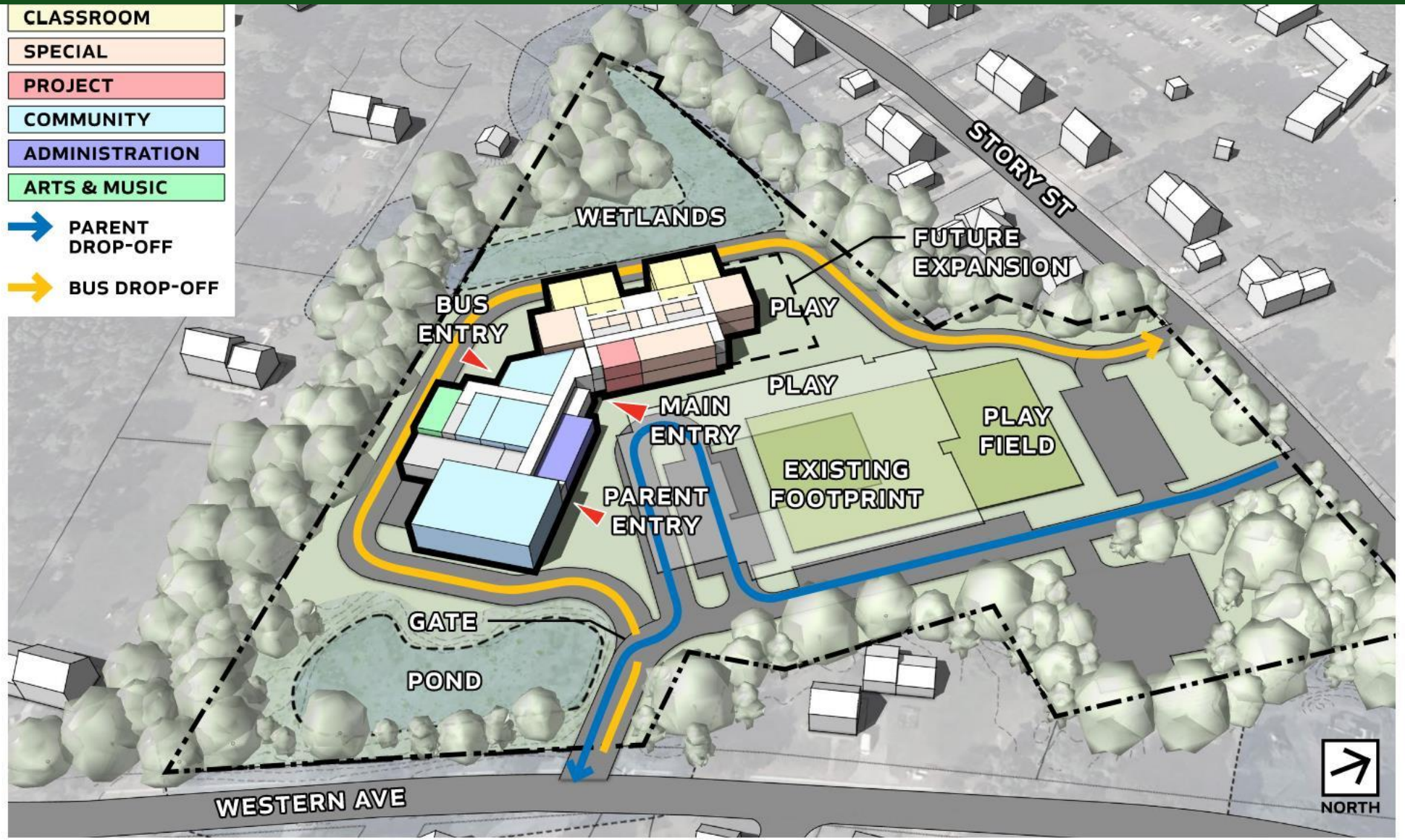
Design Alternatives

OPTION A2.1

PRE-K – 3
165 STUDENTS + 30 PRE-K
NEW

60,777 GFA NEW

TOTAL: 60,777 GFA



CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL
- K-3 REQUIRES MODIFICATION TO THE REGIONAL AGREEMENT

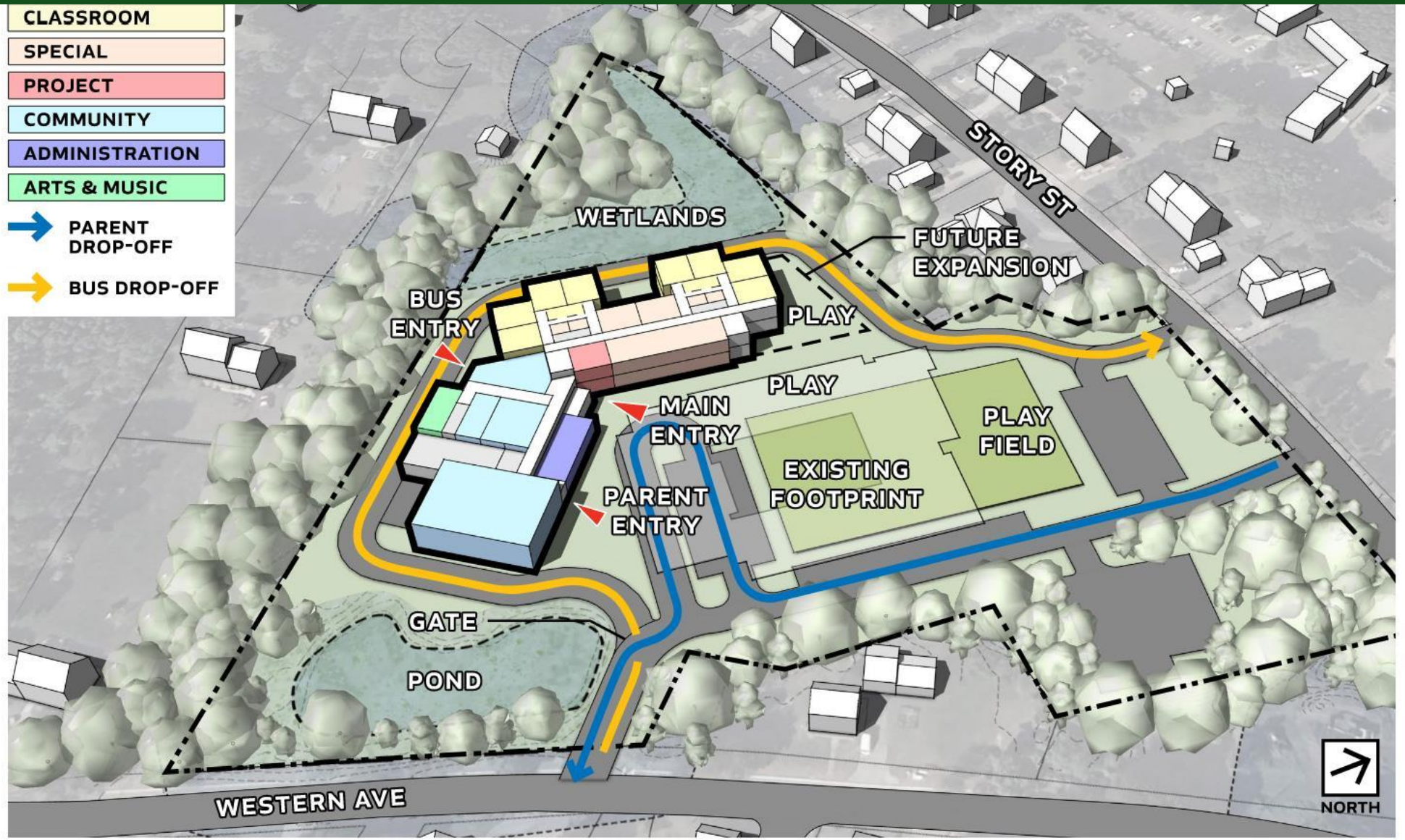
Design Alternatives

OPTION A2.2

PRE-K – 5
250 STUDENTS + 30 PRE-K NEW

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

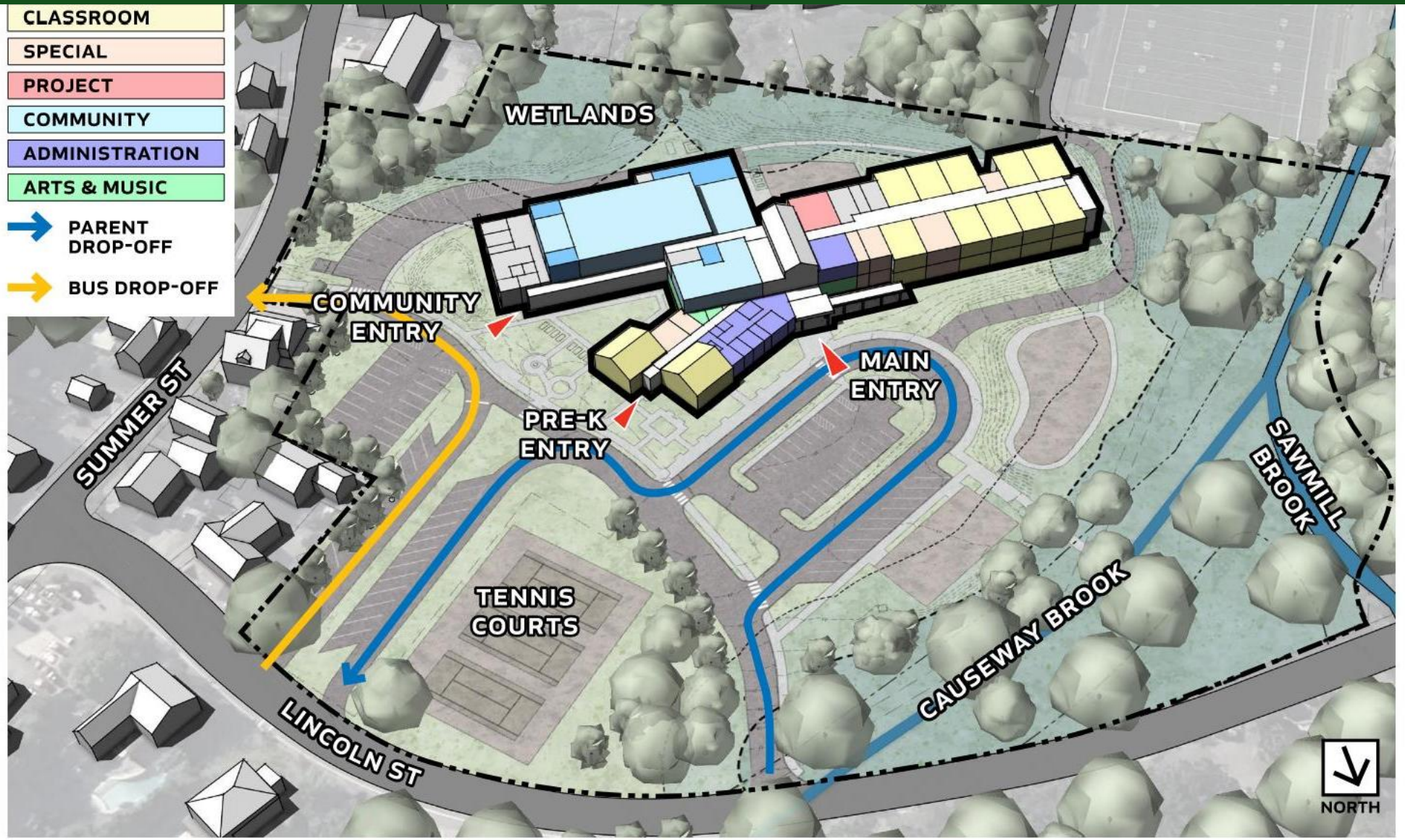
Design Alternatives

EXISTING MANCHESTER MEMORIAL

PRE-K – 5

335 STUDENTS + 45 PRE-K

77,102 GFA EXISTING



Design Alternatives

OPTION B1.1

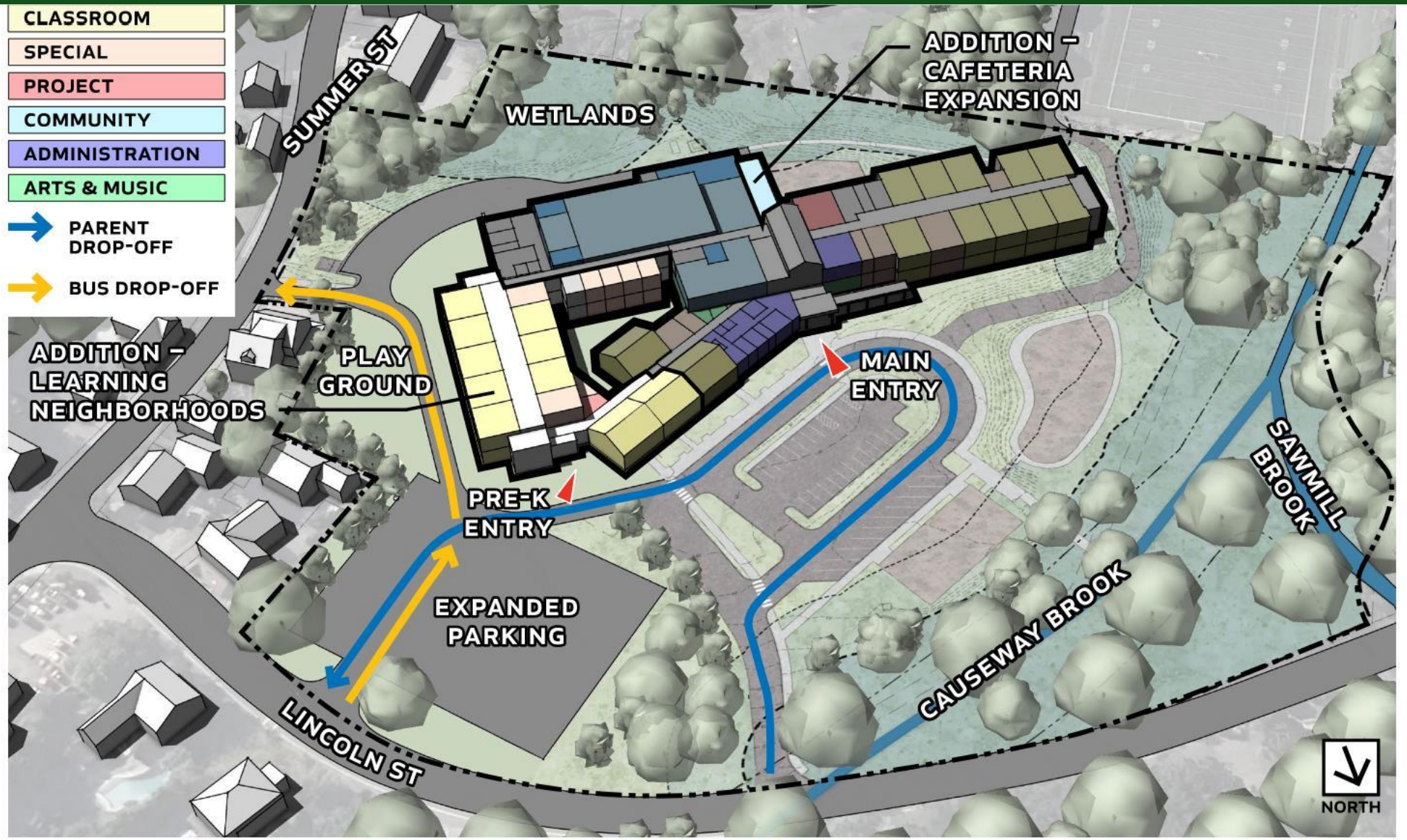
PRE-K –5
515 STUDENTS + 60 PRE-K
ADDITION/RENOVATION

77,102 GFA EXISTING/RENO
41,899 GFA NEW

TOTAL: 119,001 GFA

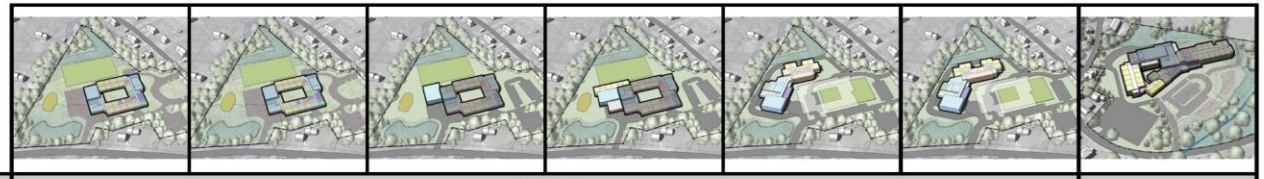
CONSIDERATIONS

- SITE AMENITIES WILL BE LIMITED SUCH AS PLAY SPACE AND PARKING CAPACITY
- REMOVAL OF TENNIS COURTS LIKELY
- NO FUTURE EXPANSION POTENTIAL
- BUILDING CODE AREA LIMITATIONS REQUIRES FIRE WALLS SEPARATING ADDITIONS
- COMMUNITY ENTRY AND NEAR-BY PARKING COMPROMISED BY ADDITION LOCATION
- NUMEROUS ISSUES ASSOCIATED WITH ELIMINATING A SCHOOL IN ESSEX (TRAVEL, BUSING, AFTERSCHOOL PROGRAMS, REGIONAL AGREEMENT, ETC.)



Design Alternatives

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program at EES							
	Meets Needs of Educational Program at MMES							
	Equity across the District							
	Future Growth and Expansion							
	Flexible and Adaptable Spaces							
	Construction Impact on Existing School Activities							
Community	Compatible with Regional Agreement							
	Heart of Essex Community / Sense of Place							
	Walkability for Essex Student Population							
	Neighborhood Traffic Impact							
	Community Use Opportunities							
	Disruption to Manchester							
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones							
	Bus and Parent Drops - Safety & Efficiency							
	Parking Capacity							
	Play and Athletics Fields (inc. MMES Tennis Courts)							
	Meets Sustainability Goals - Bike Paths, Rain Garden							
Building	Existing Facility Deficiencies Addressed							
	Entries Visible / Unobstructed Sight Lines							
Cost & Schedule	Total Project Cost							
	Maximize MSBA Grant Reimbursement							
	Phasing Minimizes Construction Duration							
	Modular Classroom Swing Space not Required							
	Construction Access and Staging							
	Reduce Operational Costs - Utilities, Maintenance							
	Reduce Operational Costs - Staff, Transport							

Educational Programming

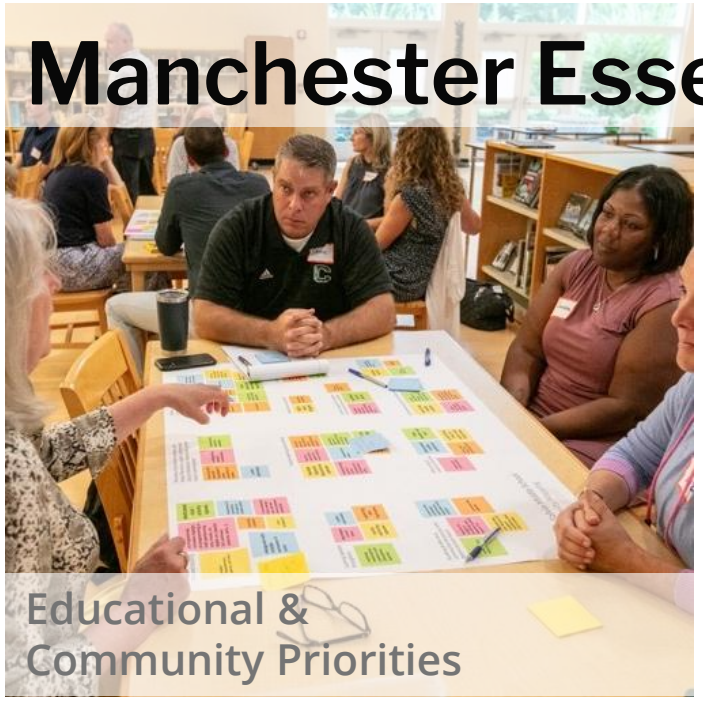
During the Feasibility phase, the District and its team collaborate to document their Educational Program.

- **The Educational Program enables an evaluation and creation of an initial space summary.**
- **Then the team evaluates the site and grade configuration alternatives to recommend the most cost effective and educationally appropriate preferred solution.**

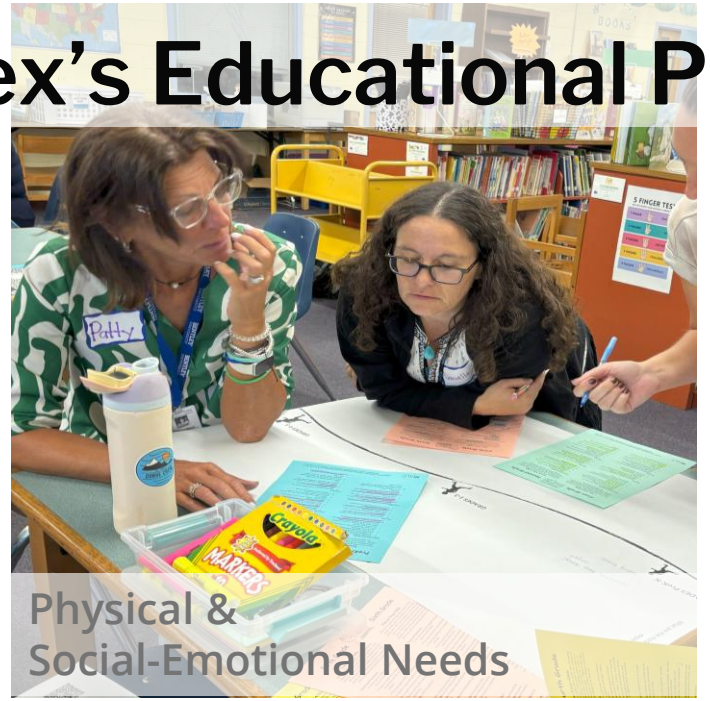
The Educational Program is developed through programming workshops to:

- **Build a shared understanding**
- **Envision through an educational and scenario-based lens**
- **Align renovated or new spaces with the educational program**

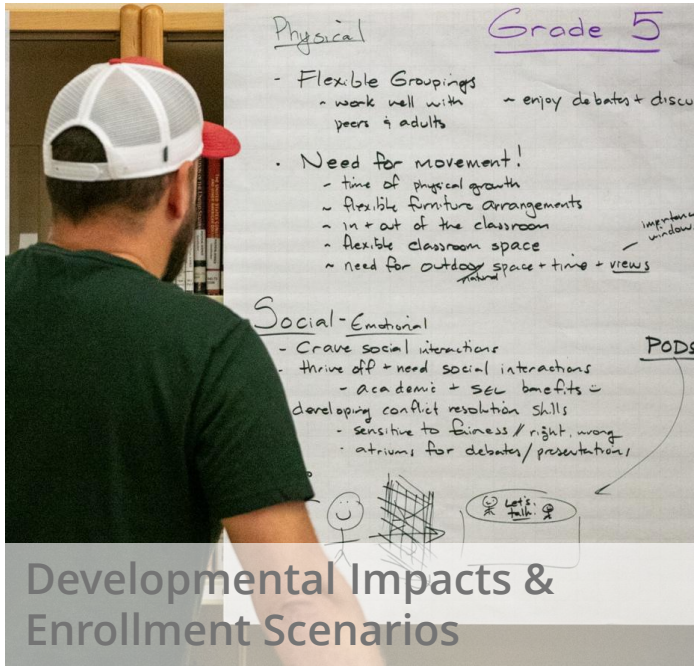
Manchester Essex's Educational Program



Educational &
Community Priorities



Physical &
Social-Emotional Needs



Developmental Impacts &
Enrollment Scenarios



Program
Adjacencies



High-Quality
Instructional Practices

Next Steps/Upcoming Meetings

- 1/6/2026 SBC Approval for the Preliminary Design Program to the MSBA
- 1/28/2026 Community Meeting No. 4
  - Located at Essex Elementary School building tour @4:30, meeting starts at 6pm

Q&A

Project Website



Thank you!



MEETING AGENDA

Meeting Date:	September 12, 2025
Meeting Time:	9:00AM – 10:00AM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee - Communications Working Group
Location:	Zoom

Join Zoom: https://us06web.zoom.us/j/88015570880

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1. **October Community Meeting**
2. **Communication Working Group Meeting Cadance**
3. **New Business**

MEETING NOTES

Meeting Date: September 12, 2025
Project Name: Essex Elementary School Project
Subject: EES Communications Working Group Meeting

Communication Working Group Members

Christina Dell Angelo	DWMP - Project Manager
Mike Burton	DWMP- Partner
Jacob Greco	DWMP - Assistant Project Manager
John Albright	DWMP – Project Manager
Jim LaPosta	JCJ – Design Principal
Fawn Pellegrini	JCJ – Associate Principal
Jeff Elliott	JCJ – Associate Design Principal
Lisa O'Donnell	Essex Planning Board
Kim Provost	Essex Elementary School Principal
Pam Beaudoin	MERSD Superintendent
Annie Cameron	Manchester Con Com
Michelle Cresta	MERSD Director of Finance & Operations
Theresa Whitman	SBC Co-Chair

Meeting Summary

- The communications working group discussed plans for a community forum scheduled for October 8th at Essex Elementary School. They reviewed promotional materials, including a flyer with a QR code for the Zoom meeting and a postcard for direct mail distribution to Manchester and Essex residents. P.Beaudoin confirmed that save-the-date announcements would be sent through Parent Square and social media, with the meeting time corrected from 6:30 PM to 6:00 PM.
- The team discussed distributing information about community meetings through various channels. P. Beaudoin confirmed they would send updated branding materials, including a new seal and forest

green colors, for use on social media and newsletters. C. Dell Angelo and K. Provost agreed to share the save-the-date information across Facebook, Blackboard, Parent Square, and principal newsletters. Theresa suggested additional distribution methods, including town-based Facebook groups, local newspapers, and town hall mailing lists. The team planned to send direct mailers for each meeting, with further reminders through Parent Square two weeks before the event.

- The team discussed organizing town hall communications and distribution efforts for the upcoming community meeting. T. Whitman and others agreed to handle message board postings at both Essex and Manchester town halls, with T. Whitman coordinating distribution of approximately 30 flyers through local bulletin boards. P. Beaudoin confirmed that Minuteman Press would handle postcard printing and distribution, with M. Cresta providing contact information for their coordinator. The group also established that written communication would be used when dealing with the Gloucester Times, with P. Beaudoin offering to share Steve Henneman's contact information for press releases.
- The team further discussed the community meeting, focusing on explaining the MSBA process, project acceptance, and financial support for the district. C. Dell Angelo outlined the agenda, emphasizing the need to introduce the team, review the timeline, and discuss the preliminary design phase, including existing conditions and educational programs. They agreed to provide a detailed agenda, post the slide deck online, and create flyers with key topics for community forums. J. LaPosta stressed the importance of reassuring the community that no design decisions have been made and that multiple enrollment scenarios will be studied.
- The group discussed recording protocols for upcoming visioning sessions and community meetings. P. Beaudoin expressed concerns about recording educator feedback sessions, while T. Whitman noted the importance of balancing transparency with professional input. The discussion clarified that while community meetings would be open to the public, visioning sessions would focus on educator input and might not need recording. The group agreed to target PTOs and school councils for community representation, with C. Dell Angelo confirming that SBC members were invited to previous sessions from other projects she had worked on.

Sincerely,

Jacob Greco

DORE + WHITTIER
Jacob Greco
Assistant Project Manager

Cc: Attendees, File
The above is my summation of our meeting through the use of Zoom's automated summary. If you have any additions and/or corrections, please contact me for incorporation into these minutes

MEETING AGENDA

Meeting Date:	October 3, 2025
Meeting Time:	9:00AM – 10:00AM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee - Communications Working Group
Location:	Zoom

Join Zoom: https://us06web.zoom.us/j/88015570880

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1. **October Community Meeting**
2. **Old Business**
3. **New Business**

MEETING NOTES

Meeting Date: October 3, 2025
Project Name: Essex Elementary School Project
Subject: EES Communications Working Group Meeting

Communication Working Group Members

Christina Dell Angelo	DWMP - Project Manager
Mike Burton	DWMP- Partner
Jacob Greco	DWMP - Assistant Project Manager
John Albright	DWMP – Project Manager
Jim LaPosta	JCJ – Design Principal
Fawn Pellegrini	JCJ – Associate Principal
Jeff Elliott	JCJ – Associate Design Principal
Lisa O'Donnell	Essex Planning Board
Kim Provost	Essex Elementary School Principal
Pam Beaudoin	MERSD Superintendent
Annie Cameron	Manchester Con Com
Michelle Cresta	MERSD Director of Finance & Operations
Theresa Whitman	SBC Co-Chair

Meeting Summary

- The team reviewed a slide deck for an upcoming community meeting about the Essex Elementary School project, which will follow the same agenda as the previous memorial project meeting. C. Dell Angelo explained that P. Beaudoin will kick off the presentation, followed by introductions from Dore & Whittier and JCJ, before discussing the MSBA process, reimbursement rates, and eligible project costs. The team noted that MSBA has increased their construction and site cost cap, as well as the cap for furniture, fixtures, and equipment, which is good news for the project. They also discussed the potential impact of various caps and ineligibles on the final reimbursement rate, using the memorial

project as an example. The team is considering whether to include estimated project timeline dates on the slide.

- The team discussed the scope and presentation of a feasibility study for a school project, focusing on the needs of Essex Elementary students. They clarified that the study would address pre-K through 5th grade needs, with Memorial School considered as a potential site. P. Beaudoin shared a slide format she had been using to explain the options and scenarios, and the group agreed to refine the presentation to avoid confusion about the scope of the feasibility study.
- The team discussed adding town votes and regional agreement details to a presentation slide, with P. Beaudoin agreeing to include "Essex Town vote" and "Manchester Town vote" to illustrate the complexity of the options. J. LaPosta emphasized the importance of clear presentation for the website, suggesting a visual funnel to show the multiple votes required for different projects. C. Dell Angelo mentioned that J. Greco was working on recreating the slide format and that the presentation would cover MSBA process, enrollments, existing conditions, and building details, with the team planning to clean up the format before the community meeting.
- The team discussed sharing photos and videos of school facilities to illustrate maintenance issues and the need for potential improvements. A. Cameron expressed concern about a community member's misleading claims about the school's structural condition and requested that any visual materials clearly highlight deterioration issues. J. LaPosta explained that while the school is well-maintained, its systems, including roofing and windows, are past their useful life and would require rebuilding.
- The team discussed using Mentimeter for gathering community feedback on school configurations and sites but decided against it due to concerns about self-selecting participants and potential misinterpretation of results. They agreed to collect opinions during the Q&A portion of the upcoming meeting instead, with L. O'Donnell noting that community members would be forthcoming with their views. J. LaPosta emphasized the importance of being prepared to act on any feedback collected, and C. Dell Angelo mentioned that feedback could be valuable for future community engagement efforts.
- The group discussed the evaluation of potential school sites and grade configuration options. They clarified that the current focus is on determining which physical sites are viable for further study, separate from the actual grade configuration decisions. J. LaPosta explained that while Apple Street may be eliminated due to infrastructure concerns, the Manchester Memorial site likely needs to be carried forward due to its previous identification in the statement of interest (SOI). The team agreed to seek clarification from MSBA about the process for eliminating sites and to communicate that they are still in the physical site analysis phase, focusing on land viability rather than specific configuration options.

Sincerely,

Jacob Greco

DORE + WHITTIER
Jacob Greco
Assistant Project Manager

Cc: Attendees, File
The above is my summation of our meeting through the use of Zoom's automated summary. If you have any additions and/or corrections, please contact me for incorporation into these minutes

MEETING AGENDA

Meeting Date:	October 27, 2025
Meeting Time:	10:00AM – 11:00AM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee - Communications Working Group
Location:	Zoom

Join Zoom: https://us06web.zoom.us/j/88015570880

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1. Schedule Review
2. Upcoming Community Meetings

MEETING NOTES

Meeting Date: October 27, 2025
Project Name: Essex Elementary School Project
Subject: EES Communications Working Group Meeting

Communication Working Group Members

Christina Dell Angelo	DWMP - Project Manager
Mike Burton	DWMP- Partner
Jacob Greco	DWMP - Assistant Project Manager
John Albright	DWMP – Project Manager
Jim LaPosta	JCJ – Design Principal
Fawn Pellegrini	JCJ – Associate Principal
Jeff Elliott	JCJ – Associate Design Principal
Lisa O'Donnell	Essex Planning Board
Kim Provost	Essex Elementary School Principal
Pam Beaudoin	MERSD Superintendent
Annie Cameron	Manchester Con Com
Michelle Cresta	MERSD Director of Finance & Operations
Theresa Whitman	SBC Co-Chair

Meeting Summary

- The project team discussed updates to their timeline and schedule for the PDP phase of the feasibility study. They announced that Apple Street is no longer under consideration as a site, and explained that the PDP submission to the SBC will be at the end of December, with a community meeting scheduled for January to review alternates and discuss configuration. The team also noted that the PDP phase is not linked to a board meeting with MSBA, allowing for more time in reviewing alternates compared to the PSR and SD packages.
- The group discussed the cost and effectiveness of direct mailers for upcoming community meetings, with L. O'Donnell emphasizing their value for reaching unaware residents despite the high cost of

$3,000. A. Cameron suggested including a timeline on mailers to clarify the series of meetings, and C. Dell Angelo confirmed that the budget of $150,000 includes funds for such promotional materials. The group agreed to consider sending mailers for the next two meetings, with electronic reminders for the third, to maintain engagement throughout the process.

- The group discussed scheduling for community engagement meetings and mailers. They confirmed January 28th as the date for the third community meeting, though P. Beaudoin expressed some concerns about potential scheduling conflicts. The team also discussed the timing of an upcoming School Building Committee meeting, which was tentatively scheduled for either January 21st or 22nd, pending confirmation of the date.
- The team discussed creating a single mailer to cover multiple community meetings, building tours, and budget-related events scheduled between November 20th and January. L. O'Donnell suggested using a full letter-size sheet with a calendar format and stars to highlight key dates, which C. Dell Angelo and P. Beaudoin agreed with. They agreed to work with their teams to develop this concept, incorporating a QR code and posters for additional distribution.
- The working group decided to hold a recap meeting on December 9th at Memorial School, which will include a presentation of previous community meetings and a school tour. They also agreed to create flyers for November-December and January-February meetings. The possibility of providing childcare at future meetings was considered. Additionally, they addressed a request from the Board of Selectmen in Essex regarding cost estimates for the Apple Street project, with C. Dell Angelo and J. LaPosta explaining that accurate costs cannot be provided due to unknown factors.

Sincerely,

Jacob Greco

DORE + WHITTIER

Jacob Greco
Assistant Project Manager

Cc: Attendees, File
The above is my summation of our meeting through the use of Zoom's automated summary. If you have any additions and/or corrections, please contact me for incorporation into these minutes

MEETING AGENDA

Meeting Date:	November 18, 2025
Meeting Time:	10:00AM – 11:00AM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee - Communications Working Group
Location:	Zoom

Join Zoom: https://us06web.zoom.us/j/88015570880

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1. Community Meeting No. 2
2. Schedule Review
3. General Communication Items

MEETING NOTES

Meeting Date: November 18, 2025
Project Name: Essex Elementary School Project
Subject: EES Communications Working Group Meeting

Communication Working Group Members

Christina Dell Angelo	DWMP - Project Manager
Mike Burton	DWMP- Partner
Jacob Greco	DWMP - Assistant Project Manager
John Albright	DWMP – Project Manager
Jim LaPosta	JCJ – Design Principal
Fawn Pellegrini	JCJ – Associate Principal
Jeff Elliott	JCJ – Associate Design Principal
Lisa O'Donnell	Essex Planning Board
Kim Provost	Essex Elementary School Principal
Pam Beaudoin	MERSD Superintendent
Annie Cameron	Manchester Con Com
Michelle Cresta	MERSD Director of Finance & Operations
Theresa Whitman	SBC Co-Chair

Meeting Summary

- C. Dell Angelo announced details for an upcoming community meeting on Thursday evening, which will include a building tour at 4:30 PM and a meeting starting at 6 PM. The agenda will cover project overview, site review, and alternatives, with P. Beaudoin introducing the building and school committees, followed by C. Dell Angelo presenting the feasibility phase schedule.
- The meeting focused on reviewing requirements for studying different types of buildings, including renovation, addition, and new construction, as part of a feasibility study agreement with the MSBA. C. Dell Angelo explained that the community had requested this study, which is being reviewed with the school building committee and will continue through the PDP and PSR phases. The discussion also

covered the need for an amendment to the regional agreement for Pre-K through 3 and Pre-K through 5 options at the memorial site, which requires votes in both towns. The JCJ team was set to present information on various sites studied, including opportunities and constraints, and to update details about the elimination of the Apple Street site from consideration.

- The team discussed including a criteria matrix slide with red, green, and yellow indicators to visually represent data, with J. Elliott working on incorporating this into the Apple Street site considerations. C. Dell Angelo emphasized the importance of communicating that the school building committee considered community feedback about the Apple Street site during their site evaluation process. J. LaPosta confirmed they would present a high-level overview of the developed options, explaining that these are not yet designed, and outlined the next steps, including a community meeting in December at the Memorial Project Site, seeking SBC PDP approval on January 6th, and a fourth community meeting at the Essex site on January 28th.
- The team discussed plans for an upcoming community meeting, confirming that tours of Manchester will be offered at 4:30 PM for those who haven't seen the school, followed by an agenda repeating the content of Meetings 1 and 2. C. Dell Angelo noted that the community would likely be interested in the alternatives analysis and different options, while emphasizing that, according to the feasibility study agreement with MSBA, the memorial site must be carried through the PDP phase before the SPC can eliminate it or consider enrollment changes.
- T. Whitman suggested making the timing of decisions clearer, particularly for those unfamiliar with acronyms like PDP. C. Dell Angelo proposed adding a slide explaining the MSBA process and its modules before the schedule slide. T. Whitman also emphasized the need to differentiate community meetings 1 and 2 to encourage attendance at the second meeting.
- The group discussed timeline planning for a fall 2026 project, with C. Dell Angelo suggesting a tentative date and a caveat about schedule changes. They had a constructive conversation about borrowing strategy, with P. Beaudoin and others discussing the possibility of staggered small bonds to align with debt schedules of the two towns. The team is preparing a presentation for Thursday night, with C.Dell Angelo confirming they have a clear agenda and are making final touches.
- The group discussed engaging KartoonEDU for creating informational videos about the implications of votes and debt exclusions, which would be fact-based and well-received. They planned to review a fee proposal for his services at the next communications working group meeting. P. Beaudoin mentioned working with KartoonEDU on regional superintendent pieces, and C. Dell Angelo highlighted his experience with MSBA projects. The team also discussed collaborating with 1623 Studios for a walkthrough of the Essex school, with Christina and others potentially assisting if professionals were unavailable. A. Cameron requested access to the slide deck for review once completed.

Sincerely,

Jacob Greco

DORE + WHITTIER

Jacob Greco
Assistant Project Manager

Cc: Attendees, File
The above is my summation of our meeting through the use of Zoom's automated summary. If you have any additions and/or corrections, please contact me for incorporation into these minutes

MEETING AGENDA

Meeting Date:	December 3, 2025
Meeting Time:	11:00AM – 12:00PM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee - Communications Working Group
Location:	Zoom

Join Zoom: https://us06web.zoom.us/j/87475732555

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1. Community Meeting No. 3
2. Schedule Review
3. General Communication Items

MEETING NOTES

Meeting Date: December 3, 2025
Project Name: Essex Elementary School Project
Subject: EES Communications Working Group Meeting

Communication Working Group Members

Christina Dell Angelo	DWMP - Project Manager
Mike Burton	DWMP- Partner
Jacob Greco	DWMP - Assistant Project Manager
John Albright	DWMP – Project Manager
Jim LaPosta	JCJ – Design Principal
Fawn Pellegrini	JCJ – Associate Principal
Jeff Elliott	JCJ – Associate Design Principal
Lisa O'Donnell	Essex Planning Board
Kim Provost	Essex Elementary School Principal
Pam Beaudoin	MERSD Superintendent
Annie Cameron	Manchester Con Com
Michelle Cresta	MERSD Director of Finance & Operations
Theresa Whitman	SBC Co-Chair

Meeting Summary

- The team discussed the upcoming community meeting in Manchester, confirming they would present the same information as shared in the first two community meetings. R. Rincon explained she had combined the slides to streamline the presentation, which will cover the MSBA process, project timeline, and design alternatives for the three potential school sites. A. Cameron emphasized the importance of having representatives from both Manchester and Essex communities present at the same time to facilitate cross-community dialogue.
- C. Dell Angelo confirmed that mailers and electronic communications were distributed to both towns, and they noted that future meetings would continue to be held in a hybrid format with online

participation options. P. Beaudoin expressed concerns about low engagement from Manchester's boards, though A. Cameron suggested this might be due to the current preference for virtual meetings rather than a lack of interest. C. Dell Angelo proposed emphasizing the importance of community participation in future meetings and highlighting the availability of recordings and other resources on the project website.

- The group discussed informational video pillars for MSBA projects from KartoonEDU, priced at $795 each. P.Beaudoin suggested creating a combination video covering the PDP and PSR process after the holidays, followed by separate videos for schematic design and budget implications in the fall. A .Cameron agreed noting that the pricing was reasonable, noting that nine videos would cost approximately $7,200.
- The group discussed plans for a memorial site and upcoming meetings. C. Dell Angelo noted that the first walkthrough was well-attended and suggested showing the difference between the Essex School and a new school. A. Cameron encouraged people to attend the upcoming SBC meeting in person, where they will review the final evaluation of alternatives and discuss preliminary cost estimates. C. Dell Angelo mentioned that the project team is working on the preliminary design program submission to MSBA, which will be finalized and sent for review around the holidays, with approval sought in January.

Sincerely,

Jacob Greco

DORE + WHITTIER

Jacob Greco
Assistant Project Manager

Cc: Attendees, File
The above is my summation of our meeting through the use of Zoom's automated summary. If you have any additions and/or corrections, please contact me for incorporation into these minutes

MEETING AGENDA

Meeting Date:	October 10, 2025
Meeting Time:	10:00AM – 11:00AM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee – Site Logistics Working Group
Location:	Zoom

Join Zoom: https://us06web.zoom.us/j/87313076228

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1. Review Site Selection Criteria Matrix
2. Review Current Essex Elementary Site
3. Review Apple Street
4. Review Manchester Memorial Site

MEETING NOTES

Meeting Date: October 10, 2025
Project Name: Lexington High School
Subject: EES Site Logistics Working Group Meeting

Site Logistics Working Group Members

Christina Dell Angelo	DWMP - Project Manager
Mike Burton	DWMP- Partner
Jacob Greco	DWMP - Assistant Project Manager
John Albright	DWMP – Project Manager
Jim LaPosta	JCJ – Design Principal
Fawn Pellegrini	JCJ – Associate Principal
Jeff Elliott	JCJ – Associate Design Principal
Lisa O'Donnell	Essex Planning Board
Gordon Brewster	Owners PM, Former Member of MERMHS & MMES SBC
Pam Beaudoin	MERSD Superintendent
Mike Gerhardt	Civil Engineer/Essex Parent
David Pareen	Resident/ Plumbing & Fire
Theresa Whitman	SBC Co-Chair
Jen Hocherman	Architect
Tyler Virden	Project Excutive

Agenda Item	Description
1.	**Review Site Selection Criteria Matrix** - The team reviewed site development criteria for three potential locations, focusing on Essex Elementary. J. Elliott presented slides detailing site characteristics, environmental concerns, and utility availability. The group discussed the need to verify electrical infrastructure capacity for an all-electric building. P. Beaudoin requested information about asbestos locations for

	parent concerns, and F. Pellegrini explained that Phase 1 environmental studies are ongoing, with Phase 2 testing to follow in the schematic design phase. The team also addressed the presence of a 100-foot wetlands buffer and clarified that it's not a complete no-fly zone for construction. - The team discussed the impact of different facility options on education and regional agreements, noting that disruptions would vary depending on the chosen path, whether renovation, addition, or new construction. J. LaPosta highlighted that even minimal options would result in some site loss for construction purposes, while C. Dell Angelo suggested keeping site viability considerations separate from configuration to allow for more detailed analysis in future phases. The group agreed to emphasize that outcomes depend on the selected option and to refine language to reflect these dependencies.
2.	**Review Current Essex Elementary Site, Manchester Memorial Site, & Apple Street Site** - The team discussed the viability of two school sites: Essex Elementary and Manchester Memorial. They agreed to focus on the land itself rather than the current buildings, as they need to study all options. P. Beaudoin offered to check for available flex space in the area for potential temporary relocation during construction. J. Elliott presented a detailed analysis of Manchester Memorial's site, noting constraints like environmental regulations and limited space. The team acknowledged the high costs and challenges of previous projects at this site. F. Pellegrini raised concerns about meeting MSBA silver rating requirements due to space limitations. The discussion concluded with considerations for site access, transportation impacts, and the need for a physical connection between new and existing buildings at Manchester Memorial. - The team discussed site options for a new school, focusing on the Memorial site, Apple Street, and potential impacts of consolidating students. They determined that the Memorial site's limited space and the need to relocate tennis courts made

	it challenging for consolidation. Apple Street was seen as a viable option physically but faced significant challenges with access, utilities, and potential environmental concerns. The team agreed to update their presentation slides with additional considerations, including busing issues and neighborhood impacts, for review at the upcoming SBC meeting on Tuesday. They also planned to provide documentation on why other potential sites were not considered further.

Sincerely,

Jacob Greco

DORE + WHITTIER

Jacob Greco
Assistant Project Manager

Cc: Attendees, File
The above is my summation of our meeting through Zoom's automated summary. If you have any additions and/or corrections, please contact me for incorporation into these minutes

MEETING AGENDA

Meeting Date:	October 23, 2025
Meeting Time:	12:00PM – 1:00PM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee – Sustainability Working Group
Location:	Zoom

Join Zoom: https://us06web.zoom.us/j/88932766675

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1. Welcome and Team Introductions
2. Approach for Essex ES
3. MSBA Requirements
4. Incentives
5. Introduction to LEED
6. Design Features
    a. Construction
    b. Site
    c. Water
    d. Energy & Carbon
    e. Health & Wellness
    f. Operations
7. Next Steps

Essex Elementary School

October 30, 2025
School Sustainability Group Workshop #1 Meeting Notes

Meeting Date: October 23, 2025

Attendees:
JCJ: Dustin Lombardi, Eric Haggstrom, Fawn W. Pellegrini
Soden: Colleen Soden, Kelley Tapia
DW: Christina Dell Angelo, John Albright, Jacob Greco
MERSD: Kimberly Provost, Pam Beaudoin, Michelle Cresta
SBC: Mike Gerhardt

Notes – to be used in conjunction with the slide deck

The meeting started with introductions of attendees from Dore + Whittier, JCJ Architecture, Soden Sustainability, and the individuals on the SBC Sustainability Working Group

Workshop Purpose

The purpose of the meeting was to review requirements of the Massachusetts School Building Authority (MSBA) to meet LEED Silver rating, discuss the sustainable measures implemented at the Manchester Memorial Elementary School (MMES), and for the design team to share the proposed sustainable measures for the renovated or new Essex Elementary School. The sustainability workshop introduced key sustainability frameworks and considerations to inform decision-making for the new Essex Elementary School building. The team emphasized aligning sustainability strategies with educational value, cost-effectiveness, and long-term operational benefits.

Design Team's Sustainability Approach

- Focused on learning as the primary outcome.
- Emphasized healthy indoor environments, training opportunities, and maximizing value.
- Aimed to balance minimizing first costs with reducing long-term operations and maintenance costs.

Minimum MSBA Requirements

- Achieve LEED BD+C: Schools Silver under v4.0 with select credits upgraded to v4.1
- Required points:
    - Material Ingredients (20+ compliant products from 5 manufacturers)
    - Low Emitting Materials
    - Indoor Air Quality Assessment
- Must meet MA DOER Stretch Code and be solar-ready.

Incentives Overview

MSBA Enhanced Reimbursement:

- 3% for Opt-In Specialized Energy Code (Net Zero or All-Electric)
- 1% for additional indoor air/material quality credits
- Mass Save Incentives: Achieve EUI < 25 for meaningful savings
- Key Message: Incentives can offset added costs and maximize long-term value.
- Additional conversation: It is assumed, but confirmation from the SBC is needed, that there is agreement to move forward with 3% + 1% = 4% incentives.

Sustainable Design Opportunities

Construction – best practices

- Divert waste from landfill.
- Implement construction-phase air quality plans.

Site Design

- Protect sensitive lands and floodplains.
- Target 90th percentile stormwater events.
- Use native planting; no irrigation.
- EV charging: match or exceed 2 stations from Manchester Memorial.
    - Electric vehicle charging. The building code has been modified since the design of Manchester which provided one station with two plug-in points. Now, code requires 10% spaces to be EV ready.
    - EV-ready means installing conduit and power capacity now, leaving chargers for future installation — lower upfront cost, but less immediate benefit.
    - EV-installed provides immediate functionality and community value but has higher initial cost.
    - Quantity of spaces depends on the number of parking spots in the final design.
    - Discussion question: How might EV charging at the school serve both staff and the wider community, and what's the most value-forward way for us to plan for that—EV-ready or EV-installed now?
- Working Group confirmed design team shall provide covered bike parking and bike lanes.
    - Discussion question: Investing in covered bike racks and safe on-site bike lanes can reduce parking demand and support healthy, low-carbon transportation. As more families and staff look to bike to school, how should we plan for these features to support long-term use—and what level of investment feels appropriate now?
- Perform resiliency assessments for flood, fire, storms.
    - For every project site under consideration in the PSR (Preferred Schematic Report Feasibility Study) phase, the District and Design team must perform a written risk assessment / evaluation for environmental hazards specific to each site including (but not limited to) flooding, high winds, storm surges, power outages, extreme heat and

cold, winter storms, rain, snow, and any other applicable site vulnerability relative to site resiliency or climate change for the anticipated useful life of the building.
    - Will help gather sufficient information to make informed decisions regarding site selection, building location and massing, floor elevations of occupied areas and elevations of critical mechanical equipment, stormwater retention, building materials, emergency back-up systems, systems selection and any other relevant site and building design consideration.
- Light pollution mitigation – best practices
- Open space and rainwater management – both credits are based on the specific site selected. The intent of the Open space credit is to include exterior open space in the design that encourages interaction with the environment, social interaction, passive recreation, and physical activities. (can be hardscape and green).
- Rainwater management is a combination of both subsurface (person-made) filtration and storage as well as thoughtful + useful landscaping.
    - Raingardens; these help reduce the person-made infrastructure by slowing the waterflow and allowing water to infiltrate the soil gradually. This reduces peak flow into the municipal stormwater system — which is often what drives infrastructure costs up.
    - The potential benefits are smaller underground pipes, cleaner water entering local waterways, create hands-on learning spaces for students to learn about science, ecology, and climate resilience.
- MERSD team noted that they have not heard of challenges with the raingarden at MMES. Design Team will pursue raingardens for the EES project.
    - Mike G suggested permeable pavement.
    - Dustin L asked if Essex had Friends of Trees similar to Manchester-by the-Sea. The MERSD individuals stated they do not believe a similar group exists in Essex.

Water

- Target 35% indoor water use reduction.
    - Plumbing fixture flows are listed below – all recommendations match Manchester, with the exception of toilets. MMES toilet's were designed as 1.1 gpf.
    - MERSD team noted they have not heard challenges with the 1.1 gpf toilets and confirmed design team shall proceed with this for the EES project.
- Specify low-flow, code-compliant fixtures.
- Meter domestic hot water and plumbing.
    - Manchester metered:
        - Whole building (prereq)
        - HVAC heating boiler make-up water (Essex may choose to meter the plumbing fixtures)
        - Domestic hot water use

Energy & Carbon

- Target EUI < 25.

- Explore displacement ventilation system.
- Aim for 5% WBLCA reduction in embodied carbon with newer material technologies.
- Commissioning – A Commission team is required by MSBA. The Target for schools is typically 25 EUI. EUI of 25 or lower is threshold for Path 1 incentives with MASS.
- LEED Optimize has gotten harder since MMES.
- Displacement ventilation provides air at flow at floor level rather than at the ceiling. One advantage is the fresh, conditioned air (heat or cool) is at the space occupied by students and staff (as opposed to high at the ceiling).
- Not done at MMES but proposed for EES is mindfulness of embodied carbon. JCJ has the ability and software to provide this review. Just doing the study earns 1-point on the LEED scorecard.

Health & Wellness

- Use Red List-free, HPD/EPD-verified materials.
- Perform IAQ flush-out pre or post-occupancy.
- MERV 13+ filters, CO_2 monitoring, operable windows.
- Maximize daylight, use LED lighting and glare controls.
- Design team encourages operable windows. This typically needs to be balanced with control of the HVAC system. JCJ suggests one operable window in each classroom has been successful on our school projects.

Operations

- Plan for joint-use community facilities
- Adapt Manchester Memorial's LEED O+M Starter Kit.

Next Steps

- Sustainability Working Group to report to School Building Committee.
- Next SWG Meeting: November 17, 2025.
    - Design team to share LEED scorecard progress
- MSBA Submission Timeline:
    - PDP: January 2026
    - PSR: April 2026
- Schematic Design Phase: May–November 2026
    - Finalize Mass Save Memorandum of Understanding.

Action Items / Recommendations

- Pursue all available incentives.
- Match or exceed Manchester Memorial's sustainability benchmarks.
- Consider regenerative strategies that support curriculum and resilience.

MEETING AGENDA

Meeting Date:	November 17, 2025
Meeting Time:	10:30AM – 12:00PM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee – Sustainability Working Group
Location:	Zoom

Join Zoom: https://us06web.zoom.us/j/88932766675

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1. Welcome
2. Homework Topics
3. Confirmation of Incentives
4. Draft LEED Scorecard for the Essex ES site
5. LEED Scorecard differences for MMES site
6. Next Step

MEETING AGENDA

Meeting Date:	January 28, 2026
Meeting Time:	6:00PM – 8:00PM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee – Community Meeting No. 4
Location:	In person at Essex Elementary School cafeteria (12 Story Street, Essex, MA) and online via Zoom.

Join Zoom: https://us06web.zoom.us/j/84143692420

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1. Introduction
2. PDP Update
3. Further Evaluation of Alternatives
4. Next Steps
5. Q&A

Essex Elementary School Project
Community Meeting No. 04
January28, 2026 @ 6:00 PM



Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

Agenda

1. **Introduction**
2. PDP Update
3. Further Evaluation of Alternatives
4. Next Steps
5. Q&A

Organization/ Project Team



Massachusetts School Building Authority

Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

Process


Middle High School
Memorial Elementary School
Essex Elementary School

Project Team

Dore + Whittier Team

Michael Burton
Partner In Charge

Christina Dell Angelo
Project Director

John Albright
Project Manager

Jacob Greco
Assistant Project Manager

Rachel Rincon
Assistant Project Manager

JCJ Architecture Team

Jim LaPosta
Principal in Charge

Dustin Lombardi
Project Architect

Fawn Pellegrini
Project Manager

Jeff Elliott
Project Architect

Emily Czarnecki
Interior Designer

School Building Committee

Pam Beaudoin
Superintendent of Schools/SBC

Michelle Cresta
Director of Finance & Ops/SBC

Theresa Whitman
SC/SBC Co-Chair

John Binieris
SC/SBC Co-Chair

Annie Cameron
Essex Select Board/SBC

Tyler Virden
Project Executive/SBC

Gordon Brewster
OPM/SBC

Charlie Hay
Architect/SBC

Kim Provost
Essex Elementary School Principal/SBC

Henry Oettinger
Manchester ConCom/SBC

Tim McDonald
Architect/SBC

Andy Oldeman
Manchester Finance Committee/SBC

Lisa O'Donnell
Essex Planning Board/SBC Advisor

Ariel Fernando Brain
Architect/SBC

Jen Hocherman
Architect/SBC

Michael Gerhardt
Civil Engineer/SBC

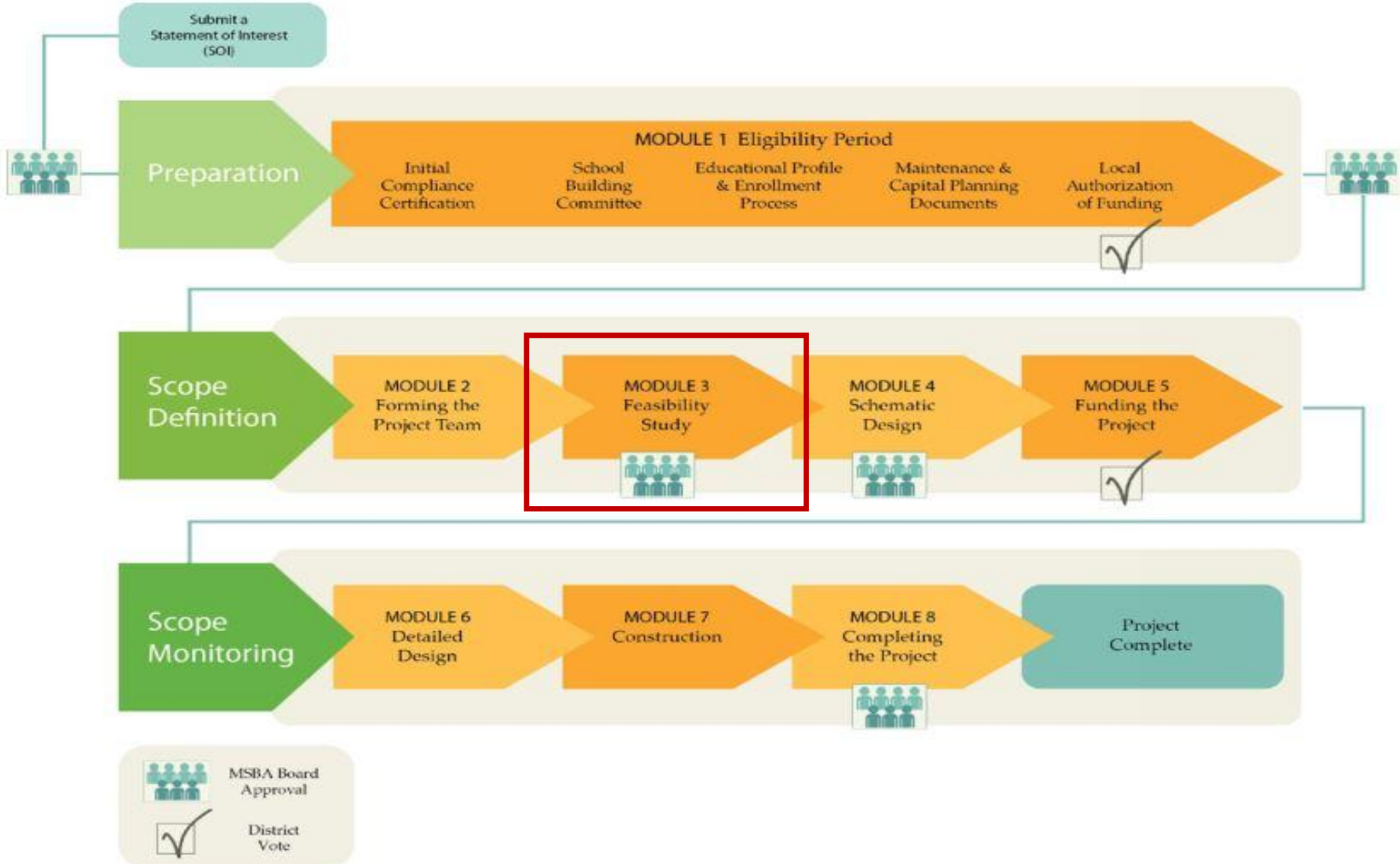
David Pereen
Plumbing/Fire Design/SBC Advisor

Emily Dwyer
Essex ES Teacher Rep

Rachelle Russo
Essex ES Teacher Rep/SBC Advisor

Kim Field
Essex ES Teacher Rep/SBC Advisor

Steve Hunt
Facilities Director/SBC Advisor


Submit a Statement of Interest (SOI)
Preparation
MODULE 1 Eligibility Period
Initial Compliance Certification
School Building Committee
Educational Profile & Enrollment Process
Maintenance & Capital Planning Documents
Local Authorization of Funding
Scope Definition
MODULE 2 Forming the Project Team
MODULE 3 Feasibility Study
MODULE 4 Schematic Design
MODULE 5 Funding the Project
Scope Monitoring
MODULE 6 Detailed Design
MODULE 7 Construction
MODULE 8 Completing the Project
Project Complete
MSBA Board Approval
District Vote

Feasibility Phase Process

Preliminary Design Program (PDP)

- **Identify the issues/articulate the educational plan**
- **List options to be studied in PSR**

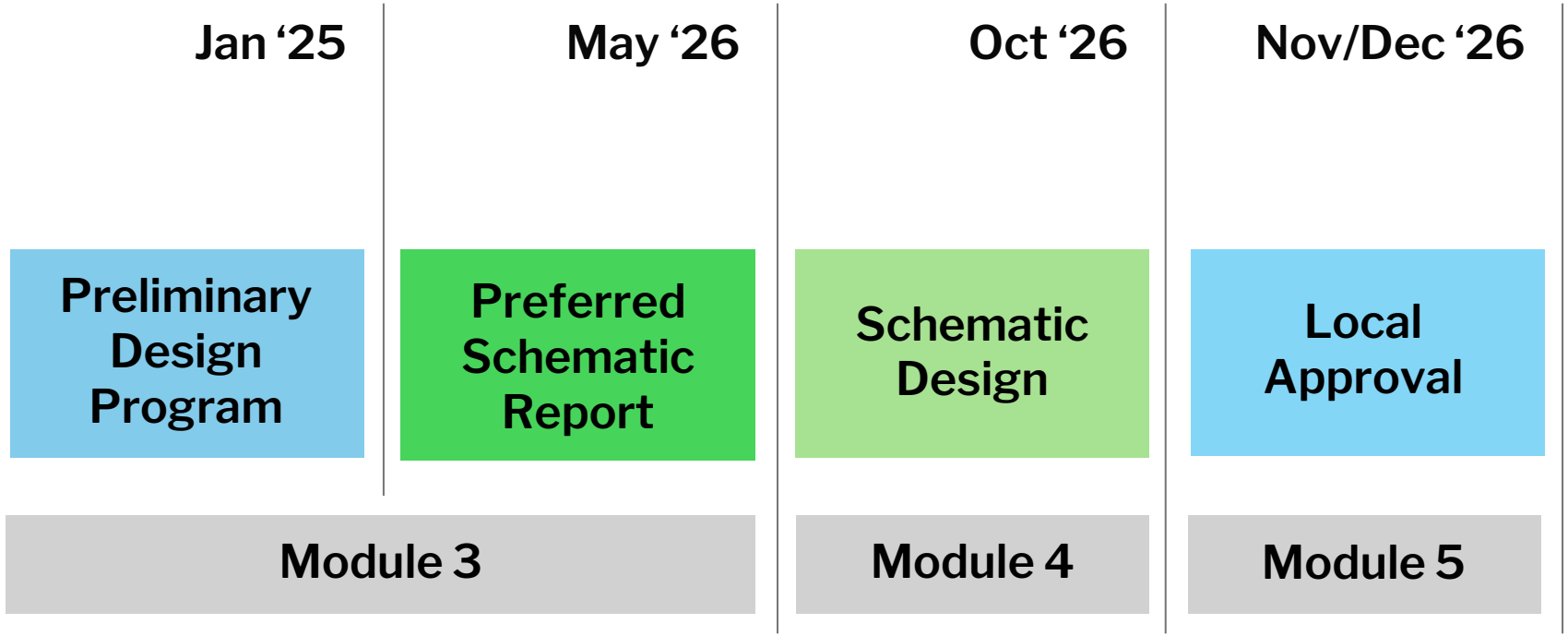
Preliminary Schematic Report (PSR)

- **Evaluate the site and building options/select a preferred option**

Schematic Design (SD)

- **Develop schematic drawings and specifications to establish the project budget**

Feasibility Phase Schedule



Timeline is subject to change during the process

Feasibility Phase Requirements

MSBA Requires Development of Several Options including:		
Renovation Only	Addition/Renovation	New Construction

Feasibility Phase Requirements

Feasibility Study Enrollment Configurations to be Studied for Essex Students		
Grades PreK-3 165 Students *Sited in Essex w/Grades 4 & 5 Integrated into Memorial*	Grades PreK-5 250 Students Sited in Essex	Pre-K to 5 515 Students Sited at Manchester Memorial with all Essex & Manchester students in one school
SC Program Vote/Redistricting		SC Program Vote/Redistricting
SC Vote to Amend Regional Agreement		SC Vote to Amend Regional Agreement
Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment		Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment
Essex & Manchester Town Meeting Full Project Vote & Debt Exclusion Vote		

Building History

The Essex Elementary School building

1. Total building is approximately 52,900 SF
2. Originally built in 1957 (68 Years)
3. Addition provided in 1975 (50 Years) (media center and gymnasium)
4. The design team's existing investigations began and are ongoing.
5. Mechanical, electrical & plumbing systems has exceeded life expectancy
6. Roofing, windows and building materials are deteriorating

Agenda

1. Introduction
2. **PDP Update**
3. Further Evaluation of Alternatives
4. Next Steps
5. Q&A

Agenda

1. Introduction
2. PDP Update
3. **Further Evaluation of Alternatives**
4. Next Steps
5. Q&A

Design Alternatives

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable









ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1	A0.2	A1.1	A1.2	A2.1	A2.2	B1.1
		Code Upgrade/ Base Repair	Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program at EES	0	0	0	4	0	4	2
	Meets Needs of Educational Program at MMES	0	4	0	4	0	4	2
	Equity across the District	0	0	0	4	0	4	0
	Future Growth and Expansion	2	2	2	2	4	4	0
	Flexible and Adaptable Spaces	0	0	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	0	2	2	0
Community	Compatible with Regional Agreement	0	4	0	4	0	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	1	4	1	4	1	4	0
	Neighborhood Traffic Impact	1	4	1	4	1	4	0
	Community Use Opportunities	1	4	1	4	1	4	0
	Disruption to Manchester	1	4	1	4	1	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	4	1	1	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	2	4	4	0
	Parking Capacity	2	2	2	2	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	2	4	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	2	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	0	4	4	2
	Additional work at MMES (separate project by District)	0	2	0	2	0	2	N/A
Cost and Schedule	Maximize MSBA Grant Reimbursement	4	4	4	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	0	4	4	1
	Modular Classroom Swing Space not Required	4	0	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	0	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	1	2	1	2	1	2	2
	Reduce Operational Costs - Staff, Transport	1	2	1	2	1	2	2
	Total Project Cost	$45M-50M	$45M-50M	$75M-80M	$90M-95M	$80M-85M	$90M-95M	$70M-80M

Preferred Design Alternatives

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES		SITE A CURRENT ESSEX ES						SITE B CURRENT MMES
		A0.1 Code Upgrade/ Base Repair	A0.2 Code Upgrade/ Base Repair	A1.1 Addition/ Renovation	A1.2 Addition/ Renovation	A2.1 New Construction	A2.2 New Construction	B1.1 Addition/ Renovation
General	Enrollment (+ PRE-K)	165 + 30	250 + 30	165 + 30	250 + 30	165 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	53,036 GFA	0	0	77,102 GFA
	New Area	0	0	7,741 GFA	20,637 GFA	60,777 GFA	73,673 GFA	41,899 GFA
	Total Area	53,036 GFA	53,036 GFA	60,777 GFA	73,673 GFA	60,777 GFA	73,673 GFA	119,001 GFA
	Construction Phases	TBD	TBD	TBD	TBD	2	2	TBD
Education	Meets Needs of Educational Program at EES	0	0	0	4	0	4	2
	Meets Needs of Educational Program at MMES	0	4	0	4	0	4	2
	Equity across the District	0	0	0	4	0	4	0
	Future Growth and Expansion	2	2	2	2	4	4	0
	Flexible and Adaptable Spaces	0	0	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	0	2	2	0
Community	Compatible with Regional Agreement	0	4	0	4	0	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	1	4	1	4	1	4	0
	Neighborhood Traffic Impact	1	4	1	4	1	4	0
	Community Use Opportunities	1	4	1	4	1	4	0
	Disruption to Manchester	1	4	1	4	1	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	4	1	1	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	2	4	4	0
	Parking Capacity	2	2	2	2	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	2	4	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	2	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	0	4	4	2
	Additional work at MMES (separate project by District)	0	2	0	2	0	2	N/A
Cost and Schedule	Maximize MSBA Grant Reimbursement	4	4	4	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	0	4	4	1
	Modular Classroom Swing Space not Required	4	0	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	0	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	1	2	1	2	1	2	2
	Reduce Operational Costs - Staff, Transport	1	2	1	2	1	2	2
	Total Project Cost	$45M-50M	$45M-50M	$75M-80M	$90M-95M	$80M-85M	$90M-95M	$70M-80M

Design Update

OPTION A0.2

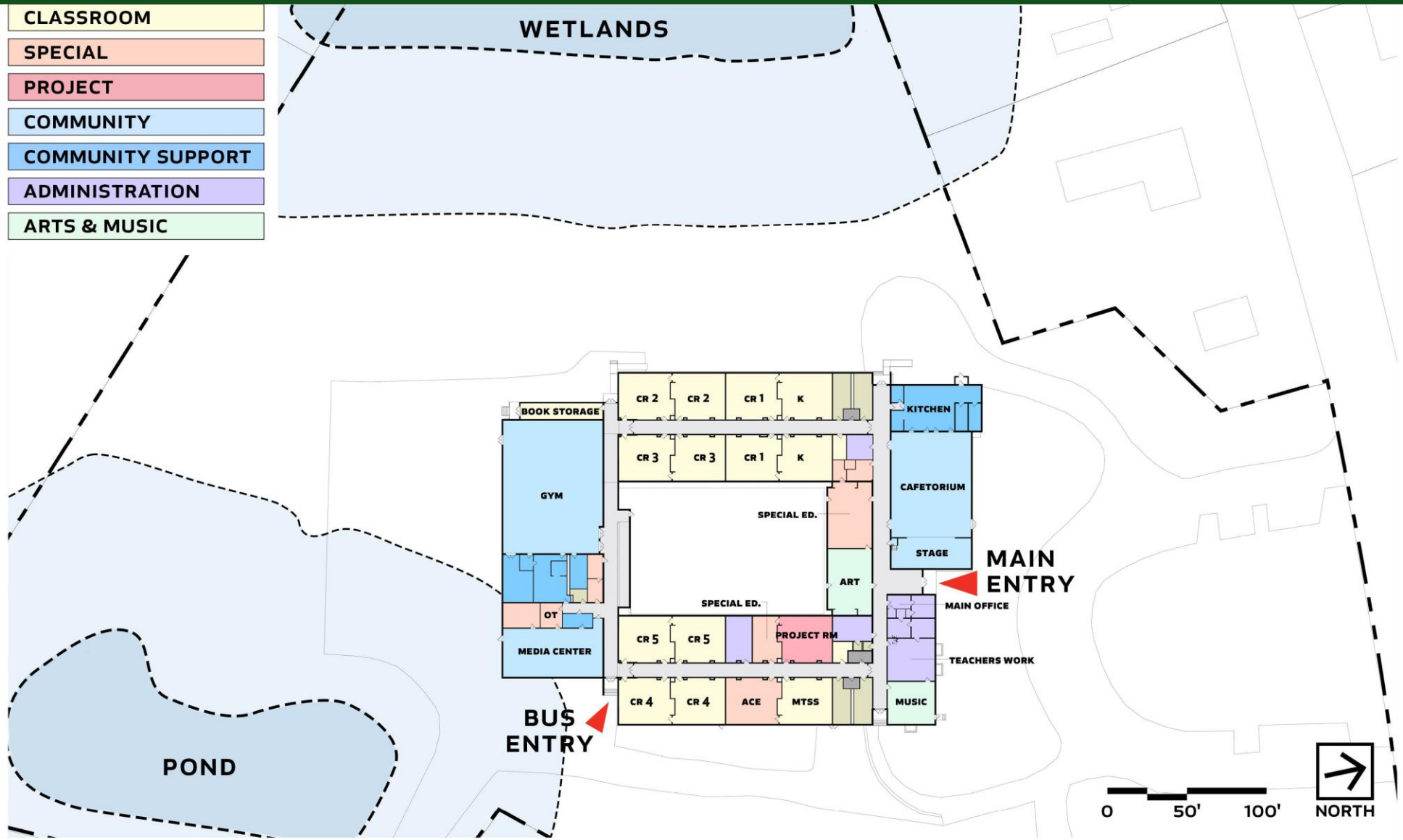
MAIN LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K
CODE UPGRADE/BASE REPAIR

53,036 GFA RENOVATION

CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE



Design Update

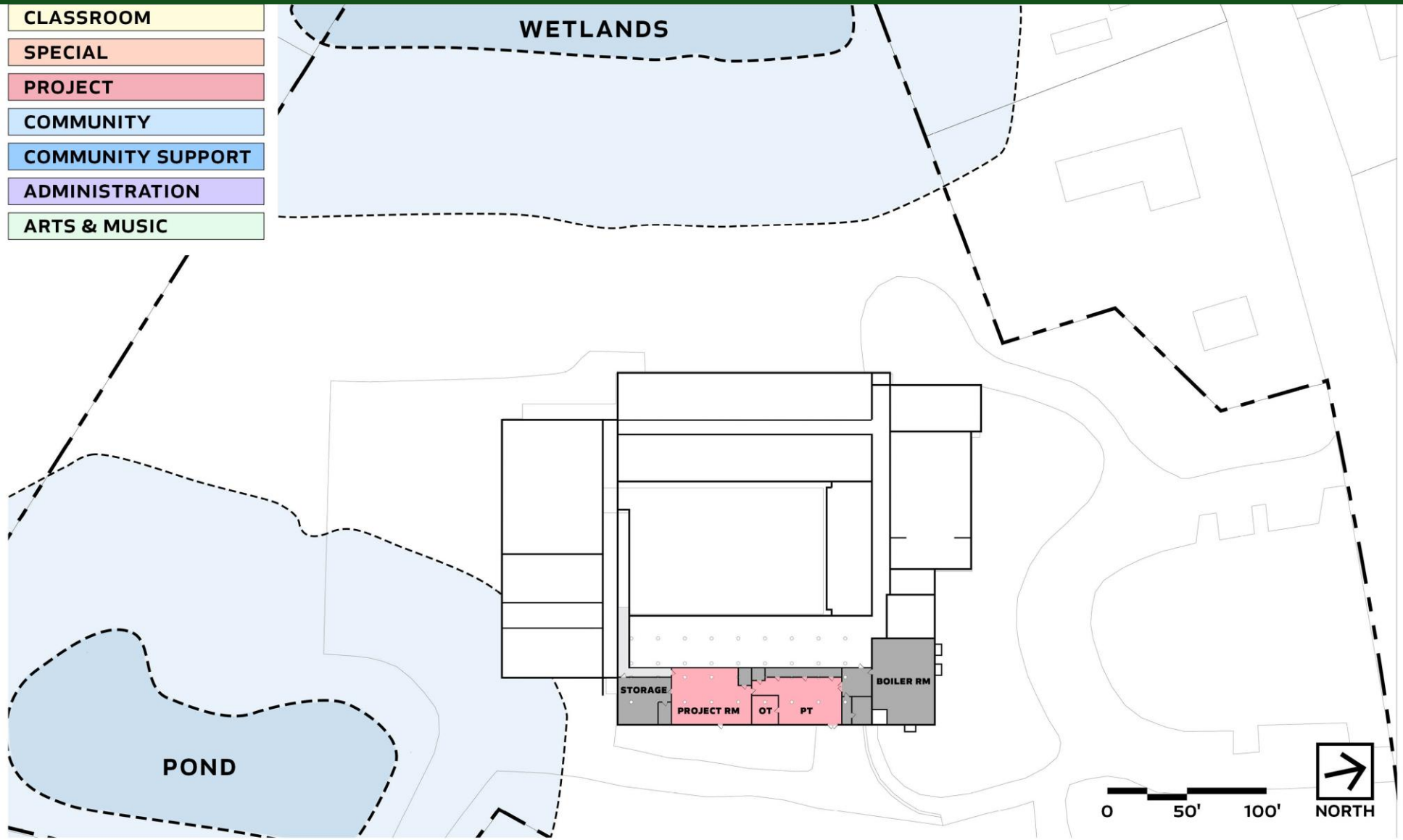
OPTION A0.2

LOWER LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K
CODE UPGRADE/BASE REPAIR

53,036 GFA RENOVATION

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



CONSIDERATIONS

- EXISTING BUILDING IS SMALLER THAN TARGET
- CORE CLASSROOMS ARE UNDERSIZED
- GYM IS UNDERSIZED
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- MODULAR CLASSROOMS WILL BE REQUIRED TO PROVIDE SWING SPACE

Design Update

OPTION A1.2

MAIN LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K
ADDITION/RENOVATION

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA



CONSIDERATIONS

- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (4 CLASSROOMS) ACCOMMODATED IN ADDITION

Design Update

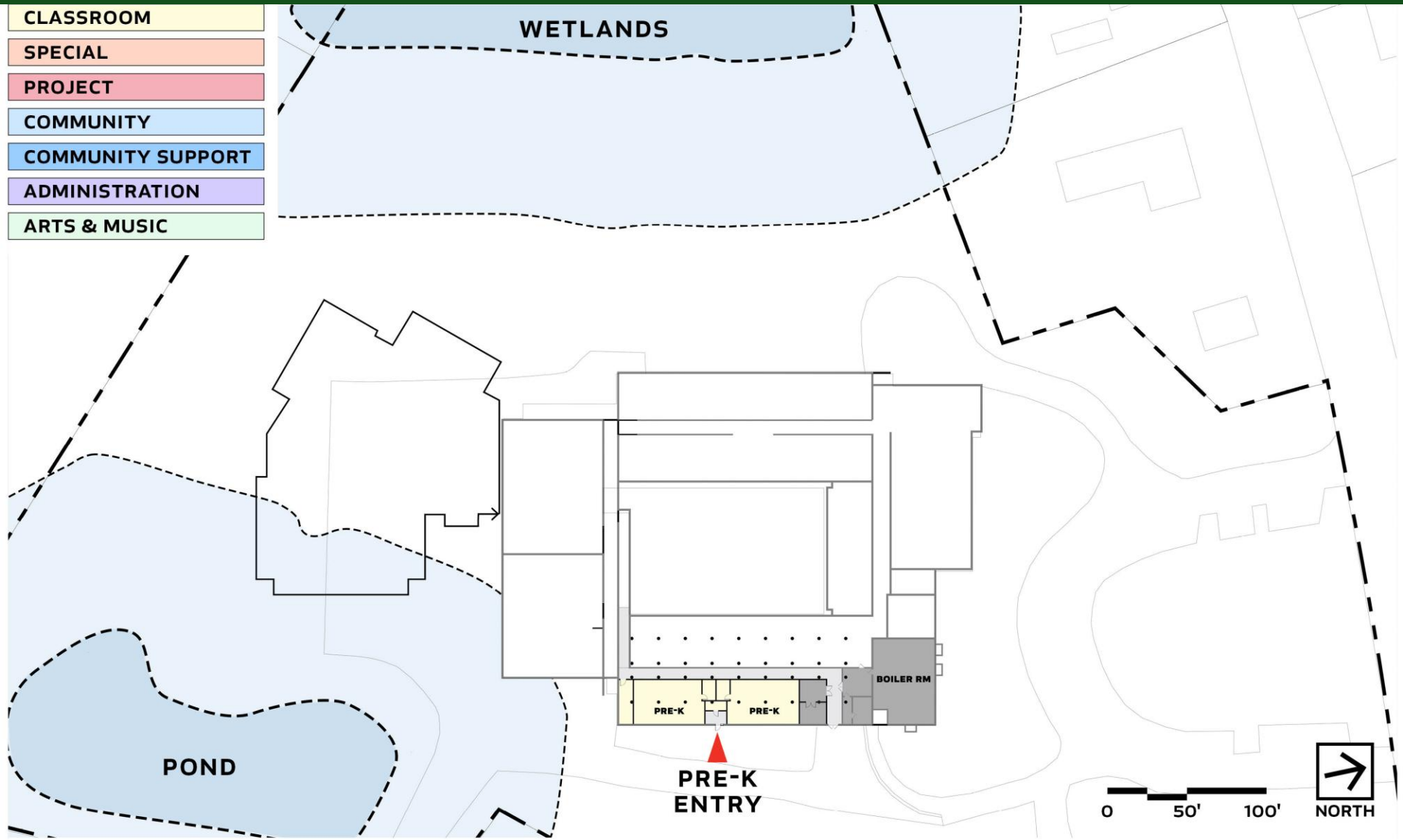
OPTION A1.2

LOWER LEVEL

PRE-K – 5
250 STUDENTS + 30 PRE-K
ADDITION/RENOVATION

53,036 GFA RENOVATION
20,637 GFA ADDITION

TOTAL: 73,673 GFA



CONSIDERATIONS

- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (4 CLASSROOMS) ACCOMMODATED IN ADDITION

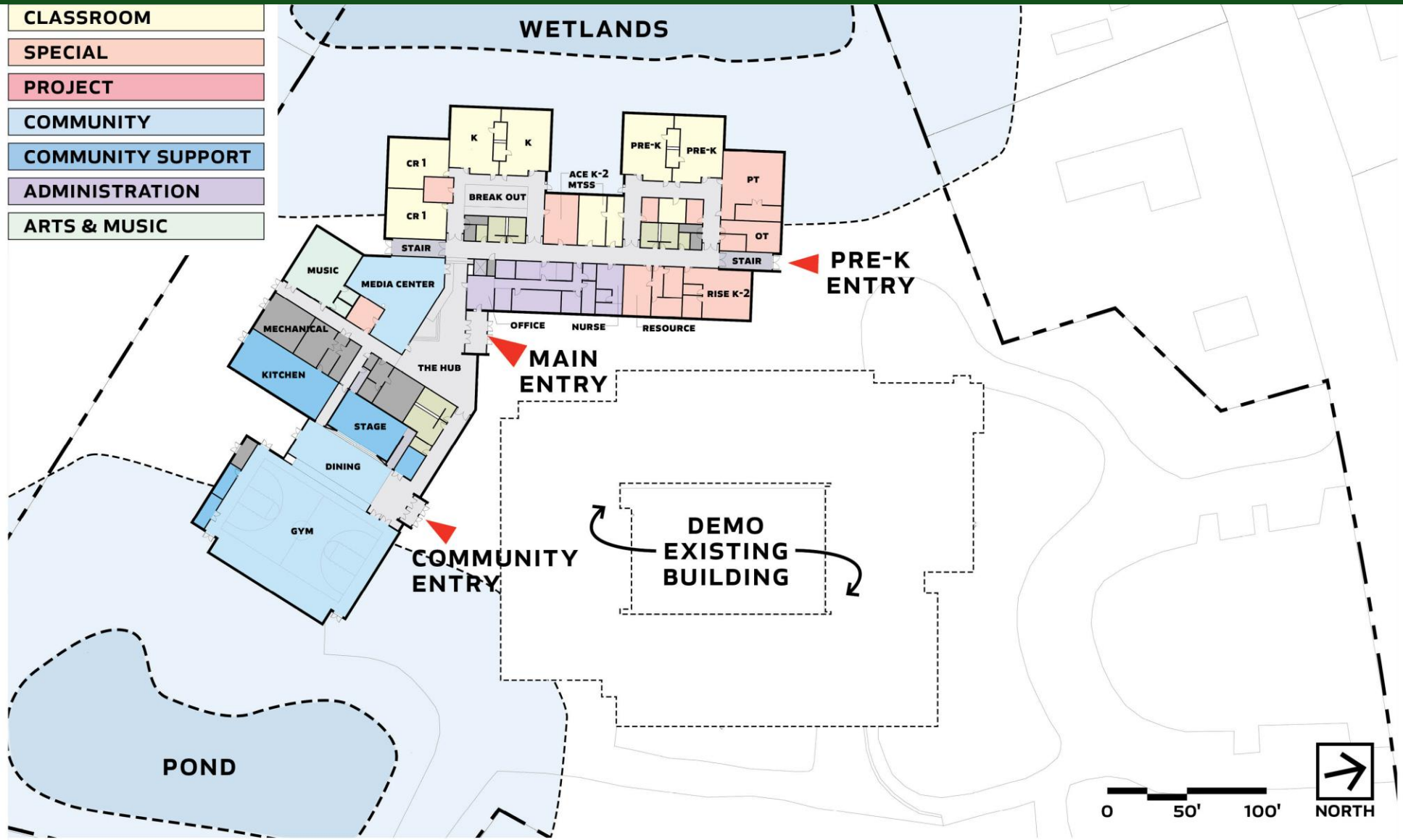
OPTION A2.2

FIRST FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K NEW

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

OPTION A2.2

SECOND FLOOR

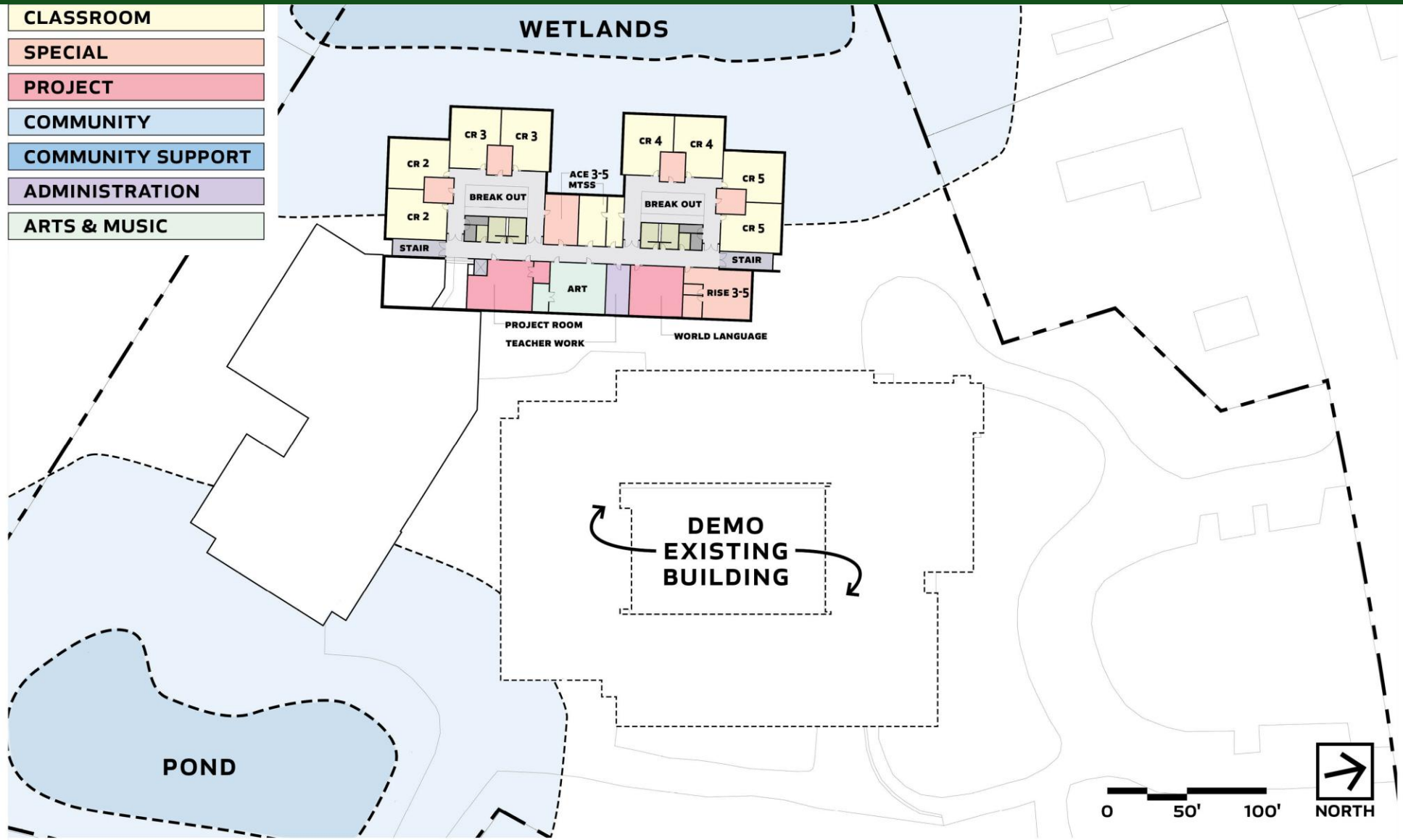
PRE-K – 5
250 STUDENTS + 30 PRE-K NEW

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS

- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL



Design Update

Design Team activities planned during the PSR Phase

- Review the Preliminary Geotechnical Report for siting of an addition or new building, initial structural design, influence on site layout and civil
- Alternatives are developed throughout January and February 2026 with design updates provided during our SBC meetings.
- Educator's Meeting planned for February 5th, 2026
- MEP Working Group Meeting #1 planned for February 4th, 2026 to discuss proposed systems for each Alternative
- First Responder Meeting occurring February 10th, 2026
- Phase II studies begin during EES Winter Vacation (February 16th week)
- Regulated Building Materials Survey occurs during EES Winter Vacation (February 16th week)
- Supplemental Geotechnical studies occur during EES Winter Vacation (February 16th week) specific to addition and new building proposed locations
- Site, Safety & Security Working Group #1 planned for February 25th, 2026
- Submission to Cost Estimators occurs mid March 2026

Agenda

1. Introduction
2. PDP Update
3. Further Evaluation of Alternatives
4. **Next Steps**
5. Q&A

Schedule Update/PSR

2/9/26 SBC Meeting-Review Comm Meeting #4 Feedback, Review Alternatives and Grade Configuration

2/24/26 SBC Meeting-Confirm Preferred Alternatives for Pricing

3/10/26 SBC Meeting-Preferred Alternates if Necessary

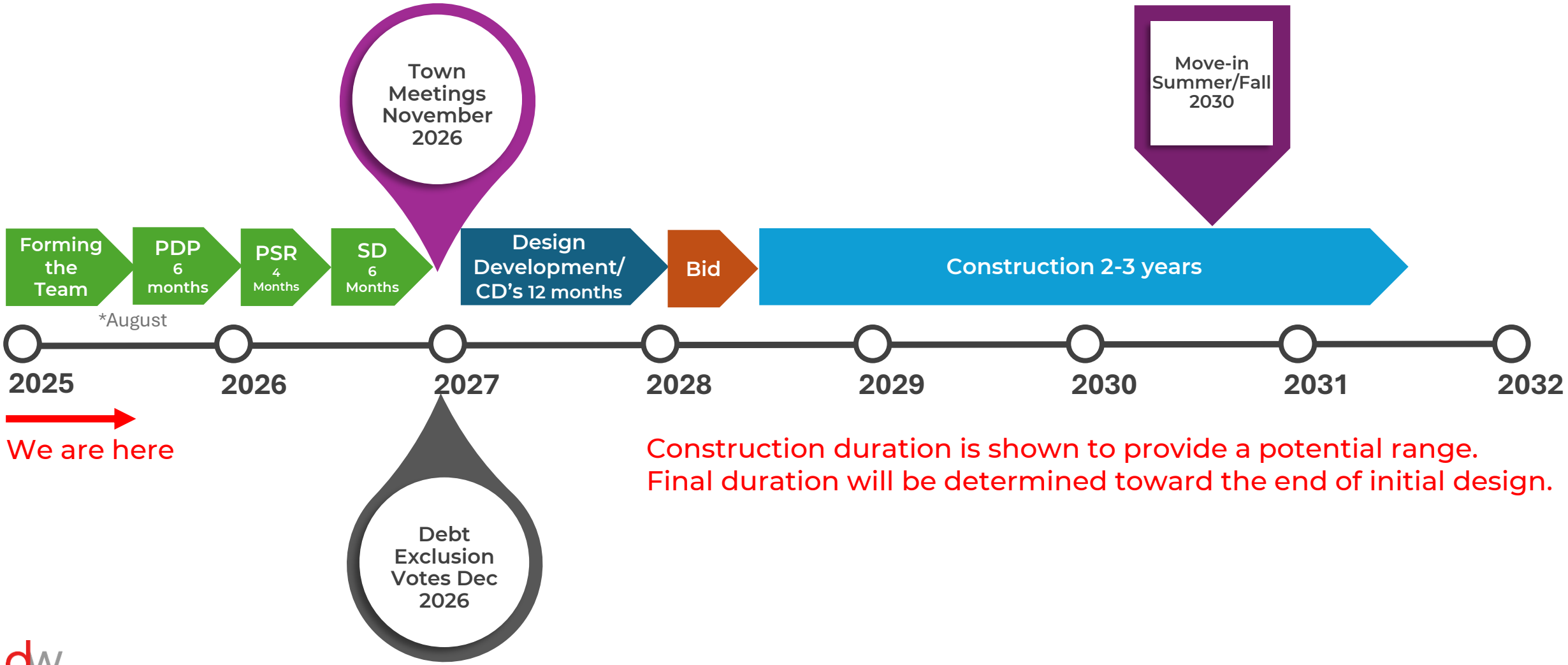
3/24/26 SBC Meeting-Final Review of Alternatives and Grade Configuration

3/30/26 Comm Meeting #5-Review Preferred Options

4/14/26 SBC Meeting-Review Comm Meeting #5 Feedback and Approval of Preferred Solution

4/28/26 SBC Meeting-Approved PSR Submission to MSBA

Anticipated Project Timeline



Construction duration is shown to provide a potential range.
Final duration will be determined toward the end of initial design.

DORE + WHITTIER

Agenda

1. Introduction
2. PDP Update
3. Further Evaluation of Alternatives
4. Next Steps
5. **Q&A**

Q&A

Project Website



Thank you!



Preliminary Design Program Pricing Exercise

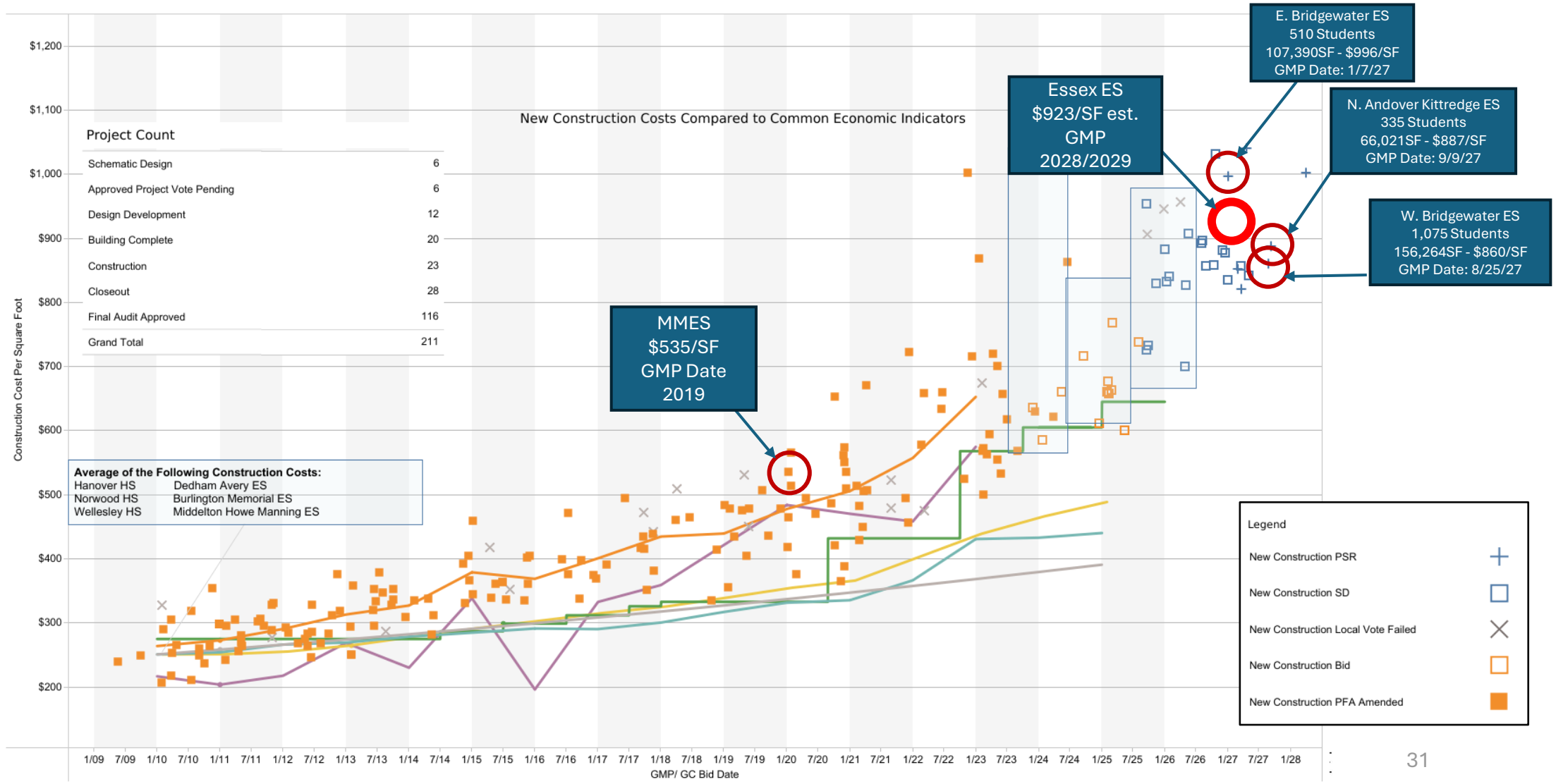
The costs for the various PDP Options indicated above are intended to be an analysis of the relative costs between options and **NOT** a prediction of the actual final cost of any individual option. Major variables such as geotechnical, site grading, structural system and final MEP systems have yet to be designed in detail so costs will vary significantly from the benchmark cost estimating included as part of this PDP cost analysis.

The costs outlined in this report should not be represented as the FINAL construction budget.

This PDP Design Submission cost estimate was produced from narratives and outline drawings dated November 06, 2025, prepared by JCJ Architecture and their design team.

Preliminary Design Program Pricing Exercise

Construction Cost per SF Averages per MSBA Data



MSBA Process



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Who is the Massachusetts School Building Authority (MSBA)?

A quasi-independent government authority created to reform the process of funding capital improvement projects in the Commonwealth's public schools.

The MSBA strives to work with local communities to create affordable, sustainable, and energy efficient schools across Massachusetts.

Collaborating with municipalities to equitably invest in finding the right-sized, most fiscally responsible and educationally appropriate solutions to create safe, sound, and sustainable learning environments.

MSBA Process



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Where do MSBA grant funds come from? How are they issued?

The MSBA has a dedicated revenue source of 1% from the state's 6.25% annual sales tax collections.



Grant funds are issued to the district using a "pay-as-you-go" reimbursement system for the duration of the project.

More than $16.6 billion issued to-date to cities, towns, and regional school districts for school construction projects.

MSBA Process

How does MSBA determine the level of financial support for projects?

Reimbursement rates are calculated based on a formula that is established in M.G.L ch.70B § 10

The formula starts all districts at a base rate of 31% (of eligible project costs).

The base rate may be adjusted based on three socioeconomic factors:

- **Community income factor**
- **Community property wealth factor**
- **Community poverty factor**

Essex ES Base Rate is 31%

6% potentially available from Green School (4%) incentive points and District maintenance policy (2%)

MSBA Process

What does “eligible project cost” mean?

The MSBA uses a total project budget template to apply and calculate their funding policies to determine the grant amount

The MSBA’s reimbursement rate is applied to “eligible project costs” to determine the MSBA’s participation on each budget line-item.

- **Construction and Site $605/sf + $73/sf**
- **Furniture, Fixtures & Equipment (FF&E) $1,995/sf**
- **Technology Equipment $1,570/sf**

There are funding caps on certain budget items, as well as “categorically ineligible” items that the MSBA will not participate in.

- **Pools, Field Houses, Elementary School Auditoriums, Central Offices, Senior Centers, site acquisition, and offsite improvements**

MSBA Process

These caps and ineligible costs will have an impact to the final (or "effective") reimbursement.

Memorial E.S. Example:

- **Base Rate of 31%**
- **CM@ Risk 1% (no longer applicable)**
- **Maintenance 1.93%**
- **Energy Efficient School 2% (has increased)**

MSBA reimbursement rate 35.93%

"Effective" reimbursement rate ~23% = $11.5 Million from the State

MEETING AGENDA

Meeting Date:	April 16, 2026
Meeting Time:	6:00PM – 7:00PM
Project Name:	Essex Elementary School Project
Meeting Purpose:	School Building Committee – Community Meeting No. 5
Location:	In person at Essex Elementary School cafeteria (12 Story Street, Essex, MA) and online via Zoom.
Join Zoom:	https://us06web.zoom.us/j/84254830090

1. Introduction
2. Project Cost Review
3. Next Steps
4. Q&A

Essex Elementary School Project
Community Meeting No. 05
April 16, 2026 @ 6:00 PM



DORE + WHITTIER

JCJARCHITECTURE

Community Outreach

7
Communications Working Group

1
Site Logistics Working Group

2
Sustainability Working Group

1
MEP Working Group

1
Site, Safety & Security Working Group

19
School Building Committee (SBC) Meetings



3
Educational Programming Workshops

2
Educational Plan Validation

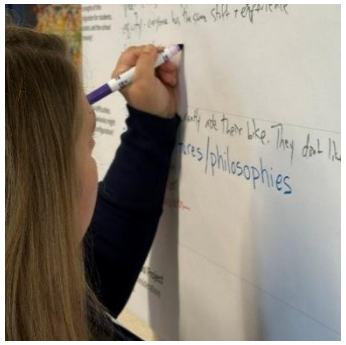


2
School Tours

2
School Board Meetings

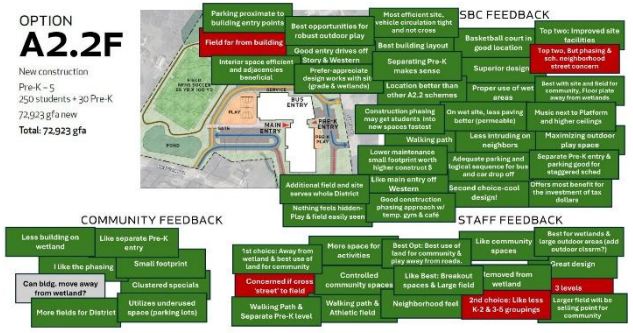
https://www.mersd.org/building-committee

1
Community Gallery Walk



5
Community Meetings





Progress Since Our Last Community Meeting



Conducted a Gallery Walk on March 24th to present all options and gather feedback from Community Members



Collected and reviewed input from teachers, community members, and committee members



Met with the SBC on April 14th to review all feedback received



Conducted a straw poll on April 14th, resulting in unanimous support for Option A2.2F

Preferred Schematic Report Matrix

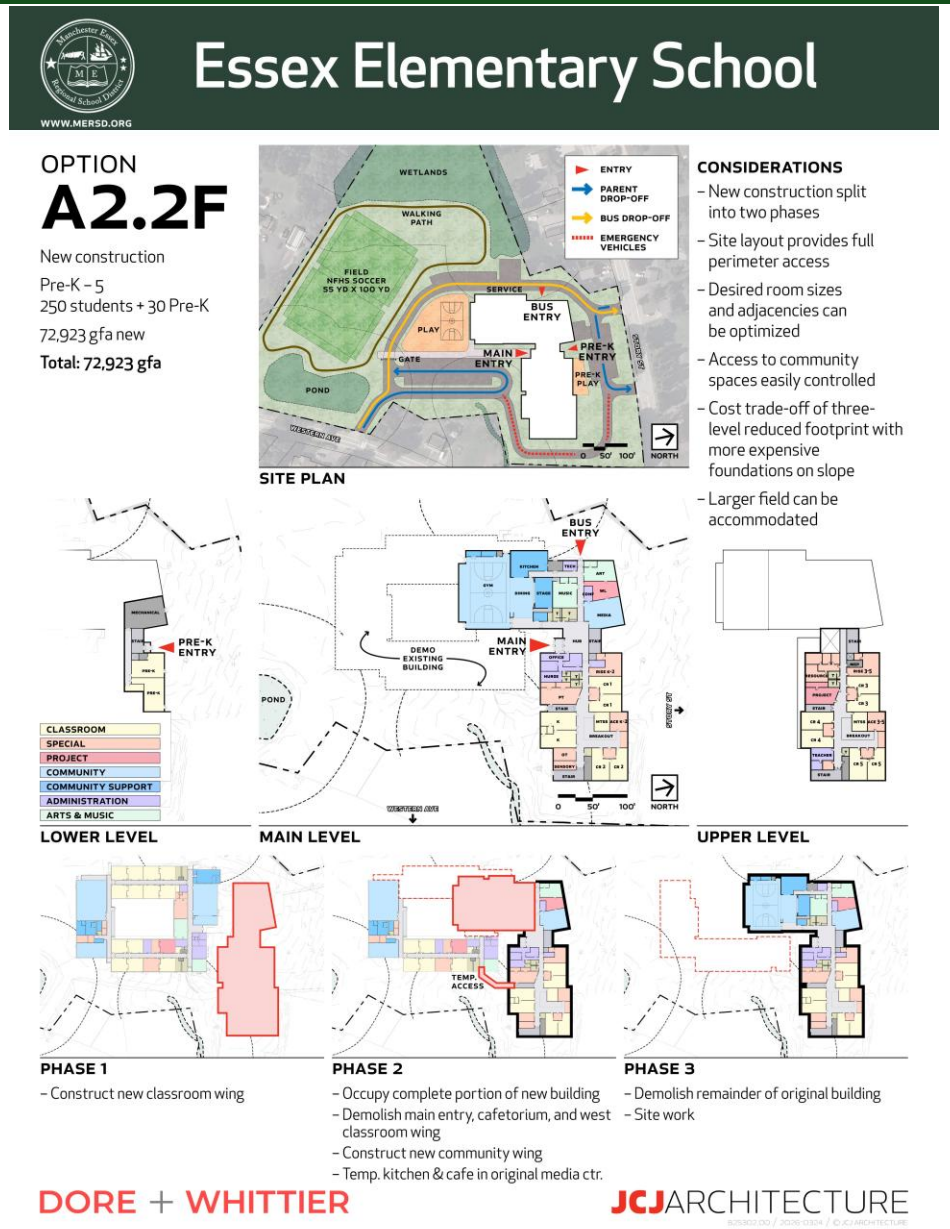
Legend	
0	Highly Undesirable
1	Undesirable
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3	Desirable
4	Highly Desirable



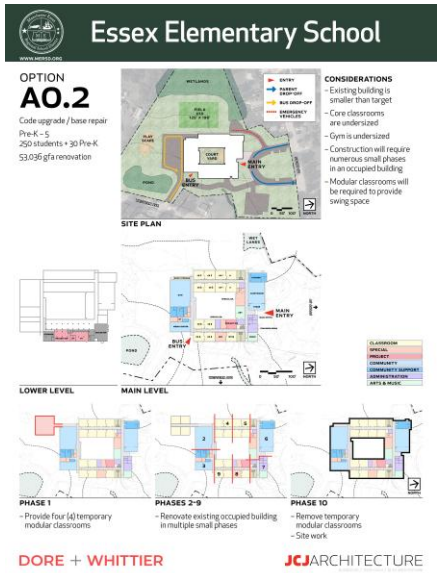
ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES PREFERRED SCHEMATIC REPORT (PSR)		SITE A CURRENT EES						SITE B CURRENT MMES
		A0.2	A1.1	A1.2 - B	A2.2 - A	A2.2 - B	A2.2 - F	B1.1
		Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	New Construction	Addition/ Renovation
General	Enrollment (+ PRE-K)	250 + 30	165 + 30	250 + 30	250 + 30	250 + 30	250 + 30	515 + 60
	Grade Configuration	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	0	0	0	77,102 GFA
	New Area	0	7,036 GFA	23,407 GFA	72,443 GFA	72,443 GFA	72,443 GFA	40,368 GFA
	Total Area	53,036 GFA	60,072 GFA	76,443 GFA	72,443 GFA	72,443 GFA	72,443 GFA	117,470 GFA
	Construction Duration	40 months	42 months	48 months	32 months	36 months	36 months	40 months
Education	Meets Needs of Educational Program at EES	0	0	3	3	3	4	2
	Meets Needs of Educational Program at MMES	4	0	4	4	4	4	2
	Equity across the District	0	0	4	4	4	4	0
	Future Growth and Expansion	2	2	2	4	4	4	0
	Flexible and Adaptable Spaces	0	4	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	2	1	1	0
Community	Compatible with Regional Agreement	4	0	4	4	4	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	4	1	4	4	4	4	0
	Neighborhood Traffic Impact	4	1	4	4	4	4	0
	Community Use Opportunities	4	1	4	4	4	4	0
	Disruption to Manchester	4	1	4	4	4	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	1	1	2	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	4	4	4	0
	Parking Capacity	2	2	2	4	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	3	3	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	4	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	4	4	4	2
	Additional work at MMES (separate project by District)	N/A	0	N/A	N/A	N/A	N/A	INC.
Cost and Schedule	Maximize MSBA Grant Reimbursement	0	4	1	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	4	2	2	1
	Modular Classroom Swing Space not Required	0	4	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	4	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	2	1	2	2	2	2	2
	Reduce Operational Costs - Staff, Transport	2	1	2	2	2	2	2
	Total Project Cost	$51M	$79M	$95M	$91M	$93M	$93M	$64M

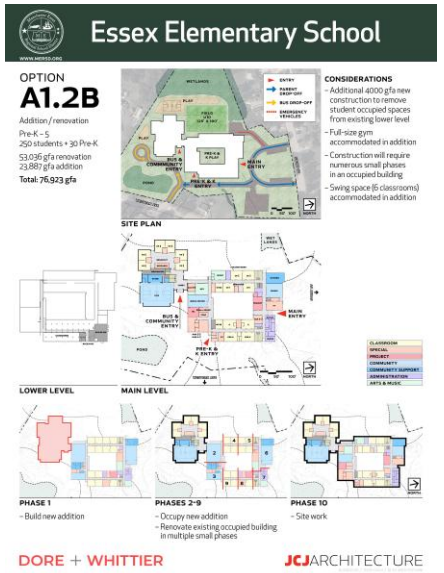
A2.2F Emerging as the Preferred Option

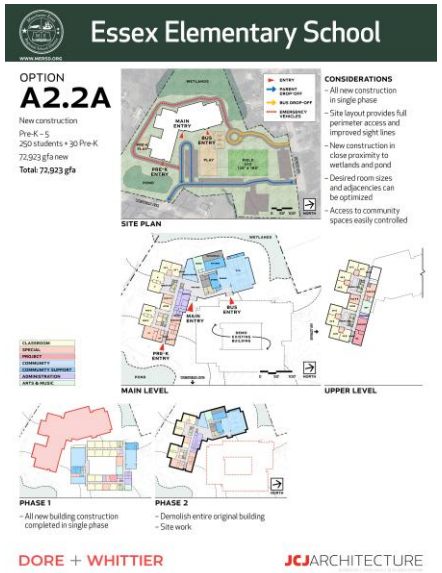
- Fully Meets the Educational Program
- Provides a Complete, Long-Term Solution
- Provides Parity Across the District
- Addresses Site and Outdoor Needs
- Minimizes Disruption to Students
- Stronger Alignment with MSBA = Better Reimbursement Position
- Represents Strong Long-Term Value

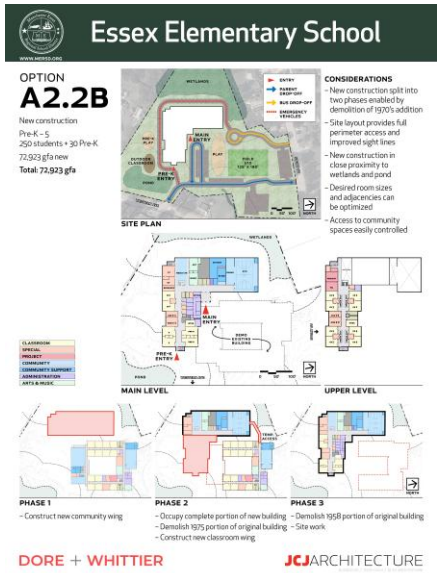


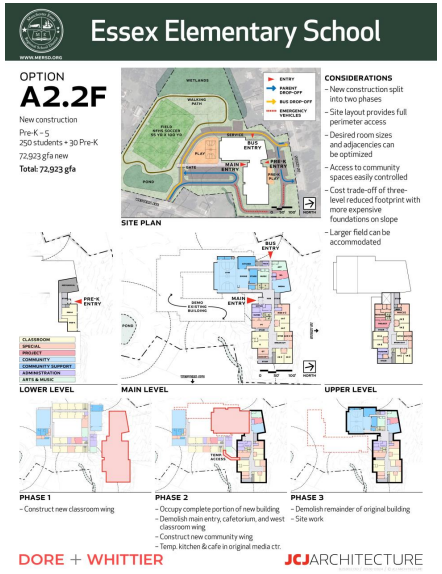
Feedback from Community Meeting 03/24/2026

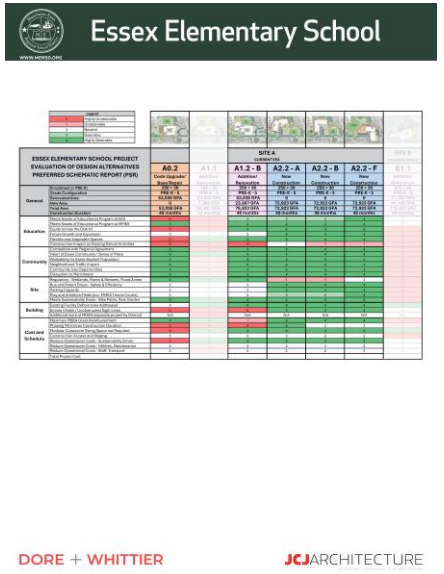














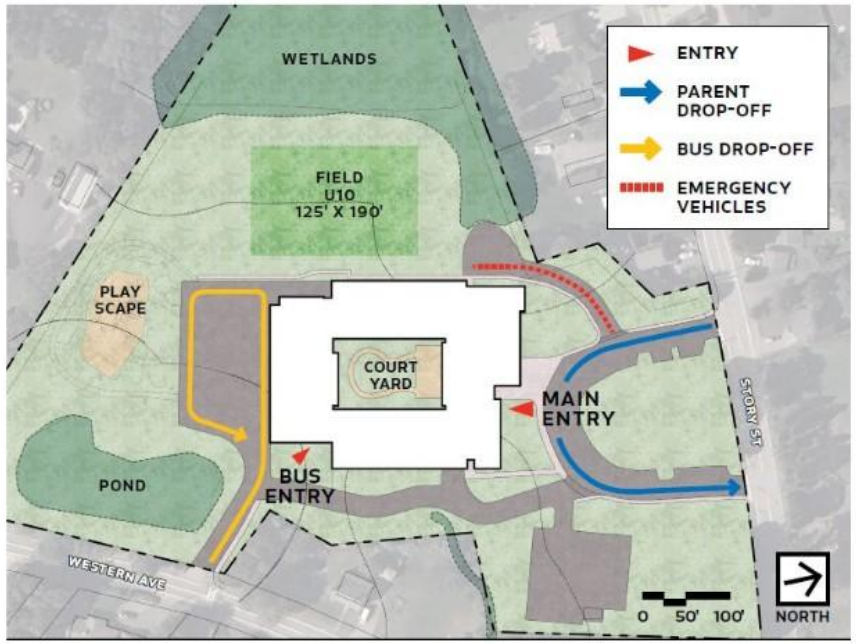
Feedback from Community Meeting 03/24/2026

OPTION A0.2

Code upgrade / base repair

Pre-K – 5
250 students + 30 Pre-K

53,036 gfa renovation



SBC FEEDBACK

- Meeting Ed Prog challenge
- No benefit considering cost, phasing, disruption to EES
- Construction phasing impact on education
- Mech, Struc, & Sustainable upgrades too extensive
- Worst-Not equal resource to other district students
- Worst-Not ideal educational experience
- Significant funds for little improvement
- Does not meet educational program
- Not provide parity in district

COMMUNITY FEEDBACK

- Doesn't meet Program
- Gym too small
- Main Entrance should be on Western Ave

STAFF FEEDBACK

- Huge disruption to learning & teachers.
- No thank you
- No-Too costly for old building
- Existing space not conducive to needs
- No
- Likely uncover more serious/costly issues in renovation
- Dislike

Feedback from Community Meeting 03/24/2026

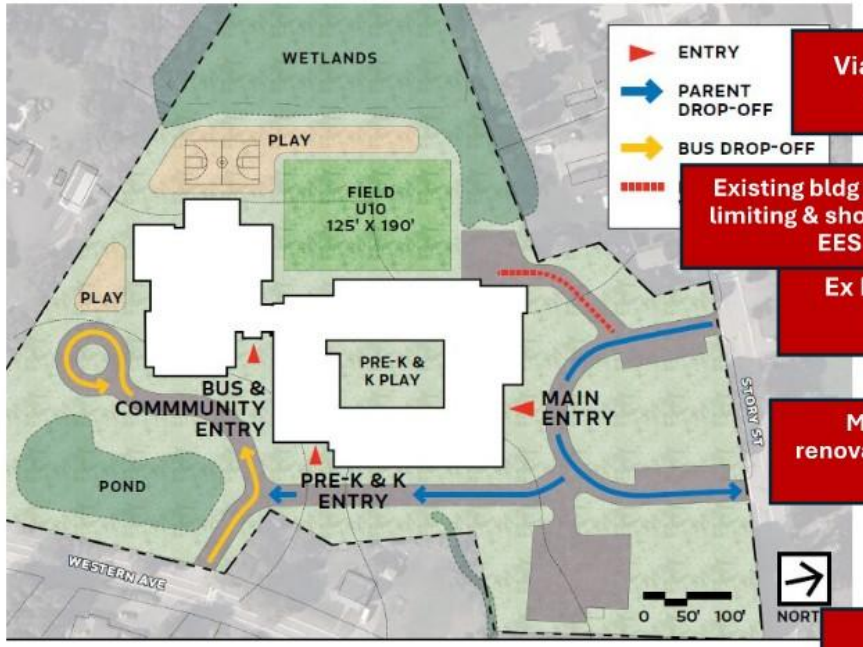
OPTION A1.2B

Addition / renovation

Pre-K – 5
250 students + 30 Pre-K

53,036 gfa renovation
23,887 gfa addition

Total: 76,923 gfa



SBC FEEDBACK

- Viable Phasing but less efficient
- Existing bldg constraints for teachers & students
- Circulation cumbersome
- Existing bldg footprint limiting & shortchange EES
- Basketball court poorly located
- Ex bldg. not worth renovating
- Largest overall building size may increase costs
- Mech, Struc, & Sustainable upgrades too extensive
- Disruptive to EES. Reasonable only if big cost savings
- Multiple small renovations disruptive, costly
- large footprint limits opportunities & outdoor play space
- Limited emergency access drive
- Long distance of travel
- Long time to construct
- Dislike how tight field is to building

COMMUNITY FEEDBACK

- Big building footprint
- Only consider if significant cost savings
- Huge
- Gym & Outdoor Play are a great distance
- PreK play area distracting to students
- Courtyard is not efficient use of space

STAFF FEEDBACK

- Too many phases
- Not preferred
- Too disruptive during school
- Nurse far from lower grades
- Too spread out
- Too costly for old building
- Remove existing building
- Nice addition but other designs better

Feedback from Community Meeting 03/24/2026

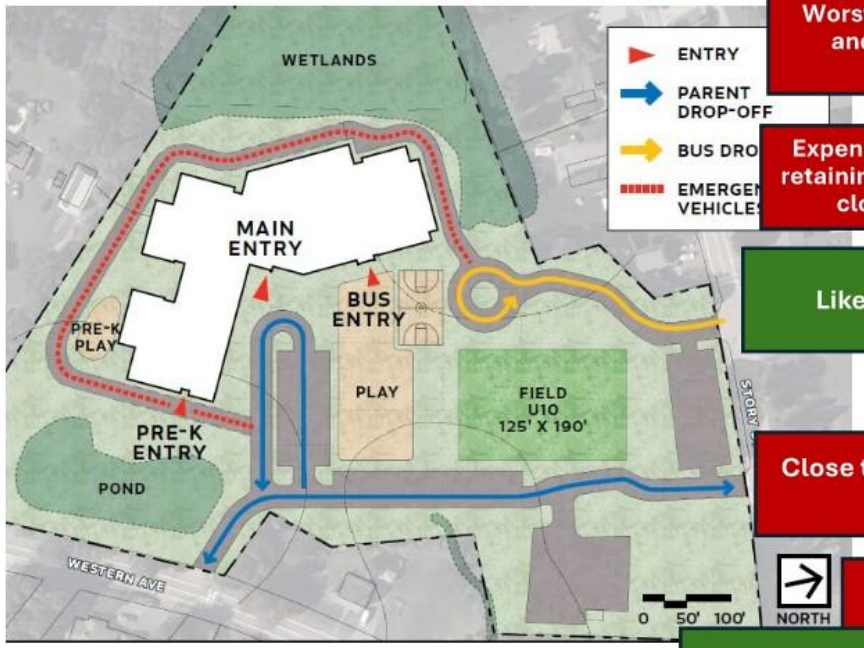
OPTION A2.2A

New construction

Pre-K – 5
250 students + 30 Pre-K

72,923 gfa new

Total: 72,923 gfa



SBC FEEDBACK

- Worst of 2.2 schemes and recommend removing
- Increase impact on wetland
- Single phase & no temp facilities good for EES
- Expensive regrading & retaining walls for fields close to street
- Inefficient site circulation pushes out parking & play
- Like geometry
- Top two: Like phasing
- Flr plans efficient w/ good adjacency of programs
- Like location & emergency drive
- Good option but compromised site
- Close to neighbors in back
- Limited Field
- Close to wetlands add complications
- Distributed parking across site
- A lot of paving
- Close to wetlands / potential regulatory issues
- Like best
- First choice

COMMUNITY FEEDBACK

- Do not like how much of the lot is taken up with paving
- Best play area
- Like bldg. has no disruption to current class
- Does not need to be phased

STAFF FEEDBACK

- Only 1 Phase
- Like grade level wings
- Wetlands potential an issue in long run
- Play too close to road
- Great design
- Good breakout spaces / neighborhood feel
- Avoid Specials on 2nd Flr because Prek/K use of stairs
- Nurse should be central
- Close to wetland
- 1st choice: layout, less phasing, neighborhoods
- Short hallways
- 1st choice: Move only once & is set back from roads
- Stay in school while building new
- Grade level neighborhoods & flexible breakout
- Like grade level community

Feedback from Community Meeting 03/24/2026

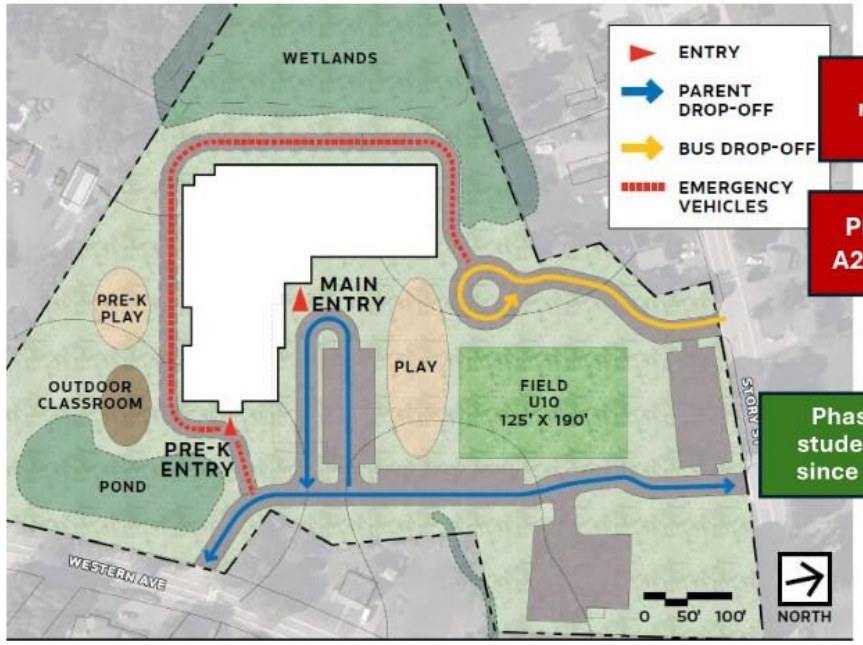
OPTION A2.2B

New construction

Pre-K – 5
250 students + 30 Pre-K

72,923 gfa new

Total: 72,923 gfa



SBC FEEDBACK

- Still expensive regrading & retaining walls for fields
- A lot of paving
- Increase impact on wetland
- Phasing worse than A2.2A without benefit
- Close to neighbors in back
- Close to wetlands add complications
- Proximity of PreK and K seem good
- Plan efficient w/ good adjacency of program
- Phasing Impact on student perhaps less since Gym demo first
- Close to wetland-Road appears in wetland-Regulatory
- Inefficient site circulation pushes out parking & play
- Multiphase construction and temp facilities costly
- Construction phasing

COMMUNITY FEEDBACK

- Is Media Center a hallway?

STAFF FEEDBACK

- No to hallways instead of neighborhoods
- Community spaces are controlled
- Dislike long hallways / loses community feel
- Break out rooms nice
- Grade level clustering, outdoor classroom
- Outdoor classroom
- Avoid Specials on 2nd Flr because Prek/K use of stairs
- Not like proximity to wetlands
- More centralized drop-off area (pro or con?)
- Generally like set-up
- Play too close to road

Feedback from Community Meeting 03/24/2026

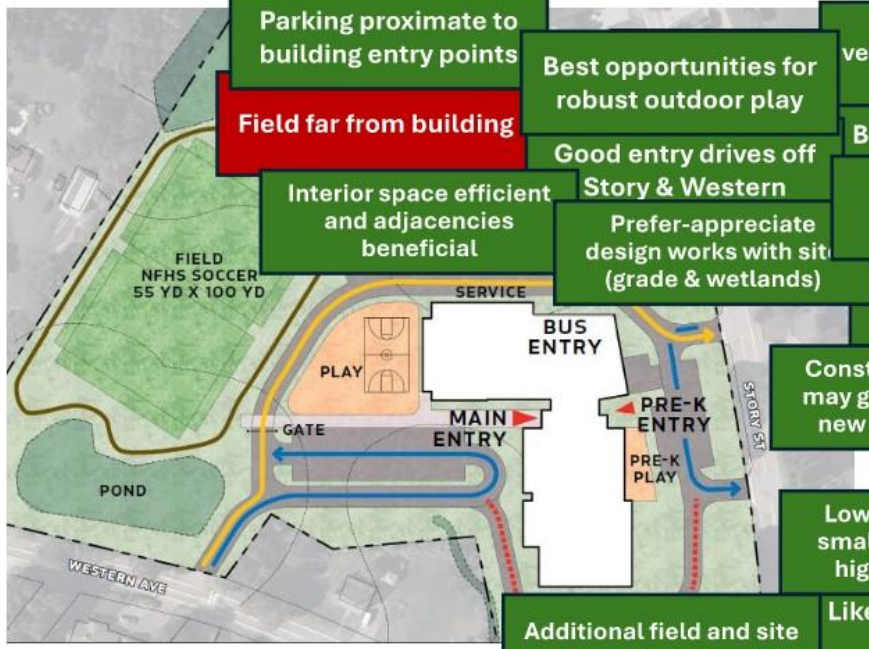
OPTION A2.2F

New construction

Pre-K – 5
250 students + 30 Pre-K

72,923 gfa new

Total: 72,923 gfa



SBC FEEDBACK

- Parking proximate to building entry points
- Field far from building
- Best opportunities for robust outdoor play
- Good entry drives off Story & Western
- Interior space efficient and adjacencies beneficial
- Prefer-appreciate design works with sit (grade & wetlands)
- Most efficient site, vehicle circulation tight and not cross
- Best building layout
- Separating Pre-K makes sense
- Location better than other A2.2 schemes
- Basketball court in good location
- Superior design
- Proper use of wet areas
- Top two: Improved site facilities
- Top two, But phasing & sch. neighborhood street concern
- Best with site and field for community, Floor plate away from wetlands
- Construction phasing may get students into new spaces fastest
- On wet site, less paving better (permeable)
- Music next to Platform and higher ceilings
- Walking path
- Less intruding on neighbors
- Maximizing outdoor play space
- Lower maintenance small footprint worth higher construct $
- Adequate parking and logical sequence for bus and car drop off
- Separate Pre-K entry & parking good for staggered sched
- Additional field and site serves whole District
- Like main entry off Western
- Second choice-cool design!
- Offers most benefit for the investment of tax dollars
- Nothing feels hidden- Play & field easily seen
- Good construction phasing approach w/ temp. gym & café

COMMUNITY FEEDBACK

- Less building on wetland
- Like separate Pre-K entry
- I like the phasing
- Small footprint
- Can bldg. move away from wetland?
- Clustered specials
- More fields for District
- Utilizes underused space (parking lots)

STAFF FEEDBACK

- 1st choice: Away from wetland & best use of land for community
- More space for activities
- Best Opt: Best use of land for community & play away from roads.
- Like community spaces
- Best for wetlands & large outdoor areas (add outdoor clssrm?)
- Great design
- Concerned if cross 'street' to field
- Controlled community spaces
- Like Best: Breakout spaces & Large field
- Removed from wetland
- 3 levels
- Walking Path & Separate Pre-K level
- Walking path & Athletic field
- Neighborhood feel
- 2nd choice: Like less K-2 & 3-5 groupings
- Larger field will be selling point for community

A2.2F New Construction Option

OPTION A2.2-F
NEW CONSTRUCTION

SITE PLAN

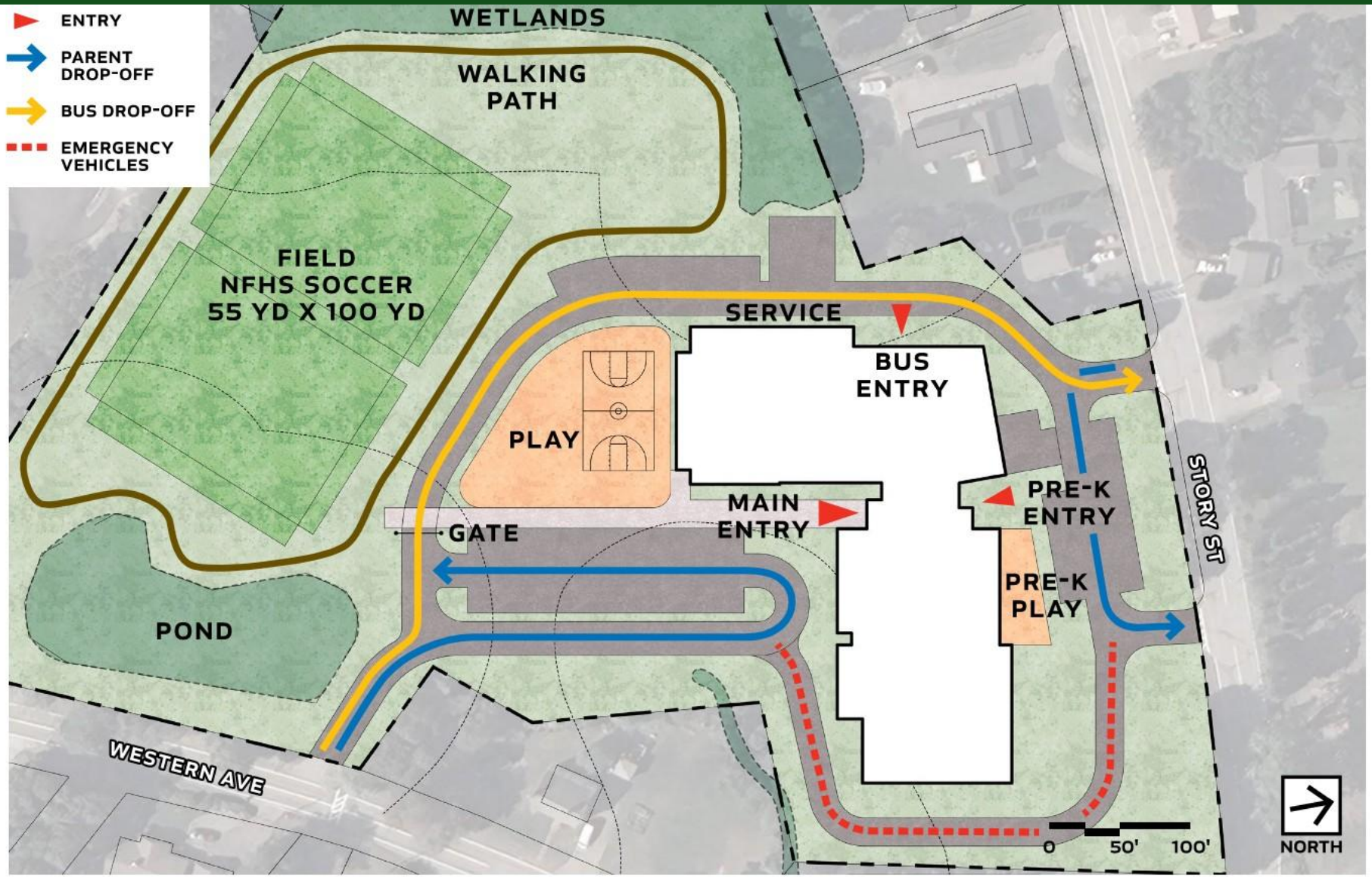
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA

CONSIDERATIONS

- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



A2.2F New Construction Option

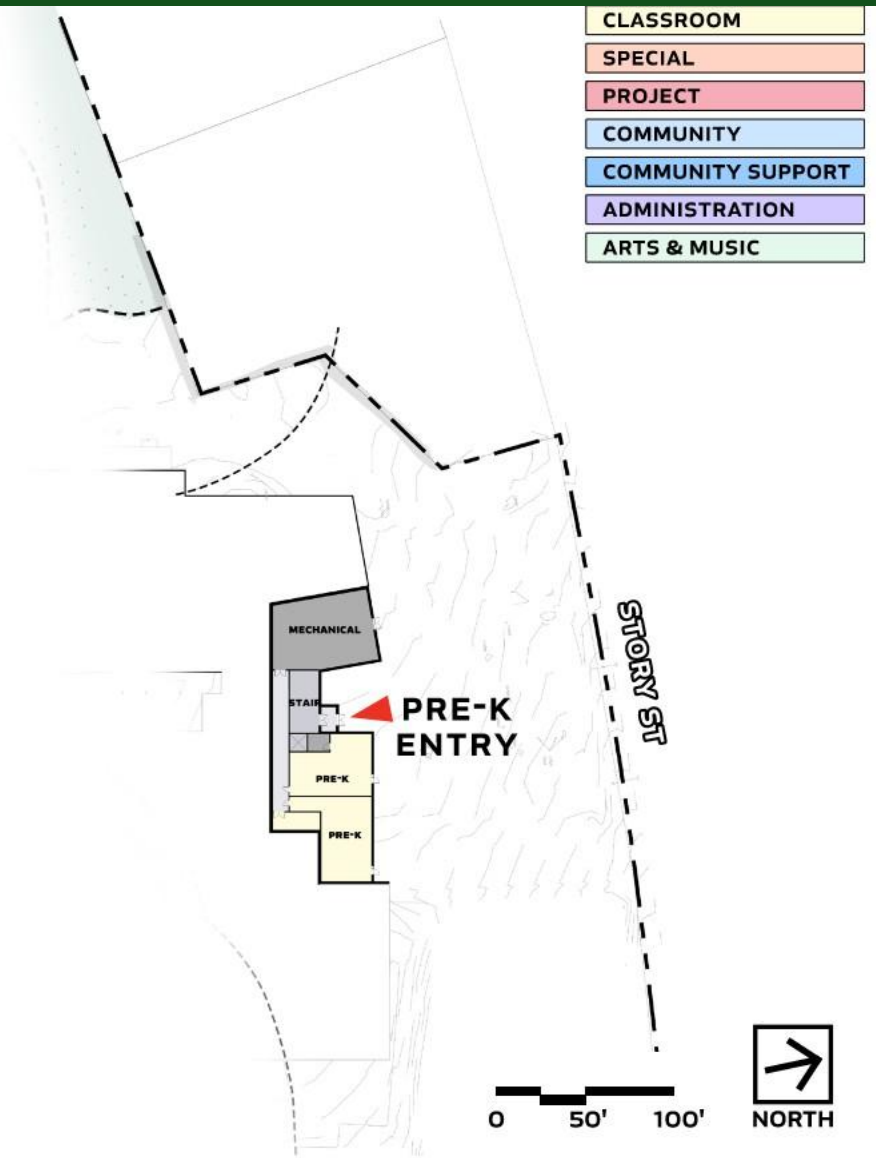
OPTION A2.2-F
NEW CONSTRUCTION

LOWER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



A2.2F New Construction Option

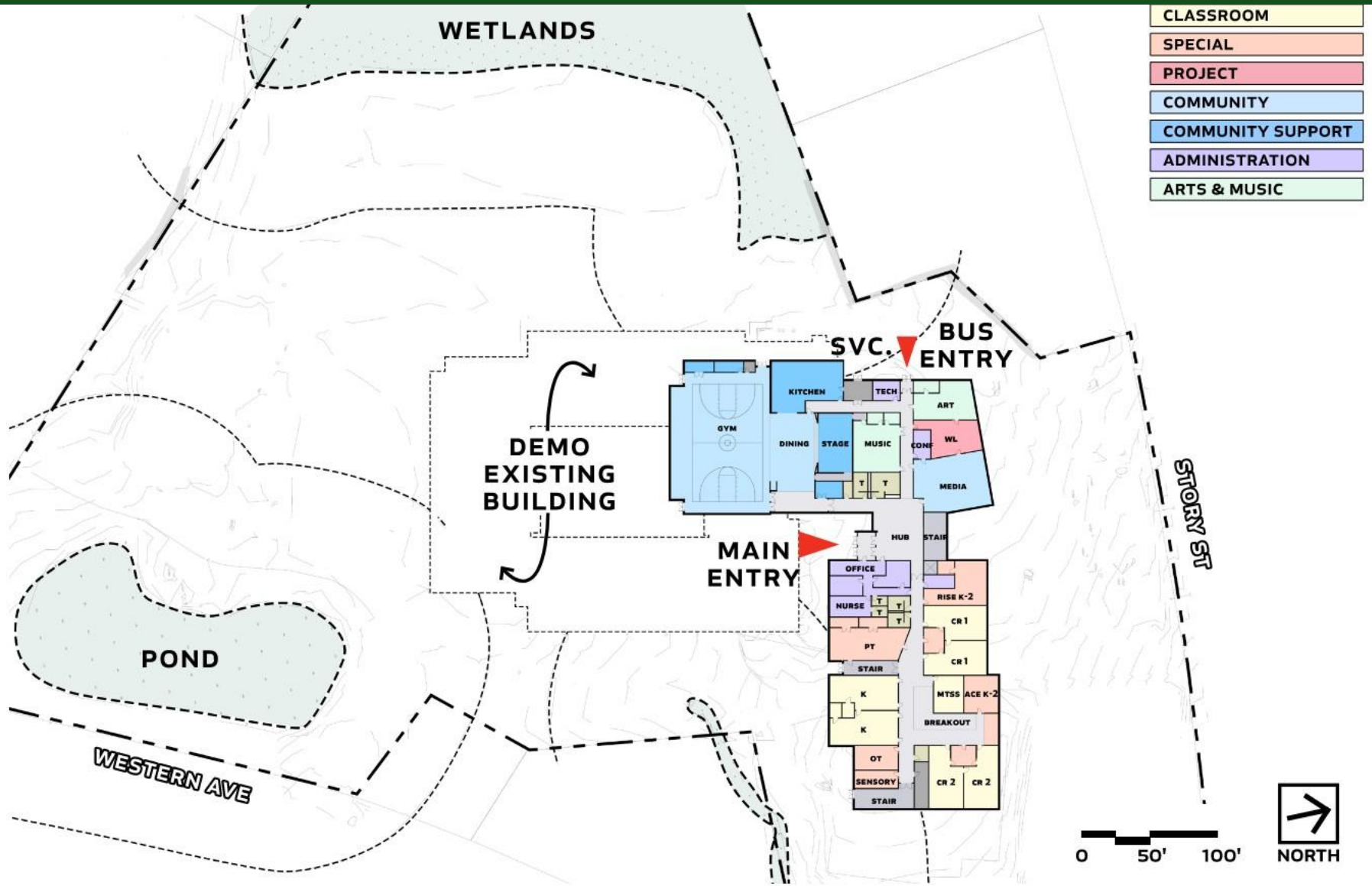
OPTION A2.2-F
NEW CONSTRUCTION

MAIN LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



A2.2F New Construction Option

OPTION A2.2-F
NEW CONSTRUCTION

UPPER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

72,443 GFA NEW

TOTAL: 72,443 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED

CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



Preferred Schematic Report Matrix

Legend	
0	Highly Undesirable
1	Undesirable
2	Neutral
3	Desirable
4	Highly Desirable



ESSEX ELEMENTARY SCHOOL PROJECT EVALUATION OF DESIGN ALTERNATIVES PREFERRED SCHEMATIC REPORT (PSR)		SITE A CURRENT EES						SITE B CURRENT MMES
		A0.2	A1.1	A1.2 - B	A2.2 - A	A2.2 - B	A2.2 - F	B1.1
		Code Upgrade/ Base Repair	Addition/ Renovation	Addition/ Renovation	New Construction	New Construction	**New Construction**	Addition/ Renovation
General	Enrollment (+ PRE-K)	250 + 30	165 + 30	250 + 30	250 + 30	250 + 30	**250 + 30**	515 + 60
	Grade Configuration	PRE-K - 5	PRE-K - 3	PRE-K - 5	PRE-K - 5	PRE-K - 5	**PRE-K - 5**	PRE-K - 5
	Renovated Area	53,036 GFA	53,036 GFA	53,036 GFA	0	0	**0**	77,102 GFA
	New Area	0	7,036 GFA	23,407 GFA	72,443 GFA	72,443 GFA	**72,443 GFA**	40,368 GFA
	Total Area	53,036 GFA	60,072 GFA	76,443 GFA	72,443 GFA	72,443 GFA	**72,443 GFA**	117,470 GFA
	Construction Duration	40 months	42 months	48 months	32 months	36 months	**36 months**	40 months
Education	Meets Needs of Educational Program at EES	0	0	3	3	3	4	2
	Meets Needs of Educational Program at MMES	4	0	4	4	4	4	2
	Equity across the District	0	0	4	4	4	4	0
	Future Growth and Expansion	2	2	2	4	4	4	0
	Flexible and Adaptable Spaces	0	4	4	4	4	4	0
	Construction Impact on Existing School Activities	0	0	0	2	1	1	0
Community	Compatible with Regional Agreement	4	0	4	4	4	4	0
	Heart of Essex Community / Sense of Place	4	4	4	4	4	4	0
	Walkability for Essex Student Population	4	1	4	4	4	4	0
	Neighborhood Traffic Impact	4	1	4	4	4	4	0
	Community Use Opportunities	4	1	4	4	4	4	0
	Disruption to Manchester	4	1	4	4	4	4	0
Site	Regulatory - Wetlands, Rivers & Streams, Flood Zones	4	4	4	1	1	2	0
	Bus and Parent Drops - Safety & Efficiency	2	2	2	4	4	4	0
	Parking Capacity	2	2	2	4	4	4	0
	Play and Athletics Fields (inc. MMES Tennis Courts)	2	2	2	3	3	4	0
	Meets Sustainability Goals - Bike Paths, Rain Garden	4	4	4	4	4	4	0
Building	Existing Facility Deficiencies Addressed	2	4	4	4	4	4	4
	Entries Visible / Unobstructed Sight Lines	0	0	0	4	4	4	2
	Additional work at MMES (separate project by District)	N/A	0	N/A	N/A	N/A	N/A	INC
Cost and Schedule	Maximize MSBA Grant Reimbursement	0	4	1	4	4	4	0
	Phasing Minimizes Construction Duration	0	0	0	4	2	2	1
	Modular Classroom Swing Space not Required	0	4	4	4	4	4	4
	Construction Access and Staging	2	2	2	2	2	2	0
	Reduce Operational Costs - Sustainability Driven	0	4	4	4	4	4	2
	Reduce Operational Costs - Utilities, Maintenance	2	1	2	2	2	2	2
	Reduce Operational Costs - Staff, Transport	2	1	2	2	2	2	2
	Total Project Cost	$53M	$79M	$95M	$91M	$93M	**$93M**	$64M

Why Option A2.2F Emerged as the Preferred Option

1. Fully Meets the Educational Program

- Designed to align with the **MSBA-approved Educational Program**
- Provides appropriately sized classrooms, specialized spaces, and shared areas
- Supports how teaching and learning occur today

👉 Meets MSBA expectations for approval and long-term functionality

2. Provides a Complete, Long-Term Solution

- New construction allows for:
- Efficient layout and adjacencies
- Modern systems and infrastructure
- Flexibility for future needs

👉 Solves the problem rather than working around it

3. Provides Parity Across the District

- Creates a facility that is **comparable in quality, function, and design to Manchester Memorial Elementary School**
- Ensures all students have access to **consistent, high-quality learning environments**

👉 Supports equity for all students across the district

4. Addresses Site and Outdoor Needs

- Enables a **comprehensive site redesign**, including:
- Functional fields and play areas
- Improved traffic flow and safety
- Better integration of outdoor learning spaces

👉 Delivers a complete school environment, inside and outside

5. Minimizes Disruption to Students

- Can be built **separately from the existing school**
- Avoids extended phased construction and reliance on modular classrooms

👉 Maintains a stable learning environment during construction

6. Stronger Alignment with MSBA = Better Reimbursement Position

- Meets the Educational Program and long-term planning expectations
- Better aligned with MSBA priorities for investment

👉 Positions the District more favorably for reimbursement

7. Represents Strong Long-Term Value

- Investment results in a **fully functional, future-ready school**
- Avoids the need for additional major investments in the near future

👉 Higher value over time, not just lower upfront cost

Q&A

Project Website



Thank you!



Preferred Schematic Report Pricing Exercise

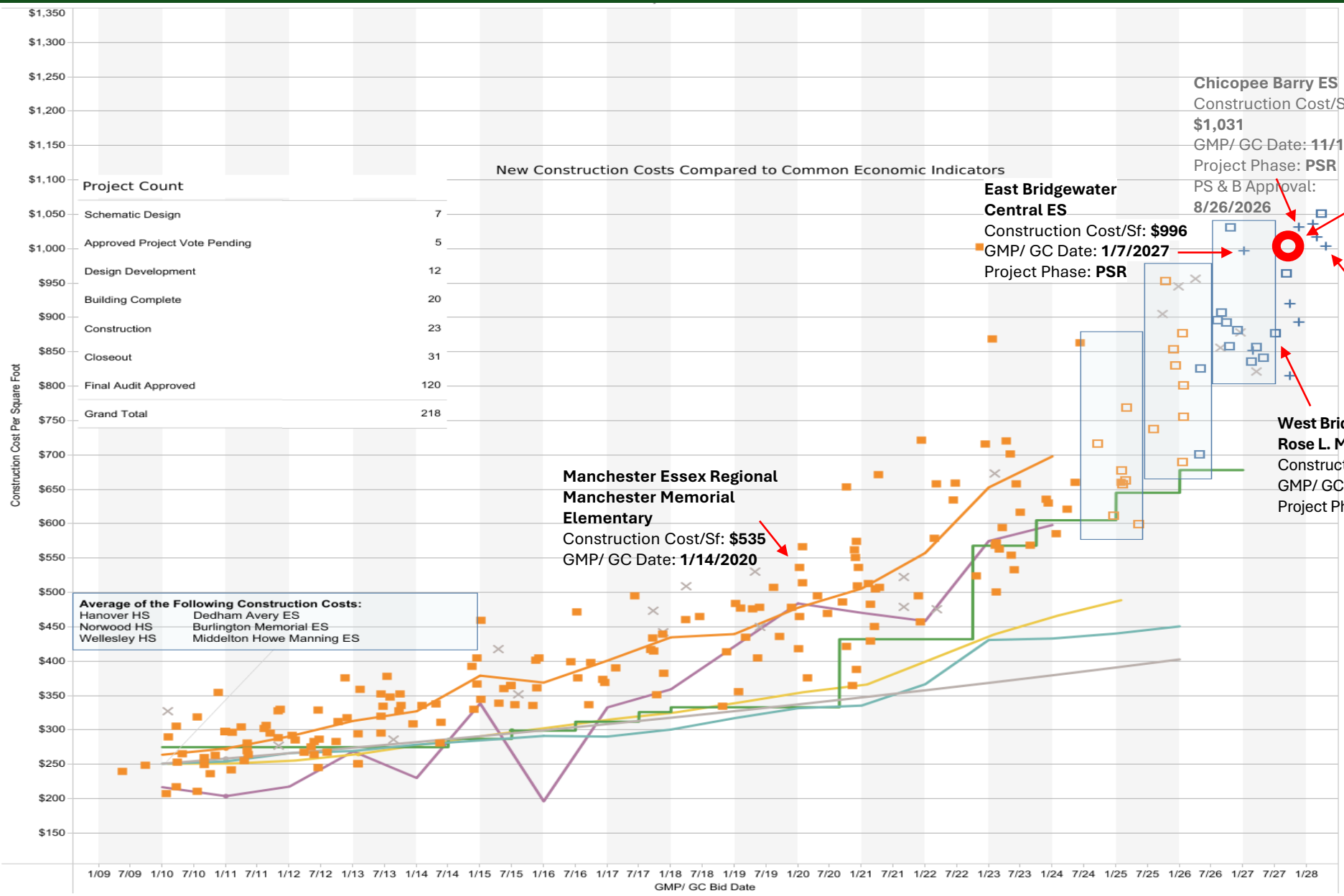
- The costs shown for the various PSR options are intended for comparative analysis only and do not represent the final project costs for any individual option.

- Major variables including geotechnical conditions, site grading, structural systems, and final MEP design – are still under development. As these elements are refined, costs may vary significantly from the current benchmark estimates.

- Accordingly, the figures presented in this report should not be interpreted as the final construction budget.

- This PSR Design Submission cost estimate was produced from narratives and outline drawings dated , prepared by JCJ Architecture and their design team. The estimation package was issued on March 11th.

MSBA Construction Cost Analysis (Construction Cost per SF Averages per MSBA Data)



Preferred Schematic Report Estimated Cost Review

Scope Option	Scope Description	GSF	PM&C Estimate ($)	A.M. Fogarty Estimate ($)	Total Construction $psf
Option A2.2A	New Construction - PRE-K - 5 (250 Students)	72,443	$ 72,172,490	$ 73,302,360	**$ 73,000,000**

Soft cost (20-23%)	Owner Contingency (5%)	Modulars	Total Project Cost	Project cost $psf	12-21% effective reimbursement	Total Project Cost with estimated effective Reimbursement
$ 14,600,000	**$ 3,650,000**		**$ 91,000,000**	$ 1,256	$ 19,110,000.00	$ 71,890,000.00

***Effective Reimbursement Rate is subject to change**
***Soft Cost 20% for New Construction, 23% for Add Reno/Code Upgrade**

Preferred Schematic Report Estimated Cost Review*** Christina to Update

Scope Option	Scope Description	GSF	PM&C Estimate ($)	A.M. Fogarty Estimate ($)	Total Construction $psf
Option A0.2	Code Upgrade/Base Repair - No architetcural	53,036	$ 40,194,433	$ 40,362,783	**$ 40,000,000**
Option A1.1	Addition/Renovation - PRE-K - 3 (165 Students)	60,072	$ 62,117,400	$ 62,622,231	**$ 62,000,000**
Option A1.2B	Addition/Renovation - PRE-K - 3 (165 Students)	76,433	$ 74,567,157	$ 74,006,271	**$ 74,000,000**
Option A2.2A	New Construction - PRE-K - 5 (250 Students) CM@R	72,443	$ 72,172,490	$ 73,302,360	**$ 73,000,000**
Option A2.2B	New Construction - PRE-K - 3 (165 Students)	72,443	$ 73,150,405	$ 74,166,511	**$ 74,000,000**
Option A2.2F	New Construction - PRE-K - 5 (250 Students)	72,443	$ 74,497,482	$ 73,855,341	**$ 74,000,000**
Option B1.1	Addition/Renovation - Current MMES, PRE-K - 5 (515 Students)	45,368	$ 49,352,274	$ 50,062,896	**$ 50,000,000**

Scope Option	Soft cost (20-23%)	Owner Contingency (5%)	Modulars	Total Project Cost	Project cost $psf	12-21% effective reimbursement	Total Project Cost with estimated effective Reimbursement
Option A0.2	**$ 9,200,000**	**$ 2,000,000**	**$ 1,400,000**	**$ 53,000,000**	$ 999		$ 53,000,000.00
Option A1.1	**$ 14,260,000**	**$ 3,100,000**		**$ 79,000,000**	$ 1,315	$ 16,590,000.00	$ 62,410,000.00
Option A1.2B	**$ 17,020,000**	**$ 3,700,000**		**$ 95,000,000**	$ 1,243	$ 19,950,000.00	$ 75,050,000.00
Option A2.2A	**$ 14,600,000**	**$ 3,650,000**		**$ 91,000,000**	$ 1,256	$ 19,110,000.00	$ 71,890,000.00
Option A2.2B	**$ 14,800,000**	**$ 3,700,000**		**$ 93,000,000**	$ 1,284	$ 19,530,000.00	$ 73,470,000.00
Option A2.2F	**$ 14,800,000**	**$ 3,700,000**		**$ 93,000,000**	$ 1,284	$ 19,530,000.00	$ 73,470,000.00
Option B1.1	**$ 11,500,000**	**$ 2,500,000**		**$ 64,000,000**	$ 1,411	$ 7,680,000.00	$ 56,320,000.00

***Effective Reimbursement Rate is subject to change**

***Soft Cost 20% for New Construction, 23% for Add Reno/Code Upgrade**

Understanding Project Costs

Soft Costs

- Costs not directly related to construction
- These support planning, design and oversight
- Examples: Architect, Project Manager, Permits, Legal, Site Surveys, etc.

Contingency

- A reserved fund set aside for unexpected costs
- Covers unforeseen conditions or changes during construction
- Helps keep the project on budget and on track

Total Project Cost

- Represents the overall budget for the entire project
- Includes Construction, soft costs, FF&E, and contingency

Why the Core Upgrade/ Base Repair Option Was Not Selected

1. Does Not Meet the Educational Program

- Does not align with the **MSBA-approved Educational Program**
- Key spaces remain undersized or missing (classrooms, gym, specialized areas)
- Requires compromises in how teaching and learning occur

👉 This does not meet MSBA expectations for approval

2. Does Not Provide a Complete, Long-Term Solution

- Focuses on **repairing the existing building**, not redesigning it
- Leaves many current limitations in place
- Does not address how the building functions for students

👉 This option maintains the status quo rather than solving the problem

3. Does Not Provide Parity Across the District

- Would result in a facility that is **not comparable to Manchester Memorial Elementary School**
- Creates inequities in student experience, learning environments, and access to space

👉 Our goal is to provide **consistent, high-quality learning environments for all students**

4. Does Not Address Site and Outdoor Needs

- **No meaningful improvements to fields, play areas, or landscaping**
- Existing site challenges remain (layout, access, usability)

👉 Misses the opportunity for a full school and site solution

5. Creates Significant Disruption

- Requires **phased construction in an occupied building**
- Likely use of temporary classrooms (modulars)
- Extended impact on students and staff during construction

👉 High disruption without long-term benefit

6. Less Favorable and Uncertain for MSBA Reimbursement

- Projects must meet the Educational Program for full MSBA support
- This option **does not meet those requirements**, making reimbursement more limited and less certain

👉 Weaker alignment with MSBA priorities

7. Lower Cost, But Lower Value

- Lowest upfront cost, but:
- Limited improvement to learning environments
- Does not address key building and site issues
- May lead to future costs

👉 Represents **lower return on investment over time**

What is the MSBA Educational Program and why is it important?

What is the MSBA Educational Program?

- The MSBA Educational Program is a **detailed description of what a school needs to function effectively for students today**.

It defines:

- The number and size of classrooms
- Spaces for specialized learning (e.g., special education, small group instruction, art, music)
- Shared spaces like the gym, cafeteria, and library
- How spaces are organized to support teaching, collaboration, and student services
- It is developed by the District and then **reviewed and approved by the MSBA** as part of the project.

Why is it important?

- **It is the foundation for the entire project.**
- **Drives the design**
  The building is designed based on the Educational Program—how many spaces are needed and how they function
- **Required for MSBA approval and reimbursement**
  Projects must meet the approved Educational Program to move forward and receive funding support
- **Ensures the building supports student needs**
  It reflects current expectations for:
  - teaching and learning
  - student services
  - safety and accessibility
- **Prevents underbuilding**
  It ensures we don't design a school that is too small, inefficient, or unable to support students over time

Enrollment Projections

Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Enrollment projections prepared for:

Manchester Essex Regional School District
Essex Elementary
June 24, 2024 Enrollment Meeting



The information herein represents historical enrollment and a projection using the latest data available from the Department of Elementary and Secondary Education, Department of Public Health, U.Mass Donahue Institute, and US Census. While every effort is made to have as accurate a projection as possible using the MSBA's established Enrollment Methodology, the MSBA does not and cannot predict the impact to enrollment of future, unknown events. The MSBA relies on the District to communicate and document any anticipated acute, local changes that may impact enrollment.

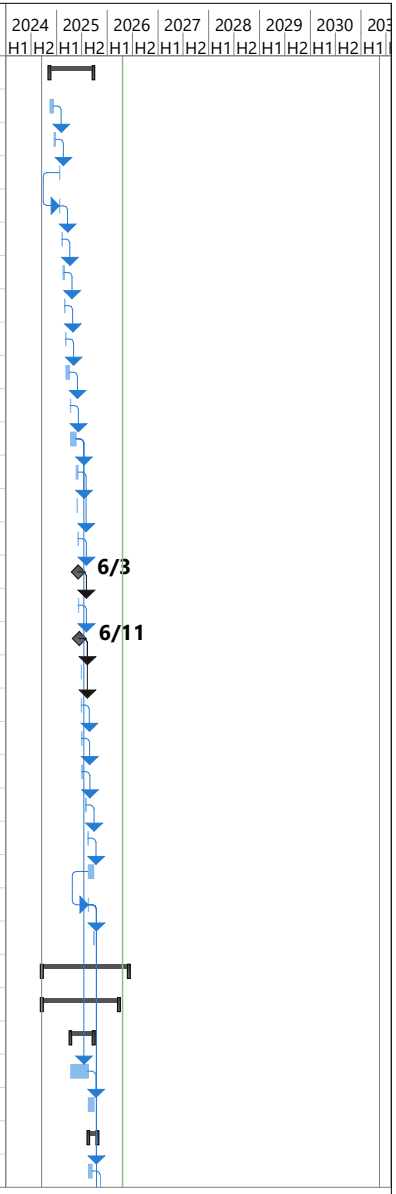
Refer to this link for additional information: https://massschoolbuildings.org/index.php/building/prerequisites/enrollment_methodology

https://www.mersd.org/district-b4/finance-operations/msba-enrollment-report-fall-2024

UPDATED PROJECT SCHEDULE

SECTION 3.3.6.2

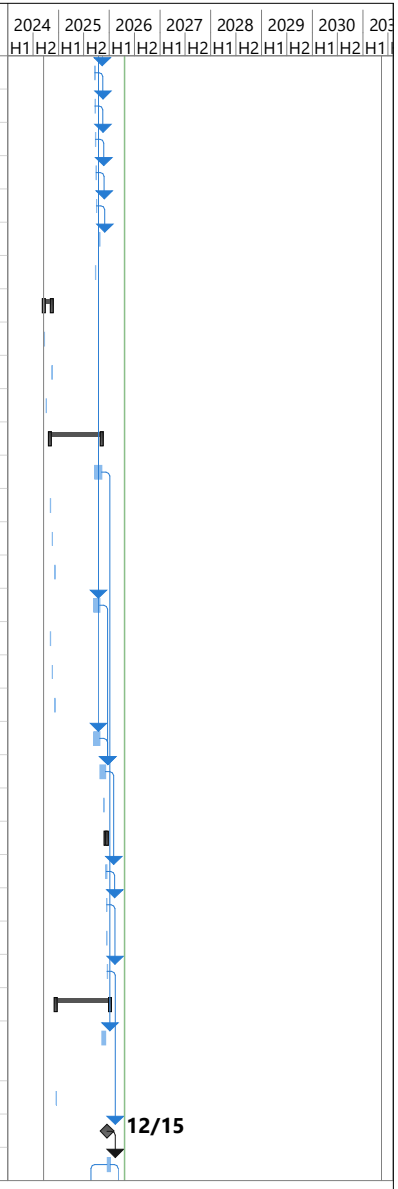
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1		**Module 2 - Forming the Team**	**227 days**	**Mon 11/11/24**	**Tue 9/23/25**		
2		Develop OPM RFS	20 days	Mon 11/11/24	Fri 12/6/24		
3		Submit to MSBA for comment	10 days	Mon 12/9/24	Fri 12/20/24	2	
4		Upload to CR	1 day	Mon 1/20/25	Mon 1/20/25	3FS+20 days	
5		Public advertisement	1 day	Mon 1/20/25	Mon 1/20/25	4SS	
6		**Proposals due**	**1 day**	**Thu 2/6/25**	**Thu 2/6/25**	5FS+12 days	
7		Shortlist	6 days	Fri 2/14/25	Fri 2/21/25	6FS+5 days	
8		interviews	1 day	Wed 2/26/25	Wed 2/26/25	7FS+2 days	
9		SBC approval for OPM	1 day	Tue 3/4/25	Tue 3/4/25	8FS+3 days	
10		Submit to OPM info to MSBA	18 days	Fri 3/7/25	Tue 4/1/25	9FS+2 days	
11		**MSBA OPM Panel**	**1 day**	**Tue 4/8/25**	**Tue 4/8/25**	10FS+4 days	
12		OPM Finalize contract	27 days	Fri 4/11/25	Mon 5/19/25	11FS+2 days	
13		OPM Develop designer RFS	10 days	Tue 5/20/25	Mon 6/2/25	12	
14		Kickoff meeting w/ MERSD and SBC	1 day	Tue 5/27/25	Tue 5/27/25	12FS+5 days	
15		Submit RFS to MSBA for review	1 day	Tue 6/3/25	Tue 6/3/25	13	
16		SBC Review / approve Designer RFS	0 days	Tue 6/3/25	Tue 6/3/25	15	
17		Submit "ad" to central register	1 day	Wed 6/4/25	Wed 6/4/25	16	
18		**Designer RFS available**	**0 days**	**Wed 6/11/25**	**Wed 6/11/25**	17FS+5 days	
19		Designer Walkthrough	1 day	Thu 6/26/25	Thu 6/26/25	18FS+10 days	
20		Proposals Due	1 day	Thu 6/26/25	Thu 6/26/25	18FS+10 days	
21		Submit package to MSBA	1 day	Fri 6/27/25	Fri 6/27/25	20	
22		Submit package to DSP Panel Members	1 day	Mon 6/30/25	Mon 6/30/25	21	
23		**DSP Meeting**	**1 day**	Tue 7/29/25	Tue 7/29/25	22FS+20 days	
24		**Designer interviews (If required)**	**1 day**	Tue 8/12/25	Tue 8/12/25	23FS+9 days	
25		Finalize contract with Architect	30 days	Wed 8/13/25	Tue 9/23/25	24	
26		Hold Kickoff Meeting w/ OPM & District	1 day	Fri 8/15/25	Fri 8/15/25	25SS+2 days	
27		MSBA Kickoff Meeting	1 day	Tue 9/23/25	Tue 9/23/25	26FS+26 days	
28		**Module 3 - Feasibility**	**449 days?**	**Mon 9/16/24**	**Thu 6/4/26**		
29		**Preliminary Design Program (PDP)**	**397 days?**	**Mon 9/16/24**	**Tue 3/24/26**		
30		**Educational Program**	**120 days**	**Thu 4/10/25**	**Wed 9/24/25**		
31		District Drafts Educational Plan	90 days	Thu 4/10/25	Wed 8/13/25	12	
32		JCJ to Review Districts Ed Plan	30 days	Thu 8/14/25	Wed 9/24/25	31	
33		**Educational Visioning Meetings**	**48 days**	**Mon 8/18/25**	**Wed 10/22/25**		
34		Visioning Kick off	20 days	Mon 8/18/25	Fri 9/12/25	26	



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Task	Inactive Task	Manual Summary Rollup	External Milestone
Split	Inactive Milestone	Manual Summary	Deadline
Milestone	Inactive Summary	Start-only	Progress
Summary	Manual Task	Finish-only	Manual Progress
Project Summary	Duration-only	External Tasks	

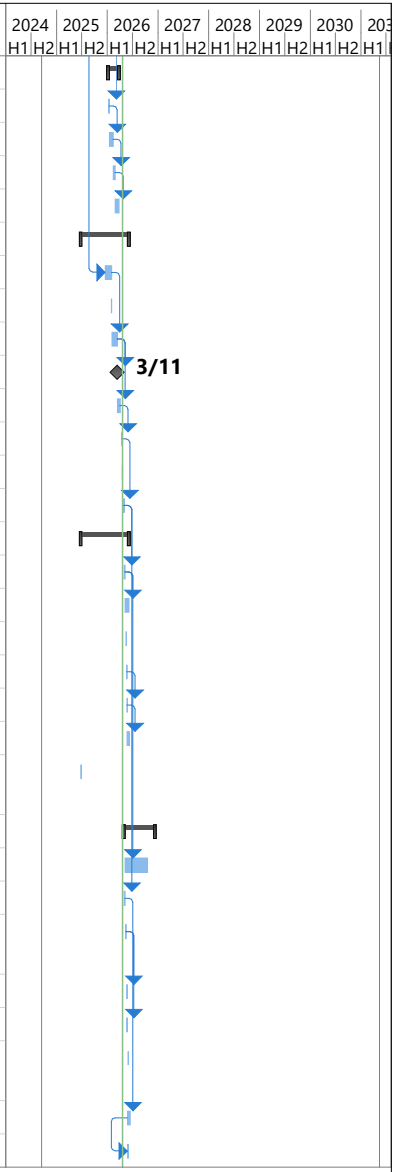
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
35		Ed Visioning #1: Launch & Priorites	1 day	Tue 9/16/25	Tue 9/16/25	34FS+1 day	
36		Ed Visioning #2: Shadow Day	1 day	Wed 9/17/25	Wed 9/17/25	35	
37		Ed Visioning #3: Grade Configuration	1 day	Mon 9/22/25	Mon 9/22/25	36FS+2 days	
38		Ed Visioning #4: School Tours	1 day	Fri 9/26/25	Fri 9/26/25	37FS+3 days	
39		Ed Visioning #5: Workshop program needs	1 day	Mon 9/29/25	Mon 9/29/25	38	
40		Ed Visioning #6: Teaching and Learning Spaces	1 day	Wed 10/22/25	Wed 10/22/25	39FS+16 days	
41		Ed Visioning #7: SPED	1 day	Mon 9/22/25	Mon 9/22/25		
42		**Educational Programming Meetings**	**41 days**	**Mon 9/16/24**	**Mon 11/11/24**		
43		Educational Programming Meeting 1	1 day	Mon 9/16/24	Mon 9/16/24		
44		Educational Programming Meeting 2	1 day	Mon 11/11/24	Mon 11/11/24		
45		Educational Programming Meeting 3	1 day	Tue 10/1/24	Tue 10/1/24		
46		**Approve Educational Plan**	**267 days?**	**Wed 10/30/24**	**Thu 11/6/25**		
47		District Review of Educational Plan	38 days	Tue 9/16/25	Thu 11/6/25		
48		SBC Review and Acceptance of Educational Plan	1 day?	Wed 10/30/24	Wed 10/30/24		
49		School Committee review draft Educational Plan	1 day	Wed 11/13/24	Wed 11/13/24		
50		School Committee approve Educational Plan	1 day	Mon 12/2/24	Mon 12/2/24		
51		**Initial Space Summary**	33 days	Mon 9/8/25	Wed 10/22/25	26FS+15 days	
52		SBC Review and Acceptance of Space Summary	1 day?	Wed 10/30/24	Wed 10/30/24		
53		School Committeee Reivew of Space Summary	1 day?	Wed 11/13/24	Wed 11/13/24		
54		School Committee Acceptance of Space Summary	1 day?	Mon 12/2/24	Mon 12/2/24		
55		**Existing Conditions Evaluation**	33 days	Mon 9/8/25	Wed 10/22/25	26FS+15 days	
56		**Preliminary Evaluation of Alternatives**	30 days	Thu 10/23/25	Wed 12/3/25	51,55	
57		Community Meeting #2	1 day?	Thu 11/20/25	Thu 11/20/25		
58		**PDP Estimating**	**8 days?**	**Thu 12/4/25**	**Mon 12/15/25**		
59		Submit PDP Package to Estimators	6 days	Thu 12/4/25	Thu 12/11/25	56	
60		Reconciliation	1 day	Fri 12/12/25	Fri 12/12/25	59	
61		Community Meeting #3	1 day?	Tue 12/9/25	Tue 12/9/25		
62		Publish PDP Costs	1 day	Mon 12/15/25	Mon 12/15/25	60	
63		**District Approvals**	**282 days?**	**Mon 12/9/24**	**Tue 1/6/26**		
64		SC Vote to approved Ed Program and Space Summary	18 days	Fri 11/7/25	Tue 12/2/25	47	
65		Community Meeting #3	1 day?	Mon 12/9/24	Mon 12/9/24		
66		SBC Present PDP Costs	0 days	Mon 12/15/25	Mon 12/15/25	62	
67		SBC Vote to approved PDP Submission	17 days	Mon 12/15/25	Tue 1/6/26	66	



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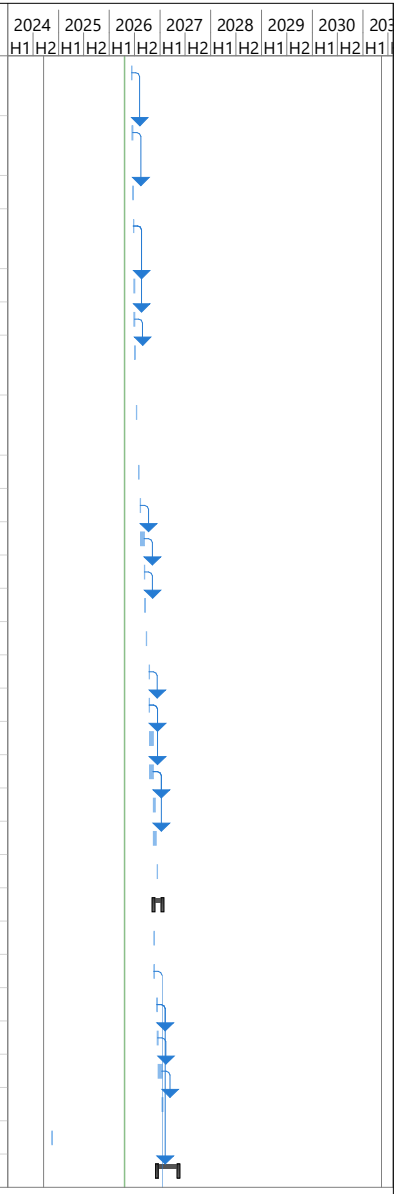
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
68		**MSBA Submission and approvals**	**55 days**	**Wed 1/7/26**	**Tue 3/24/26**		
69		Submit PDP	5 days	Wed 1/7/26	Tue 1/13/26	67	
70		MSBA Review period	20 days	Wed 1/14/26	Tue 2/10/26	69	
71		District Response to MSBA Comments	10 days	Wed 2/11/26	Tue 2/24/26	70	
72		MSBA Accept PDP	20 days	Wed 2/25/26	Tue 3/24/26	71	
73		**Preferred Schematic Report (PSR)**	**248 days?**	**Tue 6/24/25**	**Thu 6/4/26**		
74		Further Development of Alternatives	35 days	Mon 12/15/25	Fri 1/30/26	67SS	
75		Community Meeting #4	1 day?	Wed 1/28/26	Wed 1/28/26		
76		Development of Preferred solution	28 days	Mon 2/2/26	Wed 3/11/26	74	
77		Cost Estimate Documentation to Estimator	0 days	Wed 3/11/26	Wed 3/11/26	76	
78		Cost Estimates and Reconcilation	15 days	Thu 3/12/26	Wed 4/1/26	76	
79		SBC Present PSR Costs	1 day	Tue 4/14/26	Tue 4/14/26	78	
80		Community Meeting #5	1 day?	Thu 4/16/26	Thu 4/16/26		
81		SBC Approve PSR	1 day?	Tue 4/28/26	Tue 4/28/26	79FS+9 days	
82		**MSBA submission and approvals**	**248 days?**	**Tue 6/24/25**	**Thu 6/4/26**		
83		Submit PSR	5 days	Wed 4/29/26	Tue 5/5/26	81	
84		MSBA Review period	20 days	Wed 5/6/26	Tue 6/2/26	83	
85		Facilities Assessment Subcommittee (FAS)	1 day?	Wed 5/13/26	Wed 5/13/26		
86		Facilities Assessment Subcommittee (FAS)	1 day	Wed 5/20/26	Wed 5/20/26		
87		MSBA issue Comments	1 day	Thu 5/21/26	Thu 5/21/26	86	
88		District response to MSBA Comments	10 days	Fri 5/22/26	Thu 6/4/26	87	
89		MSBA Board Meeting to Approve PSR and proceed into SD	1 day	Tue 6/24/25	Tue 6/24/25		
90		**Module 4 - Schematic**	**161 days?**	**Wed 4/29/26**	**Wed 12/9/26**		
91		Schematic Design Development	116 days	Wed 5/6/26	Wed 10/14/26	83	
92		MEP Working Group #2	5 days	Wed 4/29/26	Tue 5/5/26	81	
93		SBC Meeting #20: Preferred Option Development, Confirmation of Systems	1 day?	Tue 5/12/26	Tue 5/12/26		
94		Site Safety and Security Working Group #2	5 days	Mon 5/18/26	Fri 5/22/26	93	
95		Exterior Design Working Group #1	5 days	Mon 5/18/26	Fri 5/22/26	93	
96		SBC Meeting #21: Preferred Option Development, Site Safety Security and Exterior Design RO	1 day?	Tue 5/26/26	Tue 5/26/26		
97		Mech Lifecylce Studies	15 days	Mon 5/25/26	Fri 6/12/26	92	
98		Interior Design WG: Intro	5 days	Mon 5/25/26	Fri 5/29/26	97SS	



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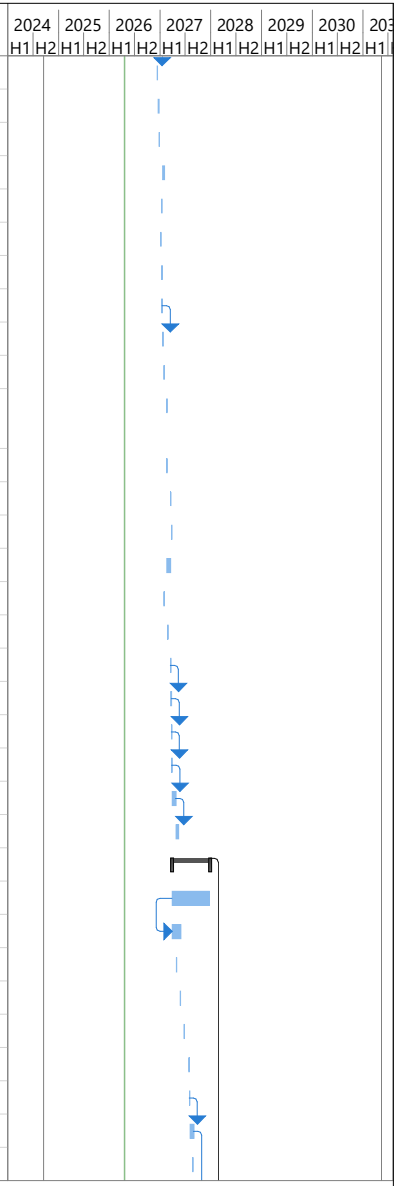
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
99		SBC Meeting #22: Preferred Alternative Development, RO Interior WG	1 day?	Tue 6/9/26	Tue 6/9/26		
100		MEP Working Group #3: Share lifecyle studies, final selection of MEP systems	5 days	Wed 6/10/26	Tue 6/16/26	99	
101		Facilities Meeting to Review MEP/FP Systems	2 days	Wed 6/17/26	Thu 6/18/26	100	
102		SBC Meeting #23: Preferred Alternative Development, RO MEP and Lifecycle Systems	1 day?	Tue 6/23/26	Tue 6/23/26		
103		Exterior Design WG #2 Progress Update	5 days	Wed 6/24/26	Tue 6/30/26	102	
104		Interior Design WG #2 Progress Update	5 days	Wed 6/24/26	Tue 6/30/26	102	
105		Sustainability WG #3: Updates per preferred Alternatives Design Progress	2 days	Wed 7/1/26	Thu 7/2/26	104	
106		SBC Meeting #24: Preferred Alts Update, RO Exterior, Interior, and Sustainability WG's	1 day?	Tue 7/14/26	Tue 7/14/26		
107		SBC Meeting #25: Preferred Alts Updates	1 day?	Tue 7/28/26	Tue 7/28/26		
108		Submit Cost Estimate Package to Estimators	1 day?	Tue 8/11/26	Tue 8/11/26		
109		Cost Estimating	20 days	Wed 8/12/26	Tue 9/8/26	108	
110		Reconciliation	2 days	Wed 9/9/26	Thu 9/10/26	109	
111		Provide SD Package to client	3 days	Fri 9/11/26	Tue 9/15/26	110	
112		SBC Meeting #29 Review Cost Estimates	1 day?	Tue 9/22/26	Tue 9/22/26		
113		SBC vote to approve SD	1 day	Tue 10/13/26	Tue 10/13/26		
114		Submit SD to MSBA	1 day	Wed 10/14/26	Wed 10/14/26	113	
115		DESE Submittal Review	20 days	Thu 10/15/26	Wed 11/11/26	114	
116		MSBA Review period	20 days	Thu 10/15/26	Wed 11/11/26	114	
117		District Response to comments	10 days	Thu 11/12/26	Wed 11/25/26	116	
118		Project Scope and Budget Conference (PS&B)	15 days	Thu 11/12/26	Wed 12/2/26	116	
119		MSBA Board approval of SD Submission	1 day	Wed 12/9/26	Wed 12/9/26		
120		**Module 5 - Local Actions and Approvals**	**47 days?**	**Mon 11/16/26**	**Tue 1/19/27**		
121		Manchester by The Sea Town Meeting Approval	1 day	Mon 11/16/26	Mon 11/16/26		
122		Town of Essex Town Meeting Approval	1 day	Mon 11/16/26	Mon 11/16/26		
123		Projected Town vote for PS&B and full funding of proj	1 day	Tue 12/8/26	Tue 12/8/26		
124		Certifications of Votes sent to MSBA	5 days	Wed 12/9/26	Tue 12/15/26	123	
125		Project Funding Agreement Sent	20 days?	Wed 12/16/26	Tue 1/12/27	124	
126		Project Funding Agreement Executed	5 days	Wed 1/13/27	Tue 1/19/27	125	
127		**Module 6 - Detailed Design**	1 day	Mon 11/11/24	Mon 11/11/24		
128		**Design Development Documents**	**112 days?**	**Wed 12/9/26**	**Thu 5/13/27**	**123**	



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Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Progress
Manual Progress

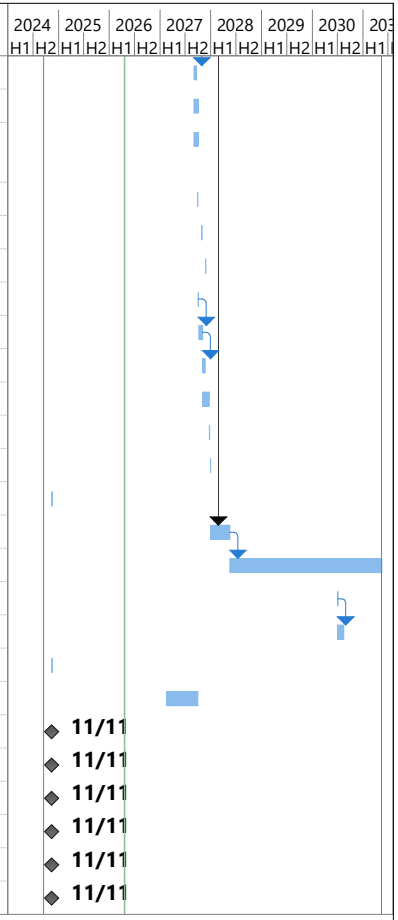
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
129		SBC Meeting Design Update	1 day?	Wed 12/9/26	Wed 12/9/26	122FS+5 days	
130		Educator Meeting #2	5 days	Wed 12/16/26	Tue 12/22/26		
131		SBC Meeting Design Update	1 day?	Tue 12/22/26	Tue 12/22/26		
132		Pre Application MTG Regulatory Department Heads	10 days	Mon 1/18/27	Fri 1/29/27		
133		First Responder Meeting #3	3 days	Mon 1/11/27	Wed 1/13/27		
134		Site, Safety, Security WG #3	3 days	Mon 1/4/27	Wed 1/6/27		
135		Exterior Design WG#3: Progess Update	5 days	Mon 1/11/27	Fri 1/15/27		
136		Interior Design WG #3: Progress Update	5 days	Mon 1/11/27	Fri 1/15/27		
137		Sustainability EG #4: Progress Update	5 days	Mon 1/18/27	Fri 1/22/27	136	
138		SBC Meeting #34: Design Update	1 day?	Tue 1/26/27	Tue 1/26/27		
139		Planning Board Site Plan, Land Distrubance, Stormwater Management	1 day?	Tue 2/16/27	Tue 2/16/27		
140		Conservation Commission Notice of Intent	1 day?	Tue 2/16/27	Tue 2/16/27		
141		Planning Hearing	1 day?	Wed 3/17/27	Wed 3/17/27		
142		ConCom Hearing	1 day?	Tue 3/23/27	Tue 3/23/27		
143		Submit DD to Cost Estimators	20 days	Tue 2/16/27	Mon 3/15/27		
144		SBC Meeting #34 Design Update	1 day?	Tue 1/26/27	Tue 1/26/27		
145		SBC Meeting #35 Design Update	1 day?	Tue 2/23/27	Tue 2/23/27		
146		DD Cost Reconciliation	1 day?	Mon 3/15/27	Mon 3/15/27		
147		VE with Reconciliaton	5 days	Tue 3/16/27	Mon 3/22/27	146	
148		SBC Meeting #36: Design Update Cost Review	1 day?	Tue 3/23/27	Tue 3/23/27	147	
149		Submit DD Submission to MSBA	2 days	Wed 3/24/27	Thu 3/25/27	148	
150		MSBA Comments	21 days	Fri 3/26/27	Fri 4/23/27	149	
151		Project Team Response to MSBA Comments	14 days	Mon 4/26/27	Thu 5/13/27	150	
152		**Construction Documents**	**197 days?**	**Mon 3/29/27**	**Tue 12/28/27**		
153		Construction Document Development	191 days	Mon 3/29/27	Mon 12/20/27		
154		Abatement and Demo Drawing Develop. ERP TBD	9 wks	Mon 3/29/27	Fri 5/28/27	153SS	
155		SBC Meeting #37: Design Update	1 day?	Tue 4/27/27	Tue 4/27/27		
156		SBC Meeting #38: Design Update	1 day?	Tue 5/25/27	Tue 5/25/27		
157		SBC Meeting #39: Design Update	1 day?	Tue 6/22/27	Tue 6/22/27		
158		SBC Meeting #40: Design Update	1 day?	Tue 7/27/27	Tue 7/27/27		
159		Submit 60% CD's to MSBA	1 day?	Fri 7/30/27	Fri 7/30/27		
160		MSBA Review and Comments	21 days	Mon 8/2/27	Mon 8/30/27	159	
161		SBC Meeting #41: Design Update	1 day?	Tue 8/24/27	Tue 8/24/27		



Project: 20260421 Essex ES Pro
Date: Tue 4/21/26

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Progress
Manual Progress

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
162		Design Team Response to MSBA 60% CD Comments	14 days	Tue 8/31/27	Fri 9/17/27	160	
163		Planning Board Approval (TBD 6 months from 3/2027)	22 days	Wed 9/1/27	Thu 9/30/27		
164		Conservation Commission Approval (TBD 6 months from 3/2027)	22 days	Wed 9/1/27	Thu 9/30/27		
165		SBC Meeting #42 Design Update	1 day?	Tue 9/28/27	Tue 9/28/27		
166		SBC Meeting #43: Design Update	1 day?	Tue 10/26/27	Tue 10/26/27		
167		SBC Meeting #44: Design Update	1 day?	Tue 11/23/27	Tue 11/23/27		
168		Submiit 90% CD's t o MSBA	1 day?	Fri 10/1/27	Fri 10/1/27		
169		MSBA 90% CD Review and Comments	21 days	Mon 10/4/27	Mon 11/1/27	168	
170		Design Team Response to MSBA 90% CD Comments	14 days	Tue 11/2/27	Fri 11/19/27	169	
171		Design Team Finalize 100% CDs	36 days	Mon 11/1/27	Mon 12/20/27		
172		Design Team Submit 100% CDs	1 day?	Mon 12/20/27	Mon 12/20/27		
173		SBC Meeting #45 Design Update	1 day?	Tue 12/28/27	Tue 12/28/27		
174		**Module 7 - Construction**	1 day?	Mon 11/11/24	Mon 11/11/24		
175		Bidding / Procurement	20 wks	Wed 12/29/27	Tue 5/16/28	152	
176		Construction	156 wks	Wed 5/17/28	Tue 5/13/31	175	
177		Move In Date	1 day?	Mon 7/1/30	Mon 7/1/30		
178		Substantial Completion	30 days	Tue 7/2/30	Mon 8/12/30	177	
179		**Permitting**	1 day	Mon 11/11/24	Mon 11/11/24		
180		ConCom	160 days	Tue 2/16/27	Mon 9/27/27		
181		Mass Historical Commission N/A	0 days	Mon 11/11/24	Mon 11/11/24		
182		MA-DOT N/A	0 days	Mon 11/11/24	Mon 11/11/24		
183		MA-DEP Not Anticipated	0 days	Mon 11/11/24	Mon 11/11/24		
184		NHESP	0 days	Mon 11/11/24	Mon 11/11/24		
185		MAAB Not sure at this phase	0 days	Mon 11/11/24	Mon 11/11/24		
186		EEA Not Anticipated	0 days	Mon 11/11/24	Mon 11/11/24		



Project: 20260421 Essex ES Pro
Date: Tue 4/21/26

Task	Inactive Task	Manual Summary Rollup	External Milestone
Split	Inactive Milestone	Manual Summary	Deadline
Milestone	Inactive Summary	Start-only	Progress
Summary	Manual Task	Finish-only	Manual Progress
Project Summary	Duration-only	External Tasks	

PRELIMINARY GEOTECHNICAL REPORT

SECTION 3.3.6.3

PRELIMINARY GEOTECHNICAL ENGINEERING REPORT

ESSEX ELEMENTARY SCHOOL
12 STORY STREET

ESSEX, MASSACHUSETTS

JANUARY 20, 2026

Prepared For:

JCJ Architecture, P.C.
120 Huyshope Avenue, Suite 400
Hartford, CT 03106

PROJECT NO. 8127.2.T1

42 3rd Avenue
Burlington, MA 01803
www.mcphailgeo.com
(617) 868-1420

January 20, 2026

JCJ Architecture, P.C.
120 Huyshope Avenue, Suite 400
Hartford, CT 03106

Attention: Fawn Walton Pellegrini, AIA, NCARB, LEED AP, MCPPO

Reference: Essex Elementary School – 12 Story Street; Essex, Massachusetts
Preliminary Geotechnical Engineering Report – Executive Summary

Enclosed is our Preliminary Geotechnical Engineering Report for the above-referenced project. The following is an executive summary of the report.

As part of the Preliminary Design Program (PDF) several potential design options were submitted and it is understood that two of those options are currently being considered for the Preferred Schematic Report (PSR). Those options include Option A1.2, which is a renovation and addition option, and Option A2.2, which is a new construction option.

Specifically, Option A1.2 is understood to include a full renovation of the existing school building along with construction of an approximately 20,637-gross-square-foot (gsf) 1-story addition which would include a new classroom learning area and a new gymnasium with a stage. The proposed addition for Option A1.2 would be located on the southern perimeter of the existing building.

Option A2.2 is understood to include demolition of the existing school building and the construction of a new approximately 73,673 gsf, 2-story elementary school on the southeast portion of the site.

For preliminary design purposes, it is recommended that the proposed addition or new building be founded on conventional footing foundations bearing directly on either the undisturbed, natural glacial deposit or bedrock, or on compacted structural fill placed over the surface of the glacial till or bedrock. In consideration of the variable bearing conditions, footing foundations should be proportioned utilizing an allowable design net bearing pressure of two (2) tons per square foot.

The lowest level slab elevations for both Option A1.2 and Option A2.2 have not been fully defined as they relate to existing or proposed site grades. In consideration of the observed groundwater level in the preliminary borings, it is recommended that the lowest level slabs consist of conventional underdrained soil-supported slabs-on-grade. However, based upon the future information obtained from the recommended additional groundwater monitoring as described herein, an alternative approach of a thickened waterproofed mat foundation may be more advantageous if there are below-grade slabs.

Other detailed geotechnical engineering recommendations and criteria for preliminary foundation design are documented in the report, as well as preliminary geotechnical construction considerations such as preparation of the building pad, dewatering, and on-site reuse of excavated bedrock and soil.

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A supplemental exploration program is recommended to be performed to determine where bedrock will be encountered within the anticipated depth of excavation for the proposed addition or new building, and potentially other areas of the site. Furthermore, it is recommended that additional groundwater monitoring wells be installed to obtain additional groundwater readings over time. A Final Geotechnical Engineering Report (FGER) will be prepared based on the findings of the supplemental subsurface exploration program.

We look forward to continued participation with the design team during the remainder of the project. Should you have questions concerning the recommendations presented herein, please do not hesitate to call us.

Very truly yours,

McPHAIL ASSOCIATES, LLC

Anna M. Pelletier

Jonathan W. Patch, P.E.

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AMP/jwp

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APPENDIX B: BORING LOGS
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1.0 - INTRODUCTION

1.1 - GENERAL

This report presents the results of our subsurface exploration program and preliminary foundation design study for the proposed addition or new school building to be located at 12 Story Road in Essex, Massachusetts. Refer to the Project Location Plan, **Figure 1**, for the general site locus.

The subsurface exploration program was conducted and the preliminary foundation engineering services were performed in accordance with our proposal for geotechnical engineering services dated September 4, 2025, and the subsequent authorization of JCJ Architecture, P.C. These services are subject to the limitations contained herein.

1.2 – PURPOSE AND SCOPE

The purpose of the subsurface exploration program and preliminary foundation engineering study was to document the subsurface soil, bedrock, and groundwater conditions as they relate to foundation design and, based on these conditions, to provide geotechnical engineering recommendations for safe and economical preliminary foundation design for the proposed addition and new building.

Foundation design includes foundation support of the proposed building structure and the lowest level slabs, treatment of the lowest level slabs in consideration of groundwater, lateral earth pressures on foundation walls, and seismic design considerations in accordance with the provisions of the Tenth Edition of the Massachusetts State Building Code (Code). Preliminary construction considerations relating to geotechnical aspects of the proposed construction, and recommendations for a supplemental subsurface exploration program and preparation of a Final Geotechnical Engineering Report (FGER) are also presented herein.

1.3 – AVAILABLE INFORMATION

Information available to McPhail Associates, LLC (McPhail) included the following:

- A report entitled "Essex Elementary School – Preliminary Design Program" dated January 14, 2026, and prepared by JCJ Architecture.
- A 40-scale site survey entitled "Topographic Plan of Land" dated December 12, 2025, and prepared by Samiotes Consultants, Inc.
- A set of conceptual drawings entitled "Design Alternatives" dated November 4, 2025, and prepared by JCJ Architecture.
- A set of drawings entitled "Essex Elementary School" dated May 16, 1975, and prepared by W.H. Jones & Son, Architects.

1.4 – ELEVATION DATUM

Elevations cited herein are in feet and are referenced to the North American Vertical Datum of 1988 (NAVD88).

2.0 – SITE AND PROJECT DESCRIPTION

2.1 – EXISTING SITE CONDITIONS

The subject site at 12 Story Street consists of an approximately 9.75-acre parcel that fronts onto Story Street to the north and is generally bound by Western Avenue to the east, residential properties and access roads to the south, and by an overgrown area and wetlands to the west. The site is currently occupied by the existing Essex Elementary School, which was originally constructed in 1958, with a media center and gymnasium addition completed in 1975. The existing building is a single-story, approximately 53,036 gross square foot (gsf) brick building. The remainder of the site contains paved driveways and parking areas, hardscape play areas and grassed and landscaped areas, a manmade pond, and wetlands. Ground surface across the project site slopes generally varies from approximate Elevation +65 to Elevation +81.

The eastern portion of the building includes a crawl space as well as an occupied basement area. Based on the available information, it is anticipated that the school building is benched into the underlying bedrock surface and that the basement level generally follows the topography of the bedrock. Based on door sill information on the recent topographical plan, the ground floor slab is understood to be located at approximate Elevation +80.2, and the basement floor slab is anticipated to be at Elevation +71.6.

2.2 – PROPOSED DEVELOPMENT

As part of the Preliminary Design Program (PDF) several potential design options were submitted and it is understood that two of those options are currently being considered for the Preferred Schematic Report (PSR) Those options include Option A1.2, which is a renovation and addition option, and Option A2.2, which is a new construction option.

Specifically, Option A1.2 is understood to include a full renovation of the existing school building along with construction of an approximately 20,637-gross-square-foot (gsf) 1-story addition which would include a new classroom learning area and a new gymnasium with a stage. The proposed addition for Option A1.2 would be located on the southern perimeter of the existing building.

Option A2.2 is understood to include demolition of the existing school building and the construction of a new approximately 73,673 gsf, 2-story elementary school.

The lowest level slab elevations for both Option A1.2 and Option A2.2 have not been fully defined; however, for the renovation/addition option it is likely that the proposed slab will match the elevation of the existing building ground floor at Elevation +80.2.

3.0 – SUBSURFACE EXPLORATIONS

3.1 – PRELIMINARY SUBSURFACE EXPLORATIONS

The approximate location of the preliminary subsurface explorations is indicated on the enclosed Subsurface Exploration Plan, **Figure 2**. The following subsurface explorations were completed at the project site under contract to McPhail:

- Six (6) borings (B-1(OW), B-2, B-2A, B-2B, B-3, and B-3A completed on December 22, 2025, by Carr-Dee Corp.

Exploration procedures and soil classification methods are contained in **Appendix A**.

The borings were drilled to depths ranging from 1.4 to 22.5 feet below the existing ground surface. Boring logs are contained in **Appendix B**. A groundwater observation well was installed within completed boring B-1(OW), and a groundwater monitoring report is contained in **Appendix C**.

4.0 – SUBSURFACE CONDITIONS

4.1 – SOIL AND BEDROCK CONDITIONS

A detailed description of the subsurface conditions encountered in the explorations is documented on the logs contained in the Appendices as described above. Based on the explorations performed at the site, the following is a description of the generalized subsurface conditions across the site encountered from ground surface downward.

Generalized Subsurface Strata	***Approximate Thickness (Feet)***	***Top of Strata (Elevation)***
Topsoil	0.5	Ground Surface (El. +77.8 to El. +76.8)
Fill	1.7 to 3.5	El. +77.3 to El. +76.1 (Where Encountered)
Subsoil	0.9	El. +76.3 (Where Encountered)
Glacial Deposit	1.5 to 18.5	El. +74.8 to El. +72.4 (Where Encountered)
Bedrock	Not Applicable	El. +75.4 to El. +55.3

Fill Material: Fill material was observed in borings B-1(OW) and B-3, and generally consists of loose to dense, brown to gray, gravelly sand with some silt. A grain size distribution of a sample of the fill material is presented in the enclosed **Figure 3**.

Subsoil: Subsoil was observed underlying the topsoil in boring B-2. The subsoil generally consists of compact, brown, sand with some silt and gravel. A grain size distribution of a sample of the subsoil is presented in the enclosed **Figure 4**.

Glacial Soil Deposit: A natural inorganic glacial soil deposit was observed in borings B-1(OW), B-2A, B-3, and B-3A. The glacial soil deposit generally consists of compact to very dense, gray to brown, sandy silt, varying to sandy gravel with some silt. Grain size distributions of samples of the glacial soil deposit are presented in the enclosed **Figure 5**.

Bedrock: Practical refusal on the surface of what is anticipated to be bedrock was observed in each boring location at depths ranging between approximately 1.4 to 22.5 feet below the existing ground surface. In addition, several bedrock outcroppings (aka ledge) are noted on the recent topographic plan and on the 1975 Plot Plan. Based on the United States Geologic Survey (USGS) Bedrock Geology Map of New England, the bedrock generally consists of granite and is part of the Cape Ann Complex.

4.2 – GROUNDWATER CONDITIONS

The groundwater level in the completed observation well was observed to range from approximately between Elevation +77.2 to Elevation +71.8, corresponding to depths of 0.6 to 6.0 feet below ground surface, respectively. Groundwater was not observed in borings B-2, B-2A, B-2B, B-3, and B-3A upon completion of drilling. A groundwater monitoring report is contained in **Appendix C**. In addition, the topographical plan indicates that the top of water in a drain manhole located west of the building was at Elevation +77.1. The site is understood to not be located in a flood plain.

It is anticipated that future groundwater levels across the site may vary from those reported herein due to factors such as normal seasonal changes, runoff particularly during or following periods of heavy precipitation, and alterations of existing drainage patterns. It is anticipated that groundwater may become "perched" or trapped on top of the glacial soil deposit and/or bedrock during or following periods of heavy precipitation or snowmelt, particularly in the spring.

4.3 – EXISTING FOUNDATION CONDITIONS

Based on information on the existing building drawings, the existing foundations are anticipated to consist of conventional spread footing foundations, and based on the recent borings, are anticipated to bear on the natural glacial deposit or bedrock or on fill material placed over the surface of the glacial deposit or bedrock. The 1975 drawings indicate that the footings for the addition were to bear on undisturbed material having a minimum bearing capacity of 3 tons per square foot (tsf).

Based on the available information presented in the report entitled "Essex Elementary School – Preliminary Design Program" prepared by JCJ Architecture, it is understood that after periods of heavy precipitation, groundwater is present within a depression located in

the existing boiler room. Additionally, the report indicates that the boiler room of the existing building was observed to be visibly wet during the site reconnaissance.

5.0 – PRELIMINARY GEOTECHNICAL RECOMMENDATIONS

5.1 – PRELIMINARY FOUNDATION DESIGN RECOMMENDATIONS

Based on the scope of the proposed construction and the subsurface conditions encountered at the site, it is recommended that the proposed addition or new building structure be founded on conventional spread footing foundations. The following parameters are recommended for the design of the new foundations:

- Footings, along with haunched or thickened slabs supporting structural load, should bear directly on the intact bedrock, natural undisturbed glacial soil deposit or on compacted structural fill placed directly over the natural bearing strata.
    - Existing site improvements, buried foundation remnants, topsoil, subsoil, fill, and fractured or weathered bedrock should be removed from within the footings' zone of influence as described herein.
    - Where foundations are to be supported on the intact, sound bedrock surface, loose and displaced rock should be removed.
        - The intact sound bedrock should be leveled such that the surface slopes at no more than a rate of 12 horizontal to 1 vertical.
        - A minimum 6-inch thickness of crushed stone should be placed between the bottom of footing and the sound bedrock surface to provide a cushion for the footing.
- In consideration of the anticipated varying footing bearing conditions, footings should be proportioned utilizing an allowable design net bearing pressure of two (2) tons per square foot.
- The minimum footing width for continuous footings and isolated footings should be 24 inches and 36 inches, respectively.
- Frost Protection:
    - Soil-supported perimeter foundations and interior foundations below unheated areas should be provided with a minimum 4-foot thickness of soil cover as frost protection.
    - Bedrock-supported perimeter foundations may be founded a minimum of 2 feet below exterior grades. However, due to the complex topography of the bedrock surface, it is recommended that footings be designed to maintain 4 feet of soil cover regardless of the bearing stratum. If a large, contiguous area of footings is identified during construction where bedrock is consistently located 2 feet or less below the proposed finished grades and the Contractor determines that reducing the soil cover to 2 feet would result in cost and/or schedule savings, the Project Structural Engineer should be notified to

determine whether reducing the soil cover to 2 feet is acceptable for the foundation design.

    - Interior foundations below heated areas should be located such that the top of foundation concrete is a minimum of 6 inches below the underside of the lowest level slab.

- Foundations should be located such that they bear below a theoretical line drawn upward and outward at 2 to 1 (horizontal to vertical) from the bottom exterior edge adjacent existing or proposed footings, structures, and/or utilities.
    - Proposed footings for the addition option to be located directly adjacent to existing foundations should be founded at the same elevation as the existing foundations.
- Foundations supported on bedrock may be located such that they bear below a theoretical line drawn upward and outward at 1 to 1 (horizontal to vertical) from the bottom exterior edge of adjacent existing or proposed foundations, structures, and/or utilities.
- Foundations should be designed in accordance with the Code.

5.2 – RECOMMENDATIONS FOR PREPARATION OF THE BUILDING PAD

Within the explorations, the surface of the natural glacial deposit or bedrock generally ranged from approximately 1.4 to 4 feet below the existing ground surface and to between approximate Elevation +75.4 to Elevation +72.4. Preparation of the building pad for the addition or new building should include the removal of existing topsoil, subsoil, and fill material. Following the removal of topsoil, subsoil and existing uncontrolled fill, structural fill should be placed and compacted over the natural soil subgrade or bedrock, to raise the grade as further described herein.

The following parameters are recommended for the use of structural fill for support of proposed footings:

- Structural Fill
    - The plan limits of the placement of structural fill should extend laterally beyond the outside edges of the perimeter footings for a horizontal distance equal to the depth measured from the design bottom of footing elevation to the surface of the natural, glacial till deposit or bedrock, whichever is higher, plus 2 feet.
    - Structural fill may consist of on-site excavated granular fill or glacial soil, provided it is excavated and maintained in a suitably dry condition and oversized material is removed or crushed to a maximum particle size of 3 inches. *However, for preliminary cost considerations, imported gravel borrow should be assumed to be required.*
    - Imported gravel borrow used as structural fill should consist of imported well-graded sand and gravel with less than 8 percent by weight passing the No. 200

sieve and otherwise meeting the requirements of MassDOT material specification M1.03 Type B.

- Fill placed within the building footprint and footings' zone of influence should be placed in lifts and be compacted to a minimum of 95 percent of its modified Proctor maximum dry density.
    - Structural fill and/or gravel borrow compacted with a minimum 10-ton vibratory drum roller should be placed in maximum 12-inch (loose) lifts.
    - Structural fill and/or gravel borrow compacted with smaller equipment should be placed in maximum 6-inch (loose) lifts.

5.3 – LOWEST LEVEL SLAB RECOMMENDATIONS

The lowest level slabs to be located at or above finished grade are recommended to consist of conventional soil-supported slabs-on-grade. The slabs-on-grade should be spread across the surface of a minimum 10-inch thickness of compacted 3/4-inch crushed stone placed over a layer of filter fabric that is spread across the subgrade. It is anticipated that slabs that are located above grade can be underlain by a polyethylene vapor barrier (minimum thickness of 15-mil), or if a higher degree of protection is desired, be waterproofed.

Slab subgrade preparation should be performed according to the requirements for building pad preparation, including the removal of topsoil, subsoil and fill material to expose the undisturbed surface of natural glacial deposit or bedrock and the placement of structural fill up to the subgrade of the required 10-inch thickness of ¾-inch crushed stone.

5.4 – SUBSLAB VENTILATION SYSTEM

Pursuant to the current American Association of Radon Scientists and Technologists (AARST) guidelines for new construction, the installation of passive radon system(s) is recommended for portions of foundation systems where there is enclosed space immediately above crawl spaces or lowest level slabs. In general, the passive radon mitigation system(s) should consist of a layer of ¾-inch crushed stone and a minimum 15-mil thick polyethylene vapor barrier installed below the slab with a to-be-specified number of solid 4-inch PVC vertical risers installed through the slab that exhaust above the roof line of the proposed building. Pipe sleeve(s) should be constructed to traverse sub-slab structural elements such as footings or grade beams if the crushed stone layer is discontinuous and does not extend below structural elements. McPhail can be engaged upon request to provide passive radon system design services.

5.5 – GROUNDWATER CONSIDERATIONS

Based on the observed shallow depth to groundwater, it is recommended that underslab and perimeter foundation drainage, consisting of the above-described layer of crushed stone with a network of horizontal perforated PVC pipes, be provided for the proposed addition and new building. The drainage systems are intended to minimize groundwater intrusion into the proposed building due to conditions when groundwater may become temporarily

elevated due to precipitation events, surface water run-off, and/or seasonal groundwater changes. The systems are not intended to lower the existing groundwater level. The proposed finish grading plan should be provided to McPhail for review to determine where foundation drainage is required. Recommendations for foundation drainage would be contained in the FGER.

To minimize the amount of water that is introduced into the foundation drainage system, it is recommended that area drains, roof drains, and down sprouts be tied into a dedicated solid pipe that has a separate connection with the storm drain system. No area drains or roof drains should be directly connected with the foundation drainpipe or tied into the surrounding crushed stone layer.

Below-grade walls adjacent to occupied space (i.e. the perimeter walls of the basement level) should receive exterior membrane waterproofing. Elsewhere, damp proofing should be applied to foundations. A prefabricated drainage product, such as Miradrain 6000, should be installed directly against the below-grade perimeter foundation walls and be tied into the perimeter drainage system. Backfill against the perimeter foundation walls may consist of ordinary fill except as otherwise required by the Project Site/Civil Engineer (e.g., for pavement support).

Additionally, the exterior site grades should be sloped away from the perimeter of the proposed addition or new building where feasible to minimize surface water infiltration. If proposed site grades are required to slope towards the building, it is recommended that the site design incorporate provisions to collect and/or divert surface water run-off away from the building.

Pits and depressions extending below the slab should be provided with properly tied continuous waterstops in construction joints and be waterproofed. Also, pits and depressions below the slab should be designed for hydrostatic uplift pressures corresponding to the groundwater being present 1 foot below the proposed slab in consideration that groundwater could be locally perched on the relatively impervious bedrock.

If the proposed addition or new building is to contain a below-grade level, depending on the proximity of the slab elevation to groundwater, it may be advantageous to design and construct the below-grade slab as a thickened waterproofed slab to resist hydrostatic uplift pressure in lieu of relying on a foundation drainage system to maintain groundwater levels below the slab.

5.6 – RESISTANCE TO LATERAL FORCES

Below-grade foundation walls receiving lateral support at the top and bottom (i.e., restrained walls) that are provided with positive drainage should be designed for a lateral earth pressure corresponding to an equivalent fluid density of 60 pounds per cubic foot. Drained cantilevered or unrestrained site walls should be designed utilizing a lateral earth

pressure corresponding to an equivalent fluid density of 40 pcf. To these values must be added the pressures attributable to earthquake forces per Section 1610.2 of the Code.

Lateral forces can be transmitted from the structure to the soil by passive pressure on the footings and foundation walls utilizing an equivalent fluid density of 120 pounds per cubic-foot providing that these structural elements are designed to resist these pressures. Lateral forces can also be considered to be transmitted from the structure to the soil by friction on the base of the footings using a frictional coefficient of 0.45 to which a factor of safety of 1.5 should be applied.

5.7 – SEISMIC DESIGN CONSIDERATIONS

For the purposes of determining parameters for structural seismic design, this site is considered to be a Site Class C based on Section 1613.2.2 of the Code which references Chapter 20 of American Society of Civil Engineers (ASCE) Standard 7-16 "Minimum Design Loads and Associated Criteria for Buildings and Other Structures". Further, the bearing strata at the proposed site are not considered to be subject to liquefaction during a design earthquake based on the liquefaction screening criterion of Section 1806.4 of the Code.

5.8 – GEOTECHNICAL SITE CONSIDERATIONS

As part of the civil and landscape designs, it is anticipated that there may be new site features which require foundation support. Preliminary geotechnical-related recommendations for these site design aspects are contained below.

Landscape Retaining Walls, Ramps and Stairs

It is recommended that foundations for the proposed landscaping retaining walls, ramps and stairs bear on the existing fill, glacial deposit or bedrock. Preparation of bearing surfaces should consist of removing surface treatments and improvements in their entirety and topsoil, using a smooth-edged excavator bucket to avoid disturbance of the bearing surface or hand-clearing loose and disturbed material, and proof-compaction of the exposed subgrade.

Preparation of Hardscaped Areas

Preparation of subgrades for hardscape areas such as bituminous asphalt paved areas, unit pavers or concrete walkways should include the removal of existing site improvements and the surficial deposit of topsoil and underlying subsoil. The exposed fill subgrade, if present, should be proof-compacted. Specific recommendations regarding subbase materials below sidewalks, bituminous concrete, and landscaped areas should be provided by the Project Site/Civil Engineer or Landscape Architect.

Proof Compaction of Subgrades

Existing topsoil and subsoil should be entirely stripped from within proposed paved areas, hardscape areas, and other site improvements. For preparation of the subgrade soils consisting of the existing fill, the exposed subgrade should be proof-compacted with at least four passes of a double-drum vibratory roller or large vibratory plate compactor. Soft and/or compressible areas detected by the proof-compaction should be excavated and replaced with compacted structural fill.

6.0 – PRELIMINARY FOUNDATION CONSTRUCTION CONSIDERATIONS

6.1 – GENERAL RECOMMENDATIONS

This section addresses geotechnical aspects of the proposed foundation construction which are considered by McPhail to be critical to proper foundation performance of the completed development as well as mitigating potential adverse foundation construction impacts on surrounding buildings, streets, utilities, and other site improvements, as applicable.

Prospective contractors should be provided with the following information regarding the foundation construction considerations; however, each contractor should perform an independent assessment based on their own equipment, personnel, and anticipated procedures with input from specialty foundation subcontractors.

The primary geotechnical construction considerations that are anticipated to have an impact on the design of the structure include bedrock removal and on-site reuse of excavated soil. Additional geotechnical construction considerations, such as preparation of foundation and slab bearing surfaces, blasting, construction dewatering, and off-site removal of excess excavated material, will be discussed in the FGER.

6.2 – BEDROCK REMOVAL

Bedrock excavation may be required to construct the addition or new building and associated site improvements, however, the full extent of the required bedrock removal is not known at this time since the proposed grading has not been fully determined. Depending on the extent of the rock excavation and the quality of the bedrock, shallow rock excavation may be feasible using mechanical means such as a hydraulic breaker (a.k.a. hoe ram) attached to an excavator or a combination of a hoe ram and line drilling. However, mass rock removal will require controlled blasting techniques to be employed to limit the depth of over-blast below the proposed finish grades or foundation elevations, to minimize the potential of damage to adjacent structures due to vibration, and to create a uniform exposed rock cut face.

It is recommended that in areas adjacent to existing or proposed structures where bedrock is encountered above final subgrade, the perimeter rock face should be pre-split prior to the production rock excavation. Pre-splitting includes drilling a series, or line, of 3-inch diameter holes on approximate 18-inch centers, loading every other hole, and detonating the line

prior to production blasting. This technique is utilized in an attempt to minimize the propagation of vibrations across the presplit boundary and to minimize overbreak. Prior to commencement of rock excavation, the contractor should prepare and submit a blasting plan for review by the design team. The blasting plan should describe the proposed methods, sequence, procedures and pertinent data to show compliance with the specifications. The plan should also describe procedures for controlling overblast, including measures to assess potential overblast after each blast and contingency measures to adjust blasting procedures should overblast occur.

6.3 – VIBRATION MONITORING AND PRE-CONSTRUCTION SURVEY

Ground vibrations are anticipated to result from rock removal above levels which will be perceived by abutters at varying levels of disturbance, however below levels which are anticipated to result in structural building distress. Impacts from vibrations are not anticipated to cause damage to adjacent structures, however, the noise and vibrations may be of sufficient magnitude to cause annoyance to abutters. It is recommended that vibration monitoring be conducted to document and monitor the potential adverse impacts to adjacent structures.

Vibrations resulting should be monitored during the construction period. To limit impacts to adjacent structures, it is recommended that vibrations at the site perimeter be maintained below the following frequency-based criteria for reducing the potential for damage to structures, established by the U.S. Bureau of Mines:

Frequency (Hz)	Maximum peak particle velocity (in/sec)
1	0.19
4	0.75
15	0.75
40	2.0
100	2.0

While adverse impacts to adjacent structures are not anticipated, it is recommended that a written and visually recorded preconstruction survey of structures located within a minimum of 250 feet of the site be completed conducted prior to the start of earthwork activities to document and monitor impacts to these structures and to provide data to evaluate potential third party claims. It is also recommended that the blasting program include at least one test blast to measure vibrations and observe the potential for overblast prior to production blasting operations.

6.4 – GROUNDWATER CONTROL

Due to the moderately high silt content of the naturally deposited soils (i.e., glacial deposit), a key construction consideration will be the depth of groundwater, as proper control of groundwater and surface water will be necessary to maintain a firm subgrade to support construction traffic and to complete the construction in-the-dry. Even with proper control of both surface water and groundwater, it is probable that during periods of wet weather off-

site gravel borrow and/or crushed stone may be required to maintain trafficability for construction equipment.

Where encountered, groundwater was observed within the borings between approximately Elevation +77.2 and Elevation +71.8. At the time of construction, if the groundwater level is at or below the excavation subgrade elevations, it is anticipated that groundwater and surface water can be controlled using conventional sumping in combination with strategic use of trenches and berms. However, if the groundwater level at the time of construction is at or above the lowest level slab elevation, it is anticipated that a system of strategically placed well points would be required to assist in controlling the inflow of groundwater into the excavation.

Pumped groundwater should be recharged on site where possible. Otherwise, the appropriate dewatering discharge permits should be obtained prior to discharging water into nearby storm drains.

The temporary construction dewatering system should be designed by a Professional Engineer registered in the Commonwealth of Massachusetts who is employed by the Contractor. The design should be submitted to the Architect for review prior to the commencement of construction.

6.5 – REUSE OF ON-SITE SOILS

It is anticipated that portions of the excavated granular fill material and granular glacial deposit may be re-used on-site as structural fill for support of the proposed building. On-site excavated material to be reused on-site as structural fill should typically contain less than 20% by weight passing the No. 200 sieve. Excavated soil with greater than 20% by weight passing the No. 200 sieve should be segregated and can be reused on-site as ordinary fill subject to the provisions contained herein. During construction, gradation analyses will need to be performed on representative samples of the on-site materials to confirm that they substantially comply with the material specifications included in the project Contract Documents.

Due to the fines content of the on-site soils, excavated material may become unsuitable for re-use if it is excavated while wet, or is not covered and becomes too wet to be properly compacted. Furthermore, when the on-site material is wet it is susceptible to freezing which may also prevent it from being acceptable for on-site reuse. If the earthwork operations are performed during a wet and/or cold period, it is anticipated that significant portions of the on-site soil may become unsuitable for re-use on-site.

As such, at the present time the on-site fill and glacial deposit are not recommended to be reused on-site for support of the proposed footings or slabs due to the high fines content and shallow groundwater. It is anticipated that portions of the excavated soils may be re-used on-site as ordinary fill to raise site grades, provided they are maintained in a dry condition and can be properly compacted. It is possible that layers of gravel borrow or

crushed stone may need interbedded in the fill to maintain its usability depending on the excavated soils moisture content.

It is emphasized that excavated material will become unsuitable for re-use if it becomes too wet. Therefore, it is recommended that stockpiles of excavated material intended for reuse be protected against increases in moisture content by securely covering the stockpiles with 6-mil polyethylene for protection from precipitation and also as a dust mitigation measure.

The placement and compaction of on-site material should be completed during relatively dry and non-freezing conditions. If, due to any of the above conditions, the excavated material is unsuitable for reuse, an off-site gravel borrow should be used. Protection of excavated materials from increases in moisture content is considered to be the responsibility of the Contractor.

Due to the presence of organic material (roots) in the existing topsoil and subsoil, we do not recommend reusing this material as structural fill beneath footings, slabs-on-grade, or pavement. The on-site existing topsoil may be reused as ordinary fill in landscaped areas, provided it is protected from wet and freezing environments and can be compacted to the recommended densities.

7.0 – FUTURE WORK

7.1 – SUPPLEMENTAL SUBSURFACE EXPLORATION PROGRAM

A supplemental exploration program consisting of borings and/or test pits within the proposed addition or new building footprint is required to obtain additional information of the surface of the bedrock and depth to natural soil and groundwater. A Final Geotechnical Engineering Report (FGER) should be prepared based on the findings of the supplemental subsurface exploration program. The FGER would also address additional geotechnical-related construction considerations.

7.2 – DESIGN ASSISTANCE

It is recommended that McPhail be retained to provide design assistance to the design team during the final design phase of this project. The purpose of this involvement is to review the structural foundation drawings and foundation notes for conformance with the recommendations presented herein and to generate the geotechnical-related specification sections for inclusion into the Contract Documents for construction.

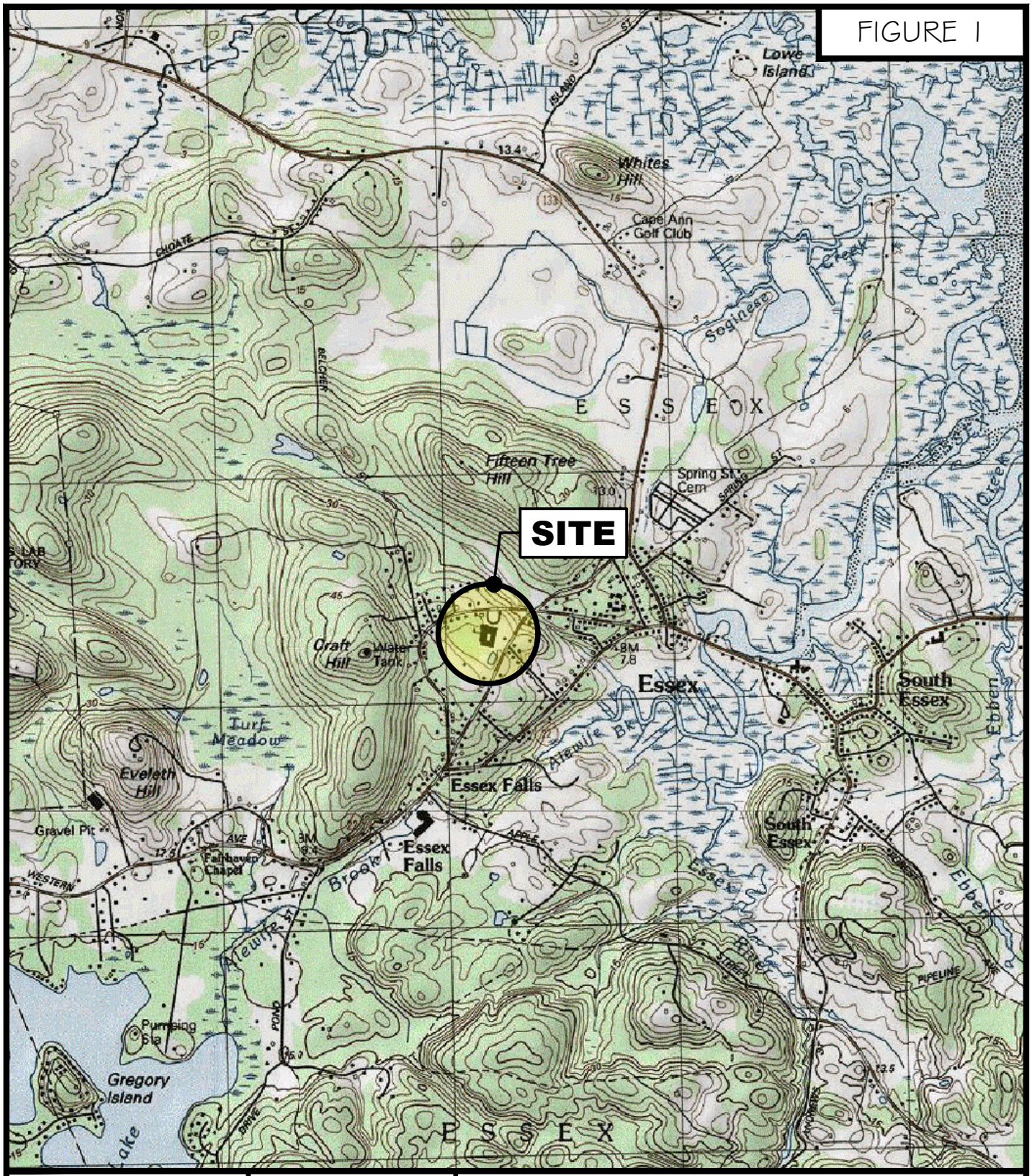
8.0 – LIMITATIONS

This preliminary report has been prepared in accordance with generally accepted soil and geotechnical engineering practices. No other warranty, expressed or implied, is made. If any changes in nature or design of the proposed construction are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing by McPhail.

The analyses and recommendations presented in this report are based upon the data obtained from the subsurface explorations performed at the approximate locations indicated on the enclosed plan. If variations in the nature and extent of subsurface conditions between the widely spaced explorations become evident during construction, it will be necessary for a re-evaluation of the recommendations of this report to be made after performing on-site observations during the construction period and noting the characteristics of any variations.

FIGURES

FIGURE 1



McPHAIL ASSOCIATES, LLC
42 3rd Avenue
Burlington, MA 01803
617-868-1420
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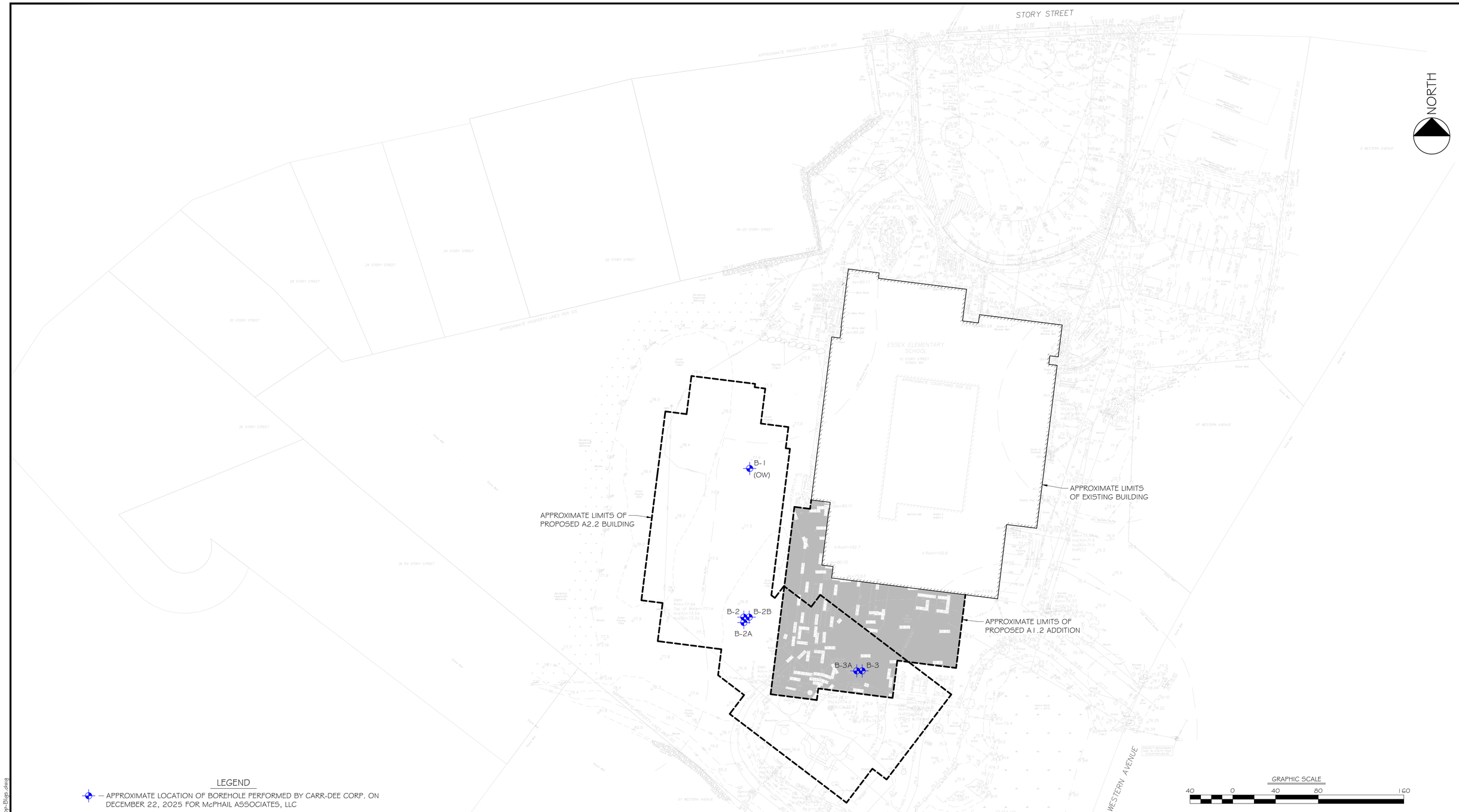
N

SCALE 1:25,000

PROJECT LOCATION PLAN

ESSEX ELEMENTARY SCHOOL

ESSEX MASSACHUSETTS



LEGEND

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY CARR-DEE CORP. ON DECEMBER 22, 2025 FOR McPHAIL ASSOCIATES, LLC

(OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE

REFERENCE: THIS PLAN WAS PREPARED FROM A 40-SCALE DRAWING ENTITLED "TOPOGRAPHIC PLAN OF LAND" DATED DECEMBER 22, 2025 BY SAMIOTES CONSULTANTS INC.

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Burlington, MA 01803
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www.mcphailgeo.com

ESSEX ELEMENTARY SCHOOL

ESSEX MASSACHUSETTS

SUBSURFACE EXPLORATION PLAN

FOR

JCJ ARCHITECTURE, P.C.

BY

McPHAIL ASSOCIATES, LLC

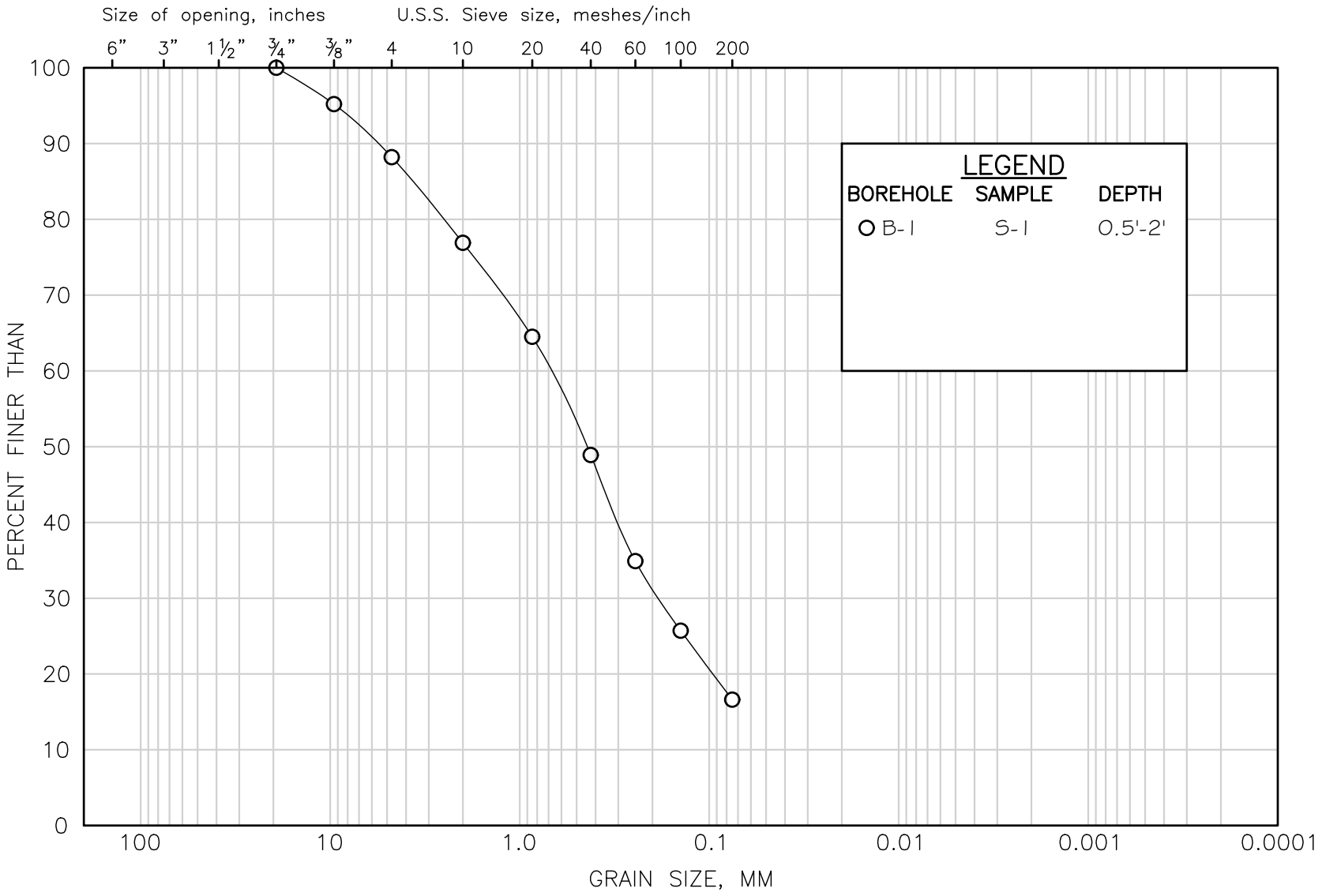
Date: JANUARY 2026	Dwn: I.J.M.	Chkd: A.M.P.	Scale: 1" = 40'
Project No: 8127			FIGURE 2

FILE NAME: N:\Acad\2025\8127\PREP\8127-FIG2_Prop-Bldg.dwg

FILE NAME: N:\Acad\JOBS\8127\PFER\8127-F03_Sieve.dwg

PROJECT No. 8127

M.I.T. GRAIN SIZE SCALE



McPHAIL ASSOCIATES, LLC

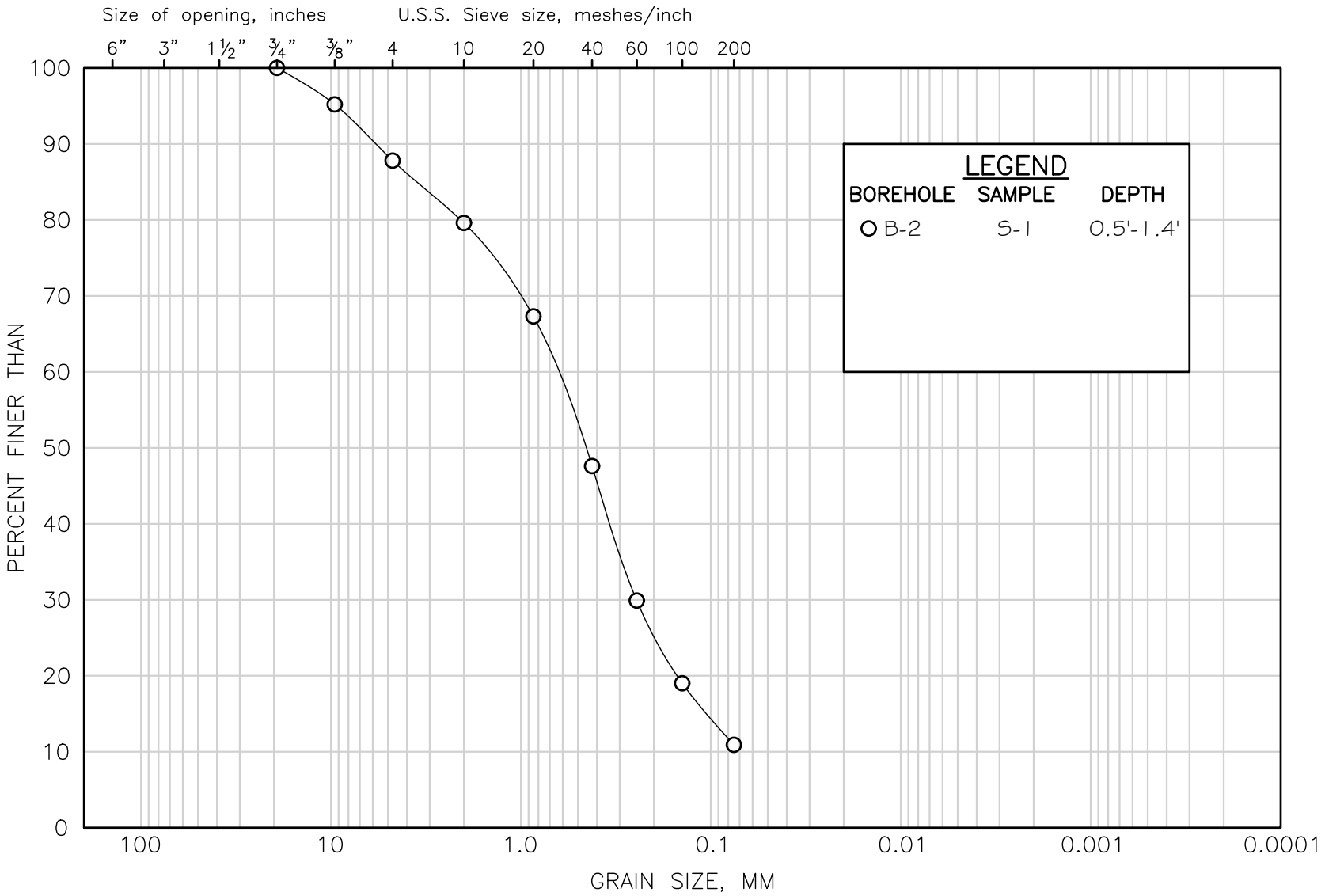
GRAIN SIZE DISTRIBUTION
FILL

FIGURE 3

FILE NAME: N:\Acad\JOBS\8127\PFER\8127-F04_Sieve.dwg

PROJECT No. 8127

M.I.T. GRAIN SIZE SCALE



McPHAIL ASSOCIATES, LLC

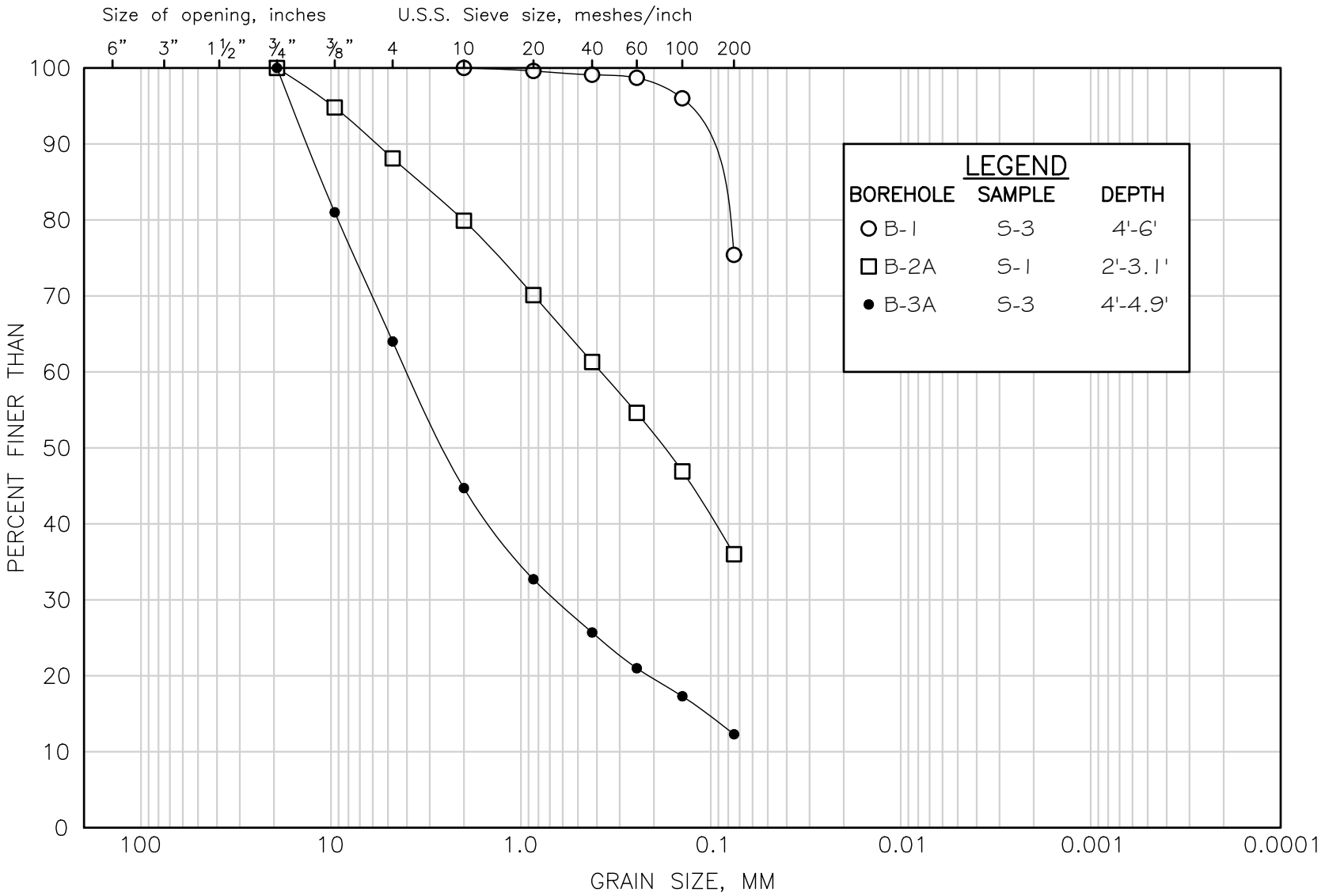
GRAIN SIZE DISTRIBUTION
SUBSOIL

FIGURE 4

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PROJECT No. 8127

M.I.T. GRAIN SIZE SCALE



COBBLE SIZE	COARSE	MEDIUM	FINE	COARSE	MEDIUM	FINE	SILT SIZE	CLAY SIZE
	GRAVEL SIZE			SAND SIZE			FINE GRAINED	

McPHAIL ASSOCIATES, LLC

GRAIN SIZE DISTRIBUTION
GLACIAL DEPOSIT

FIGURE 5

APPENDIX A:

EXPLORATION AND LABORATORY TESTING PROCEDURES

The borings were performed using a track-mounted drill rig and advanced utilizing hollow stem augers or HW casing and the wet rotary drilling method. Standard 2-inch O.D. split-spoon samples and standard penetration test results were obtained continuously through the fill material and then generally at minimum 5-foot intervals for the remainder of the boring depths. The split-spoon sampling was performed in general accordance with the standard procedures described in ASTM D1586.

The explorations were monitored by McPhail field representatives who performed field layout, prepared field logs, obtained and visually classified soil samples, monitored groundwater conditions in the open boreholes and observation well, and determined the required exploration depth based upon the actual subsurface conditions encountered.

Field locations of the explorations were determined by manual survey equipment. Unless noted otherwise, the existing ground surface elevation at each exploration location was determined by manual survey performed by our field staff utilizing vertical control information on the available drawings. The locations and ground surface elevations of the explorations are approximate.

At the completion of the field work, soil samples were returned to our laboratory for more detailed classification, analysis, and testing. The laboratory testing consisted of sieve analyses to determine the gradations and confirm the visual classifications of the soil samples. Laboratory test procedures were in general accordance with applicable ASTM Standards.

SOIL CLASSIFICATION SYSTEM

The soil classifications contained herein were determined using the Modified Massachusetts Institute of Technology (MIT) Soil Classification System, which utilizes the following definitions and descriptive terms to describe the soil components, percentage of soil components, and soil densities:

Soil Type	Grain Size Range (millimeters)
Gravel	60 – 2
Sand	2 – 0.06
Silt	0.06 – 0.002
Clay	<0.002

Descriptive Term	Proportion of Total (%)
"Trace"	0 - 10
"Some"	10 - 20
ADJECTIVE (e.g., sandy, silty)	20 - 35
"And"	35 - 50

Granular Soils	
Density	**Penetration Resistance (blows per foot)**
Very Loose	0 - 4
Loose	4 - 10
Compact	10 - 30
Dense	30 - 50
Very Dense	>50

Cohesive Soils		
Density	**Penetration Resistance (blows per foot)**	**Undrained Shear Strength (pounds per foot)**
Very Soft	0 - 2	0 - 250
Soft	2 - 4	250 - 500
Firm	4 - 8	500 - 1000
Stiff	8 - 15	1000 - 2000
Very Stiff	15 - 30	2000 - 4000
Hard	>30	>4000

APPENDIX B:

BORING LOGS

Project: Essex Elementary
Location: 12 Story lane
City/State: Essex/MA

Job #: 8127.2.T1
Date Started: 12-22-2025
Date Finished: 12-22-2025

Boring No. B-1(OW)

Contractor: Carr-Dee Corp.
Driller/Helper: Joey/Sean
Logged By/Reviewed By: C. Harrington
Surface Elevation (ft): 77.8 ft

Casing Type: 4" ID Casing
Casing Hammer/Drop: 300lbs/24in
Sampler Size/Type: 1-3/8" ID Split Spoon
Sampler Hammer/Drop: 140lbs/30in

Groundwater Observations

Date	Depth (ft)	Elev (ft)
12-22-2025	6	71.8
01-15-2026	0.6	77.2
01-19-2026	0.9	76.9

Depth (ft)	Elev. (ft)	Symbol	Stratum	N-Value / RQD	Sample No.	Pen/Rec (in)	Depth (ft)	Blows/6" / Min/ft	Sample Description and Boring Notes	Well Diagram
	77.8		Ground surface at EL 77.8 ft							
0			TOPSOIL 0.5 ft							
1	77		FILL EL 77.3 ft	17	S-1	18/11	0.5 - 2	6 8 9	Compact, brown, gravelly SAND, some silt, with asphalt. (FILL)	#1
2	76									
3	75			50	S-2	24/6	2 - 4	19 35 15 9	Dense to very dense, brown to gray, SAND and GRAVEL, trace to some silt. (FILL)	
4	74		4 ft							
5	73		EL 73.8 ft GLACIAL DEPOSIT	14	S-3	24/18	4 - 6	1 8 6 7	Compact, slightly mottled gray, sandy SILT. (GLACIAL DEPOSIT)	
6	72									
7	71			27	S-4	24/10	6 - 8	6 15 12 12	Compact, gray, silty SAND, trace to some gravel. (GLACIAL DEPOSIT) Note: Sample moist.	
8	70									
9	69			24	S-5	24/7	8 - 10	12 15 9 14	Compact, gray to brown, SAND, some silt and gravel. (GLACIAL DEPOSIT)	
10	68									
11	67			13	S-6	24/5	10 - 12	5 6 7 12	Compact, gray to brown, SAND, some silt and gravel. (GLACIAL DEPOSIT)	
12	66									
13	65									
14	64									
15	63									
16	62			43	S-7	24/10	15 - 17	16 22 21 18	Dense, gray, SILT and SAND, trace to some gravel. (GLACIAL DEPOSIT)	
17	61									
18	60									
19	59									
20	58									
21	57			34	S-8	23/6	20 - 22	19 20 14 100/5	Dense, gray, silty SAND, trace to some gravel. (GLACIAL DEPOSIT)	
22	56		22.5 ft							
23	55		EL 55.3 ft	100/1"	S-9	1/0	22.4 - 22.5	100/1	NO RECOVERY Note: Casing refusal, roller-bit refusal, split spoon refusal approx. 22.5' BGS.	
24	54		Bottom of exploration at 22.5 ft below ground surface.							
25	53									

Granular Soils

Blows/ft.	Density
0-4	V. Loose
4-10	Loose
10-30	Compact
30-50	Dense
>50	V. Dense

Cohesive Soils

Blows/ft.	Consistency
<2	V. Soft
2-4	Soft
4-8	Firm
8-15	Stiff
15-30	V. Stiff
>30	Hard

Soil Component

Descriptive Term	Proportion of Total
"Trace"	0-10%
"Some"	10-20%
Adjective (e.g. Sandy, Silty)	20-35%
"And"	35-50%

Soil containing three components each of which comprise at least 25% of the total are classified as "A Well-Graded Mixture Of"

Notes:

McPHAIL

McPhail Associates, LLC
42 3rd Avenue
Burlington, MA 01803
TEL: 617-868-1420

RSLog / 2.4 Observation Well (Project Info Headers) - No PID / mcphail-associates-llc / Office2 / January 20, 2026 06:45 AM

Project:	Essex Elementary	**Job #:**	8127.2.T1
Location:	12 Story lane	**Date Started:**	12-22-2025
City/State:	Essex/MA	**Date Finished:**	12-22-2025

Boring No. B-2

Contractor:	Carr-Dee Corp.	**Casing Type:**	2.25" HSA
Driller/Helper:	Joey/Sean	**Casing Hammer/Drop:**	N/A
Logged By/Reviewed By:	C. Harrington	**Sampler Size/Type:**	1-3/8" ID Split Spoon
Surface Elevation (ft):	76.8 ft	**Sampler Hammer/Drop:**	140lbs/30in

Groundwater Observations

Date	Depth (ft)	Elev (ft)
12-23-2025	Dry	-

Depth (ft)	Elev. (ft)	Symbol	Stratum	N-Value RQD	Sample No.	Pen/Rec (in)	Depth (ft)	Blows/6" Min/ft	Sample Description and Boring Notes
	76.8		Ground surface at EL 76.8 ft						
0	76		TOPSOIL 0.5 ft						
1			SUBSOIL EL 76.3 ft 1.4 ft	100/2"	S-1	8/6	0.5 - 1.4	14 100/2	Compact, brown, SAND, some silt and gravel. (SUBSOIL) Note: Approx 6" of top soil separated from sample prior to drilling. Split spoon and auger refusal approx. 1.4' BGS
2	75		EL 75.4 ft Bottom of exploration at 1.4 ft below ground surface.						
3	74								
4	73								
5	72								
6	71								
7	70								
8	69								
9	68								
10	67								
11	66								
12	65								
13	64								
14	63								
15	62								
16	61								
17	60								
18	59								
19	58								
20	57								
21	56								
22	55								
23	54								

Granular Soils

Blows/ft.	Density
0-4	V. Loose
4-10	Loose
10-30	Compact
30-50	Dense
>50	V. Dense

Cohesive Soils

Blows/ft.	Consistency
<2	V. Soft
2-4	Soft
4-8	Firm
8-15	Stiff
15-30	V. Stiff
>30	Hard

Soil Component

Descriptive Term	Proportion of Total
"Trace"	0-10%
"Some"	10-20%
Adjective (e.g. Sandy, Silty)	20-35%
"And"	35-50%

Soil containing three components each of which comprise at least 25% of the total are classified as "A Well-Graded Mixture Of"

Notes:

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Burlington, MA 01803
TEL: 617-868-1420

RSLog / 1.4. McPhail Boring Log (Project Info Headers) - No PID / mcphail-associates-llc / Office2 / January 19, 2026 08:32 AM

Project:	Essex Elementary	**Job #:**	8127.2.T1
Location:	12 Story lane	**Date Started:**	12-22-2025
City/State:	Essex/MA	**Date Finished:**	12-22-2025

Boring No. B-2A

Contractor:	Carr-Dee Corp.	**Casing Type:**	2.25" HSA
Driller/Helper:	Joey/Sean	**Casing Hammer/Drop:**	N/A
Logged By/Reviewed By:	C. Harrington	**Sampler Size/Type:**	1-3/8" ID Split Spoon
Surface Elevation (ft):	76.8 ft	**Sampler Hammer/Drop:**	140lbs/30in

Groundwater Observations

Date	Depth (ft)	Elev (ft)
12-23-2025	Dry	-

Depth (ft)	Elev. (ft)	Symbol	Stratum	N-Value RQD	Sample No.	Pen/Rec (in)	Depth (ft)	Blows/6" Min/ft	Sample Description and Boring Notes
	76.8		Ground surface at EL 76.8 ft						
0	76		TOPSOIL 0.5 ft EL 76.3 ft						
1	75								
2	74		GLACIAL DEPOSIT	100/2	S-1	14/12	2 - 3.1	12 17 100/2	Very dense, slightly mottled brown, SILT and SAND, some gravel. (GLACIAL DEPOSIT) Note: Auger refusal approx. 3.5' BGS on suspected bedrock. See log B-2 as a reference to soil strata and descriptions from 0-2' BGS.
3	73		3.5 ft EL 73.3 ft Bottom of exploration at 3.5 ft below ground surface.						
4	72								
5	71								
6	70								
7	69								
8	68								
9	67								
10	66								
11	65								
12	64								
13	63								
14	62								
15	61								
16	60								
17	59								
18	58								
19	57								
20	56								
21	55								
22	54								
23									

Granular Soils

Blows/ft.	Density
0-4	V. Loose
4-10	Loose
10-30	Compact
30-50	Dense
>50	V. Dense

Cohesive Soils

Blows/ft.	Consistency
<2	V. Soft
2-4	Soft
4-8	Firm
8-15	Stiff
15-30	V. Stiff
>30	Hard

Soil Component

Descriptive Term	Proportion of Total
"Trace"	0-10%
"Some"	10-20%
Adjective (e.g. Sandy, Silty)	20-35%
"And"	35-50%

Soil containing three components each of which comprise at least 25% of the total are classified as "A Well-Graded Mixture Of"

Notes:

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Burlington, MA 01803
TEL: 617-868-1420

RSLog / 1.4. McPhail Boring Log (Project Info Headers) - No PID / mcphail-associates-llc / Office2 / January 15, 2026 02:31 PM

Project:	Essex Elementary	**Job #:**	8127.2.T1
Location:	12 Story lane	**Date Started:**	12-22-2025
City/State:	Essex/MA	**Date Finished:**	12-22-2025

Boring No. B-2B

Contractor:	Carr-Dee Corp.	**Casing Type:**	2.25" HSA
Driller/Helper:	Joey/Sean	**Casing Hammer/Drop:**	N/A
Logged By/Reviewed By:	C. Harrington	**Sampler Size/Type:**	1-3/8" ID Split Spoon
Surface Elevation (ft):	76.9 ft	**Sampler Hammer/Drop:**	140lbs/30in

Groundwater Observations

Date	Depth (ft)	Elev (ft)
12-23-2025	Dry	-

Depth (ft)	Elev. (ft)	Symbol	Stratum	N-Value RQD	Sample No.	Pen/Rec (in)	Depth (ft)	Blows/6" Min/ft	Sample Description and Boring Notes
	76.9		Ground surface at EL 76.9 ft						
0			TOPSOIL 0.5 ft						
1	76		EL 76.4 ft						
2	75			100/1"	S-1	1/0	1.9 - 2	100/1	NO RECOVERY Note: Auger refusal, split spoon refusal 2' BGS on suspected bedrock. Reference log B-2 for soil strata and descriptions from 0-2' BGS.
3	74		Bottom of exploration at 2 ft below ground surface.						
4	73								
5	72								
6	71								
7	70								
8	69								
9	68								
10	67								
11	66								
12	65								
13	64								
14	63								
15	62								
16	61								
17	60								
18	59								
19	58								
20	57								
21	56								
22	55								
23	54								

Granular Soils

Blows/ft.	Density
0-4	V. Loose
4-10	Loose
10-30	Compact
30-50	Dense
>50	V. Dense

Cohesive Soils

Blows/ft.	Consistency
<2	V. Soft
2-4	Soft
4-8	Firm
8-15	Stiff
15-30	V. Stiff
>30	Hard

Soil Component

Descriptive Term	Proportion of Total
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Burlington, MA 01803
TEL: 617-868-1420

RSLog / 1.4. McPhail Boring Log (Project Info Headers) - No PID / mcphail-associates-llc / Office2 / January 15, 2026 02:31 PM

Project:	Essex Elementary	**Job #:**	8127.2.T1
Location:	12 Story lane	**Date Started:**	12-22-2025
City/State:	Essex/MA	**Date Finished:**	12-22-2025

Boring No. B-3

Contractor:	Carr-Dee Corp.	**Casing Type:**	2.25" HSA
Driller/Helper:	Joey/Sean	**Casing Hammer/Drop:**	N/A
Logged By/Reviewed By:	C. Harrington	**Sampler Size/Type:**	1-3/8" ID Split Spoon
Surface Elevation (ft):	76.4 ft	**Sampler Hammer/Drop:**	140lbs/30in

Groundwater Observations

Date	Depth (ft)	Elev (ft)
12-22-2025	Dry	-

Depth (ft)	Elev. (ft)	Symbol	Stratum	N-Value RQD	Sample No.	Pen/Rec (in)	Depth (ft)	Blows/6" Min/ft	Sample Description and Boring Notes
	76.4		Ground surface at EL 76.4 ft						
0	76		ASPHALT 0.3 ft						
1	75		EL 76.1 ft FILL 2 ft	8	S-1	18/9	0.5 - 2	8 5 3	Loose, brown, SAND, trace to some gravel, trace silt, with asphalt. (FILL)
2	74		EL 74.4 ft GLACIAL DEPOSIT 2.8 ft	100/5"	S-2	10/7	2 - 2.8	7 100/5	Very dense, gray to brown, silty SAND, trace to some gravel. (GLACIAL DEPOSIT) Note: Auger and split spoon refusal 2.8' BGS. Offset location approx. 5' west and continued drilling.
3	73		EL 73.6 ft Bottom of exploration at 2.8 ft below ground surface.						
4	72								
5	71								
6	70								
7	69								
8	68								
9	67								
10	66								
11	65								
12	64								
13	63								
14	62								
15	61								
16	60								
17	59								
18	58								
19	57								
20	56								
21	55								
22	54								
23									

Granular Soils

Blows/ft.	Density
0-4	V. Loose
4-10	Loose
10-30	Compact
30-50	Dense
>50	V. Dense

Cohesive Soils

Blows/ft.	Consistency
<2	V. Soft
2-4	Soft
4-8	Firm
8-15	Stiff
15-30	V. Stiff
>30	Hard

Soil Component

Descriptive Term	Proportion of Total
"Trace"	0-10%
"Some"	10-20%
Adjective (e.g. Sandy, Silty)	20-35%
"And"	35-50%

Soil containing three components each of which comprise at least 25% of the total are classified as "A Well-Graded Mixture Of"

Notes:

McPHAIL

McPhail Associates, LLC
42 3rd Avenue
Burlington, MA 01803
TEL: 617-868-1420

RSLog / 1.4. McPhail Boring Log (Project Info Headers) - No PID / mcphail-associates-llc / Office2 / January 15, 2026 01:51 PM

Project:	Essex Elementary	**Job #:**	8127.2.T1
Location:	12 Story lane	**Date Started:**	12-22-2025
City/State:	Essex/MA	**Date Finished:**	12-22-2025

Boring No. B-3A

Contractor:	Carr-Dee Corp.	**Casing Type:**	2.25" HSA
Driller/Helper:	Joey/Sean	**Casing Hammer/Drop:**	N/A
Logged By/Reviewed By:	C. Harrington	**Sampler Size/Type:**	1-3/8" ID Split Spoon
Surface Elevation (ft):	76.5 ft	**Sampler Hammer/Drop:**	140lbs/30in

Groundwater Observations

Groundwater Not Encountered.

Depth (ft)	Elev. (ft)	Symbol	Stratum	N-Value RQD	Sample No.	Pen/Rec (in)	Depth (ft)	Blows/6" Min/ft	Sample Description and Boring Notes
	76.5		Ground surface at EL 76.5 ft						
0	76								
1	75								
2	74								
3	73								
4	72		GLACIAL DEPOSIT	100/5"	S-3	9/8	4 - 4.9	68 100/5	Very dense, gray to brown, sandy GRAVEL, some silt. (GLACIAL DEPOSIT) Note: Reference log B-3 for strata reference and soil descriptions 0-4' BGS.
5	71								
6	70		6.5 ft EL 70 ft	100/1"	S-4	1/0	6.4 - 6.5	100/1	NO RECOVERY Note: Split spoon and auger refusal 6.5' BGS on suspected bedrock.
7	69		Bottom of exploration at 6.5 ft below ground surface.						
8	68								
9	67								
10	66								
11	65								
12	64								
13	63								
14	62								
15	61								
16	60								
17	59								
18	58								
19	57								
20	56								
21	55								
22	54								
23									

Granular Soils

Blows/ft.	Density
0-4	V. Loose
4-10	Loose
10-30	Compact
30-50	Dense
>50	V. Dense

Cohesive Soils

Blows/ft.	Consistency
<2	V. Soft
2-4	Soft
4-8	Firm
8-15	Stiff
15-30	V. Stiff
>30	Hard

Soil Component

Descriptive Term	Proportion of Total
"Trace"	0-10%
"Some"	10-20%
Adjective (e.g. Sandy, Silty)	20-35%
"And"	35-50%

Soil containing three components each of which comprise at least 25% of the total are classified as "A Well-Graded Mixture Of"

Notes:

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APPENDIX C:

GROUNDWATER MONITORING REPORTS

Groundwater Monitoring Report

Well I.D.: B-1(OW)
Project: Essex Elementary
Location: Essex, MA
Project No.: 8127
Elev. Datum: NAV88

Road Box Elev.: +77.8
Top of PVC Elev.: +75.8
Top of Well Screen Elev.: +72.8
Bot. of Well Screen Elev.: +62.8
Well Diameter: 2.0 in.

Date	Time	Elapsed Time	Depth from Road Box (feet)	Groundwater Elev. (feet)	McPhail Representative	Comments
12/22/25	12:00PM	Initial	6.0	+71.8	C. Harrington	Initial Reading - Before Well Developed
01/16/26	12:00PM	25 Day(s)	0.6	+77.2	M. Gryzwacs	
01/19/26	10:00AM	28 Day(s)	0.9	+76.9	K. O'Callaghan	

HAZARDOUS BUILDING MATERIALS SURVEY REPORT

SECTION 3.3.6.4

HAZARDOUS BUILDING MATERIALS SURVEY REPORT

Essex Elementary School Architectural Feasibility Study

Essex, MA
Manchester Essex Regional School District

Mabbett Project No. R2025131.001.001

March 11, 2026

Prepared For:

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ACKNOWLEDGEMENT

This Hazardous Building Materials Survey Report has been prepared by Mabbett & Associates, Inc. (Mabbett®) for the Essex Elementary Architectural Feasibility Study project at the Essex Elementary School located at 12 Story Street in Essex, Massachusetts. The information presented herein is based on the facts and information conveyed to or received by Mabbett during the preparation of this report. If any of the information provided to Mabbett that was used in preparing this report is incorrect, incomplete, or subject to change, Mabbett would wish to alter its opinion(s) accordingly. In addition, the professional opinions and information contained in this report are based solely on the requirements of the applicable regulations and technical data as known to Mabbett as of the date of this report and considered applicable to this report.

Mabbett does not claim to have identified all hazardous materials that could be present in the facility. Mabbett has conducted this assessment with reasonable care and has performed this project in accordance with industry standards. There can be no assurances, and Mabbett makes no assurances, that the information, research, and technology used to prepare this report may not change in the future, thus affecting the results reported herein.

The attached Hazardous Building Materials Survey Report was prepared by Andrew P. Beaton, Environmental and Regulated Building Materials Consultant of Mabbett & Associates, Inc.

This report has been reviewed and approved by:

Michael J Weydt

Digitally signed by Michael J Weydt
Date: 2026.03.11 16:00:29 -04'00'

Michael J. Weydt
Senior Project Manager, Building Sciences

APB/MJW

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APPENDICES

Appendix A ACM Bulk Sample Results
Appendix B ACM Laboratory Report and Chain of Custody Documentation
Appendix C LCP Laboratory Report and Chain of Custody Documentation
Appendix D PCB Laboratory Report and Chain of Custody Documentation

1.0 INTRODUCTION

Mabbett and Associates, Inc. (Mabbett®) performed a survey for hazardous building materials as part of the Essex Elementary Architectural Feasibility Study project at the Essex Elementary School located at 12 Story Street in Essex, Massachusetts. The purpose of the survey was to assess the buildings for the presence of hazardous and regulated building materials, including asbestos-containing materials (ACMs), lead containing paint (LCP) and polychlorinated biphenyls (PCBs). The survey was conducted by Mr. Jacob T. Walsh and Mr. Andrew P. Beaton of Mabbett from February 17th to February 19th, 2026, and consisted of the following activities:

- ACM survey of suspect materials (analysis using stop positive methodology, polarized light microscopy [PLM])
- LCP sampling (analysis by atomic absorption [AA] spectroscopy)
- PCB Containing Building Materials sampling (analysis performed by SW-846 Method 8082A)
- A visual estimation and inventory of universal waste and other hazardous materials (OHM)

At the time of the survey the buildings were in good condition. Areas and materials outside of this scope of work were not surveyed by Mabbett.

1.1 Purpose and Objectives

This hazardous building material survey was comprised of three primary project tasks including:

- Evaluation of existing site conditions and formulation of a sampling plan
- Site survey to collect building material samples for laboratory analysis
- Conduct visual assessment and develop inventory of universal waste and other hazardous materials
- Development of this Hazardous Building Materials Survey Report

This project was designed to accomplish three primary objectives: (1) to collect a representative number of building materials for laboratory analysis and reporting; (2) conduct visual assessment and develop an inventory of universal waste and other hazardous material; and (3) to use data from the laboratory analysis efforts to estimate the volume of hazardous and regulated building materials present within the building's interior and exterior for subsequent use in development of an abatement scope. These three objectives were met through a combination of a site inspection to collect building material samples for laboratory analysis; interpretation of qualitative data collected in the field; and the quantitative laboratory data generated from analysis of the building materials as summarized in this survey report and create a universal waste inventory.

1.2 Summary of Survey Results

As required by state and federal regulations, bulk samples of suspected ACM were collected by Mabbett and submitted using chain of custody (COC) procedures to Asbestos Identification Laboratory (AIL) of Woburn, Massachusetts. AIL is accredited by The National Laboratory Voluntary Accreditation Program (NVLAP). The Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) define ACM as any material that contains greater than one percent (>1%) asbestos.

Paint chip samples were collected by Mabbett for lead analysis using AA spectroscopy and submitted using COC procedures to Scientific Analytical Institute (SAI) of Greensboro, North Carolina.

PCB building material samples were collected for PCB extraction using Analytical Method 1,808A under COC procedures to Pace Analytical (Pace) of Westborough, Massachusetts. Pace is accredited by The National Laboratory Voluntary Accreditation Program (NVLAP) and National Institute Standards and Technology (NIST).

The survey efforts yielded the following results:

- Two hundred and ninety-nine (299) bulk samples for suspect ACM were collected for laboratory analysis and reporting. Nine (9) of the materials were determined to contain asbestos. One (1) material was assumed to contain asbestos. Ten (10) materials were previously determined to contain asbestos.
- Twenty (20) paint chip samples were collected from painted building surfaces collected during this survey effort. None of the samples revealed concentrations of lead in paint that exceed the U.S. Department of Housing and Urban Development (HUD) threshold of 0.5 percent by weight and 1.0 mg/cm^2 by XRF.
- Five (5) suspect PCB building material samples were collected and submitted for laboratory analysis as part of this survey. Based on laboratory analysis, the materials were non-detect for PCBs and below the TSCA regulated PCB Bulk Product Waste threshold.
- An inventory of universal waste and other hazardous materials was developed and provided in this inspection report in Section 5. An inventory of other hazardous materials can be found in Table 5-1, Inventory of OHMs.

2.0 ASBESTOS CONTAINING MATERIAL SURVEY

The asbestos survey was performed from February 17th to February 19th, 2026, by Massachusetts accredited asbestos inspectors Mr. Jacob T. Walsh (AI901137) and Mr. Andrew P. Beaton (AI901131) of Mabbett. Prior to collecting samples, a visual screening assessment was conducted to identify locations of suspect ACM and develop a sampling plan. Only areas that were accessible during the field work phase were included in the survey, with reasonable efforts made to access areas needed to complete the asbestos survey and sampling program. Any unsampled or new materials discovered during demolition activities must be sampled and submitted to a laboratory for analysis. Destructive investigation of operating equipment was not conducted.

2.1 Sampling Methodology

Bulk samples for asbestos analysis were collected using EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 763, and Asbestos Hazard Emergency Response Act (AHERA) protocols. Bulk suspect ACM sampling was conducted according to the following standard sampling protocol:

- Friable surfacing material:
  - At least three bulk samples shall be collected from each homogeneous area of surfacing material that is 1,000 ft^2 or less.
  - At least five bulk samples shall be collected from each homogeneous area of surfacing material that is greater than 1,000 ft^2 but less than or equal to 5,000 ft^2.
  - At least seven bulk samples shall be collected from each homogeneous area of surfacing material that is greater than 5,000 ft^2.
- Thermal system insulation:
  - At least three bulk samples shall be collected from each homogeneous area of thermal system insulation.
  - At least one bulk sample shall be collected from each homogeneous patched area of thermal system insulation.
  - Sufficient samples shall be collected from elbows and fittings.
  - Bulk samples shall not be collected from any homogeneous area where the state-licensed asbestos inspector determines that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.
- Miscellaneous material (e.g., joint compound, roofing, gaskets, floor coverings, decorative coatings, wire insulation):
  - At least two bulk samples shall be collected from each homogeneous area of miscellaneous material that is less than 100 ft^2.
  - At least three bulk samples shall be collected from each homogeneous area of miscellaneous material that is greater than 100 ft^2.

Areas that were inaccessible areas or where the survey was limited to visual observation only:

- within walls
- within enclosed pipe/duct chases
- inside mechanical equipment/ductwork
- inside electrical equipment
- transformer room
- behind mirrors
- behind chalkboards
- basement crawlspace

2.2 Analytical Methodology

Two hundred and ninety-nine (299) bulk samples were collected from ninety-nine (99) homogeneous areas and submitted using chain of custody (COC) procedures to AIL. Bulk samples were analyzed by stop positive methodology and PLM using EPA Method 600/R-93/116. AIL is accredited by the American Industrial Hygiene Association (AIHA) and participates in the National Voluntary Laboratory Accreditation Program (NVLAP).

2.3 ACM Results

The EPA, Occupational Safety and Health Administration (OSHA), and the Massachusetts Department of Environmental Protection (MassDEP) define any material that contains greater than one percent (>1%) asbestos as ACM.

Nine (9) of the materials sampled as part of this survey were found to contain greater than one percent (>1%) asbestos. Ten (10) materials were previously determined to contain asbestos. One (1) material was assumed to contain asbestos. ACM Bulk Sample Results are provided in Appendix A. Laboratory reports and COC documentation are provided in Appendix B. Sample locations are provided in Figures RBM-1 through RBM-3.

Estimated quantities of materials identified as ACM during this survey are presented in Table 2-1.

TABLE 2-1
Estimated Quantities of ACM
Essex Elementary Architectural Feasibility Study
Essex, MA

Location	Description of Material	Percent and Type of Asbestos	Estimated Quantity	
Principal's Office (Under Carpet), Secretary's Office (Under Carpet)	12" x 12" Brown Floor Tile*	Previously Determined	300	SF
Guidance Office/ELL (Under Carpet), Student Support Room, Storage (Under Shelf)	9" x 9" Floor Tile*	Previously Determined	1,000	SF
Classroom 18, Classroom 19	Joint Compound and Associated Gypsum Wallboard*	Previously Determined	2,000	SF
Kitchen Storage Room	12" Pipe Insulation*	Previously Determined	20	LF
Hallway, Classroom 19	Purple Sink Sealant*	Previously Determined	2	EA
Classroom 1, Classroom 2, Classroom 3, Classroom 4, Classroom 5, Classroom 6, Classroom 7, Classroom 8, Classroom 9, Classroom 11, Classroom 13, Classroom 14, Classroom 15, Classroom 16, Basement PT	Black Sink Sealant*	Previously Determined	15	EA
Classroom 18, Classroom 19, Classroom 20, Basement Project Room	Gray Sink Sealant*	Previously Determined	4	EA
1st Floor Exit Door #1, 1st Floor Exit Door #9 (Gymnasium), Classroom 7, Classroom 8, Classroom 15, Classroom 16, Basement Exit Door #6 (Project Room)	Interior Door Frame Caulking*	Previously Determined	120	LF

TABLE 2-1 Estimated Quantities of ACM Essex Elementary Architectural Feasibility Study Essex, MA				
Location	**Description of Material**	**Percent and Type of Asbestos**	**Estimated Quantity**	
Basement Boiler Room, Transformer Room	Fire Door*	Assumed	2	EA
Classroom 1, Classroom 2, Classroom 3, Classroom 4, Classroom 5, Classroom 6, Classroom 7, Classroom 8, Classroom 9, Classroom 10, Classroom 11, Classroom 12A, Classroom 12B, Classroom 13, Classroom 14, Classroom 15, Classroom 16, Classroom 17, Classroom 18, Classroom 19, Classroom 20, Classroom 29, Classroom 30, Nurses Office, Secretary's Office, Principal's Office, Library, Library Office, Special Education Office, PE Office, Counselor's Room, Book Room, Student Support Room	Black Flooring Mastic*	Previously Determined	29,100	SF
Hallways, Gym Storage, Faculty Bathroom	Red Duct Sealant	3% Chrysotile	500	LF
Hallways, Gym Storage	Tan Duct Sealant	3% Chrysotile	500	LF
Hallways, Gym Storage, Faculty Bathroom	Gray Duct Sealant	3% Chrysotile	500	LF
Hallways, Gym, Gym Locker Rooms, Basement Storage, Custodian Closets	Mudded Fitting Insulation	5% Chrysotile	175	EA
Classroom 18	Brown Glue Daub Behind Wood Panel	5% Chrysotile	20	SF
Exterior Courtyard	Window Screen Caulking	3% Chrysotile	300	LF
Exterior Cafeteria Door	White Door Frame Caulk	2% Chrysotile	30	LF
Exterior Windows	Brown Windowsill/Window Frame Caulking	2% Chrysotile	750	LF
Exterior Entrances	Exterior Overhead Panel	30% Chrysotile	250	SF
Notes: SF = Square Feet; LF = Linear Feet; EA = Each; * = Previously Determined to Contain Asbestos				

3.0 LEAD CONTAINING PAINT SURVEY

An LCP survey was conducted by collecting and analyzing paint chips from painted surfaces and systems that may be impacted by the Essex Elementary Architectural Feasibility Study Project.

3.1 Sampling Methodology

Paint chip samples are collected using a sharp hand tool to score and peel paint off an approximate 1 square inch area of the substrate. Different tools such as chisels, putty knives, and hammers may also be needed in the collection of paint chips. All tools are cleaned after each sampling to prevent cross contamination. Collected paint chip samples are submitted under COC procedures to an accredited laboratory and analyzed via atomic absorption (AA).

3.2 Analytical Methodology

The regulations addressing LCP in non-residential buildings are focused on occupational exposures involved with paint-disturbing activities and related waste-disposal activities. Occupational exposure to lead is regulated by OSHA regulation 29 CFR 1926.62, Lead in Construction, as well as other applicable state and local regulations.

An LCP survey cannot determine a safe level of lead for the purpose of paint-disturbing/waste-disposal activities but is intended to provide guidance as to the locations of surfaces containing lead.

Contractors may use this information to better determine where worker exposures to airborne lead and other hazards may occur. They can then assess the potential magnitude of exposure to their employees and identify the controls necessary to limit health risks. This information can also be used for pre-characterization of demolition waste streams prior to toxicity characteristic leaching procedure (TCLP) sampling in accordance with 40 CFR Part 261.

Twenty (20) samples, each from a different homogenous area, were collected during this survey. Paint chip samples were submitted using COC procedures to SAI. Analysis was conducted using EPA SW-846 Test Method 7000B: Flame Atomic Absorption Spectrophotometry.

3.3 LCP Results

A concentration of lead greater than or equal to 0.5 mg/Kg percent by weight or 1.0 mg/cm² exceeds EPA and HUD residential standards and is considered an indicator of risk. The results of this LCP sampling survey are presented in Table 3-1. The laboratory report and COC documentation are provided in Appendix C.

Results of the LCP sampling are presented in Table 3-1.

TABLE 3-1
Paint Chip Analytical Results
Essex Elementary Architectural Feasibility Study
Essex, MA

Sample No.	Sample Location	Substrate and Component	Color	Result (% by weight)
PC-Pb-01	Classroom 1	Metal Duct	Blue	0.14%
PC-Pb-02	Classroom 5	Compressed Wall Panel	Yellow	<0.0061%
PC-Pb-03	Classroom 8	Metal Door Frame	Light Blue	0.012%

TABLE 3-1
Paint Chip Analytical Results
Essex Elementary Architectural Feasibility Study
Essex, MA

Sample No.	Sample Location	Substrate and Component	Color	Result (% by weight)
PC-Pb-04	Classroom 10	Metal Radiator	Yellow	<0.0067%
PC-Pb-05	Classroom 11	Wood Window Frame	White	0.028%
PC-Pb-06	Classroom 15	CMU Wall	Green	<0.0063%
PC-Pb-07	Gym	Glass Window	White	<0.0072%
PC-Pb-08	Gym Storage	Concrete Floor	Gray	0.011%
PC-Pb-09	Gym Storage	Metal Door Frame	Blue	0.053%
PC-Pb-10	Gym Storage	CMU Wall	Orange	0.0086%
PC-Pb-11	Faculty Bathroom	CMU Wall	White	<0.0044%
PC-Pb-12	Faculty Bathroom	Gypsum Board Wall	Yellow	<0.0072%
PC-Pb-13	Cafeteria	Metal Cove Base	Green	0.016%
PC-Pb-14	Cafeteria	Metal Door Frame	Green	<0.0071%
PC-Pb-15	Custodian Office	Metal Duct	White	<0.0063%
PC-Pb-16	Custodian Closet	Metal Spiral Staircase	Green	<0.0057%
PC-Pb-17	Boiler Room	Concrete Column	White	0.0095%
PC-Pb-18	Exterior Courtyard	Wood Window Trim	Green	0.016%
PC-Pb-19	Exterior North	Wood Window Trim	Tan	0.0054%
PC-Pb-20	Exterior North	Concrete Curb	Yellow	0.0055%

4.0 BUILDING MATERIAL PCB SURVEY

Inspection and representative sampling of suspect building materials for PCBs was conducted as part of this hazardous building materials survey. The survey for PCBs included the sampling of glazing and caulking materials that may be impacted by the proposed work. Collected samples were submitted using COC procedures to Alpha. Analysis was conducted using Extraction Method EPA 3540C. Laboratory analytical reports are included in Appendix D.

Results of the PCB sampling are presented in Table 4-1.

TABLE 4-1
PCB Analytical Results
Essex Elementary Architectural Feasibility Study
Essex, MA

Sample No.	Location	Material	Result (ppm)
PCB-01	Exterior North	White Door Frame Caulk	ND
PCB-02	Exterior Courtyard	White Window Frame Caulk	ND
PCB-03	Exterior Courtyard	White Window Glazing	ND
PCB-04	Exterior Courtyard	Window Screen Caulk	ND
PCB-05	Exterior East	Black Cork Expansion Joint	ND

Notes: ND = None Detected

5.0 INVENTORY OF OTHER HAZARDOUS MATERIALS

A visual screening was conducted by Mabbett to identify quantities of universal waste and other potential hazardous materials to define an inventory of these materials for future relocation or disposal purposes. The survey included a visual estimation of the following suspect materials:

- Light Ballasts (associated with fluorescent light tubes)
- Light Tubes (e.g., fluorescent light tubes and HID lamps that may contain mercury or lead)
- Switches (i.e., mercury switches or gauges)
- Ozone Depleting Substances (e.g., chlorofluorocarbons contained in air conditioning and refrigeration equipment)

A summary of this visual inventory is presented in Table 5-1.

TABLE 5-1
Inventory of OHMs
Essex Elementary Architectural Feasibility Study
Essex, MA

Material	Location	Quantity	Unit
3' 1-Lamp Light Fixture	Interior 1st Floor	542	EA
Fire Alarm Strobe	Interior 1st Floor	55	EA
Fire Alarm Pull	Interior 1st Floor	6	EA
Smoke Detector	Interior 1st Floor	59	EA
Exit Sign	Interior 1st Floor	10	EA
Thermostats	Interior 1st Floor	16	EA
Security Camera	Interior 1st Floor	10	EA
2-Lamp Emergency Light Fixture	Interior 1st Floor	12	EA
1-Lamp Emergency Light Fixture	Interior 1st Floor	8	EA
Fire Alarm System Control Box	Interior 1st Floor	1	EA
Steam Trap System	Interior 1st Floor	8	EA
3' 2-Lamp Light Fixture	Interior Basement	92	EA
Fire Alarm Strobe	Interior Basement	6	EA
Fire Alarm Pull	Interior Basement	1	EA
Smoke Detector	Interior Basement	18	EA
Exit Sign	Interior Basement	3	EA
Thermostats	Interior Basement	1	EA
Security Camera	Interior Basement	18	EA
2-Lamp Emergency Light Fixture	Interior Basement	7	EA
1-Lamp Emergency Light Fixture	Interior Basement	2	EA
Fire Alarm System Control Box	Interior Basement	1	EA
Fire Alarm Battery Cabinet	Interior Basement	1	EA
Security Alarm Control Box	Interior Basement	1	EA
CCTV Control Box	Interior Basement	1	EA
Carbon Monoxide Detector	Interior Basement	2	EA

TABLE 5-1
Inventory of OHMs
Essex Elementary Architectural Feasibility Study
Essex, MA

Material	Location	Quantity	Unit
Transformers (Inaccessible, Assumed PCB's)	Interior Basement	1	EA
1-Lamp Light Fixture	Exterior	5	EA
Security Camera	Exterior	5	EA
Fire Alarm Strobe	Exterior	3	EA
Exterior Light Panel	Exterior	6	EA
Flood Light	Exterior	4	EA
Generator	Exterior	1	EA

6.0 RECOMMENDATIONS

This section presents a summary of the conclusions and recommendations from the pre-demolition hazardous building materials survey for the Essex Elementary Architectural Feasibility Study project. Prior to initiating plans for demolition activities, the contractor should review the survey results presented herein to determine whether any of the identified regulated building materials will be disturbed by proposed work activities.

6.1 Asbestos

The planned renovation of the areas may disturb the ACM listed in Table 2-1 and will require removal of these materials by a licensed asbestos abatement contractor prior to being disturbed. Any suspect ACM encountered during demolition or renovation activities, which are not identified in this report, should be assumed to contain asbestos and handled as ACM or be professionally analyzed. All abatements must be performed in accordance with federal, state, and local requirements.

6.2 Lead Containing Paint

The purpose of the LCP screening survey was to identify patterns of LCP. For the purpose of this LCP screening survey a limited amount of representative interior and exterior building components were tested. The regulations addressing LCP in non-residential buildings are focused on protecting workers involved with paint-disturbing activities and related waste-disposal activities.

Occupational exposure to lead in construction is regulated by OSHA regulation 29 CFR 1926.62 “Lead in Construction”, as well as other applicable state and local regulations. These regulations involve the air monitoring of workers to determine exposure levels when disturbing paint containing measurable concentrations of lead. A LCP survey cannot determine the safe level of lead for the purpose of paint-disturbing activities but is intended to provide guidance as to the locations of LCP. Employers and contractors may use this information to better determine where worker exposures to airborne lead may occur and, through the interpretation of LCP concentration data, assess the potential magnitude of exposure to their employees and identify the controls necessary to limit health risks.

A concentration of lead greater than or equal to 0.5 mg/Kg percent by weight or 1.0 mg/cm2 exceeds EPA and HUD residential standards is considered an indicator of risk. Representative samples of LCP waste to be generated during building renovation, or following demolition but prior to disposal, should be collected and analyzed using toxicity characteristic leaching procedure (TCLP) in accordance with 40 CFR Part 261. Management and disposal of lead containing waste must be done in accordance with all applicable local, state, and federal regulations. OSHA regulations may require certain procedures for any paint that contains lead, even if it is below these levels. All LCP identified, regardless of the lead content, should either be sampled and analyzed by TCLP and then handled/disposed of accordingly, or segregated from other large-scale debris and then managed as hazardous waste in accordance with federal, state, and local hazardous waste disposal regulations.

6.3 Polychlorinated Biphenyls

The suspect PCB building material sampling results determined the materials to be non-detect for PCBs and meet the TSCA Excluded PCB Product definition. Excluded PCB Product waste can be managed as solid waste at any landfill permitted to accept waste with PCB levels up to those observed.

6.4 Other Hazardous Materials

The purpose of the inventory for other hazardous materials as completed by Mabbett was to identify potential hazardous, non-building material substances that may require special handling consideration prior to any planned

building demolition. Mabbett identified items, that if removed, should be disposed of or recycled in accordance with applicable federal and state rules for regulated materials. Examples of such materials are light ballasts, fluorescent light tubes, and air conditioning units.

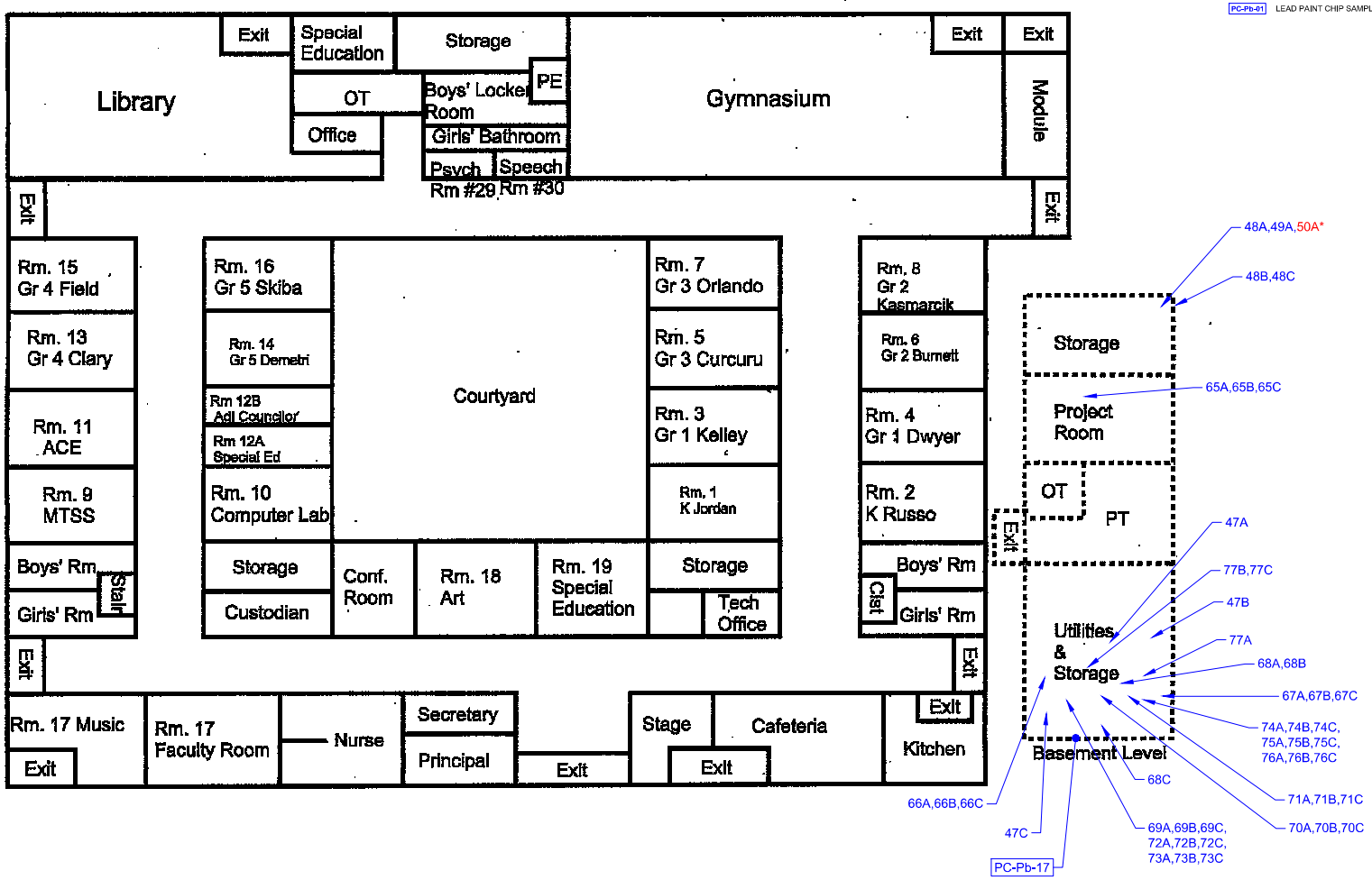
FIGURES

GENERAL SURVEY NOTES:

1. DRAWINGS DO NOT CLAIM TO IDENTIFY ALL THE ASBESTOS CONTAINING MATERIAL (ACM) PRESENT IN THE BUILDING AND SHOULD NOT BE THE SOLE BASIS FOR IDENTIFYING ACM FOR FUTURE RENOVATION OR DEMOLITION PROJECTS, ABATEMENT SPECIFICATIONS, ETC. MABBETT'S'S SURVEY WAS PERFORMED WITH LIMITATIONS INHERENT TO NON-DESTRUCTIVE VISUAL INSPECTIONS. ANY SUSPECT MATERIAL ENCOUNTERED DURING RENOVATION/DEMOLITION THAT IS NOT IDENTIFIED AS BEING NON-ACM SHOULD BE ASSUMED TO BE ACM UNLESS SAMPLE RESULTS PROVE OTHERWISE.
2. SURVEY COMPLETED ON 02/17/2026 TO 02/19/2026 BY MABBETT & ASSOCIATES, INC..

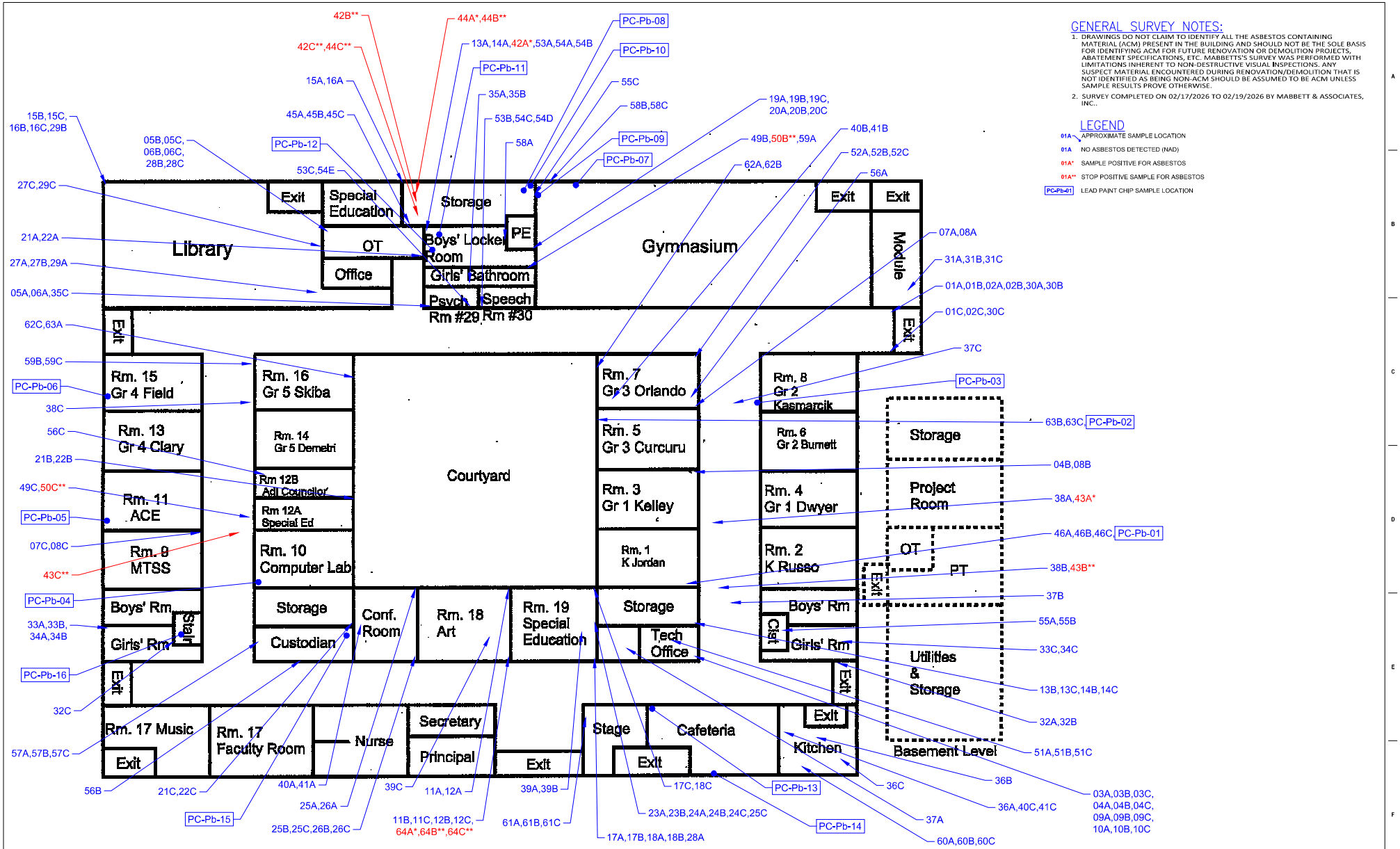
LEGEND

- 01A — APPROXIMATE SAMPLE LOCATION
- 01A — NO ASBESTOS DETECTED (NAD)
- 01A* — SAMPLE POSITIVE FOR ASBESTOS
- PC-Pb-01 — LEAD PAINT CHIP SAMPLE LOCATION



2F REGULATED BUILDING MATERIALS SAMPLING LOCATION PLAN, BASEMENT
SCALE: NOT TO SCALE

Revisions:	Date:	CONSULTANT Environmental Consultants: Mabbett Scientists | Engineers | Program Managers Mabbett & Associates, Inc. 105 Central Street Stoneham, MA 02180 T. 781-275-5950 www.mabbett.com	ARCHITECT OF RECORD	STAMP	Drawing Title: REGULATED BUILDING MATERIALS SAMPLING LOCATION PLAN BASEMENT Approved: Project Director	Phase	Project Title: ESSEX ELEMENTARY Location: 12 Story Street, Essex, MA 01929 Issue Date: 03/09/2026 Checked: MFD Drawn: PEH	Project Number: R2025131.001 Building Number: NA Drawing Number: RBM-1



2F REGULATED BUILDING MATERIALS SAMPLING LOCATION PLAN, GROUND LEVEL
SCALE: NOT TO SCALE

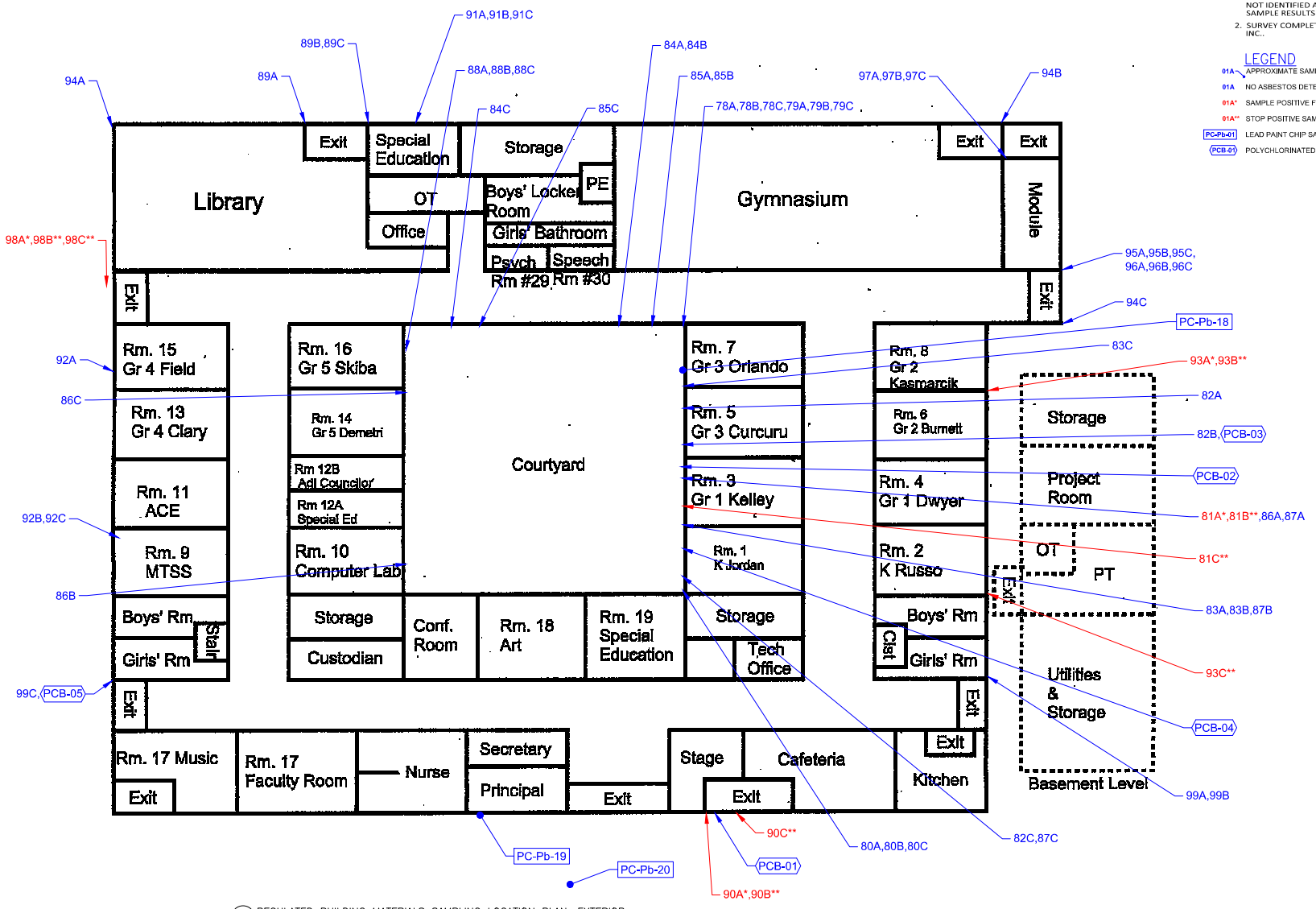
Revisions:	Date:	CONSULTANT: Mabbett, Scientists | Engineers | Program Managers, Mabbett & Associates, Inc., 105 Central Street Stoneham, MA 02180, T: 781-275-5950, www.mabbett.com	ARCHITECT OF RECORD	STAMP	Drawing Title: REGULATED BUILDING MATERIALS SAMPLING LOCATION PLAN GROUND LEVEL	Phase	Project Title: ESSEX ELEMENTARY
					Approved: Project Director		Location: 12 Story Street, Essex, MA 01929
							Issue Date: 03/09/2026
							Checked: MFD
							Drawn: PEH
							Project Number: R2025131.001
							Building Number: NA
							Drawing Number: RBM-2

GENERAL SURVEY NOTES:

1. DRAWINGS DO NOT CLAIM TO IDENTIFY ALL THE ASBESTOS CONTAINING MATERIAL (ACM) PRESENT IN THE BUILDING AND SHOULD NOT BE THE SOLE BASIS FOR IDENTIFYING ACM FOR FUTURE RENOVATION OR DEMOLITION PROJECTS. ABATEMENT SPECIFICATIONS, ETC. MABBETT'S SURVEY WAS PERFORMED WITH LIMITATIONS INHERENT TO NON-DESTRUCTIVE VISUAL INSPECTIONS. ANY SUSPECT MATERIAL ENCOUNTERED DURING RENOVATION/DEMOLITION THAT IS NOT IDENTIFIED AS BEING NON-ACM SHOULD BE ASSUMED TO BE ACM UNLESS SAMPLE RESULTS PROVE OTHERWISE.
2. SURVEY COMPLETED ON 02/17/2026 TO 02/19/2026 BY MABBETT & ASSOCIATES, INC..

LEGEND

- 01A — APPROXIMATE SAMPLE LOCATION
- 01A — NO ASBESTOS DETECTED (NAD)
- 01A* — SAMPLE POSITIVE FOR ASBESTOS
- 01A** — STOP POSITIVE SAMPLE FOR ASBESTOS
- PC-Pb-01 — LEAD PAINT CHIP SAMPLE LOCATION
- PCB-01 — POLYCHLORINATED BIPHENYLS SAMPLE LOCATION



2F REGULATED BUILDING MATERIALS SAMPLING LOCATION PLAN, EXTERIOR
SCALE: NOT TO SCALE

Revisions:	Date:	CONSULTANT Environmental Consultants: Mabbett Scientists | Engineers | Program Managers Mabbett & Associates, Inc. 105 Central Street Stoneham, MA 02180 T. 781-275-5950 www.mabbett.com	ARCHITECT OF RECORD	STAMP	Drawing Title: REGULATED BUILDING MATERIALS SAMPLING LOCATION PLAN EXTERIOR Approved: Project Director	Phase	Project Title: ESSEX ELEMENTARY Location: 12 Story Street, Essex, MA 01929 Issue Date: 03/09/2026 Checked: MFD Drawn: PEH	Project Number: R2025131.001 Building Number: NA Drawing Number: RBM-3

APPENDIX A

ACM Bulk Sample Results

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
01A	Module Entry	12"x12" White VFT	None Detected
01B	Module Entry	12"x12" White VFT	None Detected
01C	Module Entry	12"x12" White VFT	None Detected
02A	Module Entry	12"x12" White VFT Tan Mastic	None Detected
02B	Module Entry	12"x12" White VFT Tan Mastic	None Detected
02C	Module Entry	12"x12" White VFT Tan Mastic	None Detected
03A	Tech Room	12"x12" White Rainbow Speckled VFT	None Detected
03B	Tech Room	12"x12" White Rainbow Speckled VFT	None Detected
03C	Tech Room	12"x12" White Rainbow Speckled VFT	None Detected
04A	Tech Room	12"x12" White Rainbow Speckled VFT Tan Mastic	None Detected
04B	Tech Room	12"x12" White Rainbow Speckled VFT Tan Mastic	None Detected
04C	Tech Room	12"x12" White Rainbow Speckled VFT Tan Mastic	None Detected
05A	Room 29 Psych	12"x12" Light Gray VFT	None Detected
05B	Room 29 Psych	12"x12" Light Gray VFT	None Detected
05C	Room 29 Psych	12"x12" Light Gray VFT	None Detected
06A	Room 29 Psych	12"x12" Light Gray VFT Tan Mastic	None Detected
06B	Room 29 Psych	12"x12" Light Gray VFT Tan Mastic	None Detected
06C	Room 29 Psych	12"x12" Light Gray VFT Tan Mastic	None Detected
07A	Room 7	4" Brown Cove Base	None Detected
07B	Room 3	4" Brown Cove Base	None Detected
07C	Room 9	4" Brown Cove Base	None Detected
08A	Room 7	4" Brown Cove Base Mastic	None Detected
08B	Room 3	4" Brown Cove Base Mastic	None Detected
08C	Room 9	4" Brown Cove Base Mastic	None Detected
09A	Tech Room	4" Tan Cove Base	None Detected
09B	Tech Room	4" Tan Cove Base	None Detected
09C	Tech Room	4" Tan Cove Base	None Detected
10A	Tech Room	4" Tan Cove Base Mastic	None Detected
10B	Tech Room	4" Tan Cove Base Mastic	None Detected

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
10C	Tech Room	4" Tan Cove Base Mastic	None Detected
11A	Room 18	4" Green Cove Base	None Detected
11B	Room 18	4" Green Cove Base	None Detected
11C	Room 18	4" Green Cove Base	None Detected
12A	Room 18	4" Green Cove Base Mastic	None Detected
12B	Room 18	4" Green Cove Base Mastic	None Detected
12C	Room 18	4" Green Cove Base Mastic	None Detected
13A	Faculty Bathroom	4" Gray Cove Base	None Detected
13B	Storage North	4" Gray Cove Base	None Detected
13C	Storage North	4" Gray Cove Base	None Detected
14A	Faculty Bathroom	4" Gray Cove Base Mastic	None Detected
14B	Storage North	4" Gray Cove Base Mastic	None Detected
14C	Storage North	4" Gray Cove Base Mastic	None Detected
15A	Special Ed Office	4" Red Cove Base	None Detected
15B	Library	4" Red Cove Base	None Detected
15C	Library	4" Red Cove Base	None Detected
16A	Special Ed Office	4" Red Cove Base Mastic	None Detected
16B	Library	4" Red Cove Base Mastic	None Detected
16C	Library	4" Red Cove Base Mastic	None Detected
17A	Room 19	4" Blue Cove Base	None Detected
17B	Room 19	4" Blue Cove Base	None Detected
17C	Room 19	4" Blue Cove Base	None Detected
18A	Room 19	4" Blue Cove Base Mastic	None Detected
18B	Room 19	4" Blue Cove Base Mastic	None Detected
18C	Room 19	4" Blue Cove Base Mastic	None Detected
19A	P.E. Office	4" Light Gray Cove Base	None Detected
19B	P.E. Office	4" Light Gray Cove Base	None Detected
19C	P.E. Office	4" Light Gray Cove Base	None Detected
20A	P.E. Office	4" Light Gray Cove Base Mastic	None Detected
20B	P.E. Office	4" Light Gray Cove Base Mastic	None Detected
20C	P.E. Office	4" Light Gray Cove Base Mastic	None Detected

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
21A	OT	4" Black Cove Base	None Detected
21B	Room 12A	4" Black Cove Base	None Detected
21C	Storage	4" Black Cove Base	None Detected
22A	OT	4" Black Cove Base Mastic	None Detected
22B	Room 12A	4" Black Cove Base Mastic	None Detected
22C	Storage	4" Black Cove Base Mastic	None Detected
23A	Room 19	6" Black Cove Base	None Detected
23B	Room 19	6" Black Cove Base	None Detected
23C	Room 19	6" Black Cove Base	None Detected
24A	Room 19	6" Cove Base Mastic	None Detected
24B	Room 19	6" Cove Base Mastic	None Detected
24C	Room 19	6" Cove Base Mastic	None Detected
25A	Conference Room	4" Cream Cove Base	None Detected
25B	Conference Room	4" Cream Cove Base	None Detected
25C	Conference Room	4" Cream Cove Base	None Detected
26A	Conference Room	4" Cream Cove Base Mastic	None Detected
26B	Conference Room	4" Cream Cove Base Mastic	None Detected
26C	Conference Room	4" Cream Cove Base Mastic	None Detected
27A	Library	Gray Floor Leveler	None Detected
27B	Library	Gray Floor Leveler	None Detected
27C	Library	Gray Floor Leveler	None Detected
28A	Special Ed Office	Tan Carpet Mastic	None Detected
28B	Special Ed Office	Tan Carpet Mastic	None Detected
28C	Special Ed Office	Tan Carpet Mastic	None Detected
29A	Library	Brown Carpet Mastic	None Detected
29B	Library	Brown Carpet Mastic	None Detected
29C	Library	Brown Carpet Mastic	None Detected
30A	Southwest Hallway	Gray Carpet Mastic	None Detected
30B	Southwest Hallway	Gray Carpet Mastic	None Detected
30C	Southwest Hallway	Gray Carpet Mastic	None Detected
31A	Module	Particle Board Under 12"x12" VFT	None Detected

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
31B	Module	Particle Board Under 12"x12" VFT	None Detected
31C	Module	Particle Board Under 12"x12" VFT	None Detected
32A	Girl's Bathroom West	Ceramic Wall Tile Grout	None Detected
32B	Girl's Bathroom West	Ceramic Wall Tile Grout	None Detected
32C	Girl's Bathroom East	Ceramic Wall Tile Grout	None Detected
33A	Girl's Bathroom East	Ceramic Floor Tile Grout	None Detected
33B	Girl's Bathroom East	Ceramic Floor Tile Grout	None Detected
33C	Girl's Bathroom West	Ceramic Floor Tile Grout	None Detected
34A	Girl's Bathroom East	Ceramic Floor Tile Mudset	None Detected
34B	Girl's Bathroom East	Ceramic Floor Tile Mudset	None Detected
34C	Girl's Bathroom West	Ceramic Floor Tile Mudset	None Detected
35A	Girl's Locker Room	2'x4' White Pinhole Ceiling Tile	None Detected
35B	Girl's Locker Room	2'x4' White Pinhole Ceiling Tile	None Detected
35C	Room 29 Psych	2'x4' White Pinhole Ceiling Tile	None Detected
36A	Kitchen	2'x4' White Smooth Ceiling Tile	None Detected
36B	Kitchen	2'x4' White Smooth Ceiling Tile	None Detected
36C	Kitchen	2'x4' White Smooth Ceiling Tile	None Detected
37A	Room 20	2'x4' White Fissured Ceiling Tile	None Detected
37B	Hallway West	2'x4' White Fissured Ceiling Tile	None Detected
37C	Hallway West	2'x4' White Fissured Ceiling Tile	None Detected
38A	Hallway East	2'x4' White Wormhole	None Detected
38B	Hallway East	2'x4' White Wormhole	None Detected
38C	Hallway East	2'x4' White Wormhole	None Detected
39A	Room 19	12"x12" White Fissured Ceiling Tile	None Detected
39B	Room 19	12"x12" White Fissured Ceiling Tile	None Detected
39C	Room 18	12"x12" White Fissured Ceiling Tile	None Detected
40A	Conference Room Closet	12"x12" White Glued-On Ceiling Tile	None Detected
40B	Room 7	12"x12" White Glued-On Ceiling Tile	None Detected
40C	Kitchen	12"x12" White Glued-On Ceiling Tile	None Detected
41A	Conference Room Closet	Brown Glue Daub w/12"x12" Ceiling Tile	None Detected
41B	Room 7	Brown Glue Daub w/12"x12" Ceiling Tile	None Detected

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
41C	Kitchen	Brown Glue Daub w/12"x12" Ceiling Tile	None Detected
42A	Faculty Bathroom	Red Duct Sealant	**3% Chrysotile**
42B	Gym Storage	Red Duct Sealant	NA/SP
42C	Gym Storage	Red Duct Sealant	NA/SP
43A	Hallway West	Tan Duct Sealant	**3% Chrysotile**
43B	Hallway West	Tan Duct Sealant	NA/SP
43C	Hallway East	Tan Duct Sealant	NA/SP
44A	Gym Storage	Gray Duct Sealant	**3% Chrysotile**
44B	Gym Storage	Gray Duct Sealant	NA/SP
44C	Gym Storage	Gray Duct Sealant	NA/SP
45A	Gym Storage	Gray Vibration Cloth	None Detected
45B	Gym Storage	Gray Vibration Cloth	None Detected
45C	Gym Storage	Gray Vibration Cloth	None Detected
46A	Room 1	Brown Vibration Cloth	None Detected
46B	Room 1	Brown Vibration Cloth	None Detected
46C	Room 1	Brown Vibration Cloth	None Detected
47A	Basement Utility and Storage	Fiberglass Pipe Wrap	None Detected
47B	Basement Utility and Storage	Fiberglass Pipe Wrap	None Detected
47C	Basement Utility and Storage	Fiberglass Pipe Wrap	None Detected
48A	Basement Storage	Red Fire Stop	None Detected
48B	Basement Hallway	Red Fire Stop	None Detected
48C	Basement Hallway	Red Fire Stop	None Detected
49A	Basement Storage	Mudded Fitting Wrap	None Detected
49B	Girl's Locker Room	Mudded Fitting Wrap	None Detected
49C	Hallway East	Mudded Fitting Wrap	None Detected
50A	Basement Storage	Mudded Fitting Insulation	**5% Chrysotile**
50B	Girl's Locker Room	Mudded Fitting Insulation	NA/SP
50C	Hallway East	Mudded Fitting Insulation	NA/SP
51A	Tech Room	Wire Insulation	None Detected
51B	Tech Room	Wire Insulation	None Detected
51C	Tech Room	Wire Insulation	None Detected

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
52A	Room 7	Steam Pipe Wrap	None Detected
52B	Room 7	Steam Pipe Wrap	None Detected
52C	Room 7	Steam Pipe Wrap	None Detected
53A	Faculty Bathroom	Gypsum Board Wall	None Detected
53B	Room 30 Speech	Gypsum Board Wall	None Detected
53C	Room 29 Psych	Gypsum Board Wall	None Detected
54A	Faculty Bathroom	Joint Compound	None Detected
54B	Faculty Bathroom	Joint Compound	None Detected
54C	Room 30 Speech	Joint Compound	None Detected
54D	Room 30 Speech	Joint Compound	None Detected
54E	Room 29 Psych	Joint Compound	None Detected
55A	West Closet	Pipe Thread Sealant	None Detected
55B	West Closet	Pipe Thread Sealant	None Detected
55C	Gym Storage	Pipe Thread Sealant	None Detected
56A	Room 7	Peg Board	None Detected
56B	Custodian Office	Peg Board	None Detected
56C	Room 12B	Peg Board	None Detected
57A	Custodian Office	Black Wall Caulking	None Detected
57B	Custodian Office	Black Wall Caulking	None Detected
57C	Custodian Office	Black Wall Caulking	None Detected
58A	Boy's Locker Room	Burlap Cork Board Cover	None Detected
58B	Gym	Burlap Cork Board Cover	None Detected
58C	Gym	Burlap Cork Board Cover	None Detected
59A	Girl's Locker Room	CMU Mortar	None Detected
59B	Hallway East	CMU Mortar	None Detected
59C	Hallway East	CMU Mortar	None Detected
60A	Kitchen	Freezer Door Glue Daub	None Detected
60B	Kitchen	Freezer Door Glue Daub	None Detected
60C	Kitchen	Freezer Door Glue Daub	None Detected
61A	Cafeteria	Stage Curtain	None Detected
61B	Cafeteria	Stage Curtain	None Detected

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
61C	Cafeteria	Stage Curtain	None Detected
62A	Room 7	Classroom Wood Wall Panel	None Detected
62B	Room 7	Classroom Wood Wall Panel	None Detected
62C	Room 16	Classroom Wood Wall Panel	None Detected
63A	Room 16	Black Paper Backing Behind Wall Panel	None Detected
63B	Room 5	Black Paper Backing Behind Wall Panel	None Detected
63C	Room 5	Black Paper Backing Behind Wall Panel	None Detected
64A	Room 18	Brown Glue Daub Behind Wood Panel	**5% Chrysotile**
64B	Room 18	Brown Glue Daub Behind Wood Panel	NA/SP
64C	Room 18	Brown Glue Daub Behind Wood Panel	NA/SP
65A	Basement Project Room	Corkboard Column	None Detected
65B	Basement Project Room	Corkboard Column	None Detected
65C	Basement Project Room	Corkboard Column	None Detected
66A	Boiler Room	Black Gasket	None Detected
66B	Boiler Room	Black Gasket	None Detected
66C	Boiler Room	Black Gasket	None Detected
67A	Boiler Room	Fiberglass End Sealant	None Detected
67B	Boiler Room	Fiberglass End Sealant	None Detected
67C	Boiler Room	Fiberglass End Sealant	None Detected
68A	Boiler Room	Original Boiler Insulation	None Detected
68B	Boiler Room	Original Boiler Insulation	None Detected
68C	Boiler Room	Original Boiler Insulation	None Detected
69A	Boiler Room	Original Boiler Red Mastic	None Detected
69B	Boiler Room	Original Boiler Red Mastic	None Detected
69C	Boiler Room	Original Boiler Red Mastic	None Detected
70A	Boiler Room	Original Boiler Green Flange Gasket	None Detected
70B	Boiler Room	Original Boiler Green Flange Gasket	None Detected
70C	Boiler Room	Original Boiler Green Flange Gasket	None Detected
71A	Boiler Room	Original Boiler Rope Gasket	None Detected
71B	Boiler Room	Original Boiler Rope Gasket	None Detected
71C	Boiler Room	Original Boiler Rope Gasket	None Detected

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
72A	Boiler Room	Original Boiler Fire Rated Brick	None Detected
72B	Boiler Room	Original Boiler Fire Rated Brick	None Detected
72C	Boiler Room	Original Boiler Fire Rated Brick	None Detected
73A	Boiler Room	Original Boiler Fire Rated Brick Mortar	None Detected
73B	Boiler Room	Original Boiler Fire Rated Brick Mortar	None Detected
73C	Boiler Room	Original Boiler Fire Rated Brick Mortar	None Detected
74A	Boiler Room	Blue Boiler Breaching Insulation	None Detected
74B	Boiler Room	Blue Boiler Breaching Insulation	None Detected
74C	Boiler Room	Blue Boiler Breaching Insulation	None Detected
75A	Boiler Room	Gray Boiler Breaching Insulation	None Detected
75B	Boiler Room	Gray Boiler Breaching Insulation	None Detected
75C	Boiler Room	Gray Boiler Breaching Insulation	None Detected
76A	Boiler Room	White Boiler Breaching Wrap	None Detected
76B	Boiler Room	White Boiler Breaching Wrap	None Detected
76C	Boiler Room	White Boiler Breaching Wrap	None Detected
77A	Boiler Room	New Boiler Mineral Wool	None Detected
77B	Boiler Room	New Boiler Mineral Wool	None Detected
77C	Boiler Room	New Boiler Mineral Wool	None Detected
78A	Exterior Courtyard	Gray Expansion Joint	None Detected
78B	Exterior Courtyard	Gray Expansion Joint	None Detected
78C	Exterior Courtyard	Gray Expansion Joint	None Detected
79A	Exterior Courtyard	Black Expansion Joint	None Detected
79B	Exterior Courtyard	Black Expansion Joint	None Detected
79C	Exterior Courtyard	Black Expansion Joint	None Detected
80A	Exterior Courtyard	White Expansion Joint	None Detected
80B	Exterior Courtyard	White Expansion Joint	None Detected
80C	Exterior Courtyard	White Expansion Joint	None Detected
81A	Exterior Courtyard	Window Screen Caulking	**3% Chrysotile**
81B	Exterior Courtyard	Window Screen Caulking	NA/SP
81C	Exterior Courtyard	Window Screen Caulking	NA/SP
82A	Exterior Courtyard	White Window Glazing	None Detected

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
82B	Exterior Courtyard	White Window Glazing	None Detected
82C	Exterior Courtyard	White Window Glazing	None Detected
83A	Exterior Courtyard	White Window Frame Caulking	None Detected
83B	Exterior Courtyard	White Window Frame Caulking	None Detected
83C	Exterior Courtyard	White Window Frame Caulking	None Detected
84A	Exterior Courtyard	Brown Window Frame Caulking	None Detected
84B	Exterior Courtyard	Brown Window Frame Caulking	None Detected
84C	Exterior Courtyard	Brown Window Frame Caulking	None Detected
85A	Exterior Courtyard	Brown Window Glazing	None Detected
85B	Exterior Courtyard	Brown Window Glazing	None Detected
85C	Exterior Courtyard	Brown Window Glazing	None Detected
86A	Exterior Courtyard	Gray Window Glazing	None Detected
86B	Exterior Courtyard	Gray Window Glazing	None Detected
86C	Exterior Courtyard	Gray Window Glazing	None Detected
87A	Exterior Courtyard	Tan Window Glazing	None Detected
87B	Exterior Courtyard	Tan Window Glazing	None Detected
87C	Exterior Courtyard	Tan Window Glazing	None Detected
88A	Exterior Courtyard	Light Gray Concrete Caulking	None Detected
88B	Exterior Courtyard	Light Gray Concrete Caulking	None Detected
88C	Exterior Courtyard	Light Gray Concrete Caulking	None Detected
89A	Exterior Southeast	Tan Door Frame Caulking	None Detected
89B	Exterior Southeast	Tan Door Frame Caulking	None Detected
89C	Exterior Southeast	Tan Door Frame Caulking	None Detected
90A	Exterior Cafeteria Exit	White Door Frame Caulking	**2% Chrysotile**
90B	Exterior Cafeteria Exit	White Door Frame Caulking	NA/SP
90C	Exterior Cafeteria Exit	White Door Frame Caulking	NA/SP
91A	Exterior South	Light Gray Expansion Joint	None Detected
91B	Exterior South	Light Gray Expansion Joint	None Detected
91C	Exterior South	Light Gray Expansion Joint	None Detected
92A	Exterior East	Dark Gray Vent Caulking	None Detected
92B	Exterior East	Dark Gray Vent Caulking	None Detected

APPENDIX A Summary of ACM Sampling Results Essex Elementary Architectural Feasibility Study Essex, MA			
Sample No.	**Sample Location**	**Description of Material**	**Percent and Type of Asbestos**
92C	Exterior East	Dark Gray Vent Caulking	None Detected
93A	Exterior West	Brown Windowsill Caulking	**2% Chrysotile**
93B	Exterior West	Brown Windowsill Caulking	NA/SP
93C	Exterior West	Brown Windowsill Caulking	NA/SP
94A	Exterior Southeast	Brick Mortar	None Detected
94B	Exterior West	Brick Mortar	None Detected
94C	Exterior West	Brick Mortar	None Detected
95A	Exterior South	Module Gypsum Board Wall	None Detected
95B	Exterior South	Module Gypsum Board Wall	None Detected
95C	Exterior South	Module Gypsum Board Wall	None Detected
96A	Exterior South	Module Gray Wall Board	None Detected
96B	Exterior South	Module Gray Wall Board	None Detected
96C	Exterior South	Module Gray Wall Board	None Detected
97A	Exterior South	Module Exterior Board	None Detected
97B	Exterior South	Module Exterior Board	None Detected
97C	Exterior South	Module Exterior Board	None Detected
98A	Exterior East Entrance	Exterior Overhead Panels	**30% Chrysotile**
98B	Exterior East Entrance	Exterior Overhead Panels	NA/SP
98C	Exterior East Entrance	Exterior Overhead Panels	NA/SP
99A	Exterior West	Black Cork Expansion Joint	None Detected
99B	Exterior West	Black Cork Expansion Joint	None Detected
99C	Exterior East	Black Cork Expansion Joint	None Detected
Notes: NAD = No Asbestos Detected; NA/SP = Not Analyzed/Stop Positive			

APPENDIX B

ACM Laboratory Report and Chain of Custody Documentation

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentifcationlab.com
Email: mikemanning@asbestosidentificationlab.com

Testing
Lab Code: 200919-0

Batch: 260227025

Michael Weydt
Mabbett & Associates, Inc.
105 Central St.
Stoneham, MA 02180

Project Information

R2025131.001

Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Dear Michael Weydt,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project. The Analysis Method is PLM Bulk. The information and analysis contained in this report have been generated using the EPA 600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or prodcuts that contain more than 1% of any kind or combination of asbestos are considered as asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

The EPA recommends you should assume vermiculite contains asbestos and not to disturb it. Airborne asbestos fibers present a health risk through inhalation, so the first step is to not disturb the material, which could release fibers into the air. If you disturb the insulation, you may inhale some asbestos fibers. The degree of health risk depends on how much and how often this occurred. If you choose to remove the vermiculite insulation, this work should be done by a trained and accredited asbestos abatement contractor that is separate and independent from the company that performed the assessment of the vermiculite insulation to avoid any conflict of interest. https://www.epa.gov/asbestos/my-attic-has-vermiculite-insulation-it-am-i-risk-should-i-take-it-out | US EPA.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volcume, etc., was provided by the customer. Information provided by the customer can affect the validity of results. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. All customer information will be maintained in confidentiality. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations, Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Michael Weydt for your business.

Michael Manning
Owner/Director
781-932-9600

Sampled: February 19, 2026 **Received:** February 26, 2026 **Analyzed:** 03/04/2026 **Report Date:** March 5, 2026

Analyzed by:
Elaina Maxwell

Elaina Maxwell

Michael Weydt
Mabbett & Associates, Inc.
105 Central St.
Stoneham, MA 02180

Project Information
R2025131.001

Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
01A 260227025-001	12"x12" White VFT	Module Entry	White	Non-Fibrous 100	None Detected
01B 260227025-002	12"x12" White VFT	Module Entry	White	Non-Fibrous 100	None Detected
01C 260227025-003	12"x12" White VFT	Module Entry	White	Non-Fibrous 100	None Detected
02A 260227025-004	12"x12" White VFT Tan Mastic	Module Entry	Yellow	Non-Fibrous 100	None Detected
02B 260227025-005	12"x12" White VFT Tan Mastic	Module Entry	Yellow	Non-Fibrous 100	None Detected
02C 260227025-006	12"x12" White VFT Tan Mastic	Module Entry	Yellow	Non-Fibrous 100	None Detected
03A 260227025-007	12"x12" White Rainbow Speckled VFT	Tech Room	Multi	Non-Fibrous 100	None Detected
03B 260227025-008	12"x12" White Rainbow Speckled VFT	Tech Room	Multi	Non-Fibrous 100	None Detected
03C 260227025-009	12"x12" White Rainbow Speckled VFT	Tech Room	Multi	Non-Fibrous 100	None Detected
04A 260227025-010	12"x12" White Rainbow Speckled VFT Tan Mastic	Tech Room	Yellow	Non-Fibrous 100	None Detected
04B 260227025-011	12"x12" White Rainbow Speckled VFT Tan Mastic	Tech Room	Yellow	Non-Fibrous 100	None Detected

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Analyzed by:
Elaina Maxwell Elaina Maxwell

Batch: 260227025

Michael Weydt
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105 Central St.
Stoneham, MA 02180

Project Information
R2025131.001

Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
04C 260227025-012	12"x12" White Rainbow Speckled VFT Tan Mastic	Tech Room	Yellow	Non-Fibrous 100	None Detected
05A 260227025-013	12"x12" Light Gray VFT	Room 29 Psych	Off White	Non-Fibrous 100	None Detected
05B 260227025-014	12"x12" Light Gray VFT	Room 29 Psych	Off White	Non-Fibrous 100	None Detected
05C 260227025-015	12"x12" Light Gray VFT	Room 29 Psych	Off White	Non-Fibrous 100	None Detected
06A 260227025-016	12"x12" Light Gray VFT Tan Mastic	Room 29 Psych	Yellow	Non-Fibrous 100	None Detected
06B 260227025-017	12"x12" Light Gray VFT Tan Mastic	Room 29 Psych	Yellow	Non-Fibrous 100	None Detected
06C 260227025-018	12"x12" Light Gray VFT Tan Mastic	Room 29 Psych	Yellow	Non-Fibrous 100	None Detected
07A 260227025-019	4" Brown Cove Base	Room 7	Brown	Non-Fibrous 100	None Detected
07B 260227025-020	4" Brown Cove Base	Room 3	Brown	Non-Fibrous 100	None Detected
07C 260227025-021	4" Brown Cove Base	Room 9	Brown	Non-Fibrous 100	None Detected
08A 260227025-022	4" Brown Cove Base Mastic	Room 7	Tan	Non-Fibrous 100	None Detected

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Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
08B 260227025-023	4" Brown Cove Base Mastic	Room 3	Tan	Non-Fibrous 100	None Detected
08C 260227025-024	4" Brown Cove Base Mastic	Room 9	Tan	Non-Fibrous 100	None Detected
09A 260227025-025	4" Tan Cove Base	Tech Room	Tan	Non-Fibrous 100	None Detected
09B 260227025-026	4" Tan Cove Base	Tech Room	Tan	Non-Fibrous 100	None Detected
09C 260227025-027	4" Tan Cove Base	Tech Room	Tan	Non-Fibrous 100	None Detected
10A 260227025-028	4" Tan Cove Base Mastic	Tech Room	Yellow	Non-Fibrous 100	None Detected
10B 260227025-029	4" Tan Cove Base Mastic	Tech Room	Yellow	Non-Fibrous 100	None Detected
10C 260227025-030	4" Tan Cove Base Mastic	Tech Room	Yellow	Non-Fibrous 100	None Detected
11A 260227025-031	4" Green Cove Base	Room 18	Green	Non-Fibrous 100	None Detected
11B 260227025-032	4" Green Cove Base	Room 18	Green	Non-Fibrous 100	None Detected
11C 260227025-033	4" Green Cove Base	Room 18	Green	Non-Fibrous 100	None Detected

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Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
12A 260227025-034	4" Green Cove Base Mastic	Room 18	Tan	Non-Fibrous 100	None Detected
12B 260227025-035	4" Green Cove Base Mastic	Room 18	Tan	Non-Fibrous 100	None Detected
12C 260227025-036	4" Green Cove Base Mastic	Room 18	Tan	Non-Fibrous 100	None Detected
13A 260227025-037	4" Gray Cove Base	Faculty Bathroom	Gray	Non-Fibrous 100	None Detected
13B 260227025-038	4" Gray Cove Base	Storage North	Gray	Non-Fibrous 100	None Detected
13C 260227025-039	4" Gray Cove Base	Storage North	Gray	Non-Fibrous 100	None Detected
14A 260227025-040	4" Gray Cove Base Mastic	Faculty Bathroom	Tan	Non-Fibrous 100	None Detected
14B 260227025-041	4" Gray Cove Base Mastic	Storage North	Tan	Non-Fibrous 100	None Detected
14C 260227025-042	4" Gray Cove Base Mastic	Storage North	Tan	Non-Fibrous 100	None Detected
15A 260227025-043	4" Red Cove Base	Special Ed Office	Maroon	Non-Fibrous 100	None Detected
15B 260227025-044	4" Red Cove Base	Library	Maroon	Non-Fibrous 100	None Detected

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Project Information
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Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
15C 260227025-045	4" Red Cove Base	Library	Maroon	Non-Fibrous 100	None Detected
16A 260227025-046	4" Red Cove Base Mastic	Special Ed Office	Tan	Non-Fibrous 100	None Detected
16B 260227025-047	4" Red Cove Base Mastic	Library	Tan	Non-Fibrous 100	None Detected
16C 260227025-048	4" Red Cove Base Mastic	Library	Tan	Non-Fibrous 100	None Detected
17A 260227025-049	4" Blue Cove Base	Room 19	Blue	Non-Fibrous 100	None Detected
17B 260227025-050	4" Blue Cove Base	Room 19	Blue	Non-Fibrous 100	None Detected
17C 260227025-051	4" Blue Cove Base	Room 19	Blue	Non-Fibrous 100	None Detected
18A 260227025-052	4" Blue Cove Base Mastic	Room 19	Tan	Non-Fibrous 100	None Detected
18B 260227025-053	4" Blue Cove Base Mastic	Room 19	Tan	Non-Fibrous 100	None Detected
18C 260227025-054	4" Blue Cove Base Mastic	Room 19	Tan	Non-Fibrous 100	None Detected
19A 260227025-055	4" Light Gray Cove Base	P.E. Office	Gray	Non-Fibrous 100	None Detected

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Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
19B 260227025-056	4" Light Gray Cove Base	P.E. Office	Gray	Non-Fibrous 100	None Detected
19C 260227025-057	4" Light Gray Cove Base	P.E. Office	Gray	Non-Fibrous 100	None Detected
20A 260227025-058	4" Light Gray Cove Base Mastic	P.E. Office	Multi	Non-Fibrous 100	None Detected
20B 260227025-059	4" Light Gray Cove Base Mastic	P.E. Office	Multi	Non-Fibrous 100	None Detected
20C 260227025-060	4" Light Gray Cove Base Mastic	P.E. Office	Multi	Non-Fibrous 100	None Detected
21A 260227025-061	4" Black Cove Base	OT	Black	Non-Fibrous 100	None Detected
21B 260227025-062	4" Black Cove Base	Room 12A	Black	Non-Fibrous 100	None Detected
21C 260227025-063	4" Black Cove Base	Storage	Black	Non-Fibrous 100	None Detected
22A 260227025-064	4" Black Cove Base Mastic	OT	Tan	Non-Fibrous 100	None Detected
22B 260227025-065	4" Black Cove Base Mastic	Room 12A	Tan	Non-Fibrous 100	None Detected
22C 260227025-066	4" Black Cove Base Mastic	Storage	Tan	Non-Fibrous 100	None Detected

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Project Information
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Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
23A 260227025-067	6" Black Cove Base	Room 19	Black	Non-Fibrous 100	None Detected
23B 260227025-068	6" Black Cove Base	Room 19	Black	Non-Fibrous 100	None Detected
23C 260227025-069	6" Black Cove Base	Room 19	Black	Non-Fibrous 100	None Detected
24A 260227025-070	6" Cove Base Mastic	Room 19	Multi	Non-Fibrous 100	None Detected
24B 260227025-071	6" Cove Base Mastic	Room 19	Multi	Non-Fibrous 100	None Detected
24C 260227025-072	6" Cove Base Mastic	Room 19	Multi	Non-Fibrous 100	None Detected
25A 260227025-073	4" Cream Cove Base	Conference Room	Off White	Non-Fibrous 100	None Detected
25B 260227025-074	4" Cream Cove Base	Conference Room	Off White	Non-Fibrous 100	None Detected
25C 260227025-075	4" Cream Cove Base	Conference Room	Off White	Non-Fibrous 100	None Detected
26A 260227025-076	4" Cream Cove Base Mastic	Conference Room	Yellow	Non-Fibrous 100	None Detected
26B 260227025-077	4" Cream Cove Base Mastic	Conference Room	Yellow	Non-Fibrous 100	None Detected

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Project Information
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Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
26C 260227025-078	4" Cream Cove Base Mastic	Conference Room	Yellow	Non-Fibrous 100	None Detected
27A 260227025-079	Gray Floor Leveler	Library	Gray	Non-Fibrous 100	None Detected
27B 260227025-080	Gray Floor Leveler	Library	Gray	Non-Fibrous 100	None Detected
27C 260227025-081	Gray Floor Leveler	Library	Gray	Non-Fibrous 100	None Detected
28A 260227025-082	Tan Carpet Mastic	Special Ed Office	Yellow	Non-Fibrous 100	None Detected
28B 260227025-083	Tan Carpet Mastic	Special Ed Office	Yellow	Non-Fibrous 100	None Detected
28C 260227025-084	Tan Carpet Mastic	Special Ed Office	Yellow	Non-Fibrous 100	None Detected
29A 260227025-085	Brown Carpet Mastic	Library	Yellow	Non-Fibrous 100	None Detected
29B 260227025-086	Brown Carpet Mastic	Library	Yellow	Non-Fibrous 100	None Detected
29C 260227025-087	Brown Carpet Mastic	Library	Yellow	Non-Fibrous 100	None Detected
30A 260227025-088	Gray Carpet Mastic	Southwest Hallway	Gray	Non-Fibrous 100	None Detected

Sampled: February 19, 2026 **Received:** February 26, 2026 **Analyzed:** 03/04/2026 **Report Date:** March 5, 2026

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Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
30B 260227025-089	Gray Carpet Mastic	Southwest Hallway	Gray	Non-Fibrous 100	None Detected
30C 260227025-090	Gray Carpet Mastic	Southwest Hallway	Gray	Non-Fibrous 100	None Detected
31A 260227025-091	Particle Board Under 12"x12" VFT	Module	Multi	Cellulose 60 Non-Fibrous 40	None Detected
31B 260227025-092	Particle Board Under 12"x12" VFT	Module	Maroon	Cellulose 60 Non-Fibrous 40	None Detected
31C 260227025-093	Particle Board Under 12"x12" VFT	Module	Multi	Cellulose 60 Non-Fibrous 40	None Detected
32A 260227025-094	Ceramic Wall Tile Grout	Girl's Bathroom West	Gray	Non-Fibrous 100	None Detected
32B 260227025-095	Ceramic Wall Tile Grout	Girl's Bathroom West	Gray	Non-Fibrous 100	None Detected
32C 260227025-096	Ceramic Wall Tile Grout	Girl's Bathroom East	Gray	Non-Fibrous 100	None Detected
33A 260227025-097	Ceramic Floor Tile Grout	Girl's Bathroom East	Gray	Non-Fibrous 100	None Detected
33B 260227025-098	Ceramic Floor Tile Grout	Girl's Bathroom East	Gray	Non-Fibrous 100	None Detected
33C 260227025-099	Ceramic Floor Tile Grout	Girl's Bathroom West	Gray	Non-Fibrous 100	None Detected

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Stoneham, MA 02180

Project Information
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Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
34A 260227025-100	Ceramic Floor Tile Mudset	Girl's Bathroom East	Gray	Non-Fibrous 100	None Detected
34B 260227025-101	Ceramic Floor Tile Mudset	Girl's Bathroom East	Gray	Non-Fibrous 100	None Detected
34C 260227025-102	Ceramic Floor Tile Mudset	Girl's Bathroom West	Gray	Non-Fibrous 100	None Detected
35A 260227025-103	2'x4' White Pinhole Ceiling Tile	Girl's Locker Room	Multi	Fiberglass 40 Cellulose 40 Non-Fibrous 20	None Detected
35B 260227025-104	2'x4' White Pinhole Ceiling Tile	Girl's Locker Room	Gray	Fiberglass 40 Cellulose 40 Non-Fibrous 20	None Detected
35C 260227025-105	2'x4' White Pinhole Ceiling Tile	Room 29 Psych	Gray	Fiberglass 40 Cellulose 40 Non-Fibrous 20	None Detected
36A 260227025-106	2'x4' White Smooth Ceiling Tile	Kitchen	Multi	Cellulose 10 Non-Fibrous 90	None Detected
36B 260227025-107	2'x4' White Smooth Ceiling Tile	Kitchen	Multi	Cellulose 10 Non-Fibrous 90	None Detected
36C 260227025-108	2'x4' White Smooth Ceiling Tile	Kitchen	Multi	Cellulose 10 Non-Fibrous 90	None Detected
37A 260227025-109	2'x4' White Fissured Ceiling Tile	Room 20	Gray	Fiberglass 40 Cellulose 40 Non-Fibrous 20	None Detected
37B 260227025-110	2'x4' White Fissured Ceiling Tile	Hallway West	Gray	Fiberglass 40 Cellulose 40 Non-Fibrous 20	None Detected

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Stoneham, MA 02180

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Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
37C 260227025-111	2'x4' White Fissured Ceiling Tile	Hallway West	Gray	Fiberglass 40 Cellulose 40 Non-Fibrous 20	None Detected
38A 260227025-112	2'x4' White Wormhole	Hallway East	Gray	Fiberglass 40 Cellulose 40 Non-Fibrous 20	None Detected
38B 260227025-113	2'x4' White Wormhole	Hallway East	Gray	Fiberglass 40 Cellulose 40 Non-Fibrous 20	None Detected
38C 260227025-114	2'x4' White Wormhole	Hallway East	Gray	Fiberglass 40 Cellulose 40 Non-Fibrous 20	None Detected
39A 260227025-115	12"x12" White Fissured Ceiling Tile	Room 19	Gray	Fiberglass 30 Mineral Wool 30 Cellulose 20 Non-Fibrous 20	None Detected
39B 260227025-116	12"x12" White Fissured Ceiling Tile	Room 19	Gray	Fiberglass 30 Mineral Wool 30 Cellulose 20 Non-Fibrous 20	None Detected
39C 260227025-117	12"x12" White Fissured Ceiling Tile	Room 18	Gray	Fiberglass 30 Mineral Wool 30 Cellulose 20 Non-Fibrous 20	None Detected
40A 260227025-118	12"x12" White Glued-On Ceiling Tile	Conference Room Closet	Multi	Fiberglass 80 Non-Fibrous 20	None Detected
40B 260227025-119	12"x12" White Glued-On Ceiling Tile	Room 7	Yellow	Fiberglass 80 Non-Fibrous 20	None Detected
40C 260227025-120	12"x12" White Glued-On Ceiling Tile	Kitchen	Yellow	Fiberglass 80 Non-Fibrous 20	None Detected
41A 260227025-121	Brown Glue Daub w/12"x12" Ceiling Tile	Conference Room Closet	Brown	Other 5 Non-Fibrous 95	None Detected

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Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
41B 260227025-122	Brown Glue Daub w/12"x12" Ceiling Tile	Room 7	Brown	Other 5 Non-Fibrous 95	None Detected
41C 260227025-123	Brown Glue Daub w/12"x12" Ceiling Tile	Kitchen	Brown	Other 5 Non-Fibrous 95	None Detected
42A 260227025-124	Red Duct Sealant	Faculty Bathroom	Red	Non-Fibrous 97	Detected Chrysotile 3
42B 260227025-125	Red Duct Sealant	Gym Storage			Not analyzed
42C 260227025-126	Red Duct Sealant	Gym Storage			Not analyzed
43A 260227025-127	Tan Duct Sealant	Hallway West	Tan	Non-Fibrous 97	Detected Chrysotile 3
43B 260227025-128	Tan Duct Sealant	Hallway West			Not analyzed
43C 260227025-129	Tan Duct Sealant	Hallway East			Not analyzed
44A 260227025-130	Gray Duct Sealant	Gym Storage	Gray	Non-Fibrous 97	Detected Chrysotile 3
44B 260227025-131	Gray Duct Sealant	Gym Storage			Not analyzed
44C 260227025-132	Gray Duct Sealant	Gym Storage			Not analyzed

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Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
45A 260227025-133	Gray Vibration Cloth	Gym Storage	Gray	Fiberglass 30 Non-Fibrous 70	None Detected
45B 260227025-134	Gray Vibration Cloth	Gym Storage	Gray	Fiberglass 30 Non-Fibrous 70	None Detected
45C 260227025-135	Gray Vibration Cloth	Gym Storage	Gray	Fiberglass 30 Non-Fibrous 70	None Detected
46A 260227025-136	Brown Vibration Cloth	Room 1	Gray	Cellulose 90 Non-Fibrous 10	None Detected
46B 260227025-137	Brown Vibration Cloth	Room 1	Gray	Cellulose 90 Non-Fibrous 10	None Detected
46C 260227025-138	Brown Vibration Cloth	Room 1	Gray	Cellulose 90 Non-Fibrous 10	None Detected
47A 260227025-139	Fiberglass Pipe Wrap	Basement Utility and Storage	Multi	Fiberglass 40 Cellulose 50 Non-Fibrous 10	None Detected
47B 260227025-140	Fiberglass Pipe Wrap	Basement Utility and Storage	Multi	Fiberglass 40 Cellulose 50 Non-Fibrous 10	None Detected
47C 260227025-141	Fiberglass Pipe Wrap	Basement Utility and Storage	Multi	Fiberglass 40 Cellulose 50 Non-Fibrous 10	None Detected
48A 260227025-142	Red Fire Stop	Basement Storage	Red	Fiberglass 10 Non-Fibrous 90	None Detected
48B 260227025-143	Red Fire Stop	Basement Hallway	Red	Fiberglass 10 Non-Fibrous 90	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
48C 260227025-144	Red Fire Stop	Basement Hallway	Red	Non-Fibrous 100	None Detected
49A 260227025-145	Mudded Fitting Wrap	Basement Storage	Tan	Cellulose 90 Non-Fibrous 10	None Detected
49B 260227025-146	Mudded Fitting Wrap	Girl's Locker Room	Tan	Cellulose 90 Non-Fibrous 10	None Detected
49C 260227025-147	Mudded Fitting Wrap	Hallway East	Tan	Cellulose 90 Non-Fibrous 10	None Detected
50A 260227025-148	Mudded Fitting Insulation	Basement Storage	Gray	Fiberglass 30 Mineral Wool 30 Cellulose 5 Non-Fibrous 30	Detected Chrysotile 5
50B 260227025-149	Mudded Fitting Insulation	Girl's Locker Room			Not analyzed
50C 260227025-150	Mudded Fitting Insulation	Hallway East			Not analyzed
51A 260227025-151	Wire Insulation	Tech Room	Tan	Fiberglass 90 Non-Fibrous 10	None Detected
51B 260227025-152	Wire Insulation	Tech Room	Tan	Fiberglass 90 Non-Fibrous 10	None Detected
51C 260227025-153	Wire Insulation	Tech Room	Tan	Fiberglass 90 Non-Fibrous 10	None Detected
52A 260227025-154	Steam Pipe Wrap	Room 7	Off White	Fiberglass 90 Non-Fibrous 10	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
52B 260227025-155	Steam Pipe Wrap	Room 7	Off White	Fiberglass 90 Non-Fibrous 10	None Detected
52C 260227025-156	Steam Pipe Wrap	Room 7	Off White	Fiberglass 90 Non-Fibrous 10	None Detected
53A 260227025-157	Gypsum Board Wall	Faculty Bathroom	Gray	Cellulose 5 Non-Fibrous 95	None Detected
53B 260227025-158	Gypsum Board Wall	Room 30 Speech	Gray	Cellulose 5 Non-Fibrous 95	None Detected
53C 260227025-159	Gypsum Board Wall	Room 29 Psych	Gray	Cellulose 5 Non-Fibrous 95	None Detected
54A 260227025-160	Joint Compound	Faculty Bathroom	White	Non-Fibrous 100	None Detected
54B 260227025-161	Joint Compound	Faculty Bathroom	White	Non-Fibrous 100	None Detected
54C 260227025-162	Joint Compound	Room 30 Speech	White	Non-Fibrous 100	None Detected
54D 260227025-163	Joint Compound	Room 30 Speech	White	Non-Fibrous 100	None Detected
54E 260227025-164	Joint Compound	Room 29 Psych	White	Non-Fibrous 100	None Detected
55A 260227025-165	Pipe Thread Sealant	West Closet	Multi	Non-Fibrous 100	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
55B 260227025-166	Pipe Thread Sealant	West Closet	Multi	Non-Fibrous 100	None Detected
55C 260227025-167	Pipe Thread Sealant	Gym Storage	Multi	Non-Fibrous 100	None Detected
56A 260227025-168	Peg Board	Room 7	Brown	Cellulose 80 Non-Fibrous 20	None Detected
56B 260227025-169	Peg Board	Custodian Office	Brown	Cellulose 80 Non-Fibrous 20	None Detected
56C 260227025-170	Peg Board	Room 12B	Brown	Cellulose 80 Non-Fibrous 20	None Detected
57A 260227025-171	Black Wall Caulking	Custodian Office	Black	Other 5 Non-Fibrous 95	None Detected
57B 260227025-172	Black Wall Caulking	Custodian Office	Black	Other 5 Non-Fibrous 95	None Detected
57C 260227025-173	Black Wall Caulking	Custodian Office	Black	Other 5 Non-Fibrous 95	None Detected
58A 260227025-174	Burlap Cork Board Cover	Boy's Locker Room	Brown	Cellulose 80 Non-Fibrous 20	None Detected
58B 260227025-175	Burlap Cork Board Cover	Gym	Brown	Cellulose 80 Non-Fibrous 20	None Detected
58C 260227025-176	Burlap Cork Board Cover	Gym	Brown	Cellulose 80 Non-Fibrous 20	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
59A 260227025-177	CMU Mortar	Girl's Locker Room	Gray	Non-Fibrous 100	None Detected
59B 260227025-178	CMU Mortar	Hallway East	Gray	Non-Fibrous 100	None Detected
59C 260227025-179	CMU Mortar	Hallway East	Gray	Non-Fibrous 100	None Detected
60A 260227025-180	Freezer Door Glue Daub	Kitchen	Brown	Non-Fibrous 100	None Detected
60B 260227025-181	Freezer Door Glue Daub	Kitchen	Brown	Non-Fibrous 100	None Detected
60C 260227025-182	Freezer Door Glue Daub	Kitchen	Brown	Non-Fibrous 100	None Detected
61A 260227025-183	Stage Curtain	Cafeteria	Blue	Cellulose 80 Non-Fibrous 20	None Detected
61B 260227025-184	Stage Curtain	Cafeteria	Blue	Cellulose 80 Non-Fibrous 20	None Detected
61C 260227025-185	Stage Curtain	Cafeteria	Blue	Cellulose 80 Non-Fibrous 20	None Detected
62A 260227025-186	Classroom Wood Wall Panel	Room 7	Brown	Cellulose 80 Non-Fibrous 20	None Detected
62B 260227025-187	Classroom Wood Wall Panel	Room 7	Brown	Cellulose 80 Non-Fibrous 20	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
62C 260227025-188	Classroom Wood Wall Panel	Room 16	Brown	Cellulose 80 Non-Fibrous 20	None Detected
63A 260227025-189	Black Paper Backing Behind Wall Panel	Room 16	Multi	Cellulose 60 Non-Fibrous 40	None Detected
63B 260227025-190	Black Paper Backing Behind Wall Panel	Room 5	Multi	Cellulose 60 Non-Fibrous 40	None Detected
63C 260227025-191	Black Paper Backing Behind Wall Panel	Room 5	Multi	Cellulose 60 Non-Fibrous 40	None Detected
64A 260227025-192	Brown Glue Daub Behind Wood Panel	Room 18	Brown	Non-Fibrous 95	Detected Chrysotile 5
64B 260227025-193	Brown Glue Daub Behind Wood Panel	Room 18			Not analyzed
64C 260227025-194	Brown Glue Daub Behind Wood Panel	Room 18			Not analyzed
65A 260227025-195	Corkboard Column	Basement Project Room	Gray	Cellulose 80 Non-Fibrous 20	None Detected
65B 260227025-196	Corkboard Column	Basement Project Room	Gray	Cellulose 80 Non-Fibrous 20	None Detected
65C 260227025-197	Corkboard Column	Basement Project Room	Gray	Cellulose 80 Non-Fibrous 20	None Detected
66A 260227025-198	Black Gasket	Boiler Room	Black	Non-Fibrous 100	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
66B 260227025-199	Black Gasket	Boiler Room	Black	Non-Fibrous 100	None Detected
66C 260227025-200	Black Gasket	Boiler Room	Black	Non-Fibrous 100	None Detected
67A 260227025-201	Fiberglass End Sealant	Boiler Room	Gray	Fiberglass 30 Mineral Wool 20 Cellulose 20 Non-Fibrous 30	None Detected
67B 260227025-202	Fiberglass End Sealant	Boiler Room	Gray	Fiberglass 30 Mineral Wool 20 Cellulose 20 Non-Fibrous 30	None Detected
67C 260227025-203	Fiberglass End Sealant	Boiler Room	Gray	Fiberglass 30 Mineral Wool 20 Cellulose 20 Non-Fibrous 30	None Detected
68A 260227025-204	Original Boiler Insulation	Boiler Room	Gray	Fiberglass 30 Mineral Wool 20 Cellulose 40 Non-Fibrous 10	None Detected
68B 260227025-205	Original Boiler Insulation	Boiler Room	Gray	Fiberglass 30 Mineral Wool 20 Cellulose 40 Non-Fibrous 10	None Detected
68C 260227025-206	Original Boiler Insulation	Boiler Room	Gray	Fiberglass 30 Mineral Wool 20 Cellulose 40 Non-Fibrous 10	None Detected
69A 260227025-207	Original Boiler Red Mastic	Boiler Room	Red	Non-Fibrous 100	None Detected
69B 260227025-208	Original Boiler Red Mastic	Boiler Room	Red	Non-Fibrous 100	None Detected
69C 260227025-209	Original Boiler Red Mastic	Boiler Room	Red	Non-Fibrous 100	None Detected

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Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
70A 260227025-210	Original Boiler Green Flange Gasket	Boiler Room	Green	Cellulose 40 Other 20 Non-Fibrous 40	None Detected
70B 260227025-211	Original Boiler Green Flange Gasket	Boiler Room	Green	Cellulose 40 Other 20 Non-Fibrous 40	None Detected
70C 260227025-212	Original Boiler Green Flange Gasket	Boiler Room	Green	Cellulose 40 Other 20 Non-Fibrous 40	None Detected
71A 260227025-213	Original Boiler Rope Gasket	Boiler Room	Off White	Fiberglass 90 Non-Fibrous 10	None Detected
71B 260227025-214	Original Boiler Rope Gasket	Boiler Room	Off White	Fiberglass 90 Non-Fibrous 10	None Detected
71C 260227025-215	Original Boiler Rope Gasket	Boiler Room	Off White	Fiberglass 90 Non-Fibrous 10	None Detected
72A 260227025-216	Original Boiler Fire Rated Brick	Boiler Room	Red	Non-Fibrous 100	None Detected
72B 260227025-217	Original Boiler Fire Rated Brick	Boiler Room	Red	Non-Fibrous 100	None Detected
72C 260227025-218	Original Boiler Fire Rated Brick	Boiler Room	Red	Non-Fibrous 100	None Detected
73A 260227025-219	Original Boiler Fire Rated Brick Mortar	Boiler Room	Gray	Non-Fibrous 100	None Detected
73B 260227025-220	Original Boiler Fire Rated Brick Mortar	Boiler Room	Gray	Non-Fibrous 100	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
73C 260227025-221	Original Boiler Fire Rated Brick Mortar	Boiler Room	Gray	Non-Fibrous 100	None Detected
74A 260227025-222	Blue Boiler Breaching Insulation	Boiler Room	Blue	Fiberglass 10 Non-Fibrous 90	None Detected
74B 260227025-223	Blue Boiler Breaching Insulation	Boiler Room	Blue	Fiberglass 10 Non-Fibrous 90	None Detected
74C 260227025-224	Blue Boiler Breaching Insulation	Boiler Room	Blue	Fiberglass 10 Non-Fibrous 90	None Detected
75A 260227025-225	Gray Boiler Breaching Insulation	Boiler Room	Gray	Fiberglass 30 Mineral Wool 20 Non-Fibrous 50	None Detected
75B 260227025-226	Gray Boiler Breaching Insulation	Boiler Room	Gray	Fiberglass 30 Mineral Wool 20 Non-Fibrous 50	None Detected
75C 260227025-227	Gray Boiler Breaching Insulation	Boiler Room	Gray	Fiberglass 30 Mineral Wool 20 Non-Fibrous 50	None Detected
76A 260227025-228	White Boiler Breaching Wrap	Boiler Room	White	Fiberglass 90 Non-Fibrous 10	None Detected
76B 260227025-229	White Boiler Breaching Wrap	Boiler Room	White	Fiberglass 90 Non-Fibrous 10	None Detected
76C 260227025-230	White Boiler Breaching Wrap	Boiler Room	White	Fiberglass 90 Non-Fibrous 10	None Detected
77A 260227025-231	New Boiler Mineral Wool	Boiler Room	White	Fiberglass 90 Non-Fibrous 10	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
77B 260227025-232	New Boiler Mineral Wool	Boiler Room	White	Fiberglass 90 Non-Fibrous 10	None Detected
77C 260227025-233	New Boiler Mineral Wool	Boiler Room	White	Fiberglass 90 Non-Fibrous 10	None Detected
78A 260227025-234	Gray Expansion Joint	Exterior Courtyard	Gray	Non-Fibrous 100	None Detected
78B 260227025-235	Gray Expansion Joint	Exterior Courtyard	Gray	Non-Fibrous 100	None Detected
78C 260227025-236	Gray Expansion Joint	Exterior Courtyard	Gray	Non-Fibrous 100	None Detected
79A 260227025-237	Black Expansion Joint	Exterior Courtyard	Black	Cellulose 60 Non-Fibrous 40	None Detected
79B 260227025-238	Black Expansion Joint	Exterior Courtyard	Black	Cellulose 60 Non-Fibrous 40	None Detected
79C 260227025-239	Black Expansion Joint	Exterior Courtyard	Black	Cellulose 60 Non-Fibrous 40	None Detected
80A 260227025-240	White Expansion Joint	Exterior Courtyard	White	Fiberglass 5 Non-Fibrous 95	None Detected
80B 260227025-241	White Expansion Joint	Exterior Courtyard	White	Fiberglass 5 Non-Fibrous 95	None Detected
80C 260227025-242	White Expansion Joint	Exterior Courtyard	White	Fiberglass 5 Non-Fibrous 95	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
81A 260227025-243	Window Screen Caulking	Exterior Courtyard	White	Non-Fibrous 97	Detected Chrysotile 3
81B 260227025-244	Window Screen Caulking	Exterior Courtyard			Not analyzed
81C 260227025-245	Window Screen Caulking	Exterior Courtyard			Not analyzed
82A 260227025-246	White Window Glazing	Exterior Courtyard	White	Non-Fibrous 100	None Detected
82B 260227025-247	White Window Glazing	Exterior Courtyard	White	Non-Fibrous 100	None Detected
82C 260227025-248	White Window Glazing	Exterior Courtyard	White	Non-Fibrous 100	None Detected
83A 260227025-249	White Window Frame Caulking	Exterior Courtyard	White	Non-Fibrous 100	None Detected
83B 260227025-250	White Window Frame Caulking	Exterior Courtyard	White	Non-Fibrous 100	None Detected
83C 260227025-251	White Window Frame Caulking	Exterior Courtyard	White	Non-Fibrous 100	None Detected
84A 260227025-252	Brown Window Frame Caulking	Exterior Courtyard	Brown	Non-Fibrous 100	None Detected
84B 260227025-253	Brown Window Frame Caulking	Exterior Courtyard	Brown	Non-Fibrous 100	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
84C 260227025-254	Brown Window Frame Caulking	Exterior Courtyard	Brown	Non-Fibrous 100	None Detected
85A 260227025-255	Brown Window Glazing	Exterior Courtyard	Brown	Non-Fibrous 100	None Detected
85B 260227025-256	Brown Window Glazing	Exterior Courtyard	Brown	Non-Fibrous 100	None Detected
85C 260227025-257	Brown Window Glazing	Exterior Courtyard	Brown	Non-Fibrous 100	None Detected
86A 260227025-258	Gray Window Glazing	Exterior Courtyard	Multi	Non-Fibrous 100	None Detected
86B 260227025-259	Gray Window Glazing	Exterior Courtyard	Multi	Non-Fibrous 100	None Detected
86C 260227025-260	Gray Window Glazing	Exterior Courtyard	Multi	Non-Fibrous 100	None Detected
87A 260227025-261	Tan Window Glazing	Exterior Courtyard	Tan	Non-Fibrous 100	None Detected
87B 260227025-262	Tan Window Glazing	Exterior Courtyard	Tan	Non-Fibrous 100	None Detected
87C 260227025-263	Tan Window Glazing	Exterior Courtyard	Tan	Non-Fibrous 100	None Detected
88A 260227025-264	Light Gray Concrete Caulking	Exterior Courtyard	Gray	Non-Fibrous 100	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
88B 260227025-265	Light Gray Concrete Caulking	Exterior Courtyard	Gray	Non-Fibrous 100	None Detected
88C 260227025-266	Light Gray Concrete Caulking	Exterior Courtyard	Gray	Non-Fibrous 100	None Detected
89A 260227025-267	Tan Door Frame Caulking	Exterior Southeast	Tan	Non-Fibrous 100	None Detected
89B 260227025-268	Tan Door Frame Caulking	Exterior Southeast	Tan	Non-Fibrous 100	None Detected
89C 260227025-269	Tan Door Frame Caulking	Exterior Southeast	Tan	Non-Fibrous 100	None Detected
90A 260227025-270	White Door Frame Caulking	Exterior Cafeteria Exit	Multi	Non-Fibrous 98	Detected Chrysotile 2
90B 260227025-271	White Door Frame Caulking	Exterior Cafeteria Exit			Not analyzed
90C 260227025-272	White Door Frame Caulking	Exterior Cafeteria Exit			Not analyzed
91A 260227025-273	Light Gray Expansion Joint	Exterior South	Light Gray	Non-Fibrous 100	None Detected
91B 260227025-274	Light Gray Expansion Joint	Exterior South	Light Gray	Non-Fibrous 100	None Detected
91C 260227025-275	Light Gray Expansion Joint	Exterior South	Light Gray	Non-Fibrous 100	None Detected

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Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
92A 260227025-276	Dark Gray Vent Caulking	Exterior East	Dark Gray	Non-Fibrous 100	None Detected
92B 260227025-277	Dark Gray Vent Caulking	Exterior East	Dark Gray	Non-Fibrous 100	None Detected
92C 260227025-278	Dark Gray Vent Caulking	Exterior East	Dark Gray	Non-Fibrous 100	None Detected
93A 260227025-279	Brown Window Sill Caulking	Exterior West	Multi	Non-Fibrous 98	Detected Chrysotile 2
93B 260227025-280	Brown Window Sill Caulking	Exterior West			Not analyzed
93C 260227025-281	Brown Window Sill Caulking	Exterior West			Not analyzed
94A 260227025-282	Brick Mortar	Exterior Southeast	Gray	Non-Fibrous 100	None Detected
94B 260227025-283	Brick Mortar	Exterior West	Gray	Non-Fibrous 100	None Detected
94C 260227025-284	Brick Mortar	Exterior West	Gray	Non-Fibrous 100	None Detected
95A 260227025-285	Module Gypsum Board Wall	Exterior South	Off White	Cellulose 5 Non-Fibrous 95	None Detected
95B 260227025-286	Module Gypsum Board Wall	Exterior South	Off White	Cellulose 5 Non-Fibrous 95	None Detected

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Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
95C 260227025-287	Module Gypsum Board Wall	Exterior South	Off White	Cellulose 5 Non-Fibrous 95	None Detected
96A 260227025-288	Module Gray Wall Board	Exterior South	Gray	Cellulose 10 Non-Fibrous 90	None Detected
96B 260227025-289	Module Gray Wall Board	Exterior South	Gray	Cellulose 10 Non-Fibrous 90	None Detected
96C 260227025-290	Module Gray Wall Board	Exterior South	Gray	Cellulose 10 Non-Fibrous 90	None Detected
97A 260227025-291	Module Exterior Board	Exterior South	Gray	Cellulose 80 Non-Fibrous 20	None Detected
97B 260227025-292	Module Exterior Board	Exterior South	Gray	Cellulose 80 Non-Fibrous 20	None Detected
97C 260227025-293	Module Exterior Board	Exterior South	Gray	Cellulose 80 Non-Fibrous 20	None Detected
98A 260227025-294	Exterior Overhead Panels	Exterior East Entrance	Gray	Non-Fibrous 70	Detected Chrysotile 30
98B 260227025-295	Exterior Overhead Panels	Exterior East Entrance			Not analyzed
98C 260227025-296	Exterior Overhead Panels	Exterior East Entrance			Not analyzed
99A 260227025-297	Black Cork Expansion Joint	Exterior West	Black	Cellulose 80 Non-Fibrous 20	None Detected

Sampled: February 19, 2026 **Received:** February 26, 2026 **Analyzed:** 03/04/2026 **Report Date:** March 5, 2026

Analyzed by:
Elaina Maxwell Elaina Maxwell

Batch: 260227025

Michael Weydt
Mabbett & Associates, Inc.
105 Central St.
Stoneham, MA 02180

Project Information
R2025131.001

Essex Elementary

Method: PLM Bulk, EPA 600/R-93/116

Field ID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
99B 260227025-298	Black Cork Expansion Joint	Exterior West	Black	Cellulose 80 Non-Fibrous 20	None Detected
99C 260227025-299	Black Cork Expansion Joint	Exterior East	Black	Cellulose 80 Non-Fibrous 20	None Detected

Sampled: February 19, 2026 **Received:** February 26, 2026 **Analyzed:** 03/04/2026 **Report Date:** March 5, 2026

Analyzed by:
Elaina Maxwell Elaina Maxwell

Batch: 260227025

Client: Mabbett & Associates

Address: 105 Central St Suite 4100 Stoneham, MA

Project Site & #: Essex Elementary R2025131.001

Phone / email address:

weydt@mabbett.com / walsh@mabbett.com

Contact: Michael Weydt / Jacob Walsh

Relinquish by/date:

Received by/date: GB 2/26/26

# of Samples Received: 299

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab

165 New Boston St.

Suite 227

Woburn, MA 01801

(781)932-9600

www.asbestosidentificationlab.com

Date Sampled: 2/19/2026

BATCH# 260227025 Rev 06/16

Turnaround Time

- [ ] Less 3 Hrs
- [ ] Same Day
- [ ] Next Day
- [x] Two Day — Five per client

Sample Method

- [x] Bulk
- [ ] Soil
- [ ] Wipe
- [ ] Point Count

Stop on 1st Positive? Yes/No

Notify Method: Mail/E-Mail/Verbal

Analyzed By: Elaina Maxwell

Date: 3/4/26 QC: JRC pg 1-30

Temp in Celsius = 23

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
001	01A	Material 12"x12" white VFT Location Module Entry	0	W	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
002	01B	Material Location	0	W	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
003	01C	Material Location	0	W	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
004	02A	Material 12"x12" white VFT Tan Mastic Location Module Entry	0	g	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															100
								Actinolite															
005	02B	Material Location	0	g	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
006	02C	Material Location	0	g	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
007	03A	Material 12"x12" white Rainbow speckled VFT Location Tech Room	0	m	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
008	03B	Material Location	0	m	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	∥	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
009	03C	Material 12"x12" white Rainbow speckled VFT Location Tech Room	0	m	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															15
010	04A	Material 12"x12" white Rainbow speckled VFT Tan Mastic Location	0	g	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
011	04B	Material Location	0	g	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
012	04C	Material Location	0	g	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
013	05A	Material 12"x12" Light Gray VFT Location Room 29 Psych	0	ow	~	g	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
014	05B	Material 12"x12" Light Gray VFT Location Room 29, Psych	0	ow	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
015	05C	Material Location	0	ow	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
016	06A	Material 12"x12" Light Gray VPT Tan Mastic Location	0	y	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															100
								Actinolite															
017	06B	Material Location	0	y	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															100
								Actinolite															
018	06C	Material Location	0	y	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
019	07A	Material 4" Brown Cove Base Location Room 7	0	Br	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
020	07B	Material Location Room 3	0	Br	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
021	07C	Material Location Room 9	0	Br	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
022	08A	Material 4" Brown Cove Base Mastic Location Room 7	0	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
023	08B	Material Location Room 3	0	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	∥	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
024	08C	Material 4" Brown Cove Base Mastic Location Room 9	0	T	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
025	09A	Material 4" Tan Cove Base Location Tech Room	0	T	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
026	09B	Material Location	0	T	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
027	09C	Material Location	0	T	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
028	10A	Material 4" Tan Cove Base Mastic Location	0	Y	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
029	10B	Material 4" Tan cove Base Mastic Location Tech Room	0	g	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
030	10C	Material Location	0	g	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
031	11A	Material 4" Green Cove Base Location Room 18	0	gr	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
032	11B	Material Location	0	gr	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
033	11C	Material Location	0	gr	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
034	12A	Material: 4" Green Cove Base Mastic Location: Room 18	O	T	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
035	12B	Material Location	O	T	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
036	12C	Material Location	O	T	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
037	13A	Material: 4" Gray Cove Base Location: Faculty Bathroom	O	gg	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
038	13B	Material Location: Storage North	O	gg	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
039	13C	Material: 4" Gray Cove Base Location: Storage North	0	gy	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
040	14A	Material: 4" Gray Cove Base Mastic Location: Faculty Bathroom	0	T	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
041	14B	Material Location: Storage North	0	T	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
042	14C	Material Location	0	T	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
043	15A	Material: 4" Red Cove Base Location: Special Ed Office	0	MA	N	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
044	15B	Material: 4" Red Core Base Location: ~~Steam Bed~~ Library	0	MA	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
045	15C	Material Location	0	MA	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
046	16A	Material: 4" Red Core Base Mastic Location: Special Ed Office	0	T	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
047	16B	Material Location: Library	0	T	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
048	16C	Material Location	0	T	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
049	17A	Material: 4" Blue Cove Base / Location: Room 19	0	Bl	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
050	17B	Material / Location	0	Bl	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
051	17C	Material / Location	0	Bl	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
052	18A	Material: 4" Blue Cove Base Mastic / Location	0	T	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
053	18B	Material / Location	0	T	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
084	18C	Material 4" Blue Cove Base Master Location Room 19	0	T	N	S	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
085	19A	Material 4" Light Gray Cove Base Location P.E. Office	0	SS	N	S	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
086	19B	Material Location	0	SS	N	S	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
087	19C	Material Location	0	SS	N	S	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
088	20A	Material 4" Light Gray Cove Base Master Location	0	M	N	S	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
059	20B	Material 4" Light Gray Cove Base Mastic Location P.E. Office	0	N	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
060	20C	Material Location	0	N	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
061	21A	Material 4" Black cove Base Location OT	0	BK	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
062	21B	Material Location Room 12A	0	BK	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
063	21C	Material Location Storage	0	BK	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
064	22A	Material 4" Black Cove Base Mastic Location OT	O	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
065	22B	Material Location Room 12A	O	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
066	22C	Material Location Storage	O	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
067	23A	Material 6" Black Cove Base Location Room 19	O	BK	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
068	23B	Material Location	O	BK	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	∥	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
069	23C	Material 6" Black Cove Base Location Room 19	0	Bk	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
070	24A	Material 6" Black Cove Base Master Location	0	~	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
071	24B	Material Location	0	m	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
072	24C	Material Location	0	m	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
073	25A	Material 4" Cream Cove Base Location Conference Room	0	bn	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
074	25B	Material 4" Cream Cove Base / Location Conference Room	0	ow	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
075	25C	Material / Location	0	ow	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
076	26A	Material 4" Cream Cove Base Mastic / Location	0	y	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
077	26B	Material / Location	0	y	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
078	26C	Material / Location	0	y	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
079	27A	Material: Gray Floor Leveler Location: Library	0	gy	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
080	27B	Material Location	0	gy	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
081	27C	Material Location	0	gy	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
082	28A	Material: Tan Carpet Mastic Location: Special Ed Office	0	y	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
083	28B	Material Location	0	y	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
084	28C	Material: Tan Carpet Mastic Location: Special Ed office	0	g	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
085	29A	Material: Brown Carpet Mastic Location: Library	0	g	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
086	29B	Material Location	0	g	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
087	29C	Material Location	0	g	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
088	30A	Material: Gray Carpet Mastic Location: Southwest Hallway	0	gg	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
089	30B	Material: Gray Carpet Mastic Location: Southwest Hallway	0	gy	n	g	n	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
090	30C	Material Location	0	gy	n	g	n	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
091	31A	Material: Particle Board under 12"x12" VFT Location: Module	0	m	n	gF	n	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											6c				4c
								Actinolite															
092	31B	Material Location	0	m	n	gF	n	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											6c				4c
								Actinolite															
093	31C	Material Location	0	m	n	gF	n	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											6c				4c
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
094	32A	Material: Ceramic Wall Tile Grout Location: Girl's Bathroom West	0	gg	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
095	32B	Material Location	0	gg	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
096	32C	Material Location: Girl's Bathroom East	0	gg	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
097	33A	Material: Ceramic Floor Tile Grout Location: Girl's Bathroom East	0	gg	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
098	33B	Material Location	0	gg	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
099	33C	Material: Ceramic Floor Tile Grout Location: Girls Bathroom West	0	gy	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
100	34A	Material: Ceramic Floor Tile Mudset Location: Girls Bathroom East	0	gy	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															1
101	34B	Material Location	0	gy	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
102	34C	Material Location: Girls Bathroom West	0	gy	~	gr	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															10
103	35A	Material: 2'x4' White Pinhole Ceiling Tile Location: Girls Locker Room	0	w	~	gr-fi	s	Chrysotile									5		R				
								Amosite									15		15				
								Crocidolite															
								Tremolite															
								Anthophyllite									40		40				20
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
104	35B	Material 2'x4' White Pinhole Ceiling Tile Location Girl's Locker Room	0	gy	n	s-f	s	Chrysotile									5		R				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									40		40				20
								Actinolite															
105	35C	Material Location Room 29 Porch	0	gy	n	s-f	s	Chrysotile									5		R				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									40		90				20
								Actinolite															
106	36A	Material 2'x4' White Smooth Ceiling Tile Location Kitchen	0	m	n	s-f	s	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											10				90
								Actinolite															
107	36B	Material Location	0	m	n	s-f	s	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											10				90
								Actinolite															
108	36C	Material Location	0	m	n	s-f	s	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											10				90
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
109	37A	Material 2'x4' white Fissured ceiling Tile Location Room 20	0	gy	N	Fg	S	Chrysotile									S/I		R/R				
								Amosite															
								Crocidolite															
								Tremolite									40		40				20
								Anthophyllite															
								Actinolite															
110	37B	Material Location Hallway West	0	gy	N	Fg	S	Chrysotile									S/I		R/R				
								Amosite															
								Crocidolite															
								Tremolite									40		40				20
								Anthophyllite															
								Actinolite															
111	37C	Material Location	0	gy	N	Fg	S	Chrysotile									S/I		R/R				
								Amosite															
								Crocidolite															
								Tremolite									40		40				20
								Anthophyllite															
								Actinolite															
112	38A	Material 2'x4' white worm hole Location Hallway East	0	gy	N	Fg	S	Chrysotile									S/I		R/R				
								Amosite															
								Crocidolite															
								Tremolite									40		40				20
								Anthophyllite															
								Actinolite															
113	38B	Material Location	0	gy	N	Fg	S	Chrysotile									S/I		R/R				
								Amosite															
								Crocidolite															
								Tremolite									40		40				20
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
114	38C	Material 2'x4' white wormhole ceiling Tile Location Hallway west	0	gg	N	F/G	S	Chrysotile									S 1		R IR				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									40		40				20
								Actinolite															
115	39A	Material 12"x12" white Fissured Ceiling Tile Location Room 19	0	gg	N	F/G	S	Chrysotile									S 1	IS 1	R IR				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									30	30	20				20
								Actinolite															
116	39B	Material Location	0	gg	N	F/G	S	Chrysotile									S 1	IS 1	R IR				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									30	30	20				20
								Actinolite															
117	39C	Material Location Room 18	0	gg	N	F/G	S	Chrysotile									S F	IS 1	R IR				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									30	30	20				2
								Actinolite															
118	40A	Material 12"x12" white glued-on ceiling Tile Location Conference Room Closet	0	M	N	F/G	S	Chrysotile									S 1						
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									80						20
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
119	40B	Material 12"X12" White Glued-on Ceiling Tile Location Room 7	0	G	N	Gr/F	G	Chrysotile									S/-						
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									80						20
								Actinolite															
120	40C	Material Location Kitchen	0	G	N	Gr/F	G	Chrysotile									S/-						
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									80						20
								Actinolite															
121	41A	Material Brown Glue Daub w/ 12"X12" Ceiling Tile Location Conference Room Closet	0	BR	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															5
								Actinolite															95
122	41B	Material Location Room 7	0	BR	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															5
								Actinolite															95
123	41C	Material Location Kitchen	0	BR	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															5
								Actinolite															95

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
124	42A	Material: Red Duct Sealant / Location: Faculty Bathroom	0	R	N	gr	N	Chrysotile	3	W	P	+	L	N	1.551	1.543								
								Amosite																
								Crocidolite																
								Tremolite															97	
								Anthophyllite																
								Actinolite																
125	42B	Material / Location: Gym storage						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
126	42C	Material / Location						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
127	43A	Material: Tan Duct Sealant / Location: Hallway west	0	T	N	gr	N	Chrysotile	3	W	P	+	L	N	1.551	1.543								
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite															97	
								Actinolite																
128	43B	Material / Location						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
129	43C	Material: Tan Duct Sealant Location: Hallway East						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
130	44A	Material: Gray Duct Sealant Location: Gym Storage	0	gg	N	gr	N	Chrysotile	3	N	P	+	C	N	1.551	1.543								
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																97
								Actinolite																
131	44B	Material Location						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
132	44C	Material Location						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
133	45A	Material: Gray Vibration Cloth Location: Gym Storage	0	gg	N	gr	N	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite									30							70
								Actinolite																

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
134	45B	Material: Gray vibration cloth Location: Gym storage	0	gy	~	F/R	~	Chrysotile									5						
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									30						70
								Actinolite															
135	45C	Material Location	0	gy	~	F/R	~	Chrysotile									5						
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									30						70
								Actinolite															
136	46A	Material: Brown vibration cloth Location: Room 1	0	gy	~	F	~	Chrysotile											R/K				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											90				10
								Actinolite															
137	46B	Material Location	0	gy	~	F	~	Chrysotile											R/K				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											90				10
								Actinolite															
138	46C	Material Location	0	gy	~	F	~	Chrysotile											R/K				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											90				10
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
139	47A	Material: Fiberglass Pipe wrap Location: Basement Utilities and storage	0	M	N	F	S	Chrysotile									S/I		R/E				
								Amosite															
								Crocidolite															
								Tremolite									40		50				10
								Anthophyllite															
								Actinolite															
140	47B	Material Location	0	M	N	F	S	Chrysotile									S/I		R/E				
								Amosite															
								Crocidolite															
								Tremolite									40		50				10
								Anthophyllite															
								Actinolite															
141	47C	Material Location	0	M	N	F	S	Chrysotile									S/I		R/E				
								Amosite															
								Crocidolite															
								Tremolite									40		50				10
								Anthophyllite															
								Actinolite															
142	48A	Material: Red Fire stop Location: Basement storage	0	R	N	SM	N	Chrysotile									S/I						
								Amosite															
								Crocidolite															
								Tremolite									10						90
								Anthophyllite															
								Actinolite															
143	48B	Material Location: Basement Hallway	0	R	N	SM	N	Chrysotile									S/I						
								Amosite															
								Crocidolite															
								Tremolite									10						90
								Anthophyllite															
								Actinolite															

(Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
144	48C	Material: Red Fire Stop Location: Basement Hallway	0	R	N	G	N	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																10
								Anthophyllite																
								Actinolite																
145	49A	Material: Mudded Fitting wrap Location: Basement Storage	0	T	N	F	S	Chrysotile											R/R					
								Amosite																
								Crocidolite																
								Tremolite											90					10
								Anthophyllite																
								Actinolite																
146	49B	Material Location: Girl's Locker Room	0	T	N	F	S	Chrysotile											R/R					
								Amosite																
								Crocidolite																
								Tremolite											90					10
								Anthophyllite																
								Actinolite																
147	49C	Material Location: Hallway East	0	T	N	F	S	Chrysotile											R/R					
								Amosite																
								Crocidolite																
								Tremolite											90					10
								Anthophyllite																
								Actinolite																
148	50A	Material: Mudded Fitting Insulation Location: Basement Storage	0	gy	N	F/G	S	Chrysotile	S	W	P	+	C	N	1.551	1543	S/T	15/T	R/R					
								Amosite																
								Crocidolite																
								Tremolite									30	30	5					30
								Anthophyllite																
								Actinolite																

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
149	50B	Material: Mudded Fitting Insulation Location: Girl's Locker Room						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
150	50C	Material: Location: Hallway East						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
151	51A	Material: Wire Insulation Location: Tech Room	C	T	Y	G	Y	Chrysotile									S/I						
								Amosite															
								Crocidolite															
								Tremolite									90						b
								Anthophyllite															
								Actinolite															
152	51B	Material: Location:	C	T	Y	G	Y	Chrysotile									S/I						
								Amosite															
								Crocidolite															
								Tremolite									90						b
								Anthophyllite															
								Actinolite															
153	51C	Material: Location:	C	T	Y	G	Y	Chrysotile									S/I						
								Amosite															
								Crocidolite															
								Tremolite									90						b
								Anthophyllite															
								Actinolite															

DNA

DNA

Samples 51A-90C QC By ERM

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
154	52A	Material: Steam Pipe wrap Location: Room 7	0	GW	Y	G	Y	Chrysotile									5						
								Amosite									1						
								Crocidolite															
								Tremolite									90						10
								Anthophyllite															
								Actinolite															
155	52B	Material Location	0	GW	Y	G	Y	Chrysotile									5						
								Amosite									1						
								Crocidolite															
								Tremolite									90						10
								Anthophyllite															
								Actinolite															
156	52C	Material Location	C	GW	Y	G	Y	Chrysotile									5						
								Amosite									1						
								Crocidolite															
								Tremolite									90						10
								Anthophyllite															
								Actinolite															
157	53A	Material: Gypsum Board Wall Location: Faculty Bathroom	0	GY	Y	G	Y	Chrysotile											R FE				
								Amosite															
								Crocidolite															
								Tremolite											5				95
								Anthophyllite															
								Actinolite															
158	53B	Material Location: Room 30 Speech	0	GY	Y	G	Y	Chrysotile											R FE				
								Amosite															
								Crocidolite															
								Tremolite											5				95
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
159	53C	Material: Gypsum Board wall Location: Room 29 Psych	0	Gy	y	G	y	Chrysotile											12 FF				
								Amosite															
								Crocidolite															
								Tremolite											5				95
								Anthophyllite															
								Actinolite															
160	54A	Material: Joint compound Location: Faculty Bathroom	0	w	y	G	y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
161	54B	Material Location	0	w	y	G	y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
162	54C	Material Location: Room 30 Speech	0	w	y	G	y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
163	54D	Material Location	0	w	y	G	y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties								RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
164	54E	Material: Joint Compound Location: Room 29 Psych	O	w	Y	G	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
165	55A	Material: Pipe Thread Sealant Location: west closet	O	M	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
166	55B	Material Location	O	M	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
167	55C	Material Location: Gym storage	O	M	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
168	56A	Material: Peg Board Location: Room 7	O	Br	N	G	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															20

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
169	56B	Material: Peg Board Location: Custodian Office	0	Br	~	G	Y	Chrysotile											R +/-				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															
170	56C	Material Location: Room 12B	0	Br	~	G	Y	Chrysotile											R +/-				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															
171	57A	Material: Black Wall Caulking Location: Custodian Office	0	Bk	~	G	~	Chrysotile														B +/-	
								Amosite															
								Crocidolite															
								Tremolite														5	95
								Anthophyllite															
								Actinolite															
172	57B	Material Location	0	Bk	~	G	~	Chrysotile														B +/-	
								Amosite															
								Crocidolite															
								Tremolite														5	95
								Anthophyllite															
								Actinolite															
173	57C	Material Location	0	Bk	~	G	~	Chrysotile														B +/-	
								Amosite															
								Crocidolite															
								Tremolite														5	95
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
174	58A	Material: Burlap Cork Board cover Location: Boy's Locker Room	0	Br	N	L	Y	Chrysotile											P-I) IE				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															
175	58B	Material Location: Gym	0	Br	N	L	Y	Chrysotile											P-I IE				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															
176	58C	Material Location	0	Br	N	L	Y	Chrysotile											P-I IE				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															
177	59A	Material: CMU Mortar Location: Girl's Locker Room	0	Gy	N	L	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
178	59B	Material Location: Hallway East	0	Gy	N	L	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
179	59C	Material: CMU mortar Location: Hallway East	0	Gr	~	G	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
180	60A	Material: Freezer Door Glue Daub Location: Kitchen	0	Br	~	G	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
181	60B	Material Location	0	Br	Y	G	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
182	60C	Material Location	0	Br	Y	G	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
183	61A	Material: Stage Curtain Location: Cafeteria	0	Bl	~	G	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite											12 5 IE				
								Anthophyllite											8				
								Actinolite															2

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
184	61B	Material: Stage Curtain / Location: Cafeteria	0	Bl	~	G	Y	Chrysotile											R IE				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															
185	61C	Material / Location	0	Bl	~	G	Y	Chrysotile											R IE				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															
186	62A	Material: Classroom wood wall panel / Location: Room 7	0	Br	~	G	Y	Chrysotile											R IE				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															
187	62B	Material / Location	0	Br	~	G	Y	Chrysotile											R IE				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															
188	62C	Material / Location: Room 16	0	Br	~	G	Y	Chrysotile											R IE				
								Amosite															
								Crocidolite															
								Tremolite											80				20
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
189	63A	Material Black Paper Backing Behind wall panel Location Room 16	0	N	N	G	N	Chrysotile											P FE				
								Amosite															
								Crocidolite															
								Tremolite											60				40
								Anthophyllite															
								Actinolite															
190	63B	Material Location Room 5	0	N	N	G	N	Chrysotile											P FE				
								Amosite															
								Crocidolite															
								Tremolite											60				40
								Anthophyllite															
								Actinolite															
191	63C	Material Location	0	N	N	G	N	Chrysotile											R FE				
								Amosite															
								Crocidolite															
								Tremolite											60				40
								Anthophyllite															
								Actinolite															
192	64A	Material Brown Glue Daub behind wood panel Location Room 18	0	Br	Y	G	N	Chrysotile	5	N	P	F	L	N	1.550	1.551							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															95
								Actinolite															
193	64B	Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties							RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism		=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
194	64C	Material Brown Glue Daub behind wood panel Location Room 18						Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
195	65A	Material Corkboard Column Location Basement Project Room	0	G-Y	N	G	Y	Chrysotile												P FE				
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite												80			-	20
								Actinolite																
196	65B	Material Location	0	G-Y	N	G	Y	Chrysotile												P FE				
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite												80				20
								Actinolite																
197	65C	Material Location	0	G-Y	N	G	Y	Chrysotile												P FE				
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite												80				20
								Actinolite																
198	66A	Material Black Gasket Location Boiler Room	0	B/C	N	G	Y	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite															100	
								Actinolite																

DNA

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties							RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism		‖	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
199	66B	Material: Black Gasket Location: Boiler Room	0	Blk	~	G	~	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																100
200	66C	Material Location	0	Blk	~	G	~	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																100
201	67A	Material: Fiberglass End Sealant Location: Boiler Room	0	Gry	~	G	~	Chrysotile										5	75	R				
								Amosite										1	1	FE				
								Crocidolite																
								Tremolite																
								Anthophyllite										30	20	20				30
								Actinolite																
202	67B	Material Location	0	Gry	~	G	~	Chrysotile										5	75	R				
								Amosite										1	1	FE				
								Crocidolite																
								Tremolite																
								Anthophyllite										30	20	20				30
								Actinolite																
203	67C	Material Location	0	Gry	~	G	~	Chrysotile										5	75	R				
								Amosite										1	1	FE				
								Crocidolite																
								Tremolite																
								Anthophyllite										30	20	20				30
								Actinolite																

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
204	68A	Material Original Boiler Insulation Location Boiler Room	0	Gy	N	C	Y	Chrysotile									S/T	IS/T	P/FE				
								Amosite															
								Crocidolite															
								Tremolite									30	20	40				10
								Anthophyllite															
								Actinolite															
205	68B	Material Location	0	Gy	N	C	Y	Chrysotile									S/T	IS/T	P/FE				
								Amosite															
								Crocidolite															
								Tremolite									30	20	40				10
								Anthophyllite															
								Actinolite															
206	68C	Material Location	0	Gy	N	C	Y	Chrysotile									S/T	IS/T	P/FI				
								Amosite															
								Crocidolite															
								Tremolite									30	20	40				10
								Anthophyllite															
								Actinolite															
207	69A	Material Original Boiler Red Mastic Location	0	R	Y	C	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															10
								Anthophyllite															
								Actinolite															
208	69B	Material Location	0	R	Y	C	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															10
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
209	69C	Material Original Boiler Red Mastic Location Boiler Room	0	R	Y	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
210	70A	Material Original Boiler Green Flange Gasket Location	0	GN	N	G	N	Chrysotile															
								Amosite											R/FE			B/+-	
								Crocidolite															
								Tremolite															
								Anthophyllite											40			20	40
								Actinolite															
211	70B	Material Location	0	GN	N	G	N	Chrysotile															
								Amosite											R/FE			B/+-	
								Crocidolite															
								Tremolite															
								Anthophyllite											40			20	40
								Actinolite															
212	70C	Material Location	0	GN	N	G	N	Chrysotile															
								Amosite											R/FE			B/+-	
								Crocidolite															
								Tremolite															
								Anthophyllite											40			20	40
								Actinolite															
213	71A	Material Original Boiler Rope Gasket Location	0	OW	Y	G	Y	Chrysotile															
								Amosite										S/I					
								Crocidolite															
								Tremolite															
								Anthophyllite										90					10
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
214	71B	Material: Original Boiler Rope Gasket Location: Boiler Room	0	Gy	Y	G	Y	Chrysotile									1-2%						
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									98						1b
								Actinolite															
215	71C	Material Location	0	Gy	Y	G	Y	Chrysotile															
								Amosite									1-2%						
								Crocidolite															
								Tremolite															
								Anthophyllite									98						1b
								Actinolite															
216	72A	Material: Original Boiler Fire Rated Brick Location	0	R	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															1a
217	72B	Material Location	0	R	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															1a
218	72C	Material Location	0	R	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															1a

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
219	73A	Material: Original Boiler Fire Rated Brick Mortar Location: Boiler Room	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
220	73B	Material Location	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
221	73C	Material Location	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
222	74A	Material: Blue Boiler Breaching Insulation Location	0	Bl	N	G	Y	Chrysotile									S/I						
								Amosite															
								Crocidolite															
								Tremolite									10						90
								Anthophyllite															
								Actinolite															
223	74B	Material Location	0	Bl	N	G	Y	Chrysotile									S/I						
								Amosite															
								Crocidolite															
								Tremolite									10						90
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
224	74C	Material Blue Boiler Breaching Insulation Location Boiler Room	0	Bl	n	G	y	Chrysotile									S I						
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									10						90
								Actinolite															
225	75A	Material Gray Boiler Breaching Insulation Location	0	Gy	n	G	y	Chrysotile									S I	I> II					
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									30	20					50
								Actinolite															
226	75B	Material Location	0	Gy	n	G	y	Chrysotile									S I	I> II					
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									30	20					50
								Actinolite															
227	75C	Material Location	0	Gy	n	G	y	Chrysotile									S I	I> II					
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									30	20					50
								Actinolite															
228	76A	Material White Boiler Breaching Wrap Location	0	w	y	G	y	Chrysotile									S I						
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite									90						10
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
229	76B	Material White Boiler Breaching wrap Location Boiler Room	0	w	y	G	y	Chrysotile									5						
								Amosite															
								Crocidolite															
								Tremolite									90						10
								Anthophyllite															
								Actinolite															
230	76C	Material Location	0	w	y	G	y	Chrysotile									5						
								Amosite															
								Crocidolite															
								Tremolite									90						10
								Anthophyllite															
								Actinolite															
231	77A	Material New Boiler Mineral wool Location	0	w	y	G	y	Chrysotile									5						
								Amosite															
								Crocidolite															
								Tremolite									90						10
								Anthophyllite															
								Actinolite															
232	77B	Material Location	0	w	y	G	y	Chrysotile									5						
								Amosite															
								Crocidolite															
								Tremolite									90						10
								Anthophyllite															
								Actinolite															
233	77C	Material Location	0	w	y	G	y	Chrysotile									5						
								Amosite															
								Crocidolite															
								Tremolite									90						10
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
234	78A	Material: Gray Expansion Joint Location: Exterior Courtyard	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
235	78B	Material Location	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
236	78C	Material Location	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
237	79A	Material: Black Expansion Joint Location	0	Bk	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															40
238	79B	Material Location	0	Bk	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															40

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
239	79C	Material: Black Expansion Joint Location: Exterior Courtyard	0	Blc	N	G	N	Chrysotile											B FE					
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite											60					40
								Actinolite																
240	80A	Material: White Expansion Joint Location	0	W	N	G	N	Chrysotile									5							
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite									5							95
								Actinolite																
241	80B	Material Location	0	W	N	G	N	Chrysotile																
								Amosite																
								Crocidolite									5							
								Tremolite																
								Anthophyllite									5							95
								Actinolite																
242	80C	Material Location	0	W	N	G	N	Chrysotile																
								Amosite																
								Crocidolite									5							
								Tremolite																
								Anthophyllite									5							95
								Actinolite																
243	81A	Material: Window Screen Caulking Location	0	W	N	G	N	Chrysotile	3	W	P	+	C	N	1558	1551								
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																97
								Actinolite																

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
244	81B	Material: Window screen Caulking Location: Exterior Courtyard						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
245	81C	Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
246	82A	Material: White Window Glazing Location	0	w	n	b	n	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															lw
247	82B	Material Location	0	w	n	b	n	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															lw
248	82C	Material Location	0	w	n	b	n	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															lw

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
249	83A	Material White Window Frame Caulking Location Exterior Courtyard	0	W	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
250	83B	Material Location	0	W	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
251	83C	Material Location	0	W	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
252	84A	Material Brown Window Frame Caulking Location	0	Br	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
253	84B	Material Location	0	Br	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
B254	84C	Material: Brown Window Frame Caulking Location: Exterior Courtyard	0	Br	~	G	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
255	85A	Material: Brown Window Glazing Location	0	Br	~	G	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
256	85B	Material Location	0	Br	~	G	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
257	85C	Material Location	0	Br	~	G	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
258	86A	Material: Gray Window Glazing Location	0	Gy	~	G	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
259	86B	Material: Gray window Glazing / Location: Exterior Courtyard	0	M	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
260	86C	Material / Location	0	M	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
261	87A	Material: Tan window Glazing / Location	0	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
262	87B	Material / Location	C	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
263	87C	Material / Location	C	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
204	88A	Material Light Gray Concrete Caulking Location Exterior Courtyard	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
205	88B	Material Location	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
206	88C	Material Location	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
207	89A	Material Tan Door Frame Caulking Location Exterior Southeast	0	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
208	89B	Material Location	0	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
269	89C	Material: Tan Door Frame Caulking Location: Exterior Southeast	0	T	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
270	90A	Material: White Door Frame Caulking Location: Exterior Cafeteria Exit	0	N	N	G	N	Chrysotile	2	N	P	F	C	N	1.55	1.551							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															98
271	90B	Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															Pend
272	90C	Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															Pend
273	91A	Material: Light Gray Expansion Joint Location: Exterior South	0	Lgt	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
274	91B	Material Light Gray Expansion Joint Location Exterior South	0	LGy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
275	91C	Material Location	0	LGy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
276	92A	Material Dark Gray Vent Caulking Location Exterior East	0	DGy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
277	92B	Material Location	0	DGy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
278	92C	Material Location	0	DGy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
279	93A	Material: Brown Window Sill Caulking Location: Exterior west	0	M	2	G	N	Chrysotile	1	2	P	+	C	N	1.558	1.551							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															98
280	93B	Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															DNA
281	93C	Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															DNA
282	94A	Material: Brick Mortar Location: Exterior Southeast	0	Gy	2	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
283	94B	Material Location: Exterior west	0	Gy	2	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
284	94C	Material: Brick Mortar Location: Exterior West	0	Gy	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															100
285	95A	Material: Module Gypsum Board wall Location: Exterior South	0	Gw	Y	G	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															95
286	95B	Material Location	0	Gw	Y	G	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															95
287	95C	Material Location	0	Gw	Y	G	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															95
288	96A	Material: Module Gray Wall Board Location	0	Gy	Y	G	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															90

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
289	96B	Material Module Gray Wall Board Location Exterior South	0	Gy	Y	G	Y	Chrysotile											R-FE				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											10				90
								Actinolite															
290	96C	Material Location	0	Gy	Y	G	Y	Chrysotile											R-IE				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											10				90
								Actinolite															
291	97A	Material Module Exterior Board Location	0	Gy	N	G	Y	Chrysotile											R-FE				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											80				20
								Actinolite															
292	97B	Material Location	0	Gy	N	G	Y	Chrysotile											R-FE				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											80				20
								Actinolite															
293	97C	Material Location	0	Gy	N	G	Y	Chrysotile											R-FE				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											80				20
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
294	98A	Material: Exterior Overhead Panels Location: Exterior East Entrance	30	GY	N	G	N	Chrysotile	30	W	P	+	L	N	1.558	1.557							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															20
295	98B	Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															DNA
296	98C	Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															DNA
297	99A	Material: Black Cork Expansion Joint Location: Exterior West	0	BK	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															20
298	99B	Material Location	0	BK	N	G	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															20

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
299	99c	Material: Black Cork Expansion Joint Location: Exterior East	0	Bk	~	G	~	Chrysotile											P-E				
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite											80				
								Actinolite															20
		Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
		Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
		Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
		Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

APPENDIX C

LCP Laboratory Report and Chain of Custody Documentation

Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3050B/6010C/7000B

Customer: Mabbett & Associates, Inc.
105 Central Street Suite 4100
Stoneham, MA 02180

Attn: Mike Delaney
Michael Weydt

Project: Essex Elementary

Lab Order ID: **10102438**
Analysis: PBP
Date Received: 02/20/2026
Date Reported: 02/26/2026

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Mass (g)	Reporting Limit (ppm)	Concentration (ppm)	Concentration (% by weight)
PC-Pb-01	**Blue metal duct - rm 1**	0.0681	59	1400	**0.14%**
10102438_0001					
PC-Pb-02	**Yellow compressed wall panel - rm 5**	0.0651	61	<61	**<0.0061%**
10102438_0002					
PC-Pb-03	**Light blue metal door frame - rm 8**	0.0701	57	120	**0.012%**
10102438_0003					
PC-Pb-04	**Yellow metal radiator - rm 10**	0.0595	67	<67	**<0.0067%**
10102438_0004					
PC-Pb-05	**White wood window frame - rm 11**	0.0505	79	280	**0.028%**
10102438_0005					
PC-Pb-06	**Green CMU block wall - rm 15**	0.0640	63	<63	**<0.0063%**
10102438_0006					
PC-Pb-07	**White glass window - gym**	0.0554	72	<72	**<0.0072%**
10102438_0007					
PC-Pb-08	**Gray concrete floor - gym storage**	0.0919	44	110	**0.011%**
10102438_0008					

Disclaimer: Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA ELPAT program. ELPAT Laboratory ID: 173190. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Analytical uncertainty available upon request. The quality control samples run with the samples in this report have passed all EPA required specifications unless otherwise noted. RL: (Report Limit for an undiluted 50ml sample is 4µg Total Pb). All sample dried before preparation and analysis.

Mark Doki (20)
Analyst

Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3050B/6010C/7000B

Customer: Mabbett & Associates, Inc.
105 Central Street Suite 4100
Stoneham, MA 02180

Attn: Mike Delaney
Michael Weydt

Project: Essex Elementary

Lab Order ID: **10102438**
Analysis: PBP
Date Received: 02/20/2026
Date Reported: 02/26/2026

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Mass (g)	Reporting Limit (ppm)	Concentration (ppm)	Concentration (% by weight)
PC-Pb-09	**Blue metal door frame - gym storage**	0.0819	49	530	**0.053%**
10102438_0009					
PC-Pb-10	**Orange CMU block wall - gym storage**	0.0810	49	86	**0.0086%**
10102438_0010					
PC-Pb-11	**White CMU block wall - faculty bathroom**	0.0906	44	<44	**<0.0044%**
10102438_0011					
PC-Pb-12	**Yellow gypsum wall - faculty bathroom**	0.0556	72	<72	**<0.0072%**
10102438_0012					
PC-Pb-13	**Green metal covebase - cafeteria**	0.0791	51	160	**0.016%**
10102438_0013					
PC-Pb-14	**Green metal door frame - cafeteria**	0.0567	71	<71	**<0.0071%**
10102438_0014					
PC-Pb-15	**White metal duct - custodian office**	0.0640	63	<63	**<0.0063%**
10102438_0015					
PC-Pb-16	**Green concrete floor - by spiral staircase**	0.0702	57	<57	**<0.0057%**
10102438_0016					

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Mark Doki (20)
Analyst

Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3050B/6010C/7000B

Customer: Mabbett & Associates, Inc.
105 Central Street Suite 4100
Stoneham, MA 02180

Attn: Mike Delaney
Michael Weydt

Project: Essex Elementary

Lab Order ID: **10102438**
Analysis: PBP
Date Received: 02/20/2026
Date Reported: 02/26/2026

Sample ID / *Lab Sample ID*	Description / *Lab Notes*	Mass (g)	Reporting Limit (ppm)	Concentration (ppm)	Concentration (% by weight)
PC-Pb-17	**White concrete column - boiler room**	0.0592	68	95	**0.0095%**
10102438_0017					
PC-Pb-18	**Green wood window trim - exterior courtyard**	0.0730	55	160	**0.016%**
10102438_0018					
PC-Pb-19	**Tan wood window trim - exterior north**	0.1020	39	54	**0.0054%**
10102438_0019					
PC-Pb-20	**Yellow concrete curb - exterior north**	0.0991	40.	55	**0.0055%**
10102438_0020					

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Mark Doki (20)
Analyst

Approved Signatory

Scientific Analytical Institute
4604 Dundas Dr. Greensboro, NC 27407
Phone: 336.292.3888 Fax: 336.292.3313
www.sailab.com lab@sailab.com

Lab Use Only
Lab Order ID: 10102438
Client Code: _____

Contact Information

Company Name: Mabbett & Associates, Inc.
Address: 105 Central St., Suite 4100
Stoneham, MA 02180
Contact: Michael Delaney, Michael Weight
Phone [X]: 781-275-6050, 478-401-3596
Fax [ ]:
Email [X]: delaney@mabbett.com, weight@mabbett.com
PO Number: #R2025131.001
Project Name/Number: Essex Elementary

Billing/Invoice Information

Company:
Address:
Contact: SAME
Phone [ ]:
Fax [ ]:
Email [X]: accountspayable@mabbett.com

Lead Test Types

Paint Chips by Flame AA (PBP) [X]	Soil by Flame AA (PBS) [ ]	Other [ ]
Wipe by Flame AA (PBW) [ ]	Air by Flame AA (PBA) [ ]	

Turn Around Times

3 Hours	[ ]	72 Hours	[ ]
6 Hours	[ ]	96 Hours	[ ]
12 Hours	[ ]	120 Hours	[X]
24 Hours	[ ]	144+ Hours	[ ]
48 Hours	[ ]		

Sample ID #	Description/Location	Volume/Area	Comments
PC-Pb-01	Blue Metal Duct - Rm 1		
PC-Pb-02	Yellow ~~Concrete~~ Compressed Wall Panel - Rm 5		Samples collected
PC-Pb-03	Light Blue Metal Door Frame - Rm 8		in MA
PC-Pb-04	Yellow Metal Radiator - Rm 10		
PC-Pb-05	White Wood Window Frame - Rm 11		Tracking #
PC-Pb-06	Green CMU Block Wall - Rm 15		818183231681
PC-Pb-07	White Glass Window - Gym		
PC-Pb-08	Gray Concrete Floor - Gym Storage		
PC-Pb-09	Blue Metal Door Frame - Gym Storage		
PC-Pb-10	Orange CMU Block Wall - Gym Storage		
PC-Pb-11	White CMU Block Wall - Faculty Bathroom		
PC-Pb-12	Yellow Gypsum Wall - Faculty Bathroom		
PC-Pb-13	Green Metal Casebase - Cafeteria		
PC-Pb-14	Green Metal Door Frame - Cafeteria		
PC-Pb-15	White Metal Duct - Custodian Office		
PC-Pb-16	Green Concrete Floor - by Spiral Stairwell		
PC-Pb-17	White Concrete Column - Boiler Room		
PC-Pb-18	Green Wood Window Trim - Exterior Courtyard		
PC-Pb-19	Tan Wood Window Trim - Exterior North		
PC-Pb-20	Yellow Concrete Curb - Exterior North		

Accepted [X]
Rejected [ ]

Total Number of Samples 20

Relinquished by	Date/Time	Received by	Date/Time
Jacob Wright	2/19/26 1600	B Bulley	2/20 11am

APPENDIX D

PCB Laboratory Report and Chain of Custody

ANALYTICAL REPORT

Lab Number:	L2609487
Client:	Mabbett & Associates 105 Central St Stoneham, MA 02180
ATTN:	Michael Weydt
Phone:	(781) 275-6050
Project Name:	ESSEX ELEMENTARY
Project Number:	R2025131.001
Report Date:	03/03/26

The original project report/data package is held by Pace Analytical Services. This report/data package is paginated and should be reproduced only in its entirety. Pace Analytical Services holds no responsibility for results and/or data that are not consistent with the original.

Project Name: ESSEX ELEMENTARY
Project Number: R2025131.001

Lab Number: L2609487
Report Date: 03/03/26

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2609487-01	PCB-01 WHITE DOOR FRAME CAULK- EXTERIOR NORTH	SOLID	ESSEX, MA	02/18/26 14:30	02/20/26
L2609487-02	PCB-02 WHITE WINDOW FRAME CAULK- EXTERIOR COURT.	SOLID	ESSEX, MA	02/19/26 08:30	02/20/26
L2609487-03	PCB-03 WHITE WINDOW GLAZING- EXTERIOR COURTYARD	SOLID	ESSEX, MA	02/19/26 08:45	02/20/26
L2609487-04	PCB-04 WHITE WINDOW SCREEN CAULK- EXTERIOR COURTYA	SOLID	ESSEX, MA	02/19/26 09:00	02/20/26
L2609487-05	PCB-05 BLACK CAULK EXPANSION JOINT- EXTERIOR EAST	SOLID	ESSEX, MA	02/19/26 09:30	02/20/26

Project Name:	ESSEX ELEMENTARY	**Lab Number:**	L2609487
Project Number:	R2025131.001	**Report Date:**	03/03/26

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Pace Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet weight basis, unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Pace's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Pace Project Manager and made arrangements for Pace to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	ESSEX ELEMENTARY	**Lab Number:**	L2609487
Project Number:	R2025131.001	**Report Date:**	03/03/26

Case Narrative (continued)

PCBs

L2609487-05D: The sample has elevated detection limits due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly O'Neill

Title: Technical Director/Representative Date: 03/03/26

ORGANICS

PCBS

Project Name: ESSEX ELEMENTARY
Lab Number: L2609487
Project Number: R2025131.001
Report Date: 03/03/26

SAMPLE RESULTS

Lab ID: L2609487-01
Client ID: PCB-01 WHITE DOOR FRAME CAULK- EXTERIOR
Sample Location: NORTH ESSEX, MA
Sample Depth:
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 02/26/26 11:46
Analyst: EMR
Percent Solids: Results Reported on an "AS RECEIVED" basis

Date Collected: 02/18/26 14:30
Date Received: 02/20/26
Field Prep: Not Specified

Extraction Method: EPA 3540C
Extraction Date: 02/25/26 01:28
Cleanup Method: EPA 3630
Cleanup Date: 02/26/26
Cleanup Method: EPA 3665A
Cleanup Date: 02/26/26
Cleanup Method: EPA 3660B
Cleanup Date: 02/26/26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	581	--	1	A
Aroclor 1221	ND		ug/kg	581	--	1	A
Aroclor 1232	ND		ug/kg	581	--	1	A
Aroclor 1242	ND		ug/kg	291	--	1	A
Aroclor 1248	ND		ug/kg	581	--	1	A
Aroclor 1254	ND		ug/kg	581	--	1	A
Aroclor 1260	ND		ug/kg	581	--	1	A
Aroclor 1262	ND		ug/kg	581	--	1	A
Aroclor 1268	ND		ug/kg	291	--	1	A
PCBs, Total	ND		ug/kg	291	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	115		30-150	A
Decachlorobiphenyl	102		30-150	A
2,4,5,6-Tetrachloro-m-xylene	125		30-150	B
Decachlorobiphenyl	107		30-150	B

Project Name: ESSEX ELEMENTARY
Lab Number: L2609487
Project Number: R2025131.001
Report Date: 03/03/26

SAMPLE RESULTS

Lab ID: L2609487-02
Client ID: PCB-02 WHITE WINDOW FRAME CAULK- EXTERIOR
Sample Location: COURT.
ESSEX, MA
Sample Depth:
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 02/26/26 11:56
Analyst: EMR
Percent Solids: Results Reported on an "AS RECEIVED" basis

Date Collected: 02/19/26 08:30
Date Received: 02/20/26
Field Prep: Not Specified

Extraction Method: EPA 3540C
Extraction Date: 02/25/26 01:28
Cleanup Method: EPA 3630
Cleanup Date: 02/26/26
Cleanup Method: EPA 3665A
Cleanup Date: 02/26/26
Cleanup Method: EPA 3660B
Cleanup Date: 02/26/26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	654	--	1	A
Aroclor 1221	ND		ug/kg	654	--	1	A
Aroclor 1232	ND		ug/kg	654	--	1	A
Aroclor 1242	ND		ug/kg	327	--	1	A
Aroclor 1248	ND		ug/kg	654	--	1	A
Aroclor 1254	ND		ug/kg	654	--	1	A
Aroclor 1260	ND		ug/kg	654	--	1	A
Aroclor 1262	ND		ug/kg	654	--	1	A
Aroclor 1268	ND		ug/kg	327	--	1	A
PCBs, Total	ND		ug/kg	327	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	119		30-150	A
Decachlorobiphenyl	110		30-150	A
2,4,5,6-Tetrachloro-m-xylene	131		30-150	B
Decachlorobiphenyl	110		30-150	B

Project Name: ESSEX ELEMENTARY
Project Number: R2025131.001
Lab Number: L2609487
Report Date: 03/03/26

SAMPLE RESULTS

Lab ID: L2609487-03
Client ID: PCB-03 WHITE WINDOW GLAZING- EXTERIOR
Sample Location: COURTYARD
ESSEX, MA
Sample Depth:
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 02/26/26 12:06
Analyst: EMR
Percent Solids: Results Reported on an "AS RECEIVED" basis

Date Collected: 02/19/26 08:45
Date Received: 02/20/26
Field Prep: Not Specified

Extraction Method: EPA 3540C
Extraction Date: 02/25/26 01:28
Cleanup Method: EPA 3630
Cleanup Date: 02/26/26
Cleanup Method: EPA 3665A
Cleanup Date: 02/26/26
Cleanup Method: EPA 3660B
Cleanup Date: 02/26/26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	623	--	1	A
Aroclor 1221	ND		ug/kg	623	--	1	A
Aroclor 1232	ND		ug/kg	623	--	1	A
Aroclor 1242	ND		ug/kg	312	--	1	A
Aroclor 1248	ND		ug/kg	623	--	1	A
Aroclor 1254	ND		ug/kg	623	--	1	A
Aroclor 1260	ND		ug/kg	623	--	1	A
Aroclor 1262	ND		ug/kg	623	--	1	A
Aroclor 1268	ND		ug/kg	312	--	1	A
PCBs, Total	ND		ug/kg	312	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	131		30-150	A
Decachlorobiphenyl	127		30-150	A
2,4,5,6-Tetrachloro-m-xylene	149		30-150	B
Decachlorobiphenyl	129		30-150	B

Project Name: ESSEX ELEMENTARY
Lab Number: L2609487
Project Number: R2025131.001
Report Date: 03/03/26

SAMPLE RESULTS

Lab ID: L2609487-04
Client ID: PCB-04 WHITE WINDOW SCREEN CAULK- EXTERIOR
Sample Location: COURTYA
ESSEX, MA
Sample Depth:
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 02/26/26 12:17
Analyst: EMR
Percent Solids: Results Reported on an "AS RECEIVED" basis

Date Collected: 02/19/26 09:00
Date Received: 02/20/26
Field Prep: Not Specified

Extraction Method: EPA 3540C
Extraction Date: 02/25/26 01:28
Cleanup Method: EPA 3630
Cleanup Date: 02/26/26
Cleanup Method: EPA 3665A
Cleanup Date: 02/26/26
Cleanup Method: EPA 3660B
Cleanup Date: 02/26/26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	583	--	1	A
Aroclor 1221	ND		ug/kg	583	--	1	A
Aroclor 1232	ND		ug/kg	583	--	1	A
Aroclor 1242	ND		ug/kg	292	--	1	A
Aroclor 1248	ND		ug/kg	583	--	1	A
Aroclor 1254	ND		ug/kg	583	--	1	A
Aroclor 1260	ND		ug/kg	583	--	1	A
Aroclor 1262	ND		ug/kg	583	--	1	A
Aroclor 1268	ND		ug/kg	292	--	1	A
PCBs, Total	ND		ug/kg	292	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	78		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: ESSEX ELEMENTARY
Lab Number: L2609487
Project Number: R2025131.001
Report Date: 03/03/26

SAMPLE RESULTS

Lab ID: L2609487-05 D
Client ID: PCB-05 BLACK CAULK EXPANSION JOINT- EXTERIOR
Sample Location: EAST ESSEX, MA
Sample Depth:
Matrix: Solid
Analytical Method: 1,8082A
Analytical Date: 02/26/26 12:27
Analyst: EMR
Percent Solids: Results Reported on an "AS RECEIVED" basis

Date Collected: 02/19/26 09:30
Date Received: 02/20/26
Field Prep: Not Specified

Extraction Method: EPA 3540C
Extraction Date: 02/25/26 01:28
Cleanup Method: EPA 3630
Cleanup Date: 02/26/26
Cleanup Method: EPA 3665A
Cleanup Date: 02/26/26
Cleanup Method: EPA 3660B
Cleanup Date: 02/26/26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	3170	--	5	A
Aroclor 1221	ND		ug/kg	3170	--	5	A
Aroclor 1232	ND		ug/kg	3170	--	5	A
Aroclor 1242	ND		ug/kg	1590	--	5	A
Aroclor 1248	ND		ug/kg	3170	--	5	A
Aroclor 1254	ND		ug/kg	3170	--	5	A
Aroclor 1260	ND		ug/kg	3170	--	5	A
Aroclor 1262	ND		ug/kg	3170	--	5	A
Aroclor 1268	ND		ug/kg	1590	--	5	A
PCBs, Total	ND		ug/kg	1590	--	5	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	69		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	74		30-150	B

Project Name: ESSEX ELEMENTARY
Project Number: R2025131.001
Lab Number: L2609487
Report Date: 03/03/26

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 02/26/26 11:16
Analyst: EMR

Extraction Method: EPA 3540C
Extraction Date: 02/25/26 01:28
Cleanup Method: EPA 3630
Cleanup Date: 02/26/26
Cleanup Method: EPA 3665A
Cleanup Date: 02/26/26
Cleanup Method: EPA 3660B
Cleanup Date: 02/26/26

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-05 Batch: WG2178707-1						
Aroclor 1016	ND		ug/kg	563	--	A
Aroclor 1221	ND		ug/kg	563	--	A
Aroclor 1232	ND		ug/kg	563	--	A
Aroclor 1242	ND		ug/kg	282	--	A
Aroclor 1248	ND		ug/kg	563	--	A
Aroclor 1254	ND		ug/kg	563	--	A
Aroclor 1260	ND		ug/kg	563	--	A
Aroclor 1262	ND		ug/kg	563	--	A
Aroclor 1268	ND		ug/kg	282	--	A
PCBs, Total	ND		ug/kg	282	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	112		30-150	A
Decachlorobiphenyl	88		30-150	A
2,4,5,6-Tetrachloro-m-xylene	129		30-150	B
Decachlorobiphenyl	101		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: ESSEX ELEMENTARY
Project Number: R2025131.001
Lab Number: L2609487
Report Date: 03/03/26

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-05 Batch: WG2178707-2 WG2178707-3									
Aroclor 1016	119		121		40-140	2		50	A
Aroclor 1260	122		128		40-140	5		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	120		120		30-150	A
Decachlorobiphenyl	99		102		30-150	A
2,4,5,6-Tetrachloro-m-xylene	133		132		30-150	B
Decachlorobiphenyl	119		114		30-150	B

Project Name: ESSEX ELEMENTARY
Project Number: R2025131.001

Lab Number: L2609487
Report Date: 03/03/26

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2609487-01A	Glass 60mL/2oz unpreserved	NA	NA			Y	Absent		PCB-8082-CAULK(365)
L2609487-02A	Glass 60mL/2oz unpreserved	NA	NA			Y	Absent		PCB-8082-CAULK(365)
L2609487-03A	Glass 60mL/2oz unpreserved	NA	NA			Y	Absent		PCB-8082-CAULK(365)
L2609487-04A	Glass 60mL/2oz unpreserved	NA	NA			Y	Absent		PCB-8082-CAULK(365)
L2609487-05A	Glass 60mL/2oz unpreserved	NA	NA			Y	Absent		PCB-8082-CAULK(365)

*Values in parentheses indicate holding time in days

Project Name:	ESSEX ELEMENTARY	**Lab Number:**	L2609487
Project Number:	R2025131.001	**Report Date:**	03/03/26

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	ESSEX ELEMENTARY	**Lab Number:**	L2609487
Project Number:	R2025131.001	**Report Date:**	03/03/26

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	ESSEX ELEMENTARY	**Lab Number:**	L2609487
Project Number:	R2025131.001	**Report Date:**	03/03/26

Data Qualifiers

ND	- Not detected at the reporting limit (RL) for the sample.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
S	- Analytical results are from modified screening analysis.
V	- The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
Z	- The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: ESSEX ELEMENTARY
Project Number: R2025131.001
Lab Number: L2609487
Report Date: 03/03/26

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Pace Analytical Services performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Pace Analytical Services shall be to re-perform the work at it's own expense. In no event shall Pace Analytical Services be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Pace Analytical Services.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

ENV-FORM-WES2-0065 v02 Certificate/Approval Program Summary

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

PAS-WES2 Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

PAS-MANS Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
Biological Tissue Matrix: EPA 3050B

PAS-MAN1 Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.

PAS-ELON East Longmeadow Facility – 39 Spruce Street East Longmeadow, MA 01028
EPA 524.2: 1,3,5-Trichlorobenzene, m/p-Xylene, o-xylene.
EPA 625.1: 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, N-Nitrosodiphenylamine.
EPA 8081B NPW and SCM: Alachlor, Endrin Ketone, Hexachlorobenzene.
EPA 8260D NPW: Tetrahydrofuran, 1,3,5-Trichlorobenzene; **SCM:** TAME, TBEE, Diethyl ether, DIPE, Tetrahydrofuran. 1,3,5-Trichlorobenzene, Freon-113.
EPA 8270E: NPW: Carbazole, 1-Methylnaphthalene, Pentachloronitrobenzene; **SCM:** Carbazole, 1-Methylnaphthalene.
EPA TO-13: Air: Benzo(e)pyrene, 1-Methylnaphthalene, 2-Methylnaphthalene, Perylene.
EPA TO-4A Pesticide Air: delta-BHC, Endosulfan I, Endosulfan II, Endosulfan Sulfate, Endrin, Endrin Aldehyde, Endrin Ketone, Hexachlorobenzene, Methoxychlor.
SM4500: NPW: Amenable Cyanide; **SCM:** Total Phosphorus, TKN, NH3, NECi: NO2, NO3, ASTMD516.

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

PAS-MANS Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

The following analytes are included in our Massachusetts DEP Scope of Accreditation:

PAS-WES2 Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-G, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT.**

ENV-FORM-WES2-0065 v02 Certificate/Approval Program Summary

PAS-MANS Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1: Hg. **EPA 245.7:** Hg.
SM2340B

PAS-ELON East Longmeadow Facility – 39 Spruce Street East Longmeadow, MA 01028

Drinking Water

EPA 300.0: NO3, NO2, Fl, Cl, SO4. **NECl Reductase**: NO3, NO2.
SM4500F-C, SM4500Cl-B, ASTM D516, SM4500CN-C,E, EPA 180.1, SM2320B, SM 2540C, SM4500H-B, SM4500SO4-E.
EPA 537.1; EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: SM9223-P/A: TC/EC; SM9223B-Colilert-enumeration: TC/EC; HPC-Simplate.

Non-Potable Water

SM4500H-B, SM2510B, SM2540C, SM2320B, SM4500Cl-B, ASTMD516, SM4500NH3-B, C, EPA 350.1, NECi: NO3, **SM4500NH3-B, C: TKN, SM4500P-E: Ortho Phosphate, SM4500P-B, E: Total Phosphorus, EPA 410.4, SM5210B, SM5310C, SM4500CN-C, E, SM2540D, SM4500Cl-G, SM4500SO4-E, EPA 1664, EPA 420.1, EPA 300.0:** Cl, SO4, NO3.
EPA 624.1: Volatile Halocarbons, Volatile Aromatics.
EPA 608.3: Chlordane, Toxaphene, Aldrin, Alpha-BHC, Beta-BHC, Gamma-BHC, Delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan Sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs.
EPA 625.1: SVOC-Acid Extractables and Base/Neutrals
Microbiology: SM9223B-Colilert: E. coli (Ambient and Wastewater), **SM9223B-Colilert-18:** Fecal Coliform (Wastewater).

Certification IDs:

PAS-WES2 Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY kY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195.

PAS-MANS Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, CA 3117, CO MA00030, CT PH-0825, IL 200081, IN C-MA-04, KY KY98046, LA 85084, ME MA00030, MD 350, MA M-MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, UT MA00030, VT VT-0015, VA 460194, WA C954.

PAS-MAN1 Mansfield Air Lab Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, LA 245052, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

PAS-ELON East Longmeadow Facility – 39 Spruce St. East Longmeadow, MA 01028
CT PH-0821, ME MA00100, MI 9100, NC (DENR) 652, NC (DW) 25703, MA M-MA100, NH (Secondary) 2516, NH (Primary) 2557, NJ MA007, NY 10899, PA 68-05812, RI LAO00373, VA 460217, VT-255716, WV DEP 419, WV-DW 9979C, LA 05130, LA-DW LA042, MD-DW 373, OH 87781.

For a complete listing of analytes and methods, please contact your Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 2/20/26

PACE Job #: L2609487

Pace ANALYTICAL SERVICES
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Malbett and Associates Inc.
Address: 105 Central St. Stoneham MA, 02180 Suite # 4100
Phone: 978-907-3596
Fax:
Email: weyt@Malbett.com
☐ These samples have been previously analyzed by Pace

Project Information

Project Name: Essex Elementary
Project Location: Essex, MA
Project #: R2025131.001
Project Manager: Michael Weyt
PACE Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client Info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All **CAM** methods for inorganic analyses require MS every 20 soil samples)

PACE Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: PCBS 8082A	SAMPLE HANDLING: Filtration ☐ Done ☐ Not needed ☐ Lab to do; Preservation ☐ Lab to do (Please specify below)	Sample Specific Comments	TOTAL # BOTTLES
09487 01	PCB-01 White Drefame Caulk - Exterior North	2/13/26	1430	Bulk	JTW	X			1
02	PCB-02 White window frame Caulk - Exterior Courtyard	2/14/26	0830		JTW	X			1
03	PCB-03 White window Glazing - Exterior Courtyard	2/14/26	0845		JTW	X			1
04	PCB-04 White Screen Caulk - Exterior Courtyard	2/14/26	0900		JTW	X			1
05	PCB-05 ~~Brick Expansion Joint Caulk~~ - Exterior East	2/14/26	0930		JTW	X			1
	Black Caulk Expansion Joint								

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

	Container Type	Preservative
	G	N

Relinquished By:	Date/Time	Received By:	Date/Time
	2/20 1400		2/20/26 1400
	2/20/26 1805		2/20/26 1805

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Pace's Terms and Conditions. See reverse side.

Sample Delivery Group Summary

Pace Job Number : L2609487

Account Name : Mabbett & Associates
Project Number : R2025131.001
Project Name : ESSEX ELEMENTARY

Received : 20-FEB-2026
Reviewer : Julie Convery

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	2.3	

Condition Information

1) All samples on COC received?	YES
2) Extra samples received?	NO
3) Are there any sample container discrepancies?	NO
4) Are there any discrepancies between COC & sample labels?	NO
5) Are samples in appropriate containers for requested analysis?	YES
6) Are samples properly preserved for requested analysis?	YES
7) Are samples within holding time for requested analysis?	YES
8) All sampling equipment returned?	NA

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	NA

PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

SECTION 3.3.6.5

PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

Essex Elementary School
12 Story Street
Essex, MA 01929

March 24, 2026

Mabbett Project Number R2025131.001.006

Prepared For:

Manchester Essex Regional School District
36 Lincoln Street
Manchester-by-the-Sea, MA 01944

Under Contract To:

JCJ Architecture
120 Huyshope Avenue, Suite 400
Hartford, CT 06106

Mabbett & Associates, Inc. **www.mabbett.com**
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ACKNOWLEDGEMENT

This Phase II Environmental Site Assessment has been prepared under subcontract to JCJ Architecture (JCJ) for the Essex Elementary School Architectural Feasibility Study. This document was prepared for use by JCJ and the Manchester Essex Regional School District. This document is based on information available to Mabbett & Associates, Inc. (Mabbett®) at the time of the plan preparation.

This Phase II Environmental Site Assessment was prepared by the following Mabbett personnel:

Digitally signed by Cassidy Way
Date: 2026.03.24 16:32:16 -04'00'

Cassidy Way, CHMM, QEP
Project Environmental Scientist, Project Manager

Alanna Grady
Staff Environmental Scientist

Approved by:

Michael Bloom

Michael Bloom, PG, CPG
Practice Lead, Site Assessment & Remediation, Northeast

CEW/AHG/MLB

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Appendix A GPRS Reports and 811DigSafe Ticket
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LIST OF ACRONYMS

AST	Aboveground Storage Tank
ASTM	ASTM International
bgs	Below Ground Surface
CHMM	Certified Hazardous Materials Manager
COC	Chain Of Custody
DPT	Direct Push Technology
DTB	Depth To Bottom
DTW	Depth To Water
EPH	Extractable Petroleum Hydrocarbons
ESA	Environmental Site Assessment
GPR	Ground-Penetrating Radar
GPRS	Ground Penetrating Radar Systems, LLC
JCJ	JCJ Architecture
MassDEP	Massachusetts Department of Environmental Protection
MCP	Massachusetts Contingency Plan
MW	Monitoring Well
OHM	Oil or Hazardous Materials
ORP	Oxidation Reduction Potential
PID	Photo-Ionization Detector
ppmv	Part per Million by Volume
PVC	Polyvinyl Chloride
QAQC	Quality Assurance and Quality Control
QEP	Qualified Environmental Professional
RC	Reportable Concentration
REC	Recognized Environmental Condition
SB	Soil Boring
USCS	Unified Soil Classification System
USEPA	U.S. Environmental Protection Agency
UST	Underground Storage Tanks
VOC	Volatile Organic Compound
VPH	Volatile Petroleum Hydrocarbons

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1.0 INTRODUCTION

This Phase II Environmental Site Assessment (Phase II ESA) report describes the field investigation performed by Mabbett & Associates, Inc. (Mabbett®) on February 17, 19, 20, and 25, 2026, within the 9.75-acre property identified as Essex Elementary School at 12 Story St, Essex, Essex County, MA (the "Site"). Mabbett prepared this report under subcontract to JCJ Architecture (JCJ) for use by JCJ and the Manchester Essex Regional School District as part of the Essex Elementary School Architectural Feasibility Study.

1.1 Site Description and Site History

Essex Elementary School was originally constructed in 1958 with a gymnasium addition around 1975. The Site is currently developed with an approximately 53,036 square foot elementary school that has a centrally located courtyard, sub-grade boiler room, classrooms, a kitchen, and cafeteria. Exterior portions of the Site included a playground, athletic fields, parking areas, and landscaped areas.

The Site was accessible from Story Street to the north and Western Avenue to the southeast. Access to the Site was controlled via thick forested trees and shrubs but was not restricted by fencing. Site soils that were not covered with hardscape were vegetated with grass, shrubs, and trees. No significant soil erosion or stained soil was noted during the site reconnaissance.

The area surrounding the Site consisted of residential use lands.

The Site was undeveloped land in 1888. By 1893, one structure was present on the northern boundary of the Site by Story Street. Between 1915 and 1919, a roadway bisected the northern portion of the Site and had as many as four structures built on it. This roadway was gone by 1938. The Site appeared to have been historically used as agricultural land. The buildings on the Site were razed sometime between 1952 and the construction of the new elementary school in 1958. The manmade pond in the southern corner of the Site had also been built at this time. A gymnasium was added to the Site around 1975.

A Site Locus Map is provided as Figure 1-1. A detailed Site Map depicting current characteristics of the subject area is provided as Figure 1-2.

1.2 2025 Phase I Environmental Site Assessment

In October 2025, Mabbett completed a Phase I ESA for the Site. The Phase I ESA identified the following Recognized Environmental Condition (REC):

- During the site reconnaissance, a red colored petroleum staining was observed on the concrete floor of the boiler room, which was located sub-grade in the northeastern portion of the Essex Elementary School. Additionally, a slight petroleum sheen was observed within a pit filled with groundwater in the boiler room. According to Manchester Essex Schools Maintenance Supervisor, after periods of heavy precipitation, groundwater can seep through the concrete floor and enter the boiler room. Parts of the boiler room floor were observed to be visibly wet during the site reconnaissance. The oily sheen may have originated from a heating oil underground storage tank (UST) or aboveground storage tank (AST) previously associated with the boiler room; however, Mabbett was unable to confirm its size, contents, or historical location at the Site. The indications observed of an oil release within the boiler room and the potential for that release to have impacted groundwater represents a REC.

The Phase I ESA also identified the following significant data gap:

- According to a municipal record, the Conservation Commission was requested to determine the applicability of the Wetlands Protection Act for the removal of underground heating oil storage tanks at

12 Story Street in March 2002. Mabbett was unable to obtain documentation confirming the removal of a UST at the Site nor environmental conditions associated with the removal of a UST. No records were available for review pertaining to its size, location, or contents. A vent pipe, but no fill pipe, was observed exiting the northeastern wall of the Essex Elementary School near the current generator. Suspected UST piping was observed entering through the wall of the boiler room; however, the source and purpose of this piping could not be confirmed. The lack of information and documentation pertaining to this UST record represents a data gap.

A Phase II ESA was recommended by Mabbett to investigate whether releases of petroleum had occurred from the identified REC and to address the data gap presented by the potential presence of a UST.

1.3 Future Site Use

This Phase II ESA considers the specific future use case for the demolition and/or remodeling of Essex Elementary School. The Phase II ESA considers the anticipated future operation of the Site as educational use and compares laboratory-reported analytical data to the appropriate Massachusetts Contingency Plan (MCP) standards.

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2.0 INVESTIGATION TASKS

This section describes the Phase II ESA tasks, beginning with initial planning stages of the project and through subsequent components of the field investigation program. This section has been organized to present the field program tasks in chronological order with the means and methods that were utilized during implementation of individual field tasks.

2.1 Project Planning Tasks

Mabbett reviewed the findings from the Phase I ESA conducted at the Site in October 2025 to refine the scope of this Phase II ESA.

2.2 Preliminary Field Work Tasks

A series of preliminary field work tasks were completed prior to performing ground intrusive field activities. Mabbett's scientists provided oversight of all subcontractor work completed at the Site.

2.2.1 811 Utility Locator

Prior to mobilization, Mabbett submitted a ticket (ticket number 20260705763) to Dig Safe on February 13, 2026, to notify local utilities of the plan to advance soil borings on the Site. This ticket was cleared prior to beginning outdoor field activities. The Dig Safe ticket is included in Appendix A.

2.2.2 Utility Clearance via Ground Penetration Radar (GPR)

Mabbett's subcontractor, Ground Penetrating Radar Systems, LLC (GPRS) of Boston, Massachusetts performed a GPR survey to identify subsurface utilities at the Site prior to performing intrusive work on February 17, 2026. The ground surface was then marked with spray paint to indicate the locations of subsurface utilities.

No subsurface anomalies (such as those suggestive of a subsurface tank or structure) were identified during the GPR survey. Several unknown utilities were mapped in the vicinity of the soil boring locations. The GPRS report and Site map are included in Appendix A.

Of note, the GPR study was limited to paved areas due to the presence and volume of snow at the time of the Phase II investigation.

2.3 Intrusive Field Work Tasks

Phase II ESA intrusive activities included an environmental soil boring program, the installation of three groundwater monitoring wells, and the collection of subsurface soil and groundwater samples.

2.3.1 Soil Borings and Soil Sampling

Three soil borings were completed at the Site. Table 1, below, provides a summary of soil boring locations. Figure 1-3 shows the locations of the soil borings on the Site. Soil borings were completed by Bronson Drilling of Winchester, Massachusetts under the oversight of a Mabbett scientist. Indoor locations (SB-01 and SB-02) were advanced using hand-drilling techniques due to limited accessibility to the sub-surface boiler room. The outdoor boring, SB-03, was advanced using Direct Push Technology (DPT) drilling techniques.

TABLE 1
Boring and Monitoring Well Locations

Boring ID	Location	Completion Depth	Depths Sampled (feet)
SB-01/MW-01	Indoor; boiler room (West side)	2’	0-2’
SB-02/MW-02	Indoor; boiler room (East side)	1’	0-1’
SB-03/MW-03	Outdoor; potential area for suspected UST	9’	0-9’

Notes: SB = soil boring. MW = monitoring well

Soil borings were advanced in 5-foot-long runs with drill rods added to continue the drilling run down to the desired depth. A 1.25-inch diameter core barrel was used during drilling, and all soil samples were collected in clean acetate sleeves. Soil borings inside the boiler room were advanced only 1 to 2 feet below ground surface (bgs) due to the presence of bedrock causing refusal.

The cores were logged by Mabbett’s scientist according to the visual soil classification methods of ASTM International (ASTM) D 2488, in the Unified Soil Classification System (USCS) of ASTM D 2487. Soil cores were screened using a field-calibrated photoionization detector (PID) in 1-foot intervals to identify areas with a high potential for concentrations of volatile compounds (e.g. solvents and fuels).

A PID reading of 0.1 parts per million by volume (ppmv) was recorded in boring SB-03, from the depth interval approximately 1.5 feet bgs. The remaining soil cores screened from the three borings did not demonstrate the presence of volatile compounds above ambient air background levels (0.0 ppmv).

Cores were also visually observed for evidence of contamination, including staining or presence of waste or other debris. No visual evidence of staining or odors was observed in the three soil borings. Evidence of groundwater was encountered within 1-foot of ground surface in all three soil borings, which was confirmed during subsequent gauging of the corresponding groundwater monitoring wells. Completed soil boring logs are included in Appendix B.

Composite soil samples were collected from each boring for laboratory analysis. If potential contamination was observed anywhere in the indoor soil cores (SB-01 and SB-02), as determined by elevated PID readings, then a volatile organic compounds (VOC) sample was collected at the depth of the observed contamination.

Collected soil samples were homogenized and placed in laboratory-supplied sampling containers, labeled, and stored inside an iced cooler, then transported to the Mabbett office and stored in a refrigerator until being picked up by a Phoenix Environmental Laboratories, Inc. (Phoenix) laboratory courier. Phoenix is a Massachusetts certified laboratory. Each soil sample was submitted under chain of custody (COC) procedures and analyzed by Phoenix for the following:

- Volatile Petroleum Hydrocarbons (VPH) by MassDEP Method;
- Extractable Petroleum Hydrocarbons (EPH) by MassDEP Method; and/or
- VOCs by U.S. Environmental Protection Agency (USEPA) Method 8260.

2.3.2 Monitoring Well Installation and Groundwater Sampling

The three soil borings were completed as groundwater monitoring wells. MW-01, MW-02, and MW-03 were completed as 1-inch diameter flush mounted wells with 1 to 2 feet of Schedule 40 polyvinyl chloride (PVC) with 0.010-inch factory-slotted screen at soil borings SB-01 and SB-02 (MW-01 and MW-02, respectively), and 7 feet of Schedule 40 PVC with 0.010-inch factory-slotted screen with 2 feet of riser at soil boring SB-03 (MW-03). Well plugs were installed in each monitoring well. The wells were developed within 48-hours of their installation prior to sampling. Development of the monitoring wells was conducted using an electronically operated peristaltic pump with dedicated tubing. Groundwater levels within the wells were monitored continuously during development and depth to bottom (DTB) measurements were recorded before and after completing development.

The initial depths to water in the three monitoring wells ranged from 0.001 feet bgs to 0.1 feet bgs. During development, Mabbett purged a minimum of three well volumes from each monitoring well prior to sampling, with development volumes ranging from 0.12 to 1.1 gallons per well. Monitoring well locations MW-01 and MW-03 demonstrated stable recharge rates, while low recharge rates were documented at MW-02, which is the westernmost monitoring well installed within the subsurface utility room. Monitoring wells were allowed to recharge several days prior to sampling. Purge and development water generated was returned directly to the respective monitoring wells upon completion of sampling. Water was handled in accordance with MCP requirements governing Investigation Derived Waste (IDW).

The depth to water (DTW) was measured from each monitoring well prior to and after sample collection. Groundwater samples were collected from each monitoring well using a peristaltic pump and dedicated tubing. Samples were collected in accordance with USEPA low stress ("low flow") sampling guidance (USEPA, 2017). The groundwater sample collected from MW-02 was collected via low flow sampling methodologies but was purged for less than 30 minutes due to the limited volume and recharge within the well. No Quality Assurance and Quality Control (QAQC) or duplicate samples were collected.

Water quality parameters including pH, conductivity, turbidity, oxidation reduction potential (ORP), and temperature were measured using a field-calibrated multi-parameter water quality meter. Water quality parameters were recorded on well sampling sheets, which are included in Appendix C.

Groundwater samples were collected in laboratory-provided bottles, labeled, placed in an iced cooler, then transported to a Mabbett owned fridge and picked up by a Phoenix laboratory courier within 48 hours of sampling. Each groundwater sample was submitted under COC procedures and analyzed by Phoenix for the following:

- VOCs by USEPA Method 8260 (MW-01 and MW-02 only);
- EPH by MassDEP Method (MW-01 & MW-03 only); and
- VPH by MassDEP Method.

2.4 Deviations of Investigation Tasks

Due to limited volume and recharge, no EPH sample was collected from monitoring well location MW-02.

There were no other deviations from the work plan during this Phase II ESA.

3.0 INVESTIGATION RESULTS

The laboratory-reported analytical results for the collected soil and groundwater samples were compared to the applicable screening criteria established by the MCP. Soil analytical results were compared to the reportable concentrations (RCs) for the RCS-1 Reporting Category, which is applicable because the samples were obtained from a school. Groundwater analytical results were compared to the RCs for the RCGW-2 Reporting Category, which is applicable as the subject property is not located within a current or potential drinking water source area.

3.1 Soil Analytical Results

Mabbett's scientist visually observed each boring for evidence of contamination. No visual or olfactory evidence of contamination was observed at any of the soil borings. Soil analytical data compared to MCP RCS-1 soil standards are summarized in Table 2. The soil laboratory analytical data report is provided in Appendix D.

3.1.1 Volatile Organic Compounds

No VOCs were detected at concentrations above laboratory method reporting limits in the samples submitted from SB-01 or SB-02. The laboratory reporting limit for each VOC compound was significantly below the corresponding MCP RCS-1 standard.

3.1.2 Volatile Petroleum Hydrocarbons

No VPH constituent compounds were detected at concentrations above laboratory method reporting limits in any of the three soil samples submitted for laboratory analysis. The laboratory reporting limit for each VPH constituent compound was significantly below the corresponding MCP RCS-1 standard.

3.1.3 Extractable Petroleum Hydrocarbons

No EPH constituent compounds were detected at concentrations above laboratory method reporting limits in any of the three soil samples submitted for laboratory analysis. The laboratory reporting limit for each EPH constituent compound was significantly below the corresponding MCP RCS-1 standard.

3.2 Groundwater Analytical Results

Groundwater analytical data compared to MCP RCGW-2 standards is summarized in Table 3. The groundwater laboratory analytical report is provided in Appendix D.

3.2.1 Volatile Organic Compounds

No VOCs were detected at concentrations above laboratory method reporting limits in MW-01 or MW-02. The laboratory reporting limit for each VOC constituent compound was significantly below the corresponding MCP RCGW-2 standard.

3.2.2 Volatile Petroleum Hydrocarbons

No VPH constituent compounds were detected above laboratory method reporting limits in any of the groundwater samples. The laboratory reporting limit for each VPH constituent compound was significantly below the corresponding MCP RCGW-2 standard.

3.2.3 Extractable Petroleum Hydrocarbons

Four EPH constituent compounds (Benzo[ghi]perylene, Chrysene, Dibenz[a,h]anthracene, and Pyrene) were detected in the groundwater sample collected from MW-03, each of which were at least one order of magnitude below the applicable RCGW-2 standards. No other EPH constituent compounds were detected at concentrations

above laboratory method reporting limits in any of the three groundwater samples submitted for laboratory analysis

4.0 UST REMOVAL RECORDS

Following completion of the Phase II ESA, JCJ provided Mabbett with underground storage tank (UST) removal documentation that had not been available during the Phase I ESA. According to these records, two USTs, a 400-gallon #2 fuel oil tank and a 10,000-gallon #4 fuel oil tank, were removed from the Site in July 2002. The tanks were approximately 16–25 years old at the time of removal and were taken out under applicable local and state permits.

Decoulos & Company (Decoulos) oversaw the UST removals. Wright Industries, Inc. and Cyn Environmental personnel pumped, purged, and cleaned the tanks. Approximately 1,040 gallons of virgin #4 fuel oil, water, and tank bottoms were removed and transported by licensed hazardous-waste transporter Cyn Oil Corporation under Hazardous Waste Manifest MAM724197.

Upon removal, both tanks were observed to be mildly corroded but structurally intact, with no visible holes, staining, or evidence of leakage in the tanks, piping, surrounding soils, or concrete.

Decoulos personnel collected five soil screening samples from each UST excavation and screened them using a field-calibrated photoionization detector (PID) following MassDEP jar headspace screening methodology. These samples were not submitted for laboratory analysis.

In the 400-gallon UST excavation, PID readings were ≤ 4.3 ppmv, consistent with background organics from vehicle exhaust and asphalt.

In the 10,000-gallon UST excavation, the highest PID reading was 18.1 ppmv.

An additional sample collected beneath piping associated with a previously removed 1,000-gallon UST showed no detectable VOCs by PID.

The tanks were transported to the Grant Steel certified UST recycling facility in Readville, MA, in accordance with the Essex Fire Department's approved UST removal and transportation permits. No further action was deemed necessary, and UST removal documentation is included in Appendix E.

5.0 SUMMARY & CONCLUSIONS

5.1 Scope and Methods

A Phase II ESA was completed in the indoor sub-grade boiler room and at the exterior of the northeast side of the Essex Elementary School. The objective of the Phase II was to provide additional information to JCJ Architecture and the Manchester Essex Regional School District regarding capital investment decisions for the Site, including information pertaining to two USTs that were historically present on the Site. Field activities included a GPR survey to evaluate the current or former location of the UST, utility clearance, the advancement of three soil borings (SB-01 through SB-03) with associated monitoring well installations (MW-01 through MW-03), as well as soil and groundwater sample collection from each soil boring/well location.

5.2 Soils

No visual or olfactory evidence of petroleum (staining, sheen, odors) was observed in any borings. No VOCs, EPH, or VPH were detected above laboratory reporting limits in soil samples from SB-01, SB-02, or SB-03.

5.3 Groundwater

No visual or olfactory evidence of petroleum (sheen, odors) was observed during groundwater sample collection. Four EPH compounds were detected in MW-03 above laboratory reporting limits but well below MCP RCGW-2 standards. No VOCs and/or VPH contaminants were detected in MW-01, MW-02, or MW-03.

6.0 RECOMMENDATIONS

6.1 UST

No evidence of a current UST or UST grave was observed during the GPR survey of the paved exterior area near the boiler room. Mabbett was unable to survey the grass areas outside of the boiler room due to the snow present during the Phase II investigation.

Following completion of the Phase II ESA, JCJ and the Town of Essex provided Mabbett with documentation for the removal of two USTs in July 2002. Although no soil samples were submitted for laboratory analysis of petroleum compounds, the UST removal records indicate that the tanks were removed under appropriate local and state permits and that the work appears to have been conducted in accordance with Massachusetts UST closure regulations. Field observations documented at the time of removal, including the absence of staining, odors, structural breaches, or elevated PID readings, support the conclusion that no reportable release occurred during or prior to the 2002 removals.

Based on the available documentation and the lack of evidence of a release, the risk of environmental contamination associated with the former USTs is considered low, and no further investigation is warranted at this time.

6.2 Soils

Based on the soil sample analytical results collected during the Phase II Environmental Site Assessment, no EPH, VPH or VOC contamination is present in soils underlying the boiler room and the eastern adjacent exterior area where the UST location was indicated by the documents reviewed in the Phase I ESA. Based on the analytical results obtained during this Phase II ESA, soil concentrations at the subject property do not warrant further assessment under the Massachusetts Contingency Plan (MCP).

Soils generated during construction activities are not expected to be regulated under the MCP because they do not contain oil or hazardous materials (OHM) concentrations in excess of RCS-1; however, additional characterization sampling of Site soils would be required in order to obtain future approval to move soils off-Site to an approved receiving facility.

Soils that do not contain any contaminants above RCS-1 may be transported under a MassDEP Material Shipping Record (MSR). The MSR process may be certified by an LSP but can also be certified by a Qualified Environmental Professional (QEP), which is defined on the MSR form as an environmental professional that is “licensed or certified in a discipline related to environmental assessment (i.e., engineering, geology, soil science, or environmental science) by a state or recognized professional organization.

6.3 Groundwater

Based on the analytical results obtained during this Phase II ESA, groundwater concentrations do not warrant further assessment under the MCP underlying the boiler room and the eastern adjacent exterior area where the UST location was indicated by the documents reviewed in the Phase I ESA. Detected concentrations do not indicate the presence of a reportable condition, nor do they suggest the need for additional characterization or monitoring as part of MCP compliance activities.

Although no further MCP-related groundwater assessment is recommended, Mabbett wishes to make the project team aware that subsurface construction activities, particularly if undertaken during high groundwater seasons, are likely to require dewatering due to the shallow groundwater conditions and overall hydrogeologic setting. While this consideration falls outside the scope of ASTM E1527-21 requirements, anticipated dewatering needs

should be incorporated into project planning, including construction means and methods, management of dewatering effluent, permitting requirements (if applicable), and potential schedule implications.

7.0 REFERENCES

ASTM International (ASTM), 1995. Standard Guide for Developing Conceptual Site Models for Contaminated Sites.

ASTM, 2019. E1903-19, Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process.

ASTM D 2488, Practice for Description and Identification of Soils (Visual-Manual Procedure)

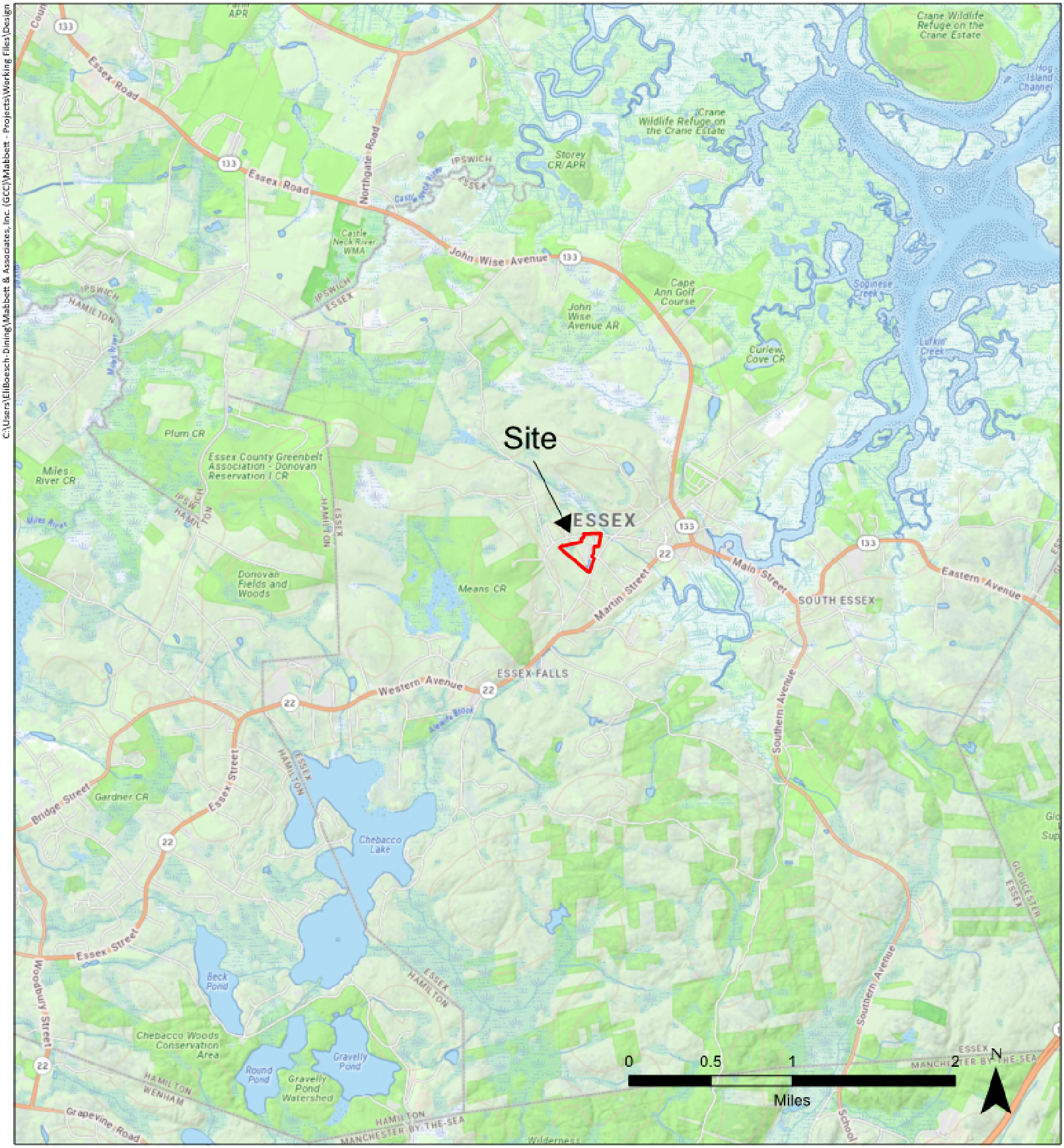
ASTM D 2487 Test Method for Classification of Soils for Engineering Purposes

Mabbett, 2025. ASTM Phase I Environmental Site Assessment Report. October.

USEPA, 2017. Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells.

FIGURES

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SITE LOCUS

ESSEX ELEMENTARY SCHOOL
12 STORY STREET
ESSEX, MA 01929

FIGURE 1-1

Drawn By: EBD	Approved By: CEW
Projection: NAD 1983 StatePlane Massachusetts FIPS 2001 (Meters)	
Project Number: R2025131.001.006	Date: 3/5/2026



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SITE LAYOUT

ESSEX ELEMENTARY SCHOOL
12 STORY STREET
ESSEX, MA 01929

FIGURE 1-2

Drawn By: EBD	Approved By: CEW
Projection: NAD 1983 StatePlane Massachusetts FIPS 2001 (Meters)	
Project Number: R2025131.001.006	Date: 3/5/2026

Notes:
MassGIS, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road data; Natural Earth Data; U.S. Department of State HIU; NOAA National Centers for Environmental Information. Data refreshed October 27, 2025.



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GROUNDWATER MONITORING WELL LOCATIONS

ESSEX ELEMENTARY SCHOOL
12 STORY STREET
ESSEX, MA 01929

FIGURE 1-3

Drawn By: EBD	Approved By: CEW
Projection: NAD 1983 StatePlane Massachusetts FIPS 2001 (Meters)	
6Project Number: R2025131.001.006	Date: 3/5/2026

Notes:
MassGIS, USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road data; Natural Earth Data; U.S. Department of State HIU; NOAA National Centers for Environmental Information. Data refreshed October 27, 2025.

TABLES

Table 2. Summary of Soil Boring Analytical Data
Table 3. Summary of Groundwater Analytical Data

Table 2
Summary of Soil Boring Analytical Data
Essex Elementary School, Essex, MA

			Sample Location	SB-01	SB-02	SB-03
			Sample Depth	0-2'	0-1'	0-9'
			Sample Date	2/19/2025	2/19/2026	2/19/2026
			Sample Time	9:30	10:00	11:45
Analyte	CAS Number	Units	MassDEP RCS-1	Result	Result	Result
Volatile Organic Compounds (VOCs)						
1,1,1,2-Tetrachloroethane	630-20-6	ug/Kg	100	< 5.7	< 5.4	NT
1,1,1-Trichloroethane	71-55-6	ug/Kg	30,000	< 5.7	< 5.4	NT
1,1,2,2-Tetrachloroethane	79-34-5	ug/Kg	5	< 3.4	< 3.2	NT
1,1,2-Trichloroethane	79-00-5	ug/Kg	100	< 5.7	< 5.4	NT
1,1-Dichloroethane	75-34-3	ug/Kg	400	< 5.7	< 5.4	NT
1,1-Dichloroethene	75-35-4	ug/Kg	3,000	< 5.7	< 5.4	NT
1,1-Dichloropropene	563-58-6	ug/Kg	-	< 5.7	< 5.4	NT
1,2,3-Trichlorobenzene	87-61-6	ug/Kg	-	< 5.7	< 5.4	NT
1,2,3-Trichloropropane	96-18-4	ug/Kg	100,000	< 5.7	< 5.4	NT
1,2,4-Trichlorobenzene	120-82-1	ug/Kg	2,000	< 5.7	< 5.4	NT
1,2,4-Trimethylbenzene	95-63-6	ug/Kg	1,000,000	< 5.7	< 5.4	NT
1,2-Dibromo-3-chloropropane	96-12-8	ug/Kg	10,000	< 5.7	< 5.4	NT
1,2-Dibromoethane	106-93-4	ug/Kg	100	< 0.57	< 0.54	NT
1,2-Dichlorobenzene	95-50-1	ug/Kg	9,000	< 5.7	< 5.4	NT
1,2-Dichloroethane	107-06-2	ug/Kg	100	< 5.7	< 5.4	NT
1,2-Dichloropropane	78-87-5	ug/Kg	100	< 5.7	< 5.4	NT
1,3,5-Trimethylbenzene	108-67-8	ug/Kg	10,000	< 5.7	< 5.4	NT
1,3-Dichlorobenzene	541-73-1	ug/Kg	3,000	< 5.7	< 5.4	NT
1,3-Dichloropropane	142-28-9	ug/Kg	500,000	< 5.7	< 5.4	NT
1,4-Dichlorobenzene	106-46-7	ug/Kg	700	< 5.7	< 5.4	NT
2,2-Dichloropropane	594-20-7	ug/Kg	-	< 5.7	< 5.4	NT
2-Chlorotoluene	95-49-8	ug/Kg	100,000	< 5.7	< 5.4	NT
2-Hexanone	591-78-6	ug/Kg	100,000	< 28	< 27	NT
2-Isopropyltoluene	527-84-4	ug/Kg	-	< 5.7	< 5.4	NT
4-Chlorotoluene	106-43-4	ug/Kg	-	< 5.7	< 5.4	NT
4-Methyl-2-pentanone	108-10-1	ug/Kg	400	< 28	< 27	NT
Acetone	67-64-1	ug/Kg	6,000	< 280	< 270	NT
Acrylonitrile	107-13-1	ug/Kg	100,000	< 5.7	< 5.4	NT
Benzene	71-43-2	ug/Kg	2,000	< 5.7	< 5.4	NT
Bromobenzene	108-86-1	ug/Kg	100,000	< 5.7	< 5.4	NT
Bromochloromethane	74-97-5	ug/Kg	-	< 5.7	< 5.4	NT
Bromodichloromethane	75-27-4	ug/Kg	100	< 5.7	< 5.4	NT
Bromoform	75-25-2	ug/Kg	100	< 5.7	< 5.4	NT
Bromomethane	74-83-9	ug/Kg	500	< 5.7	< 5.4	NT

Table 2
Summary of Soil Boring Analytical Data
Essex Elementary School, Essex, MA

Analyte	CAS Number	Units	MassDEP RCS-1	Sample Location	SB-01	SB-02	SB-03
				Sample Depth	0-2'	0-1'	0-9'
				Sample Date	2/19/2025	2/19/2026	2/19/2026
				Sample Time	9:30	10:00	11:45
					Result	Result	Result
Volatile Organic Compounds (VOCs)							
Carbon Disulfide	75-15-0	ug/Kg	100,000		< 5.7	< 5.4	NT
Carbon tetrachloride	56-23-5	ug/Kg	5,000		< 5.7	< 5.4	NT
Chlorobenzene	108-90-7	ug/Kg	1,000		< 5.7	< 5.4	NT
Chloroethane	75-00-3	ug/Kg	100,000		< 5.7	< 5.4	NT
Chloroform	67-66-3	ug/Kg	200		< 5.7	< 5.4	NT
Chloromethane	74-87-3	ug/Kg	100,000		< 5.7	< 5.4	NT
cis-1,2-Dichloroethene	156-59-2	ug/Kg	100		< 5.7	< 5.4	NT
cis-1,3-Dichloropropene	10061-01-5	ug/Kg	10		< 5.7	< 5.4	NT
Dibromochloromethane	124-48-1	ug/Kg	5		< 3.4	< 3.2	NT
Dibromomethane	74-95-3	ug/Kg	500,000		< 5.7	< 5.4	NT
Dichlorodifluoromethane	75-71-8	ug/Kg	1,000,000		< 5.7	< 5.4	NT
Ethylbenzene	100-41-4	ug/Kg	40,000		< 5.7	< 5.4	NT
Hexachlorobutadiene	87-68-3	ug/Kg	30,000		< 5.7	< 5.4	NT
Isopropylbenzene	98-82-8	ug/Kg	1,000,000		< 5.7	< 5.4	NT
m&p-Xylene	179601-23-1	ug/Kg	100,000		< 5.7	< 5.4	NT
Methyl Ethyl Ketone	78-93-3	ug/Kg	4,000		< 34	< 32	NT
Methyl t-butyl ether (MTBE)	1634-04-4	ug/Kg	100		< 11	< 11	NT
Methylene chloride	75-09-2	ug/Kg	100		< 11	< 11	NT
Naphthalene	91-20-3	ug/Kg	4,000		< 5.7	< 5.4	NT
n-Butylbenzene	104-51-8	ug/Kg	-		< 5.7	< 5.4	NT
n-Propylbenzene	103-65-1	ug/Kg	100,000		< 5.7	< 5.4	NT
o-Xylene	95-47-6	ug/Kg	100,000		< 5.7	< 5.4	NT
p-Isopropyltoluene	99-87-6	ug/Kg	100,000		< 5.7	< 5.4	NT
sec-Butylbenzene	135-98-8	ug/Kg	-		< 5.7	< 5.4	NT
Styrene	100-42-5	ug/Kg	3,000		< 5.7	< 5.4	NT
tert-Butylbenzene	98-06-6	ug/Kg	100,000		< 5.7	< 5.4	NT
Tetrachloroethene	127-18-4	ug/Kg	1,000		< 5.7	< 5.4	NT
Tetrahydrofuran (THF)	109-99-9	ug/Kg	500,000		< 11	< 11	NT
Toluene	108-88-3	ug/Kg	30,000		< 5.7	< 5.4	NT
Total Xylenes	1330-20-7	ug/Kg	100,000		< 5.7	< 5.4	NT
trans-1,2-Dichloroethene	156-60-5	ug/Kg	1,000		< 5.7	< 5.4	NT
trans-1,3-Dichloropropene	10061-02-6	ug/Kg	10		< 5.7	< 5.4	NT
trans-1,4-dichloro-2-butene	110-57-6	ug/Kg	10,000		< 11	< 11	NT
Trichloroethene	79-01-6	ug/Kg	300		< 5.7	< 5.4	NT

Table 2
Summary of Soil Boring Analytical Data
Essex Elementary School, Essex, MA

Analyte	CAS Number	Units	Sample Location	SB-01	SB-02	SB-03
			Sample Depth	0-2'	0-1'	0-9'
			Sample Date	2/19/2025	2/19/2026	2/19/2026
			Sample Time	9:30	10:00	11:45
			MassDEP RCS-1	Result	Result	Result
Volatile Organic Compounds (VOCs)						
Trichlorofluoromethane	75-69-4	ug/Kg	1,000,000	< 5.7	< 5.4	NT
Trichlorotrifluoroethane	76-13-1	ug/Kg	-	< 11	< 11	NT
Vinyl chloride	75-01-4	ug/Kg	300	< 5.7	< 5.4	NT
1,4-Dioxane	123-91-1	ug/Kg	200	< 110	< 110	NT
Diethyl ether	60-29-7	ug/Kg	100,000	< 5.7	< 5.4	NT
Di-isopropyl ether	108-20-3	ug/Kg	100,000	< 5.7	< 5.4	NT
Ethyl tert-butyl ether	637-92-3	ug/Kg	-	< 5.7	< 5.4	NT
tert-amyl methyl ether	994-05-8	ug/Kg	-	< 5.7	< 5.4	NT
Volatile Petroluem Hydrocarbons (VPH)						
Benzene	71-43-2	mg/Kg	2	< 0.023	< 0.033	< 0.025
C5-C8 Aliphatic Hydrocarbons	PHNX - C5-C8	mg/Kg	100	< 4.6	< 6.7	< 5.0
C9-C10 Aromatic Hydrocarbons	PHNX - C9-C10	mg/Kg	100	< 4.6	< 6.7	< 5.0
C9-C12 Aliphatic Hydrocarbons	PHNX - C9-C12	mg/Kg	1,000	< 4.6	< 6.7	< 5.0
Ethyl Benzene	100-41-4	mg/Kg	40	< 0.046	< 0.067	< 0.050
m,p-Xylenes	179601-23-1	mg/Kg	100	< 0.046	< 0.067	< 0.050
MTBE	1634-04-4	mg/Kg	0	< 0.046	< 0.067	< 0.050
Naphthalene	91-20-3	mg/Kg	4	< 0.23	< 0.33	< 0.25
o-Xylene	95-47-6	mg/Kg	100	< 0.046	< 0.067	< 0.050
Toluene	108-88-3	mg/Kg	30	< 0.046	< 0.067	< 0.050
Unadjusted C5-C8 Aliphatics	PHNX - UNC5-C8	mg/Kg	-	< 4.6	< 6.7	< 5.0
Unadjusted C9-C12 Aliphatics	PHNX - UNC9-C12	mg/Kg	-	< 4.6	< 6.7	< 5.0
Extractable Petroluem Hydrocarbons (EPH)						
Acenaphthylene	208-96-8	ug/Kg	2,000	< 260	< 250	< 260
Anthracene	120-12-7	ug/Kg	1,000,000	< 260	< 250	< 260
Benzo(a)anthracene	56-55-3	ug/Kg	20,000	< 260	< 250	< 260
Benzo(a)pyrene	50-32-8	ug/Kg	2,000	< 260	< 250	< 260
Benzo(b)fluoranthene	205-99-2	ug/Kg	20,000	< 260	< 250	< 260
Benzo(ghi)perylene	191-24-2	ug/Kg	1,000,000	< 260	< 250	< 260
Benzo(k)fluoranthene	207-08-9	ug/Kg	200,000	< 260	< 250	< 260
Chrysene	218-01-9	ug/Kg	200,000	< 260	< 250	< 260
Dibenz(a,h)anthracene	53-70-3	ug/Kg	2,000	< 260	< 250	< 260
Fluoranthene	206-44-0	ug/Kg	1,000,000	< 260	< 250	< 260
Fluorene	86-73-7	ug/Kg	1,000,000	< 260	< 250	< 260
Indeno(1,2,3-cd)pyrene	193-39-5	ug/Kg	20,000	< 260	< 250	< 260

Table 2
Summary of Soil Boring Analytical Data
Essex Elementary School, Essex, MA

			Sample Location	SB-01	SB-02	SB-03
			Sample Depth	0-2'	0-1'	0-9'
			Sample Date	2/19/2025	2/19/2026	2/19/2026
			Sample Time	9:30	10:00	11:45
Analyte	CAS Number	Units	MassDEP RCS-1	Result	Result	Result
Extractable Petroluem Hydrocarbons (EPH)						
Pyrene	129-00-0	ug/Kg	1,000,000	< 260	< 250	< 260
2-Methylnaphthalene	91-57-6	ug/Kg	700	< 260	< 250	< 260
Acenaphthene	83-32-9	ug/Kg	4,000	< 260	< 250	< 260
Naphthalene	91-20-3	ug/Kg	4,000	< 260	< 250	< 260
Phenanthrene	85-01-8	ug/Kg	10,000	< 260	< 250	< 260
C11-C22 Aromatic Hydrocarbons	PHNX - C11-C22	mg/Kg	1,000	< 76	< 71	< 75
C11-C22 Aromatic Hydrocarbons Unadj	PHNX - C11-C22RAW	mg/Kg	-	< 76	< 71	< 75
C19-C36 Aliphatic Hydrocarbons	PHNX - C19-C36	mg/Kg	3,000	< 76	< 71	< 75
C9-C18 Aliphatic Hydrocarbons	PHNX - C9-C18	mg/Kg	1,000	< 76	< 71	< 75
Miscellanous/Inorganics						
Solids	PHNX - PCTSOLID	%	-	88	93	88

Notes:
Bold = Detected
Highlighted = Detected above RSL
NT = Not Tested

Table 3
Summary of Groundwater Analytical Data
Essex Elementary School, Essex, MA

			Sample Location	MW-01	MW-02	MW-03
			Sample Type	Composite	Composite	Composite
			Sample Date	2/25/2026	2/25/2026	2/25/2026
			Sample Time	12:31	11:45	13:36
Analyte	CAS Number	Units	RCGW-2	Result	Result	Result
Volatile Organic Compounds (VOCs)						
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	10	< 1.0	< 1.0	NT
1,1,1-Trichloroethane	71-55-6	ug/L	4,000	< 1.0	< 1.0	NT
1,1,2,2-Tetrachloroethane	79-34-5	ug/L	9	< 0.50	< 0.50	NT
1,1,2-Trichloroethane	79-00-5	ug/L	900	< 1.0	< 1.0	NT
1,1-Dichloroethane	75-34-3	ug/L	2,000	< 1.0	< 1.0	NT
1,1-Dichloroethene	75-35-4	ug/L	80	< 1.0	< 1.0	NT
1,1-Dichloropropene	563-58-6	ug/L	-	< 1.0	< 1.0	NT
1,2,3-Trichlorobenzene	87-61-6	ug/L	-	< 1.0	< 1.0	NT
1,2,3-Trichloropropane	96-18-4	ug/L	10,000	< 1.0	< 1.0	NT
1,2,4-Trichlorobenzene	120-82-1	ug/L	200	< 1.0	< 1.0	NT
1,2,4-Trimethylbenzene	95-63-6	ug/L	100,000	< 1.0	< 1.0	NT
1,2-Dibromo-3-chloropropane	96-12-8	ug/L	1,000	< 1.0	< 1.0	NT
1,2-Dibromoethane	106-93-4	ug/L	2	< 0.25	< 0.25	NT
1,2-Dichlorobenzene	95-50-1	ug/L	2,000	< 1.0	< 1.0	NT
1,2-Dichloroethane	107-06-2	ug/L	5	< 0.60	< 0.60	NT
1,2-Dichloropropane	78-87-5	ug/L	3	< 1.0	< 1.0	NT
1,3,5-Trimethylbenzene	108-67-8	ug/L	1,000	< 1.0	< 1.0	NT
1,3-Dichlorobenzene	541-73-1	ug/L	6,000	< 1.0	< 1.0	NT
1,3-Dichloropropane	142-28-9	ug/L	50,000	< 1.0	< 1.0	NT
1,4-Dichlorobenzene	106-46-7	ug/L	60	< 1.0	< 1.0	NT
2,2-Dichloropropane	594-20-7	ug/L	-	< 1.0	< 1.0	NT
2-Chlorotoluene	95-49-8	ug/L	10,000	< 1.0	< 1.0	NT
2-Hexanone	591-78-6	ug/L	10,000	< 5.0	< 5.0	NT
2-Isopropyltoluene	527-84-4	ug/L	-	< 1.0	< 1.0	NT
4-Chlorotoluene	106-43-4	ug/L	-	< 1.0	< 1.0	NT
4-Methyl-2-pentanone	108-10-1	ug/L	50,000	< 5.0	< 5.0	NT
Acetone	67-64-1	ug/L	50,000	< 25	< 25	NT
Acrylonitrile	107-13-1	ug/L	10,000	< 1.0	< 1.0	NT
Benzene	71-43-2	ug/L	1,000	< 0.70	< 0.70	NT
Bromobenzene	108-86-1	ug/L	10,000	< 1.0	< 1.0	NT
Bromochloromethane	74-97-5	ug/L	-	< 1.0	< 1.0	NT
Bromodichloromethane	75-27-4	ug/L	6	< 0.50	< 0.50	NT
Bromoform	75-25-2	ug/L	700	< 1.0	< 1.0	NT
Bromomethane	74-83-9	ug/L	7	< 1.0	< 1.0	NT

Table 3
Summary of Groundwater Analytical Data
Essex Elementary School, Essex, MA

			Sample Location	MW-01	MW-02	MW-03
			Sample Type	Composite	Composite	Composite
			Sample Date	2/25/2026	2/25/2026	2/25/2026
			Sample Time	12:31	11:45	13:36
Analyte	CAS Number	Units	RCGW-2	Result	Result	Result
Volatile Organic Compounds (VOCs)						
Carbon Disulfide	75-15-0	ug/L	10,000	< 5.0	< 5.0	NT
Carbon tetrachloride	56-23-5	ug/L	2	< 1.0	< 1.0	NT
Chlorobenzene	108-90-7	ug/L	200	< 1.0	< 1.0	NT
Chloroethane	75-00-3	ug/L	10,000	< 1.0	< 1.0	NT
Chloroform	67-66-3	ug/L	50	< 1.0	< 1.0	NT
Chloromethane	74-87-3	ug/L	10,000	< 1.0	< 1.0	NT
cis-1,2-Dichloroethene	156-59-2	ug/L	20	< 1.0	< 1.0	NT
cis-1,3-Dichloropropene	10061-01-5	ug/L	5	< 0.40	< 0.40	NT
Dibromochloromethane	124-48-1	ug/L	20	< 0.50	< 0.50	NT
Dibromomethane	74-95-3	ug/L	50,000	< 1.0	< 1.0	NT
Dichlorodifluoromethane	75-71-8	ug/L	100,000	< 1.0	< 1.0	NT
Ethylbenzene	100-41-4	ug/L	5,000	< 1.0	< 1.0	NT
Hexachlorobutadiene	87-68-3	ug/L	50	< 0.40	< 0.40	NT
Isopropylbenzene	98-82-8	ug/L	100,000	< 1.0	< 1.0	NT
m&p-Xylene	179601-23-1	ug/L	3,000	< 1.0	< 1.0	NT
Methyl ethyl ketone	78-93-3	ug/L	50,000	< 5.0	< 5.0	NT
Methyl t-butyl ether (MTBE)	1634-04-4	ug/L	5,000	< 1.0	< 1.0	NT
Methylene chloride	75-09-2	ug/L	2,000	< 1.0	< 1.0	NT
Naphthalene	91-20-3	ug/L	700	< 1.0	< 1.0	NT
n-Butylbenzene	104-51-8	ug/L	-	< 1.0	< 1.0	NT
n-Propylbenzene	103-65-1	ug/L	10,000	< 1.0	< 1.0	NT
o-Xylene	95-47-6	ug/L	3,000	< 1.0	< 1.0	NT
p-Isopropyltoluene	99-87-6	ug/L	10,000	< 1.0	< 1.0	NT
sec-Butylbenzene	135-98-8	ug/L	-	< 1.0	< 1.0	NT
Styrene	100-42-5	ug/L	100	< 1.0	< 1.0	NT
tert-Butylbenzene	98-06-6	ug/L	10,000	< 1.0	< 1.0	NT
Tetrachloroethene	127-18-4	ug/L	20	< 1.0	< 1.0	NT
Tetrahydrofuran (THF)	109-99-9	ug/L	50,000	< 2.5	< 2.5	NT
Toluene	108-88-3	ug/L	40,000	< 1.0	< 1.0	NT
Total Xylenes	1330-20-7	ug/L	3,000	< 1.0	< 1.0	NT
trans-1,2-Dichloroethene	156-60-5	ug/L	90	< 1.0	< 1.0	NT
trans-1,3-Dichloropropene	10061-02-6	ug/L	5	< 0.40	< 0.40	NT
trans-1,4-dichloro-2-butene	110-57-6	ug/L	1,000	< 5.0	< 5.0	NT
Trichloroethene	79-01-6	ug/L	5	< 1.0	< 1.0	NT

Table 3
Summary of Groundwater Analytical Data
Essex Elementary School, Essex, MA

			Sample Location	MW-01	MW-02	MW-03
			Sample Type	Composite	Composite	Composite
			Sample Date	2/25/2026	2/25/2026	2/25/2026
			Sample Time	12:31	11:45	13:36
Analyte	CAS Number	Units	RCGW-2	Result	Result	Result
Volatile Organic Compounds (VOCs)						
Trichlorofluoromethane	75-69-4	ug/L	100,000	< 1.0	< 1.0	NT
Trichlorotrifluoroethane	76-13-1	ug/L	-	< 1.0	< 1.0	NT
Vinyl chloride	75-01-4	ug/L	2	< 1.0	< 1.0	NT
1,4-Dioxane	123-91-1	ug/L	5,000	< 40	< 40	NT
Diethyl ether	60-29-7	ug/L	10,000	< 1.0	< 1.0	NT
Di-isopropyl ether	108-20-3	ug/L	10,000	< 1.0	< 1.0	NT
Ethyl tert-butyl ether	637-92-3	ug/L	-	< 1.0	< 1.0	NT
tert-amyl methyl ether	994-05-8	ug/L	-	< 1.0	< 1.0	NT
Volatile Petroleum Hydrocarbons (VPH)						
Benzene	71-43-2	ug/L	1,000	< 1.0	< 1.0	< 1.0
C5-C8 Aliphatic Hydrocarbons *1,2	PHNX - C5-C8	ug/L	3,000	< 100	< 100	< 100
C9-C10 Aromatic Hydrocarbons *1	PHNX - C9-C10	ug/L	4,000	< 100	< 100	< 100
C9-C12 Aliphatic Hydrocarbons *1	PHNX - C9-C12	ug/L	5,000	< 100	< 100	< 100
Ethyl Benzene	100-41-4	ug/L	5,000	< 1.0	< 1.0	< 1.0
m,p-Xylenes	179601-23-1	ug/L	3,000	< 2.0	< 2.0	< 2.0
MTBE	1634-04-4	ug/L	5,000	< 1.0	< 1.0	< 1.0
Naphthalene	91-20-3	ug/L	700	< 5.0	< 5.0	< 5.0
o-Xylene	95-47-6	ug/L	3,000	< 1.0	< 1.0	< 1.0
Toluene	108-88-3	ug/L	40,000	< 1.0	< 1.0	< 1.0
Unadjusted C5-C8 Aliphatics (*1)	PHNX - UNC5-C8	ug/L	-	< 100	< 100	< 100
Unadjusted C9-C12 Aliphatics (*1)	PHNX - UNC9-C12	ug/L	-	< 100	< 100	< 100
Extractable Petroleum Hydrocarbons (EPH)						
2-Methylnaphthalene	91-57-6	ug/L	2,000	< 0.50	NT	< 0.49
Acenaphthene	83-32-9	ug/L	6,000	< 0.50	NT	< 0.49
Acenaphthylene	208-96-8	ug/L	40	< 0.10	NT	< 0.10
Anthracene	120-12-7	ug/L	30	< 0.10	NT	< 0.09
Benzo(a)anthracene	56-55-3	ug/L	1,000	< 0.10	NT	< 0.10
Benzo(a)pyrene	50-32-8	ug/L	500	< 0.20	NT	< 0.20
Benzo(b)fluoranthene	205-99-2	ug/L	400	< 0.10	NT	< 0.10
Benzo(ghi)perylene	191-24-2	ug/L	20	< 0.10	NT	**0.05**
Benzo(k)fluoranthene	207-08-9	ug/L	100	< 0.10	NT	< 0.10
Chrysene	218-01-9	ug/L	70	< 0.05	NT	**0.07**
Dibenz(a,h)anthracene	53-70-3	ug/L	40	< 0.02	NT	**0.03**
Fluoranthene	206-44-0	ug/L	200	< 0.50	NT	< 0.49

Table 3
Summary of Groundwater Analytical Data
Essex Elementary School, Essex, MA

			Sample Location	MW-01	MW-02	MW-03
			Sample Type	Composite	Composite	Composite
			Sample Date	2/25/2026	2/25/2026	2/25/2026
			Sample Time	12:31	11:45	13:36
Analyte	CAS Number	Units	RCGW-2	Result	Result	Result
Extractable Petroleum Hydrocarbons (EPH)						
Fluorene	86-73-7	ug/L	40	< 0.10	NT	< 0.10
Indeno(1,2,3-cd)pyrene	193-39-5	ug/L	100	< 0.10	NT	< 0.10
Naphthalene	91-20-3	ug/L	700	< 0.50	NT	< 0.49
Phenanthrene	85-01-8	ug/L	10,000	< 0.50	NT	< 0.49
Pyrene	129-00-0	ug/L	20	< 0.20	NT	**0.12**
C11-C22 Aromatic Hydrocarbons 1	PHNX - C11-C22	ug/L	5,000	< 190	NT	< 200
C11-C22 Aromatic Hydrocarbons U	PHNX - C11-C22RAW	ug/L	-	< 190	NT	< 200
C19-C36 Aliphatic Hydrocarbons 1	PHNX - C19-C36	ug/L	50,000	< 190	NT	< 200
C9-C18 Aliphatic Hydrocarbons 1*	PHNX - C9-C18	ug/L	5,000	< 190	NT	< 200

Notes:
Bold = Detected
Highlighted = Detected above RSL
NT = Not Tested

APPENDIX A

GPRS Reports and 811 Dig Safe Ticket

Ticket Status Notification

To: MABBETT & ASSOCIATES, INC
Email: GRADY@MABBETT.COM

Below lists utilities that were statused by USIC. Please note there may be other Utilities which include private facilities that may be present in the work area and are NOT the responsibility of USIC to locate or mark.

You are receiving this notification because your contact information is listed on the above ticket from the One Call System. If you have any questions regarding this notification, please contact USIC at 1-800-762-0592.

Ticket	Address
20260705763	12 STORY ST,ESSEX,MA

Utility	Locate Date /	Status	Detail
NatGrid East Ele	02/16/26 10:21 AM	Not Marked	Excavation Site Clear

---

Stay Up-to-Date with Real-Time Access to USIC's assigned Tickets through our DigCheck Pro App.
You will have the flexibility to see Open and Closed Tickets, Post Locate Photos, and Street Views!
There is no cost to access our DigCheck Pro App.

Sign up by emailing DigCheck@usicllc.com and provide your
First Name:
Last Name:
Company Name:
Email Address:
State or States:
Phone Number:

You can download DigCheck Pro from Apple App Store or Google Play Store Now!

It's Free!

DigCheck
Powered by USIC

Questions or Comments:

DigCheck@usicllc.com

JOB SUMMARY REPORT

Order Number:	Work Order #863029	**Job Date:**	Feb 17, 2026 2:20:00 PM
Customer:	36321 MABBETT AND ASSOCIATES INC	**Billing Address:**	MABBETT AND ASSOCIATES INC 105 CENTRAL STREET STE 4100 STONEHAM MA 02180 United States

JOB DETAILS

Jobsite Location	12 Story Street, Essex, Massachusetts 01929
Work Order Number	Work Order #863029
Job Number	
PO Number	2025131.001.006

GPRS Project Manager: Matthew Battaini

Thank you for using GPRS on your project. We appreciate the opportunity to work with you. If you have questions regarding the results of this scanning, please contact the lead GPRS project manager on this project.

EQUIPMENT USED

The following equipment was used on this project:

- **Concrete GPR Antenna:** This GPR Antenna is handheld and rolls over the surface. The device displays scan data on a screen, and the operator marks detected objects on the surface in real-time. The antenna needs a reasonably smooth, unobstructed surface for scanning and cannot scan within 2”-4” of obstructions such as walls and metal tracks. Ideally, the client removes obstacles such as these before our work begins. The total effective scan depth can be as much as 18” or more with this antenna but can vary depending on the concrete conditions, composition, and other factors such as the spacing of the reinforcing. Depth accuracy depends on obtaining a precise depth calibration for the concrete. This device does not emit harmful radiation and can be safely operated while people are in close proximity. For more information, please visit: Link
- **Underground GPR Antenna:** This GPR Antenna uses frequencies ranging from 250 MHz to 450 MHz and is mounted in a stroller frame that rolls over the surface. Data is displayed on a screen and marked in the field in real time. The surface needs to be reasonably smooth and unobstructed to obtain readable scans. Obstructions such as curbs, landscaping, and vegetation will limit the efficacy of GPR. The total effective scan depth can be as much as 8’ or more with this antenna but can vary widely depending on the soil conditions and composition. Some soil types, such as clay, may limit maximum depths to 3’ or less. As depth increases, targets must be larger to be detected, and non-metallic targets can be challenging to locate. The depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **EM Pipe Locator:** Electromagnetic Pipe and Cable Locator. Detects electromagnetic fields. Used to actively trace conductive pipes and tracer wires, or passively detect power and radio signals traveling along conductive pipes and utilities. For more information, please visit: Link
- **GPS:** This handheld unit offers accuracy down to 4 inches; however, the accuracy achieved will depend on the satellite environment at the time of collection and is not considered survey-grade. Features can be collected as points, lines, or areas and then exported as a KML/KMZ or overlaid on a CAD drawing. For more information, please visit: Link

JOB SUMMARY REPORT

WORK PERFORMED

UNDERGROUND UTILITY	
Client Provided Drawings	No
Client completed 811 locate request	Yes
Scope of Work	Customer is looking for rebuilding options for the school, they suspect there was a UST on the side of the school that is about 4,500 SF area. They are also looking to put in 3 wells inside the boiler room that is in the basement. The thickness of the concrete is unknown looking for reinforcements and conduits.
Small Area Scan (sq ft)	5,000
Soil Borings (qty)	3
Approximate GPR Effective Depth (ft)	2
Utilities Located	- Electric - Unknown
Limitations Encountered	- Soil conditions not suitable for GPR at time of scanning
Marking Medium	- Spray Paint
Results Notes	For this project, a concrete scan and utility locate was performed utilizing Radio Detection (RD) Vivax Wand equipment and Impulse Ground Penetrating Radar (GPR) antenna systems. The scope of work included both interior slab-on-grade concrete scanning and an exterior utility locate within the defined work area. --- Scan Methodology Radio Detection (RD) – Vivax Wand • Passive and active radio frequency modes were utilized where applicable. • A direct connection was made using a halo clamp on accessible conduits during the exterior utility locate. • A 32 kHz frequency was induced and traced from points of access outward within the work area. • One interior line was detected using radio frequency methods but could not be visually verified within the slab. Ground Penetrating Radar (GPR) • GPR scans were conducted across all accessible interior and exterior areas within the defined scope. • Inside scanning was performed on a slab-on-grade concrete floor. • Exterior scans were conducted where ground surface conditions permitted. • Subsurface conditions, including concrete composition, soil type, and surface obstructions, influenced signal clarity and depth penetration. --- Findings Interior – Concrete Scan (Slab on Grade) • Slab Thickness: Approximately 4 to 6 inches within the work area.

• Reinforcement: Wire mesh reinforcing was identified throughout the slab.

• Utilities Identified:

• One unknown line detected using radio frequency with the Vivax wand and confirmed with GPR at depths of approximately 0 to 1 foot.

• A second unknown line was identified only with GPR, also at depths of approximately 0 to 1 foot.

• Plumbing:

• One floor drain was observed but was filled with debris. The drain could not be rodded and was not visible via GPR, preventing confirmation of its routing or depth.

Exterior – Utility Locate

• Electrical / Conduits:

• Three conduits were directly connected to using a halo clamp and traced on a 32 kHz frequency.

• All three conduits were confirmed with GPR at depths of approximately 1 to 2 feet.

• Unknown Utilities:

• One unknown line was located using GPR only, at depths of approximately 1 to 2 feet.

• Limitations:

• Utility tracing could not continue beyond a snow bank, as snow cover obstructed effective GPR signal penetration.

• UST Investigation:

• No evidence of Underground Storage Tanks (USTs) was identified within the scanned work area.

Utilities Not Located

• No additional utilities were identified beyond those noted above.

• Due to surface conditions and access limitations, utilities beyond the defined scan area or beneath snow-covered zones could not be evaluated.

Important Limitations & Notes

• Dig Instructions: Do not cut, core, or excavate on or within 2 feet of any GPR or RD markings.

• Verification: GPR and RD results are interpreted representations of subsurface conditions. Potholing, coring, or daylighting is strongly recommended prior to intrusive work.

• Surface Obstructions: Snow cover, debris, and interior slab conditions restricted visibility in certain areas.

• Depth Accuracy: GPR-confirmed depths are approximate and may vary due to material composition and site conditions.

• Utility Traceability: Some utilities may not be traceable without direct access points or conductive materials.

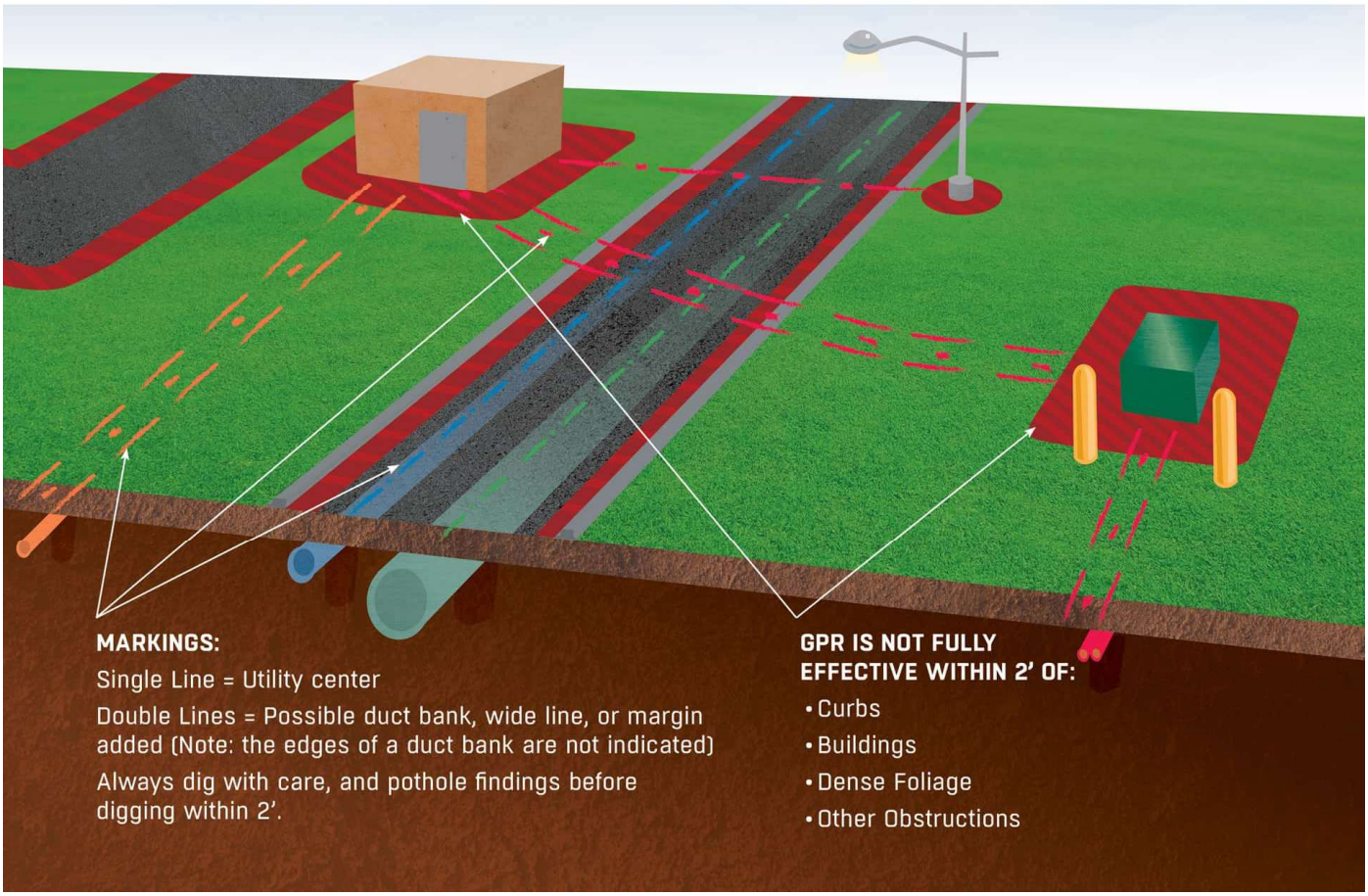
• Equipment Limitations: GPR effectiveness is influenced by slab composition, reinforcing materials, soil moisture, and surface conditions. Detection does not guarantee identification of all subsurface objects.

JOB SUMMARY REPORT

SUPPLEMENTAL INFORMATION

COMMON UTILITY LOCATING LIMITATIONS

There are many limitations to locating utilities, due to a variety of factors, with several more common examples illustrated here.



JOB SUMMARY REPORT

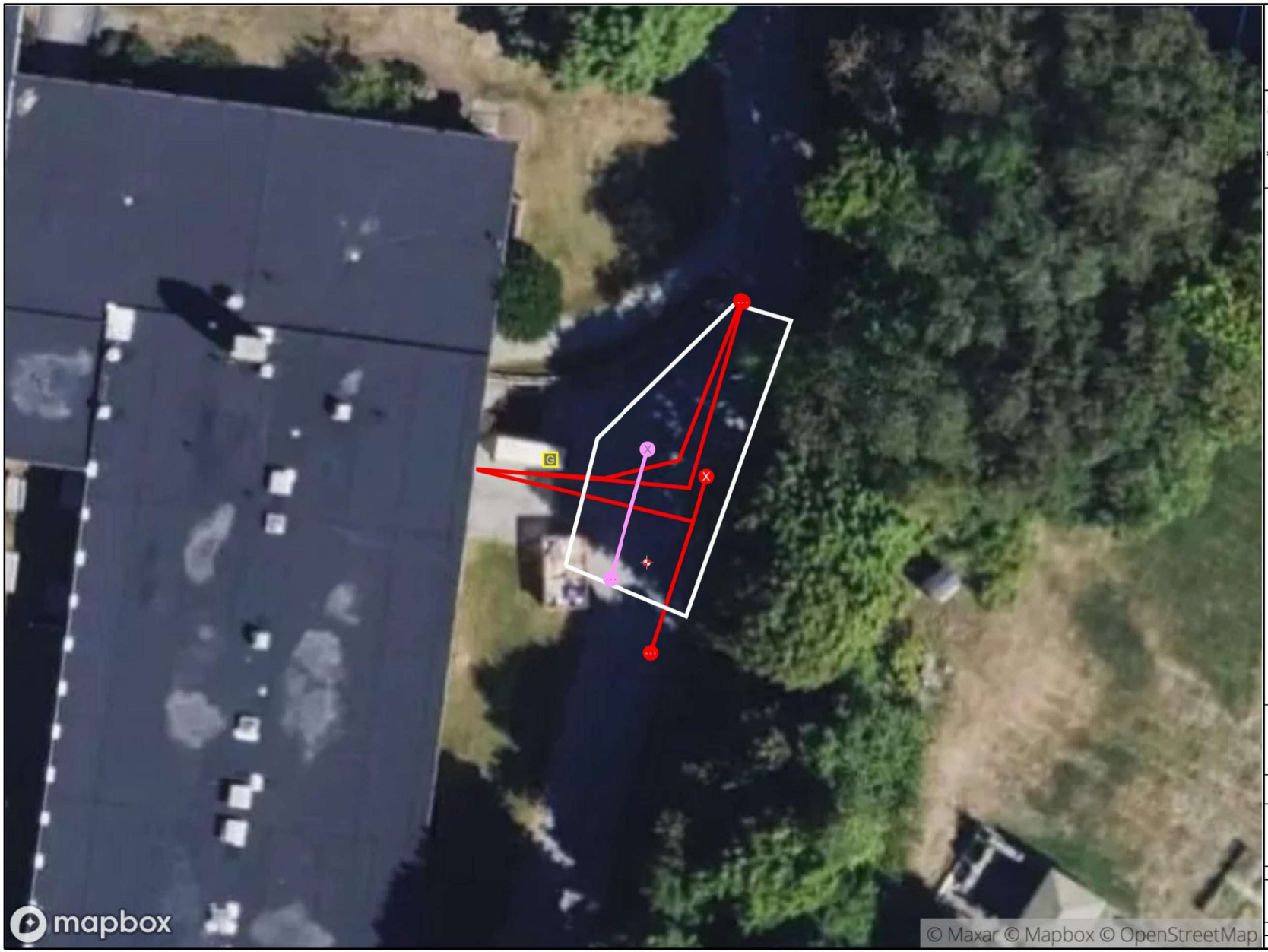
CONTACT / SIGNATURE INFORMATION

Contact Information

Contact Name	Cassidy	**Email**	way@mabbett.com

TERMS & CONDITIONS

http://www.gprsinc.com/termsandconditions.html



GPRS

MAP NOTES

1. SATELLITE IMAGERY IS OFTEN SHIFTED AND MAY NOT LINE UP WITH LINE AND POINT FEATURES COLLECTED. GPRS USES RTK WHEN POSSIBLE TO CORRECT GPS DATA WITH THE HIGHEST LEVEL OF ACCURACY. MARKINGS IN THE FIELD PROVIDE THE MOST ACCURATE LOCATIONS AND THIS MAP IS TO BE USED ONLY AS A REFERENCE. DO NOT DIG, EXCAVATE, ETC BASED SOLELY ON THIS MAP.

2. THIS MAP REPRESENTS GPRS' FINDINGS FROM THE DISPLAYED WORK ORDER NUMBER. FOR A LIST OF ALL LIMITATIONS AND EXPLANATIONS FROM THIS JOB, PLEASE CONSULT THE "JOB SUMMARY REPORT" OR OTHER DOCUMENTS THAT MAY HAVE BEEN PRODUCED FOR EACH JOB AND ARE SUBJECT TO THESE TERMS: https://gp-radar.com/terms-conditions

LEGEND

- ELECTRICAL
- FUEL/GAS/OIL
- UNKNOWN
- SCAN LIMIT

0' 10' 20' 30' 40' 50'

GPRS UTILITY FINDINGS MAP (NOT SURVEY GRADE)

PREPARED FOR:
MABBETT AND ASSOCIATES INC

LOCATION:
12 STORY STREET
12 STORY STREET
ESSEX, MA

PROJECT MANAGER:
MATTHEW BATTAINI
MATTHEW.BATTAINI@GPRSINC.COM

DATE	2026 FEB 17		
DRAWING NO.	1	REV.	0

WO# 863029

- AIR RISER
- AIR PUMP
- AIR MISC
- AIR VALVE
- AIR MANHOLE
- AIR COMPRESSOR
- CHEM VALVE
- CHEM TANK
- CHEM AST
- CHEM MISC
- CHEM PUMP
- CHEM MANHOLE
- COMM BOX
- COMM PEDESTAL
- COMM VAULT
- COMM HANDHOLE
- COMM MISC
- COMM MANHOLE
- COMM POLE
- COMM CAMERA
- COMM CONDUIT
- COMM LOOP
- COMM SPLICE
- ELEC BOX
- ELEC CABINET
- ELEC METER
- ELEC PANEL
- ELEC RISER
- TRANSFORMER
- ELEC MANHOLE
- UTILITYPOLE
- POWERPOLE
- ELEC EQUIPMENT
- ELEC SIGN
- ELEC VAULT
- ELEC MISC
- LANDSCAPE LIGHT
- RUNWAY LIGHT
- SITE LIGHT

- FIRE VALVE
- P.I. VALVE
- FIRE RISER
- FIRE MISC
- FIRE METER
- FIRE MANHOLE
- HYDRANT
- BACKFLOW PREV
- FUEL VENT
- FUEL VAULT
- FUEL VALVE
- FUEL UST
- FUEL AST
- FUEL RISER
- FUEL PUMP
- FUEL MISC
- FUEL MANHOLE
- GAS RISER
- GAS PUMP
- GAS MISC
- GAS METER
- GAS MANHOLE
- GAS AST
- GAS VENT
- GAS VAULT
- GAS VALVE
- GAS UST
- IRR SPRINKLER
- IRR RISER
- IRR MISC
- BACKFLOW PREV
- IRR CNTRL VALVE

- OIL RISER
- OIL PUMP
- OIL MISC
- OIL MANHOLE
- OIL TANK
- OIL VENT
- OIL VAULT
- OIL VALVE
- OIL UST
- SAN MANHOLE
- SAN CLEANOUT
- SAN VENT
- SEPTICTANK
- SAN VAULT
- SAN MISC
- SAN MARKER
- SAN LIFTSTATION
- SAN LATERAL
- SAN INVERT
- SAN GREASETRAP
- SEWER TRAP
- SEWER BASIN
- SEWER CLEANOUT
- GREASETRAP
- STEAM MISC
- STEAM MANHOLE
- STEAM VALVE

- CATCH BASIN
- CATCH BASIN
- ENDPIPE
- CURBINLET
- YARDBASIN
- STRM VENT
- STRM MISC
- STRM LIFTSTATION
- STRM MANHOLE
- STRM VAULT
- STRM UST
- TRENCHDRAIN
- ROOFDRAIN
- STRM CLEANOUT
- TRAF SIGNAL
- TRAF SIGN
- PARKINGMETER
- TRAF MISC
- TRAF MANHOLE
- TRAF CABINET
- TRAF BOX
- TRAF PEDESTAL
- TRAF STREETLIGHT
- UNKN VALVE
- UNKN MANHOLE
- UNKN MISC

- WTR VALVE
- HYDRANT
- WTR MANHOLE
- WELLHEAD
- P.I. VALVE
- BACKFLOW PREV
- WTR VAULT
- WTR RISER
- WTR MISC
- WTR METER
- LD VALVE LEAK
- LD SERVICE LEAK
- LD MAIN BREAK
- LD HYDRANT LEAK
- POINT
- MAILBOX
- SOIL BORING
- SOIL BORING
- SIGN
- SATELLITE
- FLAGPOLE
- BUILDING CORNER
- BOULDER
- BOLLARD
- HEADSTONE NO GRAVE
- GRAVE WITHOUT HEADSTONE
- GRAVE WITH HEADSTONE
- TREE DECIDUOUS
- TREE CONIFEROUS
- MAILBOX

GPRS

MAP NOTES

1. SATELLITE IMAGERY IS OFTEN SHIFTED AND MAY NOT LINE UP WITH LINE AND POINT FEATURES COLLECTED. GPRS USES RTK WHEN POSSIBLE TO CORRECT GPS DATA WITH THE HIGHEST LEVEL OF ACCURACY. MARKINGS IN THE FIELD PROVIDE THE MOST ACCURATE LOCATIONS AND THIS MAP IS TO BE USED ONLY AS A REFERENCE. DO NOT DIG, EXCAVATE, ETC BASED SOLELY ON THIS MAP.
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LEGEND

- ELECTRICAL
- FUEL/GAS/OIL
- UNKNOWN
- SCAN LIMIT

GPRS UTILITY FINDINGS MAP
(NOT SURVEY GRADE)

PREPARED FOR:
MABBETT AND ASSOCIATES INC

LOCATION:
12 STORY STREET
12 STORY STREET
ESSEX, MA

PROJECT MANAGER:
MATTHEW BATTAINI
MATTHEW.BATTAINI@GPRSINC.COM

DATE	2026 FEB 17		
DRAWING NO.	2	REV.	0

WO# 863029

APPENDIX B

Soil Boring Logs

Mabbett®
Scientists | Engineers | Program Managers

Client:	**JCJ Architecture**
Project:	**R2025131 - JCJ Essex Elementary, Essex Elementary School**
Address:	**12 Story Street, Essex, MA**

WELL LOG

Well No.	**SB-01/MW-01**
Page:	**1 of 1**

Drilling Start Date:	**2/19/2026 9:15**	Boring Depth (ft):	**2**	Well Depth (ft):	**2.00**
Drilling End Date:	**2/19/26 9:40**	Boring Diameter (in):	**1.0**	Well Diameter (in):	**1**
Drilling Company:	**Bronson Drilling**	Sampling Method(s):	**CO - COMP**	Screen Slot (in):	**0.010**
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	**0.001**	Riser Material:	
Drilling Equipment:	**Geoprobe**	DTW After Drilling (ft):	**0.001**	Screen Material:	**Sch 40 PVC Slotted**
Driller:	**Dan Bronson**	Ground Surface Elev. (ft):	**N/A**	Seal Material(s):	**N/A**
Logged By:	**AHG**	Location (Lat, Long):	**42.63236, -70.78960**	Filter Type:	**none**

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT: Sample Type	COLLECT: Time	COLLECT: Blow Counts	COLLECT: Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	MEASURE: PID (ppm)	MEASURE: Lab Sample	DEPTH (ft)
0				CO	09:30		1.10	(0.00') Concrete: pulverized, grey/white, dry, no odor (0.25') SILT with sand (ML); little fine-coarse gravel, some fine sand, moist, dark gray (1.00') SILT with gravel (ML); little coarse gravel, little fine sand, moist, very dark gray	0	SB-01-021926	0
								(2.00') Boring terminated			
5											5
10											10
15											15
20											20

NOTES:

Checked by: CEW

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Client:	**JCJ Architecture**
Project:	**R2025131 - JCJ Essex Elementary, Essex Elementary School**
Address:	**12 Story Street, Essex, MA**

WELL LOG

Well No.	**SB-02/MW-02**
Page:	**1 of 1**

Drilling Start Date:	**2/19/26 9:45**	Boring Depth (ft):	**1**	Well Depth (ft):	**1.00**
Drilling End Date:	**2/19/26 10:15**	Boring Diameter (in):	**1.0**	Well Diameter (in):	**1**
Drilling Company:	**Bronson Drilling**	Sampling Method(s):	**CO - COMP**	Screen Slot (in):	**0.010**
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	**0.1**	Riser Material:	
Drilling Equipment:	**Geoprobe**	DTW After Drilling (ft):	**0.1**	Screen Material:	**Sch 40 PVC Slotted**
Driller:	**Dan Bronson**	Ground Surface Elev. (ft):	**N/A**	Seal Material(s):	**N/A**
Logged By:	**AHG**	Location (Lat, Long):	**42.63233, -70.78974**	Filter Type:	**none**

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT: Sample Type	COLLECT: Time	COLLECT: Blow Counts	COLLECT: Recovery (ft)	SOIL/ROCK VISUAL DESCRIPTION	MEASURE: PID (ppm)	MEASURE: Lab Sample	DEPTH (ft)
0				CO	10:00		0.75	(0.00') Concrete: pulverized, white, dry, no odor (0.50') Poorly graded GRAVEL with clay and sand (GP-GC); mostly coarse grained gravel, little fine sand, medium dense, saturated, grey/brown (0.90') Poorly graded GRAVEL with clay and sand (GP-GC); some fine-coarse grained gravel, little fine sand, loose, saturated, grey/brown (1.00') Boring terminated	0	SB-02-021926	0
5											5
10											10
15											15
20											20

NOTES:

Checked by: CEW

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Client:	**JCJ Architecture**
Project:	**R2025131 - JCJ Essex Elementary, Essex Elementary School**
Address:	**12 Story Street, Essex, MA**

WELL LOG

Well No.	**SB-03/MW-03**
Page:	**1 of 1**

Drilling Start Date:	**2/19/2026 10:50**	Boring Depth (ft):	**9**	Well Depth (ft):	**9**
Drilling End Date:	**2/19/2026 11:30**	Boring Diameter (in):	**1.0**	Well Diameter (in):	**1**
Drilling Company:	**Bronson Drilling**	Sampling Method(s):	**CO - COMP**	Screen Slot (in):	**0.010**
Drilling Method:	**Direct Push**	DTW During Drilling (ft):	**0.001**	Riser Material:	**Sch 40 PVC**
Drilling Equipment:	**Geoprobe**	DTW After Drilling (ft):	**0.001**	Screen Material:	**Sch 40 PVC Slotted**
Driller:	**Dan Bronson**	Ground Surface Elev. (ft):	**N/A**	Seal Material(s):	**N/A**
Logged By:	**AHG**	Location (Lat, Long):	**42.63220, -70.78946**	Filter Type:	**none**



NOTES:

Checked by: CEW

APPENDIX C

Groundwater Purge Logs

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PURGE DATA LOG SHEET

Site Name: ~~Sullivans Ledge Superfund Site~~ Essex Elementary
Site Location: ~~New Bedford, MA~~ 12 Stony St Essex MA
Project Number: ~~[redacted]~~
Personnel: AMB

Location ID: MW-1
Sample ID: mw-1-022526
Date: 2/25/26 Time: 12:31
Sample Method: Low Flow / stress

		At Start	At End
Depth to Water:	0		
Total Depth:	1.9'	Sheen Observed:	none / none
Water Column:	1.9'	Odor Observed:	yes / yes
Depth Sampled:	1.5'	~~PID Reading~~:	

PURGE DATA

Time	Water Depth (ft.)	Purge Rate (mL/min)	Temp. (°C)	pH (S.U.)	Sp. Cond. (µS/cm²)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
11:50	START	PURGE →						→
11:55	0.21	50	12.6	6.61	4560	0.18	-77.5	216
12:00	0.20	50	11.5	6.55	4542	0.19	-75.0	91.5
12:05	0.21	60	11.1	6.56	4533	0.18	-74.5	26.7
12:10	0.22	60	11.0	6.54	4528	0.15	-75.0	18.1
12:15	0.21	50	10.8	6.55	4519	0.12	-75.3	10.3
12:20	0.20	50	10.7	6.56	4511	0.13	-75.6	6.94
12:25	0.19	50	10.5	6.56	4507	0.11	-75.4	11.5
12:30	0.17	40	10.4	6.56	4501	0.09	-75.1	3.51
12:31	COLLECT	SAMPLE →						→
Total Volume Purged:			+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	+/- 10%

SAMPLE ANALYSIS

Analysis	Container Type/Size	Number Collected	Field Filtered	Preservative	Container pH
VOC	40 mL VOA	3	N	HCl	-
EPH	1L amber	2	N	HCl	-
VPH	40 mL VOA	2	N	HCl	-

QC Sample Collected? Y / (N)
ID:

* oil sheen in water on floor surrounding well

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PURGE DATA LOG SHEET

Site Name: ~~Silver Sands Landfill Superfund Site~~ Essex Elementary **Location ID:** MW-2-[redacted]
Site Location: ~~New Bedford, MA~~ 12 Stony St Essex MA **Sample ID:** MW-2-022526
Project Number: ~~[redacted]~~ **Date:** 2/25/26 **Time:** 11:45
Personnel: AHG **Sample Method:** Low Flow/Low Stress

			At Start	At End
Depth to Water:	~~[redacted]~~ 0.1			
Total Depth:	~~[redacted]~~ 1.1	Sheen Observed:	none	none
Water Column:	1.0	Odor Observed:	none	~~[redacted]~~ yes
Depth Sampled:	1.0	~~PID Reading~~:		

PURGE DATA

Time	Water Depth (ft.)	Purge Rate (mL/min)	Temp. (°C)	pH (S.U.)	Sp. Cond. (µS/cm²)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
11:29	START PURGE							
11:30	~~0m~~ 0.9	~~40m~~ 40	17.3	6.81	325%	2.40	18.3	20.6
	allow for well recharge							
11:45	*sample due to low volume/slow recharge							
	4 continued recharge/sample cycles until complete							
Total Volume Purged:			+/- 3%	+/- 0.1	+/- 3%	+/- 10%	+/- 10%	+/- 10%

SAMPLE ANALYSIS

Analysis	Container Type/Size	Number Collected	Field Filtered	Preservative	Container pH
VOC	40 mL VOA	3	N	HCl	–
~~EPH~~	~~1L amber~~	~~2~~	~~N~~	~~HCl~~	~~–~~
VPH	40 mL VOA	2	N	HCl	–

QC Sample Collected? Y / (N)
ID:

* EPH not collected due to low sample volume + slow recharge

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PURGE DATA LOG SHEET

Site Name: ~~Sullivans Ledge Superfund Site~~ Essex Elementary
Site Location: ~~New Bedford, MA~~ 12 Story St Essex MA
Project Number: ~~[illegible]~~
Personnel: AHG

Location ID: MW-3
Sample ID: MW-3-022526
Date: 2/25/26 **Time:** 13:36
Sample Method: LOW FLOW/STRESS

			At Start	At End
Depth to Water:	0			
Total Depth:	~~[illegible]~~ 9'	Sheen Observed:	none	none
Water Column:	9'	Odor Observed:	none	none
Depth Sampled:	~7' (screen)	~~PID Reading~~:		

PURGE DATA

Time	Water Depth (ft.)	Purge Rate (mL/min)	Temp. (°C)	pH (S.U.)	Sp. Cond. (µS/cm²)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
12:50	START	PURGE →						→
12:55	0	60	3.0	7.43	12907	2.43	-4.1	849
13:00	0	50	3.4	7.29	14441	0.44	-71.4	306
13:05	0.1	50	3.0	7.03	16665	0.59	-57.2	217
13:10	0.2	50	2.4	6.91	17856	0.73	-50.3	103
13:15	0.2	40	2.0	6.85	17707	0.83	-42.8	26.3
13:20	0.2	40	2.0	6.84	17589	0.89	-40.1	29.2
13:25	0.1	40	1.9	6.83	17662	0.95	-38.9	21.4
13:30	0.1	50	1.8	6.81	17551	0.99	-37.1	15.9
13:35	0.1	50	1.8	6.79	17431	1.04	-36.5	12.6
13:36	Collect	sample	→					→

Total Volume Purged: _____ | +/- 3% | +/- 0.1 | +/- 3% | +/- 10% | +/- 10% | +/- 10%

SAMPLE ANALYSIS

Analysis	Container Type/Size	Number Collected	Field Filtered	Preservative	Container pH
EPH	1L amber	2	N	HCl	-
VPH	40 mL VOA	2	N	HCl	-

QC Sample Collected? Y / (N)
ID:

APPENDIX D

Laboratory Analytical Reports

PHOENIX
Environmental Laboratories, Inc.

Friday, March 06, 2026

Attn: Cassidy Way
Mabbett & Assoicates Inc
105 Central Street Suite 4100
Stoneham, MA 02180

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
SDG ID: GCV35219
Sample ID#s: CV35219 - CV35221

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

March 06, 2026

SDG I.D.: GCV35219

CV35219 - The client prepared low level vial had too much soil. Phoenix prepared sample per method 5035.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 06, 2026

SDG I.D.: GCV35219

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY

Client Id	Lab Id	Matrix	Col Date
SB-01 (0-2`)-021926	CV35219	SOIL	02/19/26 9:30
SB-02 (0-1`)-021926	CV35220	SOIL	02/19/26 10:00
SB-03 (0-9`)-021926	CV35221	SOIL	02/19/26 11:45

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

March 06, 2026

FOR: Attn: Cassidy Way
Mabbett & Assoicates Inc
105 Central Street Suite 4100
Stoneham, MA 02180

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		02/19/26	9:30
Location Code:	MABBETT	Received by:	SR1	02/20/26	14:45
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCV35219
Phoenix ID: CV35219

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: SB-01 (0-2`)-021926

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	88		%		02/20/26	JRB	SW846-%Solid
Field Extraction	Completed				02/19/26		SW5035A
EPH Extraction	Completed				02/24/26	C/K/K	SW3546
Soil Extraction for SVOA PAH	Completed				02/26/26	SM/S/Z	SW3546
Ext. Petroleum Hydrocarbons	Completed				02/20/26		MADEP EPH-19
MA Petroleum Hydrocarbon (VPH)	Completed				03/06/26	AA	MA VPH 2/20182.1, 201
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,1,1-Trichloroethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,1,2,2-Tetrachloroethane	ND	3.4	ug/Kg	1	03/03/26	JLI	SW8260D
1,1,2-Trichloroethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,1-Dichloroethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,1-Dichloroethene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,1-Dichloropropene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,2,3-Trichlorobenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,2,3-Trichloropropane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,2,4-Trichlorobenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,2,4-Trimethylbenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,2-Dibromoethane	ND	0.57	ug/Kg	1	03/03/26	JLI	SW8260D
1,2-Dichlorobenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,2-Dichloroethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,2-Dichloropropane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,3,5-Trimethylbenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,3-Dichlorobenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
1,3-Dichloropropane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: SB-01 (0-2`)-021926

Phoenix I.D.: CV35219

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,4-Dichlorobenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
2,2-Dichloropropane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
2-Chlorotoluene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
2-Hexanone	ND	28	ug/Kg	1	03/03/26	JLI	SW8260D
2-Isopropyltoluene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
4-Chlorotoluene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
4-Methyl-2-pentanone	ND	28	ug/Kg	1	03/03/26	JLI	SW8260D
Acetone	ND	280	ug/Kg	1	03/03/26	JLI	SW8260D
Acrylonitrile	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Benzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Bromobenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Bromochloromethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Bromodichloromethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Bromoform	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Bromomethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Carbon Disulfide	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Carbon tetrachloride	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Chlorobenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Chloroethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Chloroform	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Chloromethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
cis-1,2-Dichloroethene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
cis-1,3-Dichloropropene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Dibromochloromethane	ND	3.4	ug/Kg	1	03/03/26	JLI	SW8260D
Dibromomethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Dichlorodifluoromethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Ethylbenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Hexachlorobutadiene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Isopropylbenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
m&p-Xylene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Methyl Ethyl Ketone	ND	34	ug/Kg	1	03/03/26	JLI	SW8260D
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	03/03/26	JLI	SW8260D
Methylene chloride	ND	11	ug/Kg	1	03/03/26	JLI	SW8260D
Naphthalene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
n-Butylbenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
n-Propylbenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
o-Xylene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
p-Isopropyltoluene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
sec-Butylbenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Styrene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
tert-Butylbenzene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Tetrachloroethene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	03/03/26	JLI	SW8260D
Toluene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Total Xylenes	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
trans-1,2-Dichloroethene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
trans-1,3-Dichloropropene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	03/03/26	JLI	SW8260D
Trichloroethene	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: SB-01 (0-2`)-021926

Phoenix I.D.: CV35219

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Trichlorofluoromethane	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
Trichlorotrifluoroethane	ND	11	ug/Kg	1	03/03/26	JLI	SW8260D
Vinyl chloride	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	03/03/26	JLI	70 - 130 %
% Bromofluorobenzene	97		%	1	03/03/26	JLI	70 - 130 %
% Dibromofluoromethane	98		%	1	03/03/26	JLI	70 - 130 %
% Toluene-d8	98		%	1	03/03/26	JLI	70 - 130 %
Oxygenates & Dioxane							
1,4-Dioxane	ND	110	ug/Kg	1	03/03/26	JLI	SW8260D (OXY)
Diethyl ether	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D (OXY)
Di-isopropyl ether	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D (OXY)
Ethyl tert-butyl ether	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D (OXY)
tert-amyl methyl ether	ND	5.7	ug/Kg	1	03/03/26	JLI	SW8260D (OXY)
EPH Other PAH Target Analytes							
Acenaphthylene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Anthracene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(a)anthracene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(a)pyrene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(b)fluoranthene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(ghi)perylene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(k)fluoranthene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Chrysene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Fluoranthene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Fluorene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Pyrene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
QA/QC Surrogates							
% 2-Fluorobiphenyl	70		%	1	02/27/26	AW	30 - 130 %
% Nitrobenzene-d5	67		%	1	02/27/26	AW	30 - 130 %
% Terphenyl-d14	69		%	1	02/27/26	AW	30 - 130 %
EPH Diesel PAH Target Analytes							
2-Methylnaphthalene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Acenaphthene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Naphthalene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Phenanthrene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	76	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	76	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	76	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	76	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	98		%	1	02/26/26	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	159		%	1	02/26/26	AW	40 - 140 % 3
% 2-Fluorobiphenyl (Fractionation)	129		%	1	02/26/26	AW	40 - 140 %

Ver 1

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: SB-01 (0-2`)-021926

Phoenix I.D.: CV35219

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% o-terphenyl (aromatic)	92		%	1	02/26/26	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	4.6	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
Unadjusted C9-C12 Aliphatics (*1)	ND	4.6	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
C5-C8 Aliphatic Hydrocarbons *1,2	ND	4.6	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
C9-C12 Aliphatic Hydrocarbons *1,3	ND	4.6	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
C9-C10 Aromatic Hydrocarbons *1	ND	4.6	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
Benzene	ND	0.023	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
Ethyl Benzene	ND	0.046	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
MTBE	ND	0.046	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
Naphthalene	ND	0.23	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
Toluene	ND	0.046	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
m,p-Xylenes	ND	0.046	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
o-Xylene	ND	0.046	mg/Kg	50	03/06/26	AA	MA VPH2.1, 2018
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	100		%	50	03/06/26	AA	70 - 130 %
% 2,5-Dibromotoluene (PID)	94		%	50	03/06/26	AA	70 - 130 %

3 = This parameter exceeds laboratory specified limits.
Massachusetts does not offer certification for Soil/Solid matrices.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

Volatile Comment:
The client provided LL and/or HL was not useable; soil jar was used.
This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 08, 2026
Reviewed and Released by: Alejandro Paredes, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

March 06, 2026

FOR: Attn: Cassidy Way
Mabbett & Assoicates Inc
105 Central Street Suite 4100
Stoneham, MA 02180

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		02/19/26	10:00
Location Code:	MABBETT	Received by:	SR1	02/20/26	14:45
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCV35219
Phoenix ID: CV35220

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: SB-02 (0-1`)-021926

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	93		%		02/20/26	JRB	SW846-%Solid
Field Extraction	Completed				02/19/26		SW5035A
EPH Extraction	Completed				02/24/26	C/K/K	SW3546
Soil Extraction for SVOA PAH	Completed				02/26/26	SM/S/Z	SW3546
Ext. Petroleum Hydrocarbons	Completed				02/20/26		MADEP EPH-19
MA Petroleum Hydrocarbon (VPH)	Completed				03/06/26	V	MA VPH 2/20182.1, 201
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,1,1-Trichloroethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,1,2,2-Tetrachloroethane	ND	3.2	ug/Kg	1	03/03/26	PS	SW8260D
1,1,2-Trichloroethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,1-Dichloroethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,1-Dichloroethene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,1-Dichloropropene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,2,3-Trichlorobenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,2,3-Trichloropropane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,2,4-Trichlorobenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,2,4-Trimethylbenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,2-Dibromo-3-chloropropane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,2-Dibromoethane	ND	0.54	ug/Kg	1	03/03/26	PS	SW8260D
1,2-Dichlorobenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,2-Dichloroethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,2-Dichloropropane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,3,5-Trimethylbenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,3-Dichlorobenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
1,3-Dichloropropane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: SB-02 (0-1`)-021926

Phoenix I.D.: CV35220

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,4-Dichlorobenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
2,2-Dichloropropane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
2-Chlorotoluene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
2-Hexanone	ND	27	ug/Kg	1	03/03/26	PS	SW8260D
2-Isopropyltoluene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
4-Chlorotoluene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
4-Methyl-2-pentanone	ND	27	ug/Kg	1	03/03/26	PS	SW8260D
Acetone	ND	270	ug/Kg	1	03/03/26	PS	SW8260D
Acrylonitrile	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Benzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Bromobenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Bromochloromethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Bromodichloromethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Bromoform	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Bromomethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Carbon Disulfide	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Carbon tetrachloride	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Chlorobenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Chloroethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Chloroform	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Chloromethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
cis-1,2-Dichloroethene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
cis-1,3-Dichloropropene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Dibromochloromethane	ND	3.2	ug/Kg	1	03/03/26	PS	SW8260D
Dibromomethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Dichlorodifluoromethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Ethylbenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Hexachlorobutadiene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Isopropylbenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
m&p-Xylene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Methyl Ethyl Ketone	ND	32	ug/Kg	1	03/03/26	PS	SW8260D
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	03/03/26	PS	SW8260D
Methylene chloride	ND	11	ug/Kg	1	03/03/26	PS	SW8260D
Naphthalene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
n-Butylbenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
n-Propylbenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
o-Xylene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
p-Isopropyltoluene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
sec-Butylbenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Styrene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
tert-Butylbenzene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Tetrachloroethene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	03/03/26	PS	SW8260D
Toluene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Total Xylenes	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
trans-1,2-Dichloroethene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
trans-1,3-Dichloropropene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
trans-1,4-dichloro-2-butene	ND	11	ug/Kg	1	03/03/26	PS	SW8260D
Trichloroethene	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Trichlorofluoromethane	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
Trichlorotrifluoroethane	ND	11	ug/Kg	1	03/03/26	PS	SW8260D
Vinyl chloride	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	03/03/26	PS	70 - 130 %
% Bromofluorobenzene	102		%	1	03/03/26	PS	70 - 130 %
% Dibromofluoromethane	102		%	1	03/03/26	PS	70 - 130 %
% Toluene-d8	96		%	1	03/03/26	PS	70 - 130 %
Oxygenates & Dioxane							
1,4-Dioxane	ND	110	ug/Kg	1	03/03/26	PS	SW8260D (OXY)
Diethyl ether	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D (OXY)
Di-isopropyl ether	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D (OXY)
Ethyl tert-butyl ether	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D (OXY)
tert-amyl methyl ether	ND	5.4	ug/Kg	1	03/03/26	PS	SW8260D (OXY)
EPH Other PAH Target Analytes							
Acenaphthylene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Anthracene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(a)anthracene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(a)pyrene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(b)fluoranthene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(ghi)perylene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(k)fluoranthene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Chrysene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Dibenz(a,h)anthracene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Fluoranthene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Fluorene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Indeno(1,2,3-cd)pyrene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Pyrene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	1	02/27/26	AW	30 - 130 %
% Nitrobenzene-d5	68		%	1	02/27/26	AW	30 - 130 %
% Terphenyl-d14	65		%	1	02/27/26	AW	30 - 130 %
EPH Diesel PAH Target Analytes							
2-Methylnaphthalene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Acenaphthene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Naphthalene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Phenanthrene	ND	250	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	71	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	71	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	71	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	71	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	99		%	1	02/26/26	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	149		%	1	02/26/26	AW	40 - 140 % 3
% 2-Fluorobiphenyl (Fractionation)	128		%	1	02/26/26	AW	40 - 140 %

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: SB-02 (0-1`)-021926

Phoenix I.D.: CV35220

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% o-terphenyl (aromatic)	98		%	1	02/26/26	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	6.7	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Unadjusted C9-C12 Aliphatics (*1)	ND	6.7	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
C5-C8 Aliphatic Hydrocarbons *1,2	ND	6.7	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
C9-C12 Aliphatic Hydrocarbons *1,3	ND	6.7	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
C9-C10 Aromatic Hydrocarbons *1	ND	6.7	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Benzene	ND	0.033	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Ethyl Benzene	ND	0.067	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
MTBE	ND	0.067	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Naphthalene	ND	0.33	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Toluene	ND	0.067	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
m,p-Xylenes	ND	0.067	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
o-Xylene	ND	0.067	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	100		%	50	03/06/26	V	70 - 130 %
% 2,5-Dibromotoluene (PID)	96		%	50	03/06/26	V	70 - 130 %

3 = This parameter exceeds laboratory specified limits.
Massachusetts does not offer certification for Soil/Solid matrices.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

Volatile Comment:
The client provided LL and/or HL was not useable; soil jar was used.
This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 08, 2026
Reviewed and Released by: Alejandro Paredes, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

March 06, 2026

FOR: Attn: Cassidy Way
Mabbett & Assoicates Inc
105 Central Street Suite 4100
Stoneham, MA 02180

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		02/19/26	11:45
Location Code:	MABBETT	Received by:	SR1	02/20/26	14:45
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCV35219
Phoenix ID: CV35221

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: SB-03 (0-9`)-021926

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	88		%		02/20/26	JRB	SW846-%Solid
EPH Extraction	Completed				02/24/26	C/K/K	SW3546
Soil Extraction for SVOA PAH	Completed				02/26/26	SM/S/Z	SW3546
Ext. Petroleum Hydrocarbons	Completed				02/20/26		MADEP EPH-19
MA Petroleum Hydrocarbon (VPH)	Completed				03/06/26	V	MA VPH 2/20182.1, 201
EPH Other PAH Target Analytes							
Acenaphthylene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Anthracene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(a)anthracene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(a)pyrene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(b)fluoranthene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(ghi)perylene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Benzo(k)fluoranthene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Chrysene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Dibenz(a,h)anthracene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Fluoranthene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Fluorene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Indeno(1,2,3-cd)pyrene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Pyrene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
QA/QC Surrogates							
% 2-Fluorobiphenyl	71		%	1	02/27/26	AW	30 - 130 %
% Nitrobenzene-d5	68		%	1	02/27/26	AW	30 - 130 %
% Terphenyl-d14	65		%	1	02/27/26	AW	30 - 130 %
EPH Diesel PAH Target Analytes							
2-Methylnaphthalene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004

Ver 1

Project ID: JCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: SB-03 (0-9`)-021926

Phoenix I.D.: CV35221

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acenaphthene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Naphthalene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
Phenanthrene	ND	260	ug/Kg	1	02/27/26	AW	MA EPH 5/2004
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	75	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	75	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	75	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	75	mg/Kg	1	02/26/26	AW	MA EPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	84		%	1	02/26/26	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	123		%	1	02/26/26	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	124		%	1	02/26/26	AW	40 - 140 %
% o-terphenyl (aromatic)	85		%	1	02/26/26	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	5.0	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Unadjusted C9-C12 Aliphatics (*1)	ND	5.0	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
C5-C8 Aliphatic Hydrocarbons *1,2	ND	5.0	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
C9-C12 Aliphatic Hydrocarbons *1,3	ND	5.0	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
C9-C10 Aromatic Hydrocarbons *1	ND	5.0	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Benzene	ND	0.025	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Ethyl Benzene	ND	0.050	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
MTBE	ND	0.050	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Naphthalene	ND	0.25	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
Toluene	ND	0.050	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
m,p-Xylenes	ND	0.050	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
o-Xylene	ND	0.050	mg/Kg	50	03/06/26	V	MA VPH2.1, 2018
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	92		%	50	03/06/26	V	70 - 130 %
% 2,5-Dibromotoluene (PID)	92		%	50	03/06/26	V	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

Massachusetts does not offer certification for Soil/Solid matrices.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 08, 2026
Reviewed and Released by: Alejandro Paredes, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

March 08, 2026

QA/QC Data

SDG I.D.: GCV35219

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 827958 (mg/kg), QC Sample No: CV36059 (CV35219, CV35220, CV35221)											
Extractable Petroleum Hydrocarbons - Soil											
C11-C22 Aromatic Hydrocarbons U	ND	3.3							40 - 140	25	
C9-C18 Aliphatic Hydrocarbons 1*	ND	3.3	58	52	10.9	61	55	10.3	40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	3.3	77	79	2.6	77	72	6.7	40 - 140	25	
C11-C22 Aromatic Hydrocarbons 1	ND	3.3	69	63	9.1	65	66	1.5	40 - 140	25	
C9 - Nonane	ND	0.67	37	27	31.3	39	34	13.7	40 - 140	25	l,m,r
C-10 Decane	ND	0.67	46	37	21.7	50	44	12.8	40 - 140	25	l
C12 - Dodecane	ND	0.67	54	46	16.0	58	51	12.8	40 - 140	25	
C14 - Tetradecane	ND	0.67	60	54	10.5	63	57	10.0	40 - 140	25	
C16 - Hexadecane	ND	0.67	67	64	4.6	70	63	10.5	40 - 140	25	
C18 - Octadecane	ND	0.67	84	87	3.5	86	80	7.2	40 - 140	25	
C19 - Nonadecane	ND	0.67	74	76	2.7	75	69	8.3	40 - 140	25	
C20 - Eicosane	ND	0.67	77	80	3.8	78	72	8.0	40 - 140	25	
C22 - Docosane	ND	0.67	85	93	9.0	90	84	6.9	40 - 140	25	
C24 - Tetracosane	ND	0.67	73	77	5.3	75	70	6.9	40 - 140	25	
C26 - Hexacosane	ND	0.67	73	76	4.0	74	70	5.6	40 - 140	25	
C28 - Octacosane	ND	0.67	73	76	4.0	74	69	7.0	40 - 140	25	
C30 - Tricotane	ND	0.67	76	77	1.3	75	71	5.5	40 - 140	25	
C36 - Hexatriacontane	ND	0.67	83	75	10.1	74	70	5.6	40 - 140	25	
% 1-chlorooctadecane (aliphatic)	78	%	74	77	4.0	74	68	8.5	40 - 140	25	
% o-terphenyl (aromatic)	69	%	71	66	7.3	67	69	2.9	40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	87	%	91	86	5.6	89	91	2.2	40 - 140	25	
% 2-Bromonaphthalene (Fractionati	86	%	83	72	14.2	81	78	3.8	40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 828040 (ug/kg), QC Sample No: CV35334 (CV35219, CV35220, CV35221)											
Polynuclear Aromatic HC - Soil											
2-Methylnaphthalene	ND	230	68	67	1.5	66	66	0.0	40 - 140	30	
Acenaphthene	ND	230	72	68	5.7	66	67	1.5	40 - 140	30	
Acenaphthylene	ND	230	61	60	1.7	58	58	0.0	40 - 140	30	
Anthracene	ND	230	72	71	1.4	67	69	2.9	40 - 140	30	
Benzo(a)anthracene	ND	230	74	72	2.7	68	69	1.5	40 - 140	30	
Benzo(a)pyrene	ND	230	76	73	4.0	70	71	1.4	40 - 140	30	
Benzo(b)fluoranthene	ND	230	77	74	4.0	71	73	2.8	40 - 140	30	
Benzo(ghi)perylene	ND	230	71	69	2.9	63	67	6.2	40 - 140	30	
Benzo(k)fluoranthene	ND	230	72	71	1.4	66	67	1.5	40 - 140	30	
Chrysene	ND	230	77	75	2.6	70	71	1.4	40 - 140	30	
Dibenz(a,h)anthracene	ND	230	72	70	2.8	65	67	3.0	40 - 140	30	
Fluoranthene	ND	230	71	70	1.4	66	67	1.5	40 - 140	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Fluorene	ND	230	74	73	1.4	70	69	1.4	40 - 140	30
Indeno(1,2,3-cd)pyrene	ND	230	79	77	2.6	71	74	4.1	40 - 140	30
Naphthalene	ND	230	74	73	1.4	69	70	1.4	40 - 140	30
Phenanthrene	ND	230	72	70	2.8	67	68	1.5	40 - 140	30
Pyrene	ND	230	69	66	4.4	63	65	3.1	40 - 140	30
% 2-Fluorobiphenyl	68	%	63	60	4.9	59	60	1.7	30 - 130	30
% Nitrobenzene-d5	66	%	61	61	0.0	59	61	3.3	30 - 130	30
% Terphenyl-d14	69	%	67	63	6.2	63	64	1.6	30 - 130	30

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 828879 (ug/kg), QC Sample No: CV35308 (CV35219, CV35220)

Volatiles - Soil (Low Level)

1,1,1,2-Tetrachloroethane	ND	5.0	99	102	3.0	98			70 - 130	20
1,1,1-Trichloroethane	ND	5.0	93	95	2.1	88			70 - 130	20
1,1,2,2-Tetrachloroethane	ND	3.0	97	98	1.0	93			70 - 130	20
1,1,2-Trichloroethane	ND	5.0	101	102	1.0	100			70 - 130	20
1,1-Dichloroethane	ND	5.0	92	93	1.1	87			70 - 130	20
1,1-Dichloroethene	ND	5.0	95	98	3.1	90			70 - 130	20
1,1-Dichloropropene	ND	5.0	94	95	1.1	91			70 - 130	20
1,2,3-Trichlorobenzene	ND	5.0	103	100	3.0	98			70 - 130	20
1,2,3-Trichloropropane	ND	5.0	96	100	4.1	91			70 - 130	20
1,2,4-Trichlorobenzene	ND	5.0	107	102	4.8	99			70 - 130	20
1,2,4-Trimethylbenzene	ND	1.0	99	100	1.0	96			70 - 130	20
1,2-Dibromo-3-chloropropane	ND	5.0	100	100	0.0	97			70 - 130	20
1,2-Dibromoethane	ND	5.0	99	101	2.0	98			70 - 130	20
1,2-Dichlorobenzene	ND	5.0	97	98	1.0	94			70 - 130	20
1,2-Dichloroethane	ND	5.0	91	90	1.1	85			70 - 130	20
1,2-Dichloropropane	ND	5.0	100	100	0.0	97			70 - 130	20
1,3,5-Trimethylbenzene	ND	1.0	100	100	0.0	97			70 - 130	20
1,3-Dichlorobenzene	ND	5.0	101	99	2.0	97			70 - 130	20
1,3-Dichloropropane	ND	5.0	100	101	1.0	97			70 - 130	20
1,4-Dichlorobenzene	ND	5.0	98	98	0.0	93			70 - 130	20
1,4-dioxane	ND	100	91	119	26.7	90			40 - 160	20 r
2,2-Dichloropropane	ND	5.0	94	95	1.1	84			70 - 130	20
2-Chlorotoluene	ND	5.0	100	101	1.0	96			70 - 130	20
2-Hexanone	ND	25	86	87	1.2	82			40 - 160	20
2-Isopropyltoluene	ND	5.0	101	101	0.0	97			70 - 130	20
4-Chlorotoluene	ND	5.0	98	99	1.0	95			70 - 130	20
4-Methyl-2-pentanone	ND	25	93	91	2.2	87			40 - 160	20
Acetone	ND	10	68	68	0.0	64			40 - 160	20
Acrylonitrile	ND	5.0	86	87	1.2	80			70 - 130	20
Benzene	ND	1.0	100	102	2.0	98			70 - 130	20
Bromobenzene	ND	5.0	101	102	1.0	98			70 - 130	20
Bromochloromethane	ND	5.0	99	102	3.0	97			70 - 130	20
Bromodichloromethane	ND	5.0	96	96	0.0	93			70 - 130	20
Bromoform	ND	5.0	98	101	3.0	94			70 - 130	20
Bromomethane	ND	5.0	89	93	4.4	78			40 - 160	20
Carbon Disulfide	ND	5.0	96	99	3.1	88			70 - 130	20
Carbon tetrachloride	ND	5.0	93	94	1.1	87			70 - 130	20
Chlorobenzene	ND	5.0	99	99	0.0	97			70 - 130	20
Chloroethane	ND	5.0	101	106	4.8	92			70 - 130	20

QA/QC Data

SDG I.D.: GCV35219

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Chloroform	ND	5.0	93	95	2.1	89			70 - 130	20
Chloromethane	ND	5.0	106	111	4.6	102			40 - 160	20
cis-1,2-Dichloroethene	ND	5.0	103	107	3.8	99			70 - 130	20
cis-1,3-Dichloropropene	ND	5.0	101	101	0.0	98			70 - 130	20
Dibromochloromethane	ND	3.0	96	97	1.0	93			70 - 130	20
Dibromomethane	ND	5.0	96	97	1.0	93			70 - 130	20
Dichlorodifluoromethane	ND	5.0	117	123	5.0	107			40 - 160	20
Diethyl ether	ND	5.0	87	89	2.3	82			70 - 130	20
Di-isopropyl ether	ND	5.0	91	93	2.2	86			70 - 130	20
Ethyl tert-butyl ether	ND	5.0	90	92	2.2	86			70 - 130	20
Ethylbenzene	ND	1.0	100	100	0.0	97			70 - 130	20
Hexachlorobutadiene	ND	5.0	103	100	3.0	98			70 - 130	20
Isopropylbenzene	ND	1.0	98	101	3.0	96			70 - 130	20
m&p-Xylene	ND	2.0	101	101	0.0	98			70 - 130	20
Methyl ethyl ketone	ND	5.0	83	84	1.2	76			40 - 160	20
Methyl t-butyl ether (MTBE)	ND	1.0	89	91	2.2	85			70 - 130	20
Methylene chloride	ND	5.0	80	82	2.5	77			70 - 130	20
Naphthalene	ND	5.0	100	100	0.0	96			70 - 130	20
n-Butylbenzene	ND	1.0	100	99	1.0	96			70 - 130	20
n-Propylbenzene	ND	1.0	98	99	1.0	94			70 - 130	20
o-Xylene	ND	2.0	99	98	1.0	96			70 - 130	20
p-Isopropyltoluene	ND	1.0	100	100	0.0	95			70 - 130	20
sec-Butylbenzene	ND	1.0	97	98	1.0	94			70 - 130	20
Styrene	ND	5.0	101	99	2.0	98			70 - 130	20
tert-amyl methyl ether	ND	5.0	99	100	1.0	97			70 - 130	20
tert-Butylbenzene	ND	1.0	97	100	3.0	95			70 - 130	20
Tetrachloroethene	ND	5.0	101	99	2.0	98			70 - 130	20
Tetrahydrofuran (THF)	ND	5.0	90	90	0.0	84			70 - 130	20
Toluene	ND	1.0	100	100	0.0	97			70 - 130	20
trans-1,2-Dichloroethene	ND	5.0	93	96	3.2	88			70 - 130	20
trans-1,3-Dichloropropene	ND	5.0	101	100	1.0	96			70 - 130	20
trans-1,4-dichloro-2-butene	ND	5.0	95	98	3.1	90			70 - 130	20
Trichloroethene	ND	5.0	100	101	1.0	98			70 - 130	20
Trichlorofluoromethane	ND	5.0	95	98	3.1	88			70 - 130	20
Trichlorotrifluoroethane	ND	5.0	104	105	1.0	99			70 - 130	20
Vinyl chloride	ND	5.0	105	110	4.7	100			70 - 130	20
% 1,2-dichlorobenzene-d4	98	%	100	100	0.0	100			70 - 130	20
% Bromofluorobenzene	98	%	98	97	1.0	97			70 - 130	20
% Dibromofluoromethane	96	%	98	99	1.0	99			70 - 130	20
% Toluene-d8	98	%	100	99	1.0	100			70 - 130	20

Comment:

A blank MS/MSD was analyzed with this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.
The RPD criteria for the LCS/LCSD is 20%,
The MS/MSD RPD criteria is listed above.

QA/QC Batch 829076 (mg/Kg), QC Sample No: CV38598 (CV35219 (50X) , CV35220 (50X) , CV35221 (50X))

Volatile Petroleum Hydrocarbons - Soil

Benzene	ND	0.25	99	101	2.0	96	98	2.1	70 - 130	25
C5-C8 Aliphatic Hydrocarbons *1,2	ND	5.0	97	99	2.0	97	97	0.0	70 - 130	25
C9-C10 Aromatic Hydrocarbons *1	ND	1.7	102	103	1.0	99	101	2.0	70 - 130	25
C9-C12 Aliphatic Hydrocarbons *1,	ND	5.0	105	108	2.8	104	105	1.0	70 - 130	25
Ethyl Benzene	ND	0.25	102	104	1.9	99	101	2.0	70 - 130	25

QA/QC Data

SDG I.D.: GCV35219

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
m,p-Xylenes	ND	0.25	101	102	1.0	97	99	2.0	70 - 130	25
MTBE	ND	0.050	113	116	2.6	127	127	0.0	70 - 130	25
Naphthalene	ND	0.25	98	100	2.0	94	93	1.1	70 - 130	25
o-Xylene	ND	0.25	100	102	2.0	97	99	2.0	70 - 130	25
Toluene	ND	0.25	100	102	2.0	97	99	2.0	70 - 130	25
Unadjusted C5-C8 Aliphatics (*1)	ND	5.0	97	99	2.0	97	97	0.0	70 - 130	25
Unadjusted C9-C12 Aliphatics (*1)	ND	5.0	105	108	2.8	104	105	1.0	70 - 130	25
% 2,5-Dibromotoluene (FID)	100	%	93	98	5.2	91	95	4.3	70 - 130	25
% 2,5-Dibromotoluene (PID)	100	%	95	100	5.1	92	95	3.2	70 - 130	25

Comment:

A blank MS/MSD was analyzed with this batch.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference
(ISO) - Isotope Dilution

Phyllis Shiller, Laboratory Director
March 08, 2026

Sunday, March 08, 2026

Criteria: MA: S1, S2, S2G2, S3

State: MA

Sample Criteria Exceedances Report

GCV35219 - MABBETT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

March 08, 2026 SDG I.D.: GCV35219

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

VOA Narration

CHEM26 03/03/26-1: CV35219, CV35220

The following Initial Calibration compounds did not meet RSD% criteria: Acetone 37% (20%), Dichlorodifluoromethane 22% (20%)
The following Initial Calibration compounds did not meet maximum RSD% criteria: None.
The following Initial Calibration compounds did not meet recommended response factors: 1,1,2-Trichloroethane 0.192 (0.2)
The following Initial Calibration compounds did not meet minimum response factors: None.

The following Continuing Calibration compounds did not meet % deviation criteria: Acetone 31%L (20%), Chloromethane 40%L (20%), Dichlorodifluoromethane 37%L (20%)
The following Continuing Calibration compounds did not meet Maximum % deviation criteria: None.
The following Continuing Calibration compounds did not meet recommended response factors: 1,1,2-Trichloroethane 0.190 (0.2)
The following Continuing Calibration compounds did not meet minimum response factors: None.

Up to eight compounds can be outside of ICAL %RSD criteria and up to sixteen compounds can be outside of CCAL %Dev criteria if less than 40%.

VPH Narration

PIDFID 03/06/26-1: CV35219, CV35220, CV35221

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CV35219, CV35220, CV35221
Preceding CC 0305_48.D-RPTVPT - None.
Succeeding CC 0306_61.D-RPTVPT - MTBE 25%L (%)

EPH Fractionation Standard

SDG I.D.: GCV35219

Effective Date(s): 06/06/25 - 06/06/26 **Analyst:** AW

AS #	TV	8ml	10ml	12ml	14ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
1,2,3-Trimethylbenzene	20	19.37	19.94	19.67	22.66	96.9	99.7	98.3	113.3	40-140
2-Methylnaphthalene	20	20.43	20.91	20.50	24.27	102.2	104.6	102.5	121.3	40-140
Acenaphthalene	20	22.34	23.14	22.75	26.77	111.7	115.7	113.8	133.9	40-140
Acenaphthene	20	23.25	24.06	23.77	27.77	116.2	120.3	118.9	138.8	40-140
Anthracene	20	24.85	25.56	25.32	30.94	124.3	127.8	126.6	154.7	40-140
Benzo(a)anthracene	20	22.82	23.41	22.24	27.59	114.1	117.1	111.2	137.9	40-140
Benzo(a)pyrene	20	19.94	21.44	19.74	23.20	99.7	107.2	98.7	116.0	40-140
Benzo(b/K)fluor COPK	40	48.76	50.48	49.73	57.80	121.9	126.2	124.3	144.5	40-140
Benzo(ghi)perylene	20	23.51	24.56	24.15	28.50	117.5	122.8	120.8	142.5	40-140
C-10 Decane	20	21.27	20.86	21.40	21.79	106.4	104.3	107.0	109.0	40-140
C12 - Dodecane	20	22.75	21.81	22.59	22.91	113.8	109.0	113.0	114.6	40-140
C14 - Tetradecane	20	24.21	22.81	24.10	24.03	121.1	114.0	120.5	120.1	40-140
C16 - Hexadecane	20	24.87	23.14	24.81	24.51	124.4	115.7	124.0	122.6	40-140
C18 - Octadecane	20	25.79	24.05	26.19	25.68	129.0	120.3	131.0	128.4	40-140
C20 - Eicosane	20	25.17	23.59	25.45	25.21	125.9	118.0	127.2	126.0	40-140
C21 - Heneicosane	20	27.31	25.53	27.45	27.24	136.6	127.6	137.2	136.2	40-140
C22 - Docosane	20	23.59	22.04	23.43	23.48	118.0	110.2	117.2	117.4	40-140
C24 - Tetracosane	20	24.23	22.75	24.24	24.18	121.2	113.7	121.2	120.9	40-140
C26 - Hexacosane	20	24.19	22.82	24.45	24.24	120.9	114.1	122.2	121.2	40-140
C28 - Octacosane	20	23.71	22.42	24.15	23.69	118.6	112.1	120.8	118.5	40-140
C30 - Tricotane	20	23.55	22.53	24.19	23.59	117.7	112.7	121.0	118.0	40-140
C32 - Dotriacontance	20	22.79	22.16	23.84	23.25	114.0	110.8	119.2	116.3	40-140
C34 - Tetratriacontane	20	22.02	21.88	23.84	23.29	110.1	109.4	119.2	116.5	40-140
C36 - Hexatriacontane	20	19.45	20.49	22.49	22.06	97.3	102.5	112.5	110.3	40-140
C38 - Octatriacontane	20	16.03	18.69	21.11	20.97	80.1	93.4	105.5	104.8	40-140
C40 - Tetracontane	20	11.24	14.49	17.37	18.05	56.2	72.5	86.9	90.2	40-140
C9 - Nonane	20	18.68	18.53	18.88	19.12	93.4	92.6	94.4	95.6	40-140
Chyrsene	20	24.20	24.97	25.28	28.03	121.0	124.8	126.4	140.1	40-140
Fluoranthene	20	23.60	24.31	23.88	27.87	118.0	121.5	119.4	139.4	40-140
Fluorene	20	21.91	22.59	22.20	26.17	109.5	113.0	111.0	130.8	40-140
Indeno/Dibenz copk	40	43.79	46.18	45.87	54.24	109.5	115.5	114.7	135.6	40-140
Naphthalene	20	19.71	20.17	19.80	23.25	98.6	100.9	99.0	116.2	40-140

EPH Fractionation Standard

SDG I.D.: GCV35219

Effective Date(s): 06/06/25 - 06/06/26 **Analyst:** AW

AS #	TV	8ml	10ml	12ml	14ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
o-Terphenyl (s)	20	23.46	21.94	23.81	23.34	117.3	109.7	119.0	116.7	40-140
Phenanthrene	20	22.07	22.84	21.98	25.06	110.4	114.2	109.9	125.3	40-140
Pyrene	20	24.34	24.87	24.39	28.62	121.7	124.3	122.0	143.1	40-140

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml.
AU-FID7 06/06/25 (8) files 606A019 - 606A026

Temp 8 °C Coolant: IPK ☑ ICE ☐ Cooler: Yes ☑ No ☐ No ☐

Pg of

PHOENIX
Environmental Laboratories, Inc.

CT/MA/RI CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com
Client Services (860) 645-1102

Data Delivery/Contact Options:
Phone: 781-275-6050
Email(s): nayc@mabbeH.com

Customer: Mabbett + Associates
Address: 105 Central St, Stonenam MA 02180

Project: JCJ Architecture / Essex Elementary
Report to (name): Cassidy Way
Invoice to:
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Alanna Lynch Date: 2/19/26

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **STW** = Storm Water
WW=Waste Water **RW**=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **C**=Concrete
CLK=Caulk **W**=Wipe **O**=Oil **B**=Bulk **L**=Liquid **X** = Other_____ **(Must define)**

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	*MS/MSD (May be billable at analysis unit rate)	VOC (High-level)	VOC (Low-level)	VPH	EPH							Soil VOA Vials (H2O)		GL Amber ( ) oz [ ] H3PO4 [ ] NaHSO4 [ ] NH4Cl	Soil VOA Vials X methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container (4) oz	40 ml VOA Vial [ ] As is [ ] HCl [ ] Na2SO3	GL Amber 1000ml [ ] As is [ ] HCl [ ] HCL	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H_2SO_4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO_3 [ ] 250ml [ ] 500ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
35219	SB-01(0-2')-021926	S	2/19/26	9:30		X	X	X	X							2		3	1										
35220	SB-02(0-1')-021926	S	2/19/26	10:00		X	X	X	X							2		3	1										
35221	SB-03(0-9')-021926	S	2/19/26	11:45				X	X									2	1										

Relinquished by:	Accepted by:	Date:	Time:
Alanna Lynch		2/20	1053
		02/20/26	14:45

Comments, Special Requirements or Regulations:

Turnaround Time:
☐ 1 Day* ☑ Standard
☐ 2 Days* ☐ Other
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

*** SURCHARGES MAY APPLY**

RI
☐ RES DEC
☐ I/C DEC
☐ GA Leachability
☐ GB Leachability
☐ GA -GW Objectives
☐ GB -GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GWPC
☐ SWPC
☐ GA PMC
☐ GB PMC
☐ SWPC
RES ☐ DEC ☐ VC
I/C ☐ DEC ☐ VC

MA
☐ MCP Certification
☐ GW-1 ☑ RCS-1 / RCGW-1
☐ GW-2 ☑ RCS-2 / RCGW-2
☐ GW-3
☑ S-1 ☐ S-1 Calc.
☑ S-2
☑ S-3 ☐
☐ SW Protection

State where samples were collected: MA

Data Format
☑ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist*
~~☑ Full Data Package*~~
☑ Phoenix Std
☐ MAT-212 Form

*** SURCHARGE APPLIES**

PHOENIX
Environmental Laboratories, Inc.

Tuesday, March 10, 2026

Attn: Cassidy Way
Mabbett & Assoicates Inc
105 Central Street Suite 4100
Stoneham, MA 02180

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY
SDG ID: GCV38603
Sample ID#s: CV38603 - CV38605

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

March 10, 2026

SDG I.D.: GCV38603

8260 Analysis:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.

8260 Analysis:
1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 10, 2026

SDG I.D.: GCV38603

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY

Client Id	Lab Id	Matrix	Col Date
MW-1-022526	CV38603	GROUND WATER	02/25/26 12:31
MW-3-022526	CV38604	GROUND WATER	02/25/26 13:36
MW-2-022526	CV38605	GROUND WATER	02/25/26 11:45

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

March 10, 2026

FOR: Attn: Cassidy Way
Mabbett & Assoicates Inc
105 Central Street Suite 4100
Stoneham, MA 02180

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		02/25/26	12:31
Location Code:	MABBETT	Received by:	CP	02/27/26	17:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCV38603
Phoenix ID: CV38603

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: MW-1-022526

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				03/04/26	CV/CV	SW3510C
Semi-Volatile Extraction	Completed				03/02/26	L/RB	SW3520C
MA Petroleum Hydrocarbon (EPH)	Completed				02/28/26		MADEP EPH-19
	Completed				03/05/26	V	MA VPH 2/20182.1, 201
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1,1-Trichloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	03/09/26	MH	SW8260D
1,1,2-Trichloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1-Dichloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1-Dichloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1-Dichloropropene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2,3-Trichloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2-Dibromoethane	ND	0.25	ug/L	1	03/09/26	MH	SW8260D
1,2-Dichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2-Dichloroethane	ND	0.60	ug/L	1	03/09/26	MH	SW8260D
1,2-Dichloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,3-Dichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,3-Dichloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,4-Dichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
2,2-Dichloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY
Phoenix I.D.: CV38603
Client ID: MW-1-022526

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Chlorotoluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
2-Hexanone	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
2-Isopropyltoluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
4-Chlorotoluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
4-Methyl-2-pentanone	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
Acetone	ND	25	ug/L	1	03/09/26	MH	SW8260D
Acrylonitrile	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Benzene	ND	0.70	ug/L	1	03/09/26	MH	SW8260D
Bromobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Bromochloromethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Bromodichloromethane	ND	0.50	ug/L	1	03/09/26	MH	SW8260D
Bromoform	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Bromomethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Carbon Disulfide	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
Carbon tetrachloride	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Chlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Chloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Chloroform	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Chloromethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	03/09/26	MH	SW8260D
Dibromochloromethane	ND	0.50	ug/L	1	03/09/26	MH	SW8260D
Dibromomethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Dichlorodifluoromethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Ethylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Hexachlorobutadiene	ND	0.40	ug/L	1	03/09/26	MH	SW8260D
Isopropylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
m&p-Xylene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Methyl ethyl ketone	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Methylene chloride	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Naphthalene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
n-Butylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
n-Propylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
o-Xylene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
p-Isopropyltoluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
sec-Butylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Styrene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
tert-Butylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Tetrachloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	03/09/26	MH	SW8260D
Toluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Total Xylenes	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	03/09/26	MH	SW8260D
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
Trichloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Trichlorofluoromethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Trichlorotrifluoroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Vinyl chloride	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	03/09/26	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	03/09/26	MH	70 - 130 %
% Dibromofluoromethane	94		%	1	03/09/26	MH	70 - 130 %
% Toluene-d8	102		%	1	03/09/26	MH	70 - 130 %
Oxygenates & Dioxane							
1,4-Dioxane	ND	40	ug/L	1	03/09/26	MH	SW8260D (OXY)
Diethyl ether	ND	1.0	ug/L	1	03/09/26	MH	SW8260D (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	03/09/26	MH	SW8260D (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	03/09/26	MH	SW8260D (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	03/09/26	MH	SW8260D (OXY)
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.50	ug/L	1	03/03/26	AW	SW8270E (SIM)
Acenaphthene	ND	0.50	ug/L	1	03/03/26	AW	SW8270E (SIM)
Acenaphthylene	ND	0.10	ug/L	1	03/03/26	AW	SW8270E (SIM)
Anthracene	ND	0.10	ug/L	1	03/03/26	AW	SW8270E (SIM)
Benzo(a)anthracene	ND	0.10	ug/L	1	03/03/26	AW	SW8270E (SIM)
Benzo(a)pyrene	ND	0.20	ug/L	1	03/03/26	AW	SW8270E (SIM)
Benzo(b)fluoranthene	ND	0.10	ug/L	1	03/03/26	AW	SW8270E (SIM)
Benzo(ghi)perylene	ND	0.10	ug/L	1	03/03/26	AW	SW8270E (SIM)
Benzo(k)fluoranthene	ND	0.10	ug/L	1	03/03/26	AW	SW8270E (SIM)
Chrysene	ND	0.05	ug/L	1	03/03/26	AW	SW8270E (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	03/03/26	AW	SW8270E (SIM)
Fluoranthene	ND	0.50	ug/L	1	03/03/26	AW	SW8270E (SIM)
Fluorene	ND	0.10	ug/L	1	03/03/26	AW	SW8270E (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	03/03/26	AW	SW8270E (SIM)
Naphthalene	ND	0.50	ug/L	1	03/03/26	AW	SW8270E (SIM)
Phenanthrene	ND	0.50	ug/L	1	03/03/26	AW	SW8270E (SIM)
Pyrene	ND	0.20	ug/L	1	03/03/26	AW	SW8270E (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	68		%	1	03/03/26	AW	30 - 130 %
% Nitrobenzene-d5	69		%	1	03/03/26	AW	30 - 130 %
% Terphenyl-d14	65		%	1	03/03/26	AW	30 - 130 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	190	ug/L	1	03/04/26	AW	MAEPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	190	ug/L	1	03/04/26	AW	MAEPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	03/04/26	AW	MAEPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	03/04/26	AW	MAEPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	52		%	1	03/04/26	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	103		%	1	03/04/26	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	107		%	1	03/04/26	AW	40 - 140 %
% o-terphenyl (aromatic)	80		%	1	03/04/26	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: MW-1-022526

Phoenix I.D.: CV38603

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
Benzene	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
Ethyl Benzene	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
MTBE	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
Naphthalene	ND	5.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
Toluene	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
m,p-Xylenes	ND	2.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
o-Xylene	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	111		%	1	03/05/26	V	70 - 130 %
% 2,5-Dibromotoluene (PID)	108		%	1	03/05/26	V	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

8260 Analysis:
1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

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Phyllis Shiller, Laboratory Director
March 10, 2026
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

March 10, 2026

FOR: Attn: Cassidy Way
Mabbett & Assoicates Inc
105 Central Street Suite 4100
Stoneham, MA 02180

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		02/25/26	13:36
Location Code:	MABBETT	Received by:	CP	02/27/26	17:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCV38603
Phoenix ID: CV38604

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: MW-3-022526

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				03/04/26	CV/CV	SW3510C
Semi-Volatile Extraction	Completed				03/02/26	L/RB	SW3520C
MA Petroleum Hydrocarbon (EPH)	Completed				02/28/26		MADEP EPH-19
	Completed				03/05/26	V	MA VPH 2/20182.1, 201
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.49	ug/L	1	03/04/26	AW	SW8270E (SIM)
Acenaphthene	ND	0.49	ug/L	1	03/04/26	AW	SW8270E (SIM)
Acenaphthylene	ND	0.10	ug/L	1	03/04/26	AW	SW8270E (SIM)
Anthracene	ND	0.09	ug/L	1	03/04/26	AW	SW8270E (SIM)
Benzo(a)anthracene	ND	0.10	ug/L	1	03/04/26	AW	SW8270E (SIM)
Benzo(a)pyrene	ND	0.20	ug/L	1	03/04/26	AW	SW8270E (SIM)
Benzo(b)fluoranthene	ND	0.10	ug/L	1	03/04/26	AW	SW8270E (SIM)
Benzo(ghi)perylene	0.05	0.02	ug/L	1	03/04/26	AW	SW8270E (SIM)
Benzo(k)fluoranthene	ND	0.10	ug/L	1	03/04/26	AW	SW8270E (SIM)
Chrysene	0.07	0.05	ug/L	1	03/04/26	AW	SW8270E (SIM)
Dibenz(a,h)anthracene	0.03	0.02	ug/L	1	03/04/26	AW	SW8270E (SIM)
Fluoranthene	ND	0.49	ug/L	1	03/04/26	AW	SW8270E (SIM)
Fluorene	ND	0.10	ug/L	1	03/04/26	AW	SW8270E (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	03/04/26	AW	SW8270E (SIM)
Naphthalene	ND	0.49	ug/L	1	03/04/26	AW	SW8270E (SIM)
Phenanthrene	ND	0.49	ug/L	1	03/04/26	AW	SW8270E (SIM)
Pyrene	0.12	0.07	ug/L	1	03/04/26	AW	SW8270E (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	64		%	1	03/04/26	AW	30 - 130 %
% Nitrobenzene-d5	72		%	1	03/04/26	AW	30 - 130 %
% Terphenyl-d14	34		%	1	03/04/26	AW	30 - 130 %

Ver 1

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: MW-3-022526

Phoenix I.D.: CV38604

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	200	ug/L	1	03/04/26	AW	MAEPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	200	ug/L	1	03/04/26	AW	MAEPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	03/04/26	AW	MAEPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	03/04/26	AW	MAEPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	75		%	1	03/04/26	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	109		%	1	03/04/26	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	109		%	1	03/04/26	AW	40 - 140 %
% o-terphenyl (aromatic)	81		%	1	03/04/26	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
Benzene	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
Ethyl Benzene	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
MTBE	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
Naphthalene	ND	5.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
Toluene	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
m,p-Xylenes	ND	2.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
o-Xylene	ND	1.0	ug/L	1	03/05/26	V	MA VPH 2/20182.1, 201
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	112		%	1	03/05/26	V	70 - 130 %
% 2,5-Dibromotoluene (PID)	111		%	1	03/05/26	V	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
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Comments:

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1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
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*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

8260 Analysis:
1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

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Phyllis Shiller, Laboratory Director
March 10, 2026
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

March 10, 2026

FOR: Attn: Cassidy Way
Mabbett & Assoicates Inc
105 Central Street Suite 4100
Stoneham, MA 02180

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		02/25/26	11:45
Location Code:	MABBETT	Received by:	CP	02/27/26	17:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCV38603
Phoenix ID: CV38605

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: MW-2-022526

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
	Completed				03/09/26	V	MA VPH 2/20182.1, 201
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1,1-Trichloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	03/09/26	MH	SW8260D
1,1,2-Trichloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1-Dichloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1-Dichloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,1-Dichloropropene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2,3-Trichloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2-Dibromoethane	ND	0.25	ug/L	1	03/09/26	MH	SW8260D
1,2-Dichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,2-Dichloroethane	ND	0.60	ug/L	1	03/09/26	MH	SW8260D
1,2-Dichloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,3-Dichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,3-Dichloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
1,4-Dichlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
2,2-Dichloropropane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
2-Chlorotoluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
2-Hexanone	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
2-Isopropyltoluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
4-Chlorotoluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: MW-2-022526

Phoenix I.D.: CV38605

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
4-Methyl-2-pentanone	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
Acetone	ND	25	ug/L	1	03/09/26	MH	SW8260D
Acrylonitrile	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Benzene	ND	0.70	ug/L	1	03/09/26	MH	SW8260D
Bromobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Bromochloromethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Bromodichloromethane	ND	0.50	ug/L	1	03/09/26	MH	SW8260D
Bromoform	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Bromomethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Carbon Disulfide	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
Carbon tetrachloride	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Chlorobenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Chloroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Chloroform	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Chloromethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	03/09/26	MH	SW8260D
Dibromochloromethane	ND	0.50	ug/L	1	03/09/26	MH	SW8260D
Dibromomethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Dichlorodifluoromethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Ethylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Hexachlorobutadiene	ND	0.40	ug/L	1	03/09/26	MH	SW8260D
Isopropylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
m&p-Xylene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Methyl ethyl ketone	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Methylene chloride	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Naphthalene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
n-Butylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
n-Propylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
o-Xylene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
p-Isopropyltoluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
sec-Butylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Styrene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
tert-Butylbenzene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Tetrachloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	03/09/26	MH	SW8260D
Toluene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Total Xylenes	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	03/09/26	MH	SW8260D
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	03/09/26	MH	SW8260D
Trichloroethene	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Trichlorofluoromethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Trichlorotrifluoroethane	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
Vinyl chloride	ND	1.0	ug/L	1	03/09/26	MH	SW8260D
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	03/09/26	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	03/09/26	MH	70 - 130 %

Ver 1

Project ID: TCT ARCHITECTURE/ESSEX ELEMENTARY
Client ID: MW-2-022526

Phoenix I.D.: CV38605

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Dibromofluoromethane	94		%	1	03/09/26	MH	70 - 130 %
% Toluene-d8	98		%	1	03/09/26	MH	70 - 130 %
Oxygenates & Dioxane							
1,4-Dioxane	ND	40	ug/L	1	03/09/26	MH	SW8260D (OXY)
Diethyl ether	ND	1.0	ug/L	1	03/09/26	MH	SW8260D (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	03/09/26	MH	SW8260D (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	03/09/26	MH	SW8260D (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	03/09/26	MH	SW8260D (OXY)
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
Benzene	ND	1.0	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
Ethyl Benzene	ND	1.0	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
MTBE	ND	1.0	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
Naphthalene	ND	5.0	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
Toluene	ND	1.0	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
m,p-Xylenes	ND	2.0	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
o-Xylene	ND	1.0	ug/L	1	03/09/26	V	MA VPH 2/20182.1, 201
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	90		%	1	03/09/26	V	70 - 130 %
% 2,5-Dibromotoluene (PID)	90		%	1	03/09/26	V	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

8260 Analysis:
1,4-Dioxane doesn't meet GW-1 criteria, this compound is analyzed by 8270SIM to achieve this criteria.

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Phyllis Shiller, Laboratory Director
March 10, 2026
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

March 10, 2026

QA/QC Data

SDG I.D.: GCV38603

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 828604 (ug/L), QC Sample No: CV38603 (CV38603, CV38604)											
MAEPH - Ground Water											
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	72	71	1.4				40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	90	92	2.2				40 - 140	25	
C11-C22 Aromatic Hydrocarbons 1	ND	100	66	64	3.1				40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
C9 - Nonane	ND	10	44	41	7.1				40 - 140	25	
C-10 Decane	ND	10	59	56	5.2				40 - 140	25	
C12 - Dodecane	ND	10	70	69	1.4				40 - 140	25	
C14 - Tetradecane	ND	10	80	81	1.2				40 - 140	25	
C16 - Hexadecane	ND	10	87	87	0.0				40 - 140	25	
C18 - Octadecane	ND	10	93	94	1.1				40 - 140	25	
C19 - Nonadecane	ND	10	93	93	0.0				40 - 140	25	
C20 - Eicosane	ND	10	94	94	0.0				40 - 140	25	
C22 - Docosane	ND	10	94	94	0.0				40 - 140	25	
C24 - Tetracosane	ND	10	91	92	1.1				40 - 140	25	
C26 - Hexacosane	ND	10	90	91	1.1				40 - 140	25	
C28 - Octacosane	ND	10	90	90	0.0				40 - 140	25	
C30 - Tricotane	ND	10	90	92	2.2				40 - 140	25	
C36 - Hexatriacontane	ND	10	80	87	8.4				40 - 140	25	
% 1-chlorooctadecane (aliphatic)	75	%	84	84	0.0				40 - 140	25	
% o-terphenyl (aromatic)	65	%	72	70	2.8				40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	80	%	89	87	2.3				40 - 140	25	
% 2-Bromonaphthalene (Fractionati	42	%	43	55	24.5				40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 828316 (ug/L), QC Sample No: CV38051 (CV38603, CV38604)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	90	109	19.1				40 - 140	20	
Acenaphthene	ND	0.50	77	68	12.4				40 - 140	20	
Acenaphthylene	ND	0.10	69	14	132.5				40 - 140	20	I,r
Anthracene	ND	0.10	87	78	10.9				40 - 140	20	
Benzo(a)anthracene	ND	0.02	93	87	6.7				40 - 140	20	
Benzo(a)pyrene	ND	0.02	87	71	20.3				40 - 140	20	
Benzo(b)fluoranthene	ND	0.02	79	79	0.0				40 - 140	20	
Benzo(ghi)perylene	ND	0.02	78	73	6.6				40 - 140	20	
Benzo(k)fluoranthene	ND	0.02	83	83	0.0				40 - 140	20	
Chrysene	ND	0.02	87	84	3.5				40 - 140	20	
Dibenz(a,h)anthracene	ND	0.02	82	81	1.2				40 - 140	20	
Fluoranthene	ND	0.50	92	87	5.6				40 - 140	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Fluorene	ND	0.10	81	76	6.4				40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.02	84	82	2.4				40 - 140	20	
Naphthalene	ND	0.50	75	96	24.6				40 - 140	20	r
Phenanthrene	ND	0.06	74	70	5.6				40 - 140	20	
Pyrene	ND	0.07	89	73	19.8				40 - 140	20	
% 2-Fluorobiphenyl	97	%	74	67	9.9				30 - 130	20	
% Nitrobenzene-d5	74	%	79	68	15.0				30 - 130	20	
% Terphenyl-d14	86	%	85	83	2.4				30 - 130	20	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 829500 (ug/L), QC Sample No: CV38655 (CV38603, CV38605)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	104	106	1.9				70 - 130	20	
1,1,1-Trichloroethane	ND	1.0	106	109	2.8				70 - 130	20	
1,1,2,2-Tetrachloroethane	ND	0.50	104	102	1.9				70 - 130	20	
1,1,2-Trichloroethane	ND	1.0	105	107	1.9				70 - 130	20	
1,1-Dichloroethane	ND	1.0	101	103	2.0				70 - 130	20	
1,1-Dichloroethene	ND	1.0	105	106	0.9				70 - 130	20	
1,1-Dichloropropene	ND	1.0	91	112	20.7				70 - 130	20	r
1,2,3-Trichlorobenzene	ND	1.0	108	108	0.0				70 - 130	20	
1,2,3-Trichloropropane	ND	1.0	104	103	1.0				70 - 130	20	
1,2,4-Trichlorobenzene	ND	1.0	108	108	0.0				70 - 130	20	
1,2,4-Trimethylbenzene	ND	1.0	110	111	0.9				70 - 130	20	
1,2-Dibromo-3-chloropropane	ND	1.0	92	95	3.2				70 - 130	20	
1,2-Dibromoethane	ND	1.0	107	106	0.9				70 - 130	20	
1,2-Dichlorobenzene	ND	1.0	106	106	0.0				70 - 130	20	
1,2-Dichloroethane	ND	1.0	103	105	1.9				70 - 130	20	
1,2-Dichloropropane	ND	1.0	102	105	2.9				70 - 130	20	
1,3,5-Trimethylbenzene	ND	1.0	113	112	0.9				70 - 130	20	
1,3-Dichlorobenzene	ND	1.0	110	109	0.9				70 - 130	20	
1,3-Dichloropropane	ND	1.0	104	107	2.8				70 - 130	20	
1,4-Dichlorobenzene	ND	1.0	107	107	0.0				70 - 130	20	
1,4-dioxane	ND	100	99	102	3.0				40 - 160	20	
2,2-Dichloropropane	ND	1.0	104	106	1.9				70 - 130	20	
2-Chlorotoluene	ND	1.0	110	110	0.0				70 - 130	20	
2-Hexanone	ND	5.0	97	98	1.0				40 - 160	20	
2-Isopropyltoluene	ND	1.0	111	109	1.8				70 - 130	20	
4-Chlorotoluene	ND	1.0	106	105	0.9				70 - 130	20	
4-Methyl-2-pentanone	ND	5.0	99	96	3.1				40 - 160	20	
Acetone	ND	5.0	89	90	1.1				40 - 160	20	
Acrylonitrile	ND	5.0	93	96	3.2				70 - 130	20	
Benzene	ND	0.70	105	106	0.9				70 - 130	20	
Bromobenzene	ND	1.0	106	108	1.9				70 - 130	20	
Bromochloromethane	ND	1.0	103	102	1.0				70 - 130	20	
Bromodichloromethane	ND	0.50	103	104	1.0				70 - 130	20	
Bromoform	ND	1.0	103	103	0.0				70 - 130	20	
Bromomethane	ND	1.0	136	145	6.4				40 - 160	20	
Carbon Disulfide	ND	1.0	103	106	2.9				70 - 130	20	
Carbon tetrachloride	ND	1.0	106	106	0.0				70 - 130	20	
Chlorobenzene	ND	1.0	104	105	1.0				70 - 130	20	

QA/QC Data

SDG I.D.: GCV38603

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Chloroethane	ND	1.0	116	119	2.6				70 - 130	20
Chloroform	ND	1.0	102	103	1.0				70 - 130	20
Chloromethane	ND	1.0	100	99	1.0				40 - 160	20
cis-1,2-Dichloroethene	ND	1.0	103	105	1.9				70 - 130	20
cis-1,3-Dichloropropene	ND	0.40	105	106	0.9				70 - 130	20
Dibromochloromethane	ND	0.50	99	103	4.0				70 - 130	20
Dibromomethane	ND	1.0	100	100	0.0				70 - 130	20
Dichlorodifluoromethane	ND	1.0	101	101	0.0				40 - 160	20
Di-isopropyl ether	ND	1.0	101	105	3.9				70 - 130	20
Ethyl ether	ND	1.0	97	102	5.0				70 - 130	20
Ethyl tert-butyl ether	ND	1.0	100	105	4.9				70 - 130	20
Ethylbenzene	ND	1.0	108	109	0.9				70 - 130	20
Hexachlorobutadiene	ND	0.40	104	107	2.8				70 - 130	20
Isopropylbenzene	ND	1.0	108	110	1.8				70 - 130	20
m&p-Xylene	ND	1.0	107	108	0.9				70 - 130	20
Methyl ethyl ketone	ND	5.0	94	104	10.1				40 - 160	20
Methyl t-butyl ether (MTBE)	ND	1.0	100	105	4.9				70 - 130	20
Methylene chloride	ND	1.0	94	98	4.2				70 - 130	20
Naphthalene	ND	1.0	103	105	1.9				70 - 130	20
n-Butylbenzene	ND	1.0	114	113	0.9				70 - 130	20
n-Propylbenzene	ND	1.0	111	109	1.8				70 - 130	20
o-Xylene	ND	1.0	104	106	1.9				70 - 130	20
p-Isopropyltoluene	ND	1.0	113	111	1.8				70 - 130	20
sec-Butylbenzene	ND	1.0	112	109	2.7				70 - 130	20
Styrene	ND	1.0	110	110	0.0				70 - 130	20
tert-amyl methyl ether	ND	1.0	106	106	0.0				70 - 130	20
tert-Butylbenzene	ND	1.0	112	111	0.9				70 - 130	20
Tetrachloroethene	ND	1.0	101	104	2.9				70 - 130	20
Tetrahydrofuran (THF)	ND	2.5	96	95	1.0				70 - 130	20
Toluene	ND	1.0	106	104	1.9				70 - 130	20
trans-1,2-Dichloroethene	ND	1.0	103	105	1.9				70 - 130	20
trans-1,3-Dichloropropene	ND	0.40	107	108	0.9				70 - 130	20
trans-1,4-dichloro-2-butene	ND	5.0	102	100	2.0				70 - 130	20
Trichloroethene	ND	1.0	106	104	1.9				70 - 130	20
Trichlorofluoromethane	ND	1.0	106	110	3.7				70 - 130	20
Trichlorotrifluoroethane	ND	1.0	110	116	5.3				70 - 130	20
Vinyl chloride	ND	1.0	103	103	0.0				70 - 130	20
% 1,2-dichlorobenzene-d4	98	%	99	101	2.0				70 - 130	20
% Bromofluorobenzene	97	%	101	101	0.0				70 - 130	20
% Dibromofluoromethane	82	%	91	97	6.4				70 - 130	20
% Toluene-d8	102	%	98	99	1.0				70 - 130	20

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%.
The RPD criteria for the LCS/LCSD is 20%,
The MS/MSD RPD criteria is listed above.

QA/QC Batch 828876 (ug/L), QC Sample No: CV35680 (CV38603, CV38604)

Volatile Petroleum Hydrocarbons - Ground Water

Unadjusted C5-C8 Aliphatics (*1)	ND	100	98	99	1.0	93	100	7.3	70 - 130	25
Unadjusted C9-C12 Aliphatics (*1)	ND	100	106	113	6.4	87	103	16.8	70 - 130	25
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	98	99	1.0	93	100	7.3	70 - 130	25
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	106	113	6.4	87	103	16.8	70 - 130	25

QA/QC Data

SDG I.D.: GCV38603

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
C9-C10 Aromatic Hydrocarbons *1	ND	100	107	108	0.9	98	106	7.8	70 - 130	25
Benzene	ND	1.0	103	105	1.9	100	108	7.7	70 - 130	25
Ethyl Benzene	ND	1.0	100	102	2.0	97	104	7.0	70 - 130	25
MTBE	ND	1.0	84	82	2.4	84	94	11.2	70 - 130	25
Naphthalene	ND	5.0	105	106	0.9	91	102	11.4	70 - 130	25
Toluene	ND	1.0	101	103	2.0	98	106	7.8	70 - 130	25
m,p-Xylenes	ND	2.0	103	104	1.0	98	106	7.8	70 - 130	25
o-Xylene	ND	1.0	102	104	1.9	97	105	7.9	70 - 130	25
% 2,5-Dibromotoluene (PID)	98	%	105	100	4.9	104	101	2.9	70 - 130	25
% 2,5-Dibromotoluene (FID)	98	%	105	100	4.9	104	101	2.9	70 - 130	25
QA/QC Batch 829313 (ug/L), QC Sample No: CV38605 (CV38605)										
Volatile Petroleum Hydrocarbons - Ground Water										
Unadjusted C5-C8 Aliphatics (*1)	ND	100	98	98	0.0				70 - 130	25
Unadjusted C9-C12 Aliphatics (*1)	ND	100	107	107	0.0				70 - 130	25
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	98	98	0.0				70 - 130	25
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	107	107	0.0				70 - 130	25
C9-C10 Aromatic Hydrocarbons *1	ND	100	101	102	1.0				70 - 130	25
Benzene	ND	1.0	100	100	0.0				70 - 130	25
Ethyl Benzene	ND	1.0	102	103	1.0				70 - 130	25
MTBE	ND	1.0	117	117	0.0				70 - 130	25
Naphthalene	ND	5.0	92	94	2.2				70 - 130	25
Toluene	ND	1.0	100	101	1.0				70 - 130	25
m,p-Xylenes	ND	2.0	101	101	0.0				70 - 130	25
o-Xylene	ND	1.0	100	101	1.0				70 - 130	25
% 2,5-Dibromotoluene (PID)	94	%	86	90	4.5				70 - 130	25
% 2,5-Dibromotoluene (FID)	94	%	85	90	5.7				70 - 130	25

Comment:

This batch consists of a Blank, LCS and LCSD.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference
(ISO) - Isotope Dilution

Phyllis Shiller, Laboratory Director
March 10, 2026

Tuesday, March 10, 2026

Criteria: MA: GW1, GW2, GW3

State: MA

Sample Criteria Exceedances Report

GCV38603 - MABBETT

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CV38603	$8260GWR	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.25	0.02	0.02	ug/L
CV38603	$8260GWR	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.25	0.02	0.02	ug/L
CV38603	$MCPADD-WM	1,4-Dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	0.3	0.3	ug/L
CV38603	$MCPADD-WM	1,4-Dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/L
CV38605	$8260GWR	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.25	0.02	0.02	ug/L
CV38605	$8260GWR	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.25	0.02	0.02	ug/L
CV38605	$MCPADD-WM	1,4-Dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	0.3	0.3	ug/L
CV38605	$MCPADD-WM	1,4-Dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/L

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

March 10, 2026 SDG I.D.: GCV38603

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report:

VPH Narration

PIDFID 03/04/26-2: CV38603, CV38604

The following Continuing Calibration compounds did not meet % deviation criteria:
Samples: CV38603, CV38604
Preceding CC 0304_10.D-RPTVPT - None.
Succeeding CC 0304_45.D-RPTVPT - MTBE 36%L (%)

EPH Fractionation Standard

SDG I.D.: GCV38603

Effective Date(s): 06/06/25 - 06/06/26 **Analyst:** AW

AS #	TV	8ml	10ml	12ml	14ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
1,2,3-Trimethylbenzene	20	19.37	19.94	19.67	22.66	96.9	99.7	98.3	113.3	40-140
2-Methylnaphthalene	20	20.43	20.91	20.50	24.27	102.2	104.6	102.5	121.3	40-140
Acenaphthalene	20	22.34	23.14	22.75	26.77	111.7	115.7	113.8	133.9	40-140
Acenaphthene	20	23.25	24.06	23.77	27.77	116.2	120.3	118.9	138.8	40-140
Anthracene	20	24.85	25.56	25.32	30.94	124.3	127.8	126.6	154.7	40-140
Benzo(a)anthracene	20	22.82	23.41	22.24	27.59	114.1	117.1	111.2	137.9	40-140
Benzo(a)pyrene	20	19.94	21.44	19.74	23.20	99.7	107.2	98.7	116.0	40-140
Benzo(b/K)fluor COPK	40	48.76	50.48	49.73	57.80	121.9	126.2	124.3	144.5	40-140
Benzo(ghi)perylene	20	23.51	24.56	24.15	28.50	117.5	122.8	120.8	142.5	40-140
C-10 Decane	20	21.27	20.86	21.40	21.79	106.4	104.3	107.0	109.0	40-140
C12 - Dodecane	20	22.75	21.81	22.59	22.91	113.8	109.0	113.0	114.6	40-140
C14 - Tetradecane	20	24.21	22.81	24.10	24.03	121.1	114.0	120.5	120.1	40-140
C16 - Hexadecane	20	24.87	23.14	24.81	24.51	124.4	115.7	124.0	122.6	40-140
C18 - Octadecane	20	25.79	24.05	26.19	25.68	129.0	120.3	131.0	128.4	40-140
C20 - Eicosane	20	25.17	23.59	25.45	25.21	125.9	118.0	127.2	126.0	40-140
C21 - Heneicosane	20	27.31	25.53	27.45	27.24	136.6	127.6	137.2	136.2	40-140
C22 - Docosane	20	23.59	22.04	23.43	23.48	118.0	110.2	117.2	117.4	40-140
C24 - Tetracosane	20	24.23	22.75	24.24	24.18	121.2	113.7	121.2	120.9	40-140
C26 - Hexacosane	20	24.19	22.82	24.45	24.24	120.9	114.1	122.2	121.2	40-140
C28 - Octacosane	20	23.71	22.42	24.15	23.69	118.6	112.1	120.8	118.5	40-140
C30 - Tricotane	20	23.55	22.53	24.19	23.59	117.7	112.7	121.0	118.0	40-140
C32 - Dotriacontance	20	22.79	22.16	23.84	23.25	114.0	110.8	119.2	116.3	40-140
C34 - Tetratriacontane	20	22.02	21.88	23.84	23.29	110.1	109.4	119.2	116.5	40-140
C36 - Hexatriacontane	20	19.45	20.49	22.49	22.06	97.3	102.5	112.5	110.3	40-140
C38 - Octatriacontane	20	16.03	18.69	21.11	20.97	80.1	93.4	105.5	104.8	40-140
C40 - Tetracontane	20	11.24	14.49	17.37	18.05	56.2	72.5	86.9	90.2	40-140
C9 - Nonane	20	18.68	18.53	18.88	19.12	93.4	92.6	94.4	95.6	40-140
Chyrsene	20	24.20	24.97	25.28	28.03	121.0	124.8	126.4	140.1	40-140
Fluoranthene	20	23.60	24.31	23.88	27.87	118.0	121.5	119.4	139.4	40-140
Fluorene	20	21.91	22.59	22.20	26.17	109.5	113.0	111.0	130.8	40-140
Indeno/Dibenz copk	40	43.79	46.18	45.87	54.24	109.5	115.5	114.7	135.6	40-140
Naphthalene	20	19.71	20.17	19.80	23.25	98.6	100.9	99.0	116.2	40-140

EPH Fractionation Standard

SDG I.D.: GCV38603

Effective Date(s): 06/06/25 - 06/06/26 **Analyst:** AW

AS #	TV	8ml	10ml	12ml	14ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
o-Terphenyl (s)	20	23.46	21.94	23.81	23.34	117.3	109.7	119.0	116.7	40-140
Phenanthrene	20	22.07	22.84	21.98	25.06	110.4	114.2	109.9	125.3	40-140
Pyrene	20	24.34	24.87	24.39	28.62	121.7	124.3	122.0	143.1	40-140

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml.
AU-FID7 06/06/25 (8) files 606A019 - 606A026

798

Temp 1.2°C Coolant: IPK ☒ ICE ☐ Cooler: Yes ☒ No ☐ No ☐

Pg of

PHOENIX
Environmental Laboratories, Inc.

CT/MA/RI CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com
Client Services (860) 645-1102

Data Delivery/Contact Options:
Phone: 781-275-6050
Email(s): wayc mabbett.com

Customer: Mabbett + Associates, Inc
Address: 105 Central St, Stoneham MA 02180
Project: JCT Architecture/Essex Elementary **Project P.O:**
Report to (name): Cassidy Way
Invoice to:
Quote #

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Alanna Lucy Date: 2/25/26

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **STW** = Storm Water
WW=Waste Water **RW**=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **C**=Concrete
CLK=Caulk **W**=Wipe **O**=Oil **B**=Bulk **L**=Liquid **X** = Other_____ **(Must define)**

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	*MS/MSD (May be billable at analysis unit rate)	VPH	EPH	VOC	GL Amber ( ) oz [ ] H_3PO_4 [ ] NAHSO4 [ ] NH_4Cl	Soil VOA Vials [ ] methanol [ ] H_2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is	GL Amber 1000ml [ ] As is	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H_2SO_4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO_3 [ ] 250ml [ ] 500ml [ ] 1000ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is	
381003	MW-1-022526	GW	2/25/26	12:31		X	X	X					5	2							798-1
	~~MW-2-022526~~	~~GW~~	~~2/25/26~~			~~X~~	~~X~~	~~X~~					~~5~~	~~2~~							~~798-2~~
381004	MW-3-022526	GW	2/25/26	13:36		X	X						2	2							798-3
381005	MW-2-022526	GW	2/25/26	11:45		X		X					5								798-4

Relinquished by:	Accepted by:	Date:	Time:
Alanna Lucy	~~2/25~~ Fedex	2/25/26	20:10
		2/27	13:15
		2/27/26	17:20

Comments, Special Requirements or Regulations:

Turnaround Time:
☐ 1 Day* ☒ Standard
☐ 2 Days* ☐ Other
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

*** SURCHARGES MAY APPLY**

RI
☐ RES DEC
☐ I/C DEC
☐ GA Leachability
☐ GB Leachability
☐ GA -GW Objectives
☐ GB -GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GWPC
☐ SWPC
☐ GA PMC
☐ GB PMC
☐ SWPC
RES ☐ DEC ☐ VC
I/C ☐ DEC ☐ VC

MA
☐ MCP Certification
☒ GW-1 ☐ RCS-1 / RCGW-1
☒ GW-2 ☐ RCS-2 / RCGW-2
☒ GW-3 ☐ S-1 Calc.
☐ S-1
☐ S-2
☐ S-3
☐ SW Protection

State where samples were collected: MA

Data Format
☒ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist*
☐ Full Data Package*
☒ Phoenix Std
☐ MAT-212 Form

*** SURCHARGE APPLIES**

APPENDIX E

UST Removal Records

FILE COPY

THE COMMONWEALTH OF MASSACHUSETTS

Department of Revenue
Underground Storage Tank Petroleum Product Cleanup Fund

Application for Funding from FY 2003 Appropriation

INSTRUCTIONS

Please type or print in black ink all items and sign the certification on the fourth page. Enter your actual or expected costs in Section V, and attach supporting documentation. Also enclose a current dated photo of the facility taken from the street. Definitions and other pertinent information can be found in 503 CMR 3.00. An updated (i.e. amended) FP-290 part 1 must accompany this application. Grants for removed UST's must submit FP-292. If a Marina, Marine Fueling Permit (FP-294). Consumptive use heating oil tanks must have a permit from the local fire department in accordance with 527 CMR 4.00.

THIS PROGRAM IS FOR UST REMOVAL AND REPLACEMENT ONLY. IT DOES NOT PROVIDE REIMBURSEMENT FOR ENVIRONMENTAL REMEDIATION. PLEASE PROVIDE A BRIEF DESCRIPTION OF WORK PERFORMED OR TO BE PERFORMED.

GRANT APPLICANTS CAN ONLY APPLY FOR ONE LOCATION PER FISCAL YEAR.

Grant applications shall be submitted to:

UST Administrative Review Board
200 Arlington Street, 1-C
Chelsea, MA 02150-0001
Attn: Grants Manager

I. LOCATION OF TANK(S)

Facility Name: Essex Elementary & Middle School

Operator: Town of Essex

Street Address (P.O. Box not acceptable): 12 Story Street

City: Essex State: MA Zip: 01929

County: Essex

Phone Number (include Area Code): 978-768-6531

State Senatorial District: 1st Essex & Middlesex

State Representative District: 5th Essex

II. OWNERSHIP OF TANK(S)

Owner Name (City, Town, District or Other Body Politic): Town of Essex

Street Address: Town Hall - 30 Martin Street

City: Essex, State: MA Zip: 01929

Mail Address If Different from Street Address:

Phone Number (Include Area Code): 978-768-6531

Fax Number (Include Area Code): 978-768-2505

Contact: Brendhan Zubricki e-mail address: bzubricki@essexma.org

III. GENERAL

1. Are you a (check one): ☐ City ☑ Town ☐ District ☐ Other Body Politic (identify): _____

2. Check the appropriate box for a and b:

a. Was the tank(s) named in this application installed prior to April 1, 1991? ☑ Yes ☐ No
(We didn't install a new tank)

b. Have you installed in accordance with 527 CMR 9.05(6) leak detection, spill containment and overfill protection? ☐ Yes ☒ No

3. List any other source(s) of funding that has been requested for this project:
None beyond Town Meeting appropriation.

IV. CLASSIFICATION AND PRIORITY

1. This application is for (check one):

- ☐ Removal of a *leaking* fuel storage tank(s) system required in accordance with 527 CMR 9.00
- ☐ Closure of a fuel storage tank(s) systems.
- ☒ Removal ~~and replacement~~ of a fuel storage tank(s) system used for public safety vehicles, emergency generators, a hospital, or a school. * (converted to gas, no replacement)
- ☐ Removal and replacement of any other fuel storage tank(s) systems (i.e., heating oil, waste oil etc., replacement with above ground storage tanks).*

☐ Grant is for pre-approval. **(MUST BE SUBMITTED BY 11/29/02)**

* If replaced above ground, attach documentation per 503 CMR 3.04(9).

2. The Removed tank(s) system had the following construction (check one):

	Points
☐ Lined Tank	5
☒ Bare Steel	4
☐ Concrete	3
☐ Protected	2
☐ Composite	2
☐ Fiberglass	1
Total:	4

3. The age of the Removed tank(s) system was (check one):

☐ Over 31 years	6
☐ 26-30 years	5
☒ 21-25 years (small tank, best estimate)	4
☒ 16-20 years (large tank, best estimate)	3
☐ 11-15 years	2
☐ 5-10 years	1
Total:	4

4. Proximity to public water system. The tank(s) system is located in (check all that apply):

☐ Zone I or Zone A	10
☐ Zone II or Interim Wellhead Protection Area	8
☐ Zone B	6
☐ Sole Source Aquifer	4
☒ Within 100' of Wetland	4
☒ Within 100' of Stream	4
☐ Within 100' of Brook	4
☐ Within 100' of Area of Critical Environmental Concern	4
☐ Agricultural Land	4
☐ Any other Area	0
Total:	8

5. The tank(s) system stores the following type of product (check one):

☐ Gasoline	5
☐ Aviation Fuel	4
☐ Diesel	3
☒ #2 Fuel (small tank, best estimate)	3
☒ #4 Fuel (large tank)	2
☐ #6 Fuel	2
☐ Other mid-range weight fuels	3
Total:	3
Grand Total:	19

V. COST INFORMATION

Enter the actual costs incurred in performing the tank(s) closure, removal and/or replacement. If you have not yet incurred costs, enter the estimated costs which you expect to incur. Do not include any ineligible costs in this report/estimate. All costs must be documented, and such documentation must be attached to this application before it can be processed. Grants must be filed within one year of completing work.

Total Costs (circle one)

($11,470 less $118 for performance bond)

Incurred: $11,352.00 (Provide Detailed Breakdown of Costs Incurred With Proof of Payment)
(Submit by 5/30/2003)

Estimated: _____ (Pre-Approval only. Provide 2 Cost Estimates and **Work Must be Completed by 6/20/2003)**
(Submit by 11/29/2002)

Applicant certifies that as of the date of filing this application, work has not commenced.

Required Items For Submitting Grant Application *

X Photo. **(MANDATORY)**

N/A Updated FP-290 Permit for the new tank(s) installation. **(MANDATORY)** (no new tank installed)

X FP-290R Permit for Removal or Closure of storage tanks **(MANDATORY)**

X FP-292 Permit for tank(s) Removal and Transport **(MANDATORY)**

N/A FP-294. **(If Marina)**

N/A Permit from the local Fire Department **if consumptive use heating oil tanks.** (Essex F.D. does not use a separate form beyond FP-290R)

X Proof of payment consisting of a canceled check or contractor affidavit acknowledging payment for services. **(MANDATORY)**

X Breakdown of costs incurred including invoices from contractors. **(MANDATORY)**

N/A Breakdown of bid costs if **Pre-Approval Application. (MANDATORY)**

X Federal Identification Number. **Must begin with 047. (MANDATORY)**

*** Items missing may cause Grant to be denied.**

VI. CERTIFICATION

Chief Administrative Officer Certification:
I certify under the penalty of perjury that to the best of my knowledge and belief the statements made and information given herein are true as of the date hereof. I further certify that this submission is complete and in compliance with M.G.L. c. 21J and 503 CMR 3.00. I hereby consent to all audits of payment and necessary inspections made to verify the accuracy of any submission to the Board and made pursuant to law and incidental to the issuance of licenses, registrations, permits, certificates and the operation of an UST System. I am aware that there are significant penalties for submitting false information, including possible fines, civil penalties and imprisonment. I further certify that I am authorized to execute this form. I agree to return any erroneous payment to the Board via the Department of Revenue within 10 days of either the receipt of the erroneous payment or the receipt of written notice from the Board or the Department of Revenue that an erroneous payment was made. **I certify that the work submitted for reimbursement was not completed more than one year from the date submitted to the UST Board.**

Chief Administrative Officer Signature: _____ **Date:** 11-12-02

Title: Chairman, Board of Selectmen
Print Name: David Folsom
Address: Town Hall - 30 Martin Street
Essex, MA 01929

* Federal Identification Number. **Must begin with 047.** **(MANDATORY):** 046-001-146
(municipal ID's begin with 046)

OFFICE USE ONLY

Date Received:

Receiving Clerk Initials:

Applicant was contacted for clarification: ☐ Yes ☐ No

Findings: _____

_____

UST Facility Number:

UST Program Director's Approval: ☐ Yes ☐ No

Date Forwarded to the UST Board:

☐ **APPROVED**

Category: _____
Priority Score: _____
Date of Approval: _____
Grant Amount: _____

Approving authority **Name** _____
Title _____

☐ **DISAPPROVED**

Reason for Disapproval:

Cost Breakdown Worksheet

Invoice Date	Invoice Number	Contractor	Task	Description	Estimated Costs Pre-Approval Only	Total Paid	Date Paid	Check #
7/23/02	435	Wright Indust.	Remove 2 UST's	Essex Elem. & Middle School	N/A	$11,470	7/29/02	5090

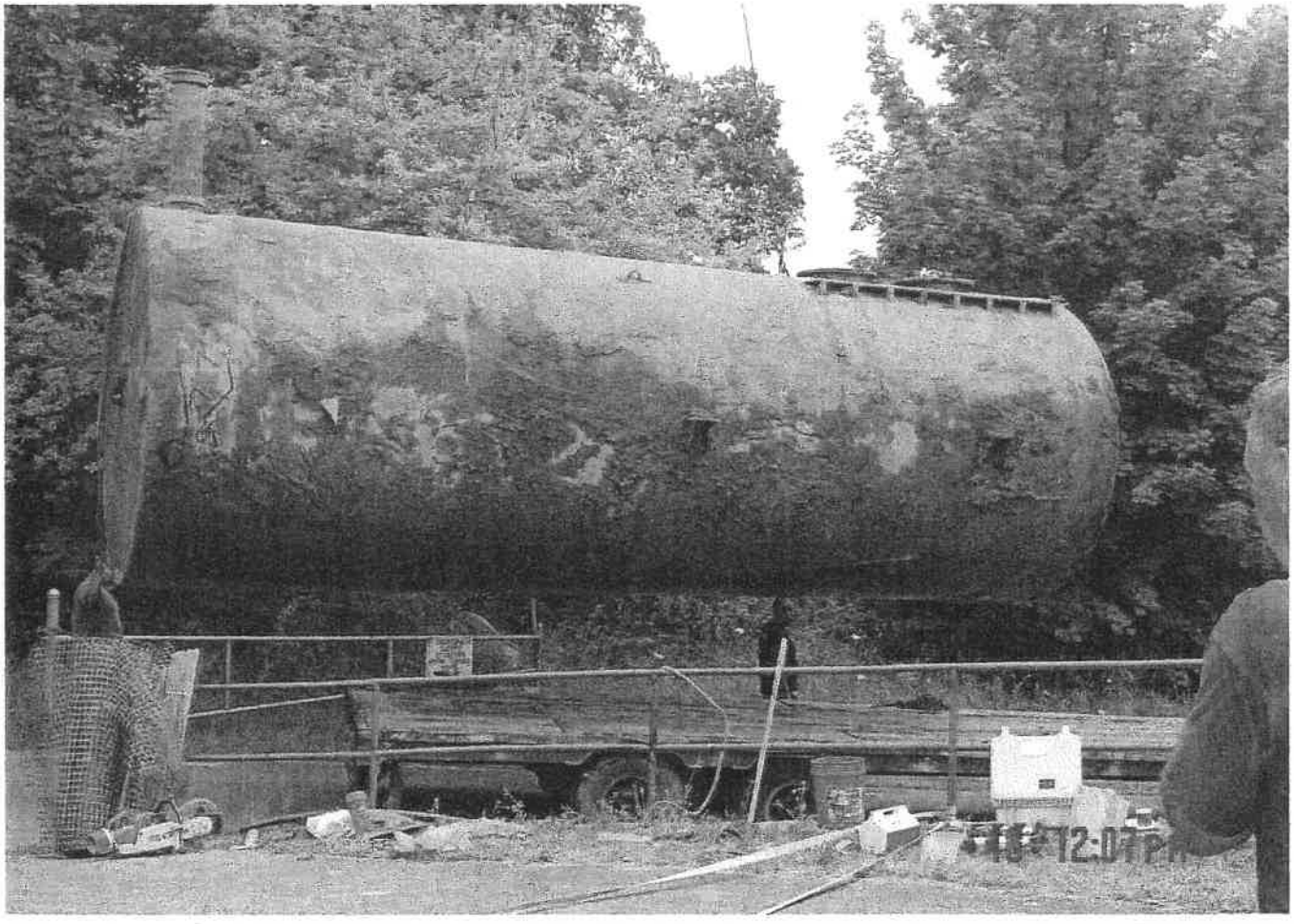
Page Total: $11,470

If Last Page, Grand Total: $11,470

($11,352 is eligible)

*Make Copies of this sheet if necessary


16 9:13 AM




16 12:10PM



Commonwealth of Massachusetts - Department of Fire Services
Executive Office of Public Safety - UST Regulatory Compliance Unit

Notification for Removal or Closure of In Place Storage Tanks Regulated Under 527 CMR 9.00

Forward completed form, signed by local fire department, to: ***Mass. UST Compliance Unit, Dept. of Fire Services, P.O. Box 1025 - State Road, Stow, MA 01775***

Telephone (978) 567-3710

(Fire Department retains one copy of FP-290R)

This form is to be used for notification for removal of Underground Storage Tanks/ Piping.

If a storage facility has UST's which are to remain in use, an entire amended FP-290 (long form) must be filed.

Note: "Facility street address" must include both a street number and a street name. Post office box numbers are not acceptable, and will cause a registration to be returned. If geographic location of facility is not provided, please indicate distance and direction from closest intersection, e.g., (facility at 199 North Street is located) 400 yards southeast of Commons Road (intersection).

Fire Dept. Use Only

Date Received: 7/24/02
Fire Dept. ID# 24042
Fire Dept. Sig. [signature]

State Use Only

A. Facility Number _____
B. Date Entered _____
C. Clerk's Initials _____
D. Comments _____

I. Ownership of Tank(s)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
TOWN OF ESSEX

30 MARTIN STREET
Street Address

ESSEX MA 01929
City State Zip Code

ESSEX
County

978-768-6531 046-001-146
Phone Number (include Area Code) Owner's Employer Federal ID #

II. Location of Tank(s)

If known, give the geographic location of tanks by degrees, minutes, and seconds. Example: Lat. 42, 36, 12 N Long. 85, 24, 17W

Latitude 42°37'49" Longitude 70°47'25"

600' WEST OF INT. W/WESTERN AVE
Distance and direction from closest intersection (see note above)

ESSEX ELEMENTARY + MIDDLE SCHOOL
Facility Name or Company Site Identifier, as applicable

STORY ST
Street Address (P.O. Box not acceptable - see note above)

ESSEX MA 01929
City State Zip Code

ESSEX
County

III. Tanks/Piping Removed or Filled in Place

Tank Number	Tank No. 1	Tank No. 2	Tank No. ____	Tank No. ____	Tank No. ____
1. Tank/Piping removed or filled in place (mark all that apply)					
A. Substance last stored	FUEL OIL	UNKNOWN ✓			
B. Tank capacity gallons	10,000	400			
C. Estimated date last used (mo./day/yr.)	4/21/02	—			
D. Estimated date of removal (mo./day/yr.)	7/13/02	7/16/02			
E. Tank was removed from ground	✓	✓			
F. Tank was not removed from ground					
Tank was filled with inert material					
Describe material used:					
G. Piping was removed from ground	✓	✓			
H. Piping was not removed from ground					
I. Other, please specify					

FP-290R (revised 5/98)

OVER

Tank Number (cont.)	Tank No.____	Tank No.____	Tank No.____	Tank No.____	Tank No.____
2. Tank closed in accordance with 527 CMR 9.00	☒ Yes ☐ No	☒ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
A. Evidence of leak detected	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
B. Mass. DEP notified	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
1. Mass. DEP tracking number					
2. Agency or company performing contamination assessment *					
*527 CMR 9.07 (J), see "Commonwealth of Massachusetts, Underground Storage Tank Closure Assessment Manual" April 9, 1998 DEP Policy #WSC-402-96					

I declare under penalty of perjury that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative (Print)	Signature:	Date:
JAMES J. DECOULOS		10/28/02

Fire Department retains original application and issues duplicate as Permit.

Commonwealth of Massachusetts

Department of Fire Services – Board of Fire Prevention

APPLICATION and PERMIT

Fee: _____

for storage tank removal and transportation to approved tank disposal yard in accordance with the provisions of M.G.L. Chapter 148, Section 38A, 527 CMR 9.00, application is hereby made by:

Tank Owner

Tank Owner Name (please print) Town of Essex X _____ (Signature if applying for permit)

Address Martin St (Street) Essex (City) MA (State) 01929 (Zip)

Removal Contractor

Company Name (Print) Wright Industries Inc

Address (Print) 22 Western Ave Essex MA

Signature (if applying for permit) _____

☒ IFCI Certified Other _____

Contamination Assessment

Co. or Individual (Print) Decoulos & Company

Address (Print) 248 Andover St Peabody MA

Signature (if applying for permit) _____

☐ IFCI Certified ☐ LSP # _____ Other _____

Tank Information

Tank Location 12 Story Street (Street Address) Essex MA (City)

Tank Capacity (gallons) 10,000 gal Substance Last Stored #2 Fuel

Tank Dimensions (diameter x length) _____

Remarks: _____

Disposal Information

Firm transporting waste Cyn Environmental Serv State Lic. # _____

Hazardous waste manifest# MA H724197 E.P.A. # MAD982303777

Approved tank disposal yard James G Grant Co Tank yard # _____

Type of inert gas _____ Tank yard address 28 Walcott St. Readville, MA 02137

Approvals

City or Town Essex FDID# 09092 Permit# _____

Date of issue 3/18/02 Date of expiration _____

Dig safe approval number: 20022705216 Dig Safe Toll Free Tel. Number - 800-322-4844

Signature / Title of Officer granting permit _____

After removal(s) send Form FP-290R signed by Local Fire Dept. to UST Regulatory Compliance Unit, One Ashburton Place, Room 1310, Boston, MA 02108-1618.

FP-292 (revised 9/96)

Form FP 291

Commonwealth of Massachusetts
Department of Fire Services - Office of the State Fire Marshal
RECEIPT OF DISPOSAL OF UNDERGROUND STEEL STORAGE TANK

NAME AND ADDRESS OF APPROVED TANK YARD: James G. Grant Co., Inc.
28 Wolcott St.
Readville, MA 02137

APPROVED TANK YARD NO. 008 Tank Yard Ledger 502 CMR 3.03 (4) Number: 200243471

I certify under penalty of law I have personally examined the underground steel storage tank delivered to this "approved tank yard" by firm, corporation or partnership WRIGHT INDUSTRIES and accepted same in conformance with Massachusetts Fire Prevention Regulation 502 CMR 3.00 Provisions for Approving Underground Steel Storage Tank dismantling yards. A valid permit was issued by LOCAL Head of Fire Department. FDID# 0 9 0 9 2 to transport this tank to this yard.

Name and official title of approved tank yard owner or owners authorized representative:

SIGNATURE | MGR TITLE | 7-19-02 DATE SIGNED

This signed receipt of disposal must be returned to the local head of the fire department FDID# 0 9 0 9 2 pursuant to 502 CMR 3.00.

EACH TANK MUST HAVE A RECEIPT OF DISPOSAL

TANK DATA

Gallons 10,000

Previous Contents #2

Diameter _____ **Length** _____

Date Received 7-19-02

Serial # (if available) _____

Tank I.D. # (Form FP-290) _____

TANK REMOVED FROM

12 Stony St
(No. and Street)

Essex.
(City or Town)

Fire Department Permit # _____

Owner/Operator to mail revised copy of Notification Form (FP290, or FP290R) to : UST Compliance, Office of the State Fire Marshal, P.O. Box 1025 State Road, Stow, MA 01775.

Fire Department retains original application and issues duplicate as Permit.

Commonwealth of Massachusetts

Department of Fire Services — Board of Fire Prevention

APPLICATION and PERMIT

Fee: _____

for storage tank removal and transportation to approved tank disposal yard in accordance with the provisions of M.G.L. Chapter 148, Section 38A, 527 CMR 9.00, application is hereby made by:

Tank Owner

Tank Owner Name (please print) Town of Essex X _____ (Signature (if applying for permit))

Address Martin St (Street) Essex (City) MA (State) 01929 (Zip)

Removal Contractor

Company Name Wright Industries Inc (Print)

Address 22 Western Ave Essex (Print)

Signature (if applying for permit)

☒ IFCI Certified Other _____

Contamination Assessment

Co. or individual Decoulos & Company (Print)

Address 248 Andover St Peabody MA (Print)

Signature (if applying for permit)

☐ IFCI Certified ☐ LSP # _____ Other _____

Tank Information

Tank Location 12 Story Street (Street Address) Essex (City) MA

Tank Capacity (gallons) 400 gal Substance Last Stored #4 Fuel

Tank Dimensions (diameter x length) _____

Remarks: _____

Disposal Information

Firm transporting waste Cyn Environmental Serv State Lic. # _____

Hazardous waste manifest# MA M724197 E.P.A. # MA0082303777

Approved tank disposal yard James G Grant Co Tank yard # _____

Type of inert gas _____ Tank yard address 28 Walcott St Readville, MA 02137

Approvals

City or Town Essex FDID# 09091 Permit# _____

Date of issue 2/18/02 Date of expiration _____

Dig safe approval number: 200270S216 Dig Safe Toll Free Tel. Number - 800-322-4844

Signature / Title of Officer granting permit _____

After removal(s) send Form FP-290R signed by Local Fire Dept. to UST Regulatory Compliance Unit, One Ashburton Place, Room 1310, Boston, MA 02108-1618.

Form FP 291

Commonwealth of Massachusetts
Department of Fire Services - Office of the State Fire Marshal
RECEIPT OF DISPOSAL OF UNDERGROUND STEEL STORAGE TANK

NAME AND ADDRESS OF APPROVED TANK YARD: James G. Grant Co., Inc.
28 Wolcott St.
Readville, MA 02137

APPROVED TANK YARD NO. 008 Tank Yard Ledger 502 CMR 3.03 (4) Number: 200243470

I certify under penalty of law I have personally examined the underground steel storage tank delivered to this "approved tank yard" by firm, corporation or partnership WRIGHT INDUSTRIES. and accepted same in conformance with Massachusetts Fire Prevention Regulation 502 CMR 3.00 Provisions for Approving Underground Steel Storage Tank dismantling yards. A valid permit was issued by LOCAL Head of Fire Department. FDID# 0 9 0 9 2 to transport this tank to this yard.

Name and official title of approved tank yard owner or owners authorized representative:

SIGNATURE _____ TITLE MGR DATE SIGNED 7-19-02

This signed receipt of disposal must be returned to the local head of the fire department FDID# 0 9 0 9 2 pursuant to 502 CMR 3.00.

EACH TANK MUST HAVE A RECEIPT OF DISPOSAL

TANK DATA

Gallons 400

Previous Contents #4

Diameter _____ Length _____

Date Received 7-19-02

Serial # (if available) _____

TANK REMOVED FROM

12 Story St
(No. and Street)

ESSEX
(City or Town)

Fire Department Permit # _____

Tank I.D. # (Form FP-290) _____

Owner/Operator to mail revised copy of Notification Form (FP290, or FP290R) to : UST Compliance, Office of the State Fire Marshal, P.O. Box 1025 State Road, Stow, MA 01775.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS MATERIALS
One Winter Street Boston, Massachusetts 02108

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
MAR980148888	31497		

GENERATOR

3. Generator's Name and Mailing Address: Essex Elementary School, 10 Story St, Essex, MA. 01929

4. Generator's Phone: (978) 807 4888

A. State Manifest Document Number: MA M724197

B. State Gen. ID: SAME

5. Transporter 1 Company Name: CYN OIL CORPORATION

6. US EPA ID Number: MAD980703777

C. State Trans. ID: 39529 MA.

7. Transporter 2 Company Name

8. US EPA ID Number

D. Transporter's Phone: 781 341 5108

9. Designated Facility Name and Site Address: CYN OIL CORPORATION, 1771 WASHINGTON ST. PO BOX 119, STOUGHTON, MA 02072

10. US EPA ID Number: MAD980703777

E. State Trans. ID

F. Transporter's Phone

G. State Facility's ID: NOT REQUIRED

H. Facility's Phone: (781) 341 5108

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. WASTE NO.
a. PETROLEUM OIL, COMBUSTIBLE LIQUID, NA1270, PGIII, (WASTE OIL)	001	TT	1010	G	MA98
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)

a. VIRGIN #4 OIL
HA OIL-WINTER

b.

c.

d.

K. Handling Codes for Wastes Listed Above

a.

b.

c.

d.

15. Special Handling Instructions and Additional Information

ERG# 128
IN CASE OF EMERGENCY CALL CHEMTREC 800 424 9300 OR 1(800)

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name | Signature | Date: Month Day Year 01 14 02

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Arvid M. Sullivan | Signature | Date: Month Day Year 01 14 02

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item19

Printed/Typed Name | Signature | Date: Month Day Year

In case of emergency or spill, immediately call the National Response Center (800) 424-8802

THE FIRST NATIONAL BANK
OF IPSWICH

05090

TOWN OF ESSEX
VENDOR ACCOUNT # 1090147412
30 MARTIN ST.
ESSEX, MA 01929

53-471/113
02

5090

Eleven Thousand Four Hundred Seventy Dollars and 0/100

DATE	AMOUNT
07/29/02	$11,470.00

090192159 02 5000 5063 080202

PAY TO THE ORDER OF

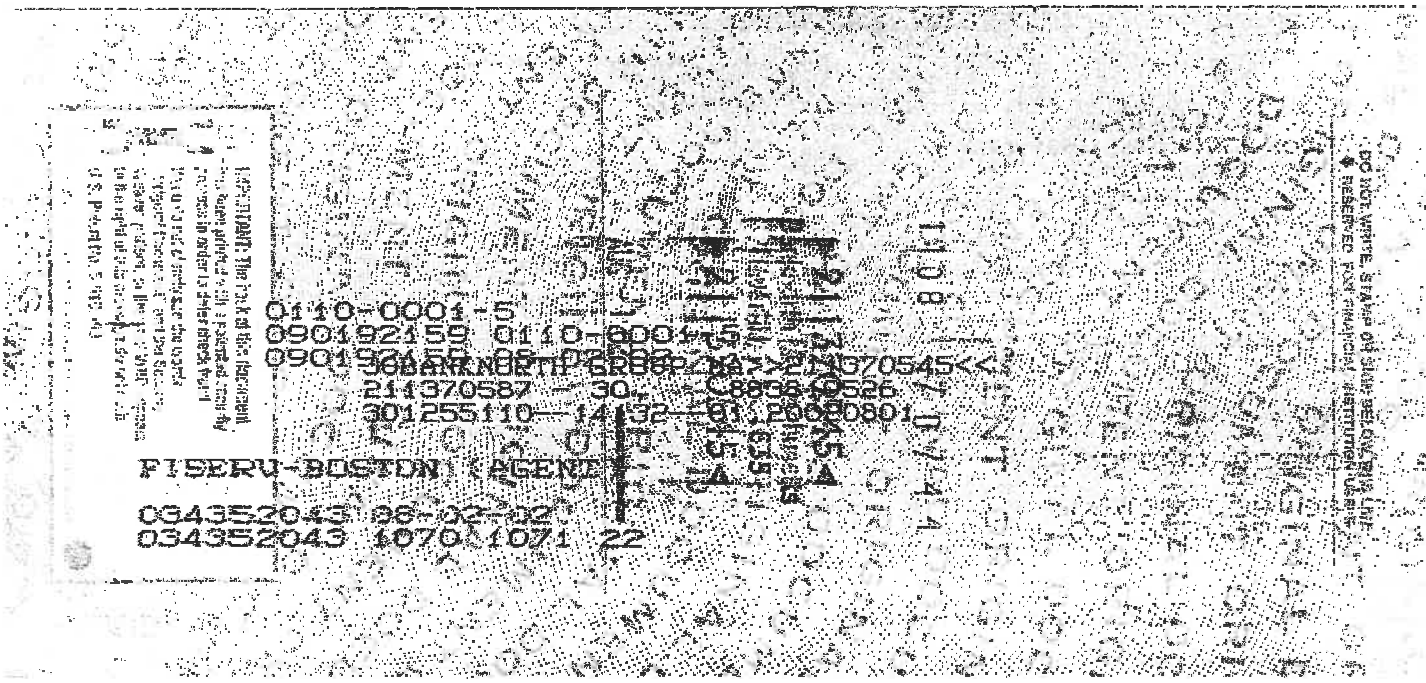
WRIGHT INDUSTRIES INC.

22 WESTERN AVE.

ESSEX MA 01929

Nancy A. Isaacson
MP

"005090" "011304711" 1090147412" "0001147000"



88819526

Expenditure Ledger Reporting

Beginning Report Date: 07/01/02 ***Ending Report Date:*** 06/30/03

Account Number	*Date*	*Add'l Beg. Bal.*	*Debit Amount*	*Credit Amount*	
01-300-5956-020	SCHOOL OIL TANK,BOILER,GAS ATM 5/01				$120,000.00
1120 WRIGHT INDUSTRIES INC.	07/29/02	$0.00	$11,470.00	$0.00	$108,530.00
Comments:			*IN#:* 435	*CN#* 5090	
Account Sub-totals:8		$0.00	$11,470.00	$0.00	$108,530.00
Grand Total:		$0.00	$11,470.00	$0.00	

GHT INDUSTRIES INC.

Western Avenue
ssex, MA 01929

Invoice

Date	Invoice #
7/23/2002	435

Bill To	Job Location
The Town of Essex C/O Brendhan Zubricki Town Hall Martin St. Essex, MA 01929	Essex Elementary and Middle School 12 Story St. Essex, MA 01929

P.O. Number	Terms	Due Date
NA	Due on receipt	7/23/2002

Date	Description	Quantity	Price Each	Amount
7/20/2002	Contracted Price for the UST Removal Based on the Bid dated May 13, 2002	1	12,570.00	12,570.00
	Credit of $1.00/gallon for the 1000 gallon UST that was not found	1,000	-1.00	-1,000.00
	Credit of $1.00/gallon for the 400 gallon UST that was thought to be a 500 gallon UST	100	-1.00	-100.00
	Acct #01-300-595-020			
			Total	$11,470.00

A 1.25% interest charge will be added to any remaining balance after 30 days.

WRIGHT INDUSTRIES INC.

PAUL WRIGHT
22 WESTERN AVE.
ESSEX, MA 01929

Telephone: (978) 768-7059

Brendhan Zubricki, Town Administrator
Town of Essex
30 Martin St.
Essex, MA 01929

Re: UST Removal
Essex Elementary and Middle School
12 Story Street
Essex, MA 01929

Dear Mr. Zubricki,
Following is the information that you requested to complete your grant application;

Fire Department tank removal fee: None
Performance bond : $118.00

If you need any additional information please do not hesitate to call me 978-768-7059 or on my cell 978-807-4888.

Sincerely,

Paul Wright

DECOULOS & COMPANY
ENVIRONMENTAL ENGINEERING & LAND PLANNING

RECEIVED
AUG 0 8 2002
TOWN OF ESSEX
BOARD OF SELECTMEN

Friday, August 02, 2002

Brendhan Zubricki, Town Administrator
Town of Essex
30 Martin Street
Essex, MA 01929

RE: Removal of Underground Storage Tanks, Essex Elementary & Middle School

Dear Mr. Zubricki:

Decoulos & Company is pleased to provide you this report on the removal of Underground Storage Tanks (USTs) together with copies of the hazardous waste manifest, UST Removal Permits and UST Disposal Receipts for the above referenced site.

Wright Industries, Inc. and Cyn Environmental personnel pumped, purged, and cleaned one (1) approximately 400 gallon, steel UST and one (1) 10,000 gallon, steel UST adjacent to the school on July 12, 2002. Approximately 1,040 gallons of virgin #4 oil, water, and tank bottoms were removed from the two (2) tanks and transported by licensed hazardous waste transporter, Cyn Oil Corporation under hazardous waste manifest number MAM724197 (see attached). This material was transported to the Cyn Oil Corporation permitted transport, storage, and disposal facility (TSDF) on July 12, 2002. It was determined that the 400 gallon UST had been filled with water with no residual fuel noted during the pump-out and cleaning activities.

The 400 gallon UST was removed from the ground and inspected on July 16, 2002 from beneath asphalt pavement (8-10 inches) adjacent to the utility room for the school. The UST was 3.6 feet wide x 5.4 feet long x 2.3 feet tall and buried at a depth of approximately 2.1 feet deep with steel tie downs and in a bed of concrete. This UST appeared to be mildly corroded but structurally sound with no signs of holes or leakage noted in the tank or piping. There were no visual or olfactory signs of petroleum product leakage noted in the tank, piping, soils or concrete surrounding this UST.

Decoulos & Company personnel collected five soil samples from the base and sides of the UST excavation to be screened in the field using a pre-calibrated Thermo Electron Model 580B photoionization detector (PID). The excavation was approximately 6 feet wide x 10 feet long x 5 feet deep consisting of coarse to fine, brown sand and gravel. The samples were screened for total organic vapors (TOVs) using the Massachusetts Department of Environmental Protection (MADEP) approved Jar Headspace Method. The PID was calibrated with isobutylene to read TOVs "as benzene" in parts per million by volume (ppmv). The 580B will detect most volatile organic compounds (VOCs) present in petroleum products although with varying sensitivities. There were no TOVs detected in the soil samples above 4.3 ppmv which is characteristic of background organics due to vehicle exhaust and asphalt pavement.

248 ANDOVER STREET, PEABODY, MASSACHUSETTS 01960
TEL: 978 532 8154 FAX: 978 359 6034
WWW.DECOULOS.COM

The 10,000 gallon UST was removed from the ground and inspected on July 18, 2002 from beneath landscaped grass adjacent to the side walkway for the school. The UST was 8.0 feet in diameter x 24 feet long and buried at a depth of approximately 3.25 feet with steel tie downs and concrete anchors. This UST appeared to be mildly corroded but structurally sound with no signs of holes or leakage noted in the tank or piping. There were no visual or olfactory signs of petroleum product leakage noted in the tank, piping, soils or concrete surrounding this UST.

Decoulos & Company personnel collected nine soil samples from the base and sides of the UST excavation to be screened in the field using the pre-calibrated Thermo Electron Model 580B PID. The excavation was approximately 21 feet wide x 24 feet long x 13 feet deep consisting of coarse to fine, brown sand and gravel with brown/grey fine sand/silt and clay near the base.. The samples were screened for TOVs using the MADEP approved Jar Headspace Method. The PID was calibrated with isobutylene to read TOVs "as benzene" in ppmv. There were no TOVs detected in the soil samples above 18.1 ppm which is characteristic of background organics due to vehicle exhaust, incidental discharge by vehicles and deliveries.

A soil sample was also collected from beneath piping thought to be associated with a former 1,000 gallon UST reportedly removed by others in years previously. This sample consisted of brown, fine to coarse sand and gravel with no visual or olfactory signs of petroleum impact. This sample was screened in the field for TOVs with the 580B using the Jar Headspace Method. There were no TOVs detected in this sample.

The USTs were loaded onto a flatbed on July 18, 2002 for delivery to the Grant Steel certified UST recycle facility in Readville, Massachusetts in accordance with the Essex Fire Department approved UST removal and transportation Application and Permit(s) (see attached). The USTs were transported the same day and accepted into the facility on July 19, 2002 in accordance with the attached Receipts of Disposal of Underground Steel Storage Tank

In summary, Wright Industries, Inc. personnel excavated, cleaned, and removed two (2) USTs from the Essex Elementary & Middle School in Essex, Massachusetts between July 12 and 18, 2002. The bulk #4 oil, water and tank bottoms were shipped off-site for disposal by Cyn Oil on July 12, 2002. The UST and piping were in good condition with no signs of holes or leak present. The USTs were transported off-site to the Grants Steel permitted scrap recycling facility in Readville, Massachusetts on July 18, 2002. There was no visual or olfactory evidence of petroleum products noted in the soil samples collected beneath and beside the USTs and piping. The PID readings detected in the soil samples collected were below the MADEP PID target readings. It is the opinion of Decoulos & Company that no further action relative to the UST removals is required at this facility.

It has been a pleasure overseeing this work and providing this information. Please feel free to contact us if you have any questions or need further information. Thank you.

Very truly yours,

Richard D. Mansfield
Project Manager

James J. Decoulos, PE, LSP
Principal

enclosures

DECOULOS & COMPANY
ENVIRONMENTAL ENGINEERING & LAND PLANNING

RECEIVED
OCT 30 2002
TOWN OF ESSEX
BOARD OF SELECTMEN

TRANSMITTAL

DATE: Tuesday, October 29, 2002

TO: Brendhan Zubricki

FROM: Jim Decoulos

RE: Notification for Removal of USTs at the Essex Elementary & Middle School

ENCLOSED CONTENTS:

- **Original FP-290R**

Please fill in the Town's Employer Federal ID# (In Section I on page 1) and forward the form to Dick Carter of the Essex Fire Department for approval. Copies of the form can then be made after Dick signs.

Once signed and copied, forward the completed form to:

Mass UST Compliance Unit
Dept. of Fire Services
PO Box 1025 - State Road
Stow, MA 01775

Please feel free to call me if you have any questions or concerns. Thank you.

3 ELECTRONICS AVENUE, DANVERS, MASSACHUSETTS 01923
WWW.DECOULOS.COM
TEL: 617.489.7795

Commonwealth of Massachusetts - Department of Fire Services
Executive Office of Public Safety - UST Regulatory Compliance Unit

Notification for Removal or Closure of In Place Storage Tanks Regulated Under 527 CMR 9.00

Forward completed form, signed by local fire department, to: ***Mass. UST Compliance Unit, Dept. of Fire Services, P.O. Box 1025 - State Road, Stow, MA 01775***

Telephone (978) 567-3710

(Fire Department retains one copy of FP-290R)

Fire Dept. Use Only

Date Received: 4/25/02
Fire Dept. ID# 04072
Fire Dept. Sig. [signature]

This form is to be used for notification for removal of Underground Storage Tanks/ Piping.

If a storage facility has UST's which are to remain in use, an entire amended FP-290 (long form) must be filed.

State Use Only

A. Facility Number _____
B. Date Entered _____
C. Clerk's Initials _____
D. Comments _____

Note: "Facility street address" must include both a street number and a street name. Post office box numbers are not acceptable, and will cause a registration to be returned. If geographic location of facility is not provided, please indicate distance and direction from closest intersection, e.g., (facility at 199 North Street is located) 400 yards southeast of Commons Road (intersection).

I. Ownership of Tank(s)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
TOWN OF ESSEX

Street Address: 30 MARTIN STREET

City: ESSEX State: MA Zip Code: 01929

County: ESSEX

Phone Number (Include Area Code): 978-768-6531 Owner's Employer Federal ID #: 046-001-146

II. Location of Tank(s)

If known, give the geographic location of tanks by degrees, minutes, and seconds. Example: Lat. 42, 36, 12 N Long. 85, 24, 17W

Latitude 42°37'49" Longitude 70°47'25"

Distance and direction from closest intersection (see note above): 600' WEST OF INT. W/WESTERN AVE

Facility Name or Company Site Identifier, as applicable: ESSEX ELEMENTARY+MIDDLE SCHOOL

Street Address (P.O. Box not acceptable - see note above): STORY ST

City: ESSEX State: MA Zip Code: 01929

County: ESSEX

III. Tanks/Piping Removed or Filled in Place

Tank Number	Tank No. 1	Tank No. 2	Tank No. ____	Tank No. ____	Tank No. ____
1. Tank/Piping removed or filled in place (mark all that apply)					
A. Substance last stored	FUEL OIL	UNLEADED ✓			
B. Tank capacity gallons	10,000	400			
C. Estimated date last used (mo./day/yr.)	4/21/02	—			
D. Estimated date of removal (mo./day/yr.)	7/18/02	7/16/02			
E. Tank was removed from ground	✓	✓			
F. Tank was not removed from ground					
Tank was filled with inert material					
Describe material used:					
G. Piping was removed from ground	✓	✓			
H. Piping was not removed from ground					
I. Other, please specify					

Tank Number (cont.)	Tank No.____	Tank No.____	Tank No.____	Tank No.____	Tank No.____
2. Tank closed in accordance with 527 CMR 9.00	☑ Yes ☐ No	☑ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
A. Evidence of leak detected	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
B. Mass. DEP notified	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
1. Mass. DEP tracking number	_____	_____	_____	_____	_____
2. Agency or company performing contamination assessment *	_____	_____	_____	_____	_____

*527 CMR 9.07 (J), see "Commonwealth of Massachusetts, Underground Storage Tank Closure Assessment Manual" April 9, 1996 DEP Policy #WSC-402-96

I declare under penalty of perjury that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative (Print)	Signature:	Date:
JAMES J. DECOULOS		10/28/02

PSR COST ESTIMATE

SECTION 3.3.6.6

A.M. Fogarty
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175 Derby St., Suite 5, Hingham, MA 02043
TEL: (781) 749-7272 ● FAX: (781) 740-2652
ptim@amfogarty.com
"Construction Cost Consultants"

Essex Elementary School
Essex, MA

April 9, 2026

PSR ESTIMATE
GRAND SUMMARY

	CM @ Risk TOTAL	D/B Chprt 149 TOTAL
BASE REPAIR:		
OPTION A 0.2 CODE UPGRADE / BASE REPAIR	$40,362,783	$37,537,388
RENOVATION & ADDITION:		
OPTION A 1.1 ADDITION AND RENOVATION	$62,622,231	$58,238,674
OPTION A 1.2 - B ADDITION AND RENOVATION	$74,006,271	$68,825,832
OPTION B 1.1 ADDITION AND RENOVATION	$50,062,896	$46,558,493
NEW CONSTRUCTION:		
OPTION A 2.2 - A NEW CONSTRUCTION	$73,302,360	$68,171,195
OPTION A 2.2 - B NEW CONSTRUCTION	$74,166,511	$68,974,855
OPTION A 2.2 - F NEW CONSTRUCTION	$73,855,341	$68,685,467
MECHANICAL ALTERNATES:		
NO. 1 SUBSTITUTE WATER SOURCE HEAT PUMPS	$1,159,088	
NO. 2 SUBSTITUTE GROUND SOURCE HEAT PUMP	$5,071,010	
NO. 3 SUBSTITTUE WATER SOURCE HOT WATER HEATER	$385,000	
NO. 4 SUBSTITUTUE GAS WATER HEATER	$49,000	
SITEWORK:		
NO. 4 SUBSTITUTE ARTIFICAL TURF FIELD (story site only)	$403,200	

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Essex Elementary School
Essex, MA

9-Apr-26

Designer: JCJ Architecture

OPTION A 0.2 CODE UPGRADE / BASE REPAIR

	GSF		COST PER S.F.	TOTAL
BASE REPAIR	53,036	**GSF**	$347.11	**$18,409,477**
HAZARDOUS WASTE REMOVAL				**$450,000**
SITEWORK				**$5,043,662**

	TOTAL DIRECT COST			$23,903,139
CM CHPTR 149a				
DESIGN CONTINGENCY		12%		$2,868,377
CM CONTINGENCY		3%		$803,145
ESCALATION (bid jume 2028)		10%		$2,677,152
GENERAL CONDITIONS	32	MOS	$175,000	$5,600,000
GENERAL CONDITIONS	8	MOS	$85,000	$680,000
GENERAL REQUIREMENTS/PHASING		5.0%		$1,792,591
BUILDING PERMIT		waived		
P&P BOND & GL INSURANCE		2.75%		$1,053,921
PROFIT		2.5%		$984,458

	TOTAL CONSTRUCTION COST			$40,362,783
	COST PER SF			**$761.05**

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OPTION A 1.1 ADDITION AND RENOVATION

	GSF		COST PER S.F.	TOTAL
ADDITION	7,036	**GSF**	$927.88	**$6,528,531**
RENOVATION	53,036	**GSF**	$418.88	**$22,215,550**
HAZARDOUS WASTE REMOVAL				**$450,000**
SITEWORK				**$9,941,690**

TOTAL DIRECT COST				$39,135,771
CM CHPTR 149a				
DESIGN CONTINGENCY		12%		$4,696,293
CM CONTINGENCY		3%		$1,314,962
ESCALATION (bid jan. 2029)		12%		$5,259,848
GENERAL CONDITIONS	30	MOS	$175,000	$5,250,000
GENERAL CONDITIONS	12	MOS	$85,000	$1,020,000
GENERAL REQUIREMENTS/PHASING		5.0%		$2,782,844
BUILDING PERMIT		waived		
P&P BOND & GL INSURANCE		2.75%		$1,635,142
PROFIT		2.5%		$1,527,371

TOTAL CONSTRUCTION COST				$62,622,231
COST PER SF				**$8,900.26**

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OPTION A 1.2 - B ADDITION AND RENOVATION

	GSF		COST PER S.F.	TOTAL
ADDITION	23,407	**GSF**	$621.65	**$14,550,891**
RENOVATION	53,036	**GSF**	$420.12	**$22,281,255**
HAZARDOUS WASTE REMOVAL				**$450,000**
SITEWORK				**$9,850,662**

TOTAL DIRECT COST				$47,132,808
CM CHPTR 149a				
DESIGN CONTINGENCY		12%		$5,655,937
CM CONTINGENCY		3%		$1,583,662
ESCALATION (bid jume 2028)		10%		$5,278,875
GENERAL CONDITIONS	36	MOS	$175,000	$6,300,000
GENERAL CONDITIONS	12	MOS	$85,000	$1,020,000
GENERAL REQUIREMENTS/PHASING		5.0%		$3,297,564
BUILDING PERMIT		waived		
P&P BOND & GL INSURANCE		2.75%		$1,932,393
PROFIT		2.5%		$1,805,031

TOTAL CONSTRUCTION COST				$74,006,271
COST PER SF				**$968.12**

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OPTION B 1.1 ADDITION AND RENOVATION

	GSF		COST PER S.F.	TOTAL
ADDITION	40,368	**GSF**	$548.67	**$22,148,558**
RENOVATION	5,000	**GSF**	$430.08	**$2,150,379**
SITEWORK				**$6,832,277**

	TOTAL DIRECT COST			$31,131,213
CM CHPTR 149a				
DESIGN CONTINGENCY		12%		$3,735,746
CM CONTINGENCY		3%		$1,046,009
ESCALATION (bid jume 2028)		10%		$3,486,696
GENERAL CONDITIONS	28	MOS	$175,000	$4,900,000
GENERAL CONDITIONS	12	MOS	$85,000	$1,020,000
GENERAL REQUIREMENTS/PHASING		5.0%		$2,214,983
BUILDING PERMIT		waived		
P&P BOND & GL INSURANCE		2.75%		$1,307,203
PROFIT		2.5%		$1,221,046

	TOTAL CONSTRUCTION COST			$50,062,896
	COST PER SF			**$1,103.48**

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OPTION A 2.2 - A NEW CONSTRUCTION

	GSF		COST PER S.F.	TOTAL
NEW CONSTRUCTION	72,443	**GSF**	$530.75	**$38,448,898**
BUILDING DEMOLITION	53,060	**GSF**	$10.00	**$530,600**
HAZARDOUS WASTE REMOVAL				**$450,000**
SITEWORK				**$10,525,973**

TOTAL DIRECT COST				$49,955,470
CM CHPTR 149a				
DESIGN CONTINGENCY		12%		$5,994,656
CM CONTINGENCY		3%		$1,678,504
ESCALATION (bid jume 2028)		10%		$5,595,013
GENERAL CONDITIONS	22	MOS	$175,000	$3,850,000
GENERAL CONDITIONS - deom/haz mat'l	10	MOS	$85,000	$850,000
GENERAL REQUIREMENTS		2.5%		$1,676,841
BUILDING PERMIT		waived		
P&P BOND & GL INSURANCE		2.75%		$1,914,013
PROFIT		2.5%		$1,787,862

TOTAL CONSTRUCTION COST				$73,302,360
COST PER SF				**$1,011.86**

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9-Apr-26

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OPTION A 2.2 - B NEW CONSTRUCTION

	GSF		COST PER S.F.	TOTAL
NEW CONSTRUCTION	72,443	**GSF**	$520.31	**$37,692,552**
BUILDING DEMOLITION	53,060	**GSF**	$10.00	**$530,600**
HAZARDOUS WASTE REMOVAL				**$450,000**
SITEWORK				**$10,509,991**
TOTAL DIRECT COST				$49,183,142
CM CHPTR 149a				
DESIGN CONTINGENCY		12%		$5,901,977
CM CONTINGENCY		3%		$1,652,554
ESCALATION (bid jume 2028)		10%		$5,508,512
GENERAL CONDITIONS	22	MOS	$175,000	$3,850,000
GENERAL CONDITIONS - deom/haz mat'l	12	MOS	$85,000	$1,020,000
GENERAL REQUIREMENTS/PHASING		5.0%		$3,304,809
BUILDING PERMIT		waived		
P&P BOND & GL INSURANCE		2.75%		$1,936,577
PROFIT		2.5%		$1,808,939
TOTAL CONSTRUCTION COST				$74,166,511
COST PER SF				**$1,023.79**

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9-Apr-26

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OPTION A 2.2 - F NEW CONSTRUCTION

	GSF		COST PER S.F.	TOTAL
NEW CONSTRUCTION	72,443	**GSF**	$522.68	**$37,864,796**
BUILDING DEMOLITION	53,060	**GSF**	$10.00	**$530,600**
HAZARDOUS WASTE REMOVAL				**$450,000**
SITEWORK				**$10,115,412**

TOTAL DIRECT COST				$48,960,808
CM CHPTR 149a				
DESIGN CONTINGENCY		12%		$5,875,297
CM CONTINGENCY		3%		$1,645,083
ESCALATION (bid jume 2028)		10%		$5,483,611
GENERAL CONDITIONS	22	MOS	$175,000	$3,850,000
GENERAL CONDITIONS - deom/haz mat'l	12	MOS	$85,000	$1,020,000
GENERAL REQUIREMENTS/PHASING		5.0%		$3,290,740
BUILDING PERMIT		waived		
P&P BOND & GL INSURANCE		2.75%		$1,928,452
PROFIT		2.5%		$1,801,350

TOTAL CONSTRUCTION COST				$73,855,341
COST PER SF				**$1,019.50**

PROJECT: Essex Elementary School
LOCATION: Essex, MA
CLIENT: JCJ Architets
DATE: 09-Apr-26

A.M. Fogarty & Assoc Inc.
AMFogarty.com
Reliable construction cost estimates since 1972
Peter Timothy ■ President
(T) 781-749-7272 ■ (E) ptim@amfogarty.com

No.: 25023

SUMMARY

	B.1 ADDITION TOTAL	B.1 RENOVATION TOTAL	A 0.2 CODE UPGRADE TOTAL	
A. SUBSTRUCTURE				
A10 - FOUNDATIONS				
A1010 STANDARD FOUNDATIONS	$1,007,069	$0	$132,590	$0
A1020 SPECIAL FOUNDATIONS	$0	$0	$0	$0
A1030 SLAB ON GRADE	$490,236	$15,000	$145,539	$0
A20 - BASEMENT CONSTRUCTION				
A2010 BASEMENT EXCAVATION	$0	$0	$0	$0
A2020 BASEMENT WALLS	$0	$0	$0	$0
B. SHELL				
B10 - SUPERSTRUCTURE				
B1010 FLOOR CONSTRUCTION	$537,882	$0	$0	$0
B1020 ROOF CONSTRUCTION	$1,731,456	$18,000	$1,488,400	$0
B20 - EXTERIOR ENCLOSURE				
B2010 EXTERIOR WALLS	$2,836,267	$8,844	$156,059	$0
B2020 EXTERIOR WINDOWS	$1,929,910	$0	$1,007,597	$0
B2030 EXTERIOR DOORS	$116,500	$0	$163,200	$0
B30 - ROOFING				
B3010 ROOF COVERINGS	$1,107,152	$200,044	$1,783,574	$0
B3020 ROOF OPENINGS	$14,250	$14,250	$14,250	$0
C. INTERIORS				
C10 - INTERIOR CONSTRUCTION				
C1010 PARTITIONS	$1,991,209	$185,500	$649,542	$0
C1020 INTERIOR DOORS	$355,944	$48,000	$192,108	$0
C1030 FITTINGS	$422,788	$84,650	$261,508	$0
C20 - STAIRS				
C2010 STAIR CONSTRUCTION	$116,000	$0	$30,000	$0
C2020 STAIR FINISHES	$21,600	$0	$21,600	$0
C30 - INTERIOR FINISHES				
C3010 WALL FINISHES	$524,784	$65,000	$318,216	$0
C3020 FLOOR FINISHES	$444,048	$55,000	$265,180	$0
C3030 CEILING FINISHES	$565,152	$70,000	$265,180	$0

	B.1 ADDITION TOTAL	B.1 RENOVATION TOTAL	A 0.2 CODE UPGRADE TOTAL	
D. SERVICES				
D10 - CONVEYING				
D1010 ELEVATORS & LIFTS	$0	$0	$260,000	$0
D20 - PLUMBING				
D2010 PLUMBING	$1,023,364	$207,250	$1,471,860	$0
D30 - HVAC				
D3010 HVAC	$3,229,440	$405,000	$4,295,916	$0
D40 - FIRE PROTECTION				
D4010 SPRINKLERS	$449,091	$42,000	$555,502	$0
D50 - ELECTRICAL				
D5010 ELECTRICAL SERVICE & DISTRIBUTION	$532,858	$71,000	$918,111	$0
D5020 LIGHTING & BRANCH WIRING	$559,097	$69,250	$734,549	$0
D5030 COMMUNICATION & SECURITY	$686,320	$337,600	$1,010,940	$0
D5090 OTHER ELECTRICAL SYSTEMS	$746,808	$92,500	$981,166	$0
E. EQUIPMENT & FURNISHINGS				
E10 - EQUIPMENT				
E1010 COMMERCIAL EQUIPMENT	$0	$0	$598,640	$0
E1090 OTHER EQUIPMENT	$66,500	$6,000	$71,000	$0
E20 - FURNISHINGS				
E 2010 FIXED FURNISHINGS	$642,834	$20,491	$196,754	$0
E2020 MOVABLE FURNISHINGS	$0	$0	$0	$0
F. SPECIAL CONSTRUCTION & DEMOLITION				
F10 - SPECIAL CONSTRUCTION				
F1010 SPECIAL STRUCTURES	$0	$0	$0	$0
F1020 INTEGRATED CONSTRUCTION	$0	$0	$0	$0
F1030 SPECIAL CONSTRUCTION SYSTEMS	$0	$0	$0	$0
F1040 SPECIAL FACILITIES	$0	$0	$0	$0
F1050 SPECIAL CONTROLS & INSTRUMENTATION	$0	$0	$0	$0
F20 - SELECTIVE BUILDING DEMOLITION				
F2010 BUILDING ELEMENTS DEMOLITION	$0	$135,000	$420,497	$0
F2020 HAZARDOUS COMPONENTS ABATEMENT	$0	$0	$0	$0
BUILDING COST	**$22,148,558**	**$2,150,379**	**$18,409,477**	**$0**

	B.1 ADDITION TOTAL	B.1 RENOVATION TOTAL	A 0.2 CODE UPGRADE TOTAL	
G. BUILDING SITEWORK				
G10 - SITE PREPARATION				
G1010 SITE CLEARING	$385,889	$0	$373,977	$0
G1020 SITE DEMOLITION & RELOCATIONS	$353,671	$0	$360,316	$0
G1030 SITE EARTHWORK	$437,624	$0	$180,886	$0
G1040 HAZARDOUS WASTE REMEDIATION	$0	$0	$0	$0
G20 - SITE IMPROVEMENTS				
G2010 ROADWAYS	$978,014	$0	$1,771,714	$0
G2020 PARKING LOTS	$0	$0	$0	$0
G2030 PEDESTRIAN PAVING	$230,860	$0	$172,153	$0
G2040 SITE DEVELOPMENT	$1,620,506	$0	$754,317	$0
G2050 LANDSCAPING	$428,763	$0	$0	$0
G30 - SITE MECHANICAL UTILITIES				
G3010 WATER SUPPLY	$386,100	$0	$289,800	$0
G3020 SANITARY SEWER	$207,000	$0	$0	$0
G3030 STORM SEWER	$1,308,850	$0	$740,500	$0
G3040 HEATING DISTRIBUTION	$0	$0	$0	$0
G3050 COOLING DISTRIBUTION	$0	$0	$0	$0
G3060 FUEL DISTRIBUTION	$0	$0	$0	$0
G3090 OTHER SITE MECHANICAL UTILITIES	$0	$0	$0	$0
G40 - SITE ELECTRICAL UTILITIES				
G4010 ELECTRICAL DISTRIBUTION	$200,000	$0	$400,000	$0
G4020 SITE LIGHTING	$295,000	$0	$0	$0
SITEWORK COST	**$6,832,277**	**$0**	**$5,043,662**	**$0**
TOTAL DIRECT COST	**$28,980,834**	**$2,150,379**	**$23,453,139**	**$0**
	$717.92	$430.08	$442.21	#DIV/0!

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
A. SUBSTRUCTURE										
A10 - FOUNDATIONS										
A1010 STANDARD FOUNDATIONS										
033000 CAST IN PLACE CONCRETE										
Foundations :										
Wall Footing 1' x 2'-6"	$680.00	CY	87	$59,311						
Frost wall - 4 'x 16"	$1,300.00	CY	186	$241,292						
Interior Foundations	$1,300.00	CY								
Column Footing	$675.00	CY	231	$156,160						
Elev Mat - 12"	$650.00	CY								
Elev pit wall	$1,100.00	CY								
Pilasters	$1,200.00	CY	37	$44,546						
Equipment pads	$25,000.00	LS	1	$25,000						
Grade Beam (60 lf per 5,000 sf)	$800.00	CY	69	$55,524						
Foundation Repair/seismic	$2.50	GSF					53,036	$132,590		
072100 INSULATION										
4" Rigid ext. found. insul w/prot.bd	$4.95	SF	3,768	$18,652						
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Foundation dampproofing	$2.30	SF	3,768	$8,666						
310000 EARTHWORK										
Ledge Removal - 1' avg	$120.00	CY	1,157	$138,809						
Foundation Excavation and Backfill	$25.00	CY	2,313	$57,837						
Structural fill - assume 2'	$60.00	CY	2,313	$138,809						
Radon Mitigation	$1.00	SF	31,232	$31,232						
Underslab draiange	$1.00	SF	31,232	$31,232						
				$1,007,069		$0		$132,590		$0
A1030 SLAB ON GRADE										
310000 EARTHWORK										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
12" Gravel base	$60.00	CY	1,157	$69,404						
Excavate underslab	$1.50	SF	31,232	$46,848						
033000 CAST IN PLACE CONCRETE										
5" Slab on Grade:										
4,000 psi, NW, (incl. placement)	$335.00	CY	482	$161,462						
Welded wire fabric	$2.68	SF	31,232	$83,702						
Control Joint	$3.50	LF	2,082	$7,287						
Trowel Finish	$2.50	SF	31,232	$78,080						
Patch and Replace Slab - 10%	$30.00	SF			500	$15,000	4,851	$145,539		
072100 INSULATION										
2" Rigid Slab Insul. - 2' perm.	$4.00	SF	1,884	$7,536						
072616 BELOW GRADE VAPOR RETARDER										
Stegro vapor barrier	$1.15	SF	31,232	$35,917					0	$0
				$490,236		$15,000		$145,539		$0
TOTAL A10 FOUNDATIONS				**$1,497,305**		**$15,000**		**$278,129**		**$0**
B. SHELL										
B10 - SUPERSTRUCTURE										
B1010 FLOOR CONSTRUCTION										
051200 STRUCTURAL STEEL										
New Construction:										
Floor frame (15.25 lbs/sf)	$5,400.00	TONS	69.66	$376,175						
Shear stud	$5.50	EA	914	$5,025						
033000 CAST IN PLACE CONCRETE										
3 1/4" NW Deck fill	$10.95	SF	9,136	$100,039						
053100 STEEL DECKING										
2" x 18 Ga. comp deck	$5.70	SF	9,136	$52,075						

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
072100 INSULATION										
Spray on fireproofing - minor rated are	$0.50	SF	9,136	$4,568						$0
				$537,882		$0		$0		$0
B1020 ROOF CONSTRUCTION										
033000 CAST IN PLACE CONCRETE										
6" NW Deck fill - rtu pad	$9.00	SF	3,500	$31,500	2,000	$18,000				
051200 STRUCTURAL STEEL										
New Construction:										
Roof frame (13.1 lbs/sf)	$5,400.00	TONS	204.57	$1,104,676						
Roof screen frame - 100 lbs/lf	$6,000.00	TONS	5	$30,000						
Frame Canopies	$6,000.00	TONS	7	$42,000						
Entry Canopy - complete	$100.00	SF	1,000	$100,000						
Seismic Upgrade	$25.00	GSF					53,036	$1,325,900		
Roof Equipment Supports	$6,500.00	TONS					25	$162,500		
053100 STEEL DECKING										
3" x 18 Ga roof deck - typ.	$5.90	SF	31,232	$184,269						
072100 INSULATION										
Spray on fireproofing - spray beam an	$2.85	SF	31,232	$89,011						
Intumescent - gym	$25.00	SF	6,000	$150,000						
				$1,731,456		$18,000		$1,488,400		$0
TOTAL B10 SUPERSTRUCTURE				**$2,269,338**		**$18,000**		**$1,488,400**		**$0**
B20 - EXTERIOR ENCLOSURE										
B2010 EXTERIOR WALLS										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
040001 MASONRY*										
MOCK -UP	$75,000.00	LS	1	$75,000						
8" cmu - Gym	$48.00	SF	2,800	$134,400						
Masonry Veneer:										
Brick Veneer - 80%	$55.00	SF	15,138	$832,589						
Precast Concrete Trim	$10.00	SF	15,138	$151,380						
Canopy col. -complete	$8,500.00	EA	10	$85,000						
Stainless steel masonry flashing	$29.00	LF	942	$27,318						
Renovated Exterior Wall										
Replace Lintels - 20%	$2.00	SF					12,475	$24,951		
Misc. Ext wall repair	$5.00	SF			1,672	$8,360	12,475	$62,377		
054000 COLD FORMED METAL FRAMING										
6" - 8" x 18 Ga. stud @ typical wall	$19.50	SF	14,629	$285,258						
1/2" Dens glass sheathing-ext. wall	$4.50	SF	14,629	$65,829						
Soffit/eave framing - assume projected c	$9.50	SF	942	$8,949						
1/2" Dens glass sheathing - eave/cornic	$4.50	SF	942	$4,239						
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Misc. Ext Metals	$0.50	SF	18,922	$9,461						
Structural thermal break	$0.75	SF	18,922	$14,192						
071326 AIR & VAPOR BARRIERS										
Air & vapor barrier - wall	$9.50	SF	17,429	$165,572						
Air & vapor barrier - cornice	$9.50	SF	942	$8,949						
072100 INSULATION										
Exterior Wall:										
Spray foam at perm openings	$6.00	LF	6,225	$37,347						
4" Mineral wool	$4.35	SF	17,429	$75,814						
3" Spray foam - stud cavity	$4.65	SF	14,629	$68,023						
Bldg Cornice and Canopy Soffit:										
4" Mineral wool Insul.	$4.35	SF	942	$4,098						
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Exterior Sealants	$2.00	SF	24,898	$49,796						

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
074213 PERFORMED CLADDING										
Alum. Comp. Panel :										
Metal Comp Panel - 20%	$95.00	SF	3,784	$359,527						
Roof Eave Cladding	$50.00	SF	942	$47,100						
Acoustical Roof Screen:										
Metal Panel Equipment Screen	$95.00	SF	2,000	$190,000						
092116 GYPSUM WALLBOARD										
1 Lyr 5/8" gyp @ ext. wall	$4.50	SF	14,629	$65,829						
090007 PAINTING*										
Exterior painting	$0.22	SF	24,898	$5,478	2,200	$484	16,415	$3,611		
101400 IDENTIFYING DEVICES (EXT. BLD MTD SIGNAGE)										
24" Alum bldg mtd letter - allow	$420.00	EA	36	$15,120			36	$15,120		
Misc. Bldg mtd signage	$50,000.00	LS	1	$50,000			1	$50,000		
				$2,836,267		$8,844		$156,059		$0
B2020 EXTERIOR WINDOWS										
061000 ROUGH CARPENTRY										
P.T. - perim blocking	$14.00	LF	6,225	$87,143			4,104	$57,453		
071326 AIR & VAPOR BARRIERS										
Flex flashing - perim	$10.00	LF	6,225	$62,245			4,104	$41,038		
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Window Caulking	$12.75	LF	6,225	$79,362			4,104	$52,323		
080001 METAL WINDOWS*										
TRP Glazing Exterior - 28% of total										
Alum Window - 65%	$165.00	SF	5,938	$979,836			2,940	$485,092		
Alum Curtainwall - 35%	$200.00	SF	3,198	$639,520			1,583	$316,610		
Security glazing - 15% of total	$20.00	SF	1,120	$22,408			739	$14,774		

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
Sun Shading:										
Horizontal Window Sunscreen - 40%	$225.00	LF	249	$56,021			164	$36,934		
109000 MISCELLANEOUS SPECIALTIES										
Alum louvers - allow	$135.00	SF	25	$3,375			25	$3,375		
				$1,929,910		$0		$1,007,597		$0
B2030 EXTERIOR DOORS										
080001 METAL WINDOWS*										
7' Alum. Doors (Incl. Hardware):										
Main Entry - dbl	$20,000.00	EA	3	$60,000			5	$100,000		
Courtyard Egress- dbl	$20,000.00	EA	2	$40,000						
Gym - dbl	$20,000.00	EA					2	$40,000		
Auto opener - allow	$9,000.00	PR	1	$9,000			1	$9,000		
*Storefront at entries W /B 2020										
Security Glazing Premium	$750.00	LVS	10	$7,500			14	$10,500		
081113 HOLLOW METALWORK										
Insulated HM Doors and Frame:										
Stage - dbl	$3,500.00	EA								
Mech - dbl	$3,500.00	EA					1	$3,500		
090007 PAINTING*										
Paint HM Door & frame - dbl	$200.00	EA					1	$200		
				$116,500		$0		$163,200		$0
TOTAL B20 - EXTERIOR ENCLOSURE				**$4,882,677**		**$8,844**		**$1,326,856**		**$0**
B30 - ROOFING										
B3010 ROOF COVERINGS										
061000 ROUGH CARPENTRY										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
Roof Blocking - main bldg	$1.45	SF	31,232	$45,286	5,000	$7,250	48,513	$70,344		
070002 ROOFING AND FLASHING*										
Remove Existing Roofing	$2.50	SF					48,513	$121,283		
Patch only Roof to Remain	$5.00	SF			5,000	$25,000				
PVC roof w/ 6" rigid insul	$30.00	SF	31,232	$936,960	5,000	$150,000	48,513	$1,455,390		
Roof walkway pad (2'x2')	$8.50	SF	1,562	$13,274	250	$2,125	2,426	$20,618		
Alum. Trim :										
Perimeter wall Coping	$45.00	LF	1,413	$63,585	188	$8,438	1,185	$53,325		
Base Flashing	$34.00	LF	495	$16,815	66	$2,231	415	$14,102		
Misc. flashing	$1.00	SF	31,232	$31,232	5,000	$5,000	48,513	$48,513		
				$1,107,152		$200,044		$1,783,574		$0
B3020 ROOF OPENINGS										
077200 ROOF ACCESSORIES										
Roof hatch	$4,250.00	EA	1	$4,250	1	$4,250	1	$4,250		
OSHA Rail	$200.00	LF	50	$10,000	50	$10,000	50	$10,000		
				$14,250		$14,250		$14,250		$0
TOTAL B30 ROOFING				**$1,121,402**		**$214,294**		**$1,797,824**		**$0**
C. INTERIORS										
C10 - INTERIOR CONSTRUCTION										
C1010 PARTITIONS										
040001 MASONRY*										
8" CMU Elev Shaft	$43.50	SF								
8" CMU Int gym Part.	$39.00	SF	1,800	$70,200						
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Masonry - Clip and lintels	$1.50	SF	1,800	$2,700						

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
061000 ROUGH CARPENTRY										
Interior blocking	$0.75	GSF	40,368	$30,276	5,000	$3,750	53,036	$39,777	0	$0
Misc. rough carpentry	$0.75	GSF	40,368	$30,276	5,000	$3,750	53,036	$39,777	0	$0
072100 INSULATION										
Firestopping	$0.85	GSF	40,368	$34,313	5,000	$4,250	53,036	$45,081	0	$0
081113 HOLLOW METALWORK										
Interior H.M Windows, Sidelites and Transoms (INC. GLAZING):										
Door window/sidelight & transom	$2.00	SF	40,368	$80,736					0	$0
083323 SPECIAL DOORS										
Access panels	$0.25	GSF	40,368	$10,092	5,000	$1,250	53,036	$13,259		
080001 METAL WINDOWS*										
Interior Aluminum Storefront:										
Vestibule and Entries	$88.00	SF	200	$17,600						
Administration area	$88.00	SF								
General Building Area	$0.50	GSF	40,368	$20,184	5,000	$2,500	53,036	$26,518		
Security glazing - premium	$50.00	SF	200	$10,000						
092116 GYPSUM WALLBOARD										
Drywall Partitions:										
GWB assemblies - 100%	$34.00	GSF	40,368	$1,372,512	5,000	$170,000				
Misc. Cut and Patch	$10.00	GSF	31,232	$312,320			48,513	$485,130		
				$1,991,209		$185,500		$649,542		$0
C1020 INTERIOR DOORS										
081113 HOLLOW METALWORK 081416 WOOD AND PLASTIC DOORS 087100 DOOR HARDWARE										
Interior Door frame and Hardware	$8.00	GSF	40,368	$322,944						
Code Door Upgrade	$3.00	GSF			5,000	$15,000	53,036	$159,108		
080001 METAL WINDOWS*										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
Aluminum (Frame, Door, Glass, Glazing and Hdw):										
Vest - dbl	$16,500.00	PR	2	$33,000	2	$33,000	2	$33,000		
Main office -sgl	$4,000.00	EA								
083323 SPECIAL DOORS										
Dish drop window	$5,000.00	EA								
Kitchen OH grille	$4,500.00	EA								
				$355,944		$48,000		$192,108		$0
C1030 FITTINGS										
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Misc. metals	$2.00	GSF	40,368	$80,736	5,000	$10,000	53,036	$106,072		
062000 FINISH CARPENTRY										
Utility & closet shelving	$2,000.00	LS	1	$2,000	1	$2,000	1	$2,000		
Typ. window sill/apron	$65.00	LF	1,245	$80,919			821	$53,349		
102113 COMPARTMENTS & CUBICLES										
Solid Plastic Toilet Partitions:										
Std. partition	$1,385.00	EA	4	$5,540			6	$8,310		
HC partition	$1,590.00	EA	6	$9,540			8	$12,720		
Urinal Screen	$550.00	EA	1	$550			1	$550		
102813 TOILET & BATH ACCESSORIES										
Building Toilet Accessories	$0.92	GSF	40,368	$37,139	5,000	$4,600	53,036	$48,793		
*Excludes classroom accessories										
101100 MARKERBOARDS & TACKBOARDS										
Marker board tackboard	$1.45	GSF	40,368	$58,534	5,000	$7,250				
Glass Display Case	$1,000.00	LF	10	$10,000						
109000 MISCELLANEOUS SPECIALTIES										
Student Lockers	$450.00	EA	165	$74,250						

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
Kitchen staff locker(12"wx15" D x 6'h)	$350.00	EA			5	$1,750				
Custodian staff(12"wx15" D x 6'h)	$350.00	EA			5	$1,750				
Wall & corner guards - allow	$5,000.00	LS	1	$5,000	1	$5,000				
Fire extinguisher and cab - allow	$550.00	EA	25	$13,750	36	$19,800				
Cubicle curtain track w/ curtain - health	$1,500.00	EA			2	$3,000				
Misc. specialties	$0.50	GSF	40,368	$20,184	5,000	$2,500				
101400 IDENTIFYING DEVICES										
Building directory - allow	$5,000.00	EA	1	$5,000			1	$5,000		
Dedication plaque	$3,500.00	EA	1	$3,500			1	$3,500		
Interior Signage	$0.40	GSF	40,368	$16,147	5,000	$2,000	53,036	$21,214		
Environmental graphics	$25,000.00	LS			1	$25,000				
				$422,788		$84,650		$261,508		$0
TOTAL C10 - INTERIOR CONSTRUCTION				**$2,769,941**		**$318,150**		**$1,103,158**		**$0**
C20 - STAIRS										
C2010 STAIR CONSTRUCTION										
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Metal Pan Stair w/Rails:										
Egress corridor stair	$58,000.00	FLT	2	$116,000						
ADA Railing upgrade	$15,000.00	FLT					2	$30,000		
033000 CAST IN PLACE CONCRETE										
Conc stair pan fill - full flt	$3,000.00	FLTS								
				$116,000		$0		$30,000		$0
C2020 STAIR FINISHES										
090005 RESILIENT FLOORING*										
Rubber treads and risers	$5,800.00	FLTS	2	$11,600			2	$11,600		
090007 PAINTING*										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
Paint stair & rails - full flt	$5,000.00	FLTS	2	$10,000			2	$10,000		
				$21,600		$0		$21,600		$0
TOTAL C20 - STAIRS				**$137,600**		**$0**		**$51,600**		**$0**
C30 - INTERIOR FINISHES										
C3010 WALL FINISHES										
Wall Finish	$13.00	GSF	40,368	$524,784	5,000	$65,000			0	$0
Interior Paint and Patch	$6.00	GSF					53,036	$318,216		
				$524,784		$65,000		$318,216		$0
C3020 FLOOR FINISHES										
Floor Finish - general bldg	$11.00	GSF	40,368	$444,048	5,000	$55,000			0	$0
Interior Patch	$5.00	GSF					53,036	$265,180		
				$444,048		$55,000		$265,180		$0
C3030 CEILING FINISHES										
Ceiling Finish	$14.00	GSF	40,368	$565,152	5,000	$70,000			0	$0
Interior Patch	$5.00	GSF					53,036	$265,180		
				$565,152		$70,000		$265,180		$0
TOTAL C30 - INTERIOR FINISHES				**$1,533,984**		**$190,000**		**$848,576**		**$0**
D. SERVICES										
D10 - CONVEYING										
D1010 ELEVATORS & LIFTS										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
140001 ELEVATORS*										
Upgrade Existing Elevator	$250,000.00	LS					1	$250,000		
Elevator Metals	$10,000.00	LS					1	$10,000		
				---		---		---		---
				$0		$0		$260,000		$0
TOTAL D10 - CONVEYING				**$0**		**$0**		**$260,000**		**$0**
D20 - PLUMBING										
D2010 PLUMBING										
EWH (w (2) /200 Gal)	$48,500.00	LS			1	$48,500	1	$48,500		
Roof Drainage	$4.50	GSF	31,232	$140,544	5,000	$22,500	48,513	$218,309		
Fixtures & Rough-in (Includes Lab)	$18.50	GSF	40,368	$746,808	5,000	$92,500	53,036	$981,166		
Kitchen Connections	$25,000.00	LS	1	$25,000	1	$25,000	1	$25,000		
Test, Permit, BIM, Misc.	$2.75	GSF	40,368	$111,012	5,000	$13,750	53,036	$145,849		
Demo disconnect	$1.00	GSF			5,000	$5,000	53,036	$53,036		
				---		---		---		---
				$1,023,364		$207,250		$1,471,860		$0
TOTAL D20 - PLUMBING			**$25.35**	**$1,023,364**	**$41.45**	**$207,250**	**$27.75**	**$1,471,860**	**#DIV/0!**	**$0**
D30 - HVAC										
D3010 HVAC										
VRF w/ doas units - hvac complete	$80.00	GSF	40,368	$3,229,440	5,000	$400,000	53,036	$4,242,880		
Demo disconnect	$1.00	GSF			5,000	$5,000	53,036	$53,036		
				---		---		---		---
				$3,229,440		$405,000		$4,295,916		$0
TOTAL D30 - HVAC			**$80.00**	**$3,229,440**	**$81.00**	**$405,000**	**$81.00**	**$4,295,916**	**#DIV/0!**	**$0**

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
D40 - FIRE PROTECTION										
D4010 SPRINKLERS										
210001 FIRE SUPPRESSION*										
Sprinkler system - wet	$8.40	GSF	40,368	$339,091	5,000	$42,000	53,036	$445,502		
Fire Pump	$110,000.00	LS	1	$110,000			1	$110,000		
				$449,091		$42,000		$555,502		$0
TOTAL D40 - FIRE PROTECTION			**$11.12**	**$449,091**	**$8.40**	**$42,000**	**$10.47**	**$555,502**	**#DIV/0!**	**$0**
D50 - ELECTRICAL										
D5010 ELECTRICAL SERVICE & DISTRIBUTION										
260001 ELECTRICAL*										
Service, MDP and Elec. Panel & Feed	$13.00	GSF	40,368	$524,784	5,000	$65,000	53,036	$689,468		
350 KW Emergency Generator	$165,000.00	LS					1	$165,000		
PV Rough in	$0.20	GSF	40,368	$8,074	5,000	$1,000	53,036	$10,607		
Demo disconnect	$1.00	GSF			5,000	$5,000	53,036	$53,036		
				$532,858		$71,000		$918,111		$0
D5020 LIGHTING & BRANCH WIRING										
260001 ELECTRICAL*										
Lighting	$11.00	GSF	40,368	$444,048	5,000	$55,000	53,036	$583,396		
Lighting Control (inc device oc)	$2.85	GSF	40,368	$115,049	5,000	$14,250	53,036	$151,153		
				$559,097		$69,250		$734,549		$0
D5030 COMMUNICATION & SECURITY										
260001 ELECTRICAL*										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
CCTV	$5.00	GSF	40,368	$201,840	5,000	$25,000	53,036	$265,180		
Access control	$2.00	GSF	40,368	$80,736	5,000	$10,000	53,036	$106,072		
Video entry system	$28,000.00	LS			1	$28,000				
Digital Signage	$4,000.00	EA	1	$4,000	1	$4,000	1	$4,000		
Tele/data cabling, racks and switches	$8.00	GSF	40,368	$322,944	5,000	$40,000	53,036	$424,288		
Classroom AV rough-in only	$1,500.00	EA	16	$24,000	22	$33,000	18	$27,000		
Speech Reinforcement	$3,300.00	EA	16	$52,800	22	$72,600	18	$59,400		
Local Sound:										
Cafeteria	$50,000.00	LS			1	$50,000	1	$50,000		
Gymnasium	$50,000.00	LS			1	$50,000	1	$50,000		
Music Rm	$25,000.00	LS			1	$25,000	1	$25,000		
				$686,320		$337,600		$1,010,940		$0
D5090 OTHER ELECTRICAL SYSTEMS										
260001 ELECTRICAL*										
Fire Alarm	$5.00	GSF	40,368	$201,840	5,000	$25,000	53,036	$265,180	0	$0
Devices	$4.00	GSF	40,368	$161,472	5,000	$20,000	53,036	$212,144	0	$0
Clocks and PA	$1.20	GSF	40,368	$48,442	5,000	$6,000	53,036	$63,643	0	$0
Kitchen/Mechanical Wiring	$3.50	GSF	40,368	$141,288	5,000	$17,500	53,036	$185,626	0	$0
Bi-Direction Antenna	$0.80	GSF	40,368	$32,294	5,000	$4,000	53,036	$42,429	0	$0
Test Permit and Misc.	$4.00	GSF	40,368	$161,472	5,000	$20,000	53,036	$212,144	0	$0
By others:										
Telephone system										
Classroom projectors										
				$746,808		$92,500		$981,166		$0
TOTAL D50 - ELECTRICAL			**$62.55**	**$2,525,082**	**$114.07**	**$570,350**	**$68.72**	**$3,644,766**	**#DIV/0!**	**$0**
E. EQUIPMENT & FURNISHINGS										
E10 - EQUIPMENT										
E1010 COMMERCIAL EQUIPMENT										
114000 FOOD SERVICE EQUIPMENT										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
Kitchen equipment - new	$598,640.00	LS					1	$598,640		
				$0		$0		$598,640		$0
E1090 OTHER EQUIPMENT										
113100 APPLIANCES										
Staff kitchen refrigerator	$1,000.00	EA	1	$1,000	1	$1,000	1	$1,000		
Staff kitchen microwave	$500.00	EA	1	$500	1	$500	1	$500		
Medical office refrigerator w/ice	$1,000.00	EA			1	$1,000	1	$1,000		
116600 ATHLETIC & SPORTS EQUIPMENT										
Basketball backstops - electric	$9,500.00	EA								
Wall padding - 6'	$15.00	SF								
Divider curtain	$28.00	SF	ETR		ETR		ETR			
Volley ball court equip.	$700.00	EA								
Scoreboard and shot clock	$24,000.00	EA								
Bleacher	$50,000.00	LS								
Misc. Gym Equipment	$50,000.00	LS								
115213 PROJECTION SCREENS										
Projection screen - various areas	$15,000.00	EA	1	$15,000			1	$15,000		
Stage Curtains	$50,000.00	LS	1	$50,000			1	$50,000		
119000 MISC. EQUIPMENT										
Kiln	$3,500.00	EA			1	$3,500	1	$3,500		
				$66,500		$6,000		$71,000		$0
TOTAL E10 - EQUIPMENT				**$66,500**		**$6,000**		**$669,640**		**$0**
E20 - FURNISHINGS										
E 2010 FIXED FURNISHINGS										
129000 MISC. FURNISHINGS										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
Meco shade - manual	$8.00	SF	7,469	$59,755	528	$4,224	4,925	$39,396		
Premium for Elec op shade - 10%	$24.00	SF	747	$17,927	53	$1,267	492	$11,819		
Architectural Casework	$14.00	GSF	40,368	$565,152						
ADA Casewrok Reapirs	$3.00	GSF			5,000	$15,000	48,513	$145,539		
				$642,834		$20,491		$196,754		$0
E2020 MOVABLE FURNISHINGS						NIC				NIC
				$0		$0		$0		$0
TOTAL E20 - FURNISHINGS				**$642,834**		**$20,491**		**$196,754**		**$0**
F20 - SELECTIVE BUILDING DEMOLITION										
F2010 BUILDING ELEMENTS DEMOLITION										
Selective Demolition:										
Partial Interior Gut	$7.00	GSF			5,000	$35,000	53,036	$371,252		
Remove Exterior Wall	$12.00	SF								
Remove Windows	$10.00	SF					4,925	$49,245		
Tie-in logistics at Addition	$100,000.00	LS			1	$100,000				
*roofing demoliton carried w/ roofing										
				$0		$135,000		$420,497		$0
F2020 HAZARDOUS COMPONENTS ABATEMENT										
Hazardous Waste Allowance	SEE SUMMARY PAGE									
				$0		$0		$0		$0
TOTAL F20 - SELECTIVE BUILDING DEMOLITION				**$0**		**$135,000**		**$420,497**		**$0**
G. BUILDING SITEWORK										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
G10 - SITE PREPARATION										
G1010 SITE CLEARING										
311000 SITE PREPARATION & CLEARING										
Construction Fence	20.00	LF	1,870	$37,400			2,800	$56,000		
Erosion Control	15.00	LF	1,777	$26,648			2,660	$39,900		
Construction Entrance	10,000.00	EA	1	$10,000			1	$10,000		
Inlet Protection	95.00	EA	10	$950			20	$1,900		
Erosion control maintance	10,000.00	LS	1	$10,000			1	$10,000		
Temporary Parking	50,000.00	LS	1	$50,000			1	$50,000		
Pedestrian access and control	50,000.00	LS	1	$50,000			1	$50,000		
Snow removal	20,000.00	LS	1	$20,000			1	$20,000		
Phasing Logistics	100,000.00	LS	1	$100,000			1	$100,000		
Misc. Site Demolition	0.10	SF	308,911	$30,891			361,771	$36,177		
Temporary utilities	50,000.00	LS	1	$50,000						
				$385,889		$0		$373,977		$0
G1020 SITE DEMOLITION & RELOCATIONS										
Sawcut bit pavement	6.50	LF	75	$488			75	$488		
Remove Bit Pavement	1.10	SF	65,000	$71,500			35,000	$38,500		
Remove Utilities	50,000.00	LS	1	$50,000			1	$50,000		
Misc. Site Demolition	0.75	SF	308,911	$231,683			361,771	$271,328		
				$353,671		$0		$360,316		$0
G1030 SITE EARTHWORK										
310000 EARTHWORK										
Top Soil:										
Strip and Stack top soil - 6"	8.00	CY	2,145	$17,162						
Load and Haul Excess soil	6.00	CY	2,145	$12,871						
Soil disposal fee	20.00	TONS	3,647	$72,937						
Site:										
Site Cut	10.00	CY	2,860	$28,603						
Site fill - reuse 50% mat's	10.00	CY	1,430	$14,301						
Load and Haul Excess soil	6.00	CY	1,430	$8,581						

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
Soil disposal fee	20.00	TONS	2,431	$48,625						
Site fill - import	28.00	CY	2,860	$80,088						
Site Grading	0.50	SF	308,911	$154,456			361,771	$180,886		
				$437,624		$0		$180,886		$0
G1040 HAZARDOUS WASTE REMEDIATION										
Soil classifications		NIC								
				$0		$0		$0		$0
TOTAL G10 - SITE PREPARATION				**$1,177,183**		**$0**		**$915,178**		**$0**
G20 - SITE IMPROVEMENTS										
G2010 ROADWAYS										
321000 PAVING AND CURBING										
Site:										
HD Bituminous - 50%	$6.00	SF	43,000	$258,000			66,210	$397,260		
12" Gravel base @ vehicular pave.	$62.00	CY	1,593	$98,741			2,452	$152,038		
SD Bituminous - 50%	$5.75	SF	43,000	$247,250			66,210	$380,708		
8" Gravel base @ vehicular pave.	$65.00	CY	1,061	$68,943			1,633	$106,157		
Raised Traffic Table - paver/curb, etc..	$45.00	SF	750	$33,750			1,500	$67,500		
Granite Curbing - parking/drive	$65.00	LF	3,870	$251,550			5,963	$387,595		
Parking/traffic signage	$0.08	SF	86,000	$6,880			132,420	$10,594		
Parking line panting & markings	$0.15	SF	86,000	$12,900			132,420	$19,863		
Patch Repair and create ADA parking	$250,000.00	ls					1	$250,000		
				$978,014		$0		$1,771,714		$0
G2030 PEDESTRIAN PAVING										
321000 PAVING AND CURBING										
Sidewalk :										
4" Concrete Pavement	$13.00	SF	15,000	$195,000			5,000	$65,000		

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
8" Gravel base @ ped. pavement	$58.00	CY	370	$21,460			123	$7,153		
Tactile warning paver	$1,200.00	EA	12	$14,400						
Patch Repair and walkway	$100,000.00	ls					1	$100,000		
				$230,860		$0		$172,153		$0
G2040 SITE DEVELOPMENT										
323000 SITE IMPROVEMENTS										
Playgrounds										
PIP Playground Surfacing	$45.00	SF	10,000	$450,000			7,500	$337,500		
8" Gravel Base	$62.00	CY	206	$12,756			154	$9,567		
Ornemental Fence	$165.00	LF	350	$57,750			650	$107,250		
Repair Exisitng Equipment	$150,000.00	LS					1	$150,000		
Playground Equipment - K	$500,000.00	LS	1	$500,000						
Playground Equipment - Pre- K	$200,000.00	LS	1	$200,000						
Site Amenities:										
Tennis Court	$125,000.00	L								
Dumpster enclosure	$30,000.00	LS								
Trash Receptacle	$2,100.00	EA								
Flag pole	$11,000.00	EA								
Basketball Hoop	$4,800.00	EA								
Benches	$50,000.00	LS								
Decorative bollard	$2,500.00	EA								
Utility Bollard	$1,100.00	EA								
Cantilier sliding gates	$25,000.00	EA								
Table and Benches	$4,000.00	EA								
Bike Loop	$975.00	EA								
Site sign	$25,000.00	LS								
Raised Planter	$4,000.00	EA								
CIP Seatwall	$1,100.00	LF								
Vehicular guardrail Guard rail	$115.00	LF								
Shade Structure	$50,000.00	EA								
Misc. Site Improvements	$400,000.00	LS	1	$400,000						
Misc. Site Improvements	$150,000.00	LS					1	$150,000		
				$1,620,506		$0		$754,317		$0
G2050 LANDSCAPING										

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
329000 PLANTING										
Planting allowance	$0.50	SF	475,249	$237,625						
Plant maintance	$20,000.00	LS	1	$20,000						
Lawn, Meadows:										
Hydroseed	$0.50	SF	75,000	$37,500						
6" Loam - import	$82.00	CY	1,389	$113,889						
Loam:										
12" Planting Bed - import	$85.00	CY	200	$17,000						
Mulch	$55.00	CY	50	$2,750						
				$428,763		$0		$0		$0
TOTAL G20 - SITE IMPROVEMENTS				**$3,258,143**		**$0**		**$2,698,184**		**$0**
G30 - SITE MECHANICAL UTILITIES										
G3010 WATER SUPPLY										
330000 UTILITIES										
Street Connection	$25,000.00	LOC	2	$50,000			2	$50,000		
8" Main loop	$135.00	LF	2,000	$270,000						
6" Fire Service	$104.00	LF	100	$10,400			1,000	$104,000		
4" Domestic	$89.00	LF	100	$8,900			1,000	$89,000		
8" Gate valve main	$1,850.00	EA	6	$11,100			6	$11,100		
6" Gate valve dom	$1,600.00	EA	4	$6,400			4	$6,400		
Fire Hydrant	$3,100.00	EA	3	$9,300			3	$9,300		
Test, sanitize, thrust block , misc.	$20,000.00	LS	1	$20,000			1	$20,000		
				$386,100		$0		$289,800		$0
G3020 SANITARY SEWER										
330000 UTILITIES										
6" PVC San Main	$107.00	LF	1,200	$128,400						
Grease Trap - 6,000 gal	$45,000.00	EA	1	$45,000						
Int Grease interceptor		W / plumbing								
Site manhole	$4,800.00	EA	7	$33,600						

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
				$207,000		$0		$0		$0
G3030 STORM SEWER										
330000 UTILITIES										
18" PVC	124.00	LF	1,800	$223,200			1,500	$186,000		
12" PVC	103.00	LF	1,300	$133,900			2,000	$206,000		
6" PVC	95.00	LF	500	$47,500			1,000	$95,000		
Drain manhole	5,500.00	EA	20	$110,000			5	$27,500		
Catch basin	5,500.00	EA	24	$132,000			9	$49,500		
Area drain	4,000.00	EA	15	$60,000			4	$16,000		
Water quality unit	24,000.00	EA	4	$96,000			2	$48,000		
Infiltration field	11.25	CF	45,000	$506,250			10,000	$112,500		
				$1,308,850		$0		$740,500		$0
G3060 FUEL DISTRIBUTION		n/a								
				$0		$0		$0		$0
TOTAL G30 - SITE MECHANICAL UTILITIES				**$1,901,950**		**$0**		**$1,030,300**		**$0**
G40 - SITE ELECTRICAL UTILITIES										
G4010 ELECTRICAL DISTRIBUTION										
330000 UTILITIES										
Primary Duct Bank	$125.00	LF					1,000	$125,000		
Tel duct bank	$125.00	LF					1,000	$125,000		
Secondary	$500.00	LF					150	$75,000		
Generator	$500.00	LF					150	$75,000		
Misc. Site Electric	$100,000.00	LS	1	$100,000						
EV Rough in	$100,000.00	LS	1	$100,000						
PV Canopies		NIC								

DESCRIPTION	UNIT COST	UNIT	B.1 Addition QUANTITY	B.1 Addition TOTAL	B.1 Renovation QUANTITY	B.1 Renovation TOTAL	A 0.2 Code Upgrade QUANTITY	A 0.2 Code Upgrade TOTAL	QUANTITY	TOTAL
				$200,000		$0		$400,000		$0
G4020 SITE LIGHTING										
260001 ELECTRICAL*										
Lighting Fixtures:										
Roadway/Parking Fixtures	$5,000.00	EA	35	$175,000						
Pedestrian Lighting	$4,000.00	EA	25	$100,000						
Misc. Specialty site lighting	$20,000.00	LS	1	$20,000						
*EXCLUDES SPORTS FIELD AND COURT LIGHTING										
				$295,000		$0		$0		$0
TOTAL G40 - SITE ELECTRICAL UTILITIES				**$495,000**		**$0**		**$400,000**		**$0**

PROJECT: Essex Elementary School
LOCATION: Essex, MA
CLIENT: JCJ Architets
DATE: 09-Apr-26

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No.: 25023

SUMMARY

	A 1.1 ADDITION TOTAL	A 1.1 RENOVATION TOTAL	A 1.2 B ADDITION TOTAL	A 1.2 B RENOVATION TOTAL
A. SUBSTRUCTURE				
A10 - FOUNDATIONS				
A1010 STANDARD FOUNDATIONS	$372,701	$132,590	$980,613	$132,590
A1020 SPECIAL FOUNDATIONS	$0	$0	$0	$0
A1030 SLAB ON GRADE	$112,104	$196,262	$368,082	$196,262
A20 - BASEMENT CONSTRUCTION				
A2010 BASEMENT EXCAVATION	$0	$0	$0	$0
A2020 BASEMENT WALLS	$0	$0	$0	$0
B. SHELL				
B10 - SUPERSTRUCTURE				
B1010 FLOOR CONSTRUCTION	$0	$0	$0	$0
B1020 ROOF CONSTRUCTION	$677,428	$1,506,400	$1,444,717	$1,506,400
B20 - EXTERIOR ENCLOSURE				
B2010 EXTERIOR WALLS	$1,379,223	$110,661	$2,049,813	$115,263
B2020 EXTERIOR WINDOWS	$716,544	$1,366,101	$1,078,763	$1,422,769
B2030 EXTERIOR DOORS	$95,700	$173,400	$163,200	$173,400
B30 - ROOFING				
B3010 ROOF COVERINGS	$267,156	$1,845,879	$836,932	$1,842,209
B3020 ROOF OPENINGS	$10,000	$14,250	$10,000	$14,250
C. INTERIORS				
C10 - INTERIOR CONSTRUCTION				
C1010 PARTITIONS	$375,608	$1,967,636	$1,067,514	$1,967,636
C1020 INTERIOR DOORS	$72,788	$441,788	$220,256	$441,788
C1030 FITTINGS	$131,659	$499,373	$238,104	$502,184
C20 - STAIRS				
C2010 STAIR CONSTRUCTION	$0	$30,000	$0	$30,000
C2020 STAIR FINISHES	$0	$21,600	$0	$21,600
C30 - INTERIOR FINISHES				
C3010 WALL FINISHES	$91,468	$689,468	$304,291	$689,468
C3020 FLOOR FINISHES	$190,792	$583,396	$370,873	$583,396
C3030 CEILING FINISHES	$98,504	$742,504	$327,698	$742,504

Essex Elementary School - ADD/RENO 4/9/26

	A 1.1 ADDITION TOTAL	A 1.1 RENOVATION TOTAL	A 1.2 B ADDITION TOTAL	A 1.2 B RENOVATION TOTAL
D. SERVICES				
D10 - CONVEYING				
D1010 ELEVATORS & LIFTS	$0	$260,000	$0	$260,000
D20 - PLUMBING				
D2010 PLUMBING	$206,177	$1,471,860	$627,730	$1,471,860
D30 - HVAC				
D3010 HVAC	$562,880	$4,295,916	$1,872,560	$4,295,916
D40 - FIRE PROTECTION				
D4010 SPRINKLERS	$59,102	$555,502	$196,619	$555,502
D50 - ELECTRICAL				
D5010 ELECTRICAL SERVICE & DISTRIBUTION	$257,875	$753,111	$473,972	$753,111
D5020 LIGHTING & BRANCH WIRING	$97,449	$734,549	$324,187	$734,549
D5030 COMMUNICATION & SECURITY	$159,540	$988,940	$433,905	$988,940
D5090 OTHER ELECTRICAL SYSTEMS	$130,166	$981,166	$433,030	$981,166
E. EQUIPMENT & FURNISHINGS				
E10 - EQUIPMENT				
E1010 COMMERCIAL EQUIPMENT	$0	$598,640	$0	$598,640
E1090 OTHER EQUIPMENT	$331,200	$7,500	$349,120	$7,500
E20 - FURNISHINGS				
E 2010 FIXED FURNISHINGS	$132,468	$807,403	$378,913	$810,102
E2020 MOVABLE FURNISHINGS	$0	$0	$0	$0
F. SPECIAL CONSTRUCTION & DEMOLITION				
F10 - SPECIAL CONSTRUCTION				
F1010 SPECIAL STRUCTURES	$0	$0	$0	$0
F1020 INTEGRATED CONSTRUCTION	$0	$0	$0	$0
F1030 SPECIAL CONSTRUCTION SYSTEMS	$0	$0	$0	$0
F1040 SPECIAL FACILITIES	$0	$0	$0	$0
F1050 SPECIAL CONTROLS & INSTRUMENTATION	$0	$0	$0	$0
F20 - SELECTIVE BUILDING DEMOLITION				
F2010 BUILDING ELEMENTS DEMOLITION	$0	$439,655	$0	$442,250
F2020 HAZARDOUS COMPONENTS ABATEMENT	$0	$0	$0	$0
BUILDING COST	**$6,528,531**	**$22,215,550**	**$14,550,891**	**$22,281,255**

	A 1.1 ADDITION TOTAL	A 1.1 RENOVATION TOTAL	A 1.2 B ADDITION TOTAL	A 1.2 B RENOVATION TOTAL
G. BUILDING SITEWORK				
G10 - SITE PREPARATION				
G1010 SITE CLEARING	$588,977	$0	$588,977	$0
G1020 SITE DEMOLITION & RELOCATIONS	$398,816	$0	$398,816	$0
G1030 SITE EARTHWORK	$955,343	$0	$955,343	$0
G1040 HAZARDOUS WASTE REMEDIATION	$0	$0	$0	$0
G20 - SITE IMPROVEMENTS				
G2010 ROADWAYS	$1,034,622	$0	$635,222	$0
G2020 PARKING LOTS	$0	$0	$0	$0
G2030 PEDESTRIAN PAVING	$1,045,772	$0	$1,077,370	$0
G2040 SITE DEVELOPMENT	$2,377,756	$0	$2,650,384	$0
G2050 LANDSCAPING	$1,104,203	$0	$1,108,349	$0
G30 - SITE MECHANICAL UTILITIES				
G3010 WATER SUPPLY	$278,100	$0	$278,100	$0
G3020 SANITARY SEWER	$185,600	$0	$185,600	$0
G3030 STORM SEWER	$1,022,500	$0	$1,022,500	$0
G3040 HEATING DISTRIBUTION	$0	$0	$0	$0
G3050 COOLING DISTRIBUTION	$0	$0	$0	$0
G3060 FUEL DISTRIBUTION	$0	$0	$0	$0
G3090 OTHER SITE MECHANICAL UTILITIES	$0	$0	$0	$0
G40 - SITE ELECTRICAL UTILITIES				
G4010 ELECTRICAL DISTRIBUTION	$700,000	$0	$700,000	$0
G4020 SITE LIGHTING	$250,000	$0	$250,000	$0
SITEWORK COST	**$9,941,690**	**$0**	**$9,850,662**	**$0**
TOTAL DIRECT COST	**$16,470,221**	**$22,215,550**	**$24,401,554**	**$22,281,255**
	$2,340.85	$418.88	$1,042.49	420

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
A. SUBSTRUCTURE										
A10 - FOUNDATIONS										
A1010 STANDARD FOUNDATIONS										
033000 CAST IN PLACE CONCRETE										
Foundations :										
Wall Footing 1' x 2'-6"	$680.00	CY	39	$26,444			73	$49,741		
Frost wall - 4 'x 16"	$1,300.00	CY	83	$107,582			156	$202,357		
Interior Foundations	$1,300.00	CY					30	$39,000		
Column Footing	$675.00	CY	52	$35,180			173	$117,035		
Elev Mat - 12"	$650.00	CY								
Elev pit wall	$1,100.00	CY								
Pilasters	$1,200.00	CY	17	$19,861			31	$37,358		
Equipment pads	$25,000.00	LS	1	$25,000			1	$25,000		
Grade Beam (60 lf per 5,000 sf)	$800.00	CY	16	$12,508			52	$41,612		
Foundation Repair/seismic	$2.50	GSF			53,036	$132,590			53,036	$132,590
072100 INSULATION										
4" Rigid ext. found. insul w/prot.bd	$4.95	SF	1,680	$8,316			3,160	$15,642		
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Foundation dampproofing	$2.30	SF	1,680	$3,864			3,160	$7,268		
310000 EARTHWORK										
Ledge Removal - 1' avg	$120.00	CY	261	$31,271			867	$104,031		
Foundation Excavation and Backfill	$25.00	CY	1,042	$26,059			3,468	$86,693		
Structural fill - assume 4'	$60.00	CY	1,042	$62,542			3,468	$208,062		
Radon Mitigation	$1.00	SF	7,036	$7,036			23,407	$23,407		
Underslab draiange	$1.00	SF	7,036	$7,036			23,407	$23,407		
				$372,701		$132,590		$980,613		$132,590
A1030 SLAB ON GRADE										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
310000 EARTHWORK										
12" Gravel base	$60.00	CY	261	$15,636	449	$26,952	867	$52,016	449	$26,952
Excavate underslab	$1.50	SF	7,036	$10,554	12,128	$18,192	23,407	$35,111	12,128	$18,192
033000 CAST IN PLACE CONCRETE										
5" Slab on Grade:										
4,000 psi, NW, (incl. placement)	$335.00	CY	109	$36,374			361	$121,008		
Welded wire fabric	$2.68	SF	7,036	$18,856			23,407	$62,731		
Control Joint	$3.50	LF	469	$1,642			1,560	$5,462		
Trowel Finish	$2.50	SF	7,036	$17,590			23,407	$58,518		
Patch and Replace Slab - 10%	$30.00	SF			4,851	$145,539			4,851	$145,539
072100 INSULATION										
2" Rigid Slab Insul. - 2' perm.	$4.00	SF	840	$3,360			1,580	$6,320		
072616 BELOW GRADE VAPOR RETARDER										
Stegro vapor barrier	$1.15	SF	7,036	$8,091	4,851	$5,579	23,407	$26,918	4,851	$5,579
				$112,104		$196,262		$368,082		$196,262
TOTAL A10 FOUNDATIONS				**$484,805**		**$328,852**		**$1,348,696**		**$328,852**
B. SHELL										
B10 - SUPERSTRUCTURE										
B1010 FLOOR CONSTRUCTION										
051200 STRUCTURAL STEEL										
New Construction:										
Floor frame (15.25 lbs/sf)	$5,400.00	TONS	0.00	$0			0.00	$0		
Shear stud	$5.50	EA	0	$0			0	$0		
033000 CAST IN PLACE CONCRETE										
3 1/4" NW Deck fill	$10.95	SF	0	$0			0	$0		
053100 STEEL DECKING										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
2" x 18 Ga. comp deck	$5.70	SF	0	$0			0	$0		
072100 INSULATION										
Spray on fireproofing - minor rated are	$0.50	SF	0	$0		$0	0	$0		$0
				$0		$0		$0		$0
B1020 ROOF CONSTRUCTION										
033000 CAST IN PLACE CONCRETE										
6" NW Deck fill - rtu pad	$9.00	SF	3,500	$31,500	2,000	$18,000	3,500	$31,500	2,000	$18,000
051200 STRUCTURAL STEEL										
New Construction:										
Roof frame (13.1 lbs/sf)	$5,400.00	TONS	46.09	$248,863			153.32	$827,906		
Roof screen frame - 100 lbs/lf	$6,000.00	TONS	3	$15,000			10	$60,000		
Frame Canopies	$6,000.00	TONS	7	$42,000			7	$42,000		
Entry Canopy - complete	$100.00	SF	1,000	$100,000			1,000	$100,000		
Seismic Upgrade	$25.00	GSF			53,036	$1,325,900			53,036	$1,325,900
Roof Equipment Supports	$6,500.00	TONS			25	$162,500			25	$162,500
053100 STEEL DECKING										
3" x 18 Ga roof deck - typ.	$5.90	SF	1,036	$6,112			17,407	$102,701		
3" x 18 Ga acoustic. deck - gym/aux. gy	$13.50	SF	6,000	$81,000			6,000	$81,000		
072100 INSULATION										
Spray on fireproofing - spray beam and	$2.85	SF	1,036	$2,953			17,407	$49,610		
Intumescent - gym	$25.00	SF	6,000	$150,000			6,000	$150,000		
				$677,428		$1,506,400		$1,444,717		$1,506,400
TOTAL B10 SUPERSTRUCTURE				**$677,428**		**$1,506,400**		**$1,444,717**		**$1,506,400**
B20 - EXTERIOR ENCLOSURE										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
B2010 EXTERIOR WALLS										
040001 MASONRY*										
MOCK -UP	$75,000.00	LS	1	$75,000			1	$75,000		
8" cmu - Gym	$48.00	SF	2,800	$134,400			3,220	$154,560		
Masonry Veneer:										
Brick Veneer - 80%	$55.00	SF	6,619	$364,028			9,980	$548,918		
Precast Concrete Trim	$10.00	SF	6,619	$66,187			9,980	$99,803		
Canopy col. -complete	$8,500.00	EA	10	$85,000			10	$85,000		
Stainless steel masonry flashing	$29.00	LF	420	$12,180			790	$22,910		
Renovated Exterior Wall										
Replace Lintels - 20%	$2.00	SF			15,809	$31,618			16,466	$32,932
Misc. Ext wall repair	$5.00	SF			15,809	$79,044			16,466	$82,331
054000 COLD FORMED METAL FRAMING										
6" - 8" x 18 Ga. stud @ typical wall	$19.50	SF	4,820	$93,994			8,271	$161,275		
1/2" Dens glass sheathing-ext. wall	$4.50	SF	4,820	$21,691			8,271	$37,217		
Soffit/eave framing - assume projected c	$9.50	SF	420	$3,990			790	$7,505		
1/2" Dens glass sheathing - eave/cornic	$4.50	SF	420	$1,890			790	$3,555		
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Misc. Ext Metals	$0.50	SF	8,273	$4,137			12,475	$6,238		
Structural thermal break	$0.75	SF	8,273	$6,205			12,475	$9,357		
071326 AIR & VAPOR BARRIERS										
Air & vapor barrier - wall	$9.50	SF	7,620	$72,392			11,491	$109,160		
Air & vapor barrier - cornice	$9.50	SF	420	$3,990			790	$7,505		
072100 INSULATION										
Exterior Wall:										
Spray foam at perm openings	$6.00	LF	2,722	$16,329			4,104	$24,623		
4" Mineral wool	$4.35	SF	7,620	$33,148			11,491	$49,984		
3" Spray foam - stud cavity	$4.65	SF	4,820	$22,414			8,271	$38,458		
Bldg Cornice and Canopy Soffit:										
4" Mineral wool Insul.	$4.35	SF	420	$1,827			790	$3,437		

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Exterior Sealants	$2.00	SF	10,886	$21,772			16,415	$32,830		
074213 PERFORMED CLADDING										
Alum. Comp. Panel :										
Metal Comp Panel - 20%	$95.00	SF	1,655	$157,194			2,495	$237,033		
Roof Eave Cladding	$50.00	SF	420	$21,000			790	$39,500		
Acoustical Roof Screen:										
Metal Panel Equipment Screen	$95.00	SF	750	$71,250			2,000	$190,000		
092116 GYPSUM WALLBOARD										
1 Lyr 5/8" gyp @ ext. wall	$4.50	SF	4,820	$21,691			8,271	$37,217		
090007 PAINTING*										
Exterior painting	$0.22	SF	10,886	$2,395			16,415	$3,611		
101400 IDENTIFYING DEVICES (EXT. BLD MTD SIGNAGE)										
24" Alum bldg mtd letter - allow	$420.00	EA	36	$15,120			36	$15,120		
Misc. Bldg mtd signage	$50,000.00	LS	1	$50,000			1	$50,000		
				$1,379,223		$110,661		$2,049,813		$115,263
B2020 EXTERIOR WINDOWS										
061000 ROUGH CARPENTRY										
P.T. - perim blocking	$14.00	LF	2,722	$38,101	5,200	$72,804	4,104	$57,453	5,417	$75,831
071326 AIR & VAPOR BARRIERS										
Flex flashing - perim	$10.00	LF	2,722	$27,215	5,200	$52,003	4,104	$41,038	5,417	$54,165
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Window Caulking	$12.75	LF	2,722	$34,699	5,200	$66,303	4,104	$52,323	5,417	$69,060
080001 METAL WINDOWS*										
TRP Glazing Exterior - 28% of total										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
Alum Window - 65%	$165.00	SF	2,123	$350,257	4,056	$669,272	3,201	$528,153	4,225	$697,104
Alum Curtainwall - 35%	$200.00	SF	1,143	$228,606	2,184	$436,821	1,724	$344,715	2,275	$454,986
Security glazing - 15% of total	$20.00	SF	490	$9,797	936	$18,721	739	$14,774	975	$19,499
Sun Shading:										
Horizontal Window Sunscreen - 40%	$225.00	LF	109	$24,494	208	$46,802	164	$36,934	217	$48,749
109000 MISCELLANEOUS SPECIALTIES										
Alum louvers - allow	$135.00	SF	25	$3,375	25	$3,375	25	$3,375	25	$3,375
				$716,544		$1,366,101		$1,078,763		$1,422,769
B2030 EXTERIOR DOORS										
080001 METAL WINDOWS*										
7' Alum. Doors (Incl. Hardware):										
Main Entry - dbl	$20,000.00	EA	2	$40,000	4	$80,000	5	$100,000	4	$80,000
Courtyard Egress- dbl	$20,000.00	EA			4	$80,000			4	$80,000
Gym - dbl	$20,000.00	EA	2	$40,000			2	$40,000		
Auto opener - allow	$9,000.00	PR	1	$9,000			1	$9,000		
*Storefront at entries W /B 2020										
Security Glazing Premium	$750.00	LVS	4	$3,000	8	$6,000	14	$10,500	8	$6,000
081113 HOLLOW METALWORK										
Insulated HM Doors and Frame:										
Stage - dbl	$3,500.00	EA	1	$3,500						
Mech - dbl	$3,500.00	EA			2	$7,000	1	$3,500	2	$7,000
090007 PAINTING*										
Paint HM Door & frame - dbl	$200.00	EA	1	$200	2	$400	1	$200	2	$400
				$95,700		$173,400		$163,200		$173,400
TOTAL B20 - EXTERIOR ENCLOSURE				**$2,191,467**		**$1,650,162**		**$3,291,776**		**$1,711,432**
B30 - ROOFING										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
B3010 ROOF COVERINGS										
061000 ROUGH CARPENTRY										
Roof Blocking - main bldg	$1.45	SF	7,036	$10,202	48,513	$70,344	23,407	$33,940	48,513	$70,344
070002 ROOFING AND FLASHING*										
Remove Existing Roofing	$2.50	SF			48,513	$121,283			48,513	$121,283
PVC roof w/ 6" rigid insul	$30.00	SF	7,036	$211,080	48,513	$1,455,390	23,407	$702,210	48,513	$1,455,390
Roof walkway pad (2'x2')	$8.50	SF	352	$2,990	2,426	$20,618	1,170	$9,948	2,426	$20,618
Alum. Trim :										
Perimeter wall Coping	$45.00	LF	630	$28,350	2,280	$102,600	1,185	$53,325	2,216	$99,698
Base Flashing	$34.00	LF	221	$7,497	798	$27,132	415	$14,102	775	$26,364
Misc. flashing	$1.00	SF	7,036	$7,036	48,513	$48,513	23,407	$23,407	48,513	$48,513
				$267,156		$1,845,879		$836,932		$1,842,209
B3020 ROOF OPENINGS										
077200 ROOF ACCESSORIES										
Roof hatch	$4,250.00	EA			1	$4,250			1	$4,250
OSHA Rail	$200.00	LF	50	$10,000	50	$10,000	50	$10,000	50	$10,000
				$10,000		$14,250		$10,000		$14,250
TOTAL B30 ROOFING				**$277,156**		**$1,860,129**		**$846,932**		**$1,856,459**
C. INTERIORS										
C10 - INTERIOR CONSTRUCTION										
C1010 PARTITIONS										
040001 MASONRY*										
8" CMU Elev Shaft	$43.50	SF								
8" CMU Int gym Part.	$39.00	SF	1,800	$70,200			2,400	$93,600		
050001 MISCELLANEOUS & ORNAMENTAL IRON*										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
Masonry - Clip and lintels	$1.50	SF	1,800	$2,700			2,400	$3,600		
061000 ROUGH CARPENTRY										
Interior blocking	$0.75	GSF	7,036	$5,277	53,036	$39,777	23,407	$17,555	53,036	$39,777
Misc. rough carpentry	$0.75	GSF	7,036	$5,277	53,036	$39,777	23,407	$17,555	53,036	$39,777
072100 INSULATION										
Firestopping	$0.85	GSF	7,036	$5,981	53,036	$45,081	23,407	$19,896	53,036	$45,081
081113 HOLLOW METALWORK										
Interior H.M Windows, Sidelites and Transoms (INC. GLAZING):										
Door window/sidelight & transom	$2.00	SF	7,036	$14,072			23,407	$46,814		
083323 SPECIAL DOORS										
Access panels	$0.25	GSF	7,036	$1,759	53,036	$13,259	23,407	$5,852	53,036	$13,259
080001 METAL WINDOWS*										
Interior Aluminum Storefront:										
Vestibule and Entries	$88.00	SF	200	$17,600			200	$17,600		
Administration area	$88.00	SF								
General Building Area	$0.50	GSF	7,036	$3,518	53,036	$26,518	23,407	$11,704	53,036	$26,518
Security glazing - premium	$50.00	SF	200	$10,000			750	$37,500		
092116 GYPSUM WALLBOARD										
Drywall Partitions:										
GWB assemblies - 100%	$34.00	GSF	7,036	$239,224	53,036	$1,803,224	23,407	$795,838	53,036	$1,803,224
				$375,608		$1,967,636		$1,067,514		$1,967,636
C1020 INTERIOR DOORS										
081113 HOLLOW METALWORK 081416 WOOD AND PLASTIC DOORS 087100 DOOR HARDWARE										
Interior Door frame and Hardware	$8.00	GSF	7,036	$56,288	53,036	$424,288	23,407	$187,256	53,036	$424,288
Code Door Upgrade	$3.00	GSF								

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
080001 METAL WINDOWS*										
Aluminum (Frame, Door, Glass, Glazing and Hdw):										
Vest - dbl	$16,500.00	PR	1	$16,500			2	$33,000		
Main office -sgl	$4,000.00	EA			2	$8,000			2	$8,000
083323 SPECIAL DOORS										
Dish drop window	$5,000.00	EA			1	$5,000			1	$5,000
Kitchen OH grille	$4,500.00	EA			1	$4,500			1	$4,500
				$72,788		$441,788		$220,256		$441,788
C1030 FITTINGS										
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Misc. metals	$2.00	GSF	7,036	$14,072	53,036	$106,072	23,407	$46,814	53,036	$106,072
062000 FINISH CARPENTRY										
Utility & closet shelving	$2,000.00	LS	1	$2,000	1	$2,000	1	$2,000	1	$2,000
Typ. window sill/apron	$65.00	LF	544	$35,380	1,040	$67,603	821	$53,349	1,083	$70,415
Stage Proscenium Trim	$25,000.00	LS	1	$25,000			1	$25,000		
102113 COMPARTMENTS & CUBICLES										
Solid Plastic Toilet Partitions:										
Std. partition	$1,385.00	EA	2	$2,770	6	$8,310	2	$2,770	6	$8,310
HC partition	$1,590.00	EA	2	$3,180	4	$6,360	2	$3,180	4	$6,360
Urinal Screen	$550.00	EA	1	$550	2	$1,100	1	$550	2	$1,100
102813 TOILET & BATH ACCESSORIES										
Building Toilet Accessories	$0.92	GSF	7,036	$6,473	53,036	$48,793	23,407	$21,534	53,036	$48,793
*Excludes classroom accessories										
101100 MARKERBOARDS & TACKBOARDS										
Marker board tackboard	$1.45	GSF	7,036	$10,202	53,036	$76,902	23,407	$33,940	53,036	$76,902
Glass Display Case	$1,000.00	LF	10	$10,000	10	$10,000	10	$10,000	10	$10,000
109000 MISCELLANEOUS SPECIALTIES										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
Student Lockers	$450.00	EA			165	$74,250			165	$74,250
Kitchen staff locker(12"wx15" D x 6'h)	$350.00	EA			5	$1,750			5	$1,750
Custodian staff(12"wx15" D x 6'h)	$350.00	EA			5	$1,750			5	$1,750
Wall & corner guards - allow	$5,000.00	LS	1	$5,000	1	$5,000	1	$5,000	1	$5,000
Fire extinguisher and cab - allow	$550.00	EA	4	$2,200	25	$13,750	8	$4,400	25	$13,750
Cubicle curtain track w/ curtain - health	$1,500.00	EA			2	$3,000			2	$3,000
Misc. specialties	$0.50	GSF	7,036	$3,518	53,036	$26,518	23,407	$11,704	53,036	$26,518
101400 IDENTIFYING DEVICES										
Building directory - allow	$5,000.00	EA	1	$5,000			1	$5,000		
Dedication plaque	$3,500.00	EA	1	$3,500			1	$3,500		
Interior Signage	$0.40	GSF	7,036	$2,814	53,036	$21,214	23,407	$9,363	53,036	$21,214
Environmental graphics	$25,000.00	LS			1	$25,000			1	$25,000
				$131,659		$499,373		$238,104		$502,184
TOTAL C10 - INTERIOR CONSTRUCTION				**$580,055**		**$2,908,797**		**$1,525,873**		**$2,911,608**
C20 - STAIRS										
C2010 STAIR CONSTRUCTION										
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Metal Pan Stair w/Rails:										
Egress corridor stair	$58,000.00	FLT								
Lobby Stair	$75,000.00	FLT								
ADA Railing upgrade	$15,000.00	FLT			2	$30,000			2	$30,000
033000 CAST IN PLACE CONCRETE										
Conc stair pan fill - full flt	$3,000.00	FLTS								
				$0		$30,000		$0		$30,000
C2020 STAIR FINISHES										
0931000 TILE										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
Lobby Stair	$25,000.00	FLT								
090005 RESILIENT FLOORING*										
Rubber treads and risers	$5,800.00	FLTS			2	$11,600			2	$11,600
090007 PAINTING*										
Paint stair & rails - full flt	$5,000.00	FLTS			2	$10,000			2	$10,000
				---		---		---		---
				$0		$21,600		$0		$21,600
TOTAL C20 - STAIRS				**$0**		**$51,600**		**$0**		**$51,600**
C30 - INTERIOR FINISHES										
C3010 WALL FINISHES										
Wall Finish	$13.00	GSF	7,036	$91,468	53,036	$689,468	23,407	$304,291	53,036	$689,468
				---		---		---		---
				$91,468		$689,468		$304,291		$689,468
C3020 FLOOR FINISHES										
Floor Finish - general bldg	$11.00	GSF			53,036	$583,396	16,371	$180,081	53,036	$583,396
Gym Floor	$28.00	SF	6,000	$168,000			6,000	$168,000		
Stage and Misc.	$22.00	SF	1,036	$22,792			1,036	$22,792		
				---		---		---		---
				$190,792		$583,396		$370,873		$583,396
C3030 CEILING FINISHES										
Ceiling Finish	$14.00	GSF	7,036	$98,504	53,036	$742,504	23,407	$327,698	53,036	$742,504
				---		---		---		---
				$98,504		$742,504		$327,698		$742,504
TOTAL C30 - INTERIOR FINISHES				**$380,764**		**$2,015,368**		**$1,002,862**		**$2,015,368**

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
D. SERVICES										
D10 - CONVEYING										
D1010 ELEVATORS & LIFTS										
140001 ELEVATORS*										
Upgrade Existing Elevator	$250,000.00	LS			1	$250,000			1	$250,000
Elevator Metals	$10,000.00	LS			1	$10,000			1	$10,000
				---		---		---		---
				$0		$260,000		$0		$260,000
TOTAL D10 - CONVEYING				**$0**		**$260,000**		**$0**		**$260,000**
D20 - PLUMBING										
D2010 PLUMBING										
EWH (w (2) /200 Gal)	$48,500.00	LS			1	$48,500			1	$48,500
Roof Drainage	$4.50	GSF	7,036	$31,662	48,513	$218,309	23,407	$105,332	48,513	$218,309
Fixtures & Rough-in (Includes Lab)	$18.50	GSF	7,036	$130,166	53,036	$981,166	23,407	$433,030	53,036	$981,166
Kitchen Connections	$25,000.00	LS	1	$25,000	1	$25,000	1	$25,000	1	$25,000
Test, Permit, BIM, Misc.	$2.75	GSF	7,036	$19,349	53,036	$145,849	23,407	$64,369	53,036	$145,849
Demo disconnect	$1.00	GSF			53,036	$53,036			53,036	$53,036
				---		---		---		---
				$206,177		$1,471,860		$627,730		$1,471,860
TOTAL D20 - PLUMBING			**$29.30**	**$206,177**	**$27.75**	**$1,471,860**	**$26.82**	**$627,730**	**$27.75**	**$1,471,860**
D30 - HVAC										
D3010 HVAC										
VRF w/ doas units - hvac complete	$80.00	GSF	7,036	$562,880	53,036	$4,242,880	23,407	$1,872,560	53,036	$4,242,880
Demo disconnect	$1.00	GSF			53,036	$53,036			53,036	$53,036
				---		---		---		---
				$562,880		$4,295,916		$1,872,560		$4,295,916

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
TOTAL D30 - HVAC			**$80.00**	**$562,880**	**$81.00**	**$4,295,916**	**$80.00**	**$1,872,560**	**$81.00**	**$4,295,916**
D40 - FIRE PROTECTION										
D4010 SPRINKLERS										
210001 FIRE SUPPRESSION*										
Sprinkler system - wet	$8.40	GSF	7,036	$59,102	53,036	$445,502	23,407	$196,619	53,036	$445,502
Fire Pump	$110,000.00	LS			1	$110,000			1	$110,000
				$59,102		$555,502		$196,619		$555,502
TOTAL D40 - FIRE PROTECTION			**$8.40**	**$59,102**	**$10.47**	**$555,502**	**$8.40**	**$196,619**	**$10.47**	**$555,502**
D50 - ELECTRICAL										
D5010 ELECTRICAL SERVICE & DISTRIBUTION										
260001 ELECTRICAL*										
Service, MDP and Elec. Panel & Feed	$13.00	GSF	7,036	$91,468	53,036	$689,468	23,407	$304,291	53,036	$689,468
350 KW Emergency Generator	$165,000.00	LS	1	$165,000			1	$165,000		
PV Rough in	$0.20	GSF	7,036	$1,407	53,036	$10,607	23,407	$4,681	53,036	$10,607
Demo disconnect	$1.00	GSF			53,036	$53,036			53,036	$53,036
				$257,875		$753,111		$473,972		$753,111
D5020 LIGHTING & BRANCH WIRING										
260001 ELECTRICAL*										
Lighting	$11.00	GSF	7,036	$77,396	53,036	$583,396	23,407	$257,477	53,036	$583,396
Lighting Control (inc device oc)	$2.85	GSF	7,036	$20,053	53,036	$151,153	23,407	$66,710	53,036	$151,153
				$97,449		$734,549		$324,187		$734,549

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
D5030 COMMUNICATION & SECURITY										
260001 ELECTRICAL*										
CCTV	$5.00	GSF	7,036	$35,180	53,036	$265,180	23,407	$117,035	53,036	$265,180
Access control	$2.00	GSF	7,036	$14,072	53,036	$106,072	23,407	$46,814	53,036	$106,072
Video entry system	$28,000.00	LS			1	$28,000			1	$28,000
Digital Signage	$4,000.00	EA	1	$4,000	1	$4,000	1	$4,000	1	$4,000
Tele/data cabling, racks and switches	$8.00	GSF	7,036	$56,288	53,036	$424,288	23,407	$187,256	53,036	$424,288
Classroom AV rough-in only	$1,500.00	EA			18	$27,000	6	$9,000	18	$27,000
Speech Reinforcement	$3,300.00	EA			18	$59,400	6	$19,800	18	$59,400
Local Sound:										
Cafeteria	$50,000.00	LS			1	$50,000			1	$50,000
Gymnasium	$50,000.00	LS	1	$50,000			1	$50,000		
Music Rm	$25,000.00	LS			1	$25,000			1	$25,000
				$159,540		$988,940		$433,905		$988,940
D5090 OTHER ELECTRICAL SYSTEMS										
260001 ELECTRICAL*										
Fire Alarm	$5.00	GSF	7,036	$35,180	53,036	$265,180	23,407	$117,035	53,036	$265,180
Devices	$4.00	GSF	7,036	$28,144	53,036	$212,144	23,407	$93,628	53,036	$212,144
Clocks and PA	$1.20	GSF	7,036	$8,443	53,036	$63,643	23,407	$28,088	53,036	$63,643
Kitchen/Mechanical Wiring	$3.50	GSF	7,036	$24,626	53,036	$185,626	23,407	$81,925	53,036	$185,626
Bi-Direction Antenna	$0.80	GSF	7,036	$5,629	53,036	$42,429	23,407	$18,726	53,036	$42,429
Test Permit and Misc.	$4.00	GSF	7,036	$28,144	53,036	$212,144	23,407	$93,628	53,036	$212,144
By others:										
Telephone system										
Classroom projectors										
				$130,166		$981,166		$433,030		$981,166
TOTAL D50 - ELECTRICAL			**$91.68**	**$645,030**	**$65.20**	**$3,457,766**	**$71.14**	**$1,665,094**	**$65.20**	**$3,457,766**
E. EQUIPMENT & FURNISHINGS										
E10 - EQUIPMENT										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
E1010 COMMERCIAL EQUIPMENT										
114000 FOOD SERVICE EQUIPMENT										
Kitchen equipment - new	$598,640.00	LS			1	$598,640			1	$598,640
				---		---		---		---
				$0		$598,640		$0		$598,640
E1090 OTHER EQUIPMENT										
113100 APPLIANCES										
Staff kitchen refrigerator	$1,000.00	EA			2	$2,000			2	$2,000
Staff kitchen microwave	$500.00	EA			2	$1,000			2	$1,000
Medical office refrigerator w/ice	$1,000.00	EA			1	$1,000			1	$1,000
116600 ATHLETIC & SPORTS EQUIPMENT										
Basketball backstops - electric	$9,500.00	EA	6	$57,000			6	$57,000		
Wall padding - 6'	$15.00	SF	1,000	$15,000			1,000	$15,000		
Divider curtain	$28.00	SF	1,600	$44,800			2,240	$62,720		
Volley ball court equip.	$700.00	EA	2	$1,400			2	$1,400		
Scoreboard and shot clock	$24,000.00	EA	2	$48,000			2	$48,000		
Bleacher	$50,000.00	LS	1	$50,000			1	$50,000		
Misc. Gym Equipment	$50,000.00	LS	1	$50,000			1	$50,000		
115213 PROJECTION SCREENS										
Projection screen - various areas	$15,000.00	EA	1	$15,000			1	$15,000		
Stage Curtains	$50,000.00	LS	1	$50,000			1	$50,000		
119000 MISC. EQUIPMENT										
Kiln	$3,500.00	EA			1	$3,500			1	$3,500
				---		---		---		---
				$331,200		$7,500		$349,120		$7,500
TOTAL E10 - EQUIPMENT				**$331,200**		**$606,140**		**$349,120**		**$606,140**

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
E20 - FURNISHINGS										
E 2010 FIXED FURNISHINGS										
129000 MISC. FURNISHINGS										
Meco shade - manual	$8.00	SF	3,266	$26,126	6,240	$49,922	4,925	$39,396	6,500	$51,998
Premium for Elec op shade - 10%	$24.00	SF	327	$7,838	624	$14,977	492	$11,819	650	$15,600
Architectural Casework	$14.00	GSF	7,036	$98,504	53,036	$742,504	23,407	$327,698	53,036	$742,504
				$132,468		$807,403		$378,913		$810,102
E2020 MOVABLE FURNISHINGS						NIC				NIC
				$0		$0		$0		$0
TOTAL E20 - FURNISHINGS				**$132,468**		**$807,403**		**$378,913**		**$810,102**
F20 - SELECTIVE BUILDING DEMOLITION										
F2010 BUILDING ELEMENTS DEMOLITION										
Selective Demolition:										
Partial Interior Gut	$7.00	GSF			53,036	$371,252			53,036	$371,252
Remove Exterior Wall	$12.00	SF			500	$6,000			500	$6,000
Remove Windows	$10.00	SF			6,240	$62,403			6,500	$64,998
*roofing demoliton carried w/ roofing										
				$0		$439,655		$0		$442,250
F2020 HAZARDOUS COMPONENTS ABATEMENT										
Hazardous Waste Allowance	SEE SUMMARY PAGE									
				$0		$0		$0		$0
TOTAL F20 - SELECTIVE BUILDING DEMOLITION				**$0**		**$439,655**		**$0**		**$442,250**

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
G. BUILDING SITEWORK										
G10 - SITE PREPARATION										
G1010 SITE CLEARING										
311000 SITE PREPARATION & CLEARING										
Construction Fence	20.00	LF	2,800	$56,000			2,800	$56,000		
Erosion Control	15.00	LF	2,660	$39,900			2,660	$39,900		
Construction Entrance	10,000.00	EA	1	$10,000			1	$10,000		
Inlet Protection	95.00	EA	20	$1,900			20	$1,900		
Erosion control maintance	10,000.00	LS	1	$10,000			1	$10,000		
Temporary Parking	100,000.00	LS	1	$100,000			1	$100,000		
Pedestrian access and control	100,000.00	LS	1	$100,000			1	$100,000		
Snow removal	35,000.00	LS	1	$35,000			1	$35,000		
Temporary drainage	50,000.00	LS	1	$50,000			1	$50,000		
Phasing Logistics	100,000.00	LS	1	$100,000			1	$100,000		
Misc. Site Demolition	0.10	SF	361,771	$36,177			361,771	$36,177		
Temporary utilities	50,000.00	LS	1	$50,000			1	$50,000		
				$588,977		$0		$588,977		$0
G1020 SITE DEMOLITION & RELOCATIONS										
Sawcut bit pavement	6.50	LF	75	$488			75	$488		
Remove Bit Pavement	1.10	SF	70,000	$77,000			70,000	$77,000		
Remove Utilities	50,000.00	LS	1	$50,000			1	$50,000		
Misc. Site Demolition	0.75	SF	361,771	$271,328			361,771	$271,328		
				$398,816		$0		$398,816		$0
G1030 SITE EARTHWORK										
310000 EARTHWORK										
Top Soil:										
Strip and Stack top soil - 6"	8.00	CY	5,025	$40,197			5,025	$40,197		
Load and Haul Excess soil	6.00	CY	5,025	$30,148			5,025	$30,148		
Soil disposal fee	20.00	TONS	8,542	$170,836			8,542	$170,836		

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
Site:										
Site Cut	10.00	CY	6,699	$66,995			6,699	$66,995		
Site fill - reuse 50% mat's	10.00	CY	3,350	$33,497			3,350	$33,497		
Load and Haul Excess soil	6.00	CY	3,350	$20,098			3,350	$20,098		
Soil disposal fee	20.00	TONS	5,695	$113,891			5,695	$113,891		
Site fill - import	28.00	CY	4,690	$131,309			4,690	$131,309		
Site Grading	0.50	SF	361,771	$180,886			361,771	$180,886		
Ledge Removal Premium 25%	100.00	CY	1,675	$167,487			1,675	$167,487		
				$955,343		$0		$955,343		$0
G1040 HAZARDOUS WASTE REMEDIATION										
Soil classifications		NIC								
				$0		$0		$0		$0
TOTAL G10 - SITE PREPARATION				**$1,943,136**		**$0**		**$1,943,136**		**$0**
G20 - SITE IMPROVEMENTS										
G2010 ROADWAYS										
321000 PAVING AND CURBING										
Site:										
HD Bituminous - 50%	$6.00	SF	41,070	$246,420			29,704	$178,224		
12" Gravel base @ vehicular pave.	$62.00	CY	1,521	$94,309			1,100	$68,209		
SD Bituminous - 50%	$5.75	SF	41,070	$236,153			29,704			
8" Gravel base @ vehicular pave.	$65.00	CY	1,013	$65,849			733	$47,625		
Raised Traffic Table - paver/curb, etc..	$45.00	SF	1,500	$67,500			1,500	$67,500		
Granite Curbing - parking/drive	$65.00	LF	4,700	$305,500			4,000	$260,000		
Parking/traffic signage	$0.08	SF	82,140	$6,571			59,408	$4,753		
Parking line panting & markings	$0.15	SF	82,140	$12,321			59,408	$8,911		
				$1,034,622		$0		$635,222		$0
G2030 PEDESTRIAN PAVING										

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
321000 PAVING AND CURBING										
Sidewalk :										
4" Concrete Pavement	$13.00	SF	25,000	$325,000			25,000	$325,000		
Specialy Pavement	$45.00	SF	2,500	$112,500			2,500	$112,500		
Bit Play Surface (inc. markings)	$7.00	SF	10,302	$72,114			14,050	$98,350		
Courtyard Paving - soft and hardscape	$50.00	SF	9,000	$450,000			9,000	$450,000		
8" Gravel base @ ped. pavement	$58.00	CY	1,154	$66,958			1,247	$72,320		
Tactile warning paver	$1,200.00	EA	16	$19,200			16	$19,200		
				$1,045,772		$0		$1,077,370		$0
G2040 SITE DEVELOPMENT										
323000 SITE IMPROVEMENTS										
Playgrounds										
PIP Playground Surfacing	$45.00	SF	10,000	$450,000			15,000	$675,000		
8" Gravel Base	$62.00	CY	206	$12,756			309	$19,134		
Ornemental Fence	$165.00	LF	400	$66,000			650	$107,250		
Playground Equipment - K	$500,000.00	LS	1	$500,000			1	$500,000		
Playground Equipment - Pre- K	$200,000.00	LS	1	$200,000			1	$200,000		
Site Amenities:										
Dumpster enclosure	$30,000.00	LS	1	$30,000			1	$30,000		
Trash Receptacle	$2,100.00	EA	4	$8,400			4	$8,400		
Flag pole	$11,000.00	EA	1	$11,000			1	$11,000		
Basketball Hoop	$4,800.00	EA	2	$9,600			2	$9,600		
Benches	$50,000.00	LS	1	$50,000			1	$50,000		
Decorative bollard	$2,500.00	EA	30	$75,000			30	$75,000		
Utility Bollard	$1,100.00	EA	20	$22,000			20	$22,000		
Cantilier sliding gates	$25,000.00	EA	1	$25,000			1	$25,000		
Table and Benches	$4,000.00	EA	12	$48,000			12	$48,000		
Bike Loop	$975.00	EA	20	$19,500			20	$19,500		
Site sign	$25,000.00	LS	1	$25,000			1	$25,000		
Raised Planter	$4,000.00	EA	12	$48,000			12	$48,000		
CIP Seatwall	$1,100.00	LF	200	$220,000			200	$220,000		
Vehicular guardrail Guard rail	$115.00	LF	500	$57,500			500	$57,500		
Shade Structure	$50,000.00	EA	2	$100,000			2	$100,000		
Misc. Site Improvements	$400,000.00	LS	1	$400,000			1	$400,000		
				$2,377,756		$0		$2,650,384		$0

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
G2050 LANDSCAPING										
329000 PLANTING										
Planting allowance	$1.00	SF	361,771	$361,771			361,771	$361,771		
Plant maintance	$35,000.00	LS	1	$35,000			1	$35,000		
Rain Garden	$25.00	SF	2,500	$62,500			2,500	$62,500		
Athletic Field:										
Sod	$2.00	SF	24,000	$48,000			24,000	$48,000		
6" Loam	$85.00	CY	444	$37,778			444	$37,778		
12" Draiange Layer	$71.00	CY	889	$63,111			889	$63,111		
Field Draiange	$1.00	SF	24,000	$24,000			24,000	$24,000		
Lawn, Meadows:										
Hydroseed	$0.50	SF	155,705	$77,853			157,759	$78,880		
6" Loam - import	$82.00	CY	2,883	$236,441			2,921	$239,560		
Loam:										
12" Planting Bed - import	$85.00	CY	200	$17,000			200	$17,000		
Mulch	$55.00	CY	50	$2,750			50	$2,750		
Irrigation system - athletic field	$2.00	SF	24,000	$48,000			24,000	$48,000		
Irrigation system - general lawn	$1.80	SF	50,000	$90,000			50,000	$90,000		
				$1,104,203		$0		$1,108,349		$0
TOTAL G20 - SITE IMPROVEMENTS				**$5,562,354**		**$0**		**$5,471,326**		**$0**
G30 - SITE MECHANICAL UTILITIES										
G3010 WATER SUPPLY										
330000 UTILITIES										
Street Connection	$25,000.00	LOC	2	$50,000			2	$50,000		
8" Main loop	$135.00	LF	1,200	$162,000			1,200	$162,000		
6" Fire Service	$104.00	LF	100	$10,400			100	$10,400		
4" Domestic	$89.00	LF	100	$8,900			100	$8,900		
8" Gate valve main	$1,850.00	EA	6	$11,100			6	$11,100		
6" Gate valve dom	$1,600.00	EA	4	$6,400			4	$6,400		
Fire Hydrant	$3,100.00	EA	3	$9,300			3	$9,300		
Test, sanitize, thrust block , misc.	$20,000.00	LS	1	$20,000			1	$20,000		

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
				$278,100		$0		$278,100		$0
G3020 SANITARY SEWER										
330000 UTILITIES										
6" PVC San Main	$107.00	LF	1,000	$107,000			1,000	$107,000		
Grease Trap - 6,000 gal	$45,000.00	EA	1	$45,000			1	$45,000		
Int Grease interceptor	W / plumbing									
Site manhole	$4,800.00	EA	7	$33,600			7	$33,600		
				$185,600		$0		$185,600		$0
G3030 STORM SEWER										
330000 UTILITIES										
18" PVC	124.00	LF	1,500	$186,000			1,500	$186,000		
12" PVC	103.00	LF	1,000	$103,000			1,000	$103,000		
6" PVC	95.00	LF	500	$47,500			500	$47,500		
Drain manhole	5,500.00	EA	15	$82,500			15	$82,500		
Catch basin	5,500.00	EA	20	$110,000			20	$110,000		
Area drain	4,000.00	EA	15	$60,000			15	$60,000		
Water quality unit	24,000.00	EA	4	$96,000			4	$96,000		
Infiltration field	11.25	CF	30,000	$337,500			30,000	$337,500		
				$1,022,500		$0		$1,022,500		$0
G3060 FUEL DISTRIBUTION		n/a								
				$0		$0		$0		$0
TOTAL G30 - SITE MECHANICAL UTILITIES				**$1,486,200**		**$0**		**$1,486,200**		**$0**

DESCRIPTION	UNIT COST	UNIT	A 1.1 Addition QUANTITY	A 1.1 Addition TOTAL	A 1.1 Renovation QUANTITY	A 1.1 Renovation TOTAL	A 1.2 B Addition QUANTITY	A 1.2 B Addition TOTAL	A 1.2 B Renovation QUANTITY	A 1.2 B Renovation TOTAL
G40 - SITE ELECTRICAL UTILITIES										
G4010 ELECTRICAL DISTRIBUTION										
330000 UTILITIES										
Primary Duct Bank	$125.00	LF	1,000	$125,000			1,000	$125,000		
Tel duct bank	$125.00	LF	1,000	$125,000			1,000	$125,000		
Secondary	$500.00	LF	150	$75,000			150	$75,000		
Generator	$500.00	LF	150	$75,000			150	$75,000		
Misc. Site Electric	$200,000.00	LS	1	$200,000			1	$200,000		
EV Rough in	$100,000.00	LS	1	$100,000			1	$100,000		
PV Canopies		NIC								
				$700,000		$0		$700,000		$0
G4020 SITE LIGHTING										
260001 ELECTRICAL*										
Lighting Fixtures:										
Roadway/Parking Fixtures	$5,000.00	EA	30	$150,000			30	$150,000		
Pedestrian Lighting	$4,000.00	EA	20	$80,000			20	$80,000		
Misc. Specialty site lighting	$20,000.00	LS	1	$20,000			1	$20,000		
*EXCLUDES SPORTS FIELD AND COURT LIGHTING										
				$250,000		$0		$250,000		$0
TOTAL G40 - SITE ELECTRICAL UTILITIES				**$950,000**		**$0**		**$950,000**		**$0**

PROJECT: Essex Elementary School
LOCATION: Essex, MA
CLIENT: JCJ Architets
DATE: 09-Apr-26

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No.: 25023

SUMMARY

	OPT A 2.2 - A NEW TOTAL	OPT A 2.2 - B NEW TOTAL	OPT A 2.2 - F NEW TOTAL	
A. SUBSTRUCTURE				
A10 - FOUNDATIONS				
A1010 STANDARD FOUNDATIONS	$2,224,075	$2,132,006	$2,672,240	$0
A1020 SPECIAL FOUNDATIONS	$0	$0	$0	$0
A1030 SLAB ON GRADE	$811,874	$798,343	$754,665	$0
A20 - BASEMENT CONSTRUCTION				
A2010 BASEMENT EXCAVATION	$0	$0	$0	$0
A2020 BASEMENT WALLS	$0	$0	$0	$0
B. SHELL				
B10 - SUPERSTRUCTURE				
B1010 FLOOR CONSTRUCTION	$1,213,767	$1,260,102	$1,428,955	$0
B1020 ROOF CONSTRUCTION	$2,454,314	$2,421,441	$2,301,644	$0
B20 - EXTERIOR ENCLOSURE				
B2010 EXTERIOR WALLS	$4,272,030	$3,901,510	$3,727,238	$0
B2020 EXTERIOR WINDOWS	$2,618,568	$2,365,198	$2,235,517	$0
B2030 EXTERIOR DOORS	$187,300	$187,300	$187,300	$0
B30 - ROOFING				
B3010 ROOF COVERINGS	$1,819,803	$1,779,336	$1,691,964	$0
B3020 ROOF OPENINGS	$14,250	$14,250	$14,250	$0
C. INTERIORS				
C10 - INTERIOR CONSTRUCTION				
C1010 PARTITIONS	$3,137,307	$3,137,307	$3,137,307	$0
C1020 INTERIOR DOORS	$630,044	$630,044	$630,044	$0
C1030 FITTINGS	$685,871	$673,469	$666,869	$0
C20 - STAIRS				
C2010 STAIR CONSTRUCTION	$200,000	$200,000	$261,000	$0
C2020 STAIR FINISHES	$32,400	$32,400	$43,200	$0
C30 - INTERIOR FINISHES				
C3010 WALL FINISHES	$941,759	$941,759	$941,759	$0
C3020 FLOOR FINISHES	$796,873	$796,873	$796,873	$0
C3030 CEILING FINISHES	$1,014,202	$1,014,202	$1,014,202	$0

	OPT A 2.2 - A NEW TOTAL	OPT A 2.2 - B NEW TOTAL	OPT A 2.2 - F NEW TOTAL	
D. SERVICES				
D10 - CONVEYING				
D1010 ELEVATORS & LIFTS	$200,000	$200,000	$200,000	$0
D20 - PLUMBING				
D2010 PLUMBING	$1,846,135	$1,842,594	$1,829,688	$0
D30 - HVAC				
D3010 HVAC	$5,795,440	$5,795,440	$5,795,440	$0
D40 - FIRE PROTECTION				
D4010 SPRINKLERS	$718,521	$718,521	$718,521	$0
D50 - ELECTRICAL				
D5010 ELECTRICAL SERVICE & DISTRIBUTION	$1,121,248	$1,121,248	$1,121,248	$0
D5020 LIGHTING & BRANCH WIRING	$1,003,336	$1,003,336	$1,003,336	$0
D5030 COMMUNICATION & SECURITY	$1,330,845	$1,358,845	$1,330,845	$0
D5090 OTHER ELECTRICAL SYSTEMS	$1,340,196	$1,340,196	$1,340,196	$0
E. EQUIPMENT & FURNISHINGS				
E10 - EQUIPMENT				
E1010 COMMERCIAL EQUIPMENT	$598,640	$598,640	$598,640	$0
E1090 OTHER EQUIPMENT	$301,350	$301,350	$301,350	$0
E20 - FURNISHINGS				
E 2010 FIXED FURNISHINGS	$1,138,749	$1,126,843	$1,120,507	$0
E2020 MOVABLE FURNISHINGS	$0	$0	$0	$0
F. SPECIAL CONSTRUCTION & DEMOLITION				
F10 - SPECIAL CONSTRUCTION				
F1010 SPECIAL STRUCTURES	$0	$0	$0	$0
F1020 INTEGRATED CONSTRUCTION	$0	$0	$0	$0
F1030 SPECIAL CONSTRUCTION SYSTEMS	$0	$0	$0	$0
F1040 SPECIAL FACILITIES	$0	$0	$0	$0
F1050 SPECIAL CONTROLS & INSTRUMENTATION	$0	$0	$0	$0
F20 - SELECTIVE BUILDING DEMOLITION				
F2010 BUILDING ELEMENTS DEMOLITION	$0	$0	$0	$0
F2020 HAZARDOUS COMPONENTS ABATEMENT	$0	$0	$0	$0
BUILDING COST	**$38,448,898**	**$37,692,552**	**$37,864,796**	**$0**

	OPT A 2.2 - A NEW TOTAL	OPT A 2.2 - B NEW TOTAL	OPT A 2.2 - F NEW TOTAL	
G. BUILDING SITEWORK				
G10 - SITE PREPARATION				
G1010 SITE CLEARING	$591,649	$591,649	$588,977	$0
G1020 SITE DEMOLITION & RELOCATIONS	$398,816	$398,820	$398,816	$0
G1030 SITE EARTHWORK	$1,045,786	$1,045,786	$1,045,786	$0
G1040 HAZARDOUS WASTE REMEDIATION	$0	$0	$0	$0
G20 - SITE IMPROVEMENTS				
G2010 ROADWAYS	$1,160,344	$1,128,124	$898,568	$0
G2020 PARKING LOTS	$0	$0	$0	$0
G2030 PEDESTRIAN PAVING	$740,958	$677,795	$658,020	$0
G2040 SITE DEVELOPMENT	$2,650,384	$2,650,384	$2,650,384	$0
G2050 LANDSCAPING	$1,092,037	$1,201,681	$1,518,661	$0
G30 - SITE MECHANICAL UTILITIES				
G3010 WATER SUPPLY	$468,700	$468,700	$255,800	$0
G3020 SANITARY SEWER	$216,600	$211,800	$180,800	$0
G3030 STORM SEWER	$1,140,700	$1,115,250	$944,600	$0
G3040 HEATING DISTRIBUTION	$0	$0	$0	$0
G3050 COOLING DISTRIBUTION	$0	$0	$0	$0
G3060 FUEL DISTRIBUTION	$0	$0	$0	$0
G3090 OTHER SITE MECHANICAL UTILITIES	$0	$0	$0	$0
G40 - SITE ELECTRICAL UTILITIES				
G4010 ELECTRICAL DISTRIBUTION	$725,000	$725,000	$725,000	$0
G4020 SITE LIGHTING	$295,000	$295,000	$250,000	$0
SITEWORK COST	**$10,525,973**	**$10,509,991**	**$10,115,412**	**$0**
TOTAL DIRECT COST	**$48,974,870**	**$48,202,542**	**$47,980,208**	**$0**
	$676.05	$665.39	$662.32	#DIV/0!

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
A. SUBSTRUCTURE										
A10 - FOUNDATIONS										
A1010 STANDARD FOUNDATIONS										
033000 CAST IN PLACE CONCRETE										
Foundations :										
Wall Footing 1' x 2'-6"	$680.00	CY	126	$85,567	110	$74,800	118	$79,900		
Frost wall - 4 'x 16"	$1,300.00	CY	268	$348,105	234	$304,304	250	$325,052		
Basement wall 15' x 16"	$1,450.00	CY					201	$291,450		
Interior Foundations	$1,300.00	CY	30	$39,000	30	$39,000	30	$39,000		
Column Footing	$675.00	CY	384	$259,135	378	$255,200	357	$240,860		
Elev Mat - 12"	$650.00	CY	7	$4,550	7	$4,550	7	$4,550		
Elev pit wall	$1,100.00	CY	7	$7,700	7	$7,700	7	$7,700		
Pilasters	$1,200.00	CY	54	$64,266	47	$56,179	50	$60,010		
Equipment pads	$25,000.00	LS	1	$25,000	1	$25,000	1	$25,000		
Grade Beam (60 lf per 5,000 sf)	$800.00	CY	115	$92,137	113	$90,738	107	$85,639		
072100 INSULATION										
4" Rigid ext. found. insul w/prot.bd	$4.95	SF	5,436	$26,908	4,752	$23,522	9,048	$44,788		
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Foundation dampproofing	$2.30	SF	5,436	$12,503	4,752	$10,930	9,048	$20,810		
Foundation Waterproofing	$15.00	SF					3,972	$59,580		
310000 EARTHWORK										
Excavate and Replace Unsuitable -4'	$78.00	CY	7,678	$598,890	7,561	$589,796	7,137	$556,654		
Ledge Removal - 1' avg	$120.00	CY	1,920	$230,342	1,890	$226,844	1,784	$214,098		
Foundation Excavation and Backfill	$25.00	CY	3,839	$95,976	3,781	$94,519	3,568	$89,207		
Basement Cut	$75.00	CY					2,900	$217,500		
Structural fill - assume 2'	$60.00	CY	3,839	$230,342	3,781	$226,844	3,568	$214,098		
Radon Mitigation	$1.00	SF	51,827	$51,827	51,040	$51,040	48,172	$48,172		
Underslab draiange	$1.00	SF	51,827	$51,827	51,040	$51,040	48,172	$48,172		
				$2,224,075		$2,132,006		$2,672,240		$0
A1030 SLAB ON GRADE										

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
310000 EARTHWORK										
12" Gravel base	$60.00	CY	1,920	$115,171	1,890	$113,422	1,784	$107,049		
Excavate underslab	$1.50	SF	51,827	$77,741	51,040	$76,560	48,172	$72,258		
033000 CAST IN PLACE CONCRETE										
5" Slab on Grade:										
4,000 psi, NW, (incl. placement)	$335.00	CY	800	$267,933	788	$263,864	743	$249,037		
Welded wire fabric	$2.68	SF	51,827	$138,896	51,040	$136,787	48,172	$129,101		
Control Joint	$3.50	LF	3,455	$12,093	3,403	$11,909	3,211	$11,240		
Trowel Finish	$2.50	SF	51,827	$129,568	51,040	$127,600	48,172	$120,430		
072100 INSULATION										
2" Rigid Slab Insul. - 2' perm.	$4.00	SF	2,718	$10,872	2,376	$9,504	2,538	$10,152		
072616 BELOW GRADE VAPOR RETARDER										
Stegro vapor barrier	$1.15	SF	51,827	$59,601	51,040	$58,696	48,172	$55,398		
				$811,874		$798,343		$754,665		$0
TOTAL A10 FOUNDATIONS				**$3,035,949**		**$2,930,349**		**$3,426,905**		**$0**
B. SHELL										
B10 - SUPERSTRUCTURE										
B1010 FLOOR CONSTRUCTION										
051200 STRUCTURAL STEEL										
New Construction:										
Floor frame (15.25 lbs/sf)	$5,400.00	TONS	157.20	$848,864	163.20	$881,269	185.07	$999,358		
Shear stud	$5.50	EA	2,062	$11,339	2,140	$11,772	2,427	$13,349		
033000 CAST IN PLACE CONCRETE										
3 1/4" NW Deck fill	$10.95	SF	20,616	$225,745	21,403	$234,363	24,271	$265,767		
053100 STEEL DECKING										
2" x 18 Ga. comp deck	$5.70	SF	20,616	$117,511	21,403	$121,997	24,271	$138,345		

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
072100 INSULATION										
Spray on fireproofing - minor rated are	$0.50	SF	20,616	$10,308	21,403	$10,702	24,271	$12,136		$0
				$1,213,767		$1,260,102		$1,428,955		$0
B1020 ROOF CONSTRUCTION										
033000 CAST IN PLACE CONCRETE										
6" NW Deck fill - rtu pad	$9.00	SF	7,500	$67,500	7,500	$67,500	7,500	$67,500		
051200 STRUCTURAL STEEL										
New Construction:										
Roof frame (13.1 lbs/sf)	$5,400.00	TONS	339.47	$1,833,121	334.31	$1,805,285	315.53	$1,703,844		
Roof screen frame - 100 lbs/lf	$6,000.00	TONS	5	$30,000	5	$30,000	5	$30,000		
Frame Canopies	$6,000.00	TONS	7	$42,000	7	$42,000	7	$42,000		
Entry Canopy - complete	$100.00	SF	1,000	$100,000	1,000	$100,000	1,000	$100,000		
053100 STEEL DECKING										
3" x 18 Ga roof deck - typ.	$5.90	SF	51,827	$305,779	51,040	$301,136	48,172	$284,215		
072100 INSULATION										
Spray on fireproofing - minor shaft	$0.50	SF	51,827	$25,914	51,040	$25,520	48,172	$24,086		
Intumescent	$50,000.00	SF	1	$50,000	1	$50,000	1	$50,000		
				$2,454,314		$2,421,441		$2,301,644		$0
TOTAL B10 SUPERSTRUCTURE				**$3,668,081**		**$3,681,542**		**$3,730,600**		**$0**
B20 - EXTERIOR ENCLOSURE										
B2010 EXTERIOR WALLS										
040001 MASONRY*										

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
MOCK -UP	$75,000.00	LS	1	$75,000	1	$75,000	1	$75,000		
8" cmu - Gym	$48.00	SF	3,900	$187,200	3,700	$177,600	3,900	$187,200		
Masonry Veneer:										
Brick Veneer - 80%	$55.00	SF	24,271	$1,334,891	21,951	$1,207,284	20,716	$1,139,368		
Precast Concrete Trim	$10.00	SF	24,271	$242,708	21,951	$219,506	20,716	$207,158		
Canopy col. -complete	$8,500.00	EA	10	$85,000	10	$85,000	10	$85,000		
Stainless steel masonry flashing	$29.00	LF	1,359	$39,411	1,188	$34,452	1,269	$36,801		
054000 COLD FORMED METAL FRAMING										
6" - 8" x 18 Ga. stud @ typical wall	$19.50	SF	24,043	$468,844	21,572	$420,656	19,950	$389,033		
1/2" Dens glass sheathing-ext. wall	$4.50	SF	24,043	$108,195	21,572	$97,074	19,950	$89,777		
Soffit/eave framing - assume projected (	$9.50	SF	1,359	$12,911	1,188	$11,286	1,269	$12,056		
1/2" Dens glass sheathing - eave/cornic	$4.50	SF	1,359	$6,116	1,188	$5,346	1,269	$5,711		
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Misc. Ext Metals	$0.50	SF	30,338	$15,169	27,438	$13,719	25,895	$12,947		
Structural thermal break	$0.75	SF	30,338	$22,754	27,438	$20,579	25,895	$19,421		
071326 AIR & VAPOR BARRIERS										
Air & vapor barrier - wall	$9.50	SF	27,943	$265,461	25,272	$240,085	23,850	$226,579		
Air & vapor barrier - cornice	$9.50	SF	1,359	$12,911	1,188	$11,286	1,269	$12,056		
072100 INSULATION										
Exterior Wall:										
Spray foam at perm openings	$6.00	LF	9,980	$59,879	9,026	$54,155	8,518	$51,108		
4" Mineral wool	$4.35	SF	27,943	$121,553	25,272	$109,934	23,850	$103,749		
3" Spray foam - stud cavity	$4.65	SF	24,043	$111,801	21,572	$100,310	19,950	$92,769		
Bldg Cornice and Canopy Soffit:										
4" Mineral wool Insul.	$4.35	SF	1,359	$5,912	1,188	$5,168	1,269	$5,520		
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Exterior Sealants	$2.00	SF	39,919	$79,838	36,103	$72,206	34,072	$68,144		
074213 PERFORMED CLADDING										
Alum. Comp. Panel :										
Metal Comp Panel - 20%	$95.00	SF	6,068	$576,430	5,488	$521,327	5,179	$492,000		
Roof Eave Cladding	$50.00	SF	1,359	$67,950	1,188	$59,400	1,269	$63,450		

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
Acoustical Roof Screen:										
Metal Panel Equipment Screen	$95.00	SF	2,000	$190,000	2,000	$190,000	2,000	$190,000		
092116 GYPSUM WALLBOARD										
1 Lyr 5/8" gyp @ ext. wall	$4.50	SF	24,043	$108,195	21,572	$97,074	19,950	$89,777		
090007 PAINTING*										
Exterior painting	$0.22	SF	39,919	$8,782	36,103	$7,943	34,072	$7,496		
101400 IDENTIFYING DEVICES (EXT. BLD MTD SIGNAGE)										
24" Alum bldg mtd letter - allow	$420.00	EA	36	$15,120	36	$15,120	36	$15,120		
Misc. Bldg mtd signage	$50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
				$4,272,030		$3,901,510		$3,727,238		$0
B2020 EXTERIOR WINDOWS										
061000 ROUGH CARPENTRY										
P.T. - perim blocking	$14.00	LF	9,980	$139,717	9,026	$126,361	8,518	$119,252		
071326 AIR & VAPOR BARRIERS										
Flex flashing - perim	$10.00	LF	9,980	$99,798	9,026	$90,258	8,518	$85,180		
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Window Caulking	$12.75	LF	9,980	$127,242	9,026	$115,078	8,518	$108,605		
080001 METAL WINDOWS*										
TRP Glazing Exterior - 28% of total										
Alum Window - 65%	$165.00	SF	7,784	$1,284,394	7,040	$1,161,614	6,644	$1,096,267		
Alum Curtainwall - 35%	$200.00	SF	4,191	$838,299	3,791	$758,163	3,578	$715,512		
Security glazing - 15% of total	$20.00	SF	1,796	$35,927	1,625	$32,493	1,533	$30,665		
Sun Shading:										
Horizontal Window Sunscreen - 40%	$225.00	LF	399	$89,818	361	$81,232	341	$76,662		
109000 MISCELLANEOUS SPECIALTIES										
Alum louvers - allow	$135.00	SF	25	$3,375			25	$3,375		

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
				$2,618,568		$2,365,198		$2,235,517		$0
B2030 EXTERIOR DOORS										
080001 METAL WINDOWS*										
7' Alum. Doors (Incl. Hardware):										
Main Entry - dbl	$20,000.00	EA	6	$120,000	6	$120,000	6	$120,000		
Gym - dbl	$20,000.00	EA	2	$40,000	2	$40,000	2	$40,000		
Auto opener - allow	$9,000.00	PR	1	$9,000	1	$9,000	1	$9,000		
*Storefront at entries W /B 2020										
Security Glazing Premium	$750.00	LVS	16	$12,000	16	$12,000	16	$12,000		
081113 HOLLOW METALWORK										
Insulated HM Doors and Frame:										
Mech - sgl	$2,500.00	EA	1	$2,500	1	$2,500	1	$2,500		
Mech - dbl	$3,500.00	EA	1	$3,500	1	$3,500	1	$3,500		
090007 PAINTING*										
Paint HM Door & frame - sgl	$100.00	EA	1	$100	1	$100	1	$100		
Paint HM Door & frame - dbl	$200.00	EA	1	$200	1	$200	1	$200		
				$187,300		$187,300		$187,300		$0
TOTAL B20 - EXTERIOR ENCLOSURE				**$7,077,899**		**$6,454,008**		**$6,150,055**		**$0**
B30 - ROOFING										
B3010 ROOF COVERINGS										
061000 ROUGH CARPENTRY										
Roof Blocking - main bldg	$1.45	SF	51,827	$75,149	51,040	$74,008	48,172	$69,849		
070002 ROOFING AND FLASHING*										
PVC roof w/ 6" rigid insul	$30.00	SF	51,827	$1,554,810	51,040	$1,531,200	48,172	$1,445,160		
Roof walkway pad (2'x2')	$8.50	SF	2,591	$22,026	2,552	$21,692	2,409	$20,473		

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
Alum. Trim :										
Perimeter wall Coping	$45.00	LF	2,039	$91,733	1,782	$80,190	1,904	$85,658		
Base Flashing	$34.00	LF	713	$24,258	624	$21,206	666	$22,652		
Misc. flashing	$1.00	SF	51,827	$51,827	51,040	$51,040	48,172	$48,172		
				$1,819,803		$1,779,336		$1,691,964		$0
B3020 ROOF OPENINGS										
077200 ROOF ACCESSORIES										
Roof hatch	$4,250.00	EA	1	$4,250	1	$4,250	1	$4,250		
OSHA Rail	$200.00	LF	50	$10,000	50	$10,000	50	$10,000		
				$14,250		$14,250		$14,250		$0
TOTAL B30 ROOFING				**$1,834,053**		**$1,793,586**		**$1,706,214**		**$0**
C. INTERIORS										
C10 - INTERIOR CONSTRUCTION										
C1010 PARTITIONS										
040001 MASONRY*										
8" CMU Elev Shaft	$43.50	SF	1,320	$57,420	1,320	$57,420	1,320	$57,420		
8" CMU Int gym Part.	$39.00	SF	1,800	$70,200	1,800	$70,200	1,800	$70,200		
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Masonry - Clip and lintels	$1.50	SF	3,120	$4,680	3,120	$4,680	3,120	$4,680		
061000 ROUGH CARPENTRY										
Interior blocking	$0.75	GSF	72,443	$54,332	72,443	$54,332	72,443	$54,332	0	$0
Misc. rough carpentry	$0.75	GSF	72,443	$54,332	72,443	$54,332	72,443	$54,332	0	$0
072100 INSULATION										
Firestopping	$0.85	GSF	72,443	$61,577	72,443	$61,577	72,443	$61,577	0	$0

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
081113 HOLLOW METALWORK										
Interior H.M Windows, Sidelites and Transoms (INC. GLAZING):										
Door window/sidelight & transom	$2.00	SF	72,443	$144,886	72,443	$144,886	72,443	$144,886	0	$0
083323 SPECIAL DOORS										
Access panels	$0.25	GSF	72,443	$18,111	72,443	$18,111	72,443	$18,111		
080001 METAL WINDOWS*										
Interior Aluminum Storefront:										
Vestibule and Entries	$88.00	SF	200	$17,600	200	$17,600	200	$17,600		
Administration area	$88.00	SF								
General Building Area	$0.50	GSF	72,443	$36,222	72,443	$36,222	72,443	$36,222		
Security glazing - premium	$50.00	SF	200	$10,000	200	$10,000	200	$10,000		
092116 GYPSUM WALLBOARD										
Drywall Partitions:										
GWB assemblies - 100%	$36.00	GSF	72,443	$2,607,948	72,443	$2,607,948	72,443	$2,607,948		
				$3,137,307		$3,137,307		$3,137,307		$0
C1020 INTERIOR DOORS										
081113 HOLLOW METALWORK 081416 WOOD AND PLASTIC DOORS 087100 DOOR HARDWARE										
Interior Door frame and Hardware	$8.00	GSF	72,443	$579,544	72,443	$579,544	72,443	$579,544		
080001 METAL WINDOWS*										
Aluminum (Frame, Door, Glass, Glazing and Hdw):										
Vest - dbl	$16,500.00	PR	2	$33,000	2	$33,000	2	$33,000		
Main office -sgl	$4,000.00	EA	2	$8,000	2	$8,000	2	$8,000		
083323 SPECIAL DOORS										
Dish drop window	$5,000.00	EA	1	$5,000	1	$5,000	1	$5,000		
Kitchen OH grille	$4,500.00	EA	1	$4,500	1	$4,500	1	$4,500		
				$630,044		$630,044		$630,044		$0

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
C1030 FITTINGS										
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Misc. metals	$2.00	GSF	72,443	$144,886	72,443	$144,886	72,443	$144,886		
062000 FINISH CARPENTRY										
Utility & closet shelving	$2,000.00	LS	1	$2,000	1	$2,000	1	$2,000		
Typ. window sill/apron	$65.00	LF	1,996	$129,737	1,805	$117,335	1,704	$110,734		
102113 COMPARTMENTS & CUBICLES										
Solid Plastic Toilet Partitions:										
Std. partition	$1,385.00	EA	14	$19,390	14	$19,390	14	$19,390		
HC partition	$1,590.00	EA	8	$12,720	8	$12,720	8	$12,720		
Urinal Screen	$550.00	EA	2	$1,100	2	$1,100	2	$1,100		
102813 TOILET & BATH ACCESSORIES										
Building Toilet Accessories *Excludes classroom accessories	$0.92	GSF	72,443	$66,648	72,443	$66,648	72,443	$66,648		
101100 MARKERBOARDS & TACKBOARDS										
Marker board tackboard	$1.45	GSF	72,443	$105,042	72,443	$105,042	72,443	$105,042		
Glass Display Case	$1,000.00	LF	10	$10,000	10	$10,000	10	$10,000		
109000 MISCELLANEOUS SPECIALTIES										
Student Lockers	$450.00	EA	165	$74,250	165	$74,250	165	$74,250		
Kitchen staff locker(12"wx15" D x 6'h)	$350.00	EA	5	$1,750	5	$1,750	5	$1,750		
Custodian staff(12"wx15" D x 6'h)	$350.00	EA	5	$1,750	5	$1,750	5	$1,750		
Wall & corner guards - allow	$5,000.00	LS	1	$5,000	1	$5,000	1	$5,000		
Fire extinguisher and cab - allow	$550.00	EA	18	$9,900	18	$9,900	18	$9,900		
Cubicle curtain track w/ curtain - health	$1,500.00	EA	2	$3,000	2	$3,000	2	$3,000		
Misc. specialties	$0.50	GSF	72,443	$36,222	72,443	$36,222	72,443	$36,222		
101400 IDENTIFYING DEVICES										
Building directory - allow	$5,000.00	EA	1	$5,000	1	$5,000	1	$5,000		
Dedication plaque	$3,500.00	EA	1	$3,500	1	$3,500	1	$3,500		

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
Interior Signage	$0.40	GSF	72,443	$28,977	72,443	$28,977	72,443	$28,977		
Environmental graphics	$25,000.00	LS	1	$25,000	1	$25,000	1	$25,000		
				$685,871		$673,469		$666,869		$0
TOTAL C10 - INTERIOR CONSTRUCTION				**$4,453,223**		**$4,440,821**		**$4,434,220**		**$0**
C20 - STAIRS										
C2010 STAIR CONSTRUCTION										
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Metal Pan Stair w/Rails:										
Egress corridor stair	$58,000.00	FLT	2	$116,000	2	$116,000	3	$174,000		
Lobby Stair	$75,000.00	FLT	1	$75,000	1	$75,000	1	$75,000		
033000 CAST IN PLACE CONCRETE										
Conc stair pan fill - full flt	$3,000.00	FLTS	3	$9,000	3	$9,000	4	$12,000		
				$200,000		$200,000		$261,000		$0
C2020 STAIR FINISHES										
090005 RESILIENT FLOORING*										
Rubber treads and risers	$5,800.00	FLTS	3	$17,400	3	$17,400	4	$23,200		
090007 PAINTING*										
Paint stair & rails - full flt	$5,000.00	FLTS	3	$15,000	3	$15,000	4	$20,000		
				$32,400		$32,400		$43,200		$0
TOTAL C20 - STAIRS				**$232,400**		**$232,400**		**$304,200**		**$0**
C30 - INTERIOR FINISHES										
C3010 WALL FINISHES										

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
Wall Finish	$13.00	GSF	72,443	$941,759	72,443	$941,759	72,443	$941,759	0	$0
				$941,759		$941,759		$941,759		$0
C3020 FLOOR FINISHES										
Floor Finish	$11.00	GSF	72,443	$796,873	72,443	$796,873	72,443	$796,873	0	$0
				$796,873		$796,873		$796,873		$0
C3030 CEILING FINISHES										
Ceiling Finish	$14.00	GSF	72,443	$1,014,202	72,443	$1,014,202	72,443	$1,014,202	0	$0
				$1,014,202		$1,014,202		$1,014,202		$0
TOTAL C30 - INTERIOR FINISHES				**$2,752,834**		**$2,752,834**		**$2,752,834**		**$0**
D. SERVICES										
D10 - CONVEYING										
D1010 ELEVATORS & LIFTS										
140001 ELEVATORS*										
Passanger Elevator	$95,000.00	STOP	2	$190,000	2	$190,000	2	$190,000		
Elevator Metals	$10,000.00	LS	1	$10,000	1	$10,000	1	$10,000		
				$200,000		$200,000		$200,000		$0
TOTAL D10 - CONVEYING				**$200,000**		**$200,000**		**$200,000**		**$0**
D20 - PLUMBING										

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
D2010 PLUMBING										
EWH (w (2) /200 Gal)	$48,500.00	LS	1	$48,500	1	$48,500	1	$48,500		
Roof Drainage	$4.50	GSF	51,827	$233,222	51,040	$229,680	48,172	$216,774		
Fixtures & Rough-in	$18.50	GSF	72,443	$1,340,196	72,443	$1,340,196	72,443	$1,340,196		
Kitchen Connections	$25,000.00	LS	1	$25,000	1	$25,000	1	$25,000		
Test, Permit, BIM, Misc.	$2.75	GSF	72,443	$199,218	72,443	$199,218	72,443	$199,218		
				$1,846,135		$1,842,594		$1,829,688		$0
TOTAL D20 - PLUMBING			**$25.48**	**$1,846,135**	**$25.44**	**$1,842,594**	**$25.26**	**$1,829,688**	**#DIV/0!**	**$0**
D30 - HVAC										
D3010 HVAC										
VRF w/ doas units - hvac complete	$80.00	GSF	72,443	$5,795,440	72,443	$5,795,440	72,443	$5,795,440		
				$5,795,440		$5,795,440		$5,795,440		$0
TOTAL D30 - HVAC			**$80.00**	**$5,795,440**	**$80.00**	**$5,795,440**	**$80.00**	**$5,795,440**	**#DIV/0!**	**$0**
D40 - FIRE PROTECTION										
D4010 SPRINKLERS										
210001 FIRE SUPPRESSION*										
Sprinkler system - wet	$8.40	GSF	72,443	$608,521	72,443	$608,521	72,443	$608,521		
Fire Pump	$110,000.00	LS	1	$110,000	1	$110,000	1	$110,000		
				$718,521		$718,521		$718,521		$0
TOTAL D40 - FIRE PROTECTION			**$9.92**	**$718,521**	**$9.92**	**$718,521**	**$9.92**	**$718,521**	**#DIV/0!**	**$0**

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
D50 - ELECTRICAL										
D5010 ELECTRICAL SERVICE & DISTRIBUTION										
260001 ELECTRICAL*										
Service, MDP and Elec. Panel & Feed	$13.00	GSF	72,443	$941,759	72,443	$941,759	72,443	$941,759		
350 KW Emergency Generator	$165,000.00	LS	1	$165,000	1	$165,000	1	$165,000		
PV Rough in	$0.20	GSF	72,443	$14,489	72,443	$14,489	72,443	$14,489		
				$1,121,248		$1,121,248		$1,121,248		$0
D5020 LIGHTING & BRANCH WIRING										
260001 ELECTRICAL*										
Lighting	$11.00	GSF	72,443	$796,873	72,443	$796,873	72,443	$796,873		
Lighting Control (inc device oc)	$2.85	GSF	72,443	$206,463	72,443	$206,463	72,443	$206,463		
				$1,003,336		$1,003,336		$1,003,336		$0
D5030 COMMUNICATION & SECURITY										
260001 ELECTRICAL*										
CCTV	$5.00	GSF	72,443	$362,215	72,443	$362,215	72,443	$362,215		
Access control	$2.00	GSF	72,443	$144,886	72,443	$144,886	72,443	$144,886		
Video entry system	$28,000.00	LS			1	$28,000				
Digital Signage	$4,000.00	EA	1	$4,000	1	$4,000	1	$4,000		
Tele/data cabling, racks and switches	$8.00	GSF	72,443	$579,544	72,443	$579,544	72,443	$579,544		
Classroom AV rough-in only	$1,500.00	EA	24	$36,000	24	$36,000	24	$36,000		
Speech Reinforcement	$3,300.00	EA	24	$79,200	24	$79,200	24	$79,200		
Local Sound:										
Cafeteria	$50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
Gymnasium	$50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
Music Rm	$25,000.00	LS	1	$25,000	1	$25,000	1	$25,000		
				$1,330,845		$1,358,845		$1,330,845		$0
D5090 OTHER ELECTRICAL SYSTEMS										

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
260001 ELECTRICAL*										
Fire Alarm	$5.00	GSF	72,443	$362,215	72,443	$362,215	72,443	$362,215	0	$0
Devices	$4.00	GSF	72,443	$289,772	72,443	$289,772	72,443	$289,772	0	$0
Clocks and PA	$1.20	GSF	72,443	$86,932	72,443	$86,932	72,443	$86,932	0	$0
Kitchen/Mechanical Wiring	$3.50	GSF	72,443	$253,551	72,443	$253,551	72,443	$253,551	0	$0
Bi-Direction Antenna	$0.80	GSF	72,443	$57,954	72,443	$57,954	72,443	$57,954	0	$0
Test Permit and Misc.	$4.00	GSF	72,443	$289,772	72,443	$289,772	72,443	$289,772	0	$0
By others: Telephone system Classroom projectors										
				$1,340,196		$1,340,196		$1,340,196		$0
TOTAL D50 - ELECTRICAL			**$66.20**	**$4,795,624**	**$66.59**	**$4,823,624**	**$66.20**	**$4,795,624**	**#DIV/0!**	**$0**
E. EQUIPMENT & FURNISHINGS										
E10 - EQUIPMENT										
E1010 COMMERCIAL EQUIPMENT										
114000 FOOD SERVICE EQUIPMENT										
Kitchen equipment - new	$598,640.00	LS	1	$598,640	1	$598,640	1	$598,640		
				$598,640		$598,640		$598,640		$0
E1090 OTHER EQUIPMENT										
113100 APPLIANCES										
Staff kitchen refrigerator	$1,000.00	EA	1	$1,000	1	$1,000	1	$1,000		
Staff kitchen microwave	$500.00	EA	1	$500	1	$500	1	$500		
Medical office refrigerator w/ice	$1,000.00	EA	1	$1,000	1	$1,000	1	$1,000		
116600 ATHLETIC & SPORTS EQUIPMENT										

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
Basketball backstops - electric	$9,500.00	EA	6	$57,000	6	$57,000	6	$57,000		
Wall padding - 6'	$15.00	SF	750	$11,250	750	$11,250	750	$11,250		
Divider curtain	$28.00	SF	1,200	$33,600	1,200	$33,600	1,200	$33,600		
Volley ball court equip.	$4,500.00	EA	1	$4,500	1	$4,500	1	$4,500		
Scoreboard and shot clock	$24,000.00	EA	1	$24,000	1	$24,000	1	$24,000		
Bleacher	$50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
Misc. Gym Equipment	$50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
115213 PROJECTION SCREENS										
Projection screen	$15,000.00	EA	1	$15,000	1	$15,000	1	$15,000		
Stage Curtains	$50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
119000 MISC. EQUIPMENT										
Kiln	$3,500.00	EA	1	$3,500	1	$3,500	1	$3,500		
				$301,350		$301,350		$301,350		$0
TOTAL E10 - EQUIPMENT				**$899,990**		**$899,990**		**$899,990**		**$0**
E20 - FURNISHINGS										
E 2010 FIXED FURNISHINGS										
129000 MISC. FURNISHINGS										
Meco shade - manual	$8.00	SF	11,976	$95,806	10,831	$86,647	10,222	$81,773		
Premium for Elec op shade - 10%	$24.00	SF	1,198	$28,742	1,083	$25,994	1,022	$24,532		
Architectural Casework	$14.00	GSF	72,443	$1,014,202	72,443	$1,014,202	72,443	$1,014,202		
				$1,138,749		$1,126,843		$1,120,507		$0
E2020 MOVABLE FURNISHINGS										NIC
				$0		$0		$0		$0
TOTAL E20 - FURNISHINGS				**$1,138,749**		**$1,126,843**		**$1,120,507**		**$0**

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
G. BUILDING SITEWORK										
G10 - SITE PREPARATION										
G1010 SITE CLEARING										
311000 SITE PREPARATION & CLEARING										
Construction Fence	20.00	LF	2,878	$57,560	2,878	$57,560	2,800	$56,000		
Erosion Control	15.00	LF	2,734	$41,012	2,734	$41,012	2,660	$39,900		
Construction Entrance	10,000.00	EA	1	$10,000	1	$10,000	1	$10,000		
Inlet Protection	95.00	EA	20	$1,900	20	$1,900	20	$1,900		
Erosion control maintance	10,000.00	LS	1	$10,000	1	$10,000	1	$10,000		
Temporary Parking	100,000.00	LS	1	$100,000	1	$100,000	1	$100,000		
Pedestrian access and control	100,000.00	LS	1	$100,000	1	$100,000	1	$100,000		
Snow removal	35,000.00	LS	1	$35,000	1	$35,000	1	$35,000		
Temporary drainage	50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
Phasing Logistics	100,000.00	LS	1	$100,000	1	$100,000	1	$100,000		
Misc. Site Demolition	0.10	SF	361,771	$36,177	361,777	$36,178	361,771	$36,177		
Temporary utilities	50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
				$591,649		$591,649		$588,977		$0
G1020 SITE DEMOLITION & RELOCATIONS										
Sawcut bit pavement	6.50	LF	75	$488	75	$488	75	$488		
Remove Bit Pavement	1.10	SF	70,000	$77,000	70,000	$77,000	70,000	$77,000		
Remove Utilities	50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
Misc. Site Demolition	0.75	SF	361,771	$271,328	361,777	$271,333	361,771	$271,328		
				$398,816		$398,820		$398,816		$0
G1030 SITE EARTHWORK										
310000 EARTHWORK										
Top Soil:										
Strip and Stack top soil - 6"	8.00	CY	5,025	$40,197	5,025	$40,197	5,025	$40,197		
Load and Haul Excess soil	6.00	CY	5,025	$30,148	5,025	$30,148	5,025	$30,148		
Soil disposal fee	20.00	TONS	8,542	$170,836	8,542	$170,836	8,542	$170,836		

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
Site:										
Site Cut	10.00	CY	6,699	$66,995	6,699	$66,995	6,699	$66,995		
Site fill - reuse 50% mat's	10.00	CY	3,350	$33,497	3,350	$33,497	3,350	$33,497		
Load and Haul Excess soil	6.00	CY	3,350	$20,098	3,350	$20,098	3,350	$20,098		
Soil disposal fee	20.00	TONS	5,695	$113,891	5,695	$113,891	5,695	$113,891		
Site fill - import	28.00	CY	4,690	$131,309	4,690	$131,309	4,690	$131,309		
Site Grading	0.75	SF	361,771	$271,328	361,771	$271,328	361,771	$271,328		
Ledge Removal Premium 25%	100.00	CY	1,675	$167,487	1,675	$167,487	1,675	$167,487		
				$1,045,786		$1,045,786		$1,045,786		$0
G1040 HAZARDOUS WASTE REMEDIATION										
Soil classifications		NIC								
				$0		$0		$0		$0
TOTAL G10 - SITE PREPARATION				**$2,036,251**		**$2,036,256**		**$2,033,579**		**$0**
G20 - SITE IMPROVEMENTS										
G2010 ROADWAYS										
321000 PAVING AND CURBING										
Site:										
HD Bituminous - 50%	$6.00	SF	44,000	$264,000	42,000	$252,000	33,500	$201,000		
12" Gravel base @ vehicular pave.	$62.00	CY	1,630	$101,037	1,556	$96,444	1,241	$76,926		
SD Bituminous - 50%	$5.75	SF	44,000	$253,000	42,000	$241,500	33,500	$192,625		
8" Gravel base @ vehicular pave.	$65.00	CY	1,085	$70,547	1,036	$67,340	826	$53,712		
Raised Traffic Table - paver/curb, etc..	$45.00	SF	1,500	$67,500	1,500	$67,500	1,500	$67,500		
Granite Curbing - parking/drive	$65.00	LF	5,908	$384,020	5,908	$384,020	4,483	$291,395		
Parking/traffic signage	$0.08	SF	88,000	$7,040	84,000	$6,720	67,000	$5,360		
Parking line panting & markings	$0.15	SF	88,000	$13,200	84,000	$12,600	67,000	$10,050		
				$1,160,344		$1,128,124		$898,568		$0
G2030 PEDESTRIAN PAVING										

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
321000 PAVING AND CURBING										
Sidewalk :										
4" Concrete Pavement	$13.00	SF	30,000	$390,000	30,000	$390,000	25,000	$325,000		
Specialy Pavement	$45.00	SF	2,500	$112,500	2,500	$112,500	2,500	$112,500		
Nature walk	$5.00	SF					5,704	$28,520		
Bit Play Surface (inc. markings)	$7.00	SF	20,492	$143,444	13,000	$91,000	14,862	$104,034		
8" Gravel base @ ped. pavement	$58.00	CY	1,307	$75,814	1,122	$65,095	1,186	$68,766		
Tactile warning paver	$1,200.00	EA	16	$19,200	16	$19,200	16	$19,200		
				$740,958		$677,795		$658,020		$0
G2040 SITE DEVELOPMENT										
323000 SITE IMPROVEMENTS										
Playgrounds										
PIP Playground Surfacing	$45.00	SF	15,000	$675,000	15,000	$675,000	15,000	$675,000		
8" Gravel Base	$62.00	CY	309	$19,134	309	$19,134	309	$19,134		
Ornemental Fence	$165.00	LF	650	$107,250	650	$107,250	650	$107,250		
Playground Equipment - K	$500,000.00	LS	1	$500,000	1	$500,000	1	$500,000		
Playground Equipment - Pre- K	$200,000.00	LS	1	$200,000	1	$200,000	1	$200,000		
Site Amenities:										
Dumpster enclosure	$30,000.00	LS	1	$30,000	1	$30,000	1	$30,000		
Trash Receptacle	$2,100.00	EA	4	$8,400	4	$8,400	4	$8,400		
Flag pole	$11,000.00	EA	1	$11,000	1	$11,000	1	$11,000		
Basketball Hoop	$4,800.00	EA	2	$9,600	2	$9,600	2	$9,600		
Benches	$50,000.00	LS	1	$50,000	1	$50,000	1	$50,000		
Decorative bollard	$2,500.00	EA	30	$75,000	30	$75,000	30	$75,000		
Utility Bollard	$1,100.00	EA	20	$22,000	20	$22,000	20	$22,000		
Cantilier sliding gates	$25,000.00	EA	1	$25,000	1	$25,000	1	$25,000		
Table and Benches	$4,000.00	EA	12	$48,000	12	$48,000	12	$48,000		
Bike Loop	$975.00	EA	20	$19,500	20	$19,500	20	$19,500		
Site sign	$25,000.00	LS	1	$25,000	1	$25,000	1	$25,000		
Raised Planter	$4,000.00	EA	12	$48,000	12	$48,000	12	$48,000		
CIP Seatwall	$1,100.00	LF	200	$220,000	200	$220,000	200	$220,000		
Vehicular guardrail Guard rail	$115.00	LF	500	$57,500	500	$57,500	500	$57,500		
Shade Structure	$50,000.00	EA	2	$100,000	2	$100,000	2	$100,000		
Misc. Site Improvements	$400,000.00	LS	1	$400,000	1	$400,000	1	$400,000		
				$2,650,384		$2,650,384		$2,650,384		$0

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
G2050 LANDSCAPING										
329000 PLANTING										
Planting allowance	$1.00	SF	361,771	$361,771	361,771	$361,771	361,771	$361,771		
Plant maintance	$35,000.00	LS	1	$35,000	1	$35,000	1	$35,000		
Rain Garden	$25.00	SF	2,500	$62,500	2,500	$62,500	4,000	$100,000		
Athletic Field:										
Sod	$2.00	SF	24,000	$48,000	24,000	$48,000	57,028	$114,056		
6" Loam	$85.00	CY	444	$37,778	444	$37,778	1,056	$89,766		
12" Draiange Layer	$71.00	CY	889	$63,111	889	$63,111	2,112	$149,963		
Field Draiange	$1.00	SF	24,000	$24,000	24,000	$24,000	24,000	$24,000		
Lawn, Meadows:										
Hydroseed	$0.50	SF	129,907	$64,954	166,231	$83,116	174,653	$87,327		
6" Loam - import	$82.00	CY	2,406	$197,266	3,078	$252,425	3,234	$265,214		
Loam:										
12" Planting Bed - import	$85.00	CY	200	$17,000	200	$17,000	200	$17,000		
Mulch	$55.00	CY	50	$2,750	50	$2,750	50	$2,750		
Irrigation system - athletic field	$2.00	SF	24,000	$48,000	24,000	$48,000	57,028	$114,056		
Irrigation system - general lawn	$1.00	SF	129,907	$129,907	166,231	$166,231	157,759	$157,759		
				$1,092,037		$1,201,681		$1,518,661		$0
TOTAL G20 - SITE IMPROVEMENTS				**$5,643,722**		**$5,657,985**		**$5,725,633**		**$0**
G30 - SITE MECHANICAL UTILITIES										
G3010 WATER SUPPLY										
330000 UTILITIES										
Street Connection	$25,000.00	LOC	2	$50,000	2	$50,000	2	$50,000		
8" Main loop	$135.00	LF	2,500	$337,500	2,500	$337,500	1,000	$135,000		
6" Fire Service	$104.00	LF	200	$20,800	200	$20,800	100	$10,400		
4" Domestic	$89.00	LF	100	$8,900	100	$8,900	100	$8,900		
8" Gate valve main	$1,850.00	EA	6	$11,100	6	$11,100	6	$11,100		
6" Gate valve dom	$1,600.00	EA	5	$8,000	5	$8,000	5	$8,000		
Fire Hydrant	$3,100.00	EA	4	$12,400	4	$12,400	4	$12,400		
Test, sanitize, thrust block , misc.	$20,000.00	LS	1	$20,000	1	$20,000	1	$20,000		

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
				$468,700		$468,700		$255,800		$0
G3020 SANITARY SEWER										
330000 UTILITIES										
6" PVC San Main	$107.00	LF	1,200	$128,400	1,200	$128,400	1,000	$107,000		
Grease Trap - 6,000 gal	$45,000.00	EA	1	$45,000	1	$45,000	1	$45,000		
Int Grease interceptor	W / plumbing									
Site manhole	$4,800.00	EA	9	$43,200	8	$38,400	6	$28,800		
				$216,600		$211,800		$180,800		$0
G3030 STORM SEWER										
330000 UTILITIES										
18" PVC	124.00	LF	1,800	$223,200	1,500	$186,000	1,200	$148,800		
12" PVC	103.00	LF	1,000	$103,000	1,000	$103,000	800	$82,400		
8" PVC	98.00	LF	0	$0	1,000	$98,000	800	$78,400		
Drain manhole	5,500.00	EA	18	$99,000	16	$88,000	15	$82,500		
Catch basin	5,500.00	EA	28	$154,000	26	$143,000	22	$121,000		
Area drain	4,000.00	EA	20	$80,000	18	$72,000	16	$64,000		
Water quality unit	24,000.00	EA	6	$144,000	6	$144,000	5	$120,000		
Infiltration field	11.25	CF	30,000	$337,500	25,000	$281,250	22,000	$247,500		
				$1,140,700		$1,115,250		$944,600		$0
G3060 FUEL DISTRIBUTION		n/a								
				$0		$0		$0		$0
TOTAL G30 - SITE MECHANICAL UTILITIES				**$1,826,000**		**$1,795,750**		**$1,381,200**		**$0**
G40 - SITE ELECTRICAL UTILITIES										

DESCRIPTION	UNIT COST	UNIT	OPT A 2.2 - A QUANTITY	OPT A 2.2 - A TOTAL	OPT A 2.2 - B QUANTITY	OPT A 2.2 - B TOTAL	OPT A 2.2 - F QUANTITY	OPT A 2.2 - F TOTAL	QUANTITY	TOTAL
G4010 ELECTRICAL DISTRIBUTION										
330000 UTILITIES										
Primary Duct Bank	$125.00	LF	1,200	$150,000	1,200	$150,000	1,200	$150,000		
Tel duct bank	$125.00	LF	1,000	$125,000	1,000	$125,000	1,000	$125,000		
Secondary	$500.00	LF	150	$75,000	150	$75,000	150	$75,000		
Generator	$500.00	LF	150	$75,000	150	$75,000	150	$75,000		
Misc. Site Electric	$200,000.00	LS	1	$200,000	1	$200,000	1	$200,000		
EV Rough in	$100,000.00	LS	1	$100,000	1	$100,000	1	$100,000		
PV Canopies		NIC								
				$725,000		$725,000		$725,000		$0
G4020 SITE LIGHTING										
260001 ELECTRICAL*										
Lighting Fixtures:										
Roadway/Parking Fixtures	$5,000.00	EA	35	$175,000	35	$175,000	30	$150,000		
Pedestrian Lighting	$4,000.00	EA	25	$100,000	25	$100,000	20	$80,000		
Misc. Specialty site lighting	$20,000.00	LS	1	$20,000	1	$20,000	1	$20,000		
*EXCLUDES SPORTS FIELD AND COURT LIGHTING										
				$295,000		$295,000		$250,000		$0
TOTAL G40 - SITE ELECTRICAL UTILITIES				**$1,020,000**		**$1,020,000**		**$975,000**		**$0**

PSR COMPARABLE PROBABLE COST AND REIMBURSEMENT ANALYSIS

SECTION 3.3.6.7

PSR Options Cost Estimate

Essex Elementary School

Essex, MA

PM&C LLC
20 Downer Avenue, Suite 5
Hingham, MA 02043
(T) 781-740-8007

Prepared for:

Dore + Whittier

April 6, 2026

Essex Elementary School 6-Apr-26
Essex, MA

PSR Options Cost Estimate

INTRODUCTION

NOTE: The costs for the various PSR Options indicated above are intended to be an analysis of the relative costs between options and NOT a prediction of the actual final cost of any individual option. Major variables such as geotechnical, site grading, structural system and final MEP systems have yet to be designed in detail so costs will vary significantly from the benchmark cost estimating included as part of this PSR cost analysis. The costs outlined in this report should not be represented as the FINAL construction budget.

This PSR Design Submission cost estimate was produced from narratives and outline drawings dated March 11th, 2026 prepared by JCJ Architecture and their design team.

This estimate includes all direct construction costs, CM fee + GMP contingency and design contingency. Cost escalation assumes start dates indicated.

Bidding conditions are expected to be public bidding under 149a of the Massachusetts General Laws to pre-qualified construction managers, and pre-qualified sub-contractors, open specifications for materials and manufacturers.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

Items not included in this estimate are:

- All professional fees and insurance
- Building Permit costs
- Rock excavation
- Land acquisition, feasibility, and financing costs
- All Furnishings, Fixtures and Equipment
- Items identified in the design as Not In Contract (NIC)
- Items identified in the design as by others
- Owner supplied and/or installed items (e.g. draperies, furniture and equipment)
- Utility company back charges, including work required off-site
- Work to City streets and sidewalks, (except as noted in this estimate)

PM&C

Essex Elementary School
Essex, MA

6-Apr-26

PSR Options Cost Estimate

PSR PRICING OPTIONS

MAIN CONSTRUCTION COST SUMMARY

	Gross Floor Area	Estimated Construction Cost - CMr	$/sf	Estimated Construction Cost - DBB	$/sf
OPTION A0.2 Code Update	53,036	**$40,194,433**	$757.87	**$38,184,711**	$719.98
OPTION A1.1 - Renovation + Addition 165 Students	60,072	**$62,117,400**	$1,034.05	**$59,011,530**	$982.35
OPTION A1.2-B - Addition + Renovation 250 Students	76,443	**$74,567,157**	$975.46	**$70,838,799**	$926.69
OPTION A2.2A - New Construction 250 Students	72,443	**$72,172,490**	$996.27	**$68,563,866**	$946.45
OPTION A2.2B - New Construction 250 Students	72,443	**$73,150,405**	$1,009.76	**$69,492,885**	$959.28
OPTION A2.2F - New Construction 250 Students	72,443	**$74,497,482**	$1,028.36	**$70,772,608**	$976.94
OPTION B1.1 - Addition + Renovation 515 Students	45,368	**$49,352,274**	$1,087.82	**$46,884,660**	$1,033.43

ALTERNATES (costs include all markups)

1: Turf Field ILO grass fields	ADD	**$397,565**
2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	ADD	**$1,195,310**
3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	ADD	**$4,563,909**
4: Water source heat pump water heaters	ADD	**$434,658**

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Essex Elementary School
Essex, MA

6-Apr-26

PSR Options Cost Estimate

MAIN CONSTRUCTION COST SUMMARY

	Start Date		Gross Floor Area	$/sf	Estimated Construction Cost
OPTION A0.2 Code Update					
CODE UPGRADES TO EXISTING SCHOOL			53,036	$349.61	$18,541,703
REMOVE HAZARDOUS MATERIALS					$450,000
SITEWORK - Allowance					$4,665,134
SUB-TOTAL	Jun-28		53,036	$446.05	$23,656,837
ESCALATION TO START DATE	9.33%				$2,207,183
DESIGN AND PRICING CONTINGENCY	12.0%				$3,103,682
SUB-TOTAL			53,036	$546.19	$28,967,702
GENERAL CONDITIONS		32	MTHS	$160,000	$5,120,000
GENERAL CONDITIONS (Demo/Site/Abatement)		8	MTHS	$85,000	$680,000
GENERAL REQUIREMENTS	5.00%				$1,448,385
PHASING	4.00%				$1,158,708
BONDS	1.00%				$289,677
INSURANCES	1.50%				$434,516
PERMIT					Excl
SUB-TOTAL					$38,098,988
FEE	2.5%				$952,475
GMP CONTINGENCY	3.0%				$1,142,970
MODULAR CLASSROOMS					Excluded
TOTAL OF ALL CONSTRUCTION			53,036	$757.87	**$40,194,433**

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Essex Elementary School
Essex, MA

6-Apr-26

PSR Options Cost Estimate

MAIN CONSTRUCTION COST SUMMARY

	Start Date		Gross Floor Area	$/sf	Estimated Construction Cost
OPTION A1.1 - Renovation + Addition 165 Students					
NEW ADDITION TO EXISTING SCHOOL			7,036	$739.19	$5,200,936
RENOVATE EXISTING SCHOOL			53,036	$446.55	$23,683,378
REMOVE HAZARDOUS MATERIALS					$450,000
SITEWORK					$9,421,873
SUB-TOTAL	Jan-29		60,072	$645.16	$38,756,187
ESCALATION TO START DATE	11.33%				$4,391,076
DESIGN AND PRICING CONTINGENCY	12.0%				$5,177,672
SUB-TOTAL			60,072	$804.45	$48,324,935
GENERAL CONDITIONS		30	MTHS	$160,000	$4,800,000
GENERAL CONDITIONS (Demo/Site/Abatement)		8	MTHS	$85,000	$680,000
GENERAL REQUIREMENTS	4.00%				$1,932,997
PHASING	4.00%				$1,932,997
BONDS	1.00%				$483,249
INSURANCES	1.50%				$724,874
PERMIT					Excl
SUB-TOTAL					$58,879,052
FEE	2.5%				$1,471,976
GMP CONTINGENCY	3.0%				$1,766,372
TOTAL OF ALL CONSTRUCTION			60,072	$1,034.05	**$62,117,400**

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Essex Elementary School
Essex, MA

6-Apr-26

PSR Options Cost Estimate

MAIN CONSTRUCTION COST SUMMARY

	Start Date		Gross Floor Area	$/sf	Estimated Construction Cost
OPTION A1.2-B - Addition + Renovation 250 Students					
NEW ADDITION TO EXISTING SCHOOL			23,407	$595.91	$13,948,476
RENOVATE EXISTING SCHOOL			53,036	$448.33	$23,777,414
REMOVE HAZARDOUS MATERIALS					$450,000
SITEWORK					$9,809,902
SUB-TOTAL	Jun-28		76,443	$627.73	$47,985,792
ESCALATION TO START DATE	9.33%				$4,477,074
DESIGN AND PRICING CONTINGENCY	12.0%				$6,295,544
SUB-TOTAL			76,443	$768.66	$58,758,410
GENERAL CONDITIONS		36	MTHS	$160,000	$5,760,000
GENERAL CONDITIONS (Demo/Site/Abatement)		12	MTHS	$85,000	$1,020,000
GENERAL REQUIREMENTS	4.00%				$2,350,336
PHASING	2.00%				$1,175,168
BONDS	1.00%				$587,584
INSURANCES	1.75%				$1,028,272
PERMIT					Excl
SUB-TOTAL					$70,679,770
FEE	2.5%				$1,766,994
GMP CONTINGENCY	3.0%				$2,120,393
TOTAL OF ALL CONSTRUCTION			76,443	$975.46	**$74,567,157**

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Essex Elementary School
Essex, MA

6-Apr-26

PSR Options Cost Estimate

MAIN CONSTRUCTION COST SUMMARY

	Start Date		Gross Floor Area	$/sf	Estimated Construction Cost
OPTION A2.2A - New Construction 250 Students					
NEW SCHOOL			72,443	$516.90	$37,446,123
DEMOLITION			53,036	$10.00	$530,360
REMOVE HAZARDOUS MATERIALS [1]					$450,000
SITEWORK					$10,565,575
SUB-TOTAL	Jun-28		72,443	$676.28	$48,992,058
ESCALATION TO START DATE	9.33%				$4,570,959
DESIGN AND PRICING CONTINGENCY	12.0%				$6,427,562
SUB-TOTAL			72,443	$828.11	$59,990,579
GENERAL CONDITIONS		22	MTHS	$160,000	$3,520,000
GENERAL CONDITIONS (Demo/Site/Abatement)		10	MTHS	$85,000	$850,000
GENERAL REQUIREMENTS	4.00%				$2,399,623
PHASING					NR
BONDS	1.00%				$599,906
INSURANCES	1.75%				$1,049,835
PERMIT					Excl
SUB-TOTAL					$68,409,943
FEE	2.5%				$1,710,249
GMP CONTINGENCY	3.0%				$2,052,298
TOTAL OF ALL CONSTRUCTION			72,443	$996.27	**$72,172,490**

Essex Elementary School
Essex, MA

6-Apr-26

PSR Options Cost Estimate

MAIN CONSTRUCTION COST SUMMARY

	Start Date		Gross Floor Area	$/sf	Estimated Construction Cost
OPTION A2.2B - New Construction 250 Students					
NEW SCHOOL			72,443	$509.48	$36,908,245
DEMOLITION (phased)			53,036	$15.00	$795,540
REMOVE HAZARDOUS MATERIALS					$450,000
SITEWORK					$10,505,693
SUB-TOTAL	Jun-28		72,443	$671.69	$48,659,478
ESCALATION TO START DATE	9.33%				$4,539,929
DESIGN AND PRICING CONTINGENCY	12.0%				$6,383,929
SUB-TOTAL			72,443	$822.49	$59,583,336
GENERAL CONDITIONS		22	MTHS	$160,000	$3,520,000
GENERAL CONDITIONS (Demo/Site/Abatement)		12	MTHS	$85,000	$1,020,000
GENERAL REQUIREMENTS	4.00%				$2,383,333
PHASING	2.00%				$1,191,667
BONDS	1.00%				$595,833
INSURANCES	1.75%				$1,042,708
PERMIT					Excl
SUB-TOTAL					$69,336,877
FEE	2.5%				$1,733,422
GMP CONTINGENCY	3.0%				$2,080,106
TOTAL OF ALL CONSTRUCTION			72,443	$1,009.76	**$73,150,405**

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Essex Elementary School
Essex, MA

6-Apr-26

PSR Options Cost Estimate

MAIN CONSTRUCTION COST SUMMARY

	Start Date		Gross Floor Area	$/sf	Estimated Construction Cost
OPTION A2.2F - New Construction 250 Students					
NEW SCHOOL			72,443	$526.13	$38,114,292
DEMOLITION (phased)			53,036	$15.00	$795,540
REMOVE HAZARDOUS MATERIALS					$450,000
SITEWORK					$10,258,501
SUB-TOTAL	Jun-28		72,443	$684.93	$49,618,333
ESCALATION TO START DATE	9.33%				$4,629,390
DESIGN AND PRICING CONTINGENCY	12.0%				$6,509,727
SUB-TOTAL			72,443	$838.69	$60,757,450
GENERAL CONDITIONS		22	MTHS	$160,000	$3,520,000
GENERAL CONDITIONS (Demo/Site/Abatement)		12	MTHS	$85,000	$1,020,000
GENERAL REQUIREMENTS	4.00%				$2,430,298
PHASING	2.00%				$1,215,149
BONDS	1.00%				$607,575
INSURANCES	1.75%				$1,063,255
PERMIT					Excl
SUB-TOTAL					$70,613,727
FEE	2.5%				$1,765,343
GMP CONTINGENCY	3.0%				$2,118,412
TOTAL OF ALL CONSTRUCTION			72,443	$1,028.36	**$74,497,482**

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Essex Elementary School
Essex, MA

6-Apr-26

PSR Options Cost Estimate

MAIN CONSTRUCTION COST SUMMARY

	Start Date		Gross Floor Area	$/sf	Estimated Construction Cost
OPTION B1.1 - Addition + Renovation 515 Students					
NEW ADDITION TO EXISTING SCHOOL			40,368	$534.98	$21,596,179
RENOVATE EXISTING SCHOOL			5,000	$451.68	$2,258,375
REMOVE HAZARDOUS MATERIALS					$0
SITEWORK					$7,144,383
SUB-TOTAL	Jun-28		45,368	$683.28	$30,998,937
ESCALATION TO START DATE	9.33%				$2,892,201
DESIGN AND PRICING CONTINGENCY	12.0%				$4,066,937
SUB-TOTAL			45,368	$836.67	$37,958,075
GENERAL CONDITIONS		28	MTHS	$160,000	$4,480,000
GENERAL CONDITIONS (Demo/Site/Abatement)		12	MTHS	$85,000	$1,020,000
GENERAL REQUIREMENTS	4.00%				$1,518,323
PHASING	2.00%				$759,162
BONDS	1.00%				$379,581
INSURANCES	1.75%				$664,266
PERMIT					Excl
SUB-TOTAL					$46,779,407
FEE	2.5%				$1,169,485
GMP CONTINGENCY	3.0%				$1,403,382
TOTAL OF ALL CONSTRUCTION			45,368	$1,087.82	**$49,352,274**

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Essex Elementary School
Essex, MA
PSR Options Cost Estimate

6-Apr-26

ALL OPTIONS - UNIFORMAT COMPARISON

		A0.2 Code Update	A1.1 Reno+Add 165	A1.2B Reno+Add 250	A2.2A New Const 250	A2.2B New Const 250	A2.2F New Const 250	B1.1 Reno+Add 515
A	**SUBSTRUCTURE**							
A10	Foundations	$302,575	$1,395,360	$2,298,067	$2,817,950	$2,741,163	$3,175,925	$1,938,885
A20	Basement Construction	-	-	-	-	-	-	-
B	**SHELL**							
B10	Superstructure	$490,000	$1,985,086	$2,791,960	$3,814,878	$3,810,476	$3,889,516	$2,276,529
B20	Exterior Closure	$1,473,656	$3,924,097	$5,676,025	$6,517,482	$6,058,811	$6,797,337	$4,332,454
B30	Roofing	$1,939,343	$2,192,085	$2,756,885	$1,658,962	$1,672,452	$1,502,643	$1,092,103
C	**INTERIORS**							
C10	Interior Construction	$1,241,087	$3,398,632	$4,476,128	$4,766,354	$4,766,354	$4,766,354	$3,015,302
C20	Staircases	-	$10,000	$10,000	$225,000	$225,000	$290,000	$150,000
C30	Interior Finishes	$1,485,008	$2,282,736	$2,904,834	$2,752,834	$2,752,834	$2,752,834	$1,723,984
D	**SERVICES**							
D10	Conveying Systems	-	-	-	$200,000	$200,000	$240,000	-
D20	Plumbing	$1,378,936	$1,554,836	$1,964,111	$1,811,075	$1,811,075	$1,811,075	$1,139,200
D30	HVAC	$4,348,952	$4,911,832	$6,221,512	$5,795,440	$5,795,440	$5,795,440	$3,639,440
D40	Fire Protection	$503,842	$563,648	$702,802	$615,766	$615,766	$615,766	$390,628
D50	Electrical	$3,341,268	$3,763,428	$4,745,688	$4,346,580	$4,346,580	$4,346,580	$2,737,080
E	**EQUIPMENT & FURNISHINGS**							
E10	Equipment	$768,960	$992,460	$992,460	$967,460	$967,460	$967,460	$368,820
E20	Furnishings	$595,952	$939,060	$1,203,114	$1,156,342	$1,144,834	$1,163,362	$729,004
F	**SPECIAL CONSTRUCTION & DEMOLITION**							
F10	Special Construction	-	-	-	-	-	-	-
F20	Selective Building Demolition	$672,124	$971,054	$982,304	-	-	-	$321,125
	DEMOLITION							
	Demolition of Existing School	-	-	-	$530,360	$795,540	$795,540	-
	HAZARDOUS MATERIALS							
	Remove Hazardous Materials	$450,000	$450,000	$450,000	$450,000	$450,000	$450,000	$0
	G SITEWORK							
G10	Site Preparation	$1,153,842	$1,721,265	$1,855,964	$1,993,136	$2,122,899	$2,232,577	$2,167,002
G20	Site Improvements	$2,178,230	$5,402,640	$5,637,470	$5,901,510	$5,781,265	$5,806,871	$3,914,881
G30	Site Mechanical Utilities	$930,862	$1,346,768	$1,359,268	$1,683,729	$1,624,329	$1,271,853	$618,500

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Essex Elementary School
Essex, MA
PSR Options Cost Estimate

6-Apr-26

ALL OPTIONS - UNIFORMAT COMPARISON

	A0.2 Code Update	A1.1 Reno+Add 165	A1.2B Reno+Add 250	A2.2A New Const 250	A2.2B New Const 250	A2.2F New Const 250	B1.1 Reno+Add 515
G40 Site Electrical Utilities	$402,200	$951,200	$957,200	$987,200	$977,200	$947,200	$444,000
BUILDING SUBTOTAL	**$18,541,703**	**$28,884,314**	**$37,725,890**	**$37,446,123**	**$36,908,245**	**$38,114,292**	**$23,854,554**
DEMOLITION	**-**	**-**	**-**	**$530,360**	**$795,540**	**$795,540**	**-**
HAZARDOUS MATERIALS	**$450,000**	**$450,000**	**$450,000**	**$450,000**	**$450,000**	**$450,000**	**$0**
SITEWORK SUBTOTAL	**$4,665,134**	**$9,421,873**	**$9,809,902**	**$10,565,575**	**$10,505,693**	**$10,258,501**	**$7,144,383**
SUB-TOTAL	**$23,656,837**	**$38,756,187**	**$47,985,792**	**$48,992,058**	**$48,659,478**	**$49,618,333**	**$30,998,937**
ESCALATION TO START DATE	$2,207,183	$4,391,076	$4,477,074	$4,570,959	$4,539,929	$4,629,390	$2,892,201
DESIGN AND PRICING CONTINGENCY	$3,103,682	$5,177,672	$6,295,544	$6,427,562	$6,383,929	$6,509,727	$4,066,937
SUB-TOTAL	**$28,967,702**	**$48,324,935**	**$58,758,410**	**$59,990,579**	**$59,583,336**	**$60,757,450**	**$37,958,075**
GENERAL CONDITIONS	#REF!	#REF!	#REF!	$3,520,000	#REF!	#REF!	#REF!
GENERAL REQUIREMENTS	$1,448,385	$1,932,997	$2,350,336	$2,399,623	$2,383,333	$2,430,298	$1,518,323
PHASING	$1,158,708	$1,932,997	$1,175,168	NR	$1,191,667	$1,215,149	$759,162
BONDS	$289,677	$483,249	$587,584	$599,906	$595,833	$607,575	$379,581
INSURANCES	$434,516	$724,874	$1,028,272	$1,049,835	$1,042,708	$1,063,255	$664,266
PERMIT	Excl	Excl	Excl	Excl	Excl	Excl	Excl
SUB-TOTAL	**#REF!**	**#REF!**	**#REF!**	**$67,559,943**	**#REF!**	**#REF!**	**#REF!**
FEE	#REF!	#REF!	#REF!	$1,688,999	#REF!	#REF!	#REF!
GMP CONTINGENCY	#REF!	#REF!	#REF!	$2,026,798	#REF!	#REF!	#REF!
TOTAL OF ALL CONSTRUCTION	**#REF!**	**#REF!**	**#REF!**	**$71,275,740**	**#REF!**	**#REF!**	**#REF!**
$/sf	*#REF!*	*#REF!*	*#REF!*	*$984*	*#REF!*	*#REF!*	*#REF!*

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Essex Elementary School
Essex, MA
PSR Options Cost Estimate

OPTION A0.2 - UNIFORMAT SUMMARY

Uniformat Code	Description	Building (53,036 sf)	Sitework Cost		Grand Total Cost
A SUBSTRUCTURE					
A10	Foundations	$302,575			$302,575
A20	Basement Construction	$0			$0
B SHELL					
B10	Superstructure	$490,000			$490,000
B20	Exterior Closure	$1,473,656			$1,473,656
B30	Roofing	$1,939,343			$1,939,343
C INTERIORS					
C10	Interior Construction	$1,241,087			$1,241,087
C20	Staircases	$0			$0
C30	Interior Finishes	$1,485,008			$1,485,008
D SERVICES					
D10	Conveying Systems	$0			$0
D20	Plumbing	$1,378,936			$1,378,936
D30	HVAC	$4,348,952			$4,348,952
D40	Fire Protection	$503,842			$503,842
D50	Electrical	$3,341,268			$3,341,268
E EQUIPMENT & FURNISHINGS					
E10	Equipment	$768,960			$768,960
E20	Furnishings	$595,952			$595,952
F SPECIAL CONSTRUCTION & DEMOLITION					
F10	Special Construction	$0			$0
F20	Selective Building Demolition	$672,124			$672,124
	HAZARDOUS MATERIALS				
	Remove Hazardous Materials	$450,000			$450,000
	G SITEWORK				
G10	Site Preparation		$1,153,842		$1,153,842
G20	Site Improvements		$2,178,230		$2,178,230
G30	Site Mechanical Utilities		$930,862		$930,862
G40	Site Electrical Utilities		$402,200		$402,200
BUILDING SUBTOTAL		**$18,541,703**			**$18,541,703**
$/sf		*$349.61*			
HAZARDOUS MATERIALS		**$450,000**			**$450,000**
SITEWORK SUBTOTAL			**$4,665,134**		**$4,665,134**
SUB-TOTAL					**$23,656,837**
ESCALATION TO START DATE				9.33%	$2,207,183
DESIGN AND PRICING CONTINGENCY				12.00%	$3,103,682
SUB-TOTAL					**$28,967,702**
GENERAL CONDIT	*MTHS @ $160,000/mo*			#REF!	#REF!
GENERAL REQUIREMENTS				5.00%	$1,448,385
PHASING				4.00%	$1,158,708
BONDS				1.00%	$289,677
INSURANCES				1.50%	$434,516
PERMIT				Excl	
SUB-TOTAL					**#REF!**
FEE				2.50%	#REF!
GMP CONTINGENCY				3.00%	#REF!
TOTAL OF ALL CONSTRUCTION					**#REF!**
$/sf (Total GFA)					*#REF!*

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A0.2 - CODE RENOVATION							
	GROSS FLOOR AREA CALCULATION						
	Lower Level			4,521			
	Main Level			48,515			
	TOTAL GROSS FLOOR AREA (GFA)				**53,036**	***sf***	
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
1	Allowance for foundation work at new structural steel bracing members/shear walls etc.				NR		
2	SUBTOTAL					-	
3							
4	**A1020 SPECIAL FOUNDATIONS**						
5	No Work in this section						
6	SUBTOTAL					-	
7							
8	**A1030 LOWEST FLOOR CONSTRUCTION**						
9	Floor leveling	**45,515**	sf	5.00	227,575		
10	Miscellaneous slab repairs, infills, cutting + patching at new plumbing work - allow at bathrooms + kitchen	**3,000**	sf	25.00	75,000		
11	SUBTOTAL					302,575	
12							
13	***TOTAL - FOUNDATIONS***						**$302,575**
14							
15							
16	***A20 BASEMENT CONSTRUCTION***						
17							
18	**A2010 BASEMENT EXCAVATION**						
19	No Work in this section						
20	SUBTOTAL					-	
21							
22	**A2020 BASEMENT WALLS**						
23	No Work in this section						
24	SUBTOTAL					-	
25							
26	***TOTAL - BASEMENT CONSTRUCTION***						
27							
28							
29	***B10 SUPERSTRUCTURE***						
30							
31	**B1010 FLOOR CONSTRUCTION**						
32	Allowance for structural steel bracing members upgrades	**53,036**	gsf	20.00	NR		
33	Allowance for CMU shear walls				NR		
34	Seismic clips at interior partitions	**53,036**	gsf	2.00	NR		
35	SUBTOTAL					-	
36							
37	**B1020 ROOF CONSTRUCTION**						
38							
39	*051200 STRUCTURAL STEEL FRAMING*						
40	Allowance for structural steel reinforcement at roof for new RTU's including dunnage; allow 2 lbs per SF	**49**	tns	10,000.00	490,000		
41	SUBTOTAL					490,000	
42							
43	***TOTAL - SUPERSTRUCTURE***						**$490,000**
44							
45							
46	***B20 EXTERIOR CLOSURE***						
47							
48	**B2010 EXTERIOR WALLS**	*27,330*	Total closure area				
49	**Exterior Wall Area**	*21,864*	*sf total area solid*				
50							
51	Cleaning + repairs; 100%	**21,864**	sf	20.00	437,280		
52	4" Spray foam insulation w/ 1 layer drywall and furring to interior face of exterior wall	**21,864**	sf	15.00	NR		
53	SUBTOTAL					437,280	
54							

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A0.2 - CODE RENOVATION							
B2020	**WINDOWS**						
	Glazed Wall Area	*5,466*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**1,640**	lf	12.00	19,680		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**1,640**	lf	10.00	16,400		
	Backer rod & double sealant	**1,640**	lf	11.00	18,040		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront replacement	**5,466**	sf	170.00	929,220		
089000	*LOUVERS*						
	Louvers				N/A		
	SUBTOTAL					983,340	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**53,036**	gsf	1.00	53,036		
	SUBTOTAL					53,036	
	TOTAL - EXTERIOR CLOSURE						**$1,473,656**
B30	***ROOFING***						
055000	*MISCELLANOUS METALS*						
	Allowance for roof ladders	**1**	ls	5,000.00	5,000		
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**48,515**	sf	1.50	72,773		
070002	*ROOFING AND FLASHING*						
	Removal of existing roofing	**48,515**	sf	5.00	242,575		
	PVC roof membrane system; complete	**48,515**	sf	30.00	1,455,450		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**48,515**	sf	3.00	145,545		
	SUBTOTAL					1,921,343	
B3020	**ROOF OPENINGS**						
	New roof hatch	**3**	ea	6,000.00	18,000		
	SUBTOTAL					18,000	
	TOTAL - ROOFING						**$1,939,343**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
061000	*ROUGH CARPENTRY*						
	Backer panels in electrical closets	**1**	ls	2,000.00	2,000		
	Wood blocking at interiors	**53,036**	gsf	1.00	53,036		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping	**53,036**	gsf	0.50	26,518		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**53,036**	gsf	1.25	66,295		
078150	*EXPANSION JOINTS*				See Addition		
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**53,036**	gsf	3.00	ETR		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for new interior GWB partitions; minor work	**53,036**	gsf	5.00	265,180		
	SUBTOTAL					413,029	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A0.2 - CODE RENOVATION							
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**53,036**	gsf	9.00	477,324		
	SUBTOTAL					477,324	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building	**53,036**	gsf	2.00	106,072		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**53,036**	gsf	2.00	106,072		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**53,036**	gsf	1.00	53,036		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**53,036**	gsf	0.50	26,518		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**53,036**	gsf	0.50	26,518		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**53,036**	gsf	0.50	26,518		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	5,000.00	5,000		
	AED cabinets	**1**	ls	1,000.00	1,000		
105000	*LOCKERS*						
	Student lockers	**53,036**	gsf	1.00	ETR		
	SUBTOTAL					350,734	
	TOTAL - INTERIOR CONSTRUCTION						**$1,241,087**
C20	***STAIRCASES***						
	Egress stairs upgrade for code		flt	20,000.00	NR		
	SUBTOTAL					-	
	TOTAL - STAIRCASES						
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Wall finishes; allowance	**53,036**	gsf	5.00	265,180		
	SUBTOTAL					265,180	
C3020	**FLOOR FINISHES**						
	Floor finishes complete package	**53,036**	gsf	9.00	477,324		
	SUBTOTAL					477,324	
C3030	**CEILING FINISHES**						
	Ceiling finishes, complete package	**53,036**	gsf	14.00	742,504		
	SUBTOTAL					742,504	
	TOTAL - INTERIOR FINISHES						**$1,485,008**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**				NR		
	SUBTOTAL					-	
	TOTAL - CONVEYING SYSTEMS						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A0.2 - CODE RENOVATION							
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**53,036**	gsf	25.00	1,325,900		
	Demolish existing	**53,036**	gsf	1.00	53,036		
	SUBTOTAL					1,378,936	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**53,036**	gsf	1.00	53,036		
	Option 3: Air source heat pump water heaters	**53,036**	gsf	4.00	212,144		
	Option 4: Water source heat pump water heaters	**53,036**	gsf	4.00	212,144		
	TOTAL - PLUMBING						**$1,378,936**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**53,036**	gsf	80.00	4,242,880		
	Demolish existing	**53,036**	gsf	2.00	106,072		
	SUBTOTAL					4,348,952	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**53,036**	gsf	10.00	530,360		
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**53,036**	gsf	38.00	2,015,368		
	TOTAL - HVAC						**$4,348,952**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**53,036**	gsf	8.00	424,288		
	Electric fire pump	**53,036**	gsf	1.00	53,036		
	Demolish existing	**53,036**	gsf	0.50	26,518		
	SUBTOTAL					503,842	
	TOTAL - FIRE PROTECTION						**$503,842**
D50	***ELECTRICAL***						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**53,036**	gsf	62.00	3,288,232		
	Demolish existing	**53,036**	gsf	1.00	53,036		
	SUBTOTAL					3,341,268	
	TOTAL - ELECTRICAL						**$3,341,268**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						
114000	*FOOD SERVICE EQUIPMENT*						
	Kitchen equipment	**1**	ls	598,640.00	598,640		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A0.2 - CODE RENOVATION							
115300	*EDUCATIONAL EQUIPMENT*						
	Kiln	**1**	ea	8,000.00	8,000		
115213	*PROJECTION SCREENS*				See Addition		
116600	*GYM EQUIPMENT*						
	Basketball backstops	**6**	ea	12,000.00	72,000		
	Divider curtain (1#)	**1**	ea	40,320.00	40,320		
126000	*SEATING*						
	Retractable bleachers in gym (200 seats)	**1**	ls	50,000.00	50,000		
	SUBTOTAL					768,960	
	TOTAL - EQUIPMENT						**$768,960**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**5,466**	sf	12.00	65,592		
123553	*CASEWORK*						
	Casework upgrades	**53,036**	gsf	10.00	530,360		
	SUBTOTAL					595,952	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$595,952**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	Sawcut and remove slab on grade	**3,000**	sf	15.00	45,000		
	Demolish and remove exterior glazing	**5,466**	sf	8.00	43,728		
	Interior demolition of walls, finishes + specialties for reconfigured spaces	**53,036**	sf	6.00	318,216		
	MEP demo; cut + cap in trades	**53,036**	sf	3.00	159,108		
	Temporary protection/ shoring existing etc.	**53,036**	sf	2.00	106,072		
	SUBTOTAL					672,124	
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	See main summary for HazMat allowance				See Summary		
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						**$672,124**
	SUBTOTAL						**$18,541,703**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION Ao.2						
	G SITEWORK						
	G10 SITE PREPARATION & DEMOLITION						
311000	*GENERAL CONDITIONS*						
	6' high site construction fence	**2,200**	lf	25.00	55,000		
	6' high site construction fence double gate	**1**	loc	5,000.00	5,000		
	Site construction entrance and removal/restoration	**1**	loc	12,000.00	12,000		
	Temp laydown areas	**1**	ls	10,000.00	10,000		
	Temporary signs	**1**	ls	20,000.00	Excluded		
	Wheel wash rack	**1**	ls	20,000.00	20,000		
	Engineering/layout	**1**	ls	45,000.00	45,000		
	Snow removal - allowance	**1**	ls		Excluded		
	Winter conditions - allowance	**1**	ls		Excluded		
	Police details	**1**	ls		Excluded		
	Site security	**1**	ls		Excluded		
	Job site construction trailer	**1**	ls		Excluded		
	Temp utilities for job trailer	**1**	ls		Excluded		
311000	*PHASING*						
	Phasing allowance	**1**	ea		NR		
311000	*SITE SALVAGE ITEMS*						
	Salvage memorials and plaques	**1**	ls	10,000.00	10,000		
	Salvage play equipment	**1**	ls	20,000.00	20,000		
311000	*SITE DEMOLITION AND RELOCATIONS*						
	Demolish existing paving, concrete and associated curbing	**72,378**	sf	1.25	90,473		
	Demolish existing courtyard area - assume specialty paving/plantings	**9,167**	sf	3.00	27,501		
	Demolish existing wood chips	**1,792**	sf	0.75	1,344		
	Demolish existing gravel	**6,182**	sf	1.25	7,728		
	Demolish existing playground	**6,410**	sf	1.50	9,615		
	Demolish existing play equipment	**1**	ls	10,000.00	10,000		
	Demolish existing boulders/stone steps	**24**	ea	250.00	6,000		
	Demolish steps	**146**	lf	20.00	2,920		
	Demolish existing walls	**250**	lf	95.00	23,750		
	Miscellaneous site demolition; furnishings, concrete pads, signs etc	**1**	ls	100,000.00	100,000		
311000	*UTILITY DEMOLITION*						
	Miscellaneous utility demolition	**1**	ls	50,000.00	50,000		
311000	*ROADWAY WORK - UTILITIES ALLOWANCES*						
	Sawcut	**200**	lf	8.25	1,650		
	Remove pavement	**500**	sf	3.50	1,750		
	Temp pavement patching	**500**	sf	8.00	4,000		
	Steel plates	**1**	ls	2,500.00	2,500		
	Police details	**7**	dy	850.00	5,950		
	Permanent pavement patch	**500**	sf	10.00	5,000		
311000	*VEGETATION & TOPSOIL MANAGEMENT*						
	Clear and grub	**3**	acre	5,000.00	15,000		
	Tree removal allowance	**1**	ls	20,000.00	20,000		
	Tree protection allowance	**1**	ls	5,000.00	5,000		
	Strip + stockpile topsoil	**2,278**	cy	11.50	26,197		
312000	*EROSION & SEDIMENT CONTROL*						
	Silt Fence; installation and removal - allowance	**2,200**	lf	15.00	33,000		
	Silt Sacks; installation and removal - allowance	**1**	ls	2,500.00	2,500		
	Erosion Control monitoring & maintenance	**1**	ls	25,000.00	25,000		
	SUBTOTAL					653,878	
312000	*BUILDING EARTHWORK*						
	Cut - over excavated 3' of fill beneath building		cy	10.00	NR		
	Fill - import structural - 25% swell		cy	65.00	NR		
	SUBTOTAL					-	
312000	*SITE EARTHWORK*						
	Site cut to design subgrade - assume 1/2' of cut	*4,764*	*cy*				
	Cut	**4,764**	cy	10.00	47,640		
	Store cut onsite - allowance for 50%	**2,382**	cy	3.50	8,337		
	Site cut processing	*2,382*	*cy*				
	Screen cut soils	**2,382**	cy	7.00	16,674		
	Site fill to design subgrade	*4,764*	*cy*				
	Fill - from cut	**2,382**	cy	12.00	28,584		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION Ao.2							
	Fill - imported common fill; swell 25%	**2,978**	cy	32.00	95,296		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**2,382**	cy	2.50	5,955		
	Less than RCS-1 - clean non-regulated	**4,049**	tn	23.00	93,127		
312000	*GEOTHERMAL - ALLOWANCE*						
	Groundwater management/ control measures	**1**	ls	50,000.00	w_hvac options		
	Support of geothermal	**1**	ls	200,000.00	w_hvac options		
312000	*GROUNDWATER CONTROLS*						
	Groundwater support	**1**	ls	50,000.00	50,000		
312000	*ROCK REMOVAL*						
	Rock removal allowance - bedrock and shallow rock excavation	**1**	ls	250,000.00	NR		
312000	*ESTABLISHING GRADE*						
	Sub grade establishment	**257,250**	sf	0.25	64,313		
	Fine grading throughout the site	**257,250**	sf	0.35	90,038		
312000	*HAZARDOUS MATERIALS*						
	UST removal allowance	**1**	ls	50,000.00	NR		
	SUBTOTAL					499,964	
	TOTAL - SITE PREPARATION						**$1,153,842**
G20	**SITE IMPROVEMENTS**						
320000	***ROADWAYS AND PARKING LOTS***						
	Asphalt Paving; parking lots and roadway - Heavy Duty (allow 25%)	*17,500*	*sf*				
	gravel base; 12" thick	**648**	cy	50.00	32,400		
	asphalt top; 2" thick	**224**	tns	225.00	50,400		
	asphalt binder; 2.5" thick	**278**	tns	190.00	52,820		
	Asphalt Paving; parking lots and roadway - Standard Duty(allow 75%)	*52,500*	*sf*				
	gravel base; 8" thick	**1,303**	cy	50.00	65,150		
	asphalt top; 2" thick	**671**	tns	225.00	150,975		
	asphalt binder; 2" thick	**671**	tns	190.00	127,490		
320000	*CURBING*						
	Vertical granite curb	**4,500**	lf	65.00	292,500		
	ADA Curb cuts - allowance	**10**	ea	850.00	8,500		
320000	*ROAD MARKINGS AND SIGNS*						
	Parking space striping - no count given - allowance	**1**	ls	30,000.00	30,000		
	Sign allowance	**1**	ls	20,000.00	20,000		
	Pavement markings allowance	**1**	ls	20,000.00	20,000		
	Crosswalk hatching allowance	**5**	loc	2,500.00	12,500		
320000	*OFF SITE IMPROVEMENTS*						
	Allowance for pavement markings, signs, RRFBs and speed feedback posts	**1**	ls	500,000.00	500,000		
	SUBTOTAL					1,362,735	
320000	***PEDESTRIAN PAVING***						
	Concrete sidewalks - allowance	*7,500*	*sf*				
	gravel base; 8" thick	**186**	cy	65.00	12,090		
	Broom finish concrete paving; 4" thick	**7,500**	sf	12.00	90,000		
	SUBTOTAL					102,090	
320000	***SITE IMPROVEMENTS***						
320000	*SITE FURNISHINGS - ALLOWANCES*						
	Raised planters	**5**	ea	4,000.00	20,000		
	Bike racks	**10**	ea	850.00	8,500		
	Trash and Recycling receptacles	**6**	ea	2,500.00	15,000		
	Benches	**5**	ea	3,500.00	17,500		
	Table and chairs	**5**	ea	4,500.00	22,500		
	Picnic tables	**5**	ea	4,000.00	20,000		
	Misc site furnishings	**1**	ls	50,000.00	50,000		
320000	*SPORTS COURTS AND PLAY AREAS*						
	Pavement areas	*5,000*	*sf*				

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION Ao.2							
	gravel base; 8" thick	**124**	cy	65.00	carried above		
	asphalt top; 1.5" thick	**47**	tns	225.00	carried above		
	asphalt binder; 1.5" thick	**47**	tns	190.00	carried above		
	Color coating - court striping and games	**5,000**	sf	0.90	4,500		
	Basketball hoops	**2**	ea	6,700.00	13,400		
	Play area - salvaged equipment, new surfacing	6,000	*sf*				
	gravel base; 8" thick	**149**	cy	65.00	ETR		
	Pour-in-place safety surface	**6,000**	sf	36.00	ETR		
	Edging	**300**	lf	45.00	ETR		
	Reinstall salvaged equipment	**1**	ls	50,000.00	ETR		
	Allowance for play equipment - 10% new equipment	**1**	ls	50,000.00	ETR		
320000	*FENCING*						
	Wood fence with mesh infill at pond	**250**	lf	95.00	23,750		
	SUBTOTAL					195,150	
	Landscaping						
329900	*TOPSOIL*						
	Screen topsoil	**2,278**	cy	7.50	17,085		
	Export tailings from screening process - assume clean rock	**683**	cy	8.50	5,806		
	Amend/Place	**1,595**	cy	25.00	39,875		
	Topsoil - imported 6" thick - swell 25%	**2,029**	cy	75.00	152,175		
329900	*LAWN AND SEED*	*150,000*	*sf*				
	Topsoil 6" thick - required	**2,778**	cy		incl. above		
	Scarify subgrade	**150,000**	sf	0.25	37,500		
	Power rake and hydroseed disturbed areas - allowance	**150,000**	sf	0.35	52,500		
	Landscape curbing in entrance areas - allowance	**100**	lf	125.00	12,500		
320000	*ATHLETIC LANDSCAPING*	*23,750*	*sf*				
	Topsoil 6" thick - required	**440**	cy		incl. above		
	Scarify subgrade	**23,750**	sf	0.25	5,938		
	Natural grass field	*23,750*	*sf*				
	Lawn seeding	**23,750**	sf	0.35	8,313		
	Irrigation	**23,750**	sf	2.75	65,313		
329900	*TREES*						
	Replace any trees in poor condition	**1**	ls	50,000.00	50,000		
329900	*SHRUBS AND GROUNDCOVERS*						
	Cut back and remove plant material in poor health and/or invasives	**1**	ls	25,000.00	25,000		
329900	*MAINTENANCE*						
	1-yr plant maintenance	**1**	ls	11,250.00	11,250		
	Watering to grow-in	**1**	ls	10,000.00	10,000		
328400	*IRRIGATION*						
	Irrigation at trees - allowance	**1**	ls	25,000.00	25,000		
	SUBTOTAL					518,255	
	TOTAL - SITE IMPROVEMENTS						**$2,178,230**
G30	**CIVIL MECHANICAL UTILITIES**						
210000	*FIRE PROTECTION*						
	6" CLDI	**1,000**	lf	49.64	49,640		
	Fire department connection	**1**	ea	2,500.00	2,500		
	Gate valve - allowance	**1**	ls	2,500.00	2,500		
	Fire hydrant	**3**	ea	6,500.00	19,500		
	Thrust blocks - allowance	**1**	ls	2,500.00	2,500		
331000	*WATER UTILITIES*						
	4" CLDI	**1,000**	lf	67.50	67,500		
331000	*CONNECTIONS*						
	Connect to existing water line; 6/8/10 (in roadway)	**2**	ea	15,000.00	30,000		
312000	*EXCAVATION & BACKFILL*	*2,000*	*lf*				
	DI gravity piping excavation	**1,778**	cy	46.75	83,122		
	Trench bedding	**400**	cy	38.50	15,400		
	Pressure test & chlorinate	**1,000**	lf	5.00	5,000		
	SUBTOTAL					277,662	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION Ao.2							
333000	*SANITARY SEWER*						
	No work in this section						
	SUBTOTAL					-	
334000	*STORM DRAINAGE*						
	18" PVC	**1,500**	lf	100.00	150,000		
	12" PVC	**2,000**	lf	75.00	150,000		
	6" PVC	**1,000**	lf	55.00	55,000		
	4' Dia. DMH - 0-5' deep	**5**	ea	5,000.00	25,000		
	AD	**4**	ea	2,500.00	10,000		
	WQU	**2**	ea	20,000.00	40,000		
	CB - 4' Dia.	**9**	ea	4,800.00	43,200		
	Allowance for drainage at playgrounds	**6,000**	sf	2.50	15,000		
334000	*SURFACE DRAINAGE SYSTEMS*						
	Bio retention/Rain Garden	*2,500*	*sf*				
	Allowance for bio-retention areas	**2,500**	sf	18.00	45,000		
334000	*SUBSURFACE DRAINAGE SYSTEMS*						
	Underground recharger						
	Allowance for plastic chambers	**10,000**	cf	12.00	120,000		
	SUBTOTAL					653,200	
	TOTAL - SITE MECHCANICAL UTILITIES						**$930,862**
G40	**ELECTRICAL UTILITIES**						
	Services						
	Primary electric service empty conduit	**300**	lf	120.00	36,000		
	Secondary electrical service	**80**	lf	1,200.00	96,000		
	Generator service	**80**	lf	240.00	19,200		
	Communications service	**300**	lf	170.00	51,000		
	Site Lighting						
	Site lighting and circuitry	**70,000**	sf	2.00	140,000		
	Sports field lighting				N/A		
	EV Stations						
	Dual EV stations; infrastructure only	**1**	ls	30,000.00	30,000		
	Site Security						
	Site security	**1**	ls	30,000.00	30,000		
	SUBTOTAL					402,200	
	TOTAL - SITE ELECTRICAL UTILITIES						**$402,200**
	TOTAL - SITE DEVELOPMENT						**$4,665,134**

PM&C

Essex Elementary School
Essex, MA
PSR Options Cost Estimate

OPTION A1.1 - UNIFORMAT SUMMARY

Uniformat Code	Description	New Addition (7,036 sf)	Renovation (53,036 sf)	Total Building Cost	Sitework Cost		Grand Total Cost
A SUBSTRUCTURE							
A10	Foundations	$562,425	$832,935	$1,395,360			$1,395,360
A20	Basement Construction	$0	$0	$0			$0
B SHELL							
B10	Superstructure	$459,186	$1,525,900	$1,985,086			$1,985,086
B20	Exterior Closure	$1,575,881	$2,348,216	$3,924,097			$3,924,097
B30	Roofing	$252,742	$1,939,343	$2,192,085			$2,192,085
C INTERIORS							
C10	Interior Construction	$492,804	$2,905,828	$3,398,632			$3,398,632
C20	Staircases	$0	$10,000	$10,000			$10,000
C30	Interior Finishes	$267,368	$2,015,368	$2,282,736			$2,282,736
D SERVICES							
D10	Conveying Systems	$0	$0	$0			$0
D20	Plumbing	$175,900	$1,378,936	$1,554,836			$1,554,836
D30	HVAC	$562,880	$4,348,952	$4,911,832			$4,911,832
D40	Fire Protection	$59,806	$503,842	$563,648			$563,648
D50	Electrical	$422,160	$3,341,268	$3,763,428			$3,763,428
E EQUIPMENT & FURNISHINGS							
E10	Equipment	$238,820	$753,640	$992,460			$992,460
E20	Furnishings	$130,964	$808,096	$939,060			$939,060
F SPECIAL CONSTRUCTION & DEMOLITION							
F10	Special Construction	$0	$0	$0			$0
F20	Selective Building Demolition	$0	$971,054	$971,054			$971,054
	HAZARDOUS MATERIALS						
	Remove Hazardous Materials			$450,000			$450,000
	G SITEWORK						
G10	Site Preparation				$1,721,265		$1,721,265
G20	Site Improvements				$5,402,640		$5,402,640
G30	Site Mechanical Utilities				$1,346,768		$1,346,768
G40	Site Electrical Utilities				$951,200		$951,200
BUILDING SUBTOTAL		**$5,200,936**	**$23,683,378**	**$28,884,314**			**$28,884,314**
$/sf		*$739.19*	*$446.55*	*$480.83*			
HAZARDOUS MATERIALS				**$450,000**			**$450,000**
SITEWORK SUBTOTAL					**$9,421,873**		**$9,421,873**
SUB-TOTAL							**$38,756,187**
ESCALATION TO START DATE						11.33%	$4,391,076
DESIGN AND PRICING CONTINGENCY						12.00%	$5,177,672
SUB-TOTAL							**$48,324,935**
GENERAL CONDITIC	*MTHS @ $160,000/mo*					#REF!	#REF!
GENERAL REQUIREMENTS						4.00%	$1,932,997
PHASING						4.00%	$1,932,997
BONDS						1.00%	$483,249
INSURANCES						1.50%	$724,874
PERMIT						Excl	
SUB-TOTAL							**#REF!**
FEE						2.50%	#REF!
GMP CONTINGENCY						3.00%	#REF!
TOTAL OF ALL CONSTRUCTION							**#REF!**
$/sf (Total GFA)							*#REF!*

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - NEW ADDITION							
	GROSS FLOOR AREA CALCULATION						
		Level 1		7,036			
	TOTAL GROSS FLOOR AREA (GFA)					**7,036**	***sf***
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
	Strip footings - perimeter; 36"x12"						
	Formwork	**644**	sf	20.00	12,880		
	Re-bar	**3,864**	lbs.	2.00	7,728		
	Concrete material	**38**	cy	171.00	6,498		
	Placing concrete	**38**	cy	130.00	4,940		
	Typical foundation walls, 18" thick						
	Formwork	**2,576**	sf	22.00	56,672		
	Re-bar	**6,440**	lbs.	2.00	12,880		
	Concrete material	**75**	cy	171.00	12,825		
	Placing concrete	**75**	cy	130.00	9,750		
	Form shelf	**322**	lf	10.00	3,220		
	Spread Footings; allow 7'x7'x21" at 2-story						
	Formwork		sf	18.00			
	Re-bar		lbs.	2.00			
	Concrete material		cy	171.00			
	Placing concrete		cy	130.00			
	Set anchor bolts grout plates		ea	250.00			
	Spread Footings; allow 5'x5'x15" at 1-story						
	Formwork	**575**	sf	18.00	10,350		
	Re-bar	**2,300**	lbs.	2.00	4,600		
	Concrete material	**28**	cy	171.00	4,788		
	Placing concrete	**28**	cy	130.00	3,640		
	Set anchor bolts grout plates	**23**	ea	250.00	5,750		
	Grade beams; allow 100 LF						
	Formwork	**400**	sf	20.00	8,000		
	Re-bar	**8,500**	lbs.	2.00	17,000		
	Concrete material	**19**	cy	171.00	3,249		
	Placing concrete	**19**	cy	130.00	2,470		
	Piers/Pilasters	**14**	cy	1,500.00	21,000		
	Elevator Pits						
	Walls, 12" thick		ea				
	Formwork		sf	26.00			
	Re-bar		lbs.	2.00			
	Concrete material		cy	171.00			
	Placing concrete		cy	130.00			
	Mat slab at pits, 24" thick		sf	25.00			
	Premium for deep foundation wall					NR	
	Foundations against existing building	**90**	lf	500.00	45,000		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Trowelled on mastic damproofing at foundation wall	**1,288**	sf	5.00	6,440		
	Waterproofing at elevator pit		sf	14.00			
072100	*THERMAL INSULATION*						
	Foundation wall insulation	**1,288**	sf	5.50	7,084		
312000	*EARTHWORK*						
	Strip footings/ fdn wall						
	Excavation & reuse on site	**358**	cy	40.00	14,320		
	Spread footings						
	Excavation & reuse on site	**183**	cy	40.00	7,320		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - NEW ADDITION							
	Building cut to design subgrade - allowance (no geotech report just borings)	*782*	*cy*				
	Cut - over excavated 3' of fill beneath building	**782**	cy	10.00	7,820		
	building fill to design subgrade	*978*	*cy*				
	Fill - import structural - 25% swell	**978**	cy	46.00	44,988		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**782**	cy	2.50	1,955		
	Clean non-regulated	**1,329**	tn	16.00	21,264		
	Miscellaneous						
	Perimeter drain	**322**	lf	32.00	10,304		
	Underslab drainage	**7,036**	sf	3.00	21,108		
	Dewatering for foundation work	**1**	ls	15,000.00	15,000		
	SUBTOTAL					410,843	
A1020	**SPECIAL FOUNDATIONS**				Not anticipated		
	SUBTOTAL					-	
A1030	**LOWEST FLOOR CONSTRUCTION**						
033000	*CONCRETE*						
	Vapor barrier	**7,036**	sf	1.25	8,795		
	Slab on grade	*7,036*	*sf*				
	WWF reinforcement	**8,091**	sf	1.85	14,968		
	Concrete - 5" thick	**115**	cy	171.00	19,665		
	Placing concrete	**115**	cy	70.00	8,050		
	Finishing and curing concrete	**7,036**	sf	4.00	28,144		
	Control joints - saw cut	**7,036**	sf	0.10	704		
	Miscellaneous						
	Equipment pads	**1**	ls	15,000.00	15,000		
	Loading dock	**1**	ls	50,000.00	NR		
	Radon system	**7,036**	sf	3.50	24,626		
072100	*THERMAL INSULATION*						
	Under slab insulation; 4ft at perimeter	**1,288**	sf	3.50	4,508		
312000	*EARTHWORK*						
	Gravel base, 12"	**261**	cy	50.00	13,050		
	Compact existing sub-grade	**7,036**	sf	0.50	3,518		
	Underslab E&B for plumbing	**7,036**	sf	1.50	10,554		
	SUBTOTAL					151,582	
	TOTAL - FOUNDATIONS						**$562,425**
A20	***BASEMENT CONSTRUCTION***						
A2010	**BASEMENT EXCAVATION**						
	No Work in this section						
	SUBTOTAL					-	
A2020	**BASEMENT WALLS**						
	No Work in this section						
	SUBTOTAL					-	
	TOTAL - BASEMENT CONSTRUCTION						
B10	***SUPERSTRUCTURE***						
		13.1	*lbs/sf*				
B1010	**FLOOR CONSTRUCTION**	*46*	*tns*	excluding canopies + roof screens			
		$7,265	*$/Ton*				
033000	*CONCRETE*						
	WWF reinforcement		sf	1.85			
	Concrete fill to metal deck; light weight, total thickness 6 1/4"		cy	260.00			
	Place and finish concrete		sf	3.50			
	Rebar to decks		lbs	2.00			

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - NEW ADDITION							
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 15.3 lbs per SF		tns	5,200.00			
	Shear studs		ea	3.50			
	3" metal galvanized floor deck		sf	7.00			
	Thermal break	1	ls	30,000.00	NR		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams		sf	3.00			
	Intumescent paint @ architecturally exposed beams and columns - allow	1	ls	25,000.00	NR		
	SUBTOTAL					-	
B1020	**ROOF CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete deck at low roofs and at mechanical equipment pads - allow	**10,000**	sf	10.00	100,000		
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 13.1 lbs per SF	**46**	tns	5,200.00	239,200		
	Roof screens		tns	5,500.00			
	Decking						
	3" galvanized metal deck, typical	**7,036**	sf	7.50	52,770		
	Premium for acoustic at Gym	**7,036**	sf	6.00	42,216		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fireproofing to columns, beams and deck		sf	3.50	NR		
	Intumescent paint to primary roof members exposed to view - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					459,186	
	TOTAL - SUPERSTRUCTURE						**$459,186**
B20	***EXTERIOR CLOSURE***						
B2010	**EXTERIOR WALLS**	*9,016*	Total closure area				
	Exterior Wall Area - 70% solid	*6,311*	*sf total area solid*				
042000	*MASONRY*						
	Mockup	**1**	ls	50,000.00	50,000		
	Brick veneer; 80%	**5,049**	sf	52.00	262,548		
	CMU Backup; 12"	**6,311**	sf	45.00	283,995		
	Miscellaneous flashings and sealants	**6,311**	sf	1.50	9,467		
	Staging to exterior wall	**6,311**	sf	4.00	25,244		
055000	*MISC. METALS*						
	Misc. metals at masonry including loose lintels (relieving angles included in steel tns)	**6,311**	sf	2.00	12,622		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier	**6,311**	sf	9.50	59,955		
	Air barrier/flashing at openings	**1,353**	lf	6.00	8,118		
072100	*THERMAL INSULATION*						
	4" rigid insulation	**6,311**	sf	5.00	31,555		
	Batt insulation in stud	**6,311**	sf	3.00	CMU Backup		
	Insulation at glazed openings	**1,353**	lf	6.00	8,118		
076400	*CLADDING*						
	Rainscreen; 20%	**1,262**	sf	120.00	151,440		
	Acoustic Equipment Screen		sf	95.00			
	EXPANSION JOINT COVERS						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - NEW ADDITION							
	Expansion joints	**1**	ls	30,000.00	30,000		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Exterior wall;						
	8" Stud backup	**6,311**	sf	18.00	CMU Backup		
	Gypsum sheathing	**6,311**	sf	3.50	CMU Backup		
	Drywall lining to interior face of stud backup	**6,311**	sf	4.50	28,400		
101400	*SIGNAGE*						
	Exterior signage - allowance	**1**	ls	30,000.00	30,000		
	SUBTOTAL					991,462	
B2020	**WINDOWS**						
	Exterior Wall Area; 30%	*2,705*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**1,353**	lf	12.00	16,236		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**1,353**	lf	10.00	13,530		
	Backer rod & double sealant	**1,353**	lf	11.00	14,883		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront	**1,758**	sf	165.00	290,070		
	Curtainwall; 35%	**947**	sf	200.00	189,400		
	Security glazing allowance; 15%	**406**	sf	50.00	20,300		
	Sunshades - allowance	**1**	ls	100,000.00	NR		
089000	*LOUVERS*						
	Louvers	**1**	ls	10,000.00	10,000		
	SUBTOTAL					554,419	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**1**	ls	30,000.00	30,000		
	SUBTOTAL					30,000	
	TOTAL - EXTERIOR CLOSURE						**$1,575,881**
B30	***ROOFING***						
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**7,036**	sf	1.50	10,554		
070002	*ROOFING AND FLASHING*						
	PVC roof membrane system; complete	**7,036**	sf	30.00	211,080		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**7,036**	sf	3.00	21,108		
	SUBTOTAL					242,742	
B3020	**ROOF OPENINGS**						
086300	*ROOF SKYLIGHTS*						
	Allowance for roof hatches	**1**	ls	10,000.00	10,000		
	SUBTOTAL					10,000	
	TOTAL - ROOFING						**$252,742**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
040001	*MASONRY*						
	Allowance for masonry partitions	**7,036**	gsf	6.00	42,216		
061000	*ROUGH CARPENTRY*						
	Backer panels in electrical closets	**1**	ls	10,000.00	10,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - NEW ADDITION							
	Wood blocking at interiors	**7,036**	gsf	0.50	3,518		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping including slab edges and core	**7,036**	gsf	0.75	5,277		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**7,036**	gsf	1.25	8,795		
078150	*EXPANSION JOINTS*						
	Allowance for expansion joint covers	**1**	ls	30,000.00	30,000		
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**7,036**	gsf	4.00	28,144		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for clean, safety + laborers	**7,036**	gsf	4.00	28,144		
	Allowance for GWB partitions	**7,036**	gsf	26.00	182,936		
	SUBTOTAL					339,030	
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**7,036**	gsf	9.00	63,324		
	SUBTOTAL					63,324	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building including rails at open to below	**7,036**	gsf	5.00	35,180		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**7,036**	gsf	4.00	28,144		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**7,036**	gsf	1.00	7,036		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**7,036**	gsf	1.50	10,554		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**7,036**	gsf	0.50	3,518		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**7,036**	gsf	0.50	3,518		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	500.00	500		
	AED cabinets	**1**	ls	2,000.00	2,000		
105000	*LOCKERS*						
	Student lockers				w/Reno		
	SUBTOTAL					90,450	
	TOTAL - INTERIOR CONSTRUCTION						**$492,804**
C20	***STAIRCASES***						
C2010	**STAIR CONSTRUCTION**						
	SUBTOTAL					-	
C2020	**STAIR FINISHES**						
	SUBTOTAL					-	
	TOTAL - STAIRCASES						
C30	***INTERIOR FINISHES***						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - NEW ADDITION							
C3010	**WALL FINISHES**						
	Wall finishes; allowance	**7,036**	gsf	13.00	91,468		
	SUBTOTAL					91,468	
C3020	**FLOOR FINISHES**						
	Floor finishes complete package	**7,036**	gsf	11.00	77,396		
	SUBTOTAL					77,396	
C3030	**CEILING FINISHES**						
	Ceiling finishes, complete package	**7,036**	gsf	14.00	98,504		
	SUBTOTAL					98,504	
	TOTAL - INTERIOR FINISHES						**$267,368**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**						
	SUBTOTAL					-	
	TOTAL - CONVEYING SYSTEMS						
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**7,036**	gsf	25.00	175,900		
	SUBTOTAL					175,900	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**7,036**	gsf	1.00	7,036		
	Option 3: Air source heat pump water heaters	**7,036**	gsf	4.00	28,144		
	Option 4: Water source heat pump water heaters	**7,036**	gsf	4.00	28,144		
	TOTAL - PLUMBING						**$175,900**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**7,036**	gsf	80.00	562,880		
	SUBTOTAL					562,880	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**7,036**	gsf	10.00	70,360		
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**7,036**	gsf	38.00	267,368		
	TOTAL - HVAC						**$562,880**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**7,036**	gsf	7.50	52,770		
	Electric fire pump	**7,036**	gsf	1.00	7,036		
	SUBTOTAL					59,806	
	TOTAL - FIRE PROTECTION						**$59,806**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - NEW ADDITION							
	D50 ELECTRICAL						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**7,036**	gsf	60.00	422,160		
	SUBTOTAL					422,160	
	TOTAL - ELECTRICAL						**$422,160**
	E10 EQUIPMENT						
E10	**EQUIPMENT, GENERALLY**						
116600	*GYM EQUIPMENT*						
	Basketball backstops	**6**	ea	12,000.00	72,000		
	Scoreboard w/ shot clock - allow	**2**	ea	25,000.00	50,000		
	Gym wall pads	**2,000**	sf	17.00	34,000		
	Volleyball equipment	**1**	ls	5,000.00	5,000		
	Divider curtain (1#)	**1**	ea	40,320.00	40,320		
126000	*SEATING*						
	Retractable bleachers in gym (150 seats)	**1**	ls	37,500.00	37,500		
	SUBTOTAL					238,820	
	TOTAL - EQUIPMENT						**$238,820**
	E20 FURNISHINGS						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**2,705**	sf	12.00	32,460		
123553	*CASEWORK*						
	Casework package	**7,036**	gsf	14.00	98,504		
	SUBTOTAL					130,964	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$130,964**
	F10 SPECIAL CONSTRUCTION						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - NEW ADDITION							
444	***F20 SELECTIVE BUILDING DEMOLITION***						
445							
446	**F2010 BUILDING ELEMENTS DEMOLITION**						
447	SUBTOTAL					-	
448							
449	**F2020 HAZARDOUS COMPONENTS ABATEMENT**						
450	See main summary for HazMat allowance				See Summary		
451	SUBTOTAL						
452							
453	***TOTAL - SELECTIVE BUILDING DEMOLITION***						
	SUBTOTAL						**$5,200,936**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - RENOVATION							
	GROSS FLOOR AREA CALCULATION						
	Lower Level			4,521			
	Main Level			48,515			
	TOTAL GROSS FLOOR AREA (GFA)				**53,036** ***sf***		
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
	Allowance for foundation work at new structural steel bracing members/shear walls etc.	**53,036**	gsf	10.00	530,360		
	SUBTOTAL					530,360	
	A1020 SPECIAL FOUNDATIONS						
	No Work in this section						
	SUBTOTAL					-	
	A1030 LOWEST FLOOR CONSTRUCTION						
	Floor leveling	**45,515**	sf	5.00	227,575		
	Miscellaneous slab repairs, infills, cutting + patching at new plumbing work - allow at bathrooms + kitchen	**3,000**	sf	25.00	75,000		
	SUBTOTAL					302,575	
	TOTAL - FOUNDATIONS						**$832,935**
	A20 BASEMENT CONSTRUCTION						
	A2010 BASEMENT EXCAVATION						
	No Work in this section						
	SUBTOTAL					-	
	A2020 BASEMENT WALLS						
	No Work in this section						
	SUBTOTAL					-	
	TOTAL - BASEMENT CONSTRUCTION						
	B10 SUPERSTRUCTURE						
	B1010 FLOOR CONSTRUCTION						
	Allowance for structural steel bracing members upgrades	**53,036**	gsf	25.00	1,325,900		
	Seismic clips at interior partitions	**53,036**	gsf		Included		
	SUBTOTAL					1,325,900	
	B1020 ROOF CONSTRUCTION						
051200	*STRUCTURAL STEEL FRAMING*						
	Allowance for structural steel reinforcement at roof for new RTU's including dunnage	**25**	tns	8,000.00	200,000		
	SUBTOTAL					200,000	
	TOTAL - SUPERSTRUCTURE						**$1,525,900**
	B20 EXTERIOR CLOSURE						
	B2010 EXTERIOR WALLS	*27,330*	Total closure area				
	Exterior Wall Area	*21,864*	*sf total area solid*				
	Repointing; 100%	21,864	sf	45.00	983,880		
	3" Spray foam insulation w/ 1 layer drywall and furring to interior face of exterior wall	21,864	sf	15.00	327,960		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - RENOVATION							
	SUBTOTAL					1,311,840	
B2020	**WINDOWS**						
	Glazed Wall Area	*5,466*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**1,640**	lf	12.00	19,680		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**1,640**	lf	10.00	16,400		
	Backer rod & double sealant	**1,640**	lf	11.00	18,040		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront replacement	**5,466**	sf	170.00	929,220		
089000	*LOUVERS*						
	Louvers				N/A		
	SUBTOTAL					983,340	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**53,036**	gsf	1.00	53,036		
	SUBTOTAL					53,036	
	TOTAL - EXTERIOR CLOSURE						**$2,348,216**
B30	***ROOFING***						
055000	*MISCELLANOUS METALS*						
	Allowance for roof ladders	**1**	ls	5,000.00	5,000		
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**48,515**	sf	1.50	72,773		
070002	*ROOFING AND FLASHING*						
	Removal of existing roofing	**48,515**	sf	5.00	242,575		
	PVC roof membrane system; complete	**48,515**	sf	30.00	1,455,450		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**48,515**	sf	3.00	145,545		
	SUBTOTAL					1,921,343	
B3020	**ROOF OPENINGS**						
	New roof hatch	**3**	ea	6,000.00	18,000		
	SUBTOTAL					18,000	
	TOTAL - ROOFING						**$1,939,343**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
040001	*MASONRY*						
	Allowance for masonry partitions; 100% replacement	**53,036**	gsf	5.00	265,180		
061000	*ROUGH CARPENTRY*						
	Backer panels in electrical closets	**1**	ls	2,000.00	2,000		
	Wood blocking at interiors	**53,036**	gsf	0.50	26,518		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping including slab edges and core	**53,036**	gsf	0.50	26,518		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**53,036**	gsf	1.25	66,295		
078150	*EXPANSION JOINTS*				See Addition		
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**53,036**	gsf	4.00	212,144		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - RENOVATION							
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for new interior GWB partitions; 80% replacement	**53,036**	gsf	20.80	1,103,149		
	SUBTOTAL					1,701,804	
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**53,036**	gsf	9.00	477,324		
	SUBTOTAL					477,324	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building	**53,036**	gsf	5.00	265,180		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**53,036**	gsf	4.00	212,144		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**53,036**	gsf	1.00	53,036		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**53,036**	gsf	1.50	79,554		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**53,036**	gsf	0.50	26,518		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**53,036**	gsf	0.50	26,518		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	5,000.00	5,000		
	AED cabinets	**1**	ls	1,000.00	1,000		
105000	*LOCKERS*						
	Student lockers	**165**	opng	350.00	57,750		
	SUBTOTAL					726,700	
	TOTAL - INTERIOR CONSTRUCTION						**$2,905,828**
C20	***STAIRCASES***						
	Egress stairs upgrade for code	**1**	flt	10,000.00	10,000		
	SUBTOTAL					10,000	
	TOTAL - STAIRCASES						**$10,000**
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Wall finishes; allowance	**53,036**	gsf	13.00	689,468		
	SUBTOTAL					689,468	
C3020	**FLOOR FINISHES**						
	Floor finishes complete package	**53,036**	gsf	11.00	583,396		
	SUBTOTAL					583,396	
C3030	**CEILING FINISHES**						
	Ceiling finishes, complete package	**53,036**	gsf	14.00	742,504		
	SUBTOTAL					742,504	
	TOTAL - INTERIOR FINISHES						**$2,015,368**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**				NR		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - RENOVATION							
	SUBTOTAL					-	
	TOTAL - CONVEYING SYSTEMS						
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**53,036**	gsf	25.00	1,325,900		
	Demolish existing	**53,036**	gsf	1.00	53,036		
	SUBTOTAL					1,378,936	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**53,036**	gsf	1.00	53,036		
	Option 3: Air source heat pump water heaters	**53,036**	gsf	4.00	212,144		
	Option 4: Water source heat pump water heaters	**53,036**	gsf	4.00	212,144		
	TOTAL - PLUMBING						**$1,378,936**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**53,036**	gsf	80.00	4,242,880		
	Demolish existing	**53,036**	gsf	2.00	106,072		
	SUBTOTAL					4,348,952	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**53,036**	gsf	10.00	530,360		
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**53,036**	gsf	38.00	2,015,368		
	TOTAL - HVAC						**$4,348,952**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**53,036**	gsf	8.00	424,288		
	Electric fire pump	**53,036**	gsf	1.00	53,036		
	Demolish existing	**53,036**	gsf	0.50	26,518		
	SUBTOTAL					503,842	
	TOTAL - FIRE PROTECTION						**$503,842**
D50	***ELECTRICAL***						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**53,036**	gsf	62.00	3,288,232		
	Demolish existing	**53,036**	gsf	1.00	53,036		
	SUBTOTAL					3,341,268	
	TOTAL - ELECTRICAL						**$3,341,268**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - RENOVATION							
112000	*LOADING DOCK EQUIPMENT*						
	Loading dock equipment	**1**	ls	10,000.00	10,000		
110620	*THEATRICAL EQUIPMENT*						
	Allowance						
	cafeteria rigging & stage curtains - allowance	**1**	ls	100,000.00	100,000		
113100	*APPLIANCES*						
	Residential appliances - allowance	**1**	ls	15,000.00	15,000		
114000	*FOOD SERVICE EQUIPMENT*						
	Kitchen equipment	**1**	ls	598,640.00	598,640		
115213	*PROJECTION SCREENS*						
	Motorized projection screen - allowance	**1**	ls	30,000.00	30,000		
	SUBTOTAL					753,640	
	TOTAL - EQUIPMENT						**$753,640**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**5,466**	sf	12.00	65,592		
123553	*CASEWORK*						
	Casework package	**53,036**	gsf	14.00	742,504		
	SUBTOTAL					808,096	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$808,096**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	Sawcut and remove slab on grade	**3,000**	sf	15.00	45,000		
	Demolish and remove exterior glazing	**5,466**	sf	8.00	43,728		
	Demolish exterior closure	**1,350**	sf	25.00	33,750		
	Interior demolition of walls, finishes + specialties for reconfigured spaces	**53,036**	sf	10.00	530,360		
	MEP demo; cut + cap in trades	**53,036**	sf	3.00	159,108		
	Temporary protection/ shoring existing etc.	**53,036**	sf	3.00	159,108		
	SUBTOTAL					971,054	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.1 - RENOVATION							
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	See main summary for HazMat allowance				See Summary		
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						**$971,054**
	SUBTOTAL						**$23,683,378**

SITEWORK OPTION A1.1

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	G SITEWORK						
	G10 SITE PREPARATION & DEMOLITION						
311000	*GENERAL CONDITIONS*						
	6' high site construction fence	**2,200**	lf	25.00	55,000		
	6' high site construction fence double gate	**1**	loc	5,000.00	5,000		
	Site construction entrance and removal/restoration	**1**	loc	12,000.00	12,000		
	Temp laydown areas	**1**	ls	10,000.00	10,000		
	Temporary signs	**1**	ls	20,000.00	Excluded		
	Wheel wash rack	**1**	ls	20,000.00	20,000		
	Engineering/layout	**1**	ls	45,000.00	45,000		
	Snow removal - allowance	**1**	ls		Excluded		
	Winter conditions - allowance	**1**	ls		Excluded		
	Police details	**1**	ls		Excluded		
	Site security	**1**	ls		Excluded		
	Job site construction trailer	**1**	ls		Excluded		
	Temp utilities for job trailer	**1**	ls		Excluded		
311000	*PHASING*						
	Phasing allowance	**1**	ea	250,000.00	250,000		
311000	*SITE SALVAGE ITEMS*						
	Salvage memorials and plaques	**1**	ls	10,000.00	10,000		
	Salvage play equipment	**1**	ls	20,000.00	20,000		
311000	*SITE DEMOLITION AND RELOCATIONS*						
	Demolish existing paving, concrete and associated curbing	**72,378**	sf	1.25	90,473		
	Demolish existing courtyard area - assume specialty paving/plantings	**9,167**	sf	3.00	27,501		
	Demolish existing wood chips	**1,792**	sf	0.75	1,344		
	Demolish existing gravel	**6,182**	sf	1.25	7,728		
	Demolish existing playground	**6,410**	sf	1.50	9,615		
	Demolish existing play equipment	**1**	ls	10,000.00	10,000		
	Demolish existing boulders/stone steps	**24**	ea	250.00	6,000		
	Demolish steps	**146**	lf	20.00	2,920		
	Demolish existing walls	**250**	lf	95.00	23,750		
	Miscellaneous site demolition; furnishings, concrete pads, signs etc	**1**	ls	50,000.00	50,000		
311000	*UTILITY DEMOLITION*						
	Miscellaneous utility demolition	**1**	ls	50,000.00	50,000		
311000	*ROADWAY WORK - UTILITIES ALLOWANCES*						
	Sawcut	**200**	lf	8.25	1,650		
	Remove pavement	**500**	sf	3.50	1,750		
	Temp pavement patching	**500**	sf	8.00	4,000		
	Steel plates	**1**	ls	2,500.00	2,500		
	Police details	**7**	dy	850.00	5,950		
	Permanent pavement patch	**500**	sf	10.00	5,000		
311000	*VEGETATION & TOPSOIL MANAGEMENT*						
	Clear and grub	**3**	acre	5,000.00	15,000		
	Tree removal allowance	**1**	ls	20,000.00	20,000		
	Tree protection allowance	**1**	ls	5,000.00	5,000		
	Strip + stockpile topsoil	**2,278**	cy	11.50	26,197		
312000	*EROSION & SEDIMENT CONTROL*						
	Silt Fence; installation and removal - allowance	**2,200**	lf	15.00	33,000		
	Silt Sacks; installation and removal - allowance	**1**	ls	2,500.00	2,500		
	Erosion Control monitoring & maintenance	**1**	ls	25,000.00	25,000		
	SUBTOTAL					853,878	
312000	*BUILDING EARTHWORK*						
	Cut - allowance for 2' of overexcavation	**689**	cy	10.00	6,890		
	Fill - import structural - 25% swell	**861**	cy	65.00	55,965		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**689**	cy	2.50	1,723		
	Less than RCS-1 - clean non-regulated	**1,171**	tn	23.00	26,933		
	SUBTOTAL					91,511	
312000	*SITE EARTHWORK*						
	Site cut to design subgrade - assume 1/2' of cut	*6,097*	*cy*				
	Cut	**6,097**	cy	10.00	60,970		
	Store cut onsite - allowance for 50%	**3,049**	cy	3.50	10,672		
	Site cut processing	*3,049*	*cy*				

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION A1.1							
	Screen cut soils	**3,049**	cy	7.00	21,343		
	Site fill to design subgrade	*6,097*	*cy*				
	Fill - from cut	**3,049**	cy	12.00	36,588		
	Fill - imported common fill; swell 25%	**3,810**	cy	32.00	121,920		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**3,049**	cy	2.50	7,623		
	Less than RCS-1 - clean non-regulated	**5,183**	tn	23.00	119,209		
312000	*GEOTHERMAL - ALLOWANCE*						
	Groundwater management/ control measures	**1**	ls	50,000.00	NR		
	Support of geothermal	**1**	ls	200,000.00	NR		
312000	*GROUNDWATER CONTROLS*						
	Groundwater support	**1**	ls	50,000.00	50,000		
312000	*ROCK REMOVAL*						
	Rock removal allowance - bedrock and shallow rock excavation	**1**	ls	150,000.00	150,000		
312000	*ESTABLISHING GRADE*						
	Sub grade establishment	**329,250**	sf	0.25	82,313		
	Fine grading throughout the site	**329,250**	sf	0.35	115,238		
312000	*HAZARDOUS MATERIALS*						
	UST removal allowance	**1**	ls	50,000.00	NR		
	SUBTOTAL					775,876	
	TOTAL - SITE PREPARATION						**$1,721,265**
G20	**SITE IMPROVEMENTS**						
320000	***ROADWAYS AND PARKING LOTS***						
	Asphalt Paving; parking lots and roadway - Heavy Duty (allow 25%)	*18,500*	*sf*				
	gravel base; 12" thick	**685**	cy	50.00	34,250		
	asphalt top; 2" thick	**236**	tns	225.00	53,100		
	asphalt binder; 2.5" thick	**294**	tns	190.00	55,860		
	Asphalt Paving; parking lots and roadway - Standard Duty(allow 75%)	*55,500*	*sf*				
	gravel base; 8" thick	**1,377**	cy	50.00	68,850		
	asphalt top; 2" thick	**709**	tns	225.00	159,525		
	asphalt binder; 2" thick	**709**	tns	190.00	134,710		
	Service area - allowance	*2,500*	*sf*				
	gravel base; 12" thick	**93**	cy	50.00	4,650		
	Broom finish concrete paving; 8" thick	**2,500**	sf	17.00	42,500		
320000	*CURBING*						
	Vertical granite curb	**4,500**	lf	65.00	292,500		
	ADA Curb cuts - allowance	**10**	ea	850.00	8,500		
320000	*ROAD MARKINGS AND SIGNS*						
	Parking space striping - no count given - allowance	**1**	ls	30,000.00	30,000		
	Sign allowance	**1**	ls	20,000.00	20,000		
	Pavement markings allowance	**1**	ls	20,000.00	20,000		
	Crosswalk hatching allowance	**5**	loc	2,500.00	12,500		
320000	*OFF SITE IMPROVEMENTS*						
	Allowance for pavement markings, signs, RRFBs and speed feedback posts	**1**	ls	500,000.00	500,000		
	SUBTOTAL					1,436,945	
320000	***PEDESTRIAN PAVING***						
	Concrete sidewalks - allowance	*50,000*	*sf*				
	gravel base; 8" thick	**1,241**	cy	65.00	80,665		
	Broom finish concrete paving; 4" thick	**50,000**	sf	12.00	600,000		
	Concrete pads - allowance at dumpster, utilities, etc	*1,000*	*sf*				
	gravel base; 12" thick	**37**	cy	65.00	2,405		
	Broom finish concrete paving; 8" thick	**1,000**	sf	20.00	20,000		
	Pavers - allowance	*5,000*	*sf*				
	gravel base; 8" thick	**124**	cy	65.00	8,060		
	Concrete slab paving; 4" thick	**5,000**	sf	12.00	60,000		
	Concrete pavers	**5,000**	sf	32.00	160,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION A1.1							
	Geotextiles	**5,000**	sf	0.55	2,750		
	Edging	**500**	lf	18.00	9,000		
	SUBTOTAL					942,880	
320000	***SITE IMPROVEMENTS***						
320000	*SITE FURNISHINGS - ALLOWANCES*						
	Bollards	**25**	ea	1,090.00	27,250		
	School sign	**1**	ea	25,000.00	25,000		
	Raised planters	**5**	ea	4,000.00	20,000		
	Bike racks	**10**	ea	850.00	8,500		
	Flagpole - 30' Ht.	**1**	ea	7,000.00	7,000		
	Flagpole foundation	**1**	ea	4,500.00	4,500		
	Site lighting foundations - e&b only	**1**	ls	10,000.00	10,000		
	Trash and Recycling receptacles	**6**	ea	2,500.00	15,000		
	Benches	**5**	ea	3,500.00	17,500		
	Table and chairs	**5**	ea	4,500.00	22,500		
	Picnic tables	**5**	ea	4,000.00	20,000		
	Shade structures at courtyards and outdoor classrooms	**1**	ls	80,000.00	80,000		
	Greenhouse - replace in kind	**1**	ls	30,000.00	30,000		
	Misc site furnishings	**1**	ls	100,000.00	100,000		
320000	*SPORTS COURTS AND PLAY AREAS*						
	Pavement areas	*5,000*	*sf*				
	gravel base; 8" thick	**124**	cy	65.00	8,060		
	asphalt top; 1.5" thick	**47**	tns	225.00	10,575		
	asphalt binder; 1.5" thick	**47**	tns	190.00	8,930		
	Color coating - court striping and games	**5,000**	sf	4.00	20,000		
	Basketball hoops	**2**	ea	6,700.00	13,400		
	Play area - salvaged equipment, new surfacing	8,900	*sf*				
	gravel base; 8" thick	**221**	cy	65.00	14,365		
	Pour-in-place safety surface	**8,900**	sf	36.00	320,400		
	Edging	**300**	lf	45.00	13,500		
	Reinstall salvaged equipment	**1**	ls	50,000.00	NR		
	Allowance for play equipment - salvage/new equipment	**1**	ls	500,000.00	500,000		
	Shade structures	**1**	ls	80,000.00	80,000		
	Pre-K and K Play	1,100	*sf*				
	gravel base; 8" thick	**27**	cy	65.00	1,755		
	Pour-in-place safety surface	**1,100**	sf	36.00	39,600		
	Edging	**125**	lf	45.00	5,625		
	Allowance for play equipment	**1**	ls	250,000.00	250,000		
	Shade structures	**1**	ls	40,000.00	40,000		
320000	*FENCING*						
	Wood fence with mesh infill at pond	**250**	lf	85.00	21,250		
	Dupster pad enclosure - allowance	**1**	ls	5,000.00	5,000		
	Vehicular gate - non motorized	**2**	ea	12,000.00	24,000		
	SUBTOTAL					1,763,710	
329900	*SITE WALLS*						
	Precast concrete seatwalls with wood topper - allowance	*100*	*lf*				
	Precast concrete	**100**	lf	1,000.00	100,000		
	Concrete - below grade and to frost	**100**	lf	363.00	36,300		
	Excavation	**21**	cy	100.00	2,100		
	Backfill - (assume using onsite soils)	**6**	cy	25.00	150		
	Wall drain	**100**	lf	22.00	2,200		
	Wood toppers	**100**	lf	725.00	72,500		
	SUBTOTAL					213,250	
	Landscaping						
329900	*TOPSOIL*						
	Screen topsoil	**2,278**	cy	7.50	17,085		
	Export tailings from screening process - assume clean rock	**683**	cy	8.50	5,806		
	Amend/Place	**1,595**	cy	25.00	39,875		
	Topsoil - imported 6" thick - swell 25%	**1,483**	cy	75.00	111,225		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION A1.1							
	Soil and mulch at planting areas; 18" thick -Allow 20% of area	**1,756**	cy	135.00	237,060		
329900	*LAWN AND SEED*	*126,400*	*sf*				
	Topsoil 6" thick - required	**2,341**	cy		incl. above		
	Scarify subgrade	**126,400**	sf	0.25	31,600		
	Power rake and hydroseed disturbed areas - Allow 80% of area	**126,400**	sf	0.35	44,240		
	Landscape curbing in entrance areas - allowance	**100**	lf	125.00	12,500		
320000	*ATHLETIC LANDSCAPING*	*23,750*	*sf*				
	Topsoil 6" thick - required	**440**	cy		incl. above		
	Scarify subgrade	**23,750**	sf	0.25	5,938		
	Natural grass field	*23,750*	*sf*				
	Lawn seeding	**23,750**	sf	0.35	8,313		
	Irrigation	**23,750**	sf	2.75	65,313		
329900	*TREES*						
	Allowance for trees	**1**	ls	250,000.00	250,000		
329900	*SHRUBS AND GROUNDCOVERS*						
	Allowance for shrubs and groundcovers	**1**	ls	50,000.00	50,000		
329900	*MAINTENANCE*						
	1-yr plant maintenance	**1**	ls	45,000.00	45,000		
	Watering to grow-in	**1**	ls	10,000.00	10,000		
328400	*IRRIGATION*						
	Irrigation at trees - allowance	**1**	ls	25,000.00	25,000		
	Irrigation area - plant beds	**31,600**	sf	2.75	86,900		
	SUBTOTAL					1,045,855	
	TOTAL - SITE IMPROVEMENTS						**$5,402,640**
G30	**CIVIL MECHANICAL UTILITIES**						
210000	*FIRE PROTECTION*						
	8" CLDI	**1,200**	lf	67.50	81,000		
	6" CLDI	**100**	lf	49.64	4,964		
	Fire department connection	**1**	ea	2,500.00	2,500		
	Gate valve	**7**	ea	1,200.00	8,400		
	Fire hydrant	**4**	ea	6,500.00	26,000		
	Thrust blocks - allowance	**1**	ls	5,000.00	5,000		
331000	*WATER UTILITIES*						
	4" CLDI	**100**	lf	67.50	6,750		
331000	*CONNECTIONS*						
	Connect to existing water line; 6/8/10 (in roadway)	**2**	ea	15,000.00	30,000		
312000	*EXCAVATION & BACKFILL*	*1,400*	*lf*				
	DI gravity piping excavation	**1,244**	cy	46.75	58,157		
	Trench bedding	**280**	cy	38.50	10,780		
	Pressure test & chlorinate	**100**	lf	5.00	500		
	SUBTOTAL					234,051	
333000	*SANITARY SEWER*						
	6" PVC	**1,000**	lf	21.16	21,160		
	SMH - 0-5' deep	**7**	ea	4,800.00	33,600		
	Grease trap - 5,000 gal.	**1**	ea		w/ plumbing		
333000	*CONNECTIONS*						
	Connect to existing (in roadway)	**1**	ea	15,000.00	15,000		
312000	*EXCAVATION & BACKFILL - Gravity*	*1,000*	*lf*				
	PVC gravity piping excavation	**889**	cy	46.75	41,561		
	Trench bedding	**296**	cy	38.50	11,396		
	Pressure testing	**1,000**	lf	4.00	4,000		
	Video Inspection	**1**	ls	5,000.00	5,000		
	Grease trap; 5,000 gal. (e/b only) incl. shoring	**1**	ea	10,000.00	10,000		
	SUBTOTAL					141,717	
334000	*STORM DRAINAGE*						
	18" PVC	**1,500**	lf	100.00	150,000		
	12" PVC	**1,000**	lf	75.00	75,000		
	6" PVC	**500**	lf	55.00	27,500		
	4' Dia. DMH - 0-5' deep	**15**	ea	5,000.00	75,000		
	AD	**15**	ea	2,500.00	37,500		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION A1.1						
	WQU	**4**	ea	20,000.00	80,000		
	CB - 4' Dia.	**20**	ea	4,800.00	96,000		
	Allowance for drainage at playgrounds	**10,000**	sf	2.50	25,000		
334000	*SURFACE DRAINAGE SYSTEMS*						
	Bio retention/Rain Garden	*2,500*	*sf*				
	Allowance for bio-retention areas	**2,500**	sf	18.00	45,000		
334000	*SUBSURFACE DRAINAGE SYSTEMS*						
	Underground recharger						
	Allowance for plastic chambers	**30,000**	cf	12.00	360,000		
	SUBTOTAL					971,000	
	TOTAL - SITE MECHCANICAL UTILITIES						**$1,346,768**
G40	**ELECTRICAL UTILITIES**						
	Services						
	Primary electric service empty conduit	**1,000**	lf	120.00	120,000		
	Secondary electrical service	**80**	lf	1,200.00	96,000		
	Generator service	**80**	lf	240.00	19,200		
	Communications service	**1,000**	lf	170.00	170,000		
	Site Lighting						
	Site lighting and circuitry	**74,000**	sf	4.00	296,000		
	Sports field lighting				N/A		
	EV Stations						
	Dual EV stations; infrastructure only	**1**	ls	100,000.00	100,000		
	Site Security						
	Site security/misc.	**1**	ls	150,000.00	150,000		
	SUBTOTAL					951,200	
	TOTAL - SITE ELECTRICAL UTILITIES						**$951,200**
	TOTAL - SITE DEVELOPMENT						**$9,421,873**

PM&C

Essex Elementary School
Essex, MA
PSR Options Cost Estimate

OPTION A1.2B - UNIFORMAT SUMMARY

Uniformat Code	Description	New Addition (23,407 sf)	Renovation (53,036 sf)	Total Building Cost	Sitework Cost		Grand Total Cost
A SUBSTRUCTURE							
A10	Foundations	$1,465,132	$832,935	$2,298,067			$2,298,067
A20	Basement Construction	$0	$0	$0			$0
B SHELL							
B10	Superstructure	$1,266,060	$1,525,900	$2,791,960			$2,791,960
B20	Exterior Closure	$3,274,773	$2,401,252	$5,676,025			$5,676,025
B30	Roofing	$817,542	$1,939,343	$2,756,885			$2,756,885
C INTERIORS							
C10	Interior Construction	$1,540,550	$2,935,578	$4,476,128			$4,476,128
C20	Staircases	$0	$10,000	$10,000			$10,000
C30	Interior Finishes	$889,466	$2,015,368	$2,904,834			$2,904,834
D SERVICES							
D10	Conveying Systems	$0	$0	$0			$0
D20	Plumbing	$585,175	$1,378,936	$1,964,111			$1,964,111
D30	HVAC	$1,872,560	$4,348,952	$6,221,512			$6,221,512
D40	Fire Protection	$198,960	$503,842	$702,802			$702,802
D50	Electrical	$1,404,420	$3,341,268	$4,745,688			$4,745,688
E EQUIPMENT & FURNISHINGS							
E10	Equipment	$238,820	$753,640	$992,460			$992,460
E20	Furnishings	$395,018	$808,096	$1,203,114			$1,203,114
F SPECIAL CONSTRUCTION & DEMOLITION							
F10	Special Construction	$0	$0	$0			$0
F20	Selective Building Demolition	$0	$982,304	$982,304			$982,304
	HAZARDOUS MATERIALS						
	Remove Hazardous Materials			$450,000			$450,000
	G SITEWORK						
G10	Site Preparation				$1,855,964		$1,855,964
G20	Site Improvements				$5,637,470		$5,637,470
G30	Site Mechanical Utilities				$1,359,268		$1,359,268
G40	Site Electrical Utilities				$957,200		$957,200
BUILDING SUBTOTAL		**$13,948,476**	**$23,777,414**	**$37,725,890**			**$37,725,890**
$/sf		*$595.91*	*$448.33*	*$493.52*			
HAZARDOUS MATERIALS				**$450,000**			**$450,000**
SITEWORK SUBTOTAL					**$9,809,902**		**$9,809,902**
SUB-TOTAL							**$47,985,792**
ESCALATION TO START DATE						9.33%	$4,477,074
DESIGN AND PRICING CONTINGENCY						12.00%	$6,295,544
SUB-TOTAL							**$58,758,410**
GENERAL CONDITIO	*MTHS @ $160,000/mo*					#REF!	#REF!
GENERAL REQUIREMENTS						4.00%	$2,350,336
PHASING						2.00%	$1,175,168
BONDS						1.00%	$587,584
INSURANCES						1.75%	$1,028,272
PERMIT						Excl	
SUB-TOTAL							**#REF!**
FEE						2.50%	#REF!
GMP CONTINGENCY						3.00%	#REF!
TOTAL OF ALL CONSTRUCTION							**#REF!**
$/sf (Total GFA)							*#REF!*

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - NEW ADDITION							
	GROSS FLOOR AREA CALCULATION						
	Level 1			23,407			
	TOTAL GROSS FLOOR AREA (GFA)					**23,407**	***sf***
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
	Strip footings - perimeter; 36"x12"						
	Formwork	**1,700**	sf	20.00	34,000		
	Re-bar	**10,200**	lbs.	2.00	20,400		
	Concrete material	**99**	cy	171.00	16,929		
	Placing concrete	**99**	cy	130.00	12,870		
	Typical foundation walls, 18" thick						
	Formwork	**6,800**	sf	22.00	149,600		
	Re-bar	**17,000**	lbs.	2.00	34,000		
	Concrete material	**198**	cy	171.00	33,858		
	Placing concrete	**198**	cy	130.00	25,740		
	Form shelf	**850**	lf	10.00	8,500		
	Spread Footings; allow 7'x7'x21" at 2-story						
	Formwork		sf	18.00			
	Re-bar		lbs.	2.00			
	Concrete material		cy	171.00			
	Placing concrete		cy	130.00			
	Set anchor bolts grout plates		ea	250.00			
	Spread Footings; allow 5'x5'x15" at 1-story						
	Formwork	**1,350**	sf	18.00	24,300		
	Re-bar	**5,400**	lbs.	2.00	10,800		
	Concrete material	**66**	cy	171.00	11,286		
	Placing concrete	**66**	cy	130.00	8,580		
	Set anchor bolts grout plates	**54**	ea	250.00	13,500		
	Grade beams; allow 100 LF						
	Formwork	**400**	sf	20.00	8,000		
	Re-bar	**8,500**	lbs.	2.00	17,000		
	Concrete material	**19**	cy	171.00	3,249		
	Placing concrete	**19**	cy	130.00	2,470		
	Piers/Pilasters	**34**	cy	1,500.00	51,000		
	Elevator Pits						
	Walls, 12" thick		ea				
	Formwork		sf	26.00			
	Re-bar		lbs.	2.00			
	Concrete material		cy	171.00			
	Placing concrete		cy	130.00			
	Mat slab at pits, 24" thick		sf	25.00			
	Premium for deep foundation wall				NR		
	Foundations against existing building	**120**	lf	500.00	60,000		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Trowelled on mastic damproofing at foundation wall	**3,400**	sf	5.00	17,000		
	Waterproofing at elevator pit		sf	14.00			
072100	*THERMAL INSULATION*						
	Foundation wall insulation	**3,400**	sf	5.50	18,700		
312000	*EARTHWORK*						
	Strip footings/ fdn wall						
	Excavation & reuse on site	**944**	cy	40.00	37,760		
	Spread footings						
	Excavation & reuse on site	**357**	cy	40.00	14,280		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - NEW ADDITION							
	Building cut to design subgrade - allowance (no geotech report just borings)	***2,601***	*cy*				
	Cut - over excavated 3' of fill beneath building	**2,601**	cy	10.00	26,010		
	building fill to design subgrade	***3,251***	*cy*				
	Fill - import structural - 25% swell	**3,251**	cy	46.00	149,546		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**2,601**	cy	2.50	6,503		
	Clean non-regulated	**4,422**	tn	16.00	70,752		
	Miscellaneous						
	Perimeter drain	**850**	lf	32.00	27,200		
	Underslab drainage	**23,407**	sf	3.00	70,221		
	Dewatering for foundation work	**1**	ls	15,000.00	15,000		
	SUBTOTAL					999,054	
A1020	**SPECIAL FOUNDATIONS**				Not anticipated		
	SUBTOTAL					-	
A1030	**LOWEST FLOOR CONSTRUCTION**						
033000	*CONCRETE*						
	Vapor barrier	**23,407**	sf	1.25	29,259		
	Slab on grade	*23,407*	*sf*				
	WWF reinforcement	**26,918**	sf	1.85	49,798		
	Concrete - 5" thick	**382**	cy	171.00	65,322		
	Placing concrete	**382**	cy	70.00	26,740		
	Finishing and curing concrete	**23,407**	sf	4.00	93,628		
	Control joints - saw cut	**23,407**	sf	0.10	2,341		
	Miscellaneous						
	Equipment pads	**1**	ls	15,000.00	15,000		
	Loading dock	**1**	ls	50,000.00	NR		
	Radon system	**23,407**	sf	3.50	81,925		
072100	*THERMAL INSULATION*						
	Under slab insulation; 4ft at perimeter	**3,400**	sf	3.50	11,900		
312000	*EARTHWORK*						
	Gravel base, 12"	**867**	cy	50.00	43,350		
	Compact existing sub-grade	**23,407**	sf	0.50	11,704		
	Underslab E&B for plumbing	**23,407**	sf	1.50	35,111		
	SUBTOTAL					466,078	
	TOTAL - FOUNDATIONS						**$1,465,132**
A20	***BASEMENT CONSTRUCTION***						
A2010	**BASEMENT EXCAVATION**						
	No Work in this section						
	SUBTOTAL					-	
A2020	**BASEMENT WALLS**						
	No Work in this section						
	SUBTOTAL					-	
	TOTAL - BASEMENT CONSTRUCTION						
B10	***SUPERSTRUCTURE***						
		13.1	*lbs/sf*				
B1010	**FLOOR CONSTRUCTION**	*153*	*tns*	excluding canopies + roof screens			
		$7,305	*$/Ton*				
033000	*CONCRETE*						
	WWF reinforcement		sf	1.85			
	Concrete fill to metal deck; light weight, total thickness 6 1/4"		cy	260.00			
	Place and finish concrete		sf	3.50			
	Rebar to decks		lbs	2.00			

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - NEW ADDITION							
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 15.3 lbs per SF		tns	5,200.00			
	Shear studs		ea	3.50			
	3" metal galvanized floor deck		sf	7.00			
	Thermal break	1	ls	30,000.00	NR		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams		sf	3.00			
	Intumescent paint @ architecturally exposed beams and columns - allow	1	ls	25,000.00	NR		
	SUBTOTAL					-	
B1020	**ROOF CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete deck at low roofs and at mechanical equipment pads - allow	**10,000**	sf	10.00	100,000		
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 13.1 lbs per SF	**153**	tns	5,200.00	795,600		
	Roof screens	**19**	tns	5,500.00	104,500		
	Decking						
	3" galvanized metal deck, typical	**23,407**	sf	7.50	175,553		
	Premium for acoustic at Gym	**7,000**	sf	6.00	42,000		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams; stairs + shafts only	**23,407**	sf	1.00	23,407		
	Intumescent paint to primary roof members exposed to view - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					1,266,060	
	TOTAL - SUPERSTRUCTURE						**$1,266,060**
B20	***EXTERIOR CLOSURE***						
B2010	**EXTERIOR WALLS**	*18,700*	Total closure area				
	Exterior Wall Area - 70% solid	*13,090*	*sf total area solid*				
042000	*MASONRY*						
	Mockup	**1**	ls	50,000.00	50,000		
	Brick veneer; 80%	**10,472**	sf	52.00	544,544		
	CMU Backup; 12"	**7,000**	sf	45.00	315,000		
	Miscellaneous flashings and sealants	**13,090**	sf	1.50	19,635		
	Staging to exterior wall	**13,090**	sf	4.00	52,360		
055000	*MISC. METALS*						
	Misc. metals at masonry including loose lintels (relieving angles included in steel tns)	**10,472**	sf	2.00	20,944		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier	**13,090**	sf	9.50	124,355		
	Air barrier/flashing at openings	**2,805**	lf	6.00	16,830		
072100	*THERMAL INSULATION*						
	4" rigid insulation	**13,090**	sf	5.00	65,450		
	Batt insulation in stud	**6,090**	sf	3.00	18,270		
	Insulation at glazed openings	**2,805**	lf	6.00	16,830		
076400	*CLADDING*						
	Rainscreen; 20%	**2,618**	sf	120.00	314,160		
	Acoustic Equipment Screen	**2,500**	sf	95.00	237,500		
	EXPANSION JOINT COVERS						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - NEW ADDITION							
	Expansion joints	**1**	ls	30,000.00	30,000		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Exterior wall;						
	8" Stud backup	**6,090**	sf	18.00	109,620		
	Gypsum sheathing	**6,090**	sf	3.50	21,315		
	Drywall lining to interior face of stud backup	**13,090**	sf	4.50	58,905		
101400	*SIGNAGE*						
	Exterior signage - allowance	**1**	ls	30,000.00	30,000		
	SUBTOTAL					2,045,718	
B2020	**WINDOWS**						
	Exterior Wall Area; 30%	*5,610*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**2,805**	lf	12.00	33,660		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**2,805**	lf	10.00	28,050		
	Backer rod & double sealant	**2,805**	lf	11.00	30,855		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront	**3,646**	sf	165.00	601,590		
	Curtainwall; 35%	**1,964**	sf	200.00	392,800		
	Security glazing allowance; 15%	**842**	sf	50.00	42,100		
	Sunshades - allowance	**1**	ls	100,000.00	NR		
089000	*LOUVERS*						
	Louvers	**1**	ls	10,000.00	10,000		
	SUBTOTAL					1,139,055	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**1**	ls	90,000.00	90,000		
	SUBTOTAL					90,000	
	TOTAL - EXTERIOR CLOSURE						**$3,274,773**
B30	***ROOFING***						
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**23,407**	sf	1.50	35,111		
070002	*ROOFING AND FLASHING*						
	PVC roof membrane system; complete	**23,407**	sf	30.00	702,210		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**23,407**	sf	3.00	70,221		
	SUBTOTAL					807,542	
B3020	**ROOF OPENINGS**						
086300	*ROOF SKYLIGHTS*						
	Allowance for roof hatches	**1**	ls	10,000.00	10,000		
	SUBTOTAL					10,000	
	TOTAL - ROOFING						**$817,542**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
040001	*MASONRY*						
	Allowance for masonry partitions	**23,407**	gsf	6.00	140,442		
061000	*ROUGH CARPENTRY*						
	Backer panels in electrical closets	**1**	ls	10,000.00	10,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - NEW ADDITION							
	Wood blocking at interiors	**23,407**	gsf	0.50	11,704		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping including slab edges and core	**23,407**	gsf	0.75	17,555		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**23,407**	gsf	1.25	29,259		
078150	*EXPANSION JOINTS*						
	Allowance for expansion joint covers	**1**	ls	30,000.00	30,000		
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**23,407**	gsf	4.00	93,628		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for clean, safety + laborers	**23,407**	gsf	4.00	93,628		
	Allowance for GWB partitions	**23,407**	gsf	26.00	608,582		
	SUBTOTAL					1,034,798	
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**23,407**	gsf	9.00	210,663		
	SUBTOTAL					210,663	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building including rails at open to below	**23,407**	gsf	5.00	117,035		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**23,407**	gsf	4.00	93,628		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**23,407**	gsf	1.00	23,407		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**23,407**	gsf	1.50	35,111		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**23,407**	gsf	0.50	11,704		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**23,407**	gsf	0.50	11,704		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	500.00	500		
	AED cabinets	**1**	ls	2,000.00	2,000		
105000	*LOCKERS*						
	Student lockers				w/Reno		
	SUBTOTAL					295,089	
	TOTAL - INTERIOR CONSTRUCTION						**$1,540,550**
C20	***STAIRCASES***						
C2010	**STAIR CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete to stairs		flt	5,000.00			
055000	*MISCELLANEOUS METALS*						
	Egress stairs including rails and handrails		flt	50,000.00			
	Premium for lobby stairs		flt	25,000.00			
	SUBTOTAL					-	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - NEW ADDITION							
C2020	**STAIR FINISHES**						
090005	*RESILIENT FLOORS*						
	Lobby Stair finishes		flts	25,000.00			
	Stair finishes - egress		flts	5,000.00			
	SUBTOTAL					-	
	TOTAL - STAIRCASES						
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Wall finishes; allowance	**23,407**	gsf	13.00	304,291		
	SUBTOTAL					304,291	
C3020	**FLOOR FINISHES**						
	Floor finishes complete package	**23,407**	gsf	11.00	257,477		
	SUBTOTAL					257,477	
C3030	**CEILING FINISHES**						
	Ceiling finishes, complete package	**23,407**	gsf	14.00	327,698		
	SUBTOTAL					327,698	
	TOTAL - INTERIOR FINISHES						**$889,466**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**						
	SUBTOTAL					-	
	TOTAL - CONVEYING SYSTEMS						
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**23,407**	gsf	25.00	585,175		
	SUBTOTAL					585,175	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**23,407**	gsf	1.00	23,407		
	Option 3: Air source heat pump water heaters	**23,407**	gsf	4.00	93,628		
	Option 4: Water source heat pump water heaters	**23,407**	gsf	4.00	93,628		
	TOTAL - PLUMBING						**$585,175**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**23,407**	gsf	80.00	1,872,560		
	SUBTOTAL					1,872,560	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**23,407**	gsf	10.00	234,070		
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**23,407**	gsf	38.00	889,466		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - NEW ADDITION							
	TOTAL - HVAC						**$1,872,560**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**23,407**	gsf	7.50	175,553		
	Electric fire pump	**23,407**	gsf	1.00	23,407		
	SUBTOTAL					198,960	
	TOTAL - FIRE PROTECTION						**$198,960**
D50	***ELECTRICAL***						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**23,407**	gsf	60.00	1,404,420		
	SUBTOTAL					1,404,420	
	TOTAL - ELECTRICAL						**$1,404,420**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						
116600	*GYM EQUIPMENT*						
	Basketball backstops	**6**	ea	12,000.00	72,000		
	Scoreboard w/ shot clock - allow	**2**	ea	25,000.00	50,000		
	Gym wall pads	**2,000**	sf	17.00	34,000		
	Volleyball equipment	**1**	ls	5,000.00	5,000		
	Divider curtain (1#)	**1**	ea	40,320.00	40,320		
126000	*SEATING*						
	Retractable bleachers in gym (150 seats)	**1**	ls	37,500.00	37,500		
	SUBTOTAL					238,820	
	TOTAL - EQUIPMENT						**$238,820**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**5,610**	sf	12.00	67,320		
123553	*CASEWORK*						
	Casework package	**23,407**	gsf	14.00	327,698		
	SUBTOTAL					395,018	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$395,018**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - NEW ADDITION							
453	***F20 SELECTIVE BUILDING DEMOLITION***						
454							
455	**F2010 BUILDING ELEMENTS DEMOLITION**						
456	SUBTOTAL					-	
457							
458	**F2020 HAZARDOUS COMPONENTS ABATEMENT**						
459	See main summary for HazMat allowance				See Summary		
460	SUBTOTAL						
461							
462	***TOTAL - SELECTIVE BUILDING DEMOLITION***						
	SUBTOTAL						**$13,948,476**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
	GROSS FLOOR AREA CALCULATION						
	Lower Level			4,521			
	Main Level			48,515			
	TOTAL GROSS FLOOR AREA (GFA)				**53,036** ***sf***		
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
1	Allowance for foundation work at new structural steel bracing members/shear walls etc.	**53,036**	gsf	10.00	530,360		
2	SUBTOTAL					530,360	
3							
4	**A1020 SPECIAL FOUNDATIONS**						
5	No Work in this section						
6	SUBTOTAL					-	
7							
8	**A1030 LOWEST FLOOR CONSTRUCTION**						
9	Floor leveling	**45,515**	sf	5.00	227,575		
10	Miscellaneous slab repairs, infills, cutting + patching at new plumbing work - allow at bathrooms + kitchen	**3,000**	sf	25.00	75,000		
11	SUBTOTAL					302,575	
12							
13	***TOTAL - FOUNDATIONS***						**$832,935**
14							
15							
16	***A20 BASEMENT CONSTRUCTION***						
17							
18	**A2010 BASEMENT EXCAVATION**						
19	No Work in this section						
20	SUBTOTAL					-	
21							
22	**A2020 BASEMENT WALLS**						
23	No Work in this section						
24	SUBTOTAL					-	
25							
26	***TOTAL - BASEMENT CONSTRUCTION***						
27							
28							
29	***B10 SUPERSTRUCTURE***						
30							
31	**B1010 FLOOR CONSTRUCTION**						
32	Allowance for structural steel bracing members upgrades	**53,036**	gsf	25.00	1,325,900		
33	Seismic clips at interior partitions	**53,036**	gsf	2.00	Included		
34	SUBTOTAL					1,325,900	
35							
36	**B1020 ROOF CONSTRUCTION**						
37							
38	*051200 STRUCTURAL STEEL FRAMING*						
39	Allowance for structural steel reinforcement at roof for new RTU's including dunnage	**25**	tns	8,000.00	200,000		
40	SUBTOTAL					200,000	
41							
42	***TOTAL - SUPERSTRUCTURE***						**$1,525,900**
43							
44							
45	***B20 EXTERIOR CLOSURE***						
46							
47	**B2010 EXTERIOR WALLS**	*27,330*	Total closure area				
48	**Exterior Wall Area**	*21,864*	*sf total area solid*				
49							
50	Repointing; 100%	**21,864**	sf	45.00	983,880		
51	3" Spray foam insulation w/ 1 layer drywall and furring to interior face of exterior wall	**21,864**	sf	15.00	327,960		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
	SUBTOTAL					1,311,840	
B2020	**WINDOWS**						
	Glazed Wall Area	*5,466*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**1,640**	lf	12.00	19,680		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**1,640**	lf	10.00	16,400		
	Backer rod & double sealant	**1,640**	lf	11.00	18,040		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront replacement	**5,466**	sf	170.00	929,220		
089000	*LOUVERS*						
	Louvers				N/A		
	SUBTOTAL					983,340	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**53,036**	gsf	2.00	106,072		
	SUBTOTAL					106,072	
	TOTAL - EXTERIOR CLOSURE						**$2,401,252**
B30	***ROOFING***						
055000	*MISCELLANOUS METALS*						
	Allowance for roof ladders	**1**	ls	5,000.00	5,000		
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**48,515**	sf	1.50	72,773		
070002	*ROOFING AND FLASHING*						
	Removal of existing roofing	**48,515**	sf	5.00	242,575		
	PVC roof membrane system; complete	**48,515**	sf	30.00	1,455,450		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**48,515**	sf	3.00	145,545		
	SUBTOTAL					1,921,343	
B3020	**ROOF OPENINGS**						
	New roof hatch	**3**	ea	6,000.00	18,000		
	SUBTOTAL					18,000	
	TOTAL - ROOFING						**$1,939,343**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
040001	*MASONRY*						
	Allowance for masonry partitions; 100% replacement	**53,036**	gsf	5.00	265,180		
061000	*ROUGH CARPENTRY*						
	Backer panels in electrical closets	**1**	ls	2,000.00	2,000		
	Wood blocking at interiors	**53,036**	gsf	0.50	26,518		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping including slab edges and core	**53,036**	gsf	0.50	26,518		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**53,036**	gsf	1.25	66,295		
078150	*EXPANSION JOINTS*				See Addition		
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**53,036**	gsf	4.00	212,144		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for new interior GWB partitions; 80% replacement	**53,036**	gsf	20.80	1,103,149		
	SUBTOTAL					1,701,804	
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**53,036**	gsf	9.00	477,324		
	SUBTOTAL					477,324	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building	**53,036**	gsf	5.00	265,180		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**53,036**	gsf	4.00	212,144		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**53,036**	gsf	1.00	53,036		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**53,036**	gsf	1.50	79,554		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**53,036**	gsf	0.50	26,518		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**53,036**	gsf	0.50	26,518		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	5,000.00	5,000		
	AED cabinets	**1**	ls	1,000.00	1,000		
105000	*LOCKERS*						
	Student lockers	**250**	opng	350.00	87,500		
	SUBTOTAL					756,450	
	TOTAL - INTERIOR CONSTRUCTION						**$2,935,578**
C20	***STAIRCASES***						
	Egress stairs upgrade for code	**1**	flt	10,000.00	10,000		
	SUBTOTAL					10,000	
	TOTAL - STAIRCASES						**$10,000**
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Wall finishes; allowance	**53,036**	gsf	13.00	689,468		
	SUBTOTAL					689,468	
C3020	**FLOOR FINISHES**						
	Floor finishes complete package	**53,036**	gsf	11.00	583,396		
	SUBTOTAL					583,396	
C3030	**CEILING FINISHES**						
	Ceiling finishes, complete package	**53,036**	gsf	14.00	742,504		
	SUBTOTAL					742,504	
	TOTAL - INTERIOR FINISHES						**$2,015,368**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**				NR		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
	SUBTOTAL					-	
	TOTAL - CONVEYING SYSTEMS						
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**53,036**	gsf	25.00	1,325,900		
	Demolish existing	**53,036**	gsf	1.00	53,036		
	SUBTOTAL					1,378,936	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**53,036**	gsf	1.00	53,036		
	Option 3: Air source heat pump water heaters	**53,036**	gsf	4.00	212,144		
	Option 4: Water source heat pump water heaters	**53,036**	gsf	4.00	212,144		
	TOTAL - PLUMBING						**$1,378,936**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**53,036**	gsf	80.00	4,242,880		
	Demolish existing	**53,036**	gsf	2.00	106,072		
	SUBTOTAL					4,348,952	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**53,036**	gsf	10.00	530,360		
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**53,036**	gsf	38.00	2,015,368		
	TOTAL - HVAC						**$4,348,952**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**53,036**	gsf	8.00	424,288		
	Electric fire pump	**53,036**	gsf	1.00	53,036		
	Demolish existing	**53,036**	gsf	0.50	26,518		
	SUBTOTAL					503,842	
	TOTAL - FIRE PROTECTION						**$503,842**
D50	***ELECTRICAL***						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**53,036**	gsf	62.00	3,288,232		
	Demolish existing	**53,036**	gsf	1.00	53,036		
	SUBTOTAL					3,341,268	
	TOTAL - ELECTRICAL						**$3,341,268**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
112000	*LOADING DOCK EQUIPMENT*						
	Loading dock equipment	**1**	ls	10,000.00	10,000		
110620	*THEATRICAL EQUIPMENT*						
	Allowance						
	cafeteria rigging & stage curtains - allowance	**1**	ls	100,000.00	100,000		
113100	*APPLIANCES*						
	Residential appliances - allowance	**1**	ls	15,000.00	15,000		
114000	*FOOD SERVICE EQUIPMENT*						
	Kitchen equipment	**1**	ls	598,640.00	598,640		
115213	*PROJECTION SCREENS*						
	Motorized projection screen - allowance	**1**	ls	30,000.00	30,000		
	SUBTOTAL					753,640	
	TOTAL - EQUIPMENT						**$753,640**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**5,466**	sf	12.00	65,592		
123553	*CASEWORK*						
	Casework package	**53,036**	gsf	14.00	742,504		
	SUBTOTAL					808,096	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$808,096**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	Sawcut and remove slab on grade	**3,000**	sf	15.00	45,000		
	Demolish and remove exterior glazing	**5,466**	sf	8.00	43,728		
	Demolish exterior closure	**1,800**	sf	25.00	45,000		
	Interior demolition of walls, finishes + specialties for reconfigured spaces	**53,036**	sf	10.00	530,360		
	MEP demo; cut + cap in trades	**53,036**	sf	3.00	159,108		
	Temporary protection/ shoring existing etc.	**53,036**	sf	3.00	159,108		
	SUBTOTAL					982,304	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
309 **F2020**	**HAZARDOUS COMPONENTS ABATEMENT**						
310	See main summary for HazMat allowance				See Summary		
311	SUBTOTAL						
312							
313	***TOTAL - SELECTIVE BUILDING DEMOLITION***						**$982,304**
314							
	SUBTOTAL						**$23,777,414**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION A1.2B						
	G SITEWORK						
	G10 SITE PREPARATION & DEMOLITION						
311000	*GENERAL CONDITIONS*						
	6' high site construction fence	**2,200**	lf	25.00	55,000		
	6' high site construction fence double gate	**1**	loc	5,000.00	5,000		
	Site construction entrance and removal/restoration	**1**	loc	12,000.00	12,000		
	Temp laydown areas	**1**	ls	10,000.00	10,000		
	Temporary signs	**1**	ls	20,000.00	Excluded		
	Wheel wash rack	**1**	ls	20,000.00	20,000		
	Engineering/layout	**1**	ls	45,000.00	45,000		
	Snow removal - allowance	**1**	ls		Excluded		
	Winter conditions - allowance	**1**	ls		Excluded		
	Police details	**1**	ls		Excluded		
	Site security	**1**	ls		Excluded		
	Job site construction trailer	**1**	ls		Excluded		
	Temp utilities for job trailer	**1**	ls		Excluded		
311000	*PHASING*						
	Phasing allowance	**1**	ea	250,000.00	250,000		
311000	*SITE SALVAGE ITEMS*						
	Salvage memorials and plaques	**1**	ls	10,000.00	10,000		
311000	*SITE DEMOLITION AND RELOCATIONS*						
	Demolish existing paving, concrete and associated curbing	**72,378**	sf	1.25	90,473		
	Demolish existing courtyard area - assume specialty paving/plantings	**9,167**	sf	3.00	27,501		
	Demolish existing wood chips	**1,792**	sf	0.75	1,344		
	Demolish existing gravel	**6,182**	sf	1.25	7,728		
	Demolish existing playground	**6,410**	sf	1.50	9,615		
	Demolish existing play equipment	**1**	ls	10,000.00	10,000		
	Demolish existing boulders/stone steps	**24**	ea	250.00	6,000		
	Demolish steps	**146**	lf	20.00	2,920		
	Demolish existing walls	**250**	lf	95.00	23,750		
	Miscellaneous site demolition; furnishings, concrete pads, signs etc	**1**	ls	50,000.00	50,000		
311000	*UTILITY DEMOLITION*						
	Miscellaneous utility demolition	**1**	ls	50,000.00	50,000		
311000	*ROADWAY WORK - UTILITIES ALLOWANCES*						
	Sawcut	**200**	lf	8.25	1,650		
	Remove pavement	**500**	sf	3.50	1,750		
	Temp pavement patching	**500**	sf	8.00	4,000		
	Steel plates	**1**	ls	2,500.00	2,500		
	Police details	**7**	dy	850.00	5,950		
	Permanent pavement patch	**500**	sf	10.00	5,000		
311000	*VEGETATION & TOPSOIL MANAGEMENT*						
	Clear and grub	**3**	acre	5,000.00	15,000		
	Tree removal allowance	**1**	ls	20,000.00	20,000		
	Tree protection allowance	**1**	ls	5,000.00	5,000		
	Strip + stockpile topsoil	**2,278**	cy	11.50	26,197		
312000	*EROSION & SEDIMENT CONTROL*						
	Silt Fence; installation and removal - allowance	**2,200**	lf	15.00	33,000		
	Silt Sacks; installation and removal - allowance	**1**	ls	2,500.00	2,500		
	Erosion Control monitoring & maintenance	**1**	ls	25,000.00	25,000		
	SUBTOTAL					833,878	
312000	*BUILDING EARTHWORK*						
	Cut - allowance for 2' of overexcavation	**1,741**	cy	10.00	17,410		
	Fill - import structural - 25% swell	**2,176**	cy	65.00	141,440		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**1,741**	cy	2.50	4,353		
	Less than RCS-1 - clean non-regulated	**2,960**	tn	23.00	68,080		
	SUBTOTAL					231,283	
312000	*SITE EARTHWORK*						
	Site cut to design subgrade - assume 1/2' of cut	*6,255*	*cy*				
	Cut	**6,255**	cy	10.00	62,550		
	Store cut onsite - allowance for 50%	**3,128**	cy	3.50	10,948		
	Site cut processing	*3,128*	*cy*				
	Screen cut soils	**3,128**	cy	7.00	21,896		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION A1.2B						
	Site fill to design subgrade	*6,255*	*cy*				
	Fill - from cut	**3,128**	cy	12.00	37,536		
	Fill - imported common fill; swell 25%	**3,909**	cy	32.00	125,088		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**3,128**	cy	2.50	7,820		
	Less than RCS-1 - clean non-regulated	**5,318**	tn	23.00	122,314		
312000	*GEOTHERMAL - ALLOWANCE*						
	Groundwater management/ control measures	**1**	ls	50,000.00	NR		
	Support of geothermal	**1**	ls	200,000.00	NR		
312000	*GROUNDWATER CONTROLS*						
	Groundwater support	**1**	ls	50,000.00	50,000		
312000	*ROCK REMOVAL*						
	Rock removal allowance - bedrock and shallow rock excavation	**1**	ls	150,000.00	150,000		
312000	*ESTABLISHING GRADE*						
	Sub grade establishment	**337,750**	sf	0.25	84,438		
	Fine grading throughout the site	**337,750**	sf	0.35	118,213		
312000	*HAZARDOUS MATERIALS*						
	UST removal allowance	**1**	ls	50,000.00	NR		
	SUBTOTAL					790,803	
	TOTAL - SITE PREPARATION						**$1,855,964**
G20	**SITE IMPROVEMENTS**						
320000	***ROADWAYS AND PARKING LOTS***						
	Asphalt Paving; parking lots and roadway - Heavy Duty (allow 25%)	*20,000*	*sf*				
	gravel base; 12" thick	**741**	cy	50.00	37,050		
	asphalt top; 2" thick	**255**	tns	225.00	57,375		
	asphalt binder; 2.5" thick	**318**	tns	190.00	60,420		
	Asphalt Paving; parking lots and roadway - Standard Duty(allow 75%)	*55,500*	*sf*				
	gravel base; 8" thick	**1,377**	cy	50.00	68,850		
	asphalt top; 2" thick	**709**	tns	225.00	159,525		
	asphalt binder; 2" thick	**709**	tns	190.00	134,710		
	Service area - allowance	*2,500*	*sf*				
	gravel base; 12" thick	**93**	cy	50.00	4,650		
	Broom finish concrete paving; 8" thick	**2,500**	sf	17.00	42,500		
320000	*CURBING*						
	Vertical granite curb	**4,500**	lf	65.00	292,500		
	ADA Curb cuts - allowance	**10**	ea	850.00	8,500		
320000	*ROAD MARKINGS AND SIGNS*						
	Parking space striping - no count given - allowance	**1**	ls	30,000.00	30,000		
	Sign allowance	**1**	ls	20,000.00	20,000		
	Pavement markings allowance	**1**	ls	20,000.00	20,000		
	Crosswalk hatching allowance	**5**	loc	2,500.00	12,500		
320000	*OFF SITE IMPROVEMENTS*						
	Allowance for pavement markings, signs, RRFBs and speed feedback posts	**1**	ls	500,000.00	500,000		
	SUBTOTAL					1,448,580	
320000	***PEDESTRIAN PAVING***						
	Concrete sidewalks - allowance	*50,000*	*sf*				
	gravel base; 8" thick	**1,241**	cy	65.00	80,665		
	Broom finish concrete paving; 4" thick	**50,000**	sf	12.00	600,000		
	Concrete pads - allowance at dumpster, utilities, etc	*1,000*	*sf*				
	gravel base; 12" thick	**37**	cy	65.00	2,405		
	Broom finish concrete paving; 8" thick	**1,000**	sf	20.00	20,000		
	Pavers - allowance	*5,000*	*sf*				
	gravel base; 8" thick	**124**	cy	65.00	8,060		
	Concrete slab paving; 4" thick	**5,000**	sf	12.00	60,000		
	Concrete pavers	**5,000**	sf	32.00	160,000		
	Geotextiles	**5,000**	sf	0.55	2,750		

	CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
		SITEWORK OPTION A1.2B						
131		Edging	**500**	lf	18.00	9,000		
132		SUBTOTAL					942,880	
133								
134	***320000***	***SITE IMPROVEMENTS***						
135	*320000*	*SITE FURNISHINGS - ALLOWANCES*						
136		Bollards	**25**	ea	1,090.00	27,250		
137		School sign	**1**	ea	25,000.00	25,000		
138		Raised planters	**5**	ea	4,000.00	20,000		
139		Bike racks	**10**	ea	850.00	8,500		
140		Flagpole - 30' Ht.	**1**	ea	7,000.00	7,000		
141		Flagpole foundation	**1**	ea	4,500.00	4,500		
142		Site lighting foundations - e&b only	**1**	ls	10,000.00	10,000		
143		Trash and Recycling receptacles	**6**	ea	2,500.00	15,000		
144		Benches	**5**	ea	3,500.00	17,500		
145		Table and chairs	**5**	ea	4,500.00	22,500		
146		Picnic tables	**5**	ea	4,000.00	20,000		
147		Shade structures at courtyards and outdoor classrooms	**1**	ls	80,000.00	80,000		
148		Greenhouse - replace in kind	**1**	ls	30,000.00	30,000		
149		Misc site furnishings	**1**	ls	100,000.00	100,000		
150	*320000*	*SPORTS COURTS AND PLAY AREAS*						
151		Pavement areas	*7,000*	*sf*				
152		gravel base; 8" thick	**174**	cy	65.00	11,310		
153		asphalt top; 1.5" thick	**66**	tns	225.00	14,850		
154		asphalt binder; 1.5" thick	**66**	tns	190.00	12,540		
155		Color coating - court striping and games	**7,000**	sf	4.00	28,000		
156		Basketball hoops	**2**	ea	6,700.00	13,400		
157		Play area	12,000	*sf*				
158		gravel base; 8" thick	**298**	cy	65.00	19,370		
159		Pour-in-place safety surface	**12,000**	sf	36.00	432,000		
160		Edging	**300**	lf	45.00	13,500		
161		Allowance for play equipment	**1**	ls	500,000.00	500,000		
162		Shade structures	**1**	ls	80,000.00	80,000		
163		Pre-K and K Play	3,000	*sf*				
164		gravel base; 8" thick	**74**	cy	65.00	4,810		
165		Pour-in-place safety surface	**3,000**	sf	36.00	108,000		
166		Edging	**125**	lf	45.00	5,625		
167		Allowance for play equipment	**1**	ls	250,000.00	250,000		
168		Shade structures	**1**	ls	40,000.00	40,000		
169	*320000*	*FENCING*						
170		Wood fence with mesh infill at pond	**250**	lf	85.00	21,250		
171		Dupster pad enclosure - allowance	**1**	ls	5,000.00	5,000		
172		Vehicular gate	**2**	ea	20,000.00	40,000		
173		SUBTOTAL					1,986,905	
174								
175	*329900*	*SITE WALLS*						
176		Precast concrete seatwalls with wood topper - allowance	*100*	*lf*				
177		Precast concrete	**100**	lf	1,000.00	100,000		
178		Concrete - below grade and to frost	**100**	lf	363.00	36,300		
179		Excavation	**21**	cy	100.00	2,100		
180		Backfill - (assume using onsite soils)	**6**	cy	25.00	150		
181		Wall drain	**100**	lf	22.00	2,200		
182		Wood toppers	**100**	lf	725.00	72,500		
183		SUBTOTAL					213,250	
184								
185		***Landscaping***						
186	*329900*	*TOPSOIL*						
187		Screen topsoil	**2,278**	cy	7.50	17,085		
188		Export tailings from screening process - assume clean rock	**683**	cy	8.50	5,806		
189		Amend/Place	**1,595**	cy	25.00	39,875		
190		Topsoil - imported 6" thick - swell 25%	**1,483**	cy	75.00	111,225		
191		Soil and mulch at planting areas; 18" thick -Allow 20% of area	**1,756**	cy	135.00	237,060		
192	*329900*	*LAWN AND SEED*	*126,400*	*sf*				

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION A1.2B							
	Topsoil 6" thick - required	**2,341**	cy		incl. above		
	Scarify subgrade	**126,400**	sf	0.25	31,600		
	Power rake and hydroseed disturbed areas - Allow 80% of area	**126,400**	sf	0.35	44,240		
	Landscape curbing in entrance areas - allowance	**100**	lf	125.00	12,500		
320000	*ATHLETIC LANDSCAPING*	*23,750*	*sf*				
	Topsoil 6" thick - required	**440**	cy		incl. above		
	Scarify subgrade	**23,750**	sf	0.25	5,938		
	Natural grass field	*23,750*	*sf*				
	Lawn seeding	**23,750**	sf	0.35	8,313		
	Irrigation	**23,750**	sf	2.75	65,313		
329900	*TREES*						
	Allowance for trees	**1**	ls	250,000.00	250,000		
329900	*SHRUBS AND GROUNDCOVERS*						
	Allowance for shrubs and groundcovers	**1**	ls	50,000.00	50,000		
329900	*MAINTENANCE*						
	1-yr plant maintenance	**1**	ls	45,000.00	45,000		
	Watering to grow-in	**1**	ls	10,000.00	10,000		
328400	*IRRIGATION*						
	Irrigation at trees - allowance	**1**	ls	25,000.00	25,000		
	Irrigation area - plant beds	**31,600**	sf	2.75	86,900		
	SUBTOTAL					1,045,855	
	TOTAL - SITE IMPROVEMENTS						**$5,637,470**
G30	**CIVIL MECHANICAL UTILITIES**						
210000	*FIRE PROTECTION*						
	8" CLDI	**1,200**	lf	67.50	81,000		
	6" CLDI	**100**	lf	49.64	4,964		
	Fire department connection	**1**	ea	2,500.00	2,500		
	Gate valve	**7**	ea	1,200.00	8,400		
	Fire hydrant	**4**	ea	6,500.00	26,000		
	Thrust blocks - allowance	**1**	ls	5,000.00	5,000		
331000	*WATER UTILITIES*						
	4" CLDI	**100**	lf	67.50	6,750		
331000	*CONNECTIONS*						
	Connect to existing water line; 6/8/10 (in roadway)	**2**	ea	15,000.00	30,000		
312000	*EXCAVATION & BACKFILL*	*1,400*	*lf*				
	DI gravity piping excavation	**1,244**	cy	46.75	58,157		
	Trench bedding	**280**	cy	38.50	10,780		
	Pressure test & chlorinate	**100**	lf	5.00	500		
	SUBTOTAL					234,051	
333000	*SANITARY SEWER*						
	6" PVC	**1,000**	lf	21.16	21,160		
	SMH - 0-5' deep	**7**	ea	4,800.00	33,600		
	Grease trap - 5,000 gal.	**1**	ea		w/ plumbing		
333000	*CONNECTIONS*						
	Connect to existing (in roadway)	**1**	ea	15,000.00	15,000		
312000	*EXCAVATION & BACKFILL - Gravity*	*1,000*	*lf*				
	PVC gravity piping excavation	**889**	cy	46.75	41,561		
	Trench bedding	**296**	cy	38.50	11,396		
	Pressure testing	**1,000**	lf	4.00	4,000		
	Video Inspection	**1**	ls	5,000.00	5,000		
	Grease trap; 5,000 gal. (e/b only) incl. shoring	**1**	ea	10,000.00	10,000		
	SUBTOTAL					141,717	
334000	*STORM DRAINAGE*						
	18" PVC	**1,500**	lf	100.00	150,000		
	12" PVC	**1,000**	lf	75.00	75,000		
	6" PVC	**500**	lf	55.00	27,500		
	4' Dia. DMH - 0-5' deep	**15**	ea	5,000.00	75,000		
	AD	**15**	ea	2,500.00	37,500		
	WQU	**4**	ea	20,000.00	80,000		
	CB - 4' Dia.	**20**	ea	4,800.00	96,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION A1.2B							
	Allowance for drainage at playgrounds	**15,000**	sf	2.50	37,500		
334000	*SURFACE DRAINAGE SYSTEMS*						
	Bio retention/Rain Garden	*2,500*	*sf*				
	Allowance for bio-retention areas	**2,500**	sf	18.00	45,000		
334000	*SUBSURFACE DRAINAGE SYSTEMS*						
	Underground recharger						
	Allowance for plastic chambers	**30,000**	cf	12.00	360,000		
	SUBTOTAL					983,500	
	TOTAL - SITE MECHCANICAL UTILITIES						**$1,359,268**
G40	**ELECTRICAL UTILITIES**						
	Services						
	Primary electric service empty conduit	**1,000**	lf	120.00	120,000		
	Secondary electrical service	**80**	lf	1,200.00	96,000		
	Generator service	**80**	lf	240.00	19,200		
	Communications service	**1,000**	lf	170.00	170,000		
	Site Lighting						
	Site lighting and circuitry	**75,500**	sf	4.00	302,000		
	Sports field lighting				N/A		
	EV Stations						
	Dual EV stations; infrastructure only	**1**	ls	100,000.00	100,000		
	Site Security						
	Site security	**1**	ls	150,000.00	150,000		
	SUBTOTAL					957,200	
	TOTAL - SITE ELECTRICAL UTILITIES						**$957,200**
	TOTAL - SITE DEVELOPMENT						**$9,809,902**

PM&C

Essex Elementary School
Essex, MA
PSR Options Cost Estimate

OPTION A2.2A - UNIFORMAT SUMMARY

Uniformat Code	Description	New School (72,443 sf)	Sitework Cost		Grand Total Cost
A SUBSTRUCTURE					
A10	Foundations	$2,817,950			$2,817,950
A20	Basement Construction	$0			$0
B SHELL					
B10	Superstructure	$3,814,878			$3,814,878
B20	Exterior Closure	$6,517,482			$6,517,482
B30	Roofing	$1,658,962			$1,658,962
C INTERIORS					
C10	Interior Construction	$4,766,354			$4,766,354
C20	Staircases	$225,000			$225,000
C30	Interior Finishes	$2,752,834			$2,752,834
D SERVICES					
D10	Conveying Systems	$200,000			$200,000
D20	Plumbing	$1,811,075			$1,811,075
D30	HVAC	$5,795,440			$5,795,440
D40	Fire Protection	$615,766			$615,766
D50	Electrical	$4,346,580			$4,346,580
E EQUIPMENT & FURNISHINGS					
E10	Equipment	$967,460			$967,460
E20	Furnishings	$1,156,342			$1,156,342
F SPECIAL CONSTRUCTION & DEMOLITION					
F10	Special Construction	$0			$0
F20	Selective Building Demolition	$0			$0
	DEMOLITION				
	Demolition of Existing School	$530,360			$530,360
	HAZARDOUS MATERIALS				
	Remove Hazardous Materials	$450,000			$450,000
	G SITEWORK				
G10	Site Preparation		$1,993,136		$1,993,136
G20	Site Improvements		$5,901,510		$5,901,510
G30	Site Mechanical Utilities		$1,683,729		$1,683,729
G40	Site Electrical Utilities		$987,200		$987,200
BUILDING SUBTOTAL		**$37,446,123**			**$37,446,123**
$/sf		*$516.90*			
DEMOLITION		**$530,360**			**$530,360**
HAZARDOUS MATERIALS		**$450,000**			**$450,000**
SITEWORK SUBTOTAL			**$10,565,575**		**$10,565,575**
SUB-TOTAL					**$48,992,058**
ESCALATION TO START DATE				9.33%	$4,570,959
DESIGN AND PRICING CONTINGENCY				12.00%	$6,427,562
SUB-TOTAL					**$59,990,579**
GENERAL CONDITI(	*MTHS @ $160,000/mo*			22	$3,520,000
GENERAL REQUIREMENTS				4.00%	$2,399,623
PHASING				NR	
BONDS				1.00%	$599,906
INSURANCES				1.75%	$1,049,835
PERMIT				Excl	
SUB-TOTAL					**$67,559,943**
FEE				2.50%	$1,688,999
GMP CONTINGENCY				3.00%	$2,026,798
TOTAL OF ALL CONSTRUCTION					**$71,275,740**
$/sf (Total GFA)					*$983.89*

	CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
		OPTION A2.2A - NEW CONSTRUCTION						
		GROSS FLOOR AREA CALCULATION						
		Level 1			47,796			
		Level 2			24,647			
		TOTAL GROSS FLOOR AREA (GFA)					**72,443**	***sf***
		A10 FOUNDATIONS						
		A1010 STANDARD FOUNDATIONS						
1		Strip footings - perimeter; 36"x12"						
2		Formwork	**2,672**	sf	20.00	53,440		
3		Re-bar	**16,032**	lbs.	2.00	32,064		
4		Concrete material	**156**	cy	171.00	26,676		
5		Placing concrete	**156**	cy	130.00	20,280		
6		Typical foundation walls, 18" thick						
7		Formwork	**10,688**	sf	22.00	235,136		
8		Re-bar	**26,720**	lbs.	2.00	53,440		
9		Concrete material	**312**	cy	171.00	53,352		
10		Placing concrete	**312**	cy	130.00	40,560		
11		Form shelf	**1,336**	lf	10.00	13,360		
12		Spread Footings; allow 7'x7'x21" at 2-story						
13		Formwork	**2,695**	sf	18.00	48,510		
14		Re-bar	**25,620**	lbs.	2.00	51,240		
15		Concrete material	**183**	cy	171.00	31,293		
16		Placing concrete	**183**	cy	130.00	23,790		
17		Set anchor bolts grout plates	**55**	ea	250.00	13,750		
18		Spread Footings; allow 5'x5'x15" at 1-story						
19		Formwork	**1,250**	sf	18.00	22,500		
20		Re-bar	**5,000**	lbs.	2.00	10,000		
21		Concrete material	**61**	cy	171.00	10,431		
22		Placing concrete	**61**	cy	130.00	7,930		
23		Set anchor bolts grout plates	**50**	ea	250.00	12,500		
24		Grade beams; allow 200 LF						
25		Formwork	**800**	sf	20.00	16,000		
26		Re-bar	**17,000**	lbs.	2.00	34,000		
27		Concrete material	**37**	cy	171.00	6,327		
28		Placing concrete	**37**	cy	130.00	4,810		
29								
30		Piers/Pilasters	**65**	cy	1,500.00	97,500		
31								
32		Elevator Pits						
33		Walls, 12" thick	1	ea				
34		Formwork	**320**	sf	26.00	8,320		
35		Re-bar	**800**	lbs.	2.00	1,600		
36		Concrete material	**6**	cy	171.00	1,026		
37		Placing concrete	**6**	cy	130.00	780		
38		Mat slab at pits, 24" thick	**100**	sf	25.00	2,500		
39								
40		Premium for deep foundation wall						NR
41								
42		Foundations against existing building		lf	500.00			
43								
44	*070001*	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
45		Trowelled on mastic damproofing at foundation wall	**5,344**	sf	5.00	26,720		
46		Waterproofing at elevator pit	**340**	sf	14.00	4,760		
47								
48	*072100*	*THERMAL INSULATION*						
49		Foundation wall insulation	**5,344**	sf	5.50	29,392		
50								
51	*312000*	*EARTHWORK*						
52		Strip footings/ fdn wall						
53		Excavation & reuse on site	**1,484**	cy	40.00	59,360		
54		Spread footings						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2A - NEW CONSTRUCTION							
	Excavation & reuse on site	**1,038**	cy	40.00	41,520		
	Building cut to design subgrade - allowance (no geotech report just borings)	*5,311*	*cy*				
	Cut - over excavated 3' of fill beneath building	**5,311**	cy	10.00	53,110		
	building fill to design subgrade	*6,639*	*cy*				
	Fill - import structural - 25% swell	**6,639**	cy	46.00	305,394		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**5,311**	cy	2.50	13,278		
	Clean non-regulated	**9,029**	tn	16.00	144,464		
	Miscellaneous						
	Perimeter drain	**1,336**	lf	32.00	42,752		
	Underslab drainage	**47,796**	sf	3.00	143,388		
	Dewatering for foundation work	**1**	ls	40,000.00	40,000		
	SUBTOTAL					1,837,253	
A1020	**SPECIAL FOUNDATIONS**				Not anticipated		
	SUBTOTAL					-	
A1030	**LOWEST FLOOR CONSTRUCTION**						
033000	*CONCRETE*						
	Vapor barrier	**47,796**	sf	1.25	59,745		
	Slab on grade	*47,796*	*sf*				
	WWF reinforcement	**54,965**	sf	1.85	101,685		
	Concrete - 5" thick	**781**	cy	171.00	133,551		
	Placing concrete	**781**	cy	70.00	54,670		
	Finishing and curing concrete	**47,796**	sf	4.00	191,184		
	Control joints - saw cut	**47,796**	sf	0.10	4,780		
	Miscellaneous						
	Equipment pads	**1**	ls	15,000.00	15,000		
	Loading dock	**1**	ls	50,000.00	50,000		
	Radon system	**47,796**	sf	3.50	167,286		
072100	*THERMAL INSULATION*						
	Under slab insulation; 4ft at perimeter	**5,344**	sf	3.50	18,704		
312000	*EARTHWORK*						
	Gravel base, 12"	**1,770**	cy	50.00	88,500		
	Compact existing sub-grade	**47,796**	sf	0.50	23,898		
	Underslab E&B for plumbing	**47,796**	sf	1.50	71,694		
	SUBTOTAL					980,697	
	TOTAL - FOUNDATIONS						**$2,817,950**
A20	***BASEMENT CONSTRUCTION***						
A2010	**BASEMENT EXCAVATION**						
	No Work in this section						
	SUBTOTAL					-	
A2020	**BASEMENT WALLS**						
	No Work in this section						
	SUBTOTAL					-	
	TOTAL - BASEMENT CONSTRUCTION						
B10	***SUPERSTRUCTURE***						
		13.9	*lbs/sf*				
B1010	**FLOOR CONSTRUCTION**	*502*	*tns*	excluding canopies + roof screens			
		$6,593	*$/Ton*				
033000	*CONCRETE*						
	WWF reinforcement	**28,344**	sf	1.85	52,436		
	Concrete fill to metal deck; light weight, total thickness 6 1/4"	**498**	cy	260.00	129,480		
	Place and finish concrete	**24,647**	sf	3.50	86,265		
	Rebar to decks	**7,394**	lbs	2.00	14,788		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2A - NEW CONSTRUCTION							
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 15.3 lbs per SF	**189**	tns	5,200.00	982,800		
	Shear studs	**6,162**	ea	3.50	21,567		
	3" metal galvanized floor deck	**24,647**	sf	7.00	172,529		
	Thermal break	**1**	ls	30,000.00	NR		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams; stairs + shafts only	**24,647**	sf	1.00	24,647		
	Intumescent paint @ architecturally exposed beams and columns - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					1,509,512	
B1020	**ROOF CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete deck at low roofs and at mechanical equipment pads - allow	**10,000**	sf	10.00	100,000		
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 13.1 lbs per SF	**313**	tns	5,200.00	1,627,600		
	Roof screens	**19**	tns	5,500.00	104,500		
	Decking						
	3" galvanized metal deck, typical	**47,796**	sf	7.50	358,470		
	Premium for acoustic at Gym	**7,000**	sf	6.00	42,000		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams; stairs + shafts only	**47,796**	sf	1.00	47,796		
	Intumescent paint to primary roof members exposed to view - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					2,305,366	
	TOTAL - SUPERSTRUCTURE						**$3,814,878**
B20	***EXTERIOR CLOSURE***						
B2010	**EXTERIOR WALLS**	*39,483*	Total closure area				
	Exterior Wall Area - 70% solid	*27,638*	*sf total area solid*				
042000	*MASONRY*						
	Mockup	**1**	ls	50,000.00	50,000		
	Brick veneer; 80%	**22,110**	sf	52.00	1,149,720		
	CMU Backup; 12"	**7,000**	sf	45.00	315,000		
	Miscellaneous flashings and sealants	**27,638**	sf	1.50	41,457		
	Staging to exterior wall	**27,638**	sf	4.00	110,552		
055000	*MISC. METALS*						
	Misc. metals at masonry including loose lintels (relieving angles included in steel tns)	**22,110**	sf	2.00	44,220		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier	**27,638**	sf	9.50	262,561		
	Air barrier/flashing at openings	**5,923**	lf	6.00	35,538		
072100	*THERMAL INSULATION*						
	4" rigid insulation	**27,638**	sf	5.00	138,190		
	Batt insulation in stud	**20,638**	sf	3.00	61,914		
	Insulation at glazed openings	**5,923**	lf	6.00	35,538		
076400	*CLADDING*						
	Rainscreen; 20%	**5,528**	sf	120.00	663,360		
	Acoustic Equipment Screen	**2,500**	sf	95.00	237,500		
	Roof/edge cornice	**1**	ls	100,000.00	100,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2A - NEW CONSTRUCTION							
	EXPANSION JOINT COVERS						
	Expansion joints	**1**	ls	30,000.00	30,000		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Exterior wall;						
	8" Stud backup	**20,638**	sf	18.00	371,484		
	Gypsum sheathing	**20,638**	sf	3.50	72,233		
	Drywall lining to interior face of stud backup	**27,638**	sf	4.50	124,371		
101400	*SIGNAGE*						
	Exterior signage - allowance	**1**	ls	30,000.00	30,000		
	SUBTOTAL					3,873,638	
B2020	**WINDOWS**						
	Exterior Wall Area; 30%	*11,845*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**5,923**	lf	12.00	71,076		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**5,923**	lf	10.00	59,230		
	Backer rod & double sealant	**5,923**	lf	11.00	65,153		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront	**7,699**	sf	165.00	1,270,335		
	Curtainwall; 35%	**4,146**	sf	200.00	829,200		
	Security glazing allowance; 15%	**1,777**	sf	50.00	88,850		
	Sunshades - allowance	**1**	ls	100,000.00	100,000		
089000	*LOUVERS*						
	Louvers	**1**	ls	10,000.00	10,000		
	SUBTOTAL					2,493,844	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**1**	ls	150,000.00	150,000		
	SUBTOTAL					150,000	
	TOTAL - EXTERIOR CLOSURE						**$6,517,482**
B30	***ROOFING***						
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**47,796**	sf	1.50	71,694		
070002	*ROOFING AND FLASHING*						
	PVC roof membrane system; complete	**47,796**	sf	30.00	1,433,880		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**47,796**	sf	3.00	143,388		
	SUBTOTAL					1,648,962	
B3020	**ROOF OPENINGS**						
086300	*ROOF SKYLIGHTS*						
	Allowance for roof hatches	**1**	ls	10,000.00	10,000		
	SUBTOTAL					10,000	
	TOTAL - ROOFING						**$1,658,962**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
040001	*MASONRY*						
	Allowance for masonry partitions	**72,443**	gsf	6.00	434,658		
061000	*ROUGH CARPENTRY*						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2A - NEW CONSTRUCTION							
	Backer panels in electrical closets	**1**	ls	10,000.00	10,000		
	Wood blocking at interiors	**72,443**	gsf	0.50	36,222		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping including slab edges and core	**72,443**	gsf	0.75	54,332		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**72,443**	gsf	1.25	90,554		
078150	*EXPANSION JOINTS*						
	Allowance for expansion joint covers	**1**	ls	30,000.00	30,000		
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**72,443**	gsf	4.00	289,772		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for clean, safety + laborers	**72,443**	gsf	4.00	289,772		
	Allowance for GWB partitions	**72,443**	gsf	26.00	1,883,518		
	SUBTOTAL					3,118,828	
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**72,443**	gsf	9.00	651,987		
	SUBTOTAL					651,987	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building including rails at open to below	**72,443**	gsf	5.00	362,215		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**72,443**	gsf	4.00	289,772		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**72,443**	gsf	1.00	72,443		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**72,443**	gsf	1.50	108,665		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**72,443**	gsf	0.50	36,222		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**72,443**	gsf	0.50	36,222		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	500.00	500		
	AED cabinets	**1**	ls	2,000.00	2,000		
105000	*LOCKERS*						
	Student lockers	**250**	opng	350.00	87,500		
	SUBTOTAL					995,539	
	TOTAL - INTERIOR CONSTRUCTION						**$4,766,354**
C20	***STAIRCASES***						
C2010	**STAIR CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete to stairs	**3**	flt	5,000.00	15,000		
055000	*MISCELLANEOUS METALS*						
	Egress stairs including rails and handrails	**2**	flt	50,000.00	100,000		
	Lobby stairs	**1**	flt	75,000.00	75,000		
	SUBTOTAL					190,000	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2A - NEW CONSTRUCTION							
	C2020 STAIR FINISHES						
090005	*RESILIENT FLOORS*						
	Lobby Stair finishes	**1**	flts	25,000.00	25,000		
	Stair finishes - egress	**2**	flts	5,000.00	10,000		
	SUBTOTAL					35,000	
	TOTAL - STAIRCASES						**$225,000**
	C30 INTERIOR FINISHES						
	C3010 WALL FINISHES						
	Wall finishes; allowance	**72,443**	gsf	13.00	941,759		
	SUBTOTAL					941,759	
	C3020 FLOOR FINISHES						
	Floor finishes complete package	**72,443**	gsf	11.00	796,873		
	SUBTOTAL					796,873	
	C3030 CEILING FINISHES						
	Ceiling finishes, complete package	**72,443**	gsf	14.00	1,014,202		
	SUBTOTAL					1,014,202	
	TOTAL - INTERIOR FINISHES						**$2,752,834**
	D10 CONVEYING SYSTEMS						
	D1010 ELEVATOR						
	New two stop elevator	**1**	ls	200,000.00	200,000		
	SUBTOTAL					200,000	
	TOTAL - CONVEYING SYSTEMS						**$200,000**
	D20 PLUMBING						
	D20 PLUMBING, GENERALLY						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**72,443**	gsf	25.00	1,811,075		
	SUBTOTAL					1,811,075	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**72,443**	gsf	1.00	72,443		
	Option 3: Air source heat pump water heaters	**72,443**	gsf	4.00	289,772		
	Option 4: Water source heat pump water heaters	**72,443**	gsf	4.00	289,772		
	TOTAL - PLUMBING						**$1,811,075**
	D30 HVAC						
	D30 HVAC, GENERALLY						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**72,443**	gsf	80.00	5,795,440		
	SUBTOTAL					5,795,440	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**72,443**	gsf	10.00	724,430		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2A - NEW CONSTRUCTION							
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**72,443**	gsf	38.00	2,752,834		
	TOTAL - HVAC						**$5,795,440**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**72,443**	gsf	7.50	543,323		
	Electric fire pump	**72,443**	gsf	1.00	72,443		
	SUBTOTAL					615,766	
	TOTAL - FIRE PROTECTION						**$615,766**
D50	***ELECTRICAL***						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**72,443**	gsf	60.00	4,346,580		
	SUBTOTAL					4,346,580	
	TOTAL - ELECTRICAL						**$4,346,580**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						
112000	*LOADING DOCK EQUIPMENT*						
	Loading dock equipment	**1**	ls	10,000.00	10,000		
110620	*THEATRICAL EQUIPMENT*						
	Allowance						
	cafeteria rigging & stage curtains - allowance	**1**	ls	100,000.00	100,000		
113100	*APPLIANCES*						
	Residential appliances - allowance	**1**	ls	15,000.00	15,000		
114000	*FOOD SERVICE EQUIPMENT*						
	Kitchen equipment	**1**	ls	598,640.00	598,640		
115213	*PROJECTION SCREENS*						
	Motorized projection screen - allowance	**1**	ls	30,000.00	30,000		
116600	*GYM EQUIPMENT*						
	Basketball backstops	**6**	ea	12,000.00	72,000		
	Scoreboard w/ shot clock - allow	**1**	ea	25,000.00	25,000		
	Gym wall pads	**2,000**	sf	17.00	34,000		
	Volleyball equipment	**1**	ls	5,000.00	5,000		
	Divider curtain (1#)	**1**	ea	40,320.00	40,320		
126000	*SEATING*						
	Retractable bleachers in gym (150 seats)	**1**	ls	37,500.00	37,500		
	SUBTOTAL					967,460	
	TOTAL - EQUIPMENT						**$967,460**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**11,845**	sf	12.00	142,140		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2A - NEW CONSTRUCTION							
123553	*CASEWORK*						
	Casework package	**72,443**	gsf	14.00	1,014,202		
	SUBTOTAL					1,156,342	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$1,156,342**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	SUBTOTAL					-	
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	See main summary for HazMat allowance				See Summary		
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						
	SUBTOTAL						**$37,446,123**

SITEWORK OPTION A2.2A

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	G SITEWORK						
	G10 SITE PREPARATION & DEMOLITION						
311000	*GENERAL CONDITIONS*						
	6' high site construction fence	**2,200**	lf	25.00	55,000		
	6' high site construction fence double gate	**1**	loc	5,000.00	5,000		
	Site construction entrance and removal/restoration	**1**	loc	12,000.00	12,000		
	Temp laydown areas	**1**	ls	10,000.00	10,000		
	Temporary signs	**1**	ls	20,000.00	Excluded		
	Wheel wash rack	**1**	ls	20,000.00	20,000		
	Engineering/layout	**1**	ls	45,000.00	45,000		
	Snow removal - allowance	**1**	ls		Excluded		
	Winter conditions - allowance	**1**	ls		Excluded		
	Police details	**1**	ls		Excluded		
	Site security	**1**	ls		Excluded		
	Job site construction trailer	**1**	ls		Excluded		
	Temp utilities for job trailer	**1**	ls		Excluded		
311000	*PHASING*						
	Phasing allowance	**1**	ea		NR		
311000	*SITE SALVAGE ITEMS*						
	Salvage memorials and plaques	**1**	ls	10,000.00	10,000		
311000	*SITE DEMOLITION AND RELOCATIONS*						
	Demolish existing paving, concrete and associated curbing	**72,378**	sf	1.25	90,473		
	Demolish existing courtyard area - assume specialty paving/plantings	**9,167**	sf	3.00	27,501		
	Demolish existing wood chips	**1,792**	sf	0.75	1,344		
	Demolish existing gravel	**6,182**	sf	1.25	7,728		
	Demolish existing playground	**6,410**	sf	1.50	9,615		
	Demolish existing play equipment	**1**	ls	10,000.00	10,000		
	Demolish existing boulders/stone steps	**24**	ea	250.00	6,000		
	Demolish steps	**146**	lf	20.00	2,920		
	Demolish existing walls	**250**	lf	95.00	23,750		
	Miscellaneous site demolition; furnishings, concrete pads, signs etc	**1**	ls	100,000.00	100,000		
311000	*UTILITY DEMOLITION*						
	Miscellaneous utility demolition	**1**	ls	50,000.00	50,000		
311000	*ROADWAY WORK - UTILITIES ALLOWANCES*						
	Sawcut	**200**	lf	8.25	1,650		
	Remove pavement	**500**	sf	3.50	1,750		
	Temp pavement patching	**500**	sf	8.00	4,000		
	Steel plates	**1**	ls	2,500.00	2,500		
	Police details	**7**	dy	850.00	5,950		
	Permanent pavement patch	**500**	sf	10.00	5,000		
311000	*VEGETATION & TOPSOIL MANAGEMENT*						
	Clear and grub	**3**	acre	5,000.00	15,000		
	Tree removal allowance	**1**	ls	20,000.00	20,000		
	Tree protection allowance	**1**	ls	5,000.00	5,000		
	Strip + stockpile topsoil	**2,278**	cy	11.50	26,197		
312000	*EROSION & SEDIMENT CONTROL*						
	Silt Fence; installation and removal - allowance	**2,200**	lf	15.00	33,000		
	Silt Sacks; installation and removal - allowance	**1**	ls	2,500.00	2,500		
	Erosion Control monitoring & maintenance	**1**	ls	25,000.00	25,000		
	SUBTOTAL					633,878	
312000	*BUILDING EARTHWORK*						
	Cut - allowance for 2' of overexcavation	**3,467**	cy	10.00	W/Building		
	Fill - import structural - 25% swell	**4,334**	cy	65.00	W/Building		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**3,467**	cy	2.50	W/Building		
	Less than RCS-1 - clean non-regulated	**5,894**	tn	23.00	W/Building		
	SUBTOTAL					-	
312000	*SITE EARTHWORK*						
	Site cut to design subgrade - assume 1' of cut	*12,898*	*cy*				
	Cut	**12,898**	cy	10.00	128,980		
	Store cut onsite - allowance for 50%	**6,449**	cy	3.50	22,572		
	Site cut processing	*6,449*	*cy*				
	Screen cut soils	**6,449**	cy	7.00	45,143		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION A2.2A						
	Site fill to design subgrade	*12,898*	*cy*				
	Fill - from cut	**6,449**	cy	12.00	77,388		
	Fill - imported common fill; swell 25%	**8,061**	cy	32.00	257,952		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**6,449**	cy	2.50	16,123		
	Less than RCS-1 - clean non-regulated	**10,963**	tn	23.00	252,149		
312000	*GEOTHERMAL - ALLOWANCE*						
	Groundwater management/ control measures	**1**	ls	50,000.00	NR		
	Support of geothermal	**1**	ls	200,000.00	NR		
312000	*GROUNDWATER CONTROLS*						
	Groundwater support	**1**	ls	100,000.00	100,000		
312000	*ROCK REMOVAL*						
	Rock removal allowance - bedrock and shallow rock excavation	**1**	ls	250,000.00	250,000		
312000	*ESTABLISHING GRADE*						
	Sub grade establishment	**348,250**	sf	0.25	87,063		
	Fine grading throughout the site	**348,250**	sf	0.35	121,888		
312000	*HAZARDOUS MATERIALS*						
	UST removal allowance	**1**	ls	50,000.00	NR		
	SUBTOTAL					1,359,258	
	TOTAL - SITE PREPARATION						**$1,993,136**
G20	**SITE IMPROVEMENTS**						
320000	***ROADWAYS AND PARKING LOTS***						
	Asphalt Paving; parking lots and roadway - Heavy Duty (allow 25%)	*27,500*	*sf*				
	gravel base; 12" thick	**1,019**	cy	50.00	50,950		
	asphalt top; 2" thick	**351**	tns	225.00	78,975		
	asphalt binder; 2.5" thick	**437**	tns	190.00	83,030		
	Asphalt Paving; parking lots and roadway - Standard Duty(allow 75%)	*55,500*	*sf*				
	gravel base; 8" thick	**1,377**	cy	50.00	68,850		
	asphalt top; 2" thick	**709**	tns	225.00	159,525		
	asphalt binder; 2" thick	**709**	tns	190.00	134,710		
	Service area - allowance	*2,500*	*sf*				
	gravel base; 12" thick	**93**	cy	50.00	4,650		
	Broom finish concrete paving; 8" thick	**2,500**	sf	17.00	42,500		
320000	*CURBING*						
	Vertical granite curb	**5,500**	lf	65.00	357,500		
	ADA Curb cuts - allowance	**10**	ea	850.00	8,500		
320000	*ROAD MARKINGS AND SIGNS*						
	Parking space striping - no count given - allowance	**1**	ls	30,000.00	30,000		
	Sign allowance	**1**	ls	20,000.00	20,000		
	Pavement markings allowance	**1**	ls	20,000.00	20,000		
	Crosswalk hatching allowance	**5**	loc	2,500.00	12,500		
320000	*OFF SITE IMPROVEMENTS*						
	Allowance for pavement markings, signs, RRFBs and speed feedback posts	**1**	ls	500,000.00	500,000		
	SUBTOTAL					1,571,690	
320000	***PEDESTRIAN PAVING***						
	Concrete sidewalks - allowance	*50,000*	*sf*				
	gravel base; 8" thick	**1,241**	cy	65.00	80,665		
	Broom finish concrete paving; 4" thick	**50,000**	sf	12.00	600,000		
	Concrete pads - allowance at dumpster, utilities, etc	*1,000*	*sf*				
	gravel base; 12" thick	**37**	cy	65.00	2,405		
	Broom finish concrete paving; 8" thick	**1,000**	sf	20.00	20,000		
	Pavers - allowance	*5,000*	*sf*				
	gravel base; 8" thick	**124**	cy	65.00	8,060		
	Concrete slab paving; 4" thick	**5,000**	sf	12.00	60,000		
	Concrete pavers	**5,000**	sf	32.00	160,000		
	Geotextiles	**5,000**	sf	0.55	2,750		

	CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
		SITEWORK OPTION A2.2A						
131		Edging	**500**	lf	18.00	9,000		
132		SUBTOTAL					942,880	
133								
134	***320000***	***SITE IMPROVEMENTS***						
135	*320000*	*SITE FURNISHINGS - ALLOWANCES*						
136		Bollards	**25**	ea	1,090.00	27,250		
137		School sign	**1**	ea	25,000.00	25,000		
138		Raised planters	**5**	ea	4,000.00	20,000		
139		Bike racks	**10**	ea	850.00	8,500		
140		Flagpole - 30' Ht.	**1**	ea	7,000.00	7,000		
141		Flagpole foundation	**1**	ea	4,500.00	4,500		
142		Site lighting foundations - e&b only	**1**	ls	10,000.00	10,000		
143		Trash and Recycling receptacles	**6**	ea	2,500.00	15,000		
144		Benches	**5**	ea	3,500.00	17,500		
145		Table and chairs	**5**	ea	4,500.00	22,500		
146		Picnic tables	**5**	ea	4,000.00	20,000		
147		Shade structures at courtyards and outdoor classrooms	**1**	ls	80,000.00	80,000		
148		Greenhouse - replace in kind	**1**	ls	30,000.00	NR		
149		Misc site furnishings	**1**	ls	200,000.00	200,000		
150	*320000*	*SPORTS COURTS AND PLAY AREAS*						
151		Pavement areas	*10,000*	*sf*				
152		gravel base; 8" thick	**248**	cy	65.00	16,120		
153		asphalt top; 1.5" thick	**94**	tns	225.00	21,150		
154		asphalt binder; 1.5" thick	**94**	tns	190.00	17,860		
155		Color coating - court striping and games	**10,000**	sf	0.90	9,000		
156		Basketball hoops	**2**	ea	6,700.00	13,400		
157		Play area	12,000	*sf*				
158		gravel base; 8" thick	**298**	cy	65.00	19,370		
159		Pour-in-place safety surface	**12,000**	sf	36.00	432,000		
160		Edging	**300**	lf	45.00	13,500		
161		Allowance for play equipment	**1**	ls	500,000.00	500,000		
162		Shade structures	**1**	ls	80,000.00	80,000		
163		Pre-K and K Play	3,000	*sf*				
164		gravel base; 8" thick	**74**	cy	65.00	4,810		
165		Pour-in-place safety surface	**3,000**	sf	36.00	108,000		
166		Edging	**185**	lf	45.00	8,325		
167		Allowance for play equipment	**1**	ls	250,000.00	250,000		
168		Shade structures	**1**	ls	40,000.00	40,000		
169	*320000*	*FENCING*						
170		4' ht. CLF at sports field - 125' x 190'	**630**	lf	85.00	53,550		
171		4' ht. ornamental fence at playground	**185**	lf	150.00	27,750		
172		4' Ht - Ornamental single gate	**2**	ea	1,500.00	3,000		
173		Wood fence with mesh infill at pond	**250**	lf	95.00	23,750		
174		Dupster pad enclosure - allowance	**1**	ls	5,000.00	5,000		
175		Vehicular gate - non motorized	**2**	ea	12,000.00	24,000		
176		SUBTOTAL					2,127,835	
177								
178	*329900*	*SITE WALLS*						
179		Precast concrete seatwalls with wood topper - allowance	*100*	*lf*				
180		Precast concrete	**100**	lf	1,000.00	100,000		
181		Concrete - below grade and to frost	**100**	lf	363.00	36,300		
182		Excavation	**21**	cy	100.00	2,100		
183		Backfill - (assume using onsite soils)	**6**	cy	25.00	150		
184		Wall drain	**100**	lf	22.00	2,200		
185		Wood toppers	**100**	lf	725.00	72,500		
186		SUBTOTAL					213,250	
187								
188		***Landscaping***						
189	*329900*	*TOPSOIL*						
190		Screen topsoil	**2,278**	cy	7.50	17,085		
191		Export tailings from screening process - assume clean rock	**683**	cy	8.50	5,806		
192		Amend/Place	**1,595**	cy	25.00	39,875		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION A2.2A						
	Topsoil - imported 6" thick - swell 25%	**1,483**	cy	75.00	111,225		
	Soil and mulch at planting areas; 18" thick -Allow 20% of area	**1,756**	cy	135.00	237,060		
329900	*LAWN AND SEED*	*126,400*	*sf*				
	Topsoil 6" thick - required	**2,341**	cy		incl. above		
	Scarify subgrade	**126,400**	sf	0.25	31,600		
	Power rake and hydroseed disturbed areas - Allow 80% of area	**126,400**	sf	0.35	44,240		
	Landscape curbing in entrance areas - allowance	**100**	lf	125.00	12,500		
320000	*ATHLETIC LANDSCAPING*	*23,750*	*sf*				
	Topsoil 6" thick - required	**440**	cy		incl. above		
	Scarify subgrade	**23,750**	sf	0.25	5,938		
	Natural grass field	*23,750*	*sf*				
	Lawn seeding	**23,750**	sf	0.35	8,313		
	Irrigation	**23,750**	sf	2.75	65,313		
329900	*TREES*						
	Allowance for trees	**1**	ls	250,000.00	250,000		
329900	*SHRUBS AND GROUNDCOVERS*						
	Allowance for shrubs and groundcovers	**1**	ls	50,000.00	50,000		
329900	*MAINTENANCE*						
	1-yr plant maintenance	**1**	ls	45,000.00	45,000		
	Watering to grow-in	**1**	ls	10,000.00	10,000		
328400	*IRRIGATION*						
	Irrigation at trees - allowance	**1**	ls	25,000.00	25,000		
	Irrigation area - plant beds	**31,600**	sf	2.75	86,900		
	SUBTOTAL					1,045,855	
	TOTAL - SITE IMPROVEMENTS						**$5,901,510**
G30	**CIVIL MECHANICAL UTILITIES**						
210000	*FIRE PROTECTION*						
	8" CLDI	**2,500**	lf	67.50	168,750		
	6" CLDI	**200**	lf	49.64	9,928		
	Fire department connection	**1**	ea	2,500.00	2,500		
	Gate valve - allowance	**1**	ls	7,500.00	7,500		
	Fire hydrant	**4**	ea	6,500.00	26,000		
	Thrust blocks - allowance	**1**	ls	5,000.00	5,000		
331000	*WATER UTILITIES*						
	4" CLDI	**100**	lf	67.50	6,750		
331000	*CONNECTIONS*						
	Connect to existing water line; 6/8/10 (in roadway)	**2**	ea	15,000.00	30,000		
312000	*EXCAVATION & BACKFILL*	*2,800*	*lf*				
	DI gravity piping excavation	**2,489**	cy	46.75	116,361		
	Trench bedding	**560**	cy	38.50	21,560		
	Pressure test & chlorinate	**100**	lf	5.00	500		
	Allowance for temporary support of existing utilities	**1**	ea	15,000.00	15,000		
	SUBTOTAL					409,849	
333000	*SANITARY SEWER*						
	6" PVC	**1,200**	lf	21.16	25,392		
	SMH - 0-5' deep	**9**	ea	4,800.00	43,200		
	Grease trap - 5,000 gal.	**1**	ea		w/ plumbing		
333000	*CONNECTIONS*						
	Connect to existing (in roadway)	**1**	ea	15,000.00	15,000		
312000	*EXCAVATION & BACKFILL - Gravity*	*1,200*	*lf*				
	PVC gravity piping excavation	**1,067**	cy	46.75	49,882		
	Trench bedding	**356**	cy	38.50	13,706		
	Pressure testing	**1,200**	lf	4.00	4,800		
	Video Inspection	**1**	ls	5,000.00	5,000		
	Grease trap; 5,000 gal. (e/b only) incl. shoring	**1**	ea	10,000.00	10,000		
	Allowance for temporary support of existing utilities	**1**	ea	15,000.00	15,000		
	SUBTOTAL					181,980	
334000	*STORM DRAINAGE*						
	18" PVC	**1,800**	lf	100.00	180,000		
	12" PVC	**1,000**	lf	75.00	75,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION A2.2A						
	4' Dia. DMH - 0-5' deep	**18**	ea	5,000.00	90,000		
	AD	**20**	ea	2,500.00	50,000		
	WQU	**6**	ea	20,000.00	120,000		
	CB - 4' Dia.	**28**	ea	4,800.00	134,400		
	Allowance for drainage at playgrounds	**15,000**	sf	2.50	37,500		
334000	*SURFACE DRAINAGE SYSTEMS*						
	Bio retention/Rain Garden	*2,500*	*sf*				
	Allowance for bio-retention areas	**2,500**	sf	18.00	45,000		
334000	*SUBSURFACE DRAINAGE SYSTEMS*						
	Underground recharger						
	Allowance for plastic chambers	**30,000**	cf	12.00	360,000		
	SUBTOTAL					1,091,900	
	TOTAL - SITE MECHCANICAL UTILITIES						**$1,683,729**
G40	**ELECTRICAL UTILITIES**						
	Services						
	Primary electric service empty conduit	**1,000**	lf	120.00	120,000		
	Secondary electrical service	**80**	lf	1,200.00	96,000		
	Generator service	**80**	lf	240.00	19,200		
	Communications service	**1,000**	lf	170.00	170,000		
	Site Lighting						
	Site lighting and circuitry	**83,000**	sf	4.00	332,000		
	Sports field lighting				N/A		
	EV Stations						
	Dual EV stations; infrastructure only	**1**	ls	100,000.00	100,000		
	Site Security						
	Site security	**1**	ls	150,000.00	150,000		
	SUBTOTAL					987,200	
	TOTAL - SITE ELECTRICAL UTILITIES						**$987,200**
	TOTAL - SITE DEVELOPMENT						**$10,565,575**

PM&C

Essex Elementary School
Essex, MA
PSR Options Cost Estimate

OPTION A2.2B - UNIFORMAT SUMMARY

Uniformat Code	Description	New School (72,443 sf)	Sitework Cost	Grand Total Cost
A SUBSTRUCTURE				
A10	Foundations	$2,741,163		$2,741,163
A20	Basement Construction	$0		$0
B SHELL				
B10	Superstructure	$3,810,476		$3,810,476
B20	Exterior Closure	$6,058,811		$6,058,811
B30	Roofing	$1,672,452		$1,672,452
C INTERIORS				
C10	Interior Construction	$4,766,354		$4,766,354
C20	Staircases	$225,000		$225,000
C30	Interior Finishes	$2,752,834		$2,752,834
D SERVICES				
D10	Conveying Systems	$200,000		$200,000
D20	Plumbing	$1,811,075		$1,811,075
D30	HVAC	$5,795,440		$5,795,440
D40	Fire Protection	$615,766		$615,766
D50	Electrical	$4,346,580		$4,346,580
E EQUIPMENT & FURNISHINGS				
E10	Equipment	$967,460		$967,460
E20	Furnishings	$1,144,834		$1,144,834
F SPECIAL CONSTRUCTION & DEMOLITION				
F10	Special Construction	$0		$0
F20	Selective Building Demolition	$0		$0
	DEMOLITION			
	Demolition of Existing School	$795,540		$795,540
	HAZARDOUS MATERIALS			
	Remove Hazardous Materials	$450,000		$450,000
	G SITEWORK			
G10	Site Preparation		$2,122,899	$2,122,899
G20	Site Improvements		$5,781,265	$5,781,265
G30	Site Mechanical Utilities		$1,624,329	$1,624,329
G40	Site Electrical Utilities		$977,200	$977,200
BUILDING SUBTOTAL		**$36,908,245**		**$36,908,245**
$/sf		*$509.48*		
DEMOLITION		**$795,540**		**$795,540**
HAZARDOUS MATERIALS		**$450,000**		**$450,000**
SITEWORK SUBTOTAL			**$10,505,693**	**$10,505,693**
SUB-TOTAL				**$48,659,478**
ESCALATION TO START DATE			9.33%	$4,539,929
DESIGN AND PRICING CONTINGENCY			12.00%	$6,383,929
SUB-TOTAL				**$59,583,336**
GENERAL CONDITIO	*MTHS @ $160,000/mo*		#REF!	#REF!
GENERAL REQUIREMENTS			4.00%	$2,383,333
PHASING			2.00%	$1,191,667
BONDS			1.00%	$595,833
INSURANCES			1.75%	$1,042,708
PERMIT			Excl	
SUB-TOTAL				**#REF!**
FEE			2.50%	#REF!
GMP CONTINGENCY			3.00%	#REF!
TOTAL OF ALL CONSTRUCTION				**#REF!**
$/sf (Total GFA)				*#REF!*

	CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
		OPTION A2.2B - NEW CONSTRUCTION						
		GROSS FLOOR AREA CALCULATION						
		Level 1			48,187			
		Level 2			24,256			
		TOTAL GROSS FLOOR AREA (GFA)					**72,443**	***sf***
		A10 FOUNDATIONS						
		A1010 STANDARD FOUNDATIONS						
1		Strip footings - perimeter; 36"x12"						
2		Formwork	**2,334**	sf	20.00	46,680		
3		Re-bar	**14,004**	lbs.	2.00	28,008		
4		Concrete material	**136**	cy	171.00	23,256		
5		Placing concrete	**136**	cy	130.00	17,680		
6		Typical foundation walls, 18" thick						
7		Formwork	**9,336**	sf	22.00	205,392		
8		Re-bar	**23,340**	lbs.	2.00	46,680		
9		Concrete material	**272**	cy	171.00	46,512		
10		Placing concrete	**272**	cy	130.00	35,360		
11		Form shelf	**1,167**	lf	10.00	11,670		
12		Spread Footings; allow 7'x7'x21" at 2-story						
13		Formwork	**2,695**	sf	18.00	48,510		
14		Re-bar	**25,620**	lbs.	2.00	51,240		
15		Concrete material	**183**	cy	171.00	31,293		
16		Placing concrete	**183**	cy	130.00	23,790		
17		Set anchor bolts grout plates	**55**	ea	250.00	13,750		
18		Spread Footings; allow 5'x5'x15" at 1-story						
19		Formwork	**1,250**	sf	18.00	22,500		
20		Re-bar	**5,000**	lbs.	2.00	10,000		
21		Concrete material	**61**	cy	171.00	10,431		
22		Placing concrete	**61**	cy	130.00	7,930		
23		Set anchor bolts grout plates	**50**	ea	250.00	12,500		
24		Grade beams; allow 200 LF						
25		Formwork	**800**	sf	20.00	16,000		
26		Re-bar	**17,000**	lbs.	2.00	34,000		
27		Concrete material	**37**	cy	171.00	6,327		
28		Placing concrete	**37**	cy	130.00	4,810		
29								
30		Piers/Pilasters	**65**	cy	1,500.00	97,500		
31								
32		Elevator Pits						
33		Walls, 12" thick	1	ea				
34		Formwork	**320**	sf	26.00	8,320		
35		Re-bar	**800**	lbs.	2.00	1,600		
36		Concrete material	**6**	cy	171.00	1,026		
37		Placing concrete	**6**	cy	130.00	780		
38		Mat slab at pits, 24" thick	**100**	sf	25.00	2,500		
39								
40		Premium for deep foundation wall						NR
41								
42		Foundations against existing building		lf	500.00			
43								
44	*070001*	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
45		Trowelled on mastic damproofing at foundation wall	**4,668**	sf	5.00	23,340		
46		Waterproofing at elevator pit	**340**	sf	14.00	4,760		
47								
48	*072100*	*THERMAL INSULATION*						
49		Foundation wall insulation	**4,668**	sf	5.50	25,674		
50								
51	*312000*	*EARTHWORK*						
52		Strip footings/ fdn wall						
53		Excavation & reuse on site	**1,297**	cy	40.00	51,880		
54		Spread footings						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2B - NEW CONSTRUCTION							
	Excavation & reuse on site	**1,038**	cy	40.00	41,520		
	Building cut to design subgrade - allowance (no geotech report just borings)	*5,354*	*cy*				
	Cut - over excavated 3' of fill beneath building	**5,354**	cy	10.00	53,540		
	building fill to design subgrade	*6,693*	*cy*				
	Fill - import structural - 25% swell	**6,693**	cy	46.00	307,878		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**5,354**	cy	2.50	13,385		
	Clean non-regulated	**9,102**	tn	16.00	145,632		
	Miscellaneous						
	Perimeter drain	**1,167**	lf	32.00	37,344		
	Underslab drainage	**48,187**	sf	3.00	144,561		
	Dewatering for foundation work	**1**	ls	40,000.00	40,000		
	SUBTOTAL					1,755,559	
A1020	**SPECIAL FOUNDATIONS**				Not anticipated		
	SUBTOTAL					-	
A1030	**LOWEST FLOOR CONSTRUCTION**						
033000	*CONCRETE*						
	Vapor barrier	**48,187**	sf	1.25	60,234		
	Slab on grade	*48,187*	*sf*				
	WWF reinforcement	**55,415**	sf	1.85	102,518		
	Concrete - 5" thick	**787**	cy	171.00	134,577		
	Placing concrete	**787**	cy	70.00	55,090		
	Finishing and curing concrete	**48,187**	sf	4.00	192,748		
	Control joints - saw cut	**48,187**	sf	0.10	4,819		
	Miscellaneous						
	Equipment pads	**1**	ls	15,000.00	15,000		
	Loading dock	**1**	ls	50,000.00	50,000		
	Radon system	**48,187**	sf	3.50	168,655		
072100	*THERMAL INSULATION*						
	Under slab insulation; 4ft at perimeter	**4,668**	sf	3.50	16,338		
312000	*EARTHWORK*						
	Gravel base, 12"	**1,785**	cy	50.00	89,250		
	Compact existing sub-grade	**48,187**	sf	0.50	24,094		
	Underslab E&B for plumbing	**48,187**	sf	1.50	72,281		
	SUBTOTAL					985,604	
	TOTAL - FOUNDATIONS						**$2,741,163**
A20	***BASEMENT CONSTRUCTION***						
A2010	**BASEMENT EXCAVATION**						
	No Work in this section						
	SUBTOTAL					-	
A2020	**BASEMENT WALLS**						
	No Work in this section						
	SUBTOTAL					-	
	TOTAL - BASEMENT CONSTRUCTION						
B10	***SUPERSTRUCTURE***						
		13.9	*lbs/sf*				
B1010	**FLOOR CONSTRUCTION**	*502*	*tns*	excluding canopies + roof screens			
		$6,592	*$/Ton*				
033000	*CONCRETE*						
	WWF reinforcement	**27,894**	sf	1.85	51,604		
	Concrete fill to metal deck; light weight, total thickness 6 1/4"	**491**	cy	260.00	127,660		
	Place and finish concrete	**24,256**	sf	3.50	84,896		
	Rebar to decks	**7,277**	lbs	2.00	14,554		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2B - NEW CONSTRUCTION							
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 15.3 lbs per SF	**186**	tns	5,200.00	967,200		
	Shear studs	**6,064**	ea	3.50	21,224		
	3" metal galvanized floor deck	**24,256**	sf	7.00	169,792		
	Thermal break	**1**	ls	30,000.00	NR		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams; stairs + shafts only	**24,256**	sf	1.00	24,256		
	Intumescent paint @ architecturally exposed beams and columns - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					1,486,186	
B1020	**ROOF CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete deck at low roofs and at mechanical equipment pads - allow	**10,000**	sf	10.00	100,000		
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 13.1 lbs per SF	**316**	tns	5,200.00	1,643,200		
	Roof screens	**19**	tns	5,500.00	104,500		
	Decking						
	3" galvanized metal deck, typical	**48,187**	sf	7.50	361,403		
	Premium for acoustic at Gym	**7,000**	sf	6.00	42,000		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams; stairs + shafts only	**48,187**	sf	1.00	48,187		
	Intumescent paint to primary roof members exposed to view - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					2,324,290	
	TOTAL - SUPERSTRUCTURE						**$3,810,476**
B20	***EXTERIOR CLOSURE***						
B2010	**EXTERIOR WALLS**	*36,288*	Total closure area				
	Exterior Wall Area - 70% solid	*25,402*	*sf total area solid*				
042000	*MASONRY*						
	Mockup	**1**	ls	50,000.00	50,000		
	Brick veneer; 80%	**20,322**	sf	52.00	1,056,744		
	CMU Backup; 12"	**7,000**	sf	45.00	315,000		
	Miscellaneous flashings and sealants	**25,402**	sf	1.50	38,103		
	Staging to exterior wall	**25,402**	sf	4.00	101,608		
055000	*MISC. METALS*						
	Misc. metals at masonry including loose lintels (relieving angles included in steel tns)	**20,322**	sf	2.00	40,644		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier	**25,402**	sf	9.50	241,319		
	Air barrier/flashing at openings	**5,443**	lf	6.00	32,658		
072100	*THERMAL INSULATION*						
	4" rigid insulation	**25,402**	sf	5.00	127,010		
	Batt insulation in stud	**18,402**	sf	3.00	55,206		
	Insulation at glazed openings	**5,443**	lf	6.00	32,658		
076400	*CLADDING*						
	Rainscreen; 20%	**5,080**	sf	120.00	609,600		
	Acoustic Equipment Screen	**2,500**	sf	95.00	237,500		
	Roof/edge cornice	**1**	ls	100,000.00	100,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2B - NEW CONSTRUCTION							
	EXPANSION JOINT COVERS						
	Expansion joints	**1**	ls	30,000.00	30,000		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Exterior wall;						
	8" Stud backup	**18,402**	sf	18.00	331,236		
	Gypsum sheathing	**18,402**	sf	3.50	64,407		
	Drywall lining to interior face of stud backup	**25,402**	sf	4.50	114,309		
101400	*SIGNAGE*						
	Exterior signage - allowance	**1**	ls	30,000.00	30,000		
	SUBTOTAL					3,608,002	
B2020	**WINDOWS**						
	Exterior Wall Area; 30%	*10,886*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**5,443**	lf	12.00	65,316		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**5,443**	lf	10.00	54,430		
	Backer rod & double sealant	**5,443**	lf	11.00	59,873		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront	**7,076**	sf	165.00	1,167,540		
	Curtainwall; 35%	**3,810**	sf	200.00	762,000		
	Security glazing allowance; 15%	**1,633**	sf	50.00	81,650		
	Sunshades - allowance	**1**	ls	100,000.00	100,000		
089000	*LOUVERS*						
	Louvers	**1**	ls	10,000.00	10,000		
	SUBTOTAL					2,300,809	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**1**	ls	150,000.00	150,000		
	SUBTOTAL					150,000	
	TOTAL - EXTERIOR CLOSURE						**$6,058,811**
B30	***ROOFING***						
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**48,187**	sf	1.50	72,281		
070002	*ROOFING AND FLASHING*						
	PVC roof membrane system; complete	**48,187**	sf	30.00	1,445,610		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**48,187**	sf	3.00	144,561		
	SUBTOTAL					1,662,452	
B3020	**ROOF OPENINGS**						
086300	*ROOF SKYLIGHTS*						
	Allowance for roof hatches	**1**	ls	10,000.00	10,000		
	SUBTOTAL					10,000	
	TOTAL - ROOFING						**$1,672,452**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
040001	*MASONRY*						
	Allowance for masonry partitions	**72,443**	gsf	6.00	434,658		
061000	*ROUGH CARPENTRY*						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2B - NEW CONSTRUCTION							
	Backer panels in electrical closets	**1**	ls	10,000.00	10,000		
	Wood blocking at interiors	**72,443**	gsf	0.50	36,222		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping including slab edges and core	**72,443**	gsf	0.75	54,332		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**72,443**	gsf	1.25	90,554		
078150	*EXPANSION JOINTS*						
	Allowance for expansion joint covers	**1**	ls	30,000.00	30,000		
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**72,443**	gsf	4.00	289,772		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for clean, safety + laborers	**72,443**	gsf	4.00	289,772		
	Allowance for GWB partitions	**72,443**	gsf	26.00	1,883,518		
	SUBTOTAL					3,118,828	
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**72,443**	gsf	9.00	651,987		
	SUBTOTAL					651,987	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building including rails at open to below	**72,443**	gsf	5.00	362,215		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**72,443**	gsf	4.00	289,772		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**72,443**	gsf	1.00	72,443		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**72,443**	gsf	1.50	108,665		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**72,443**	gsf	0.50	36,222		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**72,443**	gsf	0.50	36,222		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	500.00	500		
	AED cabinets	**1**	ls	2,000.00	2,000		
105000	*LOCKERS*						
	Student lockers	**250**	opng	350.00	87,500		
	SUBTOTAL					995,539	
	TOTAL - INTERIOR CONSTRUCTION						**$4,766,354**
C20	***STAIRCASES***						
C2010	**STAIR CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete to stairs	**3**	flt	5,000.00	15,000		
055000	*MISCELLANEOUS METALS*						
	Egress stairs including rails and handrails	**2**	flt	50,000.00	100,000		
	Lobby stairs	**1**	flt	75,000.00	75,000		
	SUBTOTAL					190,000	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2B - NEW CONSTRUCTION							
C2020	**STAIR FINISHES**						
090005	*RESILIENT FLOORS*						
	Lobby Stair finishes	**1**	flts	25,000.00	25,000		
	Stair finishes - egress	**2**	flts	5,000.00	10,000		
	SUBTOTAL					35,000	
	TOTAL - STAIRCASES						**$225,000**
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Wall finishes; allowance	**72,443**	gsf	13.00	941,759		
	SUBTOTAL					941,759	
C3020	**FLOOR FINISHES**						
	Floor finishes complete package	**72,443**	gsf	11.00	796,873		
	SUBTOTAL					796,873	
C3030	**CEILING FINISHES**						
	Ceiling finishes, complete package	**72,443**	gsf	14.00	1,014,202		
	SUBTOTAL					1,014,202	
	TOTAL - INTERIOR FINISHES						**$2,752,834**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**						
	New two stop elevator	**1**	ls	200,000.00	200,000		
	SUBTOTAL					200,000	
	TOTAL - CONVEYING SYSTEMS						**$200,000**
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**72,443**	gsf	25.00	1,811,075		
	SUBTOTAL					1,811,075	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**72,443**	gsf	1.00	72,443		
	Option 3: Air source heat pump water heaters	**72,443**	gsf	4.00	289,772		
	Option 4: Water source heat pump water heaters	**72,443**	gsf	4.00	289,772		
	TOTAL - PLUMBING						**$1,811,075**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**72,443**	gsf	80.00	5,795,440		
	SUBTOTAL					5,795,440	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**72,443**	gsf	10.00	724,430		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2B - NEW CONSTRUCTION							
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**72,443**	gsf	38.00	2,752,834		
	TOTAL - HVAC						**$5,795,440**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**72,443**	gsf	7.50	543,323		
	Electric fire pump	**72,443**	gsf	1.00	72,443		
	SUBTOTAL					615,766	
	TOTAL - FIRE PROTECTION						**$615,766**
D50	***ELECTRICAL***						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**72,443**	gsf	60.00	4,346,580		
	SUBTOTAL					4,346,580	
	TOTAL - ELECTRICAL						**$4,346,580**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						
112000	*LOADING DOCK EQUIPMENT*						
	Loading dock equipment	**1**	ls	10,000.00	10,000		
110620	*THEATRICAL EQUIPMENT*						
	Allowance						
	cafeteria rigging & stage curtains - allowance	**1**	ls	100,000.00	100,000		
113100	*APPLIANCES*						
	Residential appliances - allowance	**1**	ls	15,000.00	15,000		
114000	*FOOD SERVICE EQUIPMENT*						
	Kitchen equipment	**1**	ls	598,640.00	598,640		
115213	*PROJECTION SCREENS*						
	Motorized projection screen - allowance	**1**	ls	30,000.00	30,000		
116600	*GYM EQUIPMENT*						
	Basketball backstops	**6**	ea	12,000.00	72,000		
	Scoreboard w/ shot clock - allow	**1**	ea	25,000.00	25,000		
	Gym wall pads	**2,000**	sf	17.00	34,000		
	Volleyball equipment	**1**	ls	5,000.00	5,000		
	Divider curtain (1#)	**1**	ea	40,320.00	40,320		
126000	*SEATING*						
	Retractable bleachers in gym (150 seats)	**1**	ls	37,500.00	37,500		
	SUBTOTAL					967,460	
	TOTAL - EQUIPMENT						**$967,460**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**10,886**	sf	12.00	130,632		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2B - NEW CONSTRUCTION							
123553	*CASEWORK*						
	Casework package	**72,443**	gsf	14.00	1,014,202		
	SUBTOTAL					1,144,834	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$1,144,834**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	SUBTOTAL					-	
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	See main summary for HazMat allowance				See Summary		
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						
	SUBTOTAL						**$36,908,245**

SITEWORK OPTION 2.2B

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	G SITEWORK						
	G10 SITE PREPARATION & DEMOLITION						
311000	*GENERAL CONDITIONS*						
	6' high site construction fence	**2,200**	lf	25.00	55,000		
	6' high site construction fence double gate	**1**	loc	5,000.00	5,000		
	Site construction entrance and removal/restoration	**1**	loc	12,000.00	12,000		
	Temp laydown areas	**1**	ls	10,000.00	10,000		
	Temporary signs	**1**	ls	20,000.00	Excluded		
	Wheel wash rack	**1**	ls	20,000.00	20,000		
	Engineering/layout	**1**	ls	45,000.00	45,000		
	Snow removal - allowance	**1**	ls		Excluded		
	Winter conditions - allowance	**1**	ls		Excluded		
	Police details	**1**	ls		Excluded		
	Site security	**1**	ls		Excluded		
	Job site construction trailer	**1**	ls		Excluded		
	Temp utilities for job trailer	**1**	ls		Excluded		
311000	*PHASING*						
	Phasing allowance	**1**	ea	250,000.00	250,000		
311000	*SITE SALVAGE ITEMS*						
	Salvage memorials and plaques	**1**	ls	10,000.00	10,000		
311000	*SITE DEMOLITION AND RELOCATIONS*						
	Demolish existing paving, concrete and associated curbing	**72,378**	sf	1.25	90,473		
	Demolish existing courtyard area - assume specialty paving/plantings	**9,167**	sf	3.00	27,501		
	Demolish existing wood chips	**1,792**	sf	0.75	1,344		
	Demolish existing gravel	**6,182**	sf	1.25	7,728		
	Demolish existing playground	**6,410**	sf	1.50	9,615		
	Demolish existing play equipment	**1**	ls	10,000.00	10,000		
	Demolish existing boulders/stone steps	**24**	ea	250.00	6,000		
	Demolish steps	**146**	lf	20.00	2,920		
	Demolish existing walls	**250**	lf	95.00	23,750		
	Miscellaneous site demolition; furnishings, concrete pads, signs etc	**1**	ls	100,000.00	100,000		
311000	*UTILITY DEMOLITION*						
	Miscellaneous utility demolition	**1**	ls	50,000.00	50,000		
311000	*ROADWAY WORK - UTILITIES ALLOWANCES*						
	Sawcut	**200**	lf	8.25	1,650		
	Remove pavement	**500**	sf	3.50	1,750		
	Temp pavement patching	**500**	sf	8.00	4,000		
	Steel plates	**1**	ls	2,500.00	2,500		
	Police details	**7**	dy	850.00	5,950		
	Permanent pavement patch	**500**	sf	10.00	5,000		
311000	*VEGETATION & TOPSOIL MANAGEMENT*						
	Clear and grub	**3**	acre	5,000.00	15,000		
	Tree removal allowance	**1**	ls	20,000.00	20,000		
	Tree protection allowance	**1**	ls	5,000.00	5,000		
	Strip + stockpile topsoil	**2,278**	cy	11.50	26,197		
312000	*EROSION & SEDIMENT CONTROL*						
	Silt Fence; installation and removal - allowance	**2,200**	lf	15.00	33,000		
	Silt Sacks; installation and removal - allowance	**1**	ls	2,500.00	2,500		
	Erosion Control monitoring & maintenance	**1**	ls	25,000.00	25,000		
	SUBTOTAL					883,878	
312000	*BUILDING EARTHWORK*						
	Cut - allowance for 2' of overexcavation	**3,422**	cy	10.00	w/Building		
	Fill - import structural - 25% swell	**4,278**	cy	65.00	w/Building		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**3,422**	cy	2.50	w/Building		
	Less than RCS-1 - clean non-regulated	**5,817**	tn	23.00	w/Building		
	SUBTOTAL					-	
312000	*SITE EARTHWORK*						
	Site cut to design subgrade - assume 1' of cut	*12,639*	*cy*				
	Cut	**12,639**	cy	10.00	126,390		
	Store cut onsite - allowance for 50%	**6,320**	cy	3.50	22,120		
	Site cut processing	*6,320*	*cy*				
	Screen cut soils	**6,320**	cy	7.00	44,240		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION 2.2B						
	Site fill to design subgrade	*12,639*	*cy*				
	Fill - from cut	**6,320**	cy	12.00	75,840		
	Fill - imported common fill; swell 25%	**7,899**	cy	32.00	252,768		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**6,320**	cy	2.50	15,800		
	Less than RCS-1 - clean non-regulated	**10,744**	tn	23.00	247,112		
312000	*GEOTHERMAL - ALLOWANCE*						
	Groundwater management/ control measures	**1**	ls	50,000.00	NR		
	Support of geothermal	**1**	ls	200,000.00	NR		
312000	*GROUNDWATER CONTROLS*						
	Groundwater support	**1**	ls	100,000.00	100,000		
312000	*ROCK REMOVAL*						
	Rock removal allowance - bedrock and shallow rock excavation	**1**	ls	150,000.00	150,000		
312000	*ESTABLISHING GRADE*						
	Sub grade establishment	**341,250**	sf	0.25	85,313		
	Fine grading throughout the site	**341,250**	sf	0.35	119,438		
312000	*HAZARDOUS MATERIALS*						
	UST removal allowance	**1**	ls	50,000.00	NR		
	SUBTOTAL					1,239,021	
	TOTAL - SITE PREPARATION						**$2,122,899**
G20	**SITE IMPROVEMENTS**						
320000	***ROADWAYS AND PARKING LOTS***						
	Asphalt Paving; parking lots and roadway - Heavy Duty (allow 25%)	*25,000*	*sf*				
	gravel base; 12" thick	**926**	cy	50.00	46,300		
	asphalt top; 2" thick	**319**	tns	225.00	71,775		
	asphalt binder; 2.5" thick	**398**	tns	190.00	75,620		
	Asphalt Paving; parking lots and roadway - Standard Duty(allow 75%)	*55,500*	*sf*				
	gravel base; 8" thick	**1,377**	cy	50.00	68,850		
	asphalt top; 2" thick	**709**	tns	225.00	159,525		
	asphalt binder; 2" thick	**709**	tns	190.00	134,710		
	Service area - allowance	*2,500*	*sf*				
	gravel base; 12" thick	**93**	cy	50.00	4,650		
	Broom finish concrete paving; 8" thick	**2,500**	sf	17.00	42,500		
320000	*CURBING*						
	Vertical granite curb	**5,500**	lf	65.00	357,500		
	ADA Curb cuts - allowance	**10**	ea	850.00	8,500		
320000	*ROAD MARKINGS AND SIGNS*						
	Parking space striping - no count given - allowance	**1**	ls	30,000.00	30,000		
	Sign allowance	**1**	ls	20,000.00	20,000		
	Pavement markings allowance	**1**	ls	20,000.00	20,000		
	Crosswalk hatching allowance	**5**	loc	2,500.00	12,500		
320000	*OFF SITE IMPROVEMENTS*						
	Allowance for pavement markings, signs, RRFBs and speed feedback posts	**1**	ls	500,000.00	500,000		
	SUBTOTAL					1,552,430	
320000	***PEDESTRIAN PAVING***						
	Concrete sidewalks - allowance	*50,000*	*sf*				
	gravel base; 8" thick	**1,241**	cy	65.00	80,665		
	Broom finish concrete paving; 4" thick	**50,000**	sf	12.00	600,000		
	Concrete pads - allowance at dumpster, utilities, etc	*1,000*	*sf*				
	gravel base; 12" thick	**37**	cy	65.00	2,405		
	Broom finish concrete paving; 8" thick	**1,000**	sf	20.00	20,000		
	Pavers - allowance	*5,000*	*sf*				
	gravel base; 8" thick	**124**	cy	65.00	8,060		
	Concrete slab paving; 4" thick	**5,000**	sf	12.00	60,000		
	Concrete pavers	**5,000**	sf	32.00	160,000		
	Geotextiles	**5,000**	sf	0.55	2,750		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION 2.2B						
	Edging	**500**	lf	18.00	9,000		
	SUBTOTAL					942,880	
320000	***SITE IMPROVEMENTS***						
320000	*SITE FURNISHINGS - ALLOWANCES*						
	Bollards	**25**	ea	1,090.00	27,250		
	School sign	**1**	ea	25,000.00	25,000		
	Raised planters	**5**	ea	4,000.00	20,000		
	Bike racks	**10**	ea	850.00	8,500		
	Flagpole - 30' Ht.	**1**	ea	7,000.00	7,000		
	Flagpole foundation	**1**	ea	4,500.00	4,500		
	Site lighting foundations - e&b only	**1**	ls	10,000.00	10,000		
	Trash and Recycling receptacles	**6**	ea	2,500.00	15,000		
	Benches	**5**	ea	3,500.00	17,500		
	Table and chairs	**5**	ea	4,500.00	22,500		
	Picnic tables	**5**	ea	4,000.00	20,000		
	Shade structures at courtyards and outdoor classrooms	**1**	ls	80,000.00	80,000		
	Greenhouse - replace in kind	**1**	ls	30,000.00	NR		
	Misc site furnishings	**1**	ls	100,000.00	100,000		
320000	*SPORTS COURTS AND PLAY AREAS*						
	Pavement areas	*5,500*	*sf*				
	gravel base; 8" thick	**136**	cy	65.00	8,840		
	asphalt top; 1.5" thick	**52**	tns	225.00	11,700		
	asphalt binder; 1.5" thick	**52**	tns	190.00	9,880		
	Color coating - court striping and games	**5,500**	sf	4.00	22,000		
	Basketball hoops	**2**	ea	6,700.00	13,400		
	Play area	12,000	*sf*				
	gravel base; 8" thick	**298**	cy	65.00	19,370		
	Pour-in-place safety surface	**12,000**	sf	36.00	432,000		
	Edging	**300**	lf	45.00	13,500		
	Allowance for play equipment	**1**	ls	500,000.00	500,000		
	Shade structures	**1**	ls	80,000.00	80,000		
	Pre-K and K Play	3,000	*sf*				
	gravel base; 8" thick	**74**	cy	65.00	4,810		
	Pour-in-place safety surface	**3,000**	sf	36.00	108,000		
	Edging	**240**	lf	45.00	10,800		
	Allowance for play equipment	**1**	ls	250,000.00	250,000		
	Shade structures	**1**	ls	40,000.00	40,000		
320000	*FENCING*						
	4' ht. CLF at sports field - 125' x 190'	**630**	lf	85.00	53,550		
	4' ht. ornamental fence at playground	**240**	lf	150.00	36,000		
	4' Ht - Ornamental single gate	**2**	ea	1,500.00	3,000		
	Wood fence with mesh infill at pond	**250**	lf	95.00	23,750		
	Dupster pad enclosure - allowance	**1**	ls	5,000.00	5,000		
	Vehicular gate - non motorized	**2**	ea	12,000.00	24,000		
	SUBTOTAL					2,026,850	
329900	*SITE WALLS*						
	Precast concrete seatwalls with wood topper - allowance	*100*	*lf*				
	Precast concrete	**100**	lf	1,000.00	100,000		
	Concrete - below grade and to frost	**100**	lf	363.00	36,300		
	Excavation	**21**	cy	100.00	2,100		
	Backfill - (assume using onsite soils)	**6**	cy	25.00	150		
	Wall drain	**100**	lf	22.00	2,200		
	Wood toppers	**100**	lf	725.00	72,500		
	SUBTOTAL					213,250	
	Landscaping						
329900	*TOPSOIL*						
	Screen topsoil	**2,278**	cy	7.50	17,085		
	Export tailings from screening process - assume clean rock	**683**	cy	8.50	5,806		
	Amend/Place	**1,595**	cy	25.00	39,875		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION 2.2B						
	Topsoil - imported 6" thick - swell 25%	**1,483**	cy	75.00	111,225		
	Soil and mulch at planting areas; 18" thick -Allow 20% of area	**1,756**	cy	135.00	237,060		
329900	*LAWN AND SEED*	*126,400*	*sf*				
	Topsoil 6" thick - required	**2,341**	cy		incl. above		
	Scarify subgrade	**126,400**	sf	0.25	31,600		
	Power rake and hydroseed disturbed areas - Allow 80% of area	**126,400**	sf	0.35	44,240		
	Landscape curbing in entrance areas - allowance	**100**	lf	125.00	12,500		
320000	*ATHLETIC LANDSCAPING*	*23,750*	*sf*				
	Topsoil 6" thick - required	**440**	cy		incl. above		
	Scarify subgrade	**23,750**	sf	0.25	5,938		
	Natural grass field	*23,750*	*sf*				
	Lawn seeding	**23,750**	sf	0.35	8,313		
	Irrigation	**23,750**	sf	2.75	65,313		
329900	*TREES*						
	Allowance for trees	**1**	ls	250,000.00	250,000		
329900	*SHRUBS AND GROUNDCOVERS*						
	Allowance for shrubs and groundcovers	**1**	ls	50,000.00	50,000		
329900	*MAINTENANCE*						
	1-yr plant maintenance	**1**	ls	45,000.00	45,000		
	Watering to grow-in	**1**	ls	10,000.00	10,000		
328400	*IRRIGATION*						
	Irrigation at trees - allowance	**1**	ls	25,000.00	25,000		
	Irrigation area - plant beds	**31,600**	sf	2.75	86,900		
	SUBTOTAL					1,045,855	
	TOTAL - SITE IMPROVEMENTS						**$5,781,265**
G30	**CIVIL MECHANICAL UTILITIES**						
210000	*FIRE PROTECTION*						
	8" CLDI	**2,500**	lf	67.50	168,750		
	6" CLDI	**200**	lf	49.64	9,928		
	Fire department connection	**1**	ea	2,500.00	2,500		
	Gate valve - allowance	**1**	ls	7,500.00	7,500		
	Fire hydrant	**4**	ea	6,500.00	26,000		
	Thrust blocks - allowance	**1**	ls	5,000.00	5,000		
331000	*WATER UTILITIES*						
	4" CLDI	**100**	lf	67.50	6,750		
331000	*CONNECTIONS*						
	Connect to existing water line; 6/8/10 (in roadway)	**2**	ea	15,000.00	30,000		
312000	*EXCAVATION & BACKFILL*	*2,800*	*lf*				
	DI gravity piping excavation	**2,489**	cy	46.75	116,361		
	Trench bedding	**560**	cy	38.50	21,560		
	Pressure test & chlorinate	**100**	lf	5.00	500		
	Allowance for temporary support of existing utilities	**1**	ea	15,000.00	15,000		
	SUBTOTAL					409,849	
333000	*SANITARY SEWER*						
	6" PVC	**1,200**	lf	21.16	25,392		
	SMH - 0-5' deep	**8**	ea	4,800.00	38,400		
	Grease trap - 5,000 gal.	**1**	ea		w/ plumbing		
333000	*CONNECTIONS*						
	Connect to existing (in roadway)	**1**	ea	15,000.00	15,000		
312000	*EXCAVATION & BACKFILL - Gravity*	*1,200*	*lf*				
	PVC gravity piping excavation	**1,067**	cy	46.75	49,882		
	Trench bedding	**356**	cy	38.50	13,706		
	Pressure testing	**1,200**	lf	4.00	4,800		
	Video Inspection	**1**	ls	5,000.00	5,000		
	Grease trap; 5,000 gal. (e/b only) incl. shoring	**1**	ea	10,000.00	10,000		
	Allowance for temporary support of existing utilities	**1**	ea	15,000.00	15,000		
	SUBTOTAL					177,180	
334000	*STORM DRAINAGE*						
	18" PVC	**1,500**	lf	100.00	150,000		
	12" PVC	**1,000**	lf	75.00	75,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION 2.2B						
	8" PVC	**1,000**	lf	60.00	60,000		
	4' Dia. DMH - 0-5' deep	**16**	ea	5,000.00	80,000		
	AD	**18**	ea	2,500.00	45,000		
	WQU	**6**	ea	20,000.00	120,000		
	CB - 4' Dia.	**26**	ea	4,800.00	124,800		
	Allowance for drainage at playgrounds	**15,000**	sf	2.50	37,500		
334000	*SURFACE DRAINAGE SYSTEMS*						
	Bio retention/Rain Garden	*2,500*	*sf*				
	Allowance for bio-retention areas	**2,500**	sf	18.00	45,000		
334000	*SUBSURFACE DRAINAGE SYSTEMS*						
	Underground recharger						
	Allowance for plastic chambers	**25,000**	cf	12.00	300,000		
	SUBTOTAL					1,037,300	
	TOTAL - SITE MECHCANICAL UTILITIES						**$1,624,329**
G40	**ELECTRICAL UTILITIES**						
	Services						
	Primary electric service empty conduit	**1,000**	lf	120.00	120,000		
	Secondary electrical service	**80**	lf	1,200.00	96,000		
	Generator service	**80**	lf	240.00	19,200		
	Communications service	**1,000**	lf	170.00	170,000		
	Site Lighting						
	Site lighting and circuitry	**80,500**	sf	4.00	322,000		
	Sports field lighting				N/A		
	EV Stations						
	Dual EV stations; infrastructure only	**1**	ls	100,000.00	100,000		
	Site Security						
	Site security	**1**	ls	150,000.00	150,000		
	SUBTOTAL					977,200	
	TOTAL - SITE ELECTRICAL UTILITIES						**$977,200**
	TOTAL - SITE DEVELOPMENT						**$10,505,693**

PM&C

Essex Elementary School
Essex, MA
PSR Options Cost Estimate

OPTION A2.2F - UNIFORMAT SUMMARY

Uniformat Code	Description	New School (72,443 sf)	Sitework Cost		Grand Total Cost
A SUBSTRUCTURE					
A10	Foundations	$3,175,925			$3,175,925
A20	Basement Construction	$0			$0
B SHELL					
B10	Superstructure	$3,889,516			$3,889,516
B20	Exterior Closure	$6,797,337			$6,797,337
B30	Roofing	$1,502,643			$1,502,643
C INTERIORS					
C10	Interior Construction	$4,766,354			$4,766,354
C20	Staircases	$290,000			$290,000
C30	Interior Finishes	$2,752,834			$2,752,834
D SERVICES					
D10	Conveying Systems	$240,000			$240,000
D20	Plumbing	$1,811,075			$1,811,075
D30	HVAC	$5,795,440			$5,795,440
D40	Fire Protection	$615,766			$615,766
D50	Electrical	$4,346,580			$4,346,580
E EQUIPMENT & FURNISHINGS					
E10	Equipment	$967,460			$967,460
E20	Furnishings	$1,163,362			$1,163,362
F SPECIAL CONSTRUCTION & DEMOLITION					
F10	Special Construction	$0			$0
F20	Selective Building Demolition	$0			$0
	DEMOLITION				
	Demolition of Existing School	$795,540			$795,540
	HAZARDOUS MATERIALS				
	Remove Hazardous Materials	$450,000			$450,000
	G SITEWORK				
G10	Site Preparation		$2,232,577		$2,232,577
G20	Site Improvements		$5,806,871		$5,806,871
G30	Site Mechanical Utilities		$1,271,853		$1,271,853
G40	Site Electrical Utilities		$947,200		$947,200
BUILDING SUBTOTAL		**$38,114,292**			**$38,114,292**
$/sf		*$526.13*			
DEMOLITION		**$795,540**			**$795,540**
HAZARDOUS MATERIALS		**$450,000**			**$450,000**
SITEWORK SUBTOTAL			**$10,258,501**		**$10,258,501**
SUB-TOTAL					**$49,618,333**
ESCALATION TO START DATE				9.33%	$4,629,390
DESIGN AND PRICING CONTINGENCY				12.00%	$6,509,727
SUB-TOTAL					**$60,757,450**
GENERAL CONDITION	*MTHS @ $160,000/mo*			#REF!	#REF!
GENERAL REQUIREMENTS				4.00%	$2,430,298
PHASING				2.00%	$1,215,149
BONDS				1.00%	$607,575
INSURANCES				1.75%	$1,063,255
PERMIT				Excl	
SUB-TOTAL					**#REF!**
FEE				2.50%	#REF!
GMP CONTINGENCY				3.00%	#REF!
TOTAL OF ALL CONSTRUCTION					**#REF!**
$/sf (Total GFA)					*#REF!*

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2F - NEW CONSTRUCTION							
	GROSS FLOOR AREA CALCULATION						
	Lower Level			7,736			
	Main Level			43,265			
	Upper Level			21,442			
	TOTAL GROSS FLOOR AREA (GFA)					**72,443**	***sf***
A10	***FOUNDATIONS***						
A1010	**STANDARD FOUNDATIONS**						
	Strip footings - perimeter; 36"x12"						
	Formwork	**3,020**	sf	20.00	60,400		
	Re-bar	**18,120**	lbs.	2.00	36,240		
	Concrete material	**176**	cy	171.00	30,096		
	Placing concrete	**176**	cy	130.00	22,880		
	Typical foundation walls, 18" thick						
	Formwork	**12,080**	sf	22.00	265,760		
	Re-bar	**30,200**	lbs.	2.00	60,400		
	Concrete material	**352**	cy	171.00	60,192		
	Placing concrete	**352**	cy	130.00	45,760		
	Form shelf	**1,510**	lf	10.00	15,100		
	Spread Footings; allow 7'x7'x21" at 2-story						
	Formwork	**2,695**	sf	18.00	48,510		
	Re-bar	**25,620**	lbs.	2.00	51,240		
	Concrete material	**183**	cy	171.00	31,293		
	Placing concrete	**183**	cy	130.00	23,790		
	Set anchor bolts grout plates	**55**	ea	250.00	13,750		
	Spread Footings; allow 5'x5'x15" at 1-story						
	Formwork	**1,250**	sf	18.00	22,500		
	Re-bar	**5,000**	lbs.	2.00	10,000		
	Concrete material	**61**	cy	171.00	10,431		
	Placing concrete	**61**	cy	130.00	7,930		
	Set anchor bolts grout plates	**50**	ea	250.00	12,500		
	Grade beams; allow 200 LF						
	Formwork	**800**	sf	20.00	16,000		
	Re-bar	**17,000**	lbs.	2.00	34,000		
	Concrete material	**37**	cy	171.00	6,327		
	Placing concrete	**37**	cy	130.00	4,810		
	Piers/Pilasters	**65**	cy	1,500.00	97,500		
	Elevator Pits						
	Walls, 12" thick	1	ea				
	Formwork	**320**	sf	26.00	8,320		
	Re-bar	**800**	lbs.	2.00	1,600		
	Concrete material	**6**	cy	171.00	1,026		
	Placing concrete	**6**	cy	130.00	780		
	Mat slab at pits, 24" thick	**100**	sf	25.00	2,500		
	Premium for deep foundation wall	**3,450**	sf	120.00	414,000		
	Foundations against existing building		lf	500.00			
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Trowelled on mastic damproofing at foundation wall	**6,040**	sf	5.00	30,200		
	Waterproofing at elevator pit	**340**	sf	14.00	4,760		
072100	*THERMAL INSULATION*						
	Foundation wall insulation	**6,040**	sf	5.50	33,220		
312000	*EARTHWORK*						
	Strip footings/ fdn wall						
	Excavation & reuse on site	**1,678**	cy	40.00	67,120		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2F - NEW CONSTRUCTION							
	Spread footings						
	Excavation & reuse on site	**1,038**	cy	40.00	41,520		
	Building cut to design subgrade - allowance (no geotech report just borings)	*4,807*	*cy*				
	Cut - over excavated 3' of fill beneath building	**4,807**	cy	10.00	48,070		
	building fill to design subgrade	*6,009*	*cy*				
	Fill - import structural - 25% swell	**6,009**	cy	46.00	276,414		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**4,807**	cy	2.50	12,018		
	Clean non-regulated	**8,172**	tn	16.00	130,752		
	Miscellaneous						
	Perimeter drain	**1,510**	lf	32.00	48,320		
	Underslab drainage	**43,265**	sf	3.00	129,795		
	Dewatering for foundation work	**1**	ls	40,000.00	40,000		
	SUBTOTAL					2,277,824	
A1020	**SPECIAL FOUNDATIONS**				Not anticipated		
	SUBTOTAL					-	
A1030	**LOWEST FLOOR CONSTRUCTION**						
033000	*CONCRETE*						
	Vapor barrier	**43,265**	sf	1.25	54,081		
	Slab on grade	*43,265*	*sf*				
	WWF reinforcement	**49,755**	sf	1.85	92,047		
	Concrete - 5" thick	**707**	cy	171.00	120,897		
	Placing concrete	**707**	cy	70.00	49,490		
	Finishing and curing concrete	**43,265**	sf	4.00	173,060		
	Control joints - saw cut	**43,265**	sf	0.10	4,327		
	Miscellaneous						
	Equipment pads	**1**	ls	15,000.00	15,000		
	Loading dock	**1**	ls	50,000.00	50,000		
	Radon system	**43,265**	sf	3.50	151,428		
072100	*THERMAL INSULATION*						
	Under slab insulation; 4ft at perimeter	**6,040**	sf	3.50	21,140		
312000	*EARTHWORK*						
	Gravel base, 12"	**1,602**	cy	50.00	80,100		
	Compact existing sub-grade	**43,265**	sf	0.50	21,633		
	Underslab E&B for plumbing	**43,265**	sf	1.50	64,898		
	SUBTOTAL					898,101	
	TOTAL - FOUNDATIONS						**$3,175,925**
A20	***BASEMENT CONSTRUCTION***						
A2010	**BASEMENT EXCAVATION**						
	No Work in this section						
	SUBTOTAL					-	
A2020	**BASEMENT WALLS**						
	No Work in this section						
	SUBTOTAL					-	
	TOTAL - BASEMENT CONSTRUCTION						
B10	***SUPERSTRUCTURE***						
		14.0	*lbs/sf*				
B1010	**FLOOR CONSTRUCTION**	*506*	*tns*	excluding canopies + roof screens			
		$6,585	*$/Ton*				
033000	*CONCRETE*						
	WWF reinforcement	**33,555**	sf	1.85	62,077		
	Concrete fill to metal deck; light weight, total thickness 6 1/4"	**590**	cy	260.00	153,400		
	Place and finish concrete	**29,178**	sf	3.50	102,123		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2F - NEW CONSTRUCTION							
	Rebar to decks	**8,753**	lbs	2.00	17,506		
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 15.3 lbs per SF	**223**	tns	5,200.00	1,159,600		
	Shear studs	**7,295**	ea	3.50	25,533		
	3" metal galvanized floor deck	**29,178**	sf	7.00	204,246		
	Thermal break	**1**	ls	30,000.00	NR		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams; stairs + shafts only	**29,178**	sf	1.00	29,178		
	Intumescent paint @ architecturally exposed beams and columns - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					1,778,663	
B1020	**ROOF CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete deck at low roofs and at mechanical equipment pads - allow	**10,000**	sf	10.00	100,000		
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 13.1 lbs per SF	**283**	tns	5,200.00	1,471,600		
	Roof screens	**19**	tns	5,500.00	104,500		
	Decking						
	3" galvanized metal deck, typical	**43,265**	sf	7.50	324,488		
	Premium for acoustic at Gym	**7,000**	sf	6.00	42,000		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams; stairs + shafts only	**43,265**	sf	1.00	43,265		
	Intumescent paint to primary roof members exposed to view - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					2,110,853	
	TOTAL - SUPERSTRUCTURE						**$3,889,516**
B20	***EXTERIOR CLOSURE***						
B2010	**EXTERIOR WALLS**	*41,433*	Total closure area				
	Exterior Wall Area - 70% solid	*29,003*	*sf total area solid*				
042000	*MASONRY*						
	Mockup	**1**	ls	50,000.00	50,000		
	Brick veneer; 80%	**23,202**	sf	52.00	1,206,504		
	CMU Backup; 12"	**7,000**	sf	45.00	315,000		
	Miscellaneous flashings and sealants	**29,003**	sf	1.50	43,505		
	Staging to exterior wall	**29,003**	sf	4.00	116,012		
055000	*MISC. METALS*						
	Misc. metals at masonry including loose lintels (relieving angles included in steel tns)	**23,202**	sf	2.00	46,404		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier	**29,003**	sf	9.50	275,529		
	Air barrier/flashing at openings	**6,215**	lf	6.00	37,290		
072100	*THERMAL INSULATION*						
	4" rigid insulation	**29,003**	sf	5.00	145,015		
	Batt insulation in stud	**22,003**	sf	3.00	66,009		
	Insulation at glazed openings	**6,215**	lf	6.00	37,290		
076400	*CLADDING*						
	Rainscreen; 20%	**5,801**	sf	120.00	696,120		
	Acoustic Equipment Screen	**2,500**	sf	95.00	237,500		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2F - NEW CONSTRUCTION							
	Roof/edge cornice	**1**	ls	100,000.00	100,000		
	EXPANSION JOINT COVERS						
	Expansion joints	**1**	ls	30,000.00	30,000		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Exterior wall;						
	8" Stud backup	**22,003**	sf	18.00	396,054		
	Gypsum sheathing	**22,003**	sf	3.50	77,011		
	Drywall lining to interior face of stud backup	**29,003**	sf	4.50	130,514		
101400	*SIGNAGE*						
	Exterior signage - allowance	**1**	ls	30,000.00	30,000		
	SUBTOTAL					4,035,757	
B2020	**WINDOWS**						
	Exterior Wall Area; 30%	*12,430*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**6,215**	lf	12.00	74,580		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**6,215**	lf	10.00	62,150		
	Backer rod & double sealant	**6,215**	lf	11.00	68,365		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront	**8,079**	sf	165.00	1,333,035		
	Curtainwall; 35%	**4,351**	sf	200.00	870,200		
	Security glazing allowance; 15%	**1,865**	sf	50.00	93,250		
	Sunshades - allowance	**1**	ls	100,000.00	100,000		
089000	*LOUVERS*						
	Louvers	**1**	ls	10,000.00	10,000		
	SUBTOTAL					2,611,580	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**1**	ls	150,000.00	150,000		
	SUBTOTAL					150,000	
	TOTAL - EXTERIOR CLOSURE						**$6,797,337**
B30	***ROOFING***						
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**43,265**	sf	1.50	64,898		
070002	*ROOFING AND FLASHING*						
	PVC roof membrane system; complete	**43,265**	sf	30.00	1,297,950		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**43,265**	sf	3.00	129,795		
	SUBTOTAL					1,492,643	
B3020	**ROOF OPENINGS**						
086300	*ROOF SKYLIGHTS*						
	Allowance for roof hatches	**1**	ls	10,000.00	10,000		
	SUBTOTAL					10,000	
	TOTAL - ROOFING						**$1,502,643**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
040001	*MASONRY*						
	Allowance for masonry partitions	**72,443**	gsf	6.00	434,658		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2F - NEW CONSTRUCTION							
061000	*ROUGH CARPENTRY*						
	Backer panels in electrical closets	**1**	ls	10,000.00	10,000		
	Wood blocking at interiors	**72,443**	gsf	0.50	36,222		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping including slab edges and core	**72,443**	gsf	0.75	54,332		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**72,443**	gsf	1.25	90,554		
078150	*EXPANSION JOINTS*						
	Allowance for expansion joint covers	**1**	ls	30,000.00	30,000		
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**72,443**	gsf	4.00	289,772		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for clean, safety + laborers	**72,443**	gsf	4.00	289,772		
	Allowance for GWB partitions	**72,443**	gsf	26.00	1,883,518		
	SUBTOTAL					3,118,828	
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**72,443**	gsf	9.00	651,987		
	SUBTOTAL					651,987	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building including rails at open to below	**72,443**	gsf	5.00	362,215		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**72,443**	gsf	4.00	289,772		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**72,443**	gsf	1.00	72,443		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**72,443**	gsf	1.50	108,665		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**72,443**	gsf	0.50	36,222		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**72,443**	gsf	0.50	36,222		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	500.00	500		
	AED cabinets	**1**	ls	2,000.00	2,000		
105000	*LOCKERS*						
	Student lockers	**250**	opng	350.00	87,500		
	SUBTOTAL					995,539	
	TOTAL - INTERIOR CONSTRUCTION						**$4,766,354**
C20	***STAIRCASES***						
C2010	**STAIR CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete to stairs	**4**	flt	5,000.00	20,000		
055000	*MISCELLANEOUS METALS*						
	Egress stairs including rails and handrails	**4**	flt	50,000.00	200,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2F - NEW CONSTRUCTION							
	Premium for lobby stairs	**1**	flt	25,000.00	25,000		
	SUBTOTAL					245,000	
C2020	**STAIR FINISHES**						
090005	*RESILIENT FLOORS*						
	Lobby Stair finishes	**1**	flts	25,000.00	25,000		
	Stair finishes - egress	**4**	flts	5,000.00	20,000		
	SUBTOTAL					45,000	
	TOTAL - STAIRCASES						**$290,000**
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Wall finishes; allowance	**72,443**	gsf	13.00	941,759		
	SUBTOTAL					941,759	
C3020	**FLOOR FINISHES**						
	Floor finishes complete package	**72,443**	gsf	11.00	796,873		
	SUBTOTAL					796,873	
C3030	**CEILING FINISHES**						
	Ceiling finishes, complete package	**72,443**	gsf	14.00	1,014,202		
	SUBTOTAL					1,014,202	
	TOTAL - INTERIOR FINISHES						**$2,752,834**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**						
	New three stop elevator	**1**	ls	240,000.00	240,000		
	SUBTOTAL					240,000	
	TOTAL - CONVEYING SYSTEMS						**$240,000**
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**72,443**	gsf	25.00	1,811,075		
	SUBTOTAL					1,811,075	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**72,443**	gsf	1.00	72,443		
	Option 3: Air source heat pump water heaters	**72,443**	gsf	4.00	289,772		
	Option 4: Water source heat pump water heaters	**72,443**	gsf	4.00	289,772		
	TOTAL - PLUMBING						**$1,811,075**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**72,443**	gsf	80.00	5,795,440		
	SUBTOTAL					5,795,440	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**72,443**	gsf	10.00	724,430		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2F - NEW CONSTRUCTION							
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**72,443**	gsf	38.00	2,752,834		
	TOTAL - HVAC						**$5,795,440**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**72,443**	gsf	7.50	543,323		
	Electric fire pump	**72,443**	gsf	1.00	72,443		
	SUBTOTAL					615,766	
	TOTAL - FIRE PROTECTION						**$615,766**
D50	***ELECTRICAL***						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**72,443**	gsf	60.00	4,346,580		
	SUBTOTAL					4,346,580	
	TOTAL - ELECTRICAL						**$4,346,580**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						
112000	*LOADING DOCK EQUIPMENT*						
	Loading dock equipment	**1**	ls	10,000.00	10,000		
110620	*THEATRICAL EQUIPMENT*						
	Allowance						
	cafeteria rigging & stage curtains - allowance	**1**	ls	100,000.00	100,000		
113100	*APPLIANCES*						
	Residential appliances - allowance	**1**	ls	15,000.00	15,000		
114000	*FOOD SERVICE EQUIPMENT*						
	Kitchen equipment	**1**	ls	598,640.00	598,640		
115213	*PROJECTION SCREENS*						
	Motorized projection screen - allowance	**1**	ls	30,000.00	30,000		
116600	*GYM EQUIPMENT*						
	Basketball backstops	**6**	ea	12,000.00	72,000		
	Scoreboard w/ shot clock - allow	**1**	ea	25,000.00	25,000		
	Gym wall pads	**2,000**	sf	17.00	34,000		
	Volleyball equipment	**1**	ls	5,000.00	5,000		
	Divider curtain (1#)	**1**	ea	40,320.00	40,320		
126000	*SEATING*						
	Retractable bleachers in gym (150 seats)	**1**	ls	37,500.00	37,500		
	SUBTOTAL					967,460	
	TOTAL - EQUIPMENT						**$967,460**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**12,430**	sf	12.00	149,160		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A2.2F - NEW CONSTRUCTION							
123553	*CASEWORK*						
	Casework package	**72,443**	gsf	14.00	1,014,202		
	SUBTOTAL					1,163,362	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$1,163,362**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	SUBTOTAL					-	
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	See main summary for HazMat allowance				See Summary		
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						
	SUBTOTAL						**$38,114,292**

SITEWORK OPTION A2.2F

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	G SITEWORK						
	G10 SITE PREPARATION & DEMOLITION						
311000	*GENERAL CONDITIONS*						
	6' high site construction fence	**2,200**	lf	25.00	55,000		
	6' high site construction fence double gate	**1**	loc	5,000.00	5,000		
	Site construction entrance and removal/restoration	**1**	loc	12,000.00	12,000		
	Temp laydown areas	**1**	ls	10,000.00	10,000		
	Temporary signs	**1**	ls	20,000.00	Excluded		
	Wheel wash rack	**1**	ls	20,000.00	20,000		
	Engineering/layout	**1**	ls	45,000.00	45,000		
	Snow removal - allowance	**1**	ls		Excluded		
	Winter conditions - allowance	**1**	ls		Excluded		
	Police details	**1**	ls		Excluded		
	Site security	**1**	ls		Excluded		
	Job site construction trailer	**1**	ls		Excluded		
	Temp utilities for job trailer	**1**	ls		Excluded		
311000	*PHASING*						
	Phasing allowance	**1**	ea	250,000.00	250,000		
311000	*SITE SALVAGE ITEMS*						
	Salvage memorials and plaques	**1**	ls	10,000.00	10,000		
311000	*SITE DEMOLITION AND RELOCATIONS*						
	Demolish existing paving, concrete and associated curbing	**72,378**	sf	1.25	90,473		
	Demolish existing courtyard area - assume specialty paving/plantings	**9,167**	sf	3.00	27,501		
	Demolish existing wood chips	**1,792**	sf	0.75	1,344		
	Demolish existing gravel	**6,182**	sf	1.25	7,728		
	Demolish existing playground	**6,410**	sf	1.50	9,615		
	Demolish existing play equipment	**1**	ls	10,000.00	10,000		
	Demolish existing boulders/stone steps	**24**	ea	250.00	6,000		
	Demolish steps	**146**	lf	20.00	2,920		
	Demolish existing walls	**250**	lf	95.00	23,750		
	Miscellaneous site demolition; furnishings, concrete pads, signs etc	**1**	ls	100,000.00	100,000		
311000	*UTILITY DEMOLITION*						
	Miscellaneous utility demolition	**1**	ls	50,000.00	50,000		
311000	*ROADWAY WORK - UTILITIES ALLOWANCES*						
	Sawcut	**200**	lf	8.25	1,650		
	Remove pavement	**500**	sf	3.50	1,750		
	Temp pavement patching	**500**	sf	8.00	4,000		
	Steel plates	**1**	ls	2,500.00	2,500		
	Police details	**7**	dy	850.00	5,950		
	Permanent pavement patch	**500**	sf	10.00	5,000		
311000	*VEGETATION & TOPSOIL MANAGEMENT*						
	Clear and grub	**3**	acre	5,000.00	15,000		
	Tree removal allowance	**1**	ls	20,000.00	20,000		
	Tree protection allowance	**1**	ls	5,000.00	5,000		
	Strip + stockpile topsoil	**2,278**	cy	11.50	26,197		
312000	*EROSION & SEDIMENT CONTROL*						
	Silt Fence; installation and removal - allowance	**2,200**	lf	15.00	33,000		
	Silt Sacks; installation and removal - allowance	**1**	ls	2,500.00	2,500		
	Erosion Control monitoring & maintenance	**1**	ls	25,000.00	25,000		
	SUBTOTAL					883,878	
312000	*BUILDING EARTHWORK*						
	Cut - allowance for 2' of overexcavation	**3,267**	cy	10.00	W/Building		
	Fill - import structural - 25% swell	**4,084**	cy	65.00	W/Building		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**3,267**	cy	2.50	W/Building		
	Less than RCS-1 - clean non-regulated	**5,554**	tn	23.00	W/Building		
	SUBTOTAL					-	
312000	*SITE EARTHWORK*						
	Site cut to design subgrade - assume 1' of cut	*12,763*	*cy*				
	Cut	**12,763**	cy	10.00	127,630		
	Store cut onsite - allowance for 50%	**6,382**	cy	3.50	22,337		
	Site cut processing	*6,382*	*cy*				
	Screen cut soils	**6,382**	cy	7.00	44,674		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION A2.2F						
	Site fill to design subgrade	*12,763*	*cy*				
	Fill - from cut	**6,382**	cy	12.00	76,584		
	Fill - imported common fill; swell 25%	**7,976**	cy	32.00	255,232		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**6,382**	cy	2.50	15,955		
	Less than RCS-1 - clean non-regulated	**10,849**	tn	23.00	249,527		
312000	*GEOTHERMAL - ALLOWANCE*						
	Groundwater management/ control measures	**1**	ls	50,000.00	NR		
	Support of geothermal	**1**	ls	200,000.00	NR		
312000	*GROUNDWATER CONTROLS*						
	Groundwater support	**1**	ls	100,000.00	100,000		
312000	*ROCK REMOVAL*						
	Rock removal allowance - bedrock and shallow rock excavation	**1**	ls	250,000.00	250,000		
312000	*ESTABLISHING GRADE*						
	Sub grade establishment	**344,600**	sf	0.25	86,150		
	Fine grading throughout the site	**344,600**	sf	0.35	120,610		
312000	*HAZARDOUS MATERIALS*						
	UST removal allowance	**1**	ls	50,000.00	NR		
	SUBTOTAL					1,348,699	
	TOTAL - SITE PREPARATION						**$2,232,577**
G20	**SITE IMPROVEMENTS**						
320000	***ROADWAYS AND PARKING LOTS***						
	Asphalt Paving; parking lots and roadway - Heavy Duty (allow 25%)	*17,500*	*sf*				
	gravel base; 12" thick	**648**	cy	50.00	32,400		
	asphalt top; 2" thick	**224**	tns	225.00	50,400		
	asphalt binder; 2.5" thick	**278**	tns	190.00	52,820		
	Asphalt Paving; parking lots and roadway - Standard Duty(allow 75%)	*55,500*	*sf*				
	gravel base; 8" thick	**1,377**	cy	50.00	68,850		
	asphalt top; 2" thick	**709**	tns	225.00	159,525		
	asphalt binder; 2" thick	**709**	tns	190.00	134,710		
	Service area - allowance	*2,500*	*sf*				
	gravel base; 12" thick	**93**	cy	50.00	4,650		
	Broom finish concrete paving; 8" thick	**2,500**	sf	17.00	42,500		
320000	*CURBING*						
	Vertical granite curb	**4,500**	lf	65.00	292,500		
	ADA Curb cuts - allowance	**10**	ea	850.00	8,500		
320000	*ROAD MARKINGS AND SIGNS*						
	Parking space striping - no count given - allowance	**1**	ls	30,000.00	30,000		
	Sign allowance	**1**	ls	20,000.00	20,000		
	Pavement markings allowance	**1**	ls	20,000.00	20,000		
	Crosswalk hatching allowance	**5**	loc	2,500.00	12,500		
320000	*OFF SITE IMPROVEMENTS*						
	Allowance for pavement markings, signs, RRFBs and speed feedback posts	**1**	ls	500,000.00	500,000		
	SUBTOTAL					1,429,355	
320000	***PEDESTRIAN PAVING***						
	Concrete sidewalks - allowance	*50,000*	*sf*				
	gravel base; 8" thick	**1,241**	cy	65.00	80,665		
	Broom finish concrete paving; 4" thick	**50,000**	sf	12.00	600,000		
	Concrete pads - allowance at dumpster, utilities, etc	*1,000*	*sf*				
	gravel base; 12" thick	**37**	cy	65.00	2,405		
	Broom finish concrete paving; 8" thick	**1,000**	sf	20.00	20,000		
	Pavers - allowance	*5,000*	*sf*				
	gravel base; 8" thick	**124**	cy	65.00	8,060		
	Concrete slab paving; 4" thick	**5,000**	sf	12.00	60,000		
	Concrete pavers	**5,000**	sf	32.00	160,000		
	Geotextiles	**5,000**	sf	0.55	2,750		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION A2.2F						
	Edging	**500**	lf	18.00	9,000		
	Stabilized stone dust pathway	*6,000*	*sf*				
	Gravel base; 6" thick	**111**	cy	65.00	7,215		
	Stone dust 4" thick	**149**	tns	250.00	37,250		
	Edging	**2,745**	lf	18.00	49,410		
	SUBTOTAL					1,036,755	
320000	***SITE IMPROVEMENTS***						
320000	*SITE FURNISHINGS - ALLOWANCES*						
	Bollards	**25**	ea	1,090.00	27,250		
	School sign	**1**	ea	25,000.00	25,000		
	Raised planters	**5**	ea	4,000.00	20,000		
	Bike racks	**10**	ea	850.00	8,500		
	Flagpole - 30' Ht.	**1**	ea	7,000.00	7,000		
	Flagpole foundation	**1**	ea	4,500.00	4,500		
	Site lighting foundations - e&b only	**1**	ls	10,000.00	10,000		
	Trash and Recycling receptacles	**6**	ea	2,500.00	15,000		
	Benches	**5**	ea	3,500.00	17,500		
	Table and chairs	**5**	ea	4,500.00	22,500		
	Picnic tables	**5**	ea	4,000.00	20,000		
	Shade structures at courtyards and outdoor classrooms	**1**	ls	80,000.00	80,000		
	Greenhouse - replace in kind	**1**	ls	30,000.00	NR		
	Misc site furnishings	**1**	ls	100,000.00	100,000		
320000	*SPORTS COURTS AND PLAY AREAS*						
	Pavement areas	*7,000*	*sf*				
	gravel base; 8" thick	**174**	cy	65.00	11,310		
	asphalt top; 1.5" thick	**66**	tns	225.00	14,850		
	asphalt binder; 1.5" thick	**66**	tns	190.00	12,540		
	Color coating - court striping and games	**7,000**	sf	4.00	28,000		
	Basketball hoops	**2**	ea	6,700.00	13,400		
	Play area	*12,000*	*sf*				
	gravel base; 8" thick	**298**	cy	65.00	19,370		
	Pour-in-place safety surface	**12,000**	sf	36.00	432,000		
	Edging	**300**	lf	45.00	13,500		
	Allowance for play equipment	**1**	ls	500,000.00	500,000		
	Shade structures	**1**	ls	80,000.00	80,000		
	Pre-K and K Play	3,000	*sf*				
	gravel base; 8" thick	**74**	cy	65.00	4,810		
	Pour-in-place safety surface	**3,000**	sf	36.00	108,000		
	Edging	**130**	lf	45.00	5,850		
	Allowance for play equipment	**1**	ls	250,000.00	250,000		
	Shade structures	**1**	ls	40,000.00	40,000		
320000	*FENCING*						
	4' ht. CLF at sports field - 55 yards x 100 yards	**930**	lf	85.00	79,050		
	4' ht. ornamental fence at playground	**130**	lf	150.00	19,500		
	4' Ht - Ornamental single gate	**2**	ea	1,500.00	3,000		
	Wood fence with mesh infill at pond	**250**	lf	95.00	23,750		
	Dupster pad enclosure - allowance	**1**	ls	5,000.00	5,000		
	Vehicular gate - non motorized	**2**	ea	12,000.00	24,000		
	SUBTOTAL					2,045,180	
329900	*SITE WALLS*						
	Precast concrete seatwalls with wood topper - allowance	*100*	*lf*				
	Precast concrete	**100**	lf	1,000.00	100,000		
	Concrete - below grade and to frost	**100**	lf	363.00	36,300		
	Excavation	**21**	cy	100.00	2,100		
	Backfill - (assume using onsite soils)	**6**	cy	25.00	150		
	Wall drain	**100**	lf	22.00	2,200		
	Wood toppers	**100**	lf	725.00	72,500		
	SUBTOTAL					213,250	
	Landscaping						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION A2.2F						
329900	*TOPSOIL*						
	Screen topsoil	**2,278**	cy	7.50	17,085		
	Export tailings from screening process - assume clean rock	**683**	cy	8.50	5,806		
	Amend/Place	**1,595**	cy	25.00	39,875		
	Topsoil - imported 6" thick - swell 25%	**1,560**	cy	75.00	117,000		
	Soil and mulch at planting areas; 18" thick -Allow 20% of area	**1,444**	cy	135.00	194,940		
329900	*LAWN AND SEED*	*104,000*	*sf*				
	Topsoil 6" thick - required	**1,926**	cy		incl. above		
	Scarify subgrade	**104,000**	sf	0.25	26,000		
	Power rake and hydroseed disturbed areas - Allow 80% of area	**104,000**	sf	0.35	36,400		
	Landscape curbing in entrance areas - allowance	**100**	lf	125.00	12,500		
320000	*ATHLETIC LANDSCAPING*	*49,500*	*sf*				
	Topsoil 6" thick - required	**917**	cy		incl. above		
	Scarify subgrade	**49,500**	sf	0.25	12,375		
	Natural grass field	*49,500*	*sf*				
	Lawn seeding	**49,500**	sf	0.35	17,325		
	Irrigation	**49,500**	sf	2.75	136,125		
329900	*TREES*						
	Allowance for trees	**1**	ls	250,000.00	250,000		
329900	*SHRUBS AND GROUNDCOVERS*						
	Allowance for shrubs and groundcovers	**1**	ls	50,000.00	50,000		
329900	*MAINTENANCE*						
	1-yr plant maintenance	**1**	ls	45,000.00	45,000		
	Watering to grow-in	**1**	ls	10,000.00	10,000		
328400	*IRRIGATION*						
	Irrigation at trees - allowance	**1**	ls	25,000.00	25,000		
	Irrigation area - plant beds	**31,600**	sf	2.75	86,900		
	SUBTOTAL					1,082,331	
	TOTAL - SITE IMPROVEMENTS						**$5,806,871**
G30	**CIVIL MECHANICAL UTILITIES**						
210000	*FIRE PROTECTION*						
	8" CLDI	**1,000**	lf	67.50	67,500		
	6" CLDI	**100**	lf	49.64	4,964		
	Fire department connection	**1**	ea	2,500.00	2,500		
	Gate valve - allowance	**1**	ls	7,500.00	7,500		
	Fire hydrant	**4**	ea	6,500.00	26,000		
	Thrust blocks - allowance	**1**	ls	5,000.00	5,000		
331000	*WATER UTILITIES*						
	4" CLDI	**100**	lf	67.50	6,750		
331000	*CONNECTIONS*						
	Connect to existing water line; 6/8/10 (in roadway)	**2**	ea	15,000.00	30,000		
312000	*EXCAVATION & BACKFILL*	*1,200*	*lf*				
	DI gravity piping excavation	**1,067**	cy	46.75	49,882		
	Trench bedding	**240**	cy	38.50	9,240		
	Pressure test & chlorinate	**100**	lf	5.00	500		
	Allowance for temporary support of existing utilities	**1**	ea	15,000.00	15,000		
	SUBTOTAL					224,836	
333000	*SANITARY SEWER*						
	6" PVC	**1,000**	lf	21.16	21,160		
	SMH - 0-5' deep	**6**	ea	4,800.00	28,800		
	Grease trap - 5,000 gal.	**1**	ea		w/ plumbing		
333000	*CONNECTIONS*						
	Connect to existing (in roadway)	**1**	ea	15,000.00	15,000		
312000	*EXCAVATION & BACKFILL - Gravity*	*1,000*	*lf*				
	PVC gravity piping excavation	**889**	cy	46.75	41,561		
	Trench bedding	**296**	cy	38.50	11,396		
	Pressure testing	**1,000**	lf	4.00	4,000		
	Video Inspection	**1**	ls	5,000.00	5,000		
	Grease trap; 5,000 gal. (e/b only) incl. shoring	**1**	ea	10,000.00	10,000		
	Allowance for temporary support of existing utilities	**1**	ea	15,000.00	15,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION A2.2F							
	SUBTOTAL					151,917	
334000	*STORM DRAINAGE*						
	18" PVC	**1,200**	lf	100.00	120,000		
	12" PVC	**800**	lf	75.00	60,000		
	8" PVC	**800**	lf	60.00	48,000		
	4' Dia. DMH - 0-5' deep	**15**	ea	5,000.00	75,000		
	AD	**16**	ea	2,500.00	40,000		
	WQU	**5**	ea	20,000.00	100,000		
	CB - 4' Dia.	**22**	ea	4,800.00	105,600		
	Allowance for drainage at playgrounds	**15,000**	sf	2.50	37,500		
334000	*SURFACE DRAINAGE SYSTEMS*						
	Bio retention/Rain Garden	*2,500*	*sf*				
	Allowance for bio-retention areas	**2,500**	sf	18.00	45,000		
334000	*SUBSURFACE DRAINAGE SYSTEMS*						
334000	*SUBSURFACE DRAINAGE SYSTEMS*						
	Underground recharger						
	Allowance for plastic chambers	**22,000**	cf	12.00	264,000		
	SUBTOTAL					895,100	
	TOTAL - SITE MECHCANICAL UTILITIES						**$1,271,853**
G40	**ELECTRICAL UTILITIES**						
	Services						
	Primary electric service empty conduit	**1,000**	lf	120.00	120,000		
	Secondary electrical service	**80**	lf	1,200.00	96,000		
	Generator service	**80**	lf	240.00	19,200		
	Communications service	**1,000**	lf	170.00	170,000		
	Site Lighting						
	Site lighting and circuitry	**73,000**	sf	4.00	292,000		
	Sports field lighting				N/A		
	EV Stations						
	Dual EV stations; infrastructure only	**1**	ls	100,000.00	100,000		
	Site Security						
	Site security	**1**	ls	150,000.00	150,000		
	SUBTOTAL					947,200	
	TOTAL - SITE ELECTRICAL UTILITIES						**$947,200**
	TOTAL - SITE DEVELOPMENT						**$10,258,501**

PM&C

Essex Elementary School
Essex, MA
PSR Options Cost Estimate

OPTION B1.1 - UNIFORMAT SUMMARY

Uniformat Code	Description	New Addition (40,368 sf)	Renovation (5,000 sf)	Total Building Cost	Sitework Cost		Grand Total Cost
A SUBSTRUCTURE							
A10	Foundations	$1,803,885	$135,000	$1,938,885			$1,938,885
A20	Basement Construction	$0	$0	$0			$0
B SHELL							
B10	Superstructure	$2,276,529	$0	$2,276,529			$2,276,529
B20	Exterior Closure	$4,332,454	$0	$4,332,454			$4,332,454
B30	Roofing	$871,603	$220,500	$1,092,103			$1,092,103
C INTERIORS							
C10	Interior Construction	$2,626,052	$389,250	$3,015,302			$3,015,302
C20	Staircases	$120,000	$30,000	$150,000			$150,000
C30	Interior Finishes	$1,533,984	$190,000	$1,723,984			$1,723,984
D SERVICES							
D10	Conveying Systems	$0	$0	$0			$0
D20	Plumbing	$1,009,200	$130,000	$1,139,200			$1,139,200
D30	HVAC	$3,229,440	$410,000	$3,639,440			$3,639,440
D40	Fire Protection	$343,128	$47,500	$390,628			$390,628
D50	Electrical	$2,422,080	$315,000	$2,737,080			$2,737,080
E EQUIPMENT & FURNISHINGS							
E10	Equipment	$368,820	$0	$368,820			$368,820
E20	Furnishings	$659,004	$70,000	$729,004			$729,004
F SPECIAL CONSTRUCTION & DEMOLITION							
F10	Special Construction	$0	$0	$0			$0
F20	Selective Building Demolition	$0	$321,125	$321,125			$321,125
	HAZARDOUS MATERIALS						
	Remove Hazardous Materials			$0			$0
	G SITEWORK						
G10	Site Preparation				$2,167,002		$2,167,002
G20	Site Improvements				$3,914,881		$3,914,881
G30	Site Mechanical Utilities				$618,500		$618,500
G40	Site Electrical Utilities				$444,000		$444,000
BUILDING SUBTOTAL		**$21,596,179**	**$2,258,375**	**$23,854,554**			**$23,854,554**
$/sf		*$534.98*	*$451.68*	*$525.80*			
HAZARDOUS MATERIALS				**$0**			**$0**
SITEWORK SUBTOTAL					**$7,144,383**		**$7,144,383**
SUB-TOTAL							**$30,998,937**
ESCALATION TO START DATE						9.33%	$2,892,201
DESIGN AND PRICING CONTINGENCY						12.00%	$4,066,937
SUB-TOTAL							**$37,958,075**
GENERAL CONDITI	*MTHS @ $160,000/mo*					#REF!	#REF!
GENERAL REQUIREMENTS						4.00%	$1,518,323
PHASING						2.00%	$759,162
BONDS						1.00%	$379,581
INSURANCES						1.75%	$664,266
PERMIT						Excl	
SUB-TOTAL							**#REF!**
FEE						2.50%	#REF!
GMP CONTINGENCY						3.00%	#REF!
TOTAL OF ALL CONSTRUCTION							**#REF!**
$/sf (Total GFA)							*#REF!*

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION B1.1 - NEW ADDITION							
	GROSS FLOOR AREA CALCULATION						
	Level 1			24,974			
	Level 2			15,394			
	TOTAL GROSS FLOOR AREA (GFA)					**40,368**	***sf***
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
	Strip footings - perimeter; 36"x12"						
	Formwork	**1,918**	sf	20.00	38,360		
	Re-bar	**11,508**	lbs.	2.00	23,016		
	Concrete material	**112**	cy	171.00	19,152		
	Placing concrete	**112**	cy	130.00	14,560		
	Typical foundation walls, 18" thick						
	Formwork	**7,672**	sf	22.00	168,784		
	Re-bar	**19,180**	lbs.	2.00	38,360		
	Concrete material	**224**	cy	171.00	38,304		
	Placing concrete	**224**	cy	130.00	29,120		
	Form shelf	**959**	lf	10.00	9,590		
	Spread Footings; allow 7'x7'x21" at 2-story						
	Formwork	**2,107**	sf	18.00	37,926		
	Re-bar	**20,020**	lbs.	2.00	40,040		
	Concrete material	**143**	cy	171.00	24,453		
	Placing concrete	**143**	cy	130.00	18,590		
	Set anchor bolts grout plates	**43**	ea	250.00	10,750		
	Spread Footings; allow 5'x5'x15" at 1-story						
	Formwork	**400**	sf	18.00	7,200		
	Re-bar	**1,600**	lbs.	2.00	3,200		
	Concrete material	**19**	cy	171.00	3,249		
	Placing concrete	**19**	cy	130.00	2,470		
	Set anchor bolts grout plates	**16**	ea	250.00	4,000		
	Grade beams; allow 100 LF						
	Formwork	**400**	sf	20.00	8,000		
	Re-bar	**8,500**	lbs.	2.00	17,000		
	Concrete material	**19**	cy	171.00	3,249		
	Placing concrete	**19**	cy	130.00	2,470		
	Piers/Pilasters	**37**	cy	1,500.00	55,500		
	Elevator Pits						
	Walls, 12" thick		ea				
	Formwork		sf	26.00			
	Re-bar		lbs.	2.00			
	Concrete material		cy	171.00			
	Placing concrete		cy	130.00			
	Mat slab at pits, 24" thick		sf	25.00			
	Premium for deep foundation wall				NR		
	Foundations against existing building	**380**	lf	500.00	190,000		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Trowelled on mastic damproofing at foundation wall	**3,836**	sf	5.00	19,180		
	Waterproofing at elevator pit		sf	14.00			
072100	*THERMAL INSULATION*						
	Foundation wall insulation	**3,836**	sf	5.50	21,098		
312000	*EARTHWORK*						
	Strip footings/ fdn wall						
	Excavation & reuse on site	**1,066**	cy	40.00	42,640		
	Spread footings						
	Excavation & reuse on site	**654**	cy	40.00	26,160		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION B1.1 - NEW ADDITION							
	Building cut to design subgrade - allowance (no geotech report just borings)	*2,775*	*cy*				
	Cut - over excavated 3' of fill beneath building	**2,775**	cy	10.00	27,750		
	building fill to design subgrade	*3,469*	*cy*				
	Fill - import structural - 25% swell	**3,469**	cy	46.00	159,574		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**2,775**	cy	2.50	6,938		
	Clean non-regulated	**4,718**	tn	16.00	75,488		
	Miscellaneous						
	Perimeter drain	**959**	lf	32.00	30,688		
	Underslab drainage	**24,974**	sf	3.00	74,922		
	Dewatering for foundation work	**1**	ls	15,000.00	15,000		
	SUBTOTAL					1,306,781	
A1020	**SPECIAL FOUNDATIONS**				Not anticipated		
	SUBTOTAL					-	
A1030	**LOWEST FLOOR CONSTRUCTION**						
033000	*CONCRETE*						
	Vapor barrier	**24,974**	sf	1.25	31,218		
	Slab on grade	*24,974*	*sf*				
	WWF reinforcement	**28,720**	sf	1.85	53,132		
	Concrete - 5" thick	**408**	cy	171.00	69,768		
	Placing concrete	**408**	cy	70.00	28,560		
	Finishing and curing concrete	**24,974**	sf	4.00	99,896		
	Control joints - saw cut	**24,974**	sf	0.10	2,497		
	Miscellaneous						
	Equipment pads	**1**	ls	15,000.00	15,000		
	Loading dock	**1**	ls	50,000.00	NR		
	Radon system	**24,974**	sf	3.50	87,409		
072100	*THERMAL INSULATION*						
	Under slab insulation; 4ft at perimeter	**3,836**	sf	3.50	13,426		
312000	*EARTHWORK*						
	Gravel base, 12"	**925**	cy	50.00	46,250		
	Compact existing sub-grade	**24,974**	sf	0.50	12,487		
	Underslab E&B for plumbing	**24,974**	sf	1.50	37,461		
	SUBTOTAL					497,104	
	TOTAL - FOUNDATIONS						**$1,803,885**
A20	***BASEMENT CONSTRUCTION***						
A2010	**BASEMENT EXCAVATION**						
	No Work in this section						
	SUBTOTAL					-	
A2020	**BASEMENT WALLS**						
	No Work in this section						
	SUBTOTAL					-	
	TOTAL - BASEMENT CONSTRUCTION						
B10	***SUPERSTRUCTURE***						
		14.0	*lbs/sf*				
B1010	**FLOOR CONSTRUCTION**	*282*	*tns*	excluding canopies + roof screens			
		$6,665	*$/Ton*				
033000	*CONCRETE*						
	WWF reinforcement	**17,703**	sf	1.85	32,751		
	Concrete fill to metal deck; light weight, total thickness 6 1/4"	**311**	cy	260.00	80,860		
	Place and finish concrete	**15,394**	sf	3.50	53,879		
	Rebar to decks	**4,618**	lbs	2.00	9,236		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION B1.1 - NEW ADDITION							
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 15.3 lbs per SF	**118**	tns	5,200.00	613,600		
	Shear studs	**3,849**	ea	3.50	13,472		
	3" metal galvanized floor deck	**15,394**	sf	7.00	107,758		
	Thermal break	**1**	ls	30,000.00	30,000		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams; stairs + shafts only	**15,394**	sf	1.00	15,394		
	Intumescent paint @ architecturally exposed beams and columns - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					981,950	
B1020	**ROOF CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete deck at low roofs and at mechanical equipment pads - allow	**10,000**	sf	10.00	100,000		
051200	*STRUCTURAL STEEL FRAMING*						
	Structural steel framing; 13.1 lbs per SF	**164**	tns	5,200.00	852,800		
	Roof screens	**19**	tns	5,500.00	104,500		
	Decking						
	3" galvanized metal deck, typical	**24,974**	sf	7.50	187,305		
	Premium for acoustic at Gym	**7,000**	sf	6.00	ETR		
078100	*FIREPROOFING/FIRESTOPPING*						
	Fire proofing to columns and beams; stairs + shafts only	**24,974**	sf	1.00	24,974		
	Intumescent paint to primary roof members exposed to view - allow	**1**	ls	25,000.00	25,000		
	SUBTOTAL					1,294,579	
	TOTAL - SUPERSTRUCTURE						**$2,276,529**
B20	***EXTERIOR CLOSURE***						
B2010	**EXTERIOR WALLS**	*26,070*	Total closure area				
	Exterior Wall Area - 70% solid	*18,249*	*sf total area solid*				
042000	*MASONRY*						
	Mockup	**1**	ls	50,000.00	50,000		
	Brick veneer; 80%	**14,599**	sf	52.00	759,148		
	CMU Backup; 12"	**7,000**	sf	45.00	315,000		
	Miscellaneous flashings and sealants	**18,249**	sf	1.50	27,374		
	Staging to exterior wall	**18,249**	sf	4.00	72,996		
055000	*MISC. METALS*						
	Misc. metals at masonry including loose lintels (relieving angles included in steel tns)	**14,599**	sf	2.00	29,198		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier	**18,249**	sf	9.50	173,366		
	Air barrier/flashing at openings	**3,911**	lf	6.00	23,466		
072100	*THERMAL INSULATION*						
	4" rigid insulation	**18,249**	sf	5.00	91,245		
	Batt insulation in stud	**11,249**	sf	3.00	33,747		
	Insulation at glazed openings	**3,911**	lf	6.00	23,466		
076400	*CLADDING*						
	Rainscreen; 20%	**3,650**	sf	120.00	438,000		
	Acoustic Equipment Screen	**2,500**	sf	95.00	237,500		
	EXPANSION JOINT COVERS						

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION B1.1 - NEW ADDITION							
	Expansion joints	**1**	ls	30,000.00	30,000		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Exterior wall;						
	8" Stud backup	**11,249**	sf	18.00	202,482		
	Gypsum sheathing	**11,249**	sf	3.50	39,372		
	Drywall lining to interior face of stud backup	**18,249**	sf	4.50	82,121		
101400	*SIGNAGE*						
	Exterior signage - allowance	**1**	ls	30,000.00	30,000		
	SUBTOTAL					2,658,481	
B2020	**WINDOWS**						
	Exterior Wall Area; 30%	*7,821*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**3,911**	lf	12.00	46,932		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**3,911**	lf	10.00	39,110		
	Backer rod & double sealant	**3,911**	lf	11.00	43,021		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront	**5,084**	sf	165.00	838,860		
	Curtainwall; 35%	**2,737**	sf	200.00	547,400		
	Security glazing allowance; 15%	**1,173**	sf	50.00	58,650		
	Sunshades - allowance	**1**	ls	100,000.00	NR		
089000	*LOUVERS*						
	Louvers	**1**	ls	10,000.00	10,000		
	SUBTOTAL					1,583,973	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**1**	ls	90,000.00	90,000		
	SUBTOTAL					90,000	
	TOTAL - EXTERIOR CLOSURE						**$4,332,454**
B30	***ROOFING***						
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**24,974**	sf	1.50	37,461		
070002	*ROOFING AND FLASHING*						
	PVC roof membrane system; complete	**24,974**	sf	30.00	749,220		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**24,974**	sf	3.00	74,922		
	SUBTOTAL					861,603	
B3020	**ROOF OPENINGS**						
086300	*ROOF SKYLIGHTS*						
	Allowance for roof hatches	**1**	ls	10,000.00	10,000		
	SUBTOTAL					10,000	
	TOTAL - ROOFING						**$871,603**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
040001	*MASONRY*						
	Allowance for masonry partitions	**40,368**	gsf	6.00	242,208		
061000	*ROUGH CARPENTRY*						
	Backer panels in electrical closets	**1**	ls	10,000.00	10,000		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION B1.1 - NEW ADDITION							
	Wood blocking at interiors	**40,368**	gsf	0.50	20,184		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping including slab edges and core	**40,368**	gsf	0.75	30,276		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**40,368**	gsf	1.25	50,460		
078150	*EXPANSION JOINTS*						
	Allowance for expansion joint covers	**1**	ls	30,000.00	30,000		
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**40,368**	gsf	4.00	161,472		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for clean, safety + laborers	**40,368**	gsf	4.00	161,472		
	Allowance for GWB partitions	**40,368**	gsf	26.00	1,049,568		
	SUBTOTAL					1,755,640	
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**40,368**	gsf	9.00	363,312		
	SUBTOTAL					363,312	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building including rails at open to below	**40,368**	gsf	5.00	201,840		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**40,368**	gsf	4.00	161,472		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**40,368**	gsf	1.00	40,368		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**40,368**	gsf	1.50	60,552		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**40,368**	gsf	0.50	20,184		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**40,368**	gsf	0.50	20,184		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	500.00	500		
	AED cabinets	**1**	ls	2,000.00	2,000		
105000	*LOCKERS*						
	Student lockers				w/Reno		
	SUBTOTAL					507,100	
	TOTAL - INTERIOR CONSTRUCTION						**$2,626,052**
C20	***STAIRCASES***						
C2010	**STAIR CONSTRUCTION**						
033000	*CONCRETE*						
	Concrete to stairs	**2**	flt	5,000.00	10,000		
055000	*MISCELLANEOUS METALS*						
	Egress stairs including rails and handrails	**2**	flt	50,000.00	100,000		
	Premium for lobby stairs		flt	25,000.00			
	SUBTOTAL					110,000	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION B1.1 - NEW ADDITION							
C2020	**STAIR FINISHES**						
090005	*RESILIENT FLOORS*						
	Lobby Stair finishes		flts	25,000.00			
	Stair finishes - egress	**2**	flts	5,000.00	10,000		
	SUBTOTAL					10,000	
	TOTAL - STAIRCASES						**$120,000**
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Wall finishes; allowance	**40,368**	gsf	13.00	524,784		
	SUBTOTAL					524,784	
C3020	**FLOOR FINISHES**						
	Floor finishes complete package	**40,368**	gsf	11.00	444,048		
	SUBTOTAL					444,048	
C3030	**CEILING FINISHES**						
	Ceiling finishes, complete package	**40,368**	gsf	14.00	565,152		
	SUBTOTAL					565,152	
	TOTAL - INTERIOR FINISHES						**$1,533,984**
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**						
	SUBTOTAL					-	
	TOTAL - CONVEYING SYSTEMS						
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**40,368**	gsf	25.00	1,009,200		
	SUBTOTAL					1,009,200	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**40,368**	gsf	1.00	40,368		
	Option 3: Air source heat pump water heaters	**40,368**	gsf	4.00	161,472		
	Option 4: Water source heat pump water heaters	**40,368**	gsf	4.00	161,472		
	TOTAL - PLUMBING						**$1,009,200**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**40,368**	gsf	80.00	3,229,440		
	SUBTOTAL					3,229,440	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**40,368**	gsf	10.00	403,680		
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**40,368**	gsf	38.00	1,533,984		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION B1.1 - NEW ADDITION							
	TOTAL - HVAC						**$3,229,440**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**40,368**	gsf	7.50	302,760		
	Electric fire pump	**40,368**	gsf	1.00	40,368		
	SUBTOTAL					343,128	
	TOTAL - FIRE PROTECTION						**$343,128**
D50	***ELECTRICAL***						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**40,368**	gsf	60.00	2,422,080		
	SUBTOTAL					2,422,080	
	TOTAL - ELECTRICAL						**$2,422,080**
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						
112000	*LOADING DOCK EQUIPMENT*						
	Loading dock equipment	**1**	ls	10,000.00	10,000		
110620	*THEATRICAL EQUIPMENT*						
	Allowance						
	cafeteria rigging & stage curtains - allowance	**1**	ls	100,000.00	100,000		
113100	*APPLIANCES*						
	Residential appliances - allowance	**1**	ls	15,000.00	15,000		
114000	*FOOD SERVICE EQUIPMENT*						
	Kitchen equipment	**1**	ls		ETR		
115213	*PROJECTION SCREENS*						
	Motorized projection screen - allowance	**1**	ls	30,000.00	30,000		
116600	*GYM EQUIPMENT*						
	Basketball backstops	**6**	ea	12,000.00	72,000		
	Scoreboard w/ shot clock - allow	**1**	ea	25,000.00	25,000		
	Gym wall pads	**2,000**	sf	17.00	34,000		
	Volleyball equipment	**1**	ls	5,000.00	5,000		
	Divider curtain (1#)	**1**	ea	40,320.00	40,320		
126000	*SEATING*						
	Retractable bleachers in gym (150 seats)	**1**	ls	37,500.00	37,500		
	SUBTOTAL					368,820	
	TOTAL - EQUIPMENT						**$368,820**
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**7,821**	sf	12.00	93,852		
123553	*CASEWORK*						
	Casework package	**40,368**	gsf	14.00	565,152		
	SUBTOTAL					659,004	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION B1.1 - NEW ADDITION							
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$659,004**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	SUBTOTAL					-	
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	See main summary for HazMat allowance				See Summary		
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						
	SUBTOTAL						**$21,596,179**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
	GROSS FLOOR AREA CALCULATION						
	Upper Level			28,587			
	Main Level			48,515			
	Renovated Area			5,000			
	TOTAL GROSS FLOOR AREA (GFA)				**5,000** ***sf***		
	A10 FOUNDATIONS						
	A1010 STANDARD FOUNDATIONS						
1	Allowance for foundation work at new structural steel bracing members/shear walls etc.	**5,000**	gsf	10.00	50,000		
2	SUBTOTAL					50,000	
3							
4	**A1020 SPECIAL FOUNDATIONS**						
5	No Work in this section						
6	SUBTOTAL					-	
7							
8	**A1030 LOWEST FLOOR CONSTRUCTION**						
9	Floor leveling	**2,000**	sf	5.00	10,000		
10	Miscellaneous slab repairs, infills, cutting + patching at new plumbing work - allow at bathrooms + kitchen	**3,000**	sf	25.00	75,000		
11	SUBTOTAL					85,000	
12							
13	***TOTAL - FOUNDATIONS***						**$135,000**
14							
15							
16	***A20 BASEMENT CONSTRUCTION***						
17							
18	**A2010 BASEMENT EXCAVATION**						
19	No Work in this section						
20	SUBTOTAL					-	
21							
22	**A2020 BASEMENT WALLS**						
23	No Work in this section						
24	SUBTOTAL					-	
25							
26	***TOTAL - BASEMENT CONSTRUCTION***						
27							
28							
29	***B10 SUPERSTRUCTURE***						
30							
31	**B1010 FLOOR CONSTRUCTION**						
32	Allowance for structural steel bracing members upgrades	**5,000**	gsf	30.00	NR		
33	Seismic clips at interior partitions	**5,000**	gsf	2.00	NR		
34	SUBTOTAL					-	
35							
36	**B1020 ROOF CONSTRUCTION**						
37							
38	*051200 STRUCTURAL STEEL FRAMING*						
39	Allowance for structural steel reinforcement at roof for new RTU's including dunnage; allow 5 lbs per SF	**13**	tns	10,000.00	NR		
40	SUBTOTAL					-	
41							
42	***TOTAL - SUPERSTRUCTURE***						
43							
44							
45	***B20 EXTERIOR CLOSURE***						
46							
47	**B2010 EXTERIOR WALLS**	*41,625*	Total closure area				
48	**Exterior Wall Area**	*33,300*	*sf total area solid*				
49							
50	Repointing; 100%	33,300	sf	45.00	NR		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
	3" Spray foam insulation w/ 1 layer drywall and furring to interior face of exterior wall	33,300	sf	15.00	NR		
	SUBTOTAL					-	
B2020	**WINDOWS**						
	Glazed Wall Area	*8,325*	sf				
061000	*ROUGH CARPENTRY*						
	Wood blocking at openings	**2,498**	lf	12.00	NR		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Air barrier/flashing at windows	**2,498**	lf	10.00	NR		
	Backer rod & double sealant	**2,498**	lf	11.00	NR		
080001	*METAL WINDOWS*						
	Aluminum windows/ storefront replacement	**8,325**	sf	170.00	NR		
089000	*LOUVERS*						
	Louvers				N/A		
	SUBTOTAL					-	
B2030	**EXTERIOR DOORS**						
	Allowance for exterior doors	**5,000**	gsf	1.00	NR		
	SUBTOTAL					-	
	TOTAL - EXTERIOR CLOSURE						
B30	***ROOFING***						
055000	*MISCELLANOUS METALS*						
	Allowance for roof ladders	**1**	ls	5,000.00	5,000		
061000	*ROUGH CARPENTRY*						
	Rough carpentry and blocking @ roof	**5,000**	sf	1.50	7,500		
070002	*ROOFING AND FLASHING*						
	Removal of existing roofing	**5,000**	sf	5.00	25,000		
	PVC roof membrane system; complete	**5,000**	sf	30.00	150,000		
	Miscellaneous Roofing						
	Miscellaneous flashings/copings/walkway pads etc.	**5,000**	sf	3.00	15,000		
	SUBTOTAL					202,500	
B3020	**ROOF OPENINGS**						
	New roof hatch	**3**	ea	6,000.00	18,000		
	SUBTOTAL					18,000	
	TOTAL - ROOFING						**$220,500**
C10	***INTERIOR CONSTRUCTION***						
C1010	**PARTITIONS**						
040001	*MASONRY*						
	Allowance for masonry partitions; 100% replacement	**5,000**	gsf	5.00	25,000		
061000	*ROUGH CARPENTRY*						
	Backer panels in electrical closets	**1**	ls	2,000.00	2,000		
	Wood blocking at interiors	**5,000**	gsf	0.50	2,500		
078400	*FIREPROOFING/FIRESTOPPING*						
	Fire stopping including slab edges and core	**5,000**	gsf	0.50	2,500		
070001	*WATERPROOFING, DAMPPROOFING AND CAULKING*						
	Miscellaneous sealants throughout building	**5,000**	gsf	1.25	6,250		
078150	*EXPANSION JOINTS*				See Addition		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
081110	*INTERIOR GLAZING*						
	Allowance for interior glazing	**5,000**	gsf	4.00	20,000		
092900	*GYPSUM BOARD ASSEMBLIES*						
	Allowance for new interior GWB partitions; 100% replacement	**5,000**	gsf	26.00	130,000		
	SUBTOTAL					188,250	
C1020	**INTERIOR DOORS**						
	Doors, frames, hardware; complete	**5,000**	gsf	9.00	45,000		
	SUBTOTAL					45,000	
C1030	**SPECIALTIES / MILLWORK**						
055000	*MISCELLANEOUS METALS*						
	Miscellaneous metals throughout building	**5,000**	gsf	5.00	25,000		
061000	*ROUGH CARPENTRY*						
062000	*INTERIOR ARCHITECTURAL WOODWORK*						
	Interior millwork package	**5,000**	gsf	4.00	20,000		
101100	*VISUAL DISPLAY SURFACES*						
	Markerboard and tackboard package	**5,000**	gsf	1.00	5,000		
101400	*SIGNAGE*						
	Room identification, directional & safety signage, building directory + environmental graphics	**5,000**	gsf	1.50	7,500		
102110	*TOILET/ CHANGING/SHOWER COMPARTMENTS*						
	Toilet compartments	**5,000**	gsf	0.50	2,500		
102800	*TOILET ACCESSORIES*						
	Toilet accessories	**5,000**	gsf	0.50	2,500		
104400	*FIRE PROTECTION SPECIALTIES*						
	Fire extinguisher cabinets	**1**	ls	5,000.00	5,000		
	AED cabinets	**1**	ls	1,000.00	1,000		
105000	*LOCKERS*						
	Student lockers	**250**	opng	350.00	87,500		
	SUBTOTAL					156,000	
	TOTAL - INTERIOR CONSTRUCTION						**$389,250**
C20	***STAIRCASES***						
	Egress stairs upgrade for code	**3**	flt	10,000.00	30,000		
	SUBTOTAL					30,000	
	TOTAL - STAIRCASES						**$30,000**
C30	***INTERIOR FINISHES***						
C3010	**WALL FINISHES**						
	Wall finishes; allowance	**5,000**	gsf	13.00	65,000		
	SUBTOTAL					65,000	
C3020	**FLOOR FINISHES**						
	Floor finishes complete package	**5,000**	gsf	11.00	55,000		
	SUBTOTAL					55,000	
C3030	**CEILING FINISHES**						
	Ceiling finishes, complete package	**5,000**	gsf	14.00	70,000		
	SUBTOTAL					70,000	
	TOTAL - INTERIOR FINISHES						**$190,000**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
D10	***CONVEYING SYSTEMS***						
D1010	**ELEVATOR**				NR		
	SUBTOTAL					-	
	TOTAL - CONVEYING SYSTEMS						
D20	***PLUMBING***						
D20	**PLUMBING, GENERALLY**						
	Preferred Option:Electric water heaters Install all new plumbing equipment, piping, and fixtures.	**5,000**	gsf	25.00	125,000		
	Demolish existing	**5,000**	gsf	1.00	5,000		
	SUBTOTAL					130,000	
	Options ADD / DEDUCT						
	Option 2: Gas water heaters	**5,000**	gsf	1.00	5,000		
	Option 3: Air source heat pump water heaters	**5,000**	gsf	4.00	20,000		
	Option 4: Water source heat pump water heaters	**5,000**	gsf	4.00	20,000		
	TOTAL - PLUMBING						**$130,000**
D30	***HVAC***						
D30	**HVAC, GENERALLY**						
	Preferred Option: All electric air source variable refrigerant flow (VRF) with dedicated outdoor air system (DOAS)	**5,000**	gsf	80.00	400,000		
	Demolish existing	**5,000**	gsf	2.00	10,000		
	SUBTOTAL					410,000	
	Options ADD / DEDUCT						
	Option 2: All electric air to water source heat pump chiller/boiler system with dedicated outdoor air system (DOAS)	**5,000**	gsf	10.00	50,000		
	Option 3: Geothermal water to water source modular heat recovery heat pump chiller plant with dedicated outdoor air system (DOAS)	**5,000**	gsf	38.00	190,000		
	TOTAL - HVAC						**$410,000**
D40	***FIRE PROTECTION***						
D40	**FIRE PROTECTION, GENERALLY**						
	Fire protection system	**5,000**	gsf	8.00	40,000		
	Electric fire pump	**5,000**	gsf	1.00	5,000		
	Demolish existing	**5,000**	gsf	0.50	2,500		
	SUBTOTAL					47,500	
	TOTAL - FIRE PROTECTION						**$47,500**
D50	***ELECTRICAL***						
D5010	**ELECTRICAL SYSTEMS**						
	Electrical including new service, generator, exit and egress lighting inverter, UPS, lighting, branch, lightning protection, PV rough-in, paging, two way communications, DAS, score boards, Data infrastructure, performance lighting sound systems, security systems.....	**5,000**	gsf	62.00	310,000		
	Demolish existing	**5,000**	gsf	1.00	5,000		
	SUBTOTAL					315,000	
	TOTAL - ELECTRICAL						**$315,000**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
OPTION A1.2B - RENOVATION							
E10	***EQUIPMENT***						
E10	**EQUIPMENT, GENERALLY**						
	SUBTOTAL					-	
	TOTAL - EQUIPMENT						
E20	***FURNISHINGS***						
E2010	**FIXED FURNISHINGS**						
122100	*WINDOW TREATMENT*						
	Window treatments - allowance	**8,325**	sf	12.00	NR		
123553	*CASEWORK*						
	Casework package	**5,000**	gsf	14.00	70,000		
	SUBTOTAL					70,000	
E2020	**MOVABLE FURNISHINGS**						
	All movable furnishings to be provided and installed by owner						
	SUBTOTAL					NIC	
	TOTAL - FURNISHINGS						**$70,000**
F10	***SPECIAL CONSTRUCTION***						
F10	**SPECIAL CONSTRUCTION**						
	SUBTOTAL					-	
	TOTAL - SPECIAL CONSTRUCTION						
F20	***SELECTIVE BUILDING DEMOLITION***						
F2010	**BUILDING ELEMENTS DEMOLITION**						
	Sawcut and remove slab on grade	**3,000**	sf	15.00	45,000		
	Demolish and remove exterior glazing	**8,325**	sf	8.00	NR		
	Demolish/patch exterior closure at new addition connections	**7,845**	sf	25.00	196,125		
	Interior demolition of walls, finishes + specialties for reconfigured spaces	**5,000**	sf	10.00	50,000		
	MEP demo; cut + cap in trades	**5,000**	sf	3.00	15,000		
	Temporary protection/ shoring existing etc.	**5,000**	sf	3.00	15,000		
	SUBTOTAL					321,125	
F2020	**HAZARDOUS COMPONENTS ABATEMENT**						
	See main summary for HazMat allowance				See Summary		
	SUBTOTAL						
	TOTAL - SELECTIVE BUILDING DEMOLITION						**$321,125**
	SUBTOTAL						**$2,258,375**

SITEWORK OPTION B1.1

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	G SITEWORK						
	G10 SITE PREPARATION & DEMOLITION						
311000	*GENERAL CONDITIONS*						
	6' high site construction fence	**1,250**	lf	25.00	31,250		
	6' high site construction fence double gate	**1**	loc	5,000.00	5,000		
	Site construction entrance and removal/restoration	**1**	loc	12,000.00	12,000		
	Temp laydown areas	**1**	ls	10,000.00	10,000		
	Temporary signs	**1**	ls	20,000.00	Excluded		
	Wheel wash rack	**1**	ls	20,000.00	20,000		
	Engineering/layout	**1**	ls	45,000.00	45,000		
	Snow removal - allowance	**1**	ls		Excluded		
	Winter conditions - allowance	**1**	ls		Excluded		
	Police details	**1**	ls		Excluded		
	Site security	**1**	ls		Excluded		
	Job site construction trailer	**1**	ls		Excluded		
	Temp utilities for job trailer	**1**	ls		Excluded		
311000	*PHASING*						
	Phasing allowance	**1**	ea	250,000.00	250,000		
311000	*SITE SALVAGE ITEMS*						
	Salvage memorials and plaques	**1**	ls	10,000.00	10,000		
	Salvage play equipment	**1**	ls	20,000.00	20,000		
311000	*SITE DEMOLITION AND RELOCATIONS*						
	Demolish existing paving and associated curbing	**24,000**	sf	1.25	30,000		
	Demolish existing sidewalks for ADA compliance	**36,500**	sf	3.00	109,500		
	Demolish existing tennis courts	**17,000**	sf	2.50	42,500		
	Miscellaneous site demolition; furnishings, concrete pads, signs etc	**1**	ls	100,000.00	100,000		
311000	*UTILITY DEMOLITION*						
	Miscellaneous utility demolition	**1**	ls	10,000.00	10,000		
311000	*ROADWAY WORK - UTILITIES ALLOWANCES*						
	Sawcut	**50**	lf	8.25	413		
	Remove pavement	**150**	sf	3.50	525		
	Temp pavement patching	**150**	sf	8.00	1,200		
	Steel plates	**1**	ls	2,500.00	2,500		
	Police details	**7**	dy	850.00	5,950		
	Permanent pavement patch	**150**	sf	10.00	1,500		
311000	*VEGETATION & TOPSOIL MANAGEMENT*						
	Clear and grub	**1**	acre	5,000.00	5,000		
	Tree removal allowance	**1**	ls	20,000.00	20,000		
	Tree protection allowance	**1**	ls	5,000.00	5,000		
	Strip + stockpile topsoil	**644**	cy	11.50	7,406		
312000	*EROSION & SEDIMENT CONTROL*						
	Silt Fence; installation and removal - allowance	**1,250**	lf	15.00	18,750		
	Silt Sacks; installation and removal - allowance	**1**	ls	2,500.00	2,500		
	Erosion Control monitoring & maintenance	**1**	ls	25,000.00	25,000		
	SUBTOTAL					790,994	
312000	*BUILDING EARTHWORK*						
	Cut - allowance for 2' of over excavation	**1,741**	cy	10.00	17,410		
	Fill - import structural - 25% swell	**2,176**	cy	65.00	141,440		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**1,741**	cy	2.50	4,353		
	Less than RCS-1 - clean non-regulated	**2,960**	tn	23.00	68,080		
	SUBTOTAL					231,283	
312000	*SITE EARTHWORK*						
	Site cut to design subgrade - assume 1' of cut	*10,156*	*cy*				
	Cut	**10,156**	cy	10.00	101,560		
	Store cut onsite - allowance for 50%	**5,078**	cy	3.50	17,773		
	Site cut processing	*5,078*	*cy*				
	Screen cut soils	**5,078**	cy	7.00	35,546		
	Site fill to design subgrade	*10,156*	*cy*				
	Fill - from cut	**5,078**	cy	12.00	60,936		
	Fill - imported common fill; swell 25%	**6,348**	cy	32.00	203,136		
312000	*SOIL DISPOSAL - conversion factor 1.7 to tons*						
	Load excess soils for disposal	**5,078**	cy	2.50	12,695		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION B1.1							
	Less than RCS-1 - clean non-regulated	**8,633**	tn	23.00	198,559		
312000	*GEOTHERMAL - ALLOWANCE*						
	Groundwater management/ control measures	**1**	ls	50,000.00	NR		
	Support of geothermal	**1**	ls	200,000.00	NR		
312000	*GROUNDWATER CONTROLS*						
	Groundwater support	**1**	ls	100,000.00	100,000		
312000	*ROCK REMOVAL*						
	Rock removal allowance - bedrock and shallow rock excavation	**1**	ls	250,000.00	250,000		
312000	*ESTABLISHING GRADE*						
	Sub grade establishment	**274,200**	sf	0.25	68,550		
	Fine grading throughout the site	**274,200**	sf	0.35	95,970		
312000	*HAZARDOUS MATERIALS*						
	UST removal allowance	**1**	ls	50,000.00	NR		
	SUBTOTAL					1,144,725	
	TOTAL - SITE PREPARATION						**$2,167,002**
G20	**SITE IMPROVEMENTS**						
320000	***ROADWAYS AND PARKING LOTS***						
	Asphalt Paving; parking lots and roadway - Standard Duty	*86,000*	*sf*				
	gravel base; 8" thick	**2,134**	cy	50.00	106,700		
	asphalt top; 2" thick	**1,098**	tns	225.00	247,050		
	asphalt binder; 2" thick	**1,098**	tns	190.00	208,620		
320000	*CURBING*						
	Vertical granite curb	**3,500**	lf	65.00	227,500		
	ADA Curb cuts - allowance	**5**	ea	850.00	4,250		
320000	*ROAD MARKINGS AND SIGNS*						
	Parking space striping - no count given - allowance	**1**	ls	15,000.00	15,000		
	Sign allowance	**1**	ls	10,000.00	10,000		
	Pavement markings allowance	**1**	ls	10,000.00	10,000		
	Crosswalk hatching allowance	**3**	loc	2,500.00	7,500		
320000	*OFF SITE IMPROVEMENTS*						
	Allowance for pavement markings, signs, RRFBs and speed feedback posts	**1**	ls	500,000.00	500,000		
	SUBTOTAL					1,336,620	
320000	***PEDESTRIAN PAVING***						
	Concrete sidewalks - redo existing sidewalks for ADA compliance	*36,500*	*sf*				
	gravel base; 8" thick	**906**	cy	65.00	58,890		
	Broom finish concrete paving; 4" thick	**36,500**	sf	12.00	438,000		
	Pavers - at pre-k entry	*3,000*	*sf*				
	gravel base; 8" thick	**74**	cy	65.00	4,810		
	Concrete slab paving; 4" thick	**3,000**	sf	12.00	36,000		
	Concrete pavers	**3,000**	sf	32.00	96,000		
	Geotextiles	**3,000**	sf	0.55	1,650		
	Edging	**500**	lf	18.00	9,000		
	SUBTOTAL					644,350	
320000	***SITE IMPROVEMENTS***						
320000	*SITE FURNISHINGS - ALLOWANCES*						
	Bollards	**25**	ea	1,090.00	NR		
	School sign	**1**	ea	25,000.00	NR		
	Raised planters	**5**	ea	4,000.00	NR		
	Bike racks	**10**	ea	850.00	NR		
	Flagpole - 30' Ht.	**1**	ea	7,000.00	NR		
	Flagpole foundation	**1**	ea	4,500.00	NR		
	Site lighting foundations - e&b only	**1**	ls	10,000.00	10,000		
	Trash and Recycling receptacles	**6**	ea	2,500.00	15,000		
	Benches	**5**	ea	3,500.00	NR		
	Table and chairs	**5**	ea	4,500.00	NR		

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
	SITEWORK OPTION B1.1						
	Picnic tables	**5**	ea	4,000.00	NR		
	Shade structures at courtyards and outdoor classrooms	**1**	ls	80,000.00	NR		
	Greenhouse - replace in kind	**1**	ls	30,000.00	NR		
	Misc site furnishings	**1**	ls	100,000.00	100,000		
320000	*REPLACE TENNIS COURTS OFF SITE*						
	Pavement areas	*17,000*	*sf*				
	gravel base; 8" thick	**422**	cy	65.00	27,430		
	asphalt top; 1.5" thick	**159**	tns	225.00	35,775		
	asphalt binder; 1.5" thick	**159**	tns	190.00	30,210		
	Tennis court nets	**3**	set	3,000.00	9,000		
	Tennis court color coating	**17,000**	sf	4.00	68,000		
	Play area - replace existing	*14,000*	*sf*				
	gravel base; 8" thick	**347**	cy	65.00	22,555		
	Pour-in-place safety surface	**14,000**	sf	36.00	504,000		
	Edging	**500**	lf	45.00	22,500		
	Allowance for play equipment - replace 50% of equipment	**1**	ls	250,000.00	250,000		
	Reset existing equipment	**1**	ls	50,000.00	50,000		
	Shade structures	**1**	ls	80,000.00	80,000		
	SUBTOTAL					1,224,470	
329900	*SITE WALLS*						
	Precast concrete seatwalls with wood topper - allowance	*100*	*lf*				
	Precast concrete	**100**	lf	1,000.00	100,000		
	Concrete - below grade and to frost	**100**	lf	363.00	36,300		
	Excavation	**21**	cy	100.00	2,100		
	Backfill - (assume using onsite soils)	**6**	cy	25.00	150		
	Wall drain	**100**	lf	22.00	2,200		
	Wood toppers	**100**	lf	725.00	72,500		
	SUBTOTAL					213,250	
	Landscaping						
329900	*TOPSOIL*						
	Screen topsoil	**644**	cy	7.50	4,830		
	Export tailings from screening process - assume clean rock	**193**	cy	8.50	1,641		
	Amend/Place	**451**	cy	25.00	11,275		
	Topsoil - imported 6" thick - swell 25%	**1,665**	cy	75.00	124,875		
	Soil and mulch at planting areas; 18" thick -Allow 20% of area	**594**	cy	135.00	80,190		
329900	*LAWN AND SEED*	*96,300*	*sf*				
	Topsoil 6" thick - required	**1,783**	cy		incl. above		
	Scarify subgrade	**96,300**	sf	0.25	24,075		
	Power rake and hydroseed disturbed areas - Allow 80% of area	**96,300**	sf	0.35	33,705		
	Landscape curbing in entrance areas - allowance	**100**	lf	125.00	12,500		
329900	*TREES*						
	Allowance for trees	**1**	ls	75,000.00	75,000		
329900	*SHRUBS AND GROUNDCOVERS*						
	Allowance for shrubs and groundcovers	**1**	ls	20,000.00	20,000		
329900	*MAINTENANCE*						
	1-yr plant maintenance	**1**	ls	14,250.00	14,250		
	Watering to grow-in	**1**	ls	10,000.00	10,000		
328400	*IRRIGATION*						
	Irrigation at trees - allowance	**1**	ls	25,000.00	25,000		
	Irrigation area - plant beds	**21,400**	sf	2.75	58,850		
	SUBTOTAL					496,191	
	TOTAL - SITE IMPROVEMENTS						**$3,914,881**
G30	**CIVIL MECHANICAL UTILITIES**						
210000	*FIRE PROTECTION*						
	No work in this section - internally fed						
331000	*WATER UTILITIES*						
	No work in this section - internally fed						
	SUBTOTAL					-	

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITEWORK OPTION B1.1							
333000	*SANITARY SEWER*						
	No work in this section - internally fed						
	SUBTOTAL					-	
334000	*STORM DRAINAGE*						
	18" PVC	**1,000**	lf	100.00	100,000		
	12" PVC	**800**	lf	75.00	60,000		
	8" PVC	**800**	lf	60.00	48,000		
	4' Dia. DMH - 0-5' deep	**12**	ea	5,000.00	60,000		
	AD	**3**	ea	2,500.00	7,500		
	WQU	**1**	ea	20,000.00	20,000		
	CB - 4' Dia.	**10**	ea	4,800.00	48,000		
	Allowance for drainage at playgrounds	**14,000**	sf	2.50	35,000		
334000	*SUBSURFACE DRAINAGE SYSTEMS*						
	Underground recharger						
	Allowance for plastic chambers	**20,000**	cf	12.00	240,000		
	SUBTOTAL					618,500	
	TOTAL - SITE MECHCANICAL UTILITIES						**$618,500**
G40	**ELECTRICAL UTILITIES**						
	Services						
	Primary electric service empty conduit	**500**	lf	120.00	ETR		
	Secondary electrical service	**80**	lf	1,200.00	ETR		
	Generator service	**80**	lf	240.00	ETR		
	Communications service	**300**	lf	170.00	ETR		
	Site Lighting						
	Site lighting and circuitry	**86,000**	sf	4.00	344,000		
	Sports field lighting				N/A		
	EV Stations						
	Dual EV stations; infrastructure only	**1**	ls	100,000.00	100,000		
	Site Security						
	Site security	**1**	ls	30,000.00	NR		
	SUBTOTAL					444,000	
	TOTAL - SITE ELECTRICAL UTILITIES						**$444,000**
	TOTAL - SITE DEVELOPMENT						**$7,144,383**

CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
SITE ALTERNATE							
	Synthetic Turf ILO of seeded						
	SCOPE CARRIED IN BASE ESTIMATE						
320000	*ATHLETIC LANDSCAPING*	*23,750*	*sf*				
	Topsoil 6" thick - required	**440**	cy	75.00	33,000		
	Scarify subgrade	**23,750**	sf	0.25	5,938		
	Natural grass field	*23,750*	*sf*				
	Lawn seeding	**23,750**	sf	0.35	8,313		
	Irrigation	**23,750**	sf	2.75	65,313		
	SUBTOTAL					(112,564)	
	ADDITIONAL SCOPE NOT IN BASE ESTIMATE						
320000	*SYNTHETIC TURF*	*23,750*	*sf*				
	Synthetic turf system	**23,750**	sf	6.50	154,375		
	Field top stone; 2" thick	**141**	cy	125.00	17,625		
	Field base stone; 8" thick	**581**	cy	90.00	52,290		
	Geotextile underlayment below base stone	**2,639**	sy	3.00	7,917		
	Turf anchor curbing	**630**	lf	80.00	50,400		
	Flat drain system - allowance	**23,750**	sf	1.50	35,625		
	12" Perf CPP collector drain - allowance	**23,750**	sf	2.50	59,375		
	SUBTOTAL					377,607	
	TOTAL - ALTERNATE 1						***$265,043***

EDUCATIONAL PROGRAM (NO UPDATES)

SECTION 3.3.6.8

Essex Elementary School Educational Program

Manchester Essex Regional School District

Prepared in Support of the
Massachusetts School Building Authority
Feasibility Study

Approved by the MERSD School Committee • December 2, 2025

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Appendix Documents Cited

The following appendices are referenced within the Essex Elementary School Educational Program and provide supporting documentation for the educational vision, programmatic assumptions, policy framework, and operational considerations described herein. Appendices are lettered and ordered to align with their first appearance in the narrative.

Appendix A: ***Educational Visioning Final Report***
Documents the district's educational visioning process and guiding principles informing instructional practice and facility design.

Appendix B: ***MERSD Regional Agreement***
Establishes governance, grade configuration requirements, and statutory obligations of the Manchester Essex Regional School District.

Appendix C: ***MERSD Elementary Task Force Recommendations***
Summarizes prior district analysis and community findings related to elementary configuration and neighborhood school models.

Appendix D: ***Configuration Scenario Operational Impact***
Identifies operational considerations associated with alternative grade-span and site configuration options as part of the MSBA Feasibility Study.

Appendix E: ***Strategic Plan Overview & District Improvement Plan***
Outlines district priorities, core values, and improvement objectives guiding instructional and organizational planning.

Appendix F: ***Grade-Level Curriculum Guides***
Provides grade-level curriculum frameworks supporting the instructional program described in this Educational Program.

Appendix G: ***Special Education Program Review***
Presents findings related to special education service delivery, inclusion practices, and alignment with district support structures.

Acknowledgements

Educational Visioning Team

The District completed one site visit, two large group, and two small group visioning sessions with Consultant Michael Pirollo. The Educational Visioning Team included the following members of the school district, parents, community members, and local board members:

- Pamela Beaudoin, Superintendent
- Gordon Brewster, Essex School Building Committee
- Taylor Clary, Essex Elementary Grade 4 Teacher
- Allison Collins, Director of Student Services
- Michelle Cresta, Director of Operations & Finance
- Christina Dell Angelo, OPM, Dore & Whittier
- Danielle Demetri, Essex Elementary Grade 4 Teacher
- Emily Dwyer, Essex Elementary Grade 1 Teacher
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- Kim Field, Essex Elementary Grade 4 Teacher
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Educational Program Development Team

This Educational Program was developed collaboratively by the following individuals through an iterative process of review, community feedback, and cross-district collaboration to ensure alignment with MERSD's mission, educational vision, and long-term strategic priorities.

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- Kim Field, Essex Elementary Grade 4 Teacher
- Michael Pirollo Educational Planner, MLP Integrated Design

Introduction

The educational program at MERSD is guided by a shared philosophy that places students at the center of all decision-making and instructional design. Our approach reflects a deep belief in cultivating curiosity, integrity, and intellectual engagement while nurturing the social-emotional well-being essential to learning. We value inclusivity, collaboration, and equity—ensuring every student is seen, supported, and challenged to reach their fullest potential.

Our classrooms are communities of active learners where authentic experiences connect knowledge, skills, and character. Instruction emphasizes inquiry, creativity, and problem-solving, encouraging students to think critically and act responsibly as empathetic global citizens. Through strong partnerships among educators, families, and the broader community, we strive to create learning environments that honor the uniqueness of each child while preparing them to thrive in a complex and interconnected world.

MERSD proudly works to educate each child from his/her own readiness level in order to facilitate the intellectual, social and emotional growth process. There are many measures of success, and we are committed to helping each individual child achieve his/her potential. In addition to a robust core curriculum that balances high expectations for student achievement with the needs of the whole child, we offer specialty programming and a variety of learning opportunities, such as: elementary world language; Integrated Pre-Kindergarten; specialized learning programs for students with dyslexia, autism spectrum disorders, and developmental delays; STEM coursework in coding, engineering, project based environmental studies, FIRST Robotics, Project Adventure; award winning arts and music programs; and, state champion athletic teams.

In collaboration with Mike Pirollo from My Learning Place Integrated Design, Inc., MERSD engaged in a two-day Educational Visioning workshop. Through this process, teachers, community members, and administrators gathered to learn how the organization of physical space within a school can support our educational goals both now and in the future. Through a series of collaborative exercises, we uncovered common themes that will serve as guiding principles for our design team, JCJ Architecture.

> **Student-Centered & Active Learning:** Spaces that empower students as active learners—engaged in inquiry, creation, problem solving, and authentic experiences.
>
> **Flexible Learning Neighborhoods:** Adaptable, multi-use environments that support varied groupings, collaboration, movement, and differentiated instruction.
>
> **Well-Being & Environmental Connection:** Learning environments that support emotional regulation and belonging while providing purposeful access to outdoor spaces that enrich wellness, play, and environmental learning**.**

Community Hub & Shared Identity: A school that reflects Essex's character and serves as a gathering place for students, families, and the broader community—supporting learning and connection throughout the day.

These design principles support our district's core values and commitment to active, student-centered learning—promoting collaboration and creativity, and empowering students to be the doers and leaders of their own learning. They reflect our goal of creating a learning environment that captures the energy of children, supports multiple modes of engagement, and provides flexible pathways for students and teachers to work together. It is our hope that the design process will yield an educational facility that is timeless in style but flexible and adaptable to the ever-evolving curriculum and instructional program, while continuing to serve as a hub of the community with spaces for small, large, and whole-school gatherings. (*Appendix A: Educational Visioning Final Report*)

Grade and School Configuration

The Manchester Essex Regional School District (MERSD) provides a high-quality public education for students from the towns of Manchester-by-the-Sea and Essex, serving approximately 1,190 students in grades Pre-Kindergarten through Grade 12 during the 2024–2025 school year. The district is organized as a two-town regional system with two elementary schools—Essex Elementary School and Manchester Memorial Elementary School, that feed into a shared Middle and High School campus. This configuration allows MERSD to maintain strong community connections at the elementary level while providing a cohesive, unified educational experience for all students as they progress through the district.
Regional Agreement Requirements for Grade Configuration

The District operates under a Regional Agreement between the towns of Manchester-by-the-Sea and Essex, which establishes several requirements that directly influence grade-level configuration and facility planning. The Agreement mandates that the District shall provide a comprehensive Kindergarten through Grade 12 education program and maintain at least one elementary school facility in each member town. It further guarantees that all pupils in elementary grades—defined as at minimum Kindergarten through Grade 4—must be provided the opportunity to attend school in the town in which they reside. While the Regional School Committee holds authority to designate grade spans beyond this minimum, any change that alters longstanding grade assignments or materially affects the programmatic use of facilities requires formal Committee action and, in many cases, amendment of the Regional Agreement. Amendments require majority approval in both member towns through Town Meeting, ensuring transparency and broad community consent. Collectively, these provisions affirm MERSD's historical neighborhood school model and provide a framework for considering future adjustments based on educational need, enrollment patterns, and facility capacity. (Appendix B: *MERSD Regional Agreement)*

Current Elementary Configuration

Essex Elementary School (EES) serves students from the town of Essex in Grades Kindergarten through Grade 5. During the 2024–2025 school year, EES enrolled approximately 215 students across these grade levels. Students in Essex who require integrated preschool programming are served through districtwide early childhood programs located at Manchester Memorial Elementary School.

The Educational Program described in this document is based on a PreK–5 configuration at Essex Elementary School, which aligns with current grade span organization and instructional practices. Where applicable, the plan identifies considerations that would differ under alternate configuration scenarios.

EES operates under a single-classroom teacher model, in which one teacher provides core instruction across all subjects, supported by a collaborative team of specialists in reading, mathematics, special education, and social-emotional learning. Instructional design is grounded in a student-centered, inclusive approach, ensuring that all children learn in environments that promote academic rigor, creativity, and belonging.

Inclusion is a cornerstone of the MERSD philosophy. Students with disabilities are educated in the least restrictive environment, receiving push-in supports within general education classrooms whenever possible and pull-out instruction when individualized services are required. This model reflects the district's belief in the power of collaborative, flexible teaching structures that enable differentiation and maximize access to the full curriculum for every learner.

Historical Context and Task Force Findings

The district's current planning process builds on extensive prior study and community engagement. In response to the aging condition of both Essex and Memorial Elementary Schools, MERSD conducted a Facilities Needs Assessment (Habeeb & Associates, 2013) and subsequently formed the Elementary Configuration Task Force in Fall 2013. The Task Force—comprised of residents, parents, educators, and town officials—was charged with exploring whether the district should maintain its neighborhood school model or transition to a unified elementary configuration.

The group reviewed architectural analyses, demographic data, operational costs, and stakeholder feedback through surveys, interviews, and community forums across both towns. Three primary options were studied:

- **Option A:** Renovate and/or expand each school while maintaining neighborhood K–5 schools.
- **Option B:** Create an early education center (PreK–2) at one site and a Grades 3–5 school at the other.
- **Option C:** Construct a single, unified elementary school for all district students on a new site.

After months of analysis and outreach, the Task Force concluded that the neighborhood school model best meets the educational and community needs of Manchester and Essex. Key themes emphasized by stakeholders included:

- Neighborhood K–5 schools serve as community anchors, promoting civic engagement and walkability.
- Smaller schools allow for stronger relationships between staff, students, and families, supporting academic and social-emotional growth.
- Families expressed a strong preference for local access to elementary education within their town of residence.
- While operational efficiencies were discussed, research and peer-district comparisons revealed no significant cost savings associated with consolidation.

These findings, presented to the School Committee in 2014, continue to guide district planning for facility improvement and educational continuity. The conclusions of the Elementary Configuration Task Force remain foundational to MERSD's current Feasibility Study, affirming the educational and community value of maintaining two neighborhood-based elementary schools. (*Appendix C: Elementary Task Force Recommendations*)

Configuration Constraints Defined by the Regional Agreement

The Regional Agreement establishes specific requirements that must be upheld in any future facility or grade-span scenario:

- **Local Access to Elementary Education (Minimum K–4)**
  Students in elementary grades—at minimum Grades K–4—must be guaranteed the opportunity to attend school in the town in which they reside.
- **Requirement to Maintain Elementary Schools in Both Towns**
  The District must operate and maintain at least one elementary school facility in each member community.
- **Assignment Flexibility for Specialized Programming**
  Students with special needs may be served outside their home school as required to meet individualized services.
- **Location of Shared Facilities**
  Any schools serving students from both towns must be located within the geographical limits of the District.
- **Amendment Process for Changes to Grade Configuration**
  Material changes require a Regional Agreement amendment, approved by majority vote at Town Meeting in both Manchester and Essex.

These constraints ensure that grade-span planning remains aligned with statutory requirements, governance structures, and community expectations.

Feasibility Study and Configuration Options

As part of the ongoing MSBA Feasibility Study, MERSD is revisiting potential grade-level configurations and site options to ensure that long-term solutions align with both educational goals and fiscal responsibility (*Appendix D: Configuration Scenario Operational Impact*). The current options under consideration build upon the foundation established by the 2013–2014 Task Force:

Feasibility Study Essex Elementary Student Enrollment Configurations to be Studied		
Grades PreK–3 165 Students *Sited in Essex w/ Grades 4 & 5 integrated into Memorial*	Grades PreK–5 250 Students *Sited in Essex*	Grades PreK–5 515 students *Sited at Manchester Memorial with all Essex & Manchester students in one school*
SC Program Vote / Redistricting		SC Program Vote / Redistricting
SC Vote to Amend Regional Agreement		SC Vote to Amend Regional Agreement
Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment		Essex & Manchester Town Meeting Vote to Approve Regional Agreement Amendment
Essex & Manchester Town Meeting Full Project Vote & Debt Exclusion Vote		

1. **PreK–3 Configuration (Essex-based)**
    - Approximately 165 students housed in Essex.
    - Grades 4 and 5 transition to Manchester Memorial.
    - Divides Essex elementary students across two sites.
    - Requires School Committee vote, Regional Agreement amendment, and approval in both towns.

Under a PreK–3 configuration, Essex students would transition to Manchester Memorial beginning in Grade 4. To accommodate this shift, Memorial would require four Grade 4 classrooms (currently three) and five Grade 5 classrooms, necessitating the reclamation of three general classrooms presently used by other grade levels, shared instructional spaces, or programs. In this model, the project room may need to be repurposed for world language instruction or special education services. Full implementation would require the utilization of approximately 16–18 general education classrooms at Memorial, reducing scheduling flexibility and limiting the school's ability to absorb future enrollment variability.

Under this scenario, the District would need to split both the ACE and RISE specialized programs between buildings, placing the lower elementary cohorts at Essex and the upper elementary cohorts at Memorial. This division decreases programmatic efficiency, reduces opportunities for staff collaboration, and introduces scheduling and supervision challenges. Co-located staffing, shared therapeutic spaces, and interdisciplinary collaboration are integral to effective delivery of services; splitting programs diminishes these advantages and increases operational complexity.

While core instructional practices would remain consistent, shifting Essex students at Grade 4 introduces additional complexity for school culture, family engagement, and social-emotional development. Memorial's curriculum and community programming are grounded in

partnerships with local agencies and civic organizations, and successful integration would require intentional planning to support belonging and continuity of experience. Typically, peer communities merge in Grade 6 as students transition to middle school. Advancing this convergence to Grade 4 compresses developmental readiness and would necessitate programming to support relationship-building, family onboarding, and shared identity development.

Splitting Essex's elementary cohort across two buildings also introduces operational burdens. Transportation needs increase, daily drop-off and pick-up become more complex for families with multiple children in different grade spans, and scheduling coordination becomes more challenging. While extended-day calendars and specials schedules can be managed equitably, daily logistics represent a meaningful shift in family experience.

2. **PreK–5 Configuration (Essex-based)**
    - Approximately 250 students housed in Essex.
    - Maintains the current neighborhood school model.

This configuration preserves existing instructional structures and maintains neighborhood school identity. Students remain connected to their community for the full elementary span, supporting social-emotional development, family engagement, and continuity of services. Grade-level staffing remains co-located, supporting collaborative planning, interdisciplinary teaming, and effective implementation of specialized programming.

3. **Unified PreK–5 Model (Manchester Memorial Site)**
    - Approximately 515 district elementary students in a single expanded building.
    - Requires multiple Regional Agreement amendments, dual Town Meeting votes, and debt exclusion approval.

Of the alternative proposals, full consolidation at Manchester Memorial aligns most directly with existing program delivery and maintains the current PreK–5 grade structure. This model would provide access to all grade-level teams for collaborative instructional work and support coherence in curriculum implementation. However, associated impacts include increased transportation for Essex families, concentrated traffic on Lincoln Street, and the relocation of tennis courts, which are used regularly for both school and community programming. Neighborhood circulation patterns and site capacity would require further study to ensure safety and accessibility.

Because this option would create a single elementary school serving approximately 515 students, the leadership team would require the addition of an assistant principal to support instructional leadership, staff evaluation, student services coordination, and supervision of daily operations. The scale of the program would also increase the number of classroom teachers and

related service providers at this site, necessitating expanded common planning spaces and collaboration areas.

Should this configuration be pursued, the District would need to develop comprehensive culture-building strategies to support the merger of two school communities. Subsequent District Improvement Plan cycles (particularly 2028–2031) would prioritize belonging, transition support, and community integration. School Improvement Plans would correspondingly emphasize climate, communication, and conditions for learning as students and families adapt to a unified environment. Identifying a leadership team experienced in organizational change will be essential.

A significant design challenge associated with this configuration is the need to maintain the neighborhood or cluster instructional model in a facility originally constructed to serve only one town. Grade-level teams would need to be grouped in multi-classroom "neighborhoods," supported by adjacent small-group rooms, breakout spaces, and shared instructional resources. While this is feasible, it poses complexity within the current footprint. Alternatively, space could be organized into lower-school (PreK–2) and upper-school (3–5) wings if this structure better aligns with an addition or renovation strategy.

District Core Values and Strategic Alignment

All configuration planning aligns with MERSD's core values:

- **Student-Centered Learning** – placing students at the heart of decision making.
- **Student Achievement** – maintaining high expectations and equitable access to rigorous learning.
- **Equity and Inclusion** – fostering belonging and opportunity for all learners.
- **Family and Community Partnerships** – engaging parents and towns as active partners in student success.
- **Responsible Use of Resources** – ensuring fiscal stewardship and long-term sustainability.

These principles ensure that facilities planning reflects both educational priorities and the character of the two-town district. *(Appendix E: Strategic Plan Overview & District Improvement Plan)*

Space Implications: The grade configuration selected will directly shape the design and organization of learning environments at Essex Elementary School. Regardless of the final model, the facility must support flexibility, collaboration, and inclusion across grade levels.

Class Size Policies

The Manchester Essex Regional School District (MERSD) adheres to the philosophy that small class size is essential to supporting student-centered, hands-on, and differentiated instruction. Research and district experience have consistently demonstrated that maintaining small, balanced class sizes enables teachers to build strong relationships with students, tailor instruction to individual learning needs, and promote active engagement in the learning process.

To support this philosophy, the MERSD School Committee has established class size benchmarks that serve as the foundation for scheduling, staffing, and facility planning. These benchmarks ensure equitable access to resources and consistency across grade levels while reflecting the distinct developmental needs of students as they progress from early childhood through the upper elementary years.

MERSD Elementary Class Size Benchmarks

Grade Level	Class Size Benchmark
Kindergarten	17–19
Grade 1	17–19
Grade 2	18–20
Grade 3	18–20
Grade 4	19–22
Grade 5	19–22

These benchmarks are used as the first building block of the scheduling process, guiding annual decisions about staffing, classroom allocation, and cohort organization. MERSD's scheduling and enrollment practices are designed to maintain educational quality and consistency even as small shifts in population occur.

Developmental Design Alignment

The district's class size philosophy directly informs the educational and architectural design of its elementary facilities. Learning environments are organized around three developmental groupings:

- **PreK–K:** Classrooms support exploration, play, and growing independence through flexible open space, zones for small-group activity, and safe, visible connections to outdoor learning areas.
- **Grades 1–3:** Classrooms emphasize active, connected learning environments with flexible groupings that encourage collaboration, literacy development, and foundational academic skills.
- **Grades 4–5:** Spaces are designed to support increased independence, problem-solving, and leadership opportunities through collaborative work zones and cross-grade interaction.

Planning and Flexibility

Essex Elementary School maintains twelve core K–5 academic classrooms within the elementary program, with two sections per grade as a baseline for planning and an occasional need to add a third section due to enrollment bubbles. Grade-level enrollment patterns fluctuate annually due to demographic variation, resulting in cohorts that, at times, may require three sections. These "bubble classes" advance through the grades together, creating potential variability in the number of classrooms needed at each level.

While enrollment can fluctuate from year to year, MERSD's historical patterns demonstrate the importance of maintaining sufficient core classrooms to preserve consistent cohort sizes as students advance through the grades. The design of the new facility must therefore include enough general classrooms to accommodate occasional enrollment bubbles without exceeding local class-size benchmarks or disrupting instructional groupings. Although MSBA space guidelines provide a baseline allowance for classroom count, maintaining one additional core classroom beyond the recommended minimum is necessary to ensure adherence to local class-size expectations, cohort continuity, and equitable access to high-quality instruction.

This additional instructional capacity supports master schedule efficiency, prevents oversized sections in bubble years, and allows specialist and intervention services to be scheduled equitably across grade levels. Moreover, it strengthens the district's ability to implement a Multi-Tiered System of Supports (MTSS) by increasing flexibility for small-group instruction, targeted intervention, and temporary instructional groupings without displacing existing classroom programming.
By aligning the facility design with educational expectations, MERSD will ensure that class-size benchmarks remain attainable and that every student continues to experience a personalized, engaging, and developmentally responsive learning environment throughout their elementary experience.

School Scheduling and Methodology

Essex Elementary School (EES) operates on a five-day schedule designed to provide consistent instructional time, predictable routines, and equitable access to enrichment and student support services. The schedule is structured around clearly defined instructional blocks that preserve uninterrupted time for core academic learning while ensuring students have access to specialists, movement, and social-emotional development opportunities.

Daily and Weekly Structure

The student day runs from 8:25 a.m. to 2:55 p.m. (a total of 6 hours and 30 minutes, or 390 instructional minutes). The schedule ensures balanced time across all subjects while allowing teachers flexibility to adjust pacing and grouping based on student needs.

Each grade level includes six 45-minute specialist blocks per week. Specialist subjects—Wellness/Physical Education, Visual Arts, Music, Library, Technology, and World Language (not currently running)—are strategically placed to support both student enrichment and teacher collaboration. With the planned reintroduction of World Language (projected Fall 2027) the Specialist subject rotation will be reevaluated with the intent of maintaining six blocks per week.

Scheduling Methodology

The EES schedule is built upon core instructional blocks that guarantee sufficient time on learning in literacy, mathematics, science, and history/social studies. These blocks are protected in the master schedule to maintain instructional continuity across the school and alignment across the district. Once instructional blocks are established, specialist periods, lunch, recess, and common planning times are layered in to create a cohesive daily rhythm. This approach allows for sustained, high-quality instruction and predictable transitions for students.

All classrooms in grades PreK–5 are self-contained, giving teachers flexibility to extend or shorten lessons based on formative assessment and student engagement. This design supports MERSD's philosophy of student-centered, differentiated learning, emphasizing responsive teaching and strong relationships.

Student Support

MERSD implements a Multi-Tiered System of Support (MTSS) to ensure that all students receive proactive, evidence-based instruction and intervention. MTSS provides a comprehensive structure that offers a continuum of supports organized into three tiers of increasing intensity:

- Tier 1: High-quality, differentiated core instruction for all students.
- Tier 2: Short-term, targeted support to address academic and social emotional skill gaps within or outside the classroom setting.
- Tier 3: Intensive, frequent, and explicit focused interventions for students in need of more support and instruction.

Interventions are designed to be delivered within or adjacent to the classroom by teachers and interventionists using research-based programs aligned to student data. Continuous progress monitoring informs instructional adjustments and ensures timely, responsive support.

Currently, the physical layout of the existing Essex Elementary School limits the efficiency of this system. Students often travel across the building to access shared intervention rooms or work at tables within active classrooms. These settings can create distractions, reduce instructional time, and isolate intervention from core learning routines.

The new facility will address these limitations by incorporating localized breakout spaces adjacent to classrooms. These areas will:

- Bring supports directly to students, minimizing transition time;
- Normalize small-group instruction and flexible learning for all students, including those receiving MTSS, MLL, and special education services;
- Provide private, well-equipped environments for targeted instruction and assessment; and
- Strengthen collaboration between classroom teachers, specialists, and support staff.

This approach reflects MERSD's commitment to inclusive, equitable, and accessible learning environments that respond to individual student needs.

Illustrative Weekly Time on Learning

Content Area	Approximate Weekly Time Allocation
Social-Emotional Learning & Morning Meeting	5 × 15 min
Literacy (Reading, Writing, Word Study)	K–2: 5 × 90 min + 4 × 25 min 3–5: 5 × 90 min
Mathematics	5 × 75 min
Science / Social Studies	K–2: 5 × 45 min 3–5: 4 × 70 min + 1 × 45 min
Specialists	6 × 45 min
Lunch / Recess	5 × 45 min

Specialist Programming

Students participate weekly in a range of specialist classes that enrich the academic program and foster creativity, movement, and inquiry:

- Wellness / Physical Education (twice weekly)
- Visual Arts
- Music
- World Language (when offered)
- Library
- Technology
- Instrumental Music (individual or small-group pull-outs)

Instructional Coherence and Collaboration

The EES schedule balances student learning needs with teacher collaboration. By aligning specialist blocks across grade levels, teams share common planning periods to analyze data, coordinate MTSS supports, and plan interdisciplinary instruction.
This structure reflects MERSD's strategic priorities of Authentic Learning, Social-Emotional Wellness, and Inclusive Culture, ensuring that daily practice embodies the district's mission of rigorous, responsive, and relationship-based instruction.

Space Implications: The EES scheduling model and instructional philosophy have direct implications for the design of the new facility. The emphasis on protected instructional blocks, flexible grouping, and integrated student supports requires spaces that are adaptable, interconnected, and conducive to both focused and collaborative learning.

Grade-level classroom neighborhoods should be organized to promote seamless transitions between instructional settings. Each cluster of classrooms should include:

- Small breakout rooms for Tier 2 and Tier 3 MTSS interventions, English Learner instruction, and small-group special education support;

- Shared collaboration areas that support flexible grouping, cross-class projects, and team teaching;
- Teacher planning and prep spaces located within the neighborhood to foster collaboration among general educators, specialists, and interventionists;
- Visibility and accessibility that enable supervision, inclusion, and smooth student movement between spaces.

Specialist areas such as Art, Music, Wellness/PE, and Technology should be located to balance student access, acoustic separation, and cross-disciplinary connections. Their adjacency to grade-level neighborhoods will reduce transition time while maintaining dedicated zones for creativity, movement, and exploration.

By incorporating localized intervention spaces and shared instructional zones, the new Essex Elementary design will reduce lost learning time, strengthen inclusion, and create a learning environment that fully embodies MERSD's vision for student-centered, equitable, and future-ready education.

Teaching Methodology & Structure

MERSD blends progressive pedagogy with time-tested practices. Instruction is differentiated based on formative assessment and delivered through whole-group, small-group, and individual learning with "anywhere, anytime" technology access. Multi-Tiered Systems of Support (MTSS) provide timely interventions and extensions across academic and social-emotional domains. Universal Design for Learning (UDL) practices ensure equitable access.

The Manchester Essex Elementary Schools employ a broad range of teaching methodologies that balance progressive practices with proven traditional approaches. Our curriculum and instructional program are designed to support our mission, vision, and core values.

Organization of the School

Essex Elementary School is organized to support student-centered, inclusive, and developmentally responsive learning experiences. The current model is structured around grade-level classroom cohorts, with students grouped by grade and supported by classroom teachers, specialists, and student services staff. As the district plans for the renovation or replacement of the building, the future vision shifts toward multi-grade learning neighborhoods that create more flexible pathways for collaboration, targeted instruction, and peer-to-peer interaction. These neighborhoods are designed to harness the natural energy of young learners and promote student agency by supporting a full range of engagement types—student-to-student, student-to-teacher, and teacher-to-teacher—within a purposefully interconnected environment.

Primary student learning experiences are organized within two instructional wings: a PreK–3 wing supporting early childhood and early elementary development, and a Grades 4–5 wing supporting

upper-elementary readiness for middle school. Each wing is intentionally designed to create space for small-group collaboration, quiet individualized work, and whole-school community experiences, allowing students to experience both intimate learning environments and shared celebrations that build belonging.

Within these wings, learning neighborhoods will serve as shared environments that extend instruction beyond single classrooms. These spaces will include visually connected commons areas, flexible furnishings, and transparent sightlines that allow teachers to supervise while enabling students to engage in hands-on, project-based learning. Neighborhoods support cross-grade partnerships, integrated service delivery, and access to community partners—all of which align with the district's instructional vision and project goal of creating environments where students take active ownership of their learning through meaningful collaboration.

To strengthen access to academic and social-emotional support, the new design integrates small-group rooms and breakout spaces directly adjacent to classrooms. These areas support MTSS intervention, multilingual learner instruction, special education services, quiet testing environments, and teacher-student conferencing. This configuration reduces transition time, increases privacy for assessment, and keeps students meaningfully connected to Tier 1 instruction. It also normalizes flexible movement and access to support, reinforcing instructional equity.

The school is led by a Principal and supported by an Administrative Assistant, School Psychologist, Special Education Team Chair, School Adjustment Counselor, and School Nurse. This interdisciplinary team coordinates academic, behavioral, and mental-health supports and serves as a central resource for students, staff, and families. Locating these roles within a shared office suite in the new facility will enhance communication, privacy, and timely response to student needs.

Staff collaboration is supported through common planning time three times per month, cyclical data meetings, and shared prep periods. These structures enable teams to analyze student learning, align instructional strategies, and adjust supports based on data. Teachers, specialists, and interventionists collaborate to design flexible grouping structures and enrichment cycles that promote personalized learning.

The new Essex Elementary School should be designed to remove structural barriers that currently limit timely access to academic and social-emotional supports. By embedding small-group rooms, sensory spaces, and collaboration zones directly within each learning neighborhood, the building itself becomes an extension of the district's Multi-Tiered System of Support. This approach minimizes transitions, reduces distractions, preserves valuable instructional minutes, and normalizes differentiated learning as part of school culture. Thoughtful spatial organization ensures that every student can access targeted support, enrichment, and opportunities for connection within a coherent, flexible, and inclusive environment—advancing MERSD's commitment to equitable outcomes for all learners.

Curriculum Delivery Methods and Practice

The Essex Elementary School employs a broad- range of teaching methodologies that strive to balance the best of progressive methodology with tried and true approaches. Our curriculum and instructional program are designed to support our District mission, vision and core values. To that end, we provide a rigorous core curriculum that is grounded in a rich program of experiential and exploratory learning experience, designed to utilize an interdisciplinary approach, and to create connections between learning and the real world. It is our intent that through this process we can create deeper more meaningful learning as well as expose students to a broad range of experiences that may help them to identify areas of interest or strength and form the foundations for the development of individual pathways to success.

Administrative & Academic Organization

Overall, MERSD elementary level curriculum and instruction is delivered through heterogeneously grouped inclusive classrooms in which the elementary classroom teacher is responsible for the delivery of all core content instruction. All classroom lessons are differentiated based on formative assessment data and whole group, small group, and individual work is integrated into all lessons with an increasing number of lessons relying on anywhere, anytime access to technology. In addition to general differentiated instruction, students receive a variety of support services that are provided through inclusion and push-in services whenever possible.

Academic Program Description & Space Needs Considerations

The curriculum program titles may change over time, our educational philosophy and methodology will continue to require that future program considerations will also be based on differentiated, hands-on, and experiential learning strategies that require space for movement, demonstration, and small group work. We have provided summaries of each of the core content and program areas, and grade level curriculum guides. (Appendix F: *Grade-Level Curriculum Guides*). Through the Education Visioning process we identified the following principles that guide our practice and align with our District Core Values as well as our District and School Improvement Plans. (*Appendix E)*

English Language Arts / Literacy

The English Language Arts program is grounded in evidence-based instructional practices aligned with the science of reading and the Massachusetts Curriculum Frameworks. Instruction is explicit, systematic, and intentionally sequenced, with rich text experiences that integrate reading, writing, speaking, and listening across multiple genres. Students engage in authentic literacy tasks that develop comprehension, written expression, oral language, and academic vocabulary. Writing is embedded as a daily practice across content areas and revisited through drafting, conferencing, and revision cycles.

Multi-tiered systems of support allow for targeted small-group and one-to-one instruction driven by ongoing data analysis and progress monitoring. The Wonders 2020 program serves as the district's core literacy resource and has been rated "Meets Expectations" by DESE's CURATE and highly by EdReports. In grades K–1, teachers use the multisensory Heggerty curriculum to build foundational phonemic awareness skills, supported by Wonders decodable texts that reinforce early reading behaviors. As students progress, instruction expands to complex texts, writing across genres, and collaborative discourse.

All classrooms promote student choice through diverse classroom libraries stocked with trade books representing a wide range of topics, genres, reading levels, and perspectives. Choice-based reading fosters motivation, independence, and a love of literacy. Speaking and listening are developed through partner work, small-group dialogue, shared reading, presentations, and collaborative discussions.

ELA instruction requires flexible, student-centered learning environments that support multiple instructional modes— whole group lessons, systemic instruction in foundational skills in whole group and small groups, reading and responding to complex text, conferencing, small group targeted skill development, writing instruction, oral language development, and independent literacy work. Classrooms should provide defined areas for classroom libraries, conferencing, and small-group instruction, along with adaptable furniture that can be easily reconfigured for different activities. Transparent sightlines and proximity to adjacent breakout spaces allow for small-group intervention, coaching cycles, and interdisciplinary collaboration. Writable surfaces, access to digital projection, and student devices support drafting, revision, shared publishing, and presentation.

Collectively, these design features create a literacy-rich environment that fosters communication, collaboration, and engagement—key components of MERSD's instructional philosophy—and ensure that every student can access the individualized support necessary to become a confident, capable reader and writer.

Mathematics

Mathematics instruction at Essex Elementary School is grounded in the MA Curriculum Frameworks and promotes hands-on, learning designed to build conceptual understanding and confidence in mathematical thinking. We seek to center student discourse and encourage students to view themselves as problem solvers who value and enjoy mathematics while engaging in the Standards for Mathematical Practice. Teachers employ a variety of manipulatives, visual models, and flexible groupings to support conceptual development through exploration, discourse, and application. Current instructional methodologies include the use of vertical non-permanent work surfaces that allow students to share thinking visibly, take intellectual risks, and learn from peer strategies.

Flexible instructional spaces are essential to support this approach. Classrooms must accommodate whole-group mini-lessons, small-group explorations, partner tasks, and mixed-ability collaborative work. Adequate storage for concrete manipulatives, games, consumable resources, number tools, and formative assessment resources is necessary to ensure materials are accessible and consistently incorporated into daily instruction. Technology integration, including projection tools and digital platforms, supports problem solving, data exploration, and real-world applications.

Design Considerations: To effectively support high-quality mathematics instruction, classroom and neighborhood spaces should include:

- Flexible layouts that enable rapid transitions between whole-class instruction and multiple small-group breakouts.
- Adjacent breakout rooms for targeted intervention, enrichment, assessment, and conferencing aligned with MTSS tiered supports.
- Adequate, organized, and easily accessible for students storage for manipulatives, math tools, and instructional materials.
- Vertical non-permanent work surfaces (e.g., whiteboard walls) to promote mathematical discourse, sense-making, and visibility of student thinking.
- Writable table surfaces and access to digital projection to support modeling and student demonstrations.
- Robust device access and reliable wireless connectivity to support simulations, interactive tasks, and digital fluency and access to adaptive online learning.

Collectively, these design features create an environment that fosters deep conceptual understanding, student agency, and positive math identities—key priorities within MERSD's instructional philosophy.

Science

Science education at Essex Elementary School builds real-world connections by centering learning around phenomena-based instruction, emphasizing hands-on inquiry, experiential learning, and the integration of engineering and environmental literacy. In grades K–2, students engage with the Mystery Science curriculum, which introduces foundational scientific thinking through investigations, observations, and modeling. In grades 3–5, students use the KnowAtom program, which deepens conceptual understanding through inquiry and applies discipline-connected engineering design processes. Across all grades, students design experiments, construct prototypes, test variables, and revise their thinking based on evidence, fostering curiosity, persistence, and creativity.

Instructional approaches require learning environments that support whole-group lessons, collaborative small-group investigations, and long-term project work. Students regularly use scientific tools, manipulatives, large amounts of consumables through inquiry and

experimentation, technology platforms, and engineering materials that must be accessible, storable, and safely managed. Project work is iterative and often spans multiple days or weeks, making secure storage and flexible space essential for preserving student learning over time.

Environmental awareness is a central tenet of MERSD's vertically aligned K–12 environmental literacy strand. At Essex Elementary, gardens, a greenhouse, and outdoor learning areas provide opportunities for interdisciplinary projects. Partnerships with local organizations expand field-based learning and connect students to authentic environmental stewardship. Additional outdoor spaces support both science instruction and social-emotional well-being, offering settings for quiet reflection, observation, and nature-based exploration.

Looking ahead, MERSD plans to deepen its Science, Technology, Engineering, as well as Digital Literacy/Computer Science programming to support enhanced integration across STEM learning at the elementary level. To build on and deepen the work currently taking place, we aim to expand hands-on, interdisciplinary learning opportunities; however, the current physical setup of the building creates barriers to fully implementing these experiences due to limitations in space, storage, safety, and support for longer-term project work. Students will engage in design thinking and interdisciplinary problem solving that draw on science, mathematics, and engineering concepts. As this program grows, facilities will need to support increasing complexity, providing durable work surfaces, tool storage, electrical access, and zones for project iteration.

Design Considerations: STE instruction is primarily delivered within classrooms, as the current project space is inadequate for this purpose, which limits full implementation of our current curriculum. In the future STE lessons will occur in both classroom and dedicated project spaces that should be intentionally designed to support applied hands-on learning. Science and engineering instruction at Essex Elementary requires learning environments that are flexible, durable, and intentionally equipped for hands-on investigation. Classrooms and shared STEM spaces should include:

- Access to sinks, counter space, and water sources to support experimentation, safe cleanup, and material handling.
- Durable, non-slip, easy-to-clean flooring appropriate for spills, tools, and frequent reconfiguration.
- Generous storage, including closed cabinets, open shelving, mobile bins, and secure areas for in-progress lab work.
- Distributed electrical access along perimeter walls and within work zones to support microscopes, robotics systems, sensors, and testing equipment.
- Flexible furniture and large work surfaces that accommodate multi-student collaboration and prototype building.
- Clear sightlines to promote safe supervision and facilitate co-teaching and coaching.
- Space for long-term investigations so materials can remain set up without disrupting other routines.

- Adjacency to outdoor learning areas to support field observations, environmental data collection, and nature-based inquiry.

To accommodate the expansion of elementary Technology & Engineering, a shared project space that can accommodate hands-on project based learning is recommended, featuring:

- Ventilation and safety equipment, including eyewash access and protected storage for tools or low-grade consumables.
- Zones for design, construction, and testing aligned with the Engineering Design Process.
- Appropriate flooring and durable worksurfaces able to withstand adhesives, cutting tools, and moisture.

  Collectively, these design features remove current spatial limitations—such as limited sink access, long travel distances, and insufficient storage—and allow students to engage deeply in authentic STEM experiences. The result is a science and engineering program that fosters investigation, encourages persistence, and prepares students with the habits of mind essential for future learning.

History / Social Studies

The History and Social Sciences program at Essex Elementary School is designed to help students develop as civic-minded, responsible members of society who understand and appreciate both the diversity and commonality of human experience. Instruction is inquiry-based and project-oriented, emphasizing relevance, engagement, and interdisciplinary connections. Students learn to ask compelling questions, analyze primary and secondary sources, construct arguments supported by evidence, and communicate their thinking in a variety of formats.

At the elementary level, MERSD uses DESE-vetted resources to build a coherent, vertically aligned program aligned to the Massachusetts History and Social Science Framework. In Grades K–2, teachers implement the Private i History Detectives curriculum as a foundational resource, which introduces core disciplinary concepts through developmentally appropriate investigations, artifacts analysis, and community-based inquiry. In Grade 5, MERSD has begun implementing Investigating History, a DESE-endorsed program that emphasizes source analysis, civic discussion, and writing from evidence. A phased rollout of this program in Grades 3 and 4 is scheduled for the 2026–2027 school year, ensuring consistent instructional design across the upper-elementary grades.

Across all grade levels, units integrate history, geography, civics, and economics to deepen students' understanding of culture, community, and the ways societies change over time. Students explore the roles of individuals and groups in shaping history, build empathy and perspective-taking, and engage in collaborative projects that connect past and present. Activities may include community interviews, map making, simulations, and service-learning experiences, creating authentic connections to students' lives.

Effective implementation of an inquiry-based, project-oriented model requires:

- Flexible instructional spaces that support whole-class discourse, small-group collaboration, and interdisciplinary project work.
- Writable surfaces, breakout rooms, and access to digital resources to facilitate research, drafting, peer feedback, and revisions.
- Technology integration that supports digital research, primary source analysis, and multimedia presentation tools.

These design features enable teachers to differentiate instruction, promote active learning, and foster the civic discussion, analysis, and collaborative problem solving outlined in the History and Social Science Framework.

By engaging students in meaningful investigations rooted in real-world contexts, Essex Elementary's History and Social Sciences program cultivates curiosity, empathy, and an emerging sense of agency. Students learn how community systems work, why diverse perspectives matter, and how their voices contribute to a stronger, more equitable society—reflecting MERSD's commitment to developing thoughtful, informed, and compassionate citizens.

World Languages

The World Language program at Essex Elementary School will introduce students to world languages, begin to build skills to develop fluency and proficiency, while fostering curiosity about global cultures and communication. Instruction emphasizes listening and speaking in the early grades and gradually builds toward reading and writing proficiency. Lessons integrate songs, stories, games, movement, and role-play to make language learning engaging and developmentally appropriate. Cultural exploration helps students build empathy, perspective-taking, and global awareness—supporting MERSD's mission to develop responsible, connected citizens prepared to thrive in an increasingly interconnected world.

Although elementary World Language instruction is not currently offered due to historic budget constraints, the district is committed to restoring this specialist course at the elementary level as part of the long-term academic program. When implemented, instruction will be delivered by a certified World Language teacher and scheduled as part of the specialist rotation.

Aligned with the Massachusetts Curriculum Framework for World Languages, the elementary program will use a proficiency-based approach that builds student skills across the domains of communication, cultures, connections, comparisons, and communities. Students will develop foundational vocabulary, language structures, and cultural knowledge through authentic listening and speaking tasks, while making meaningful connections to peers, community, and global contexts. Over time, experiences at the elementary level will serve as a bridge to the district's vertically aligned 6–12 World Language pathways.

To support interactive and engaging language learning, instructional spaces should include:

- Flexible furniture arrangements that accommodate movement, pairing, and small-group dialogue.
- Projection and audio systems that allow students to hear authentic models of target-language pronunciation and intonation.
- Breakout areas for partner practice, conferencing, and oral proficiency tasks.
- Access to digital tools for multimedia exploration, cultural immersion, and linguistic comparison.

The design of these spaces should reflect the program's emphasis on active participation, communication, and collaborative learning. By introducing multiple languages and cultural perspectives early in students' educational careers, Essex Elementary builds strong foundations in global citizenship, cultural competency, and lifelong language learning.

Academic Support Programing Spaces

Essex Elementary School's approach to academic support reflects the Manchester Essex Regional School District's commitment to providing equitable access to high-quality learning opportunities for every student. The academic and social-emotional supports offered at EES are delivered through a comprehensive Multi-Tiered System of Support (MTSS) and aligned with the district's core values of student-centered learning, inclusion, and wellness.

EES's support model integrates explicit social-emotional learning (SEL) instruction, targeted academic intervention, and environmental features that promote readiness to learn. These systems work together to ensure that each child's cognitive, emotional, and behavioral needs are met within a supportive and inclusive school community.

Social-Emotional Learning and School Climate: EES emphasizes the importance of developing the whole child—fostering emotional intelligence, empathy, and self-regulation alongside academic achievement. The school incorporates multiple evidence-based frameworks and practices that build emotional awareness and a strong sense of belonging:

- **RULER:** Explicit instruction in recognizing, understanding, labeling, expressing, and regulating emotions.
- **Responsive Classroom:** Daily community-building routines that create safe, joyful, and engaging classrooms.
- **Second Step:** Structured lessons in anti-bullying, emotion management, decision-making, and collaboration.
- **Culturally Responsive Teaching:** Emphasizes academic achievement, cultural competence, and sociopolitical awareness through ongoing professional learning and reflective practice.
- **Individual and Group Counseling Services:** Targeted supports that strengthen coping, communication, and problem-solving skills.

Environmental supports for SEL are woven into the fabric of the school design. Sensory paths, calming nooks, natural light, and outdoor learning extensions will promote emotional regulation and readiness to learn. These physical features will be located within each learning neighborhood and will reinforce instructional practices such as RULER and Responsive Classroom by linking the emotional environment to the physical environment.

Multi-Tiered System of Support (MTSS): MERSD's vision for MTSS is to ensure that all students experience high-quality, inclusive instruction across both academic and social-emotional domains. MTSS provides a proactive and systematic framework that allows educators to identify, monitor, and respond to student needs before they escalate into more significant challenges. The model is organized across three tiers of support:

- **Tier 1:** Core instruction designed to be universally accessible and differentiated to meet diverse learning needs.
- **Tier 2:** Targeted, small-group interventions for students requiring additional reinforcement in specific skill areas.
- **Tier 3:** Intensive, individualized supports tailored to students with significant or persistent learning or behavioral needs.

Implementation depends on collaboration, continuous data collection, and progress monitoring to ensure that interventions are responsive and evidence based. Student progress is reviewed regularly to determine instructional adjustments, resource allocation, and the need for additional support.

Interventions are delivered by classroom teachers, interventionists, and specialists both within and adjacent to the classroom, ensuring that supports remain connected to core instruction. Research-based programs are selected and differentiated based on assessment data and aligned to each tier of support.

Currently, the configuration of the existing Essex Elementary School poses challenges for effective intervention delivery. Students often transition long distances across the building to access shared instructional spaces or receive services at small tables within active classrooms. These conditions can create distractions, limit privacy, and reduce instructional time.

The new school design will address these barriers by incorporating localized breakout spaces within each classroom neighborhood. These spaces will:

- Bring supports directly to students, reducing lost time and improving instructional continuity.
- Normalize flexible, small-group learning for all students, including those receiving MTSS, MLL, or special education services.
- Provide quiet, well-equipped environments for focused intervention, assessment, and conferencing.

- Strengthen collaboration between general education teachers, interventionists, and support staff.

This integrated model reflects MERSD's ongoing commitment to inclusive, data-informed, and student-centered instruction, ensuring that every learner has the opportunity to succeed within their classroom community. By creating space for flexible small-group instruction, student collaboration, and teacher conferencing within each neighborhood, the design strengthens our goal of positioning students as active leaders in their learning, supported by environments that adapt to multiple modes of engagement.

Space Implications for Academic Support

The design of the new facility must reflect MERSD's educational philosophy by incorporating flexible learning environments that support student agency, small-group collaboration, and movement. These goals require spaces that enable multiple types of engagement, including quiet reflection, hands-on exploration, peer collaboration, and teacher-facilitated conferencing. Thoughtful adjacency between classrooms, breakout rooms, and shared learning spaces will allow students to work as leaders within their learning community.

Each grade-level neighborhood should include:

- **Localized breakout spaces** directly adjacent to classrooms for small-group and one-to-one instruction aligned with MTSS.
- **Dedicated calming and sensory zones** to support regulation and readiness for learning.
- **Collaborative work areas** for staff to analyze data, plan interventions, and coordinate services.
- **Visibility and proximity** that promote supervision, inclusion, and minimal disruption during transitions.

As we adjust our intervention and student support services to go to students in their learning spaces, the adults providing support will shift from a classroom to a group office. This will provide our support staff, including Math Specialist, Reading Specialist, Instructional Coaches, MLL teacher, and Title 1 staff, to have a location for planning and peer collaboration in a centralized office location while ensuring student supports are provided at point of learning locations. Shared resource rooms for counseling, speech-language therapy, occupational therapy, and other related services should be centrally located within the instructional core to ensure accessibility and collaboration. Design features such as natural light, acoustic control, and flexible furnishings will enhance the effectiveness of these learning environments.

By embedding support spaces within classroom neighborhoods and aligning the physical environment to instructional practice, the new Essex Elementary School will model MERSD's vision of a responsive, inclusive, and future-ready learning community—one that supports every child's academic growth and emotional well-being.

Student Guidance & Support Services

The Manchester Essex Regional School District is committed to fostering the academic, social, emotional, and physical well-being of all students. Essex Elementary School provides a comprehensive network of guidance and health services that emphasize prevention, early intervention, and responsive care. These supports are integral to the district's whole-child philosophy and are aligned with state and national best practices.

Counseling and Guidance Services

EES provides a range of counseling and adjustment services to promote emotional health, social development, and student success. Counseling programs are designed to build resilience, foster self-awareness, and support students in developing positive relationships and coping strategies. Services include:

- Individual and small-group counseling to address social, emotional, or behavioral needs.
- Screenings, consultation, and crisis intervention in collaboration with teachers and families.
- Classroom-based lessons and community-building activities that reinforce SEL instruction and promote a positive school climate.
- Collaboration with external mental health providers and community agencies to ensure continuity of care when needed.

The school psychologist and school adjustment counselor play key roles in delivering these services. Their work supports both individual student needs and broader school-based initiatives related to mental health, inclusion, and positive behavior support.

To ensure accessibility and confidentiality, counseling and psychology offices should be located within or adjacent to the main office suite, allowing for seamless coordination with the principal, nurse, and administrative staff. Each office should be large enough to accommodate individual meetings or small groups of 6–8 students in a private, welcoming environment conducive to therapeutic work and group discussions.

Health Services

Health Services at Essex Elementary School operate under the comprehensive framework established by the Massachusetts Department of Public Health (DPH) School Health Manual, which provides the roadmap for ensuring compliance with state regulations and promoting student wellness. The goal of the Health Services program is to appraise, protect, and promote student health and to ensure that each child is ready to learn each day.

Core functions include:

- Preventive care through screenings, immunization monitoring, and disease prevention.
- Care coordination with families and community healthcare providers to ensure continuity of services.
- Emergency response and first aid for illness or injury during the school day.

- Health education and counseling to build student understanding of wellness and self-care.
- Support for attendance and engagement, ensuring that students' health needs do not become barriers to learning.

The health suite will provide both semi-private and private areas to address a wide range of daily needs—from first aid to medical assessments and confidential consultations. The design will include:

- A dedicated nurse's office with exam space, cot areas, and secure medication storage.
- Separate areas for rest, isolation (when required), and confidential health assessments.
- Access to handwashing stations, refrigeration, and basic medical equipment for screenings and routine procedures (such as vision and hearing tests).
- Proximity to the main office suite and administration, allowing for efficient communication and student supervision while maintaining privacy.

The health suite will be equipped with modern tools and designed to meet all Massachusetts DPH mandates, ensuring compliance with state guidelines while providing a calm, child-friendly environment that supports student safety and well-being.

Space Implications for Guidance and Health Services

To deliver high-quality guidance and health services, the counseling and health suite should be designed as an integrated component of the main office area, supporting collaboration between student support staff and building administration.

- Counseling and psychology offices should each provide space for individual and small-group work, equipped with soft seating, acoustic privacy, and access to natural light.
- The health suite should include both public-facing and private areas, including waiting space, examination areas, isolation rooms, and secure medical storage.
- Proximity to the main entrance and administrative offices will allow quick access for emergencies while maintaining privacy for students receiving care.

This configuration ensures that guidance and health services are centrally located, accessible, and aligned with the district's vision for a safe, healthy, and supportive learning environment. Together, these spaces will foster physical and emotional well-being and strengthen the school's ability to respond proactively to the diverse needs of its students.

Teacher Planning

Manchester Essex Regional School District (MERSD) recognizes that the quality of instruction is strengthened by providing teachers with dedicated time and collaborative spaces to plan, reflect, and

refine their practice. At Essex Elementary School (EES), teacher collaboration is a cornerstone of the instructional program and a key driver of continuous improvement in student learning.

Collaborative Planning and Professional Practice

EES teachers engage in collaborative planning cycles that bring together classroom teachers, specialists, and interventionists to analyze data, design instruction, and monitor student progress. Grade-level teams meet daily to review formative assessment data, plan differentiated lessons, and coordinate intervention and enrichment activities. These ongoing conversations ensure that instruction remains responsive to the needs of individual learners and aligned to district goals for student achievement and inclusion.

Every teacher has common planning time five days per week, providing the opportunity for regular collaboration within and across grade levels. In addition, extended Wednesdays are built into the district calendar to allow for professional learning, curriculum development, and interdisciplinary collaboration. This structured time supports the district's teacher-centered model of continual improvement—one that values reflection, shared practice, and innovation in teaching and learning.

Through these structures, teachers work in grade-level and cross-disciplinary teams to design flexible grouping models, intervention cycles, and project-based learning experiences. Data analysis is used to inform decisions about instructional pacing, resource allocation, and support services within the Multi-Tiered System of Support (MTSS) framework.

Planning Spaces and Collaboration Environments

To support professional collaboration, the new Essex Elementary School will include adult-friendly common workspaces located within or near grade-level neighborhoods. These spaces will provide comfortable, technology-equipped environments where teachers can plan, meet, and engage in professional dialogue.

Design considerations include:

- Shared work areas for grade-level teams and specialists to collaborate on lesson planning and data review.
- Dedicated spaces for professional development sessions, department meetings, and full staff gatherings.
- Access to technology and instructional materials that support data-driven decision-making and resource sharing.

By embedding collaboration and planning spaces within the instructional core, MERSD will ensure that teachers have immediate access to colleagues, resources, and student data—promoting a culture of professional learning, continuous reflection, and instructional excellence.

Space Implications for Teacher Planning: The design of the new Essex Elementary School must reflect the district's commitment to collaboration, professional learning, and instructional coherence. MERSD is committed to implementing current, research-based instructional practices and supporting the ongoing professional growth of educators. Through the district's embedded coaching model, instructional coaches provide in-the-moment feedback, modeling, guidance, and targeted support to strengthen classroom practice and improve student outcomes. Because this coaching model is integrated into the academic day, teachers require adult-friendly spaces that are intentionally designed to support professional dialogue. These spaces should comfortably accommodate small groups, provide reasonable privacy for observation debriefs and data discussions, allow access to digital resources, and be located in close proximity to classroom neighborhoods to support efficiency and instructional continuity.

These spaces should include:

- Team planning rooms with technology access for data analysis, lesson design, and virtual collaboration.
- Flexible meeting areas that can accommodate both small-group discussions and larger professional learning sessions.
- Storage and resource areas for curriculum materials, student data binders, and shared instructional tools.
- Sound-mitigating finishes and natural light to create comfortable, productive work environments.

In addition to neighborhood-based collaboration zones, a centralized professional workroom or staff commons should be included to support all-staff meetings, professional development, and interdisciplinary work. The inclusion of these adult-centered learning environments ensures that collaboration—an essential component of MERSD's instructional model—is embedded into the daily rhythm of school life.

This design approach underscores the district's belief that supporting teacher collaboration directly enhances student learning outcomes, aligning physical space with MERSD's culture of continual reflection, shared leadership, and professional growth.

Professional Development

Manchester Essex Regional School District is committed to cultivating a culture of continuous improvement through high-quality professional learning. Instructional growth is supported through ongoing coaching cycles, collaborative planning structures, curriculum review processes, and data-informed reflection. Teachers participate in regular collaborative teams that examine formative assessment data, refine instructional strategies, and strengthen alignment across grades.

Extended Wednesdays are built into the district calendar to provide dedicated time for districtwide professional learning, team-based curriculum development, and interdisciplinary collaboration.

Continual curriculum reviews ensure vertical alignment and support ongoing implementation of evidence-based practices and high-quality curriculum. Instructional coaching in literacy, mathematics, and student services provides teachers with embedded opportunities to reflect on classroom practice, analyze student progress, and receive real-time feedback.

Educators transitioning between grade spans or instructional roles receive targeted support, including mentoring, observation cycles, and specialized training aligned to their new assignments. When programmatic changes impact licensure or instructional models, the district offers retraining and certification pathways to ensure staff are fully prepared. Professional development prioritizes inclusive practices, Universal Design for Learning (UDL), social-emotional learning, multilingual learner supports, and culturally and linguistically sustaining practices—all central to MERSD's vision for equitable access.

The new facility will reinforce professional learning by providing flexible collaboration spaces, technology-equipped meeting rooms, and areas for demonstration, reflection, and coaching. By aligning physical design with instructional priorities, Essex Elementary will continue to foster a collegial environment where educators grow together, innovate, and respond to student needs.

Pre-Kindergarten Program (Integrated)

The Manchester-Essex Regional School District (MERSD) currently operates a district-wide integrated preschool program housed at Manchester Memorial Elementary School. As established during the Memorial Building Project, two preschool classrooms were constructed at Memorial, with an additional two classrooms to be included in the future renovation or replacement of Essex Elementary School. This expansion will fulfill the district's long-term goal of providing equitable Pre-K access in both communities, ensuring that all families with three- and four-year-old children have the opportunity to participate in high-quality early learning within their town.

The preschool program serves approximately 30–40 students, including both tuition-paying peers and students with disabilities, fostering an inclusive environment that supports social, emotional, and academic growth for all learners. Enrollment is currently limited by space; however, demographic projections indicate a potential capacity of 45–75 students once the additional classrooms become available. The district has transitioned to a five-day, full-day model for three- and four-year-olds (8:30 AM – 2:55 PM) to better meet family needs and to provide extended opportunities for play-based learning, early literacy, and social development.

The Manchester-Essex Regional School District Preschool is an integrated early-childhood program where children of all abilities learn socially, intellectually, and physically within a developmentally appropriate and nurturing environment. Students with identified special needs receive speech and language, occupational, and physical therapy within the classroom as part of the daily curriculum and through individualized instruction. Students without special needs, known as peer pals, serve as role models while learning at their own pace. This purposeful mix of peers and students with disabilities fosters empathy, social awareness, and a strong sense of self-worth for all children.

Play is an essential focus of the program, as children learn about their world through exploration, discovery, and collaboration. Because the preschool is part of the Manchester-Essex Regional School District, children not only acquire foundational academic and social skills for entering kindergarten but also develop an early sense of belonging and familiarity with the district community.

Pre-K Curriculum and Instructional Model

The MERSD integrated preschool program follows a developmentally appropriate, play-based curriculum aligned with the Massachusetts Guidelines for Preschool Learning Experiences. Instruction is organized around whole-group and center-based learning, with six structured centers that promote early literacy, numeracy, fine- and gross-motor development, and social-emotional growth through purposeful play. Within this environment, children are encouraged to explore, investigate, question, and take appropriate risks in their learning. Teachers provide opportunities for communication, creativity, and problem solving through a balanced schedule of child-initiated and teacher-guided experiences. Speech, language, and motor development are embedded within daily routines, and learning experiences are individualized based on each child's needs and interests.

Classrooms are designed to support this model through purpose-built features such as child-height sinks, accessible bathrooms, and adjacent outdoor play areas that extend learning beyond the classroom walls. The environment includes sound panels and amplification systems to support students with hearing impairments, as well as dedicated storage, cubbies, and flexible furnishings that allow teachers to adapt the space for whole-group, small-group, and independent activities.

The program incorporates applied behavioral analysis (ABA) methodologies to support students with autism and other developmental disabilities, ensuring that all children can access the curriculum in a structured and supportive way. In addition, related services—including speech-language pathology, occupational therapy, and physical therapy—are integrated throughout the school day and delivered through a combination of whole-class, small-group, and individualized sessions.

Peer pals benefit equally from this inclusive model, learning alongside their classmates with special needs. Through shared play, communication, and collaboration, they develop empathy, cooperation, and confidence. The result is a supportive, language-rich environment that nurtures curiosity, independence, and a lifelong love of learning.

Space Considerations: To support the integrated preschool model, the new Essex Elementary School should include two dedicated Pre-K classrooms, each designed for up to 15–18 students. Classrooms should be flexible, welcoming environments that accommodate a range of developmental and instructional needs while ensuring accessibility and compliance with ADA standards.

Each classroom should include:

- Flexible, reconfigurable space to support six small-group learning centers, circle time, and whole-class instruction.

- Child-scaled design features such as low sinks, accessible bathrooms, and cubbies for personal storage.
- Separate areas for meals/snacks, art projects, and play, including a tiled section for messy activities and a carpeted area for circle time and movement.
- A designated quiet zone within one of the learning centers for reading, calming, or independent play.
- Space for individual and small-group therapies, or adjacency to therapy rooms within the same building to minimize transitions.
- An adjacent sensory or de-escalation room to support regulation and individualized needs.
- Ample classroom storage, including shelving and a large closet to minimize visual clutter and maintain organization.
- Sound-mitigating finishes, carpeting, and amplification systems to accommodate students with hearing impairments.
- Accessibility features, including wheelchair access and ramps, to ensure barrier-free movement throughout the preschool and school building.
- Direct access to a secure, developmentally appropriate outdoor learning and play space with shade, varied surfaces, and handicapped-accessible equipment designed for physical, sensory, and social development.

The addition of an after-school daycare program is under consideration and should be factored into the design for future flexibility of use.

Together, the preschool classrooms in Manchester and Essex will form a unified, inclusive early learning system that nurtures the district's youngest learners and ensures equitable access for families across both communities.

Kindergarten Program

The Essex Elementary School Kindergarten program is a full-day, non-tuition program that provides a developmentally appropriate bridge between early childhood education and the formal academic experience of the primary grades. The program emphasizes cooperative learning, exploration, and play as integral components of early academic and social development. Instruction is designed to nurture curiosity, creativity, and foundational skills in literacy, numeracy, and social-emotional learning while fostering independence and confidence in young learners.

Classrooms are designed to support a variety of instructional approaches, including whole-group lessons, small-group collaboration, and individual exploration. Each space must provide ample room for movement and flexible grouping, allowing students to engage in hands-on, inquiry-based learning throughout the day. To accommodate the wide range of activities characteristic of early learning, significant built-in storage is essential for organizing instructional materials, manipulatives, and creative play resources.

In keeping with best practices for early childhood education, each Kindergarten classroom should include a child-sized restroom and an area for creative free play, along with distinct spaces for large- and small-group instruction. Classrooms should also include a gathering area for shared instruction, such as a carpeted circle space or small amphitheater-style tier, that allows students to come together for stories, discussions, and group learning experiences. Multiple breakout areas are also necessary to support differentiated instruction, literacy stations, and small-group work.
The design of Kindergarten learning spaces should reflect the program's emphasis on active engagement and community, providing a safe, welcoming, and flexible environment that supports collaboration, creativity, and the developmental needs of young learners.

Lunch Programs

Essex Elementary School provides both breakfast and lunch service aligned with district wellness policies and designed to support student health, nutrition, and readiness to learn. Breakfast is offered each morning to ensure students begin the school day nourished and prepared to engage academically, supporting focus, stamina, and emotional regulation. Lunch is paired with integrated recess blocks—typically totaling 45 minutes per day—which promote movement, peer interaction, problem-solving, and social-emotional skill development. Multiple recess opportunities throughout the day reinforce students' ability to return to learning calm, focused, and ready to participate.

Food services at Essex Elementary are delivered through a contracted, on-site cooking model that complies with all state and federal nutritional guidelines. The district's long-term goal is to increase the amount of scratch cooking and incorporate more fresh, whole foods; however, the current age and condition of the kitchen infrastructure limits the type and variety of meal options available to students and staff, constraining menu flexibility and restricting the ability to expand healthy, freshly prepared offerings.

A renovated or newly constructed facility would provide a modern kitchen and streamlined serving area capable of supporting expanded breakfast service, increased scratch cooking, improved cold and dry storage, and more efficient traffic flow through the serving line. Updated infrastructure should include adequate electrical capacity, food-preparation workstations, durable stainless-steel surfaces, commercial dishwashing equipment, and clearly defined circulation patterns that support reliable, efficient service. Adjacency to composting, recycling, and waste-management areas will support environmental sustainability goals.

In addition to serving students, the cafeteria and kitchen function as valued community assets. Local organizations use the space for community breakfasts, civic programming, and intergenerational events. The kitchen must therefore be accessible, secure, and equipped to facilitate weekend and evening community use while maintaining appropriate separation from academic areas. Because the school also serves as a potential emergency sheltering location, the kitchen should be designed to support extended

meal service, power resiliency, and safe food handling during emergency operations, with sufficient generator-backed electrical capacity and walk-in refrigeration space.

The cafeteria should be designed for efficient meal service and student flow, with seating and acoustics that create a positive dining experience. Adjacency to outdoor spaces can support smooth transitions between eating and recess, while flexible design will allow the space to function as a hub for community gatherings.

Sensory-Considerate Dining Environment

To support the diverse sensory needs of all students, a sensory-considerate dining option should be included within the cafeteria design. This space, contained within a portion of the allowable MSBA dining guidelines, will provide a quieter, lower-stimulation environment for students who may experience sensory overload in a traditional cafeteria setting.

The sensory-considerate dining area will:

- Feature muted lighting, reduced noise levels, and calming color palettes to create a soothing atmosphere.
- Incorporate sound-dampening materials and spatial separation from high-traffic areas to minimize auditory distractions.
- Provide flexible seating arrangements, allowing students to eat in small groups or independently based on their comfort and regulation needs.
- Align with the school's commitment to inclusive design and social-emotional learning, ensuring that every child has equitable access to a positive and comfortable mealtime experience.

This space is not a separate program, but rather an extension of the school's universal design for learning and whole-child wellness philosophy. By proactively addressing sensory needs, the school can foster belonging, independence, and improved readiness for learning throughout the school day.
Together, these improvements will strengthen nutrition access, promote social connection, support community resilience, and advance MERSD's commitment to caring for the whole child.

Technology Instruction Policies & Program Requirements & Library

Technology instruction at Essex Elementary School is grounded in the belief that digital literacy, information fluency, and responsible technology use are essential competencies for all students. Digital tools and computer science concepts are intentionally integrated into library/media programming and core academic content, allowing students to apply technology skills in authentic, interdisciplinary contexts. Instruction emphasizes research and inquiry, ethical use of information, data privacy, media evaluation, and digital citizenship, preparing students to navigate increasingly complex digital environments.

Classrooms are equipped with interactive display boards, audio amplification systems, document cameras, and 1:1 student devices, enabling teachers to differentiate instruction, provide real-time feedback, and extend learning beyond the physical classroom. Students engage with age-appropriate applications that foster creativity, collaboration, and problem solving while developing proficiency in navigating digital resources and communicating effectively online. Multi-tiered supports and assistive technologies further promote equitable access to curriculum and align with inclusive instructional practices.

The goal of the Technology program is to develop critical thinkers, responsible digital citizens, effective problem solvers, and creative collaborators who can adapt to evolving tools and platforms. Students learn to evaluate information sources, create digital products, engage in collaborative digital environments, and practice safe, ethical online behavior. Instruction builds foundational computer science skills through introductory coding, engineering design, robotics, and iterative problem solving, supporting early exposure to computational thinking and design principles.

Because technology is integrated across the instructional day, the building must provide strong wireless connectivity, electrical capacity for device charging, and the bandwidth necessary to support hundreds of devices simultaneously. Charging stations, access to outlets, and reliable network infrastructure must be distributed throughout classroom neighborhoods and shared learning areas to ensure uninterrupted access to digital tools.

Learning Commons

Currently we have separate Library and Technology specials that frequently work together on interdisciplinary projects. As part of our District and School improvement efforts, we will be reimagining our specialist programming with the goal of increasing integration through a unified model—an approach that will bring both programs together in a shared, flexible space. The curriculum will blend traditional library experiences—such as literature appreciation, research instruction, and access to print media—with opportunities for design thinking, computational thinking, and collaborative project work. Lessons encourage students to apply transferable skills to real-world challenges and reinforce the district's instructional focus on inquiry, creativity, and collaboration. A current key limitation to this vision is the lack of a dedicated common area that can support joint instruction and project work.

Looking ahead, the Learning Commons will function as the academic and social hub of the school—a flexible, interdisciplinary space that combines library services, digital media resources, engineering and maker tools, and collaborative project zones to support research, creativity, inquiry, and hands-on learning. Intentional adjacency to visual arts classrooms and project spaces will support natural crossover between technology, engineering, design, and the creative process. These connections reinforce MERSD's commitment to learning that is active, iterative, and expressive, preparing students to design, build, test, and reflect through multiple modalities.

The Learning Commons and adjacencies will include flexible zones for:

- whole-group instruction,
- small-group collaboration,
- independent exploration,
- digital fabrication and prototyping,
- robotics and coding,
- multimedia production,
- project-based learning,
- visual arts studio space
- and exhibition of student work.

Durable work surfaces, embedded storage, and open shelving will support materials management and long-term project builds. Access to digital fabrication tools as well as engineering materials and art-making resources will allow students to move fluidly between design, construction, and reflection.

Furnishings and Presentation Features

To support diverse instructional and student-driven learning experiences, the Learning Commons will incorporate:

- moveable tables on casters,
- soft seating and modular furniture,
- quiet reading nooks,
- portable whiteboard partitions and writable surfaces,
- digital display boards for showcasing student work,
- and a small-scale amphitheater or stepped seating area for presentations, performances, and read-alouds.

These features will allow teachers and students to rapidly reconfigure the space for collaborative projects, independent reading, small-group instruction, and interdisciplinary work. Quiet reading areas will remain accessible throughout the day for unscheduled visits and independent inquiry.

Visibility, Supervision, and Infrastructure

Glass walls, open sightlines, and transparency between adjoining spaces will support visual supervision and communicate that making, tinkering, coding, reading, and creating are core elements of school culture. Seamless technology infrastructure—including robust wireless networks, ceiling-mounted access points, ample outlets, and collaborative displays—will ensure reliable access to digital resources throughout the school.

By integrating literacy, engineering, technology, and the visual within a central, flexible hub, the Learning Commons will create a vibrant, future-ready learning environment that reflects MERSD's vision for interdisciplinary, student-centered education and lifelong curiosity. The flexibility of these zones supports student-to-student and student-to-teacher collaboration, creates opportunities for exhibitions and

community gatherings, and extends learning beyond the school day—all key goals of the district's vision for this facility.

Learning Commons Staffing and Scheduling

The Learning Commons at Essex Elementary School will be staffed by certified Library Media Specialist, Digital Literacy Computer Science Specialist, and Visual Arts Specialist. Instruction will be delivered through a hybrid scheduling model that balances fixed lessons with flexible access for independent research, small-group inquiry, and interdisciplinary project work. Students may visit the Learning Commons individually, with peers, or as part of scheduled classroom integration.

The Learning Commons will maintain consistent hours during the school day and may be available beyond school hours to support extracurricular enrichment, family engagement events, and community programming. A flexible booking system will allow teachers to reserve instructional zones, project areas, and maker resources. This balanced model ensures that the Learning Commons serves simultaneously as an instructional classroom, collaborative learning space, and independent reading hub.

Visual Arts

The visual arts program nurtures creativity, imagination, and self-expression through exploration of a wide range of media including paint, clay, ceramics, ink, recycled materials, and emerging digital tools. Guided by state standards, the curriculum is vertically coherent and intentionally structured to develop student competency in Creating, Presenting, Responding, and Connecting—the four artistic domains defined by the Massachusetts Arts Frameworks. Students study influential artists, artistic movements, and contemporary makers, connecting visual art to social context, cultural perspectives, and other areas of the curriculum. Critique routines and reflection practices emphasize process, growth, and creative problem-solving, helping students see themselves as confident creators.

Instruction in the visual arts is highly hands-on and exploratory, requiring spaces designed to safely support diverse media and techniques. Art studios should include:

- Durable, easy-to-clean work surfaces suitable for wet and dry media
- Multiple large, multi-height sinks for washing brushes, palettes, and tools
- Adequate storage for supplies, student portfolios, and works-in-progress
- Ventilation and a dedicated kiln room for ceramics coursework
- Flexible layout to support whole-group demonstration, small-group creation, and independent studio work

Technology integration enhances instruction through access to instructional videos, projection and camera-fed demonstrations, digital design software, and documentation of student process. Proximity to the innovation/learning commons hub will support STEAM integration and interdisciplinary projects.

Visibility into art spaces—through interior windows or display glazing—showcases active making and reinforces MERSD's commitment to vibrant, visible learning. Ample display areas throughout corridors

and shared spaces celebrate artistic achievement and provide authentic audiences for student work, contributing to a positive school climate and sense of belonging.

Collectively, these programmatic and spatial elements allow the visual arts to flourish as a core contributor to creativity, critical thinking, and whole-child development within the Essex Elementary experience.

Performing Arts

Music and performing arts are integral to the Essex Elementary experience, fostering creativity, confidence, collaboration, and community connection. Students participate in general music classes weekly, where instruction emphasizes active engagement—singing, listening, improvising, moving, playing instruments, and responding to music. Through these experiences, students develop foundational skills in creating, performing, responding, and connecting, consistent with the Massachusetts Arts Curriculum Frameworks.

In addition to general music, students may pursue instrumental lessons through a pull-out instruction model and can participate in before- or after-school ensembles—including band, chorus, and musical theatre opportunities. These programs nurture self-expression, discipline, and teamwork while building cultural appreciation and artistic literacy. A highlight of the performing arts experience is the annual cross-district Fifth Grade play, which brings together music, drama, staging, and public performance, serving as a capstone celebration of students' growth.

Instruction is grounded in principles of multiple intelligences, recognizing that music supports learning across cognitive, social, emotional, and motor domains. Performing arts experiences strengthen confidence, public speaking, and the ability to collaborate—skills that extend well beyond the stage.

To support high-quality music and performing arts instruction, the school requires:

- A dedicated general music classroom with flexible seating, movable furniture to allow for dance space, appropriate acoustic treatment, and storage for instruments and instructional materials.
- A large performance and rehearsal space suitable for chorus, ensemble work, and dramatic presentations, equipped with adjustable lighting and sound amplification.
- A small lesson or practice room for instrumental pull-outs, individual coaching, and sectional rehearsals.
- Music and performance spaces located near each other to support smooth transition between practice and performance locations.
- Sound isolation to minimize disruption to adjacent academic areas.
- Digital technology for recording, playback, and multimedia integration.

Display and exhibition areas throughout the building will allow students to share their artistic accomplishments with authentic audiences, reinforcing pride and community engagement. Collectively, these programmatic and spatial features ensure that music and performing arts remain central components of a whole-child approach—developing students who are tuneful, artful, expressive, and confident contributors to their school and community.

Physical Education and Wellness

Physical education at Essex Elementary is delivered within a comprehensive wellness model that integrates physical activity, foundational health concepts, and social-emotional skill development to address the needs of the whole child. Students participate in wellness classes twice weekly, with the curriculum emphasizing lifelong healthy habits, fitness, nutrition, motor development, and self-care. Instruction targets refinement of fundamental movement patterns, coordination, and personal fitness through small-sided games, dance and rhythm, gymnastics, and individual skill progressions. These experiences promote teamwork, sportsmanship, and self-regulation, reinforcing learning that occurs in the classroom.

Beginning in the 2025–26 school year, the district will undergo a comprehensive curriculum review to align its health and physical education programming with the Massachusetts Comprehensive Health and Physical Education Frameworks. This work will strengthen vertical alignment, update instructional practices, and support a continuum of developmentally appropriate health and wellness instruction across PreK–12.

A signature component of the District's wellness model is Project Adventure, a K-12 experiential learning strand that builds cooperation, trust, communication, conflict resolution, leadership, goal setting, and creative problem-solving. These activities promote resilience and support students' social-emotional learning competencies. To fully implement this curriculum, the school requires space for low, medium, and high challenge elements, both indoors and outdoors, along with appropriate safety zones, storage, and structurally supported anchor points.

To meet program needs, the gymnasium should include:

- Adequate ceiling height for climbing elements and rope activities
- A divider (sound-attenuating) wall to create two simultaneous teaching stations
- Padded perimeter walls and resilient athletic flooring to support safe movement
- Storage for a wide array of athletic and expeditionary equipment
- An adjacent PE office for supervision, planning, and student support

A regulation-sized basketball court is recommended to support district athletic programming, youth recreation leagues, and community events. This will allow Essex Elementary to continue serving as a practice and competition site for junior varsity, recreation league, and middle school basketball while strengthening community use and reducing scheduling pressure across the district.

Outdoor learning spaces should include:

- Fields for athletic skills practice, PE classes and small games
- A turf surface to extend playability during inclement weather
- Low/medium/high challenge elements for Project Adventure
- Safe circulation pathways for running and movement-based activities

Together, these features ensure that the physical education and wellness program supports the physical, emotional, and social development of all students, fosters healthy lifestyle habits, and aligns with district priorities around whole-child learning, teamwork, and resilience.

Special Education Programs

The special education program at Essex Elementary School serves students with a wide range of learning needs, the majority of whom qualify as moderate special needs students and access a combination of inclusion and pull-out services. The moderate special needs program provides both classroom-based supports and separate instruction delivered individually or in small groups of up to eight students for reading, written language, and mathematics. Currently, moderate special education teachers and the speech-language pathologist share a classroom divided into instructional zones, with one small room available for quieter, separate instruction.

As of FY2025, the moderate needs team consists of three special education teachers, one full-time, and one part-time teaching assistant. To effectively meet student needs, separate instructional spaces are required for teachers to deliver targeted instruction in quiet, acoustically controlled environments. At least two of these spaces should accommodate up to eight students, a teacher workstation, and technology access, while two additional rooms should support small groups of up to four students. All spaces should be located in close proximity to grade-level classroom neighborhoods to support inclusion and efficient transitions.

Because special education enrollment fluctuates with student need and demographic shifts, flexible instructional spaces are required to ensure continuity of programming even as cohorts expand or contract across developmental stages. Locating service delivery spaces adjacent to general education classrooms reduces travel time, protects instructional continuity, and supports discreet movement for students receiving higher-tier interventions.

MERSD is deeply committed to ensuring that every student has access to an inclusive, high-quality education within the least restrictive environment. Essex Elementary School offers a continuum of services that combine in-class supports, targeted interventions, and specialized separate programming designed to meet a range of academic, social, emotional, behavioral, and communication needs. Each program provides individualized instruction while fostering integration within the general education setting, consistent with the district’s values of inclusion, collaboration, and equity.

Maintaining robust, high-quality in-district programming is central to both student outcomes and long-term fiscal responsibility. By providing specialized services within the district, MERSD reduces reliance on out-of-district placements and minimizes the need for specialized transportation, one of the most unpredictable and costly components of special education finance. Beyond operational efficiency, locating specialized programming in-district strengthens students' relationships with peers, fosters continuity of school culture, and supports meaningful inclusion in extracurricular and community-based learning. These benefits reinforce the district's commitment to serving students in the least restrictive environment while ensuring equitable access to comprehensive supports close to home. *(Appendix G: Special Education Program Review.)*

Academic and Communication Enhancement (ACE)

The Academic and Communication Enhancement (ACE) program serves students in grades K–5 with complex language-based learning disabilities who require a structured, language-rich environment and intensive instructional support. The program is designed to be organized into two cohorts—lower elementary and upper elementary—each serving six to eight students with two teachers. Instruction combines small-group and one-to-one tutorials emphasizing reading, writing, mathematics, oral communication, and language comprehension. Lessons follow a sequential, multisensory structure and incorporate assistive technologies to promote independent access to grade-level content.

This interdisciplinary staffing model requires proximity to shared therapy spaces to support collaboration among special educators, speech-language pathologists, reading specialists, and occupational therapists. Co-location enhances supervision, fosters consistent communication supports, and increases the efficiency of scheduling related services.

Space Considerations: ACE requires one dedicated classroom for each cohort with adaptable layouts for small-group instruction and conferencing. Each classroom should include writable surfaces, acoustic control to support focused language instruction, and an adjacent breakout or therapy room for speech-language and reading interventions. Ample storage for instructional materials, manipulatives, and assistive technology is required. Locating ACE in proximity to the RISE cohort supports collaboration among specialized staff and facilitates shared use of sensory and therapy resources.

Reaching Independence in Supported Environments (RISE)

The RISE program serves students in grades K–5 with developmental disabilities or genetic disorders who require highly individualized academic, behavioral, and communication support. The program is designed to be organized into two cohorts—lower elementary and upper elementary—each serving six to eight students with two teachers. Instruction is delivered through small-group and one-to-one tutorials, emphasizing functional academics, communication, life skills, and social-emotional development. Students receive consistent support across the school day, including transitions, lunch, and recess, to reinforce skill generalization.

The program is staffed by an interdisciplinary team that includes a certified special education teacher/board-certified behavior analyst, registered behavior technicians, an occupational therapist, a

speech-language pathologist, and a physical therapist. Students participate in social skills groups, daily living instruction, and specialized case management, and receive ongoing collaboration between home and school.

Increasing numbers of students with autism and complex learning profiles—especially at the preschool and primary levels—highlight the continued necessity of specialized instructional environments and intentionally designed sensory-supportive spaces as students progress through the continuum of services.

Specialized Program Components include:

- Self-contained and inclusion opportunities aligned to the Massachusetts Curriculum Frameworks
- Applied Behavior Analysis (ABA) principles embedded across instructional domains
- Specialized reading and math methodologies (Reading Mastery, Reading Milestones, Visualizing and Verbalizing, Number Worlds, Do the Math)
- Social Thinking and Circles curricula to promote social understanding
- Assistive technology that supports communication and independence
- Consistent data-driven decision-making and progress monitoring

Space Considerations: RISE requires two dedicated classrooms—one for each cohort—with defined areas for academic instruction, sensory regulation, and life-skills practice. Each classroom should include:

- An adjacent breakout or therapy room
- Adaptive restroom facilities
- Low-stimulus lighting and acoustic control
- A kitchenette or food-prep area for daily living skills

Direct access to outdoor learning areas and safe circulation paths supports experiential learning and safe movement during sensory breaks. Co-location with ACE will enable shared therapy resources, coordinated staffing, and efficient scheduling.

Accessibility and Specialized Supports

Essex Elementary has historically served students with hearing impairments and other physical challenges. The new facility must continue to incorporate:

- Sound-field amplification systems in instructional spaces
- Sound-attenuating panels in targeted rooms
- Assistive listening devices
- T-coil or compatible hearing loop systems (where applicable)
- All instructional and public spaces must be fully accessible, with:
- Barrier-free circulation
- Elevator/lift systems
- Accessible restrooms
- Adaptive playground equipment

The current building's split levels and stair configurations create mobility barriers. A renovated or rebuilt Essex Elementary must eliminate these limitations and embody universal design principles, ensuring that every student can participate fully in all aspects of school life.

Design Priorities Across Programs
To ensure successful delivery of specialized instruction, the new facility should include:

- Small-group rooms adjacent to classroom neighborhoods
- Sensory and calming spaces accessible without long transitions
- Therapy rooms for OT, PT, and speech-language services
- Secure storage for adaptive and communication devices
- Quiet testing environments for standardized assessments
- Flexible circulation patterns that support discreet movement

As part of the Essex Elementary building project, specialized programming—including Preschool, ACE, and RISE—will be intentionally located at Essex to align program cohorts, strengthen interdisciplinary staffing, and minimize unnecessary transitions between buildings as students progress through the continuum of services.

These investments reflect MERSD's commitment to inclusive practice, equity of access, and the delivery of high-quality specialized instruction within the least restrictive environment.

Technology / Vocational Programs

Aligned with Technology Instruction Policies & Program Requirements)

Technology instruction at Essex Elementary builds upon the district's broader Technology Instruction Policies and Program Requirements by ensuring that digital tools, resources, and learning experiences are embedded throughout the instructional day. The program is intentionally designed to provide both dedicated instruction, where foundational digital skills, coding concepts, and responsible online behavior are explicitly taught, and integrated instruction, where students apply these skills within core subjects such as literacy, mathematics, science, and social studies. This balanced approach ensures that students receive focused skill development while also experiencing authentic, real-world application across the curriculum.

Students engage in dedicated Digital Literacy and Computer Science (DLCS) instruction as well as integrated technology use within core curriculum areas. The program is designed to build strong foundations in digital literacy, research, critical thinking, and problem solving, ensuring that students develop the skills needed to navigate an increasingly complex digital landscape. Students have hands-on opportunities with a variety of technology tools and platforms, including introductory coding, robotics, multimedia creation, and collaborative virtual environments. This integrated approach emphasizes creativity, communication, teamwork, and responsible engagement as digital citizens.

A dedicated technology instructional space within the Learning Commons will support both quiet, independent exploration and active, project-based collaboration. will support both quiet, independent exploration and active, project-based collaboration. This environment will allow students to engage deeply in computational thinking, engineering concepts, and design practices, while also providing opportunities for small-group instruction, guided inquiry, and iterative prototyping. Instruction includes explicit guidance in safe and ethical online behavior, helping students understand appropriate communication, information evaluation, data privacy, and cyber-safety expectations.

Technology access within classrooms includes interactive display boards, audio amplification systems, and sufficient space and electrical capacity for 1:1 device charging carts. Flexible access to shared devices allows students to create, research, communicate, and problem solve as part of everyday learning. As technologies continue to evolve, the school's infrastructure must support adaptable use of new tools, platforms, and applications.

To sustain continuous, high-quality access, the building must be equipped with a robust network infrastructure and building-wide wireless coverage capable of supporting hundreds of devices simultaneously. Reliable bandwidth, device management systems, and network security will be essential to ensure seamless instructional use and equitable access. Together, these elements create a technology-rich learning environment that empowers students to explore new ideas, innovate collaboratively, and develop the digital literacy and problem-solving skills necessary for future academic and workplace success.

Transportation Policies

Transportation to Essex Elementary School will include a combination of bus, car, bicycle, and walking routes, reflecting the diverse needs of students and families within the district. Arrival and dismissal procedures will be designed to ensure safe, efficient, and predictable traffic flow. Designated bus loops will allow for streamlined boarding and unloading, while clearly marked carline procedures will reduce congestion and maintain separation between vehicle traffic and pedestrian pathways. Safe and accessible walking and biking routes will be integrated into the site plan, encouraging healthy habits and supporting students who live within proximity to the school.
Adequate parent pick-up and drop-off areas will be located near the gymnasium and cafeteria wing to minimize congestion in academic corridors and maximize student safety. Outdoor circulation areas will be designed to provide clear sightlines, age-appropriate supervision, and minimal conflict between cars, buses, and pedestrian traffic. Bicycle racks, crosswalks, and appropriate signage will help promote safe active transportation options.

In addition, the site should include a dedicated Pre-K drop-off zone that minimizes exposure to high-volume traffic areas and allows families to escort students directly to the early childhood entrance. This area will provide short-term parking for strollers and car seats, allow space for adult-to-adult handoff,

and ensure that early learners are not navigating busy corridors or long exterior walks during peak arrival times.

This dedicated circulation pattern aligns with early childhood best practice, which emphasizes predictable, developmentally appropriate transitions, minimized exposure to high-volume traffic areas, and opportunities for direct adult-to-adult handoff. By reducing travel distance and complexity at arrival and dismissal, the design supports young learners' regulation, safety, and readiness to engage in instruction as soon as they enter the building. The separation of Pre-K circulation from older student traffic also decreases sensory overwhelm and supports individualized pacing for students who may require additional time or assistance during transitions.

The transportation plan emphasizes accessibility and equity by ensuring that all students—regardless of mobility needs or geographic location—have consistent, reliable, and safe transportation to and from school. Walkways, curb cuts, and boarding zones will be designed to meet ADA requirements, and transportation services will be coordinated to support students with specialized needs.
Together, these strategies create a school site that is safe, efficient, welcoming, and responsive to the full range of transportation needs within the Essex Elementary community.

Functional & Spatial Relationships and Key Programmatic Adjacencies

The design of the new Essex Elementary School will embody MERSD's commitment to student-centered, inclusive, and collaborative learning. Functional and spatial relationships will be organized to support the district's instructional philosophy—fostering flexibility, connection, and equitable access to high-quality learning environments for all students.

The building will be structured around grade-level classroom neighborhoods, each designed to promote a sense of belonging while encouraging movement, collaboration, and cross-grade interaction. Adjacencies between core classrooms, small-group rooms, and shared learning spaces will strengthen instructional alignment, collaboration, and community cohesion across grade levels.

Classroom Neighborhoods and Small-Group Learning

Each neighborhood will include a cluster of classrooms with direct access to small-group rooms and shared collaboration spaces, supporting inclusive instruction, the district's Multi-Tiered System of Support (MTSS), and flexible grouping structures. These localized breakout areas will allow for differentiated learning and strengthen opportunities for students to lead, collaborate, and engage in hands-on work with increasing independence. By providing multiple pathways for interaction—student-to-student, student-to-teacher, and teacher-to-teacher—the design reinforces our commitment to dynamic, active learning environments.

Early Learning Adjacencies

The Pre-Kindergarten and Kindergarten classrooms will anchor the lower-elementary neighborhood, featuring direct outdoor access, age-appropriate restrooms, flexible play areas, and sensory spaces that foster exploration and independence. These classrooms will include child-height fixtures, built-in storage, and adjacent therapy or small-group rooms to support integrated services for students with special needs. Early learning spaces will set the tone for the school's design—nurturing curiosity, creativity, and belonging.

Specialist and Experiential Learning Spaces

Specialist classrooms will provide environments purpose-built for creativity, experimentation, and interdisciplinary learning:

- Science spaces will include sinks, counter space, waterproof/non-slip flooring, and multiple outlets, designed to support inquiry, safe circulation, and technology integration.
- Visual Arts rooms will feature a kiln room with proper ventilation, multi-height sinks, drying racks, and storage cabinets, with ample natural and adjustable lighting for studio work and student exhibitions.
- Music instruction will occur in a large movement-oriented classroom with risers, instrument storage, a small lesson room, and acoustic treatments to ensure sound quality and reduce noise transfer. The music area will be located near the stage or multipurpose gathering space to support performance-based learning.

The Library/Media Center will serve as a literacy and innovation hub, connecting students to both print and digital resources. Centrally located for easy access, it will include flexible furniture, research zones, and media-creation technology. The library will also serve as a collaboration space for interdisciplinary projects and whole-school programming, aligning with MERSD's emphasis on inquiry, communication, and technology integration.

Physical Education, Wellness, and Community Gathering Spaces

The Gymnasium and Wellness Suite will include a regulation gym floor with padded walls, seating for wellness instruction, Project Adventure installations, and accessible storage. An adjacent office for physical education staff will provide proximity for supervision and instructional planning. The gym will support both daily instruction and community use, reflecting MERSD's belief that schools serve as centers of community engagement.

A flexible cafetorium or multipurpose space will serve as the heart of school gatherings, accommodating assemblies, performances, and family events while maintaining appropriate separation from instructional areas for security and acoustics. This space supports the district's goal of providing a shared, large-scale school community environment where students and families can gather in small, large, or whole-school groupings, reinforcing the school's role as a hub of community connection.

All shared spaces will be designed with universal design principles, ensuring accessibility for individuals with mobility, sensory, and physical challenges. The building's design will reflect MERSD's core value of inclusion—ensuring every student and community member can engage fully in the life of the school.

Teacher Collaboration and Professional Spaces

As outlined in the Teacher Planning section, collaboration is central to MERSD's instructional model. To support this, each classroom neighborhood will include teacher collaboration rooms and professional work areas that are easily accessible from instructional spaces. These areas will provide technology access for data analysis and lesson design, flexible seating for team meetings, and storage for shared instructional resources.

A centralized professional workroom or staff commons will support all-staff collaboration, professional development, and interdisciplinary planning. These adult-centered environments will be designed for comfort, productivity, and reflection, emphasizing that supporting educator collaboration enhances student learning and aligns with MERSD's culture of continuous improvement.

Functional Organization Summary

The organization of Essex Elementary School reflects the district's guiding priorities:

- **Student-Centered Design:** Learning neighborhoods that foster inclusion, flexibility, and belonging.
- **Collaborative Culture:** Adjacencies that promote teamwork, co-teaching, and shared resource use.
- **Community Connection:** Central gathering and performance spaces that unite students, families, and the broader community.
- **Future Readiness:** Specialized, technology-rich environments that support interdisciplinary, hands-on learning.
- **Universal Access:** Spaces designed for safety, comfort, and full participation by all members of the school community.

Together, these functional and spatial relationships create a cohesive, flexible, and connected learning environment that harnesses the energy of children, fosters student leadership, extends learning beyond the traditional school day, and supports the school's role as a vibrant hub for the community.

Supervision and Shared Space Utilization

Shared breakout rooms, collaboration zones, and project spaces will be scheduled through a digital reservation system to ensure equitable access across grade levels. Interior glazing and transparent sightlines allow staff to supervise students working independently or in small groups without leaving core instructional areas. Learning neighborhoods are intentionally compact, minimizing travel and promoting safety. This design normalizes flexible grouping and student agency while preserving continuous instructional oversight.

Security & Visual Access Requirements

Student safety is a top priority for the Manchester-Essex Regional School District, and the design of the new Essex Elementary School will reflect contemporary best practices in school safety, supervision, and emergency response. The district maintains a comprehensive emergency operations framework that is reviewed annually in collaboration with local law enforcement, fire officials, town emergency management personnel, and district leadership. Annual audits and developmentally appropriate drills ensure that protocols remain current and aligned to state requirements. The district's Medical Emergency Response Plan (MERV) was most recently submitted to the Massachusetts Department of Elementary and Secondary Education in September 2025 and will continue to be updated annually.

During the school day, the building will maintain a single, controlled point of entry, improving upon the current model through the addition of a secure, double-door vestibule. Visitors will be required to verify identity and purpose through a staffed reception desk and electronic access-control system before gaining entry to instructional areas. Credentialing, screening, and check-in procedures will reinforce a layered approach to access control while maintaining a welcoming environment for families and community members.

The building will include zoned access, allowing Essex Elementary to safely support community use during evenings and weekends. Access will be granted only to designated program areas—such as the gymnasium, cafeteria/kitchen, multipurpose/performance spaces, select restrooms, and the Learning Commons—while academic wings remain locked and isolated through controlled door hardware. Adjoining access-control points will allow school leadership to initiate partial or full lock-out configurations based on operational needs.

A comprehensive digital surveillance system will monitor critical public areas, entrances, major circulation corridors, parking lots, playgrounds, pedestrian walkways, and perimeter access points. Camera feeds will be accessible to school leadership and district safety teams and, when appropriate, interoperable with local law enforcement during emergency events. Exterior perimeter access roads will enable emergency vehicles to reach multiple sides of the building, improving response times for medical, fire, or security incidents. To support emergency response, the facility will include Knox Boxes (secure key storage systems) for Essex police and fire personnel, ensuring rapid access during urgent situations. Clear signage and multiple egress points will assist responders and enhance evacuation safety.

Classroom neighborhoods will be designed with clear sightlines to reduce isolated or concealed areas. Lockable classroom doors with age-appropriate hardware and remote lockdown capability will support swift protective action if needed. Emergency notification technology, two-way communication systems, and integrated access control will align with district safety protocols.

Site circulation will reinforce safe movement patterns by locating parking, bus loops, and parent pick-up/drop-off areas near the main entry, allowing staff to maintain continuous visual oversight during arrival and dismissal. Clearly delineated pedestrian pathways and accessible routes will support walkers, bicyclists, students with mobility needs, and families using strollers or adaptive devices.

These architectural and operational strategies will create a welcoming, developmentally appropriate environment that balances physical safety with the district's commitment to positive school culture, student belonging, and community partnership. The school will remain both secure and accessible—supporting learning, family engagement, and civic activity—while embedding multiple layers of safety that protect students, staff, and community members every day.

Typical Day & Week in the Life of a Student

A typical day at Essex Elementary School reflects the district's commitment to student-centered, developmentally responsive learning that nurtures the academic, social, and emotional growth of every child. The day begins at 8:25 a.m. with Morning Meeting, a daily community-building routine that strengthens relationships, sets a positive tone for learning, and reinforces social-emotional skills aligned with MERSD's Vision of the Graduate.

Following Morning Meeting, students engage in a Literacy Block that blends whole-group instruction, small-group, small group conferencing and systemic instruction in foundational skills, reading, and writing and opportunities for independent practice. Instruction emphasizes authentic reading, writing, and speaking experiences that develop critical thinking and communication skills.

After a brief movement and snack break, students transition to Mathematics, where lessons build conceptual understanding through hands-on exploration, inquiry, and problem-solving. Students work collaboratively and independently using manipulatives, visual models, and technology to strengthen reasoning and perseverance.

Midday includes lunch and recess, essential times for play, social connection, and physical well-being. In the afternoon, students participate in Science or History/Social Science experiences that promote curiosity and exploration through project-based investigations and inquiry learning. These lessons connect to real-world phenomena and help students understand their roles as informed, engaged citizens.

Sample Student Schedule

Time	Activity
8:25 AM	Arrival & Morning Meeting (community-building, SEL focus)
8:45 AM	Literacy Block (whole group mini-lesson; small-group guided reading/writing; independent practice)
10:15 AM	Movement/Snack
10:30 AM	Math (concept lesson; manipulatives; small-group practice/centers)

11:45 AM	Lunch & Recess
12:30 PM	Science or History/Social Sciences (hands-on investigations or inquiry projects)
1:15 PM	Specialist (e.g., PE, Art, Music, Library/Research, Technology)
2:00 PM	SEL/Closing Circle; Intervention/Enrichment as scheduled
2:55 PM	Dismissal

Each day also includes a specialist class—such as Art, Music, Physical Education, Library/Research, or Technology/Engineering—that supports creative expression, movement, and interdisciplinary learning. These experiences expand student engagement and reinforce the district's belief in educating the whole child through multiple pathways of learning and success.

The day concludes with a Closing Circle, during which students reflect on their learning, celebrate accomplishments, and set goals for the next day. Teachers also provide targeted intervention and enrichment as part of MERSD's Multi-Tiered System of Supports (MTSS) framework, ensuring that every learner is appropriately challenged and supported. Dismissal at 2:45 p.m. concludes a day intentionally designed to balance rigor, engagement, and belonging.

Week in the Life of a Student

Across the week, the Essex Elementary schedule provides a balanced, integrated learning experience aligned with MERSD's strategic priorities: Authentic Learning for Every Student, Social-Emotional Learning, and Inclusive Culture. Instructional time is intentionally distributed among literacy, mathematics, science, history/social science, and SEL, ensuring coherence across disciplines. Students participate in six 45-minute specialist blocks each week, providing consistent opportunities to explore the arts, movement, research, and technology. Within this structure, intervention and enrichment blocks are embedded to provide targeted Tier 2 and Tier 3 supports based on progress-monitoring data and student need.

This approach reflects MERSD's commitment to differentiation, collaboration, and continuous growth, ensuring that every student engages in meaningful, connected learning experiences that promote curiosity, confidence, and compassion. The weekly rhythm fosters both academic achievement and a strong sense of community, embodying the district's mission to empower students as capable, creative, and caring learners prepared to thrive in an ever-changing world

Week In the Life Overview

Activity	Locations	Benefit
ELA (Literacy)	Classroom; Breakout rooms; Learning commons	Reading/writing foundations; differentiation
Mathematics	Classroom; Small-group rooms; Project labs	Fluency, modeling, problem-solving
Science	Project areas; Maker spaces; Outdoor zones	Inquiry, engineering, authentic investigation
Social Studies	Classroom; Collaboration zones; Presentation areas	Civic learning, culture, and research skills

PE (2x)	Gym; Fields; Movement zones	Fitness, coordination, readiness for learning
Visual Arts	Art studio; Project zones; Display corridors	Creative expression, reflection, belonging
Music	Music room; Practice room; Performance space	Rhythm, ensemble, confidence
Library	Learning commons; Breakout rooms	Digital citizenship, inquiry, reading
Technology	Maker spaces; Robotics rooms	Computational thinking, prototyping
Outdoor Learning	Outdoor classroom; Gardens; Trails	Environmental literacy, sensory regulation
Intervention (MTSS)	Small-group rooms; Support spaces	Targeted instruction and enrichment
SEL & Community	Classroom meeting areas; Commons	Belonging, empathy, conflict resolution

Space Implications

The daily and weekly rhythm of instruction at Essex Elementary underscores the need for flexible, adaptive spaces that support a full range of learning experiences—from active collaboration to quiet reflection. Classrooms should accommodate whole-group instruction, small-group collaboration, and individualized learning, with movable furniture and integrated technology to enable seamless transitions throughout the day.

The schedule's emphasis on project-based and inquiry learning in literacy, mathematics, science, and history/social science highlights the need for breakout areas, distributed book nooks, and shared project spaces within grade-level neighborhoods. These areas will allow students to engage in investigations, hands-on projects, and interdisciplinary collaboration beyond the classroom setting.

Frequent integration of social-emotional learning and movement calls for access to outdoor learning areas, calming spaces, and flexible furniture configurations that can shift between active engagement and restorative practices. Specialist spaces—such as art, music, physical education, library and technology—should be centrally located and easily accessible from classroom neighborhoods to support the flow of the daily schedule and interdisciplinary learning.

Finally, spaces designed for intervention and enrichment must be embedded within or adjacent to classroom neighborhoods, providing visibility, accessibility, and proximity for small-group instruction and individualized support. These design features will ensure that the Essex Elementary School facility fully supports the district's vision of authentic, inclusive, and student-centered learning for every child.

Play, Movement, and Multi-Use Indoor Community Space

MERSD is committed to play as part of a comprehensive educational program. Multiple daily recess opportunities provide practice in communication, negotiation, cooperation, sharing, problem solving, and self-regulation, reinforcing classroom learning and supporting overall well-being (per AAP guidance). Play supports creativity, peer connection, physical development, and the acquisition of critical social-emotional skills.

Recess promotes social and emotional learning and development for children by offering them a time to engage in peer interactions in which they practice and role play essential social skills. This type of activity, under adult supervision, extends teaching in the classroom to augment the school's social climate. Through play at recess, children learn valuable communication skills, including negotiation, cooperation, sharing, and problem solving as well as coping skills, such as perseverance and self-control. These skills become fundamental, lifelong personal tools. Recess offers a child a necessary, socially structured means for managing stress. By adapting and adjusting to the complex school environment, children augment and extend their cognitive development in the classroom.
(American Academy of Pediatrics)

At Essex Elementary, students enjoy multiple recess periods that promote social interaction, creativity, and physical activity. The school currently provides age-appropriate playgrounds, a grass playing field, and a large blacktop area that can be cleared for winter recess, ensuring consistent outdoor play opportunities throughout the year. However, coastal climate conditions, seasonal precipitation, cold extremes, and saturated fields limit outdoor access during significant portions of the school year.

Future design considerations include differentiated play structures for younger and older students, accessible play that is ADA compliant and allows all peers to participate in play together, a plowed and accessible area for winter months, and a covered outdoor space for use during inclement weather. The outdoor play space should support skill development and application across gross motor, fine motor, creativity, collaborative teamwork, and exploration/curiosity, while fostering a connection to sense of place. In addition, a flexible indoor movement room is necessary to maintain equitable access to recess and active play when outdoor conditions are unsafe or unavailable.

Play and movement are essential components of healthy child development and are deeply embedded within the instructional and social-emotional framework of Essex Elementary School. Research and experience both reinforce that students learn best when they have frequent opportunities to move, collaborate, regulate, and explore through active, developmentally responsive engagement. At the elementary level, play supports executive functioning, builds problem-solving skills, strengthens peer relationships, and provides critical outlets for sensory regulation.

In order to maintain consistent access to movement, particularly during indoor recess periods, the school must be supported by spaces designed to host safe and structured play during times when outdoor environments are unavailable. The primary gymnasium is regularly scheduled for instructional delivery of the physical education curriculum and wellness programming, leaving limited availability for concurrent indoor recess blocks, student movement breaks, and grade-level common activities. Without an additional dedicated space, these needs place competing demands on the master schedule, risking reduced access to mandated instructional minutes and increased dysregulation in common areas.

For students receiving specialized services, access to indoor movement spaces is not a convenience — it is a therapeutic requirement. Occupational therapy, physical therapy, adaptive movement, gross-motor

development, and sensory regulation activities are integral to many students' Individualized Education Programs (IEPs). These services benefit from access to equipment that must be safely stored and deployed in environments that allow climbing, stretching, balance, full-body movement, and fine-motor practice. The primary gym is often acoustically and socially overstimulating for these students and is rarely available during high-volume instructional blocks. A smaller multi-use movement room provides a quieter, developmentally appropriate space that can support individualized instruction, reduce stigma, and meet the requirements of 603 CMR 28.03 regarding appropriate instructional environments aligned to the least restrictive setting.

Beyond recess and therapeutic programming, flexible interior space plays an important role in supporting the school's whole-child approach. Grade-level community meetings, author visits, robotics demonstrations, STEAM showcases, family engagement nights, student leadership assemblies, and project-based learning exhibitions require space that is sized appropriately for small- and medium-group gatherings. The primary gym, while suitable for large events, is often too large, too loud, or acoustically reflective for younger learners, students who experience sensory sensitivities, or programs that rely on spoken word and presentation. A smaller multi-use space offers improved acoustics, moderated lighting, and a more age-appropriate scale.

As a community hub, Essex Elementary also extends learning beyond the traditional school day. Before- and after-school programming, enrichment activities, youth recreation, town partnership initiatives, and intergenerational programs benefit from access to a community-facing space that can be separated from academic neighborhoods while maintaining safe, secure entry. During evenings and weekends, the flexible multi-use room provides the community with an adaptable venue that supports recreation, meeting space, and connection without compromising the security of the instructional core. This zoning strategy aligns with MSBA guidance that supports separation of community access from instructional spaces for safety and operational efficiency.

The design response to these needs is a smaller, flexible indoor gym/large-group movement room located adjacent to specialist neighborhoods and accessible to occupational and physical therapy staff. The room should include acoustically absorbent surfaces, durable and impact-resistant flooring, storage for therapeutic and gross-motor equipment, and sufficient ceiling height to support climbing structures, movement circuits, and fitness activities. By distributing access to movement opportunities across the day, this space also reduces behavioral challenges, increases readiness to learn, and supports transition routines that lower sensory load.

Without this secondary movement space, Essex Elementary would face frequent scheduling conflicts; limited access to recess during inclement weather; reduced availability of therapeutic environments; and fewer meaningful opportunities for grade-level collaboration, community partnerships, and student showcases. These constraints would disproportionately affect students with disabilities, younger learners, and those who rely on movement to self-regulate. Including a smaller indoor multi-use gym

ensures that the school's learning environment remains developmentally attuned, instructionally flexible, operationally efficient, and community responsive.

Extended Day / Community Programs

Essex Elementary School plays a central role in the civic life of the community, extending well beyond the regular school day. The district operates a before-school program called the Breakfast Club, providing safe, reliable care and supervision that supports smooth morning transitions for families. After-school programming is offered through a combination of district-run enrichment activities, school-based student clubs, and on-site YMCA childcare services. Together, these offerings promote social development, creativity, physical activity, and academic support in a structured, nurturing environment.

Looking ahead, a new or renovated facility should anticipate the potential future development of an Essex Parks & Recreation program that could function as a partner to Essex Elementary, similar to the existing relationship between Memorial School and Manchester Parks & Recreation. The Memorial School building project intentionally included dedicated space for after-school and summer programming; planning for analogous capacity in Essex would ensure equitable access to recreational enrichment across both towns.

During non-school hours, key areas of the building — including the gymnasium, cafeteria, library, and outdoor fields— are regularly used for athletics, community recreation, cultural events, concerts, intergenerational programming, and civic gatherings. Essex Elementary also serves as the venue for annual and fall Town Meetings and hosts community breakfasts and other municipal events. This extended use reinforces MERSD's belief that schools are vital public resources and centers for lifelong learning.

The gymnasium is heavily utilized by local youth sports programs and is currently the home site for junior varsity, recreation league, and middle school basketball. To continue supporting these programs safely and effectively, the new or renovated facility should include a regulation-size court with appropriate clearances, resilient athletic flooring, adequate spectator space, accessible restrooms, and storage for athletic equipment. These features will allow for league play, practices, and weekend community athletics while reducing scheduling pressure across district facilities.

To balance community access with student safety, the design of the new or renovated building will ensure that community-use spaces are located near a secure, controlled entry and can be fully sectioned off from academic wings during after-hours use. Access controls, visibility features, and strategic circulation patterns will allow evening and weekend programming without opening classroom neighborhoods or student support spaces.

The school's enrichment program extends student learning through authentic, hands-on experiences that build curiosity and interdisciplinary connections. In partnership with the Essex PTO and the

Spaulding Education Fund, students engage in visiting-artist workshops, STEM demonstrations, author talks, music residencies, and experiential programming. These activities occur at both grade-level and whole-school scales, typically hosted in flexible gathering areas sized for large groups.

To support these functions, the new or renovated facility should include a multi-use performance and assembly space equipped with audiovisual technology, stage lighting, acoustic treatments, and secure storage. Such a venue will accommodate assemblies, celebrations of learning, enrichment events, and community programming while enabling smooth transitions between instructional and extracurricular experiences.

The Manchester Essex Regional School District's Middle High School athletics program currently faces significant limitations due to the absence of a local track facility. As a result, despite having enough student participation to merit its own independent track and field team, the District must participate as part of the Gloucester High School track program in order to access a regulation track for practices and competitions. This cooperative arrangement creates transportation challenges, reduces program autonomy, and limits the District's ability to provide consistent, developmentally appropriate training schedules for student-athletes.

Developing a combined turf field and perimeter walking/running track at the new or renovated Essex Elementary School would directly address these needs while expanding athletic access across grade levels. The facility would also serve as a dedicated training venue for the Middle High School cross country team, providing a reliable surface for interval work, pacing practice, and conditioning. Currently, cross country training relies on a mix of sidewalks, roadways, and open spaces—settings that can present safety and supervision challenges. A purpose-built running loop would significantly enhance safety, consistency, and coaching effectiveness.

Across the district, athletic field capacity is limited and highly scheduled, resulting in teams practicing late into the evening—sometimes until 9:00 PM. These late schedules are not optimal for student health, sleep, academic readiness, or social-emotional wellbeing. Additional rectangular field space would relieve scheduling pressure, increase access, and allow for safer, more developmentally appropriate practice times.

Approximately 70% of Manchester Essex Middle High School students participate in athletics, underscoring the importance of facilities that promote engagement, teamwork, wellness, and belonging. Currently, all interscholastic competitions—except baseball—take place in Manchester. Establishing a competition-capable venue in Essex would increase geographic equity and better integrate Essex students into the district's after-school athletic life.

In addition to school athletics, a turf field and track would support youth sports, recreation leagues, and community programming. A perimeter track would provide safe, accessible activity space for older adults, families, and residents—supporting intergenerational fitness and reinforcing the school's role as a

community hub. Synthetic turf provides reliable playability during inclement weather, reducing cancellations and minimizing field closures due to overuse. Paired with a regulation track, the facility would increase capacity for practice and competition, reduce reliance on off-site partners, and enable year-round conditioning.

A combined turf field and track at Essex Elementary would:

- Enable Manchester Essex to operate an independent track and field program
- Provide a dedicated training facility for cross country
- Reduce reliance on cooperative agreements and transportation
- Improve scheduling equity across teams, seasons, and age groups
- Reduce late practice times, supporting student health and academic readiness
- Expand youth sports and community recreation opportunities within Essex
- Strengthen Essex's connection to district athletics
- Provide an accessible walking track for older adults and families
- Enhance community resilience, serving as a potential emergency support asset

Strategically located, well-lit, and adjacent to parking, this facility would expand regional athletic capacity while exposing Essex Elementary students to healthy role models and active lifestyles each day. This investment aligns with MERSD's commitment to the whole child, promoting physical wellness, social connection, equitable access, and authentic community engagement.

Appendix

Appendix A: *Educational Visioning Final Report*









ESSEX ELEMENTARY SCHOOL

Educational Visioning Report

November 2025

Manchester Essex Regional School District

MLP INTEGRATED DESIGN

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EXECUTIVE SUMMARY

In the fall of 2025, members of the Manchester Essex Regional School District participated in a series of Educational Visioning sessions facilitated by Educational Planner Mike Pirollo and Educational Consultant Paul White from MLP Integrated Design, Inc., in collaboration with JCJ Architecture. Each session was part of a collaborative process designed to inform the Essex Elementary School Feasibility Study and pre-design process. Through interactive workshops and reflective discussions, participants engaged in a step-by-step process aimed at capturing high-level thinking around the following:

- Educational, Architectural, and Community Priorities
- Developmental Needs of PreK–5 Learners
- Vision of Teaching and Learning, Including Practices, Strategies, and Structures
- Vision of Learning Environments that Best Support Student Growth

Through this process, participants shared rich insights about what students need to thrive, how teaching and learning can best support their development, and how the school's physical environment can be designed to align with these goals. The following summary captures the key outcomes and themes that emerged, reflecting the community's aspirations for an educational experience that is responsive, inclusive, and future-focused.

Guiding Educational Principles

The guiding principles emerging from this visioning process emphasize:

1. Students as the Doers and Leaders of Their Own Learning
2. A Learning Environment that Captures and Supports the Energy of Children
3. Flexibility in Space and Practice to Support Collaboration and Engagement
4. A School that Serves as the Hub of the Essex Community
5. Seamless Connections Between Indoor and Outdoor Learning
6. Spaces that Promote Comfort, Belonging, and Accessibility for All Learners

Developmental Considerations & Impacts

Participants reflected deeply on the developmental characteristics of PreK–5 learners, emphasizing the need for environments that balance structure and independence, movement and focus, and social connection and quiet reflection.

They identified major shifts across the early childhood and elementary years, calling for varied and flexible spaces that respond to differences in readiness, regulation, and learning style. PreK and early elementary learners benefit from warm, nurturing environments scaled to their size and independence, while upper elementary students thrive when given opportunities for leadership, autonomy, and peer collaboration.

Movement, sensory regulation, and access to nature were identified as essential to supporting cognitive growth and emotional wellbeing. Participants emphasized that space should not limit engagement—

outdoor classrooms, small breakout areas, and calming zones are as critical to learning as traditional classrooms.

Access, Engagement, and Belonging

Stakeholders envisioned Essex Elementary as a community-centered school where learning extends beyond the classroom walls and across the full day. The facility should support before- and after-school enrichment, family and community gatherings, and integrated partnerships with local organizations such as the library, senior center, and Parks & Recreation. Participants underscored the importance of connection and continuity, valuing relationships that grow across years and across grade levels. Cross-age collaboration, buddy systems, and leadership roles for older students were seen as ways to foster belonging and a shared sense of community.

Teaching, Learning, and the Vision of the Future School

Across all sessions, participants described learning that "sticks" as hands-on, active, joyful, and relevant, learning that connects to real-world experiences and allows students to take ownership. Educators emphasized practices that promote curiosity, critical thinking, and creativity through collaboration, inquiry, and problem solving. The school should enable flexible teaching models, including team-based instruction, project-based learning, and small-group intervention, supported by adaptable spaces and shared professional areas for teacher collaboration. A future Essex Elementary School should celebrate curiosity and encourage risk-taking within a safe, supportive, and inclusive environment.

Design & Physical Space Implications

Participants envisioned a building that reflects Essex's character and values—inviting, connected to nature, and sized for community. Key design implications include:

- Flexible learning neighborhoods that support varied groupings, collaboration, and movement
- Transparency and visibility to promote safety, connection, and shared learning
- Calming and sensory-friendly spaces integrated throughout the school for all learners
- Strong indoor-outdoor connections, with direct access to outdoor learning and play
- Community-scaled gathering spaces for small group, large group, and whole-school events
- Environments that foster comfort, pride, and ownership for students, staff, and families

Community Vision

Ultimately, the community envisions Essex Elementary School as a joyful, flexible, and future-ready learning environment, one that celebrates the unique energy of children, strengthens community identity, and honors the developmental journey of every learner.

The future Essex Elementary will be a hub for learning and connection, designed to nurture curiosity, confidence, and belonging. It will reflect a shared belief that students learn best when they are engaged, supported, and inspired by an environment that grows with them, academically, socially, and emotionally.

Launch & Priority Mapping Overview

On September 16, 2025, members of Manchester Essex Regional School District attended a meeting with Educational Planner Mike Pirollo from MLP Integrated Design, Inc., along with JCJ Architecture. This meeting was part of the visioning effort for the Essex Elementary School building project. The goal of the meeting was to identify educational, architectural, and community goals and priorities.

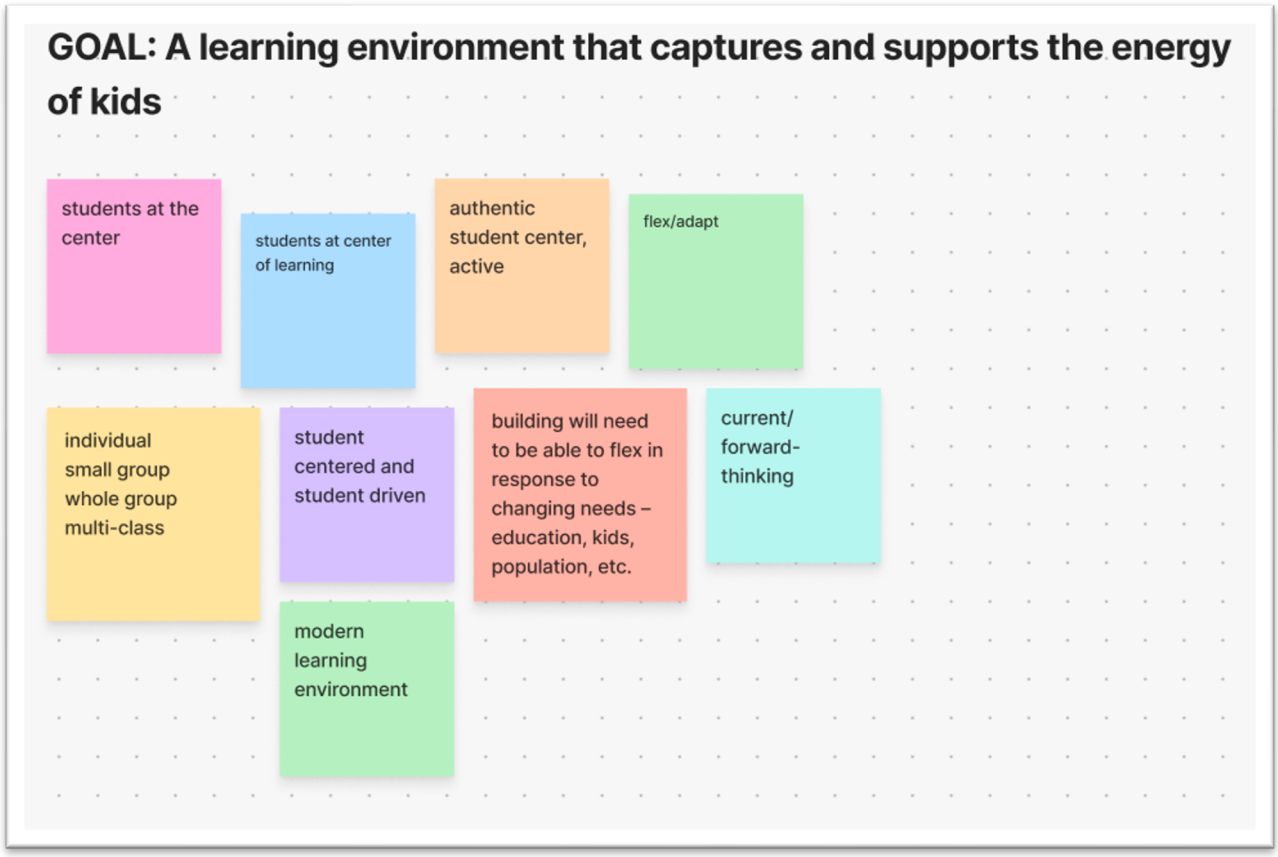
Part 1 - Educational, Architectural, and Community Priorities

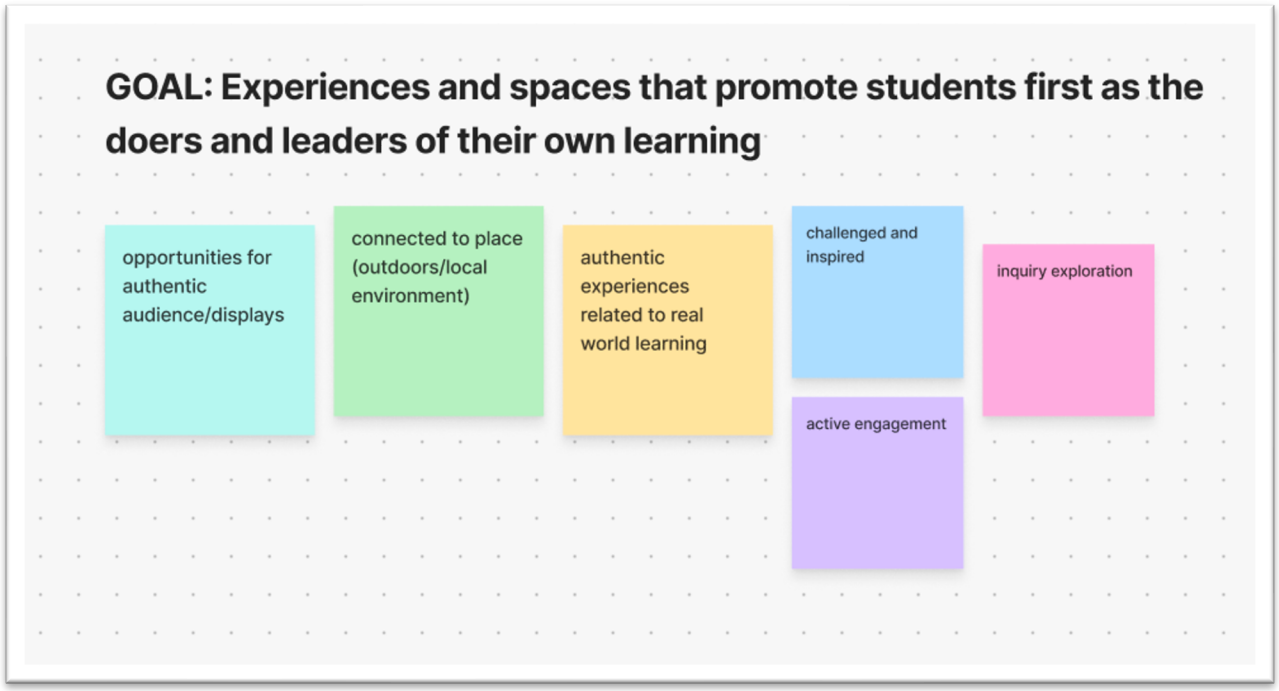
In Part 1, participants were asked to identify educational, architectural, and community priorities on individual sticky notes. After sharing their individual responses, participants grouped and categorized like-ideas to identify overarching project goals and considerations as documented below:

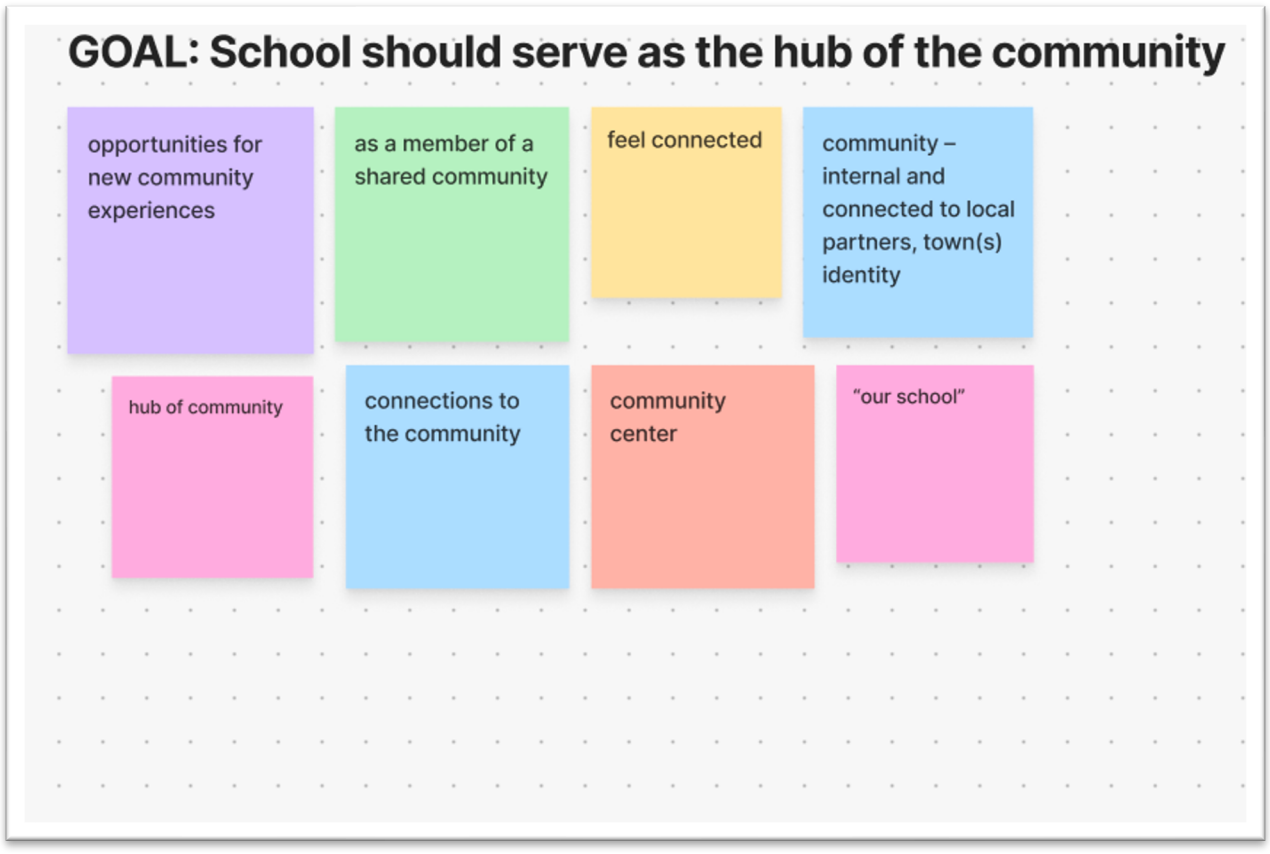
PROJECT GOALS:

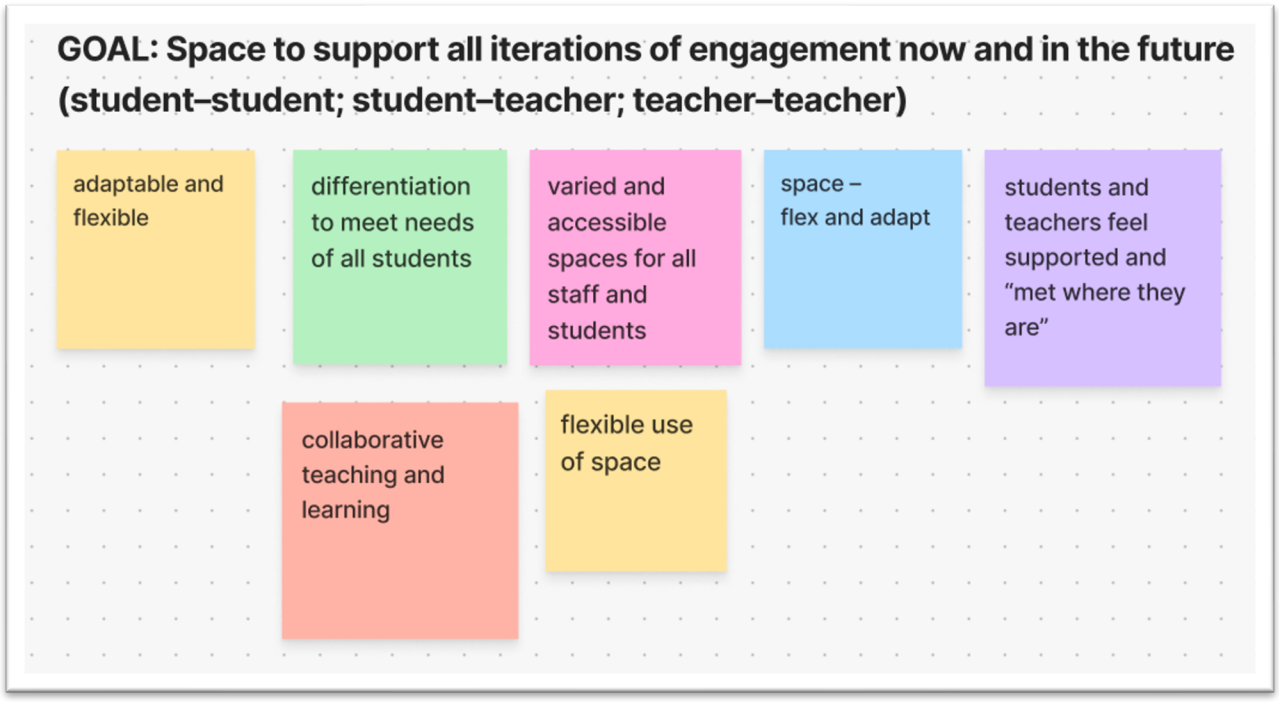
- Experiences and spaces that promote students first as the doers and leaders of their own learning
- A learning environment that captures and supports the energy of kids
- Space to support all iterations of engagement now and in the future (student–student; student–teacher; teacher–teacher)
- School should serve as the hub of the community
- Facility should support extensions of learning, including before and after school opportunities
- A shared large-scale school community for parents and students to experience small group, large group, and whole school gathering

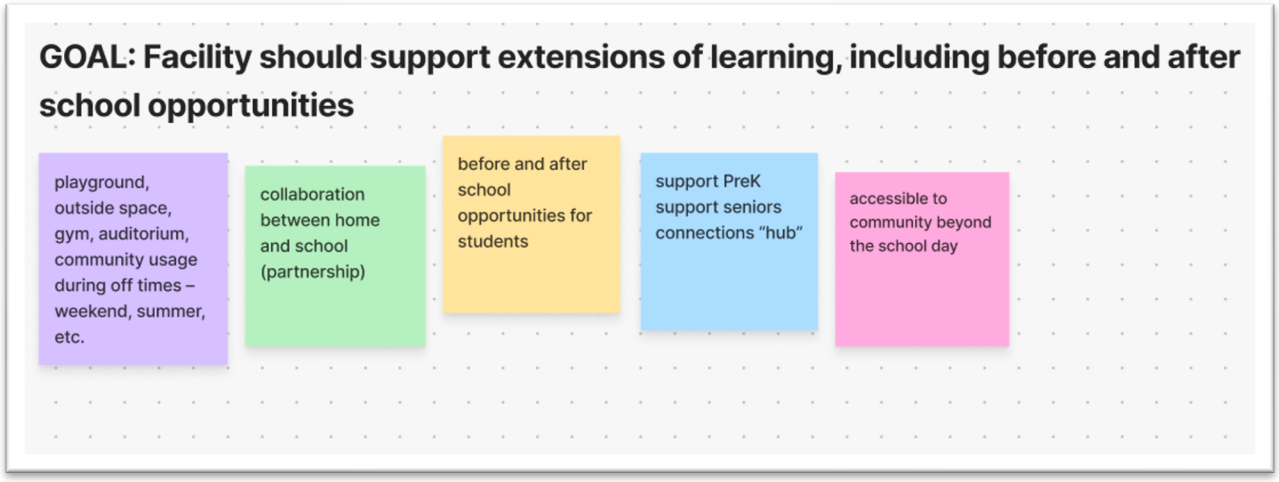
Individual responses that fall under each of these overarching project goals are documented in the pages that follow.

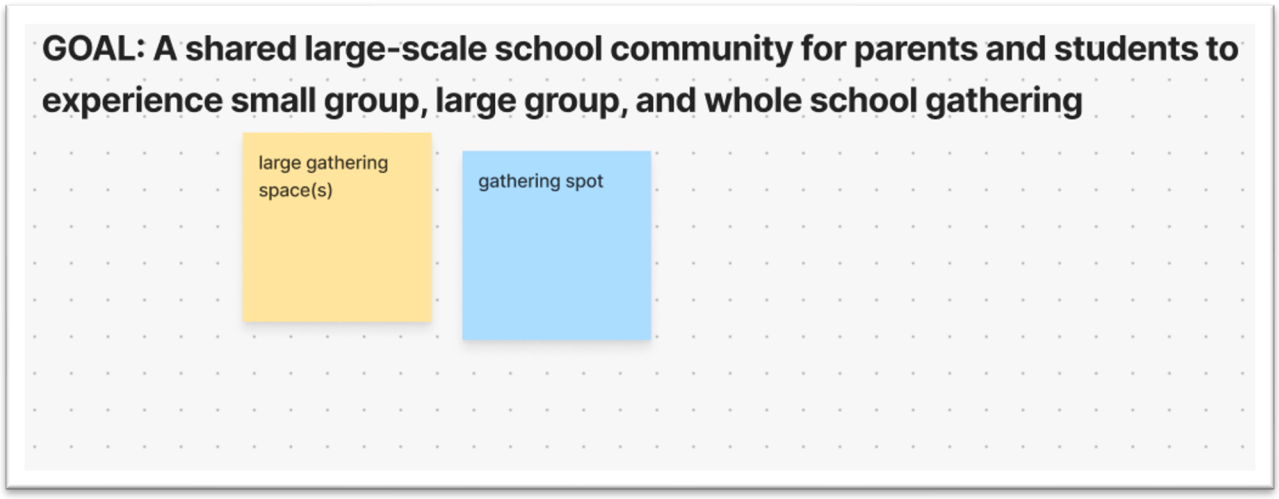

GOAL: A learning environment that captures and supports the energy of kids
students at the center
students at center of learning
authentic student center, active
flex/adapt
individual small group whole group multi-class
student centered and student driven
building will need to be able to flex in response to changing needs – education, kids, population, etc.
current/ forward-thinking
modern learning environment


GOAL: Experiences and spaces that promote students first as the doers and leaders of their own learning
opportunities for authentic audience/displays
connected to place (outdoors/local environment)
authentic experiences related to real world learning
challenged and inspired
inquiry exploration
active engagement


GOAL: School should serve as the hub of the community
opportunities for new community experiences
as a member of a shared community
feel connected
community – internal and connected to local partners, town(s) identity
hub of community
connections to the community
community center
"our school"


GOAL: Space to support all iterations of engagement now and in the future (student–student; student–teacher; teacher–teacher)
adaptable and flexible
differentiation to meet needs of all students
varied and accessible spaces for all staff and students
space – flex and adapt
students and teachers feel supported and "met where they are"
collaborative teaching and learning
flexible use of space


GOAL: Facility should support extensions of learning, including before and after school opportunities
playground, outside space, gym, auditorium, community usage during off times – weekend, summer, etc.
collaboration between home and school (partnership)
before and after school opportunities for students
support PreK support seniors connections "hub"
accessible to community beyond the school day


GOAL: A shared large-scale school community for parents and students to experience small group, large group, and whole school gathering
large gathering space(s)
gathering spot

Visioning 1 Overview

On September 22, 2025, members of Manchester Essex Regional School District attended a meeting with Educational Planner Mike Pirollo and Educational Consultant Paul White from MLP Integrated Design, Inc., along with JCJ Architecture. This meeting was part of the visioning effort for the Essex Elementary School Building Project. The session focused on understanding the developmental needs of PreK–5 learners and beginning to envision the spaces, structures, and experiences that will best support students in a future Essex Elementary School.

The meeting centered around the following goals:

- Understanding the developmental needs of PreK–5 learners
- Exploring grade configuration options and their implications
- Envisioning spaces that best support students' growth and learning

Part 1 – Understanding the Learner

In Part 1, participants explored the developmental characteristics of PreK–5 students. Through cross-grade discussions, they identified key academic, social-emotional, and physical milestones and considered how these shifts shape effective teaching, organization, and learning space design.

The responses from the whole-group wrap-up and learner profile charts are documented below.

- Integrating more movement into daily learning
- Major differences among Pre-K-5 so space and experience should be different
- Integration of SEL throughout day; being able to respond in real time – continuum of available space
- Need for flexibility in practice, space, and group size
- Variety of active and interactive learning
- Outside academic and movement spaces to support more choice
- Access to flexible spaces or outdoor space can't be cumbersome
- Need a feeling of warmth and comfort
- Developmentally appropriate scaled furniture and features – support independence
- Bring the outside in
- Use of glass and transparency for supervision and learning
- Showing students what is theirs to access

SOCIAL and EMOTIONAL

What are the most significant changes they experience?

GRADES PreK-K

Separation from family/ caregiver

making friends

following rules/expectations

managing emotions

problem solving

GRADES 1-3

testing authority/ limits

Changing structure of friendships

academic anxiety

adult guidance/support managing emotions + problem solving

GRADES 4-5

Competitive but cooperative

dating/relationships

hormonal - quick changing emotions

Integration of SEL across the entire School day!

Multi-tiered system of support for SEL

What supports, structures, and experiences can help them navigate this transition successfully?

warm, welcoming fun environment

learning through play - singing
dancing
hands-on experiences

Opportunities for different types of groupings
- large group
- small group
- partners
- individual

PHYSICAL

What are the most significant changes they experience?

- needs movement opportunities
- short amt. sitting
- reduce fine-motor

- Copying from board is hard
- move from lots of movement to more compact
- body control
- play hard/work hard
- low stamina
- short movement breaks

- Copying from board gets easier
- big muscles/larger motor movement developing quickly
- better with tools
- snacks and rest periods
- pushing physical limits
- roughhousing



What supports, structures, and experiences can help them navigate this transition successfully?

- breaks in learning
- variety of types of learning experiences (tactile, auditory etc)
- hands-on experiences - authentic learning
- various ways to present information
- variety of scale of activities
- mutiple seating options/spaces
- different types of play spaces for variety of ages and physical skills.

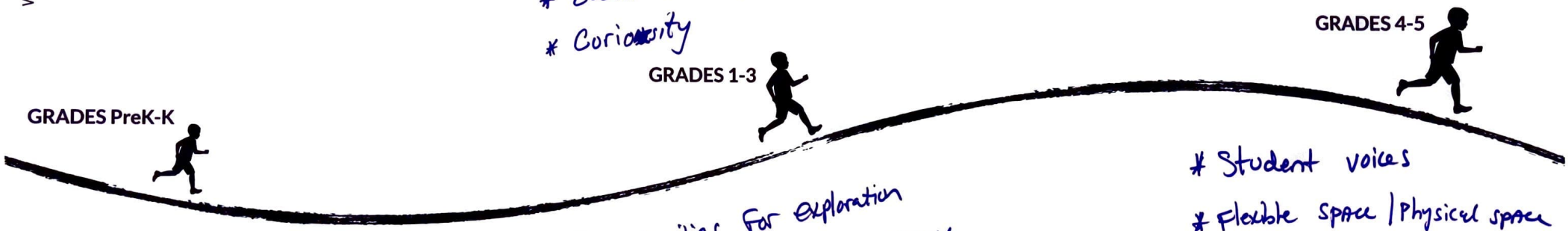
ACADEMIC

What are the most significant changes they experience?

* Play Based
* Gross Motor play

* Structed hands on learning
* tools -vs- toys
* Coriosity

* AWARness - bigger picture worry
* Structur supports learning



What supports, structures, and experiences can help them navigate this transition successfully?

* Variety of options/ Intentional space

Outdoor learning space →

* Opportunities for exploration
* Balance between Lg + Small spaces

* Student voices
* Flexible space / Physical space
* Varied learning spaces

Part 2 – Grade Configuration Considerations

In Part 2, MLP presented several possible grade configuration models for the project. Participants rotated through stations to examine each option, considering its developmental alignment, benefits, and challenges. A gallery walk and group discussion followed, identifying key themes, priorities, and tradeoffs.

The collective feedback from these discussions is summarized below, with items in blue indicating ideas that resonated across groups.

Enrollment Scenario 1: *Town of Essex – K-3 + Pre-K (Essex 4th and 5th at MM) – 165 students*

Developmental Fit: *How well does this grade configuration support the developmental needs of students (social, emotional, academic, and physical?*

- Focus on early childhood' developmentally appropriateness
- One subset of students having an additional transition – not developmentally supported

Advantages: *What are the potential benefits or strengths of this configuration for students, educators, and the school community?*

- Smaller population
- Start education in neighborhood school
- Teaming and collaboration for Grades 4 & 5 teachers
- Access to programming for 4th / 5th – fields, Parks & Rec
- More opportunity to break student dynamics

Challenges: *What potential difficulties, concerns, or drawbacks might arise with this configuration?*

- Transition of 4th / 5th into existing culture / cohort at MMES
- Essex students have additional transition
- Teacher rapport building with Grade 4
- Parent buy-in
- Smaller population
- Too many young – missing older voices
- Many 4th / 5th together – increase in conflicts
- Families of elementary students spilt across sites
- Parent / family culture – having to join MMES PTO, etc.
- Essex as "outsiders" emphasized
- Teacher culture for those that have to move
- Will require focused efforts on culture
- Higher teacher cost (impact) for Special Education – specialized program

Enrollment Scenario 2: *Town of Essex – K-5 + Pre-K (current configuration) – 250 students*

Developmental Fit: *How well does this grade configuration support the developmental needs of students (social, emotional, academic, and physical?*

- Builds community and sense of place
- Small size
- Community keeps staff & families
- Keeps kids and relationships for 6 years (+ 2 Pre-K) – supports SEL
- Cross-grade opportunities

Advantages: *What are the potential benefits or strengths of this configuration for students, educators, and the school community?*

- Older students can support younger students
- Maintains regional agreement for district
- Families / comfort / familiar for local access
- Local community partners: library, shipbuilding, senior center
- Family engagement
- Community hub
- History (traditions)
- Pre-K-5 in 1 location
- Preference of community for neighborhood school
- Maintaining EES staff community / family

Challenges: *What potential difficulties, concerns, or drawbacks might arise with this configuration?*

- "Bubble" classes
- Outdoor structures for wide range Pre-K-5 and space
- Distance from other district schools
- District Sped programs – staff sharing
- Specialists (shared) drive schedule

Enrollment Scenario 3: *District-Wide – K-5 + Pre-K (expansion at Manchester Memorial) – 515 students*

Developmental Fit: *How well does this grade configuration support the developmental needs of students (social, emotional, academic, and physical?*

- Social connections with expanded geographic area
- Maintains same school for 6 years – supports SEL
- Size impacts (?) on all ages

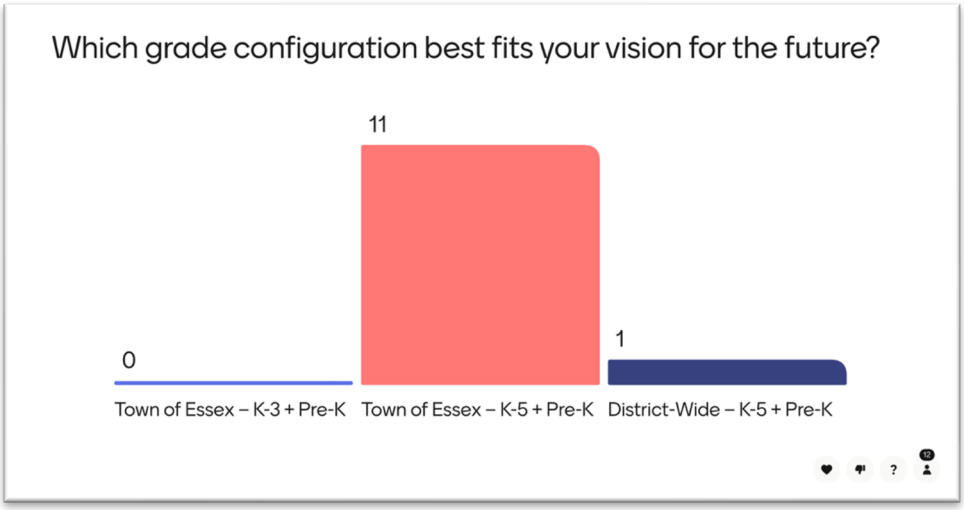
Advantages: *What are the potential benefits or strengths of this configuration for students, educators, and the school community?*

- Economy of scale
- Peer collaboration (staff and students)
- Equity – everyone has the same stuff and experience
- Students already familiar with each other before MS transition
- Single connected campus – upper and lower school
- Minimizes transitions
- No school change needed for specialized Sped
- MERSD culture-building for all

Challenges: *What potential difficulties, concerns, or drawbacks might arise with this configuration?*

- Lots of students currently ride their bike. They don't like the bus.
- Melding cultures / philosophies
- Parent buy-in
- No neighborhood school
- Another Memorial renovation
- Impact on Essex real estate market
- Impact on commute for some staff; traffic
- Community impact of site redesign
- Commuting distance for Essex residents
- Potential staff reduction
- Limited flexibility for growth options

Finally, participants used Mentimeter to indicate their preferred configuration and discussed the results (shown below). The conversation emphasized the importance of alignment between grade configuration, developmental needs, and the district's goals for student success, belonging, and community.



Part 3 – Spaces That Support Students

In Part 3, participants examined how school spaces can best support students' academic, social, and emotional growth. Using precedent images and small-group discussion, participants explored how the environment can address key developmental needs, including movement and sensory regulation, social connection, self-regulation, and a sense of belonging.

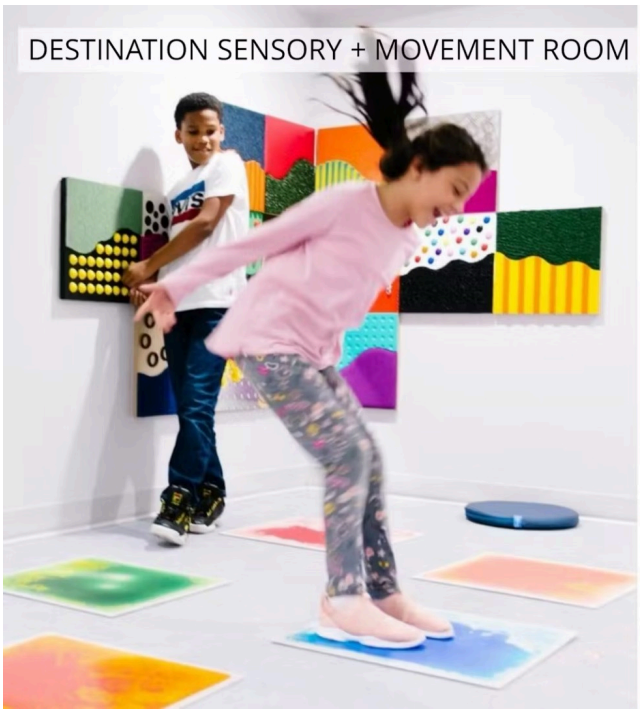
Participants reacted to each photo with a heart if they felt like spaces supported development and their future vision, a question mark if spaces somewhat fit their future vision, or a thumbs down if spaces didn't fit their future vision. Then, the session concluded with groups brainstorming types of spaces that could meet these needs in a future Essex Elementary School. Their ideas and the precedent images with reactions are documented in the following pages.

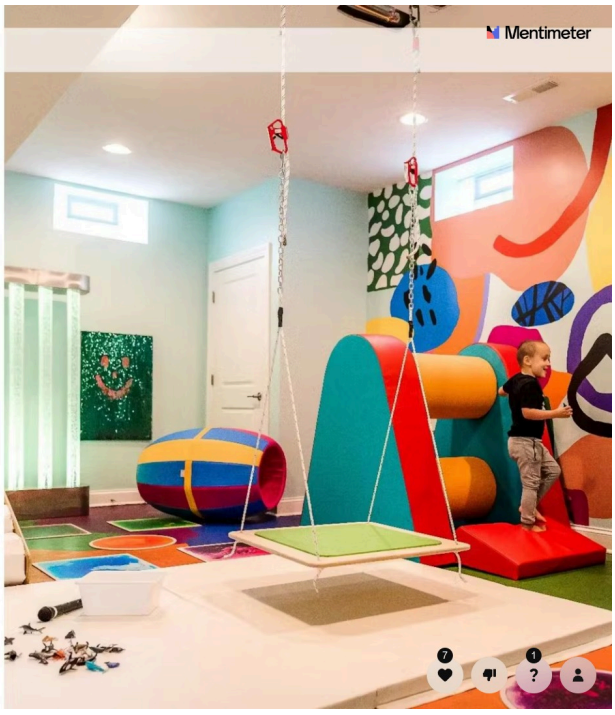
- Spaces that are quiet and calming
- Calming space in & out
- Calming spaces in classes as important as calming spaces elsewhere
- Visibility to outdoors – connection to outside / nature
- More age inclusive outdoor space
- Indoor & outdoor motor opportunities that meets developmental ranges
- Bring the outside in (not sand!)
- Celebration of students / connection to community & Essex culture
- Collaboration spaces support learning (used with intention and purpose)
- Sensory space – specific room
- Destination for movement / sensory experiences
- Sensory movement options / spaces, especially for older students
- Sensory path
- Alternative dining – varied table sizes
- Quiet dining space / varied options
- Porch
- Neighborhood spaces
- Break out neighborhood outside classrooms for partnering classes on science, projects
- Sliding doors between classes with middle shared space
- Small group / intervention spaces near classrooms
- Visibility into shared spaces
- Avoid places where students can hide and not be visible
- Stage / café / gym configuration with non-traditional café seating options
- Make use of "passage" space for SEL
- Lots of light and glass

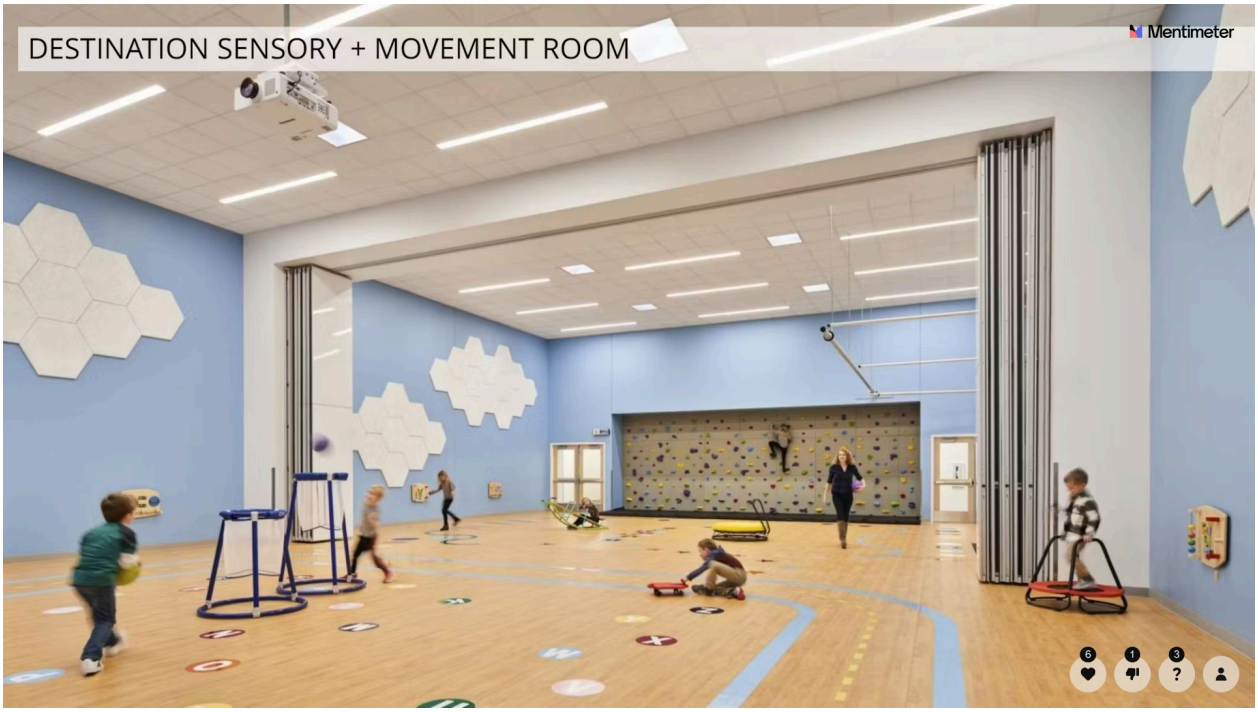
Mentimeter

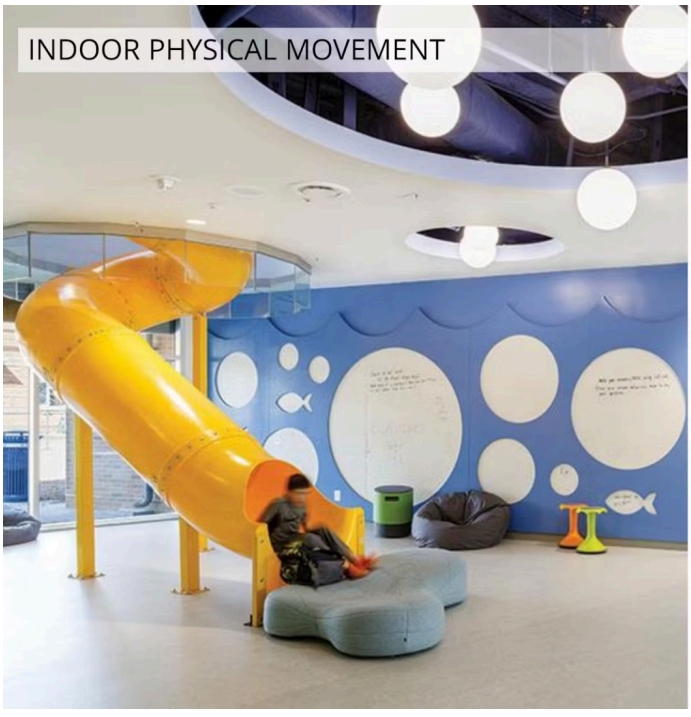
SPACES THAT SUPPORT STUDENTS

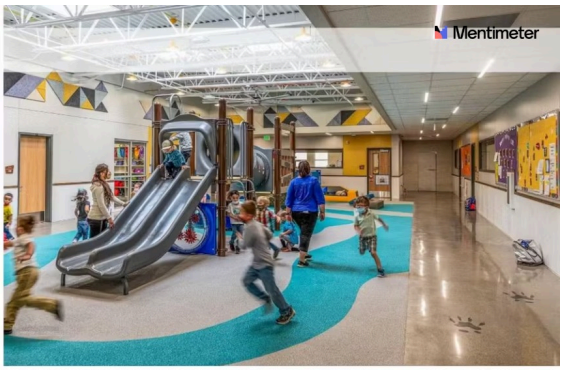
MOVEMENT + SENSORY NEEDS

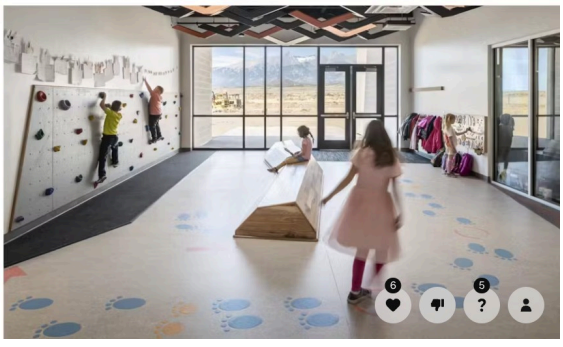





DESTINATION SENSORY + MOVEMENT ROOM
Mentimeter
6
1
3


INDOOR PHYSICAL MOVEMENT


Mentimeter


6
5


OUTDOOR PHYSICAL MOVEMENT
Mentimeter
11


SHARED COMMON SENSORY EXPERIENCES
Mentimeter
6
5


SHARED COMMON SENSORY EXPERIENCES


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3
5
3


OUTDOOR SENSORY EXPERIENCES


Mentimeter


3
7

Mentimeter

SPACES THAT SUPPORT STUDENTS

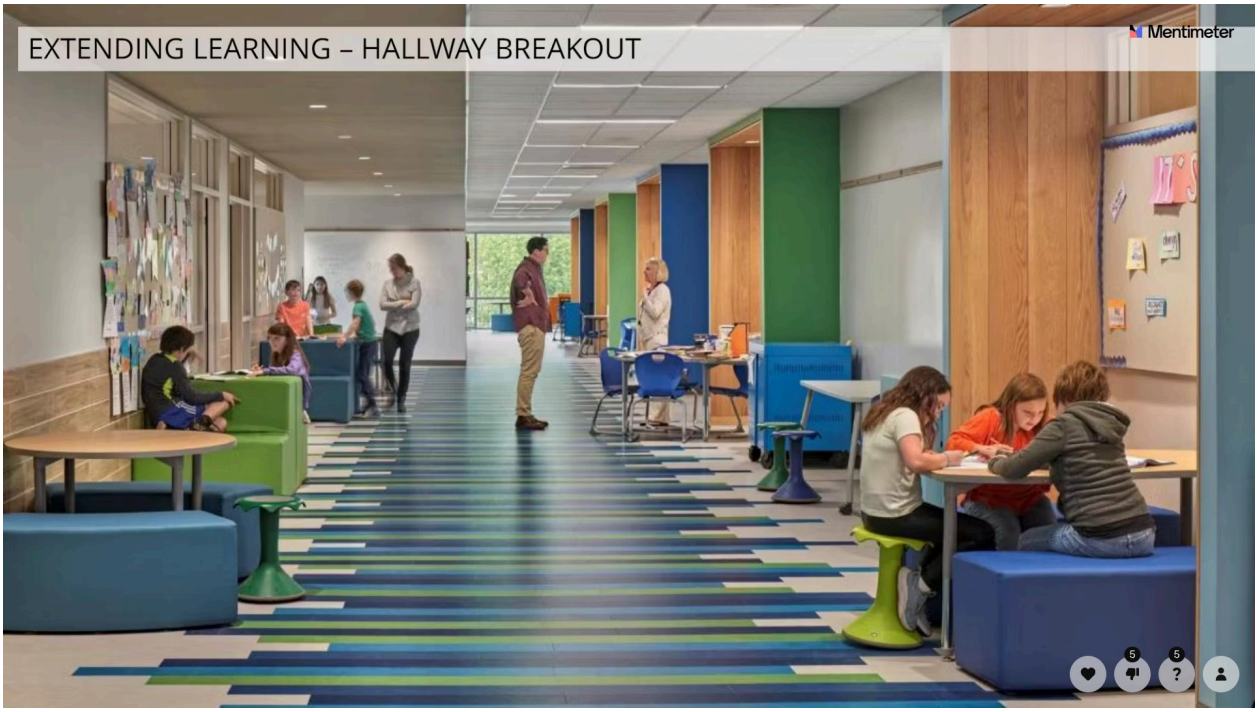
SOCIAL SKILLS + PEER INTERACTION

Mentimeter

EXTENDING LEARNING – PORCH BREAKOUT

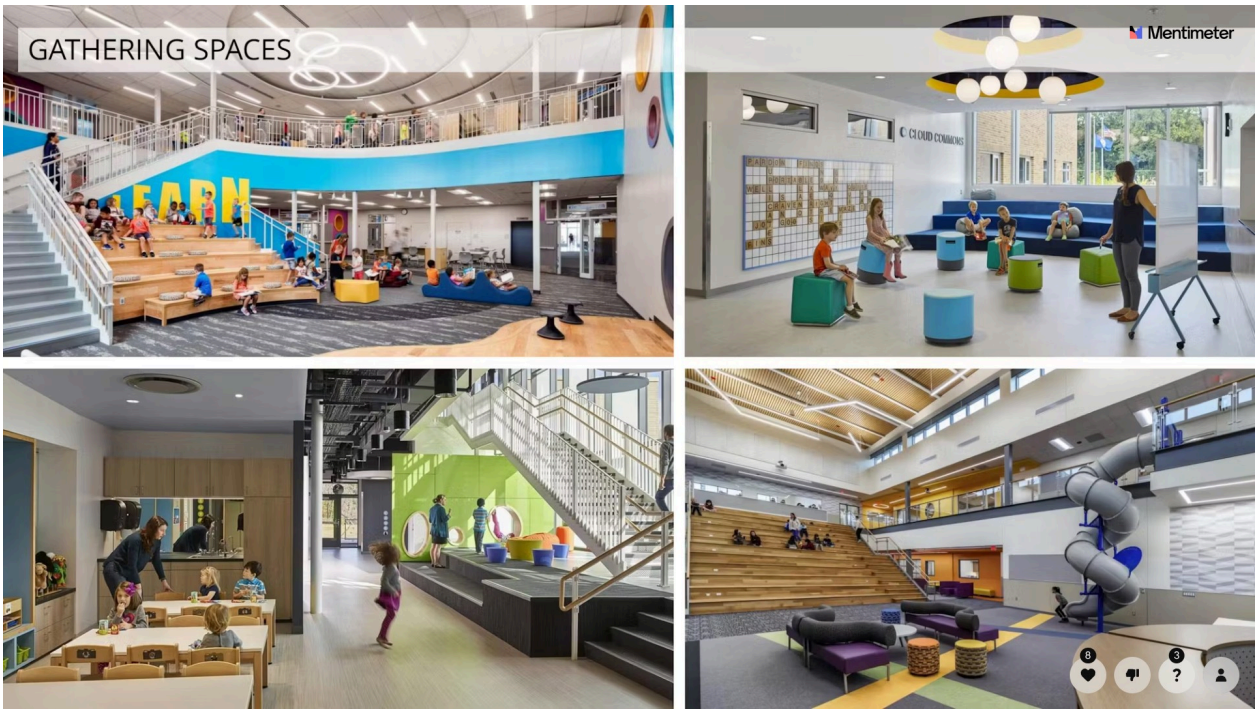





EXTENDING LEARNING – HALLWAY BREAKOUT
Mentimeter
5
5


EXTENDING LEARNING – NEIGHBORHOOD COMMONS
Mentimeter
8
3


EXTENDING LEARNING – NEIGHBORHOOD COMMONS
Mentimeter


GATHERING SPACES
Mentimeter

Mentimeter

SPACES THAT SUPPORT STUDENTS

SELF REGULATION
+ EMOTIONAL GROWTH





Visioning 2 Overview

On October 22, 2025, members of Manchester Essex Regional School District attended the second visioning session for the Essex Elementary School Building Project, facilitated by Educational Planner Mike Pirollo and Educational Consultant Paul White from MLP Integrated Design, Inc., with JCJ Architecture. This session focused on connecting teaching, learning, and student experiences with the design of learning spaces.

The meeting centered around the following goals:

- Reflect on current instructional practice using the district's Strategic Plan
- Explore how space types and design features can support desired learning experiences

Part 1 – Learning That Sticks

In Part 1, participants began by reflecting on moments when learning truly "stuck" for themselves or their students. They identified key descriptors that make learning meaningful and shared them on a "*What We Value in Learning*" wall. This created a shared understanding of what effective, engaging learning looks like.

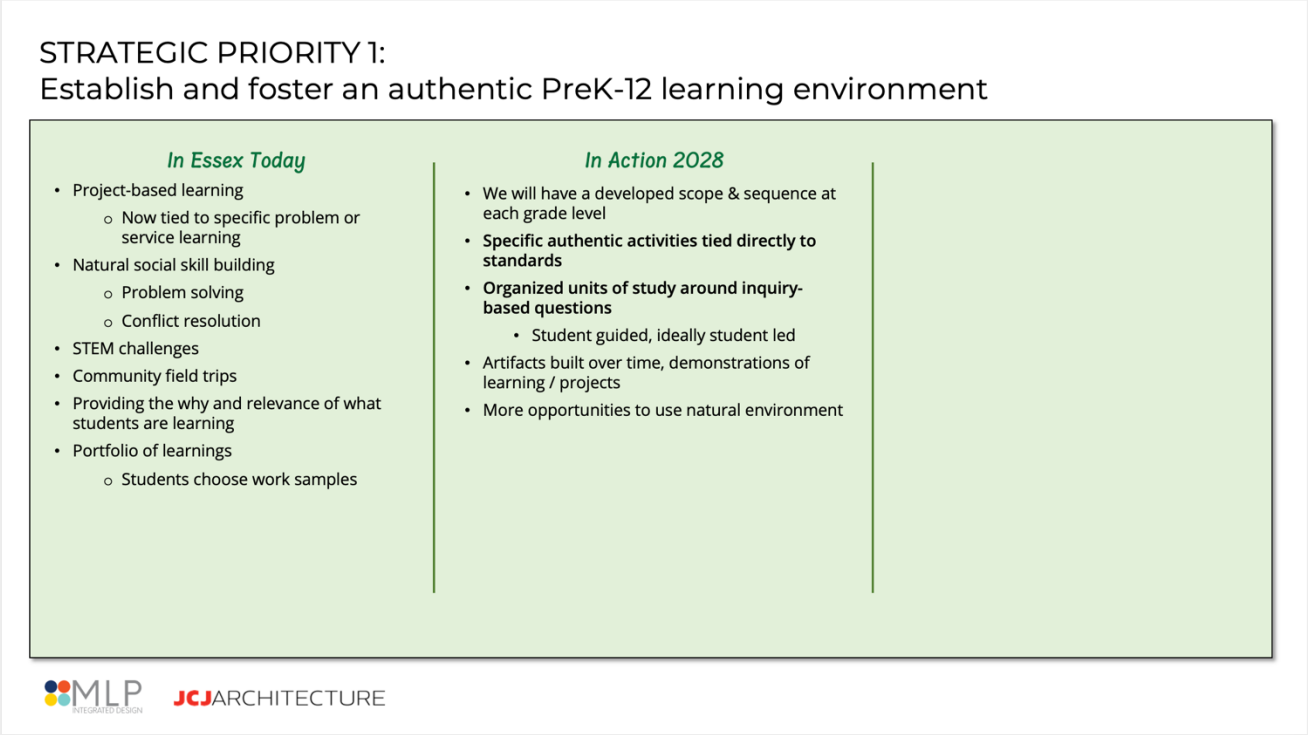
The responses from the *What We Value in Learning* chart is documented below. Please note, numbers in parenthesis signify the number of times a similar idea was made.

- Hands-on activities (4)
- Students helping each other (3)
- Whole class discussion and sharing ideas (2)
- Relationship building (2)
- Motivation / engagement (2)
- Connections to other learning or experiences (2)
- Fun (2)
- Cooperative learning (2)
- Creative
- Team building activities
- Whiteboard work
- Comparing strategies
- Was connected to current, real-world events
- Used knowledge and experiences many years later
- Kids struggled; it was hard but rewarding
- Show learning in different ways
- Choice
- Students taking ownership of their learning (the transfer and expansion)
- Outside in nature
- Active
- Relevant – solving a real problem
- Low-stakes, no pressure
- Data collection and visualization
- Whole-class participation
- Quick, easy
- Inviting space
- Natural light
- Appropriate seating

Part 2 – Strategic Plan in Action

In Part 2, participants worked in small groups to connect the district's Strategic Plan to classroom experiences. Each group documented how a priority is currently realized and how it might look in the final year of the District Improvement Plan, identifying gaps between current practice and desired outcomes.

The responses from the Strategic Plan priority charts are documented below.



STRATEGIC PRIORITY 2:
Integrate social-emotional learning into all aspects of the school day

In Essex Today

- Greet by name at door
- **Morning meetings / school meeting**
- RULER tools:
  - Chart how we want to feel
  - Mood meter
- **Calming spaces in class / school**
- Access to school adjustment counselor
- Multi-year personal relationships, personal connection
- Integrate students' interests in learning
- **Responsive Classroom routines**
- Birthday shout-outs
- After-school clubs – connecting after school with different adults
- Consistent expectations of routines, behavior (model & practice, role-playing)
- Logical consequences
- Student Leadership Council

In Action 2028

- **Consistent vertical scope of skills / practices**
- **Integrating purposeful movement / activators**
- **Integrate SEL assessments and intervention into MTSS model**
- **SEL component on report card**
- Integrate SEL in all academics / specials
- Small group space (close to classroom – visible to have private conversations)
- Peer leaders for conflict resolution
- Accessible spaces to meet SEL needs
- Large group spaces for collaboration

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STRATEGIC PRIORITY 3:
Celebrate and nurture an inclusive and diverse school culture through UDL

In Essex Today

- **Differentiation**:
  - Small group
  - Manipulatives
  - Type / amount for showing learning
  - MTSS (support for students in inclusive setting)
  - Title 1
  - Flexible seating
- Choice
  - Groupings
  - Order of completion
  - How to show work
  - Choice in assignment

In Action 2028

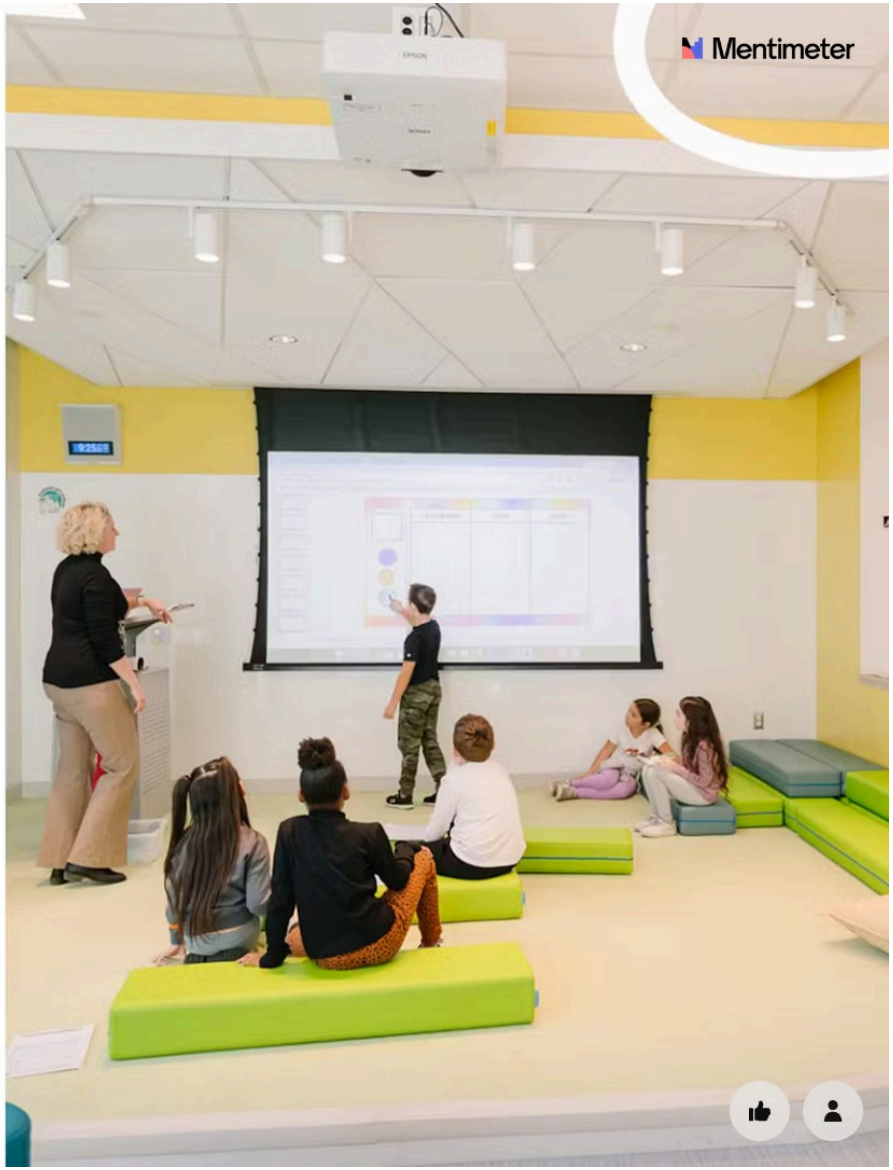
- Know the routines and expectations:
  - Group work
  - Partner work
  - Materials
- Small group spaces next to classrooms for support:
  - Minimize travel times
- Playground closer to lunch room = more time to play
- Flexible use of spaces
- Variety of spaces to meet students' needs (i.e. sensory)
- Programs / classes in the building with diverse learners:
  - SWING / RISE, PreK
  - World language classes
- Children are not stressed / anxious, better self-regulation

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Part 3 – Learning Environments in Action

In Part 3, participants explored how different types of spaces can support learning, collaboration, core curriculum, and student wellness. They reflected on which environments resonated most, what experiences they would enable for students, and which spaces felt essential for the future school. There responses to specific prompts are documented in the pages that follow.

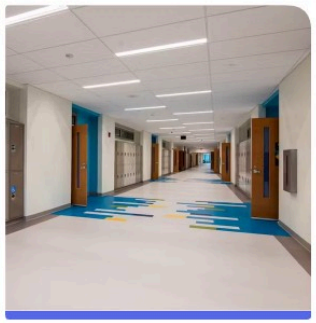
BUILDING ORGANIZATION



Mentimeter

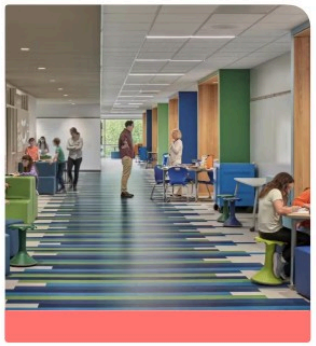
Which level of building organization feels right for MERSD students?

0



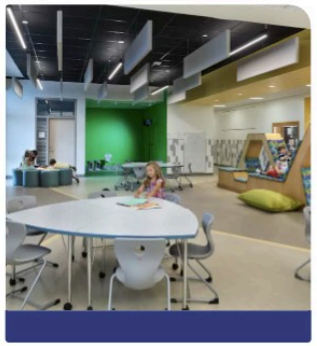
Traditional Corridor, No Breakout

1



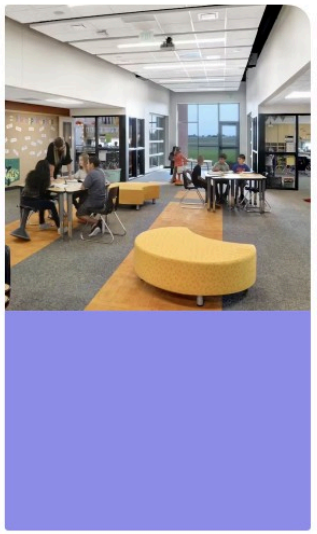
Small Corridor Breakout

1



Grouped Classrooms; Destination Breakout

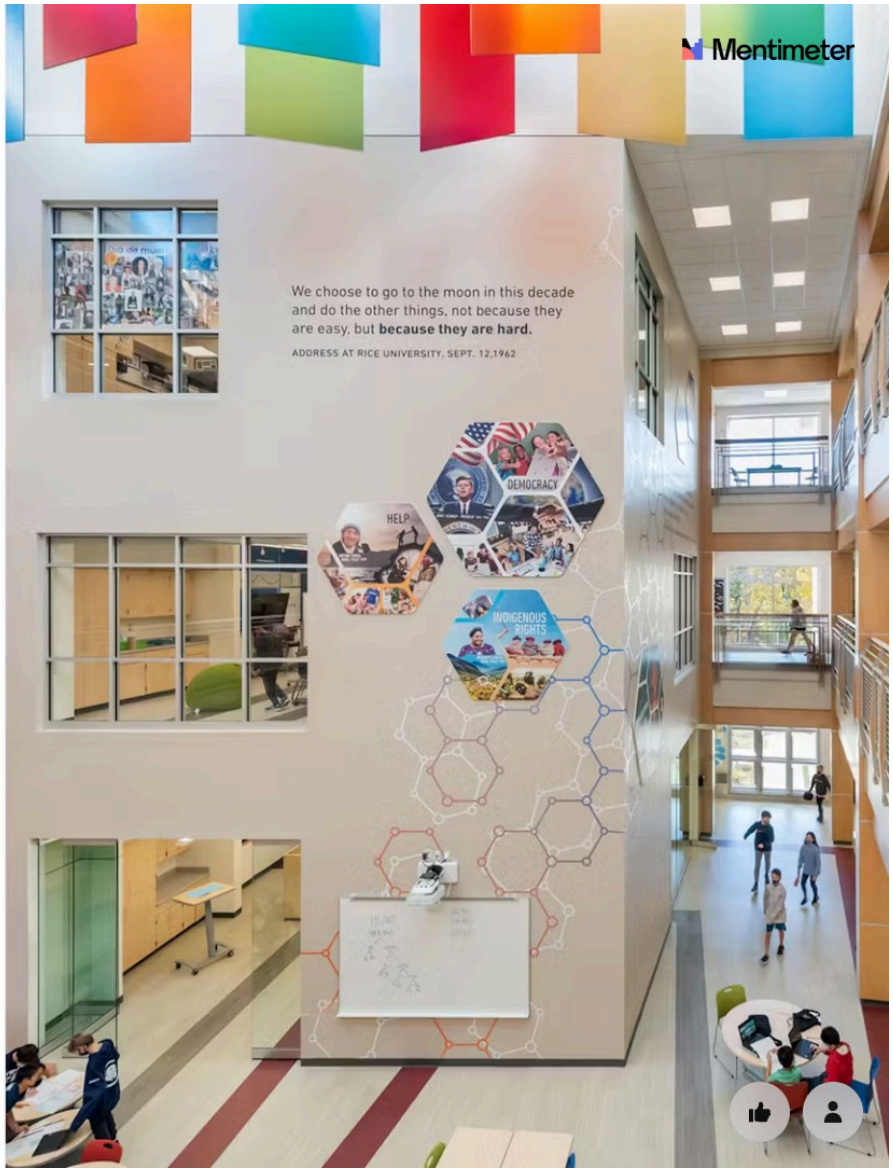
9



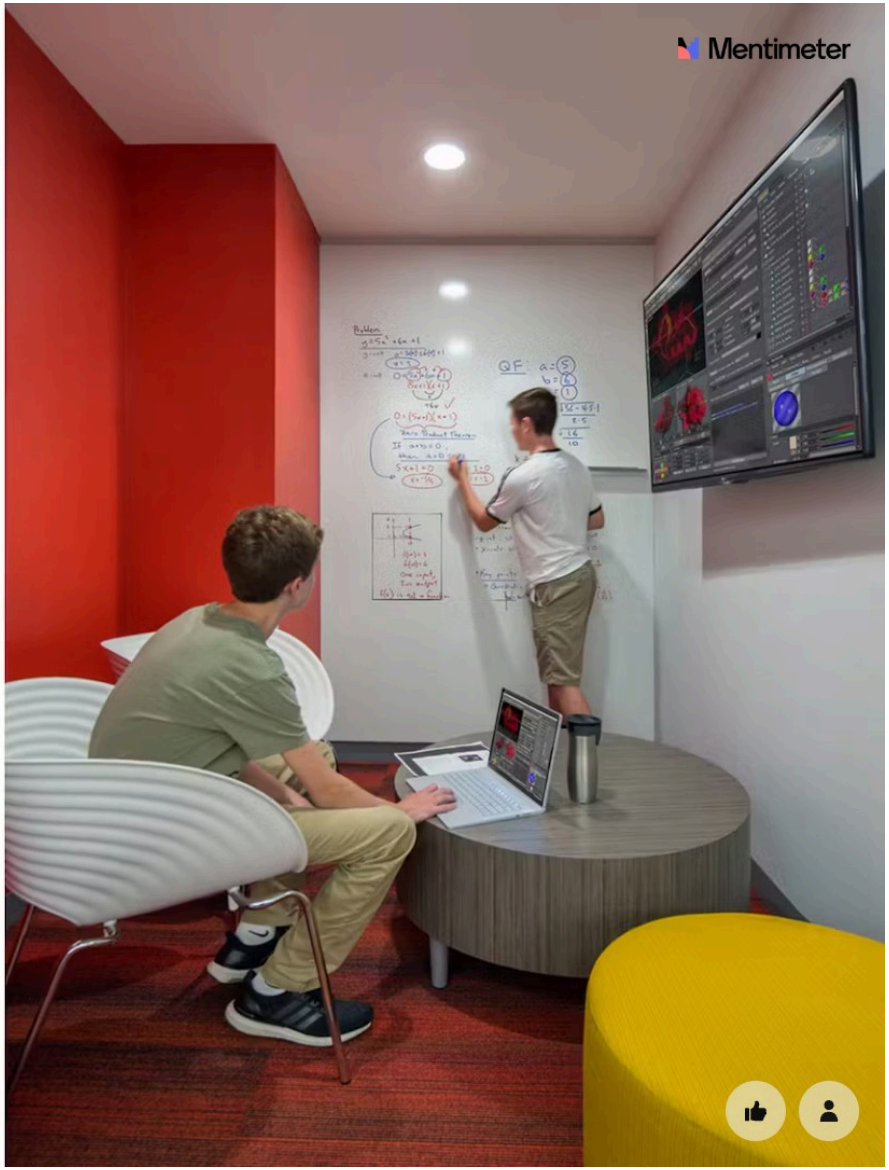
Small Learning Communities

11

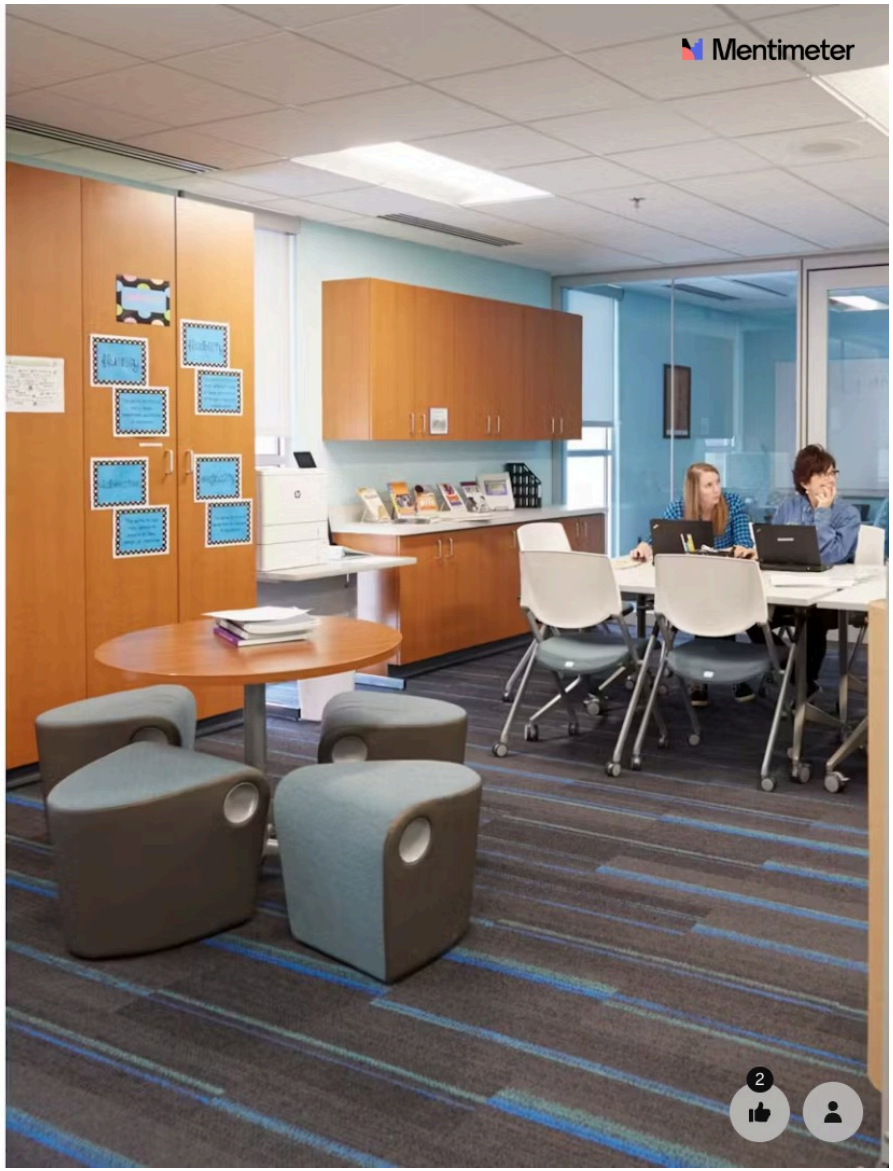
COLLABORATION + INTERACTION



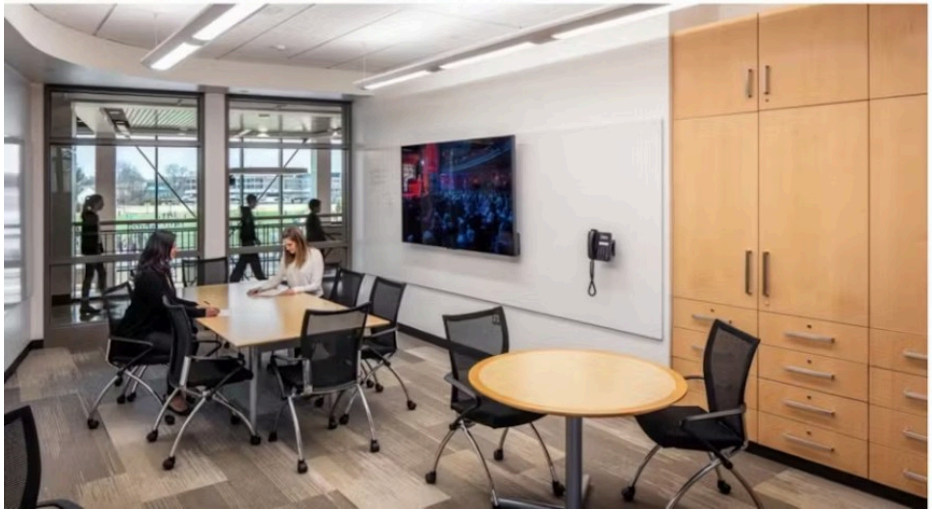
SMALL GROUP COLLABORATION

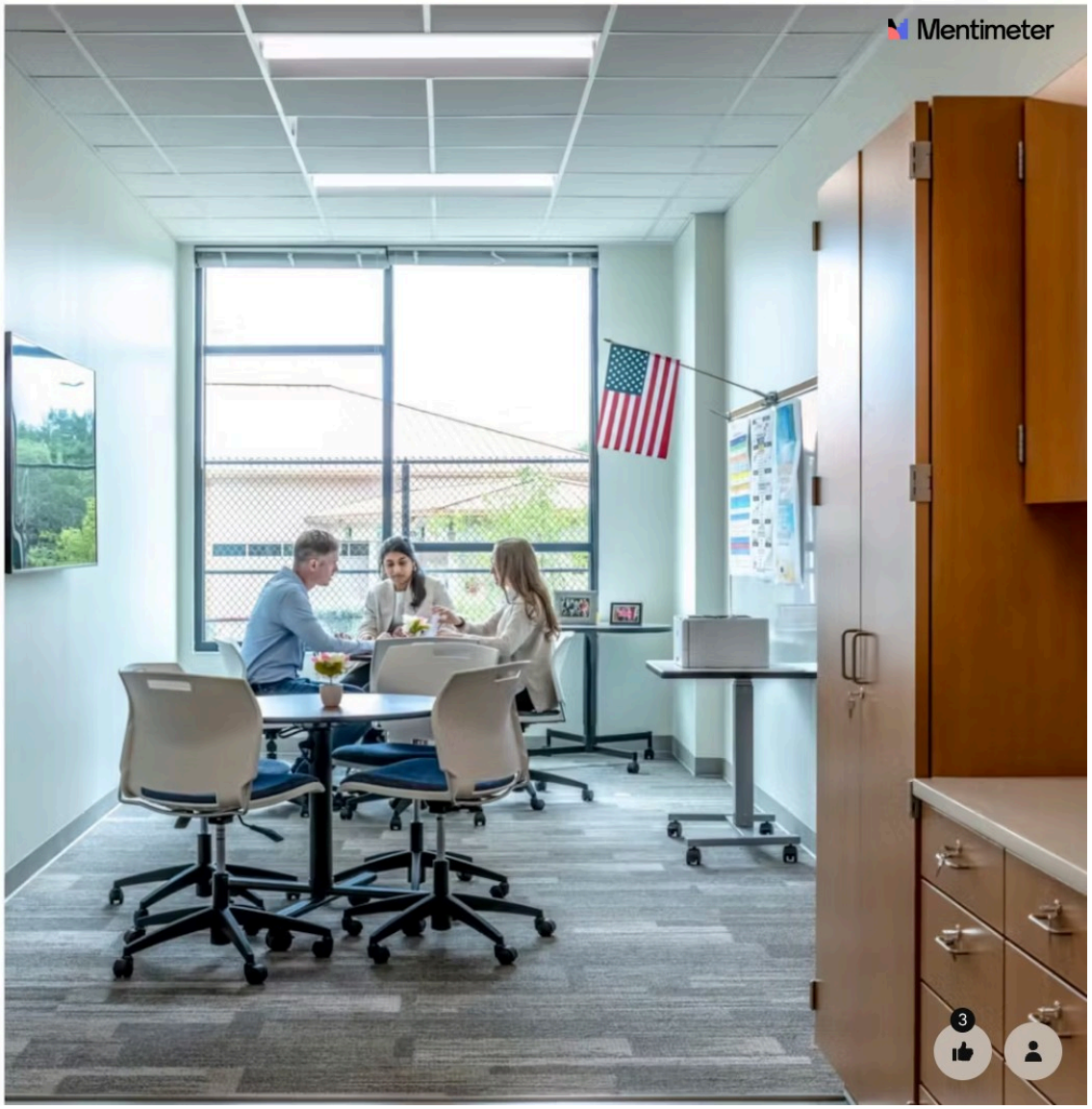


TEACHER COLLABORATION








Mentimeter
3



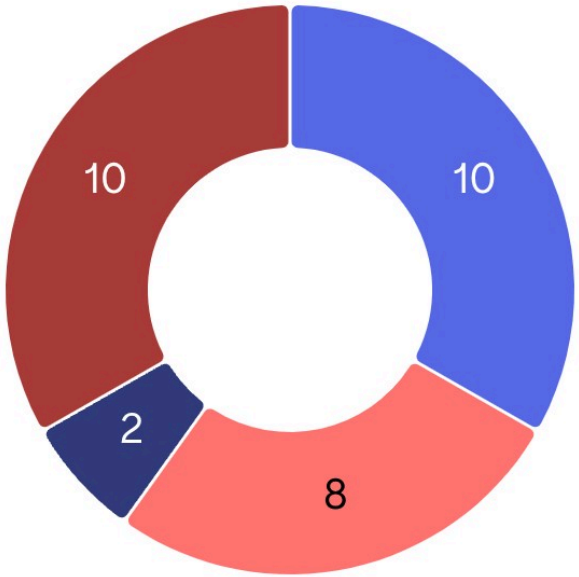
Picture a typical day for students in the new building.

What kinds of learning experiences should be easy and natural in classrooms and breakout spaces?

How should space support movement, hands-on exploration, and small-group learning to reach every child?

Mentimeter

What should collaboration space make *most possible* every day? Pick 3.



10	Active, hands-on exploration and movement
8	Small-group and individualized instruction
2	Collaboration among teachers and support staff
0	Calm, organized routines that help students focus
10	Flexibility to shift between group, partner, and independent learning

10

Mentimeter

Is there anything else collaboration spaces should make possible that isn't listed above?

Flexibility for learners physically. Opportunities for grades to collaborate together. Separate spaces for large projects

Larger class STEM activities or morning meetings

Performance and presentation

Shared space for cross grade collaboration such as k buddies Space for science labs with sinks

Co teaching with other classes.

Learning that can happen over time (like it doesn't have to be cleaned up each day because there's no space) Co-teaching Cross-class or cross-grade collaboration with students

Ability to shift based on changes in education/best practices.

Space for groups to gather for extracurricular activities

8

CONNECTIONS TO CORE LEARNING





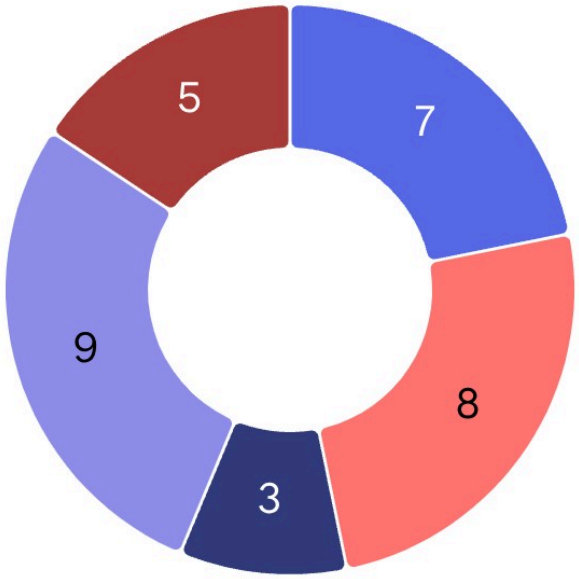
How should creation spaces connect to classroom learning?

When students move into these areas, what experiences do you hope they'll have (i.e. discovery, problem-solving?

How can design make it easy for teachers and specialists to work together so these experiences feel integrated?

Mentimeter

What's most important about how creation and exploration spaces connect to classroom learning? Pick 3.



7	They should be connected and visible to classrooms so learning flows easily between them.
8	They should be shared and flexible, used by different grades or programs for hands-on, creative work.
3	They should be collaborative, allowing teachers and specialists to co-teach or plan together.
9	They should be integrated and student-centered, supporting curiosity, making, and problem-solving.
5	They should also serve as community assets and not spatially connected to academics.

11

EDUCATIONAL WELLNESS & BELONGING



INDOOR – OUTDOOR CONNECTION





Think about an ideal day from morning arrival to lunch to the end of the day.

How can these spaces help students manage energy, focus, and emotions throughout the day?

Mentimeter

What kinds of spaces or design features can help students find calm, make choices, and belong?

Play spaces, distributed nooks and books, outdoor connections/access

Ruckus room

Flex for indoor to outdoor spaces

Lunch seating options are important. Quiet spaces carpeted with nooks, window seats.

Developmentally appropriate spaces for students, spaces that reflect different student interests (academic, sports, arts),

Age-appropriate play spaces; opportunities for outdoor learning activities. Indoor recess space.

Lunch with large, small, indoor and outdoor spaces

Indoor recess space upper grades recess space Lower grades recess space Flexible lunch spaces

9

Mentimeter

What kinds of spaces or design features can help students find calm, make choices, and belong?

A balance of calming spaces and active spaces is important. A cafeteria with different seating options so that all students can feel like they fill a table.

Indoor spaces for indoor recess

Varied/quiet space and seating for lunch Varied outdoor playground experiences Space for indoor recess activities

9

Part 4 – Strategic Plan in Action (Revisited)

In Part 4, groups revisited the strategic priority charts to link learning environments to priorities, considering how spaces would look, feel, and sound in supporting desired student outcomes.

The responses from the Strategic Plan priority charts are documented below.

STRATEGIC PRIORITY 1:
Establish and foster an authentic PreK-12 learning environment

In Essex Today	*In Action 2028*	*How Spaces Support*

• Project-based learning
  ○ Now tied to specific problem or service learning
• Natural social skill building
  ○ Problem solving
  ○ Conflict resolution
• STEM challenges
• Community field trips
• Providing the why and relevance of what students are learning
• Portfolio of learnings
  ○ Students choose work samples
	• We will have a developed scope & sequence at each grade level
	• **Specific authentic activities tied directly to standards**
	• **Organized units of study around inquiry-based questions**
	  • Student guided, ideally student led
	• Artifacts built over time, demonstrations of learning / projects
	• More opportunities to use natural environment
		• **Break out spaces support collaboration**
		• **Having a shared space allows for flexibility and choice (student & teacher)**
		• Flexible seating learning environment
		• Includes sinks at proper height
		• Space to set up projects / experiments and keep them up for a few days
		• Connection to outdoor spaces for learning
		• Display space for student work

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STRATEGIC PRIORITY 2:
Integrate social-emotional learning into all aspects of the school day

In Essex Today

- Greet by name at door
- **Morning meetings / school meeting**
- RULER tools:
  - Chart how we want to feel
  - Mood meter
- **Calming spaces in class / school**
- Access to school adjustment counselor
- Multi-year personal relationships, personal connection
- Integrate students' interests in learning
- **Responsive Classroom routines**
- Birthday shout-outs
- After-school clubs – connecting after school with different adults
- Consistent expectations of routines, behavior (model & practice, role-playing)
- Logical consequences
- Student Leadership Council

In Action 2028

- **Consistent vertical scope of skills / practices**
- **Integrating purposeful movement / activators**
- **Integrate SEL assessments and intervention into MTSS model**
- **SEL component on report card**
- Integrate SEL in all academics / specials
- Small group space (close to classroom – visible to have private conversations)
- Peer leaders for conflict resolution
- Accessible spaces to meet SEL needs
- Large group spaces for collaboration

How Spaces Support

- Calming / self-regulation sensory spaces
- Outdoor connections
- **Options for students to choose based on interest**
- **Café with tables of different sizes, booths**
- Collaboration:
  - Classroom – classroom
  - Students – students
  - Teachers
- **Large spaces to fit whole school plus families / community**

MLP INTEGRATED DESIGN JCJARCHITECTURE

STRATEGIC PRIORITY 3:
Celebrate and nurture an inclusive and diverse school culture through UDL

In Essex Today

- **Differentiation**:
  - Small group
  - Manipulatives
  - Type / amount for showing learning
  - MTSS (support for students in inclusive setting)
  - Title 1
  - Flexible seating
- Choice
  - Groupings
  - Order of completion
  - How to show work
  - Choice in assignment

In Action 2028

- Know the routines and expectations:
  - Group work
  - Partner work
  - Materials
- Small group spaces next to classrooms for support:
  - Minimize travel times
- Playground closer to lunch room = more time to play
- Flexible use of spaces
- Variety of spaces to meet students' needs (i.e. sensory)
- Programs / classes in the building with diverse learners:
  - SWING / RISE, PreK
  - World language classes
- Children are not stressed / anxious, better self-regulation

How Spaces Support

- Break out spaces
- Porch
- **Different lunch room options, table sizes**
- Upper grade play space
- Lower grade play space
- Space for all movement
- Student / cultural representation (town artifacts)
- Flexible size options for furniture

MLP INTEGRATED DESIGN JCJARCHITECTURE

Part 5 – Closing Reflection

The session concluded with a reflection prompt asking participants: *"After everything we explored* during these past two sessions*, what's still sitting on your mind — a thought, question, or hope you're leaving with?"*

The thoughts and lingering questions from participants are documented below.

- Not all classrooms need to have the same things
- Bathrooms – kids and adults
- Handwashing stations in the cafeteria

Sign In Sheets

Launch and Priority Mapping – 09.16.25

Kimberly Provost	Principal	provostk@mersd.org
Christina Dell Angelo	OPM Project Director	cdellangelo@doreandwhittier.com
Jacob Greco	Dore and Whittier APM	jgreco@doreandwhittier.com
Pam Beaudoin	Superintendent	beaudoinp@mersd.org
Heather Leonard	Director of Curriculum	leonardh@mersd.org
John Albright	OPM Dore+Whittier	jalbright@doreandwhittier.com
James LaPosta	JCJ Architect	jlaposta@jcj.com
Mike Pirollo	Educational Planner	mike@mlpid.com

Visioning 1 Session – 09.22.25

Emily Dwyer	Grade 1 teacher	dwyere@mersd.org
Gillian Mackay-Smith	Parent	gmackaysmith@gmail.com
Danielle Denetri	Grade 5 Teacher	demetrid@mersd.org
Kim Field	Grade 4 Teacher	fieldk@mersd.org
Taylor Clary	Grade 4 Teacher	claryt@mersd.org
Kimberly Provost	Principal	provostk@mersd.org
Maggie Safrine	EES Administrative Assistant	safrinem@mersd.org
Rachelle Russo	Kindergarten Teacher	russor@mersd.org
Patty Roundy	Kindergarten TA	roundyp@mersd.org
Jake Foster	School Committee	jfoster@mersd.org
Jeff Elliott	JCJ Architecture	jelliott@JCJ.com
Heather Leonard	Director of Curriculum	leonardh@mersd.org
Pam Beaudoin	Superintendent	beaudoinp@mersd.org
James LaPosta	JCJ Architect	jlaposta@jcj.com
Mike Pirollo	Educational Planner	mike@mlpid.com
Paul White	Educational Consultant	paul@mlpid.com

Visioning 2 Session – 10.22.25

Emily Dwyer	Grade 1 teacher	dwyere@mersd.org
Danielle Denetri	Grade 5 Teacher	demetrid@mersd.org
Kim Field	Grade 4 Teacher	fieldk@mersd.org
Taylor Clary	Grade 4 Teacher	claryt@mersd.org
Kimberly Provost	Principal	provostk@mersd.org
Maggie Safrine	EES Administrative Assistant	safrinem@mersd.org
Rachelle Russo	Kindergarten Teacher	russor@mersd.org
Patty Roundy	Kindergarten TA	roundyp@mersd.org
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Mike Pirollo	Educational Planner	mike@mlpid.com
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Program Workshop 1 Session – 09.29.25

Heather Leonard	Director of Curriculum	leonardh@mersd.org
Kimberly Provost	Principal	provostk@mersd.org
Pam Beaudoin	Superintendent	beaudoinp@mersd.org
Jeff Elliott	JCJ Architect	jelliott@jcj.com
Mike Pirollo	Educational Planner	mike@mlpid.com

Program Workshop 2 Session – 10.08.25

Heather Leonard	Director of Curriculum	leonardh@mersd.org
Kimberly Provost	Principal	provostk@mersd.org
Pam Beaudoin	Superintendent	beaudoinp@mersd.org
James LaPosta	JCJ Architect	jlaposta@jcj.com
Jeff Elliott	JCJ Architect	jelliott@jcj.com
Mike Pirollo	Educational Planner	mike@mlpid.com

Appendix B: *MERSD Regional Agreement*

Amended effective October 14, 2003 and May 10, 2007

AGREEMENT BETWEEN THE TOWNS OF ESSEX AND MANCHESTER-BY-THE-SEA, MASSACHUSETTS WITH RESPECT TO THE FORMATION OF A REGIONAL SCHOOL DISTRICT RESTATING THE PROVISIONS OF SAID AGREEMENT, AS AMENDED

This Agreement is entered into pursuant to Chapter 71 of the General Laws of the Commonwealth of Massachusetts, as amended, between the towns of Essex and Manchester-by-the-Sea ("MANCHESTER"), hereinafter sometimes referred to as member towns. In consideration of the mutual promises herein contained, it is hereby agreed as follows:

SECTION 1. THE REGIONAL SCHOOL COMMITTEE

(a) Composition

The powers and duties of the Regional School District shall be vested in and exercised by a Regional School Committee, hereinafter called the "Committee", which shall consist of seven (7) members, four (4) of whom shall be residents of Manchester and three (3) of whom shall be residents of Essex. All members shall serve until their respective successors are elected and qualified.

(b) Interim Committee

All members of the present Essex School Committee and the Manchester School Committee, acting jointly, shall serve as an Interim Committee until the next annual town elections held in the year following the year in which this Agreement is accepted by the member towns.

(c) Election of Members

Members of the Committee shall be elected by the voters of the member towns at each member town's annual town election.

At the next succeeding annual town elections of the member towns to be held in the year following the year in which this Agreement is accepted by the member towns, there shall be

elected seven (7) members of the Committee, four (4) of whom shall be residents of and elected by Manchester and three (3) of whom shall be residents of and elected by Essex, as follows:

(1) One (1) member who is a resident of and elected by Manchester and one member who is a resident of and elected by Essex, for a term of one (1) year;

(2) One (1) member who is a resident of and elected by Manchester and one member who is a resident of and elected by Essex, for a term of two (2) years;

(3) Two (2) residents who are residents of and elected by Manchester and one member who is a resident of and elected by Essex, for a term of three (3) years.

A candidate for membership on the Committee shall file nomination papers for the particular Committee position with the term such candidate is seeking as set forth in subparagraphs (i), (ii) or (iii) set forth above with the Town Clerk of the member town in which such candidate resides within the time allowed by the General Laws relating to filing nomination papers for town elections. Following the expiration of the original terms set forth in subparagraphs (i), (ii) and (iii) above, all members will be elected for a term of three (3) years at all succeeding elections.

Any registered voter of any member town may be a candidate and the method of his or her nomination shall be the same as if he or she were a candidate for elected town office in the member town in which he or she is a registered voter.

Promptly after their election, members of the Committee shall be sworn to the faithful discharge of their duties by the Town Clerk of the town in which they reside and a record of such oath shall be made and kept by the Town Clerk and a copy thereof delivered to the Secretary of the Committee.

Notwithstanding any other provision of this Agreement to the contrary, on February first immediately following the official publication of the most recently conducted state or federal census, the Committee shall determine, on the basis of such census figures, the total population of each member town and the total population of the District. (For the purposes of this provision, "official publication" means publication by the Secretary of the Commonwealth in the case of the state census and transmittal to Congress by the President in the case of the federal census.) Membership on the Committee shall be adjusted at that time, as hereinafter provided, so that the

town having the larger population as indicated in the official publication will have four (4) members on the Committee.

If a member town is entitled to an additional member of the Committee, as hereinabove provided, such additional member from such town shall be elected to the Committee at the annual town election next following the February first on which the determination of population must be made. If the population of a member town shall at any time cause its membership on the Committee to be reduced by one (1) member, such town shall at its next annual town election elect one less than the number of members of the Committee from that town whose terms expire.

The term of office of members of the Committee shall commence on the day following their election.

If there is a failure to nominate or a failure to elect a candidate, then the Board of Selectmen of the member town in which such failure to nominate or elect occurs shall appoint a member as though there were a vacancy under the provisions of subsection 1(e) of this Agreement.

(d) Organization

At the first regular meeting of the Committee following the acceptance of this Agreement by the member towns, and, thereafter at the first regular meeting of the Committee following the latter of the annual town elections of the member towns in each year, the Committee shall organize and choose by ballot a chairperson and vice-chairperson from its own membership. At the same meeting or at any other meeting, the Committee shall appoint a treasurer and a secretary who may be the same person but who need not be members of the Committee.

(e) Vacancies

If a vacancy occurs on the Committee, such vacancy shall be filled by a roll call vote of the Board of Selectmen and the remaining members of the Committee of the member town in which the member vacating office resided at the time of his or her election. The person so appointed shall be a resident of the town from which the vacancy occurred, and shall serve until the next town annual election, at which election a successor shall be elected to serve the balance of the unexpired term, if any.

(f) Quorum

A majority of the Committee shall constitute a quorum, at least one (1) of whom shall represent each member town.

(g) Powers and Duties

The Committee shall have all of the powers and duties conferred and imposed upon regional school district committees by law and by this Agreement and any amendment or additions thereto or as may be conferred and imposed upon it by any applicable general or special law.

SECTION 2. TYPE OF REGIONAL SCHOOL DISTRICT

The Regional School District shall include all grades, kindergarten through twelve (12). The Committee may establish and maintain vocational educational courses, acting as trustees therefore, in accordance with the provisions of Chapter 74 of the General Laws and any amendments or additions thereto.

SECTION 3. LOCATION AND LEASING OF SCHOOL FACILITIES

(a) Location

Any facility constructed to accommodate pupils in one or more grades from both member towns shall be located within the geographical limits of the District. The District shall at all times maintain at least one (1) elementary school facility in each member town. For purposes of this Agreement, an "elementary school facility" shall mean a facility used for elementary school grades as set forth in Section 13 below.

(b) Leasing

The Town of Essex is hereby authorized to lease to the Regional School District all the premises and buildings presently known as the

Essex Elementary and Middle School.

The Town of Manchester is hereby authorized to lease to the Regional School District all the premises and buildings presently known as the

Manchester Memorial School

Manchester Junior Senior High School

Each of the leases authorized above shall be for a term of twenty (20) years and the term shall commence on the date when the Committee assumes jurisdiction of the pupils in the grades served by said schools. Each of the leases shall contain a provision for the extension of the term thereof for a renewal term not in excess of twenty (20) years, renewable at any time during the term, at the option of the Committee. Each such lease shall automatically terminate, and the use of the building so leased shall revert back to the town from which it was leased in the event that the Committee decides that such building is no longer needed for the education program of the District. Each of the leases shall contain provisions authorizing the District to insure, repair, improve, alter or remodel any of the leased buildings. No rental shall be charged to the District by any of the member towns. Each lease shall contain identical warranties from the respective member towns warranting that the buildings shall be in good condition at the time of leasing to the District, on the terms as set forth in the leases. Each lease involving a member town shall be on such other terms and conditions as may be determined by the Selectmen thereof and the Committee, who shall execute the lease for the member town and the District, respectively.

The unpaid balance on the outstanding bonds (school bonds authorized for the purpose of constructing or improving the above-reference facilities) at the time of leasing of said buildings and facilities shall remain the obligation of the member town.

SECTION 4. APPORTIONMENT AND PAYMENT OF COSTS

(a) Definition of Costs

For the purpose of apportioning assessments levied by the District against the member towns, costs shall be divided into three (3) categories, as follows:

(1) Capital costs, which shall consist of the costs of: acquiring land and constructing, reconstructing, adding to, and equipping a school building or buildings; remodeling and making extraordinary repairs to a school building or buildings; constructing sewerage systems and sewerage treatment and disposal facilities; purchasing or using such sewerage systems with municipalities; leasing, with an option to purchase, equipment for educational purposes; any other projects or acquisitions of a capital nature which the District is or may be authorized to finance by borrowing; and debt service on bonds or notes of the District issued to finance capital costs.

(2) Special operating costs, which shall consist of the cost of evening, graduate, and extension courses or any other types of courses, including vocational educational programs but excluding summer school programs, that are offered by the District to persons other than pupils attending a regular District comprehensive school program in any of the grades kindergarten through twelve, inclusive.

(3) Operating costs, which shall consist of all costs of the District other than capital costs and special operating costs. Operating costs shall consist of "instructional costs" and "non-instructional costs", and the categorization of all operating costs into these two sub-categories shall be determined by the Regional District School Committee in accordance with any definitions that may be promulgated from time to time by the Massachusetts Department of Education.

(b) Apportionment of Capital Costs

Capital costs shall be apportioned as follows:

(1) Fifty percent (50%) on the basis that the equalized valuation of each member town pursuant to the latest equalized valuation of such town, as set forth in Chapter 559 of the Acts of 1945 entitled "An Act Establishing the Basis of Apportionment of State and County Taxes" ("Chapter 559"), or any later equalized valuations as may be enacted by the Commonwealth next preceding each bond issue, bears to the sum of all such equalized valuations of all member towns; and

(2) Fifty percent (50%) on the basis that the respective populations of each member town based on the most recent decennial U.S. Census (or any official census prepared by the U.S. Census bureau that calculates the populations of each member town, such census being referred to herein as the “Federal Census”) bears to the total combined populations of all member towns in that same Federal Census.

(c) Apportionment of Special Operating Costs

Special operating costs shall be apportioned to the member towns on the basis that the enrollment of pupil hours of residents of each member town in courses described in paragraph 2 of subsection 4 (a) above for the fiscal year next preceding the fiscal year for which the apportionment is determined bears to the total enrollment of pupil hours in such courses from

residents of both member towns on such date. Enrollment in such courses shall be determined on the basis of those pupils enrolled in each of said courses as of the first Tuesday after the first Monday of the week that said courses commence.

(d) Apportionment of Operating Costs

Operating costs shall be expressed as "instructional costs" and "non-instructional costs", and the categorization of costs into either of these sub-categories are to be determined by the Regional District School Committee, in accordance with any definitions that may be promulgated from time to time by the Massachusetts Department of Education.

.(1) Non-instructional operating costs shall be apportioned to the member towns as follows:

(i) Twenty-five percent (25%) on the basis that the "Average Equalized Valuation" (as defined below) of each member town bears to the "Total Equalized Valuation" (as defined below) of all member towns; and

(ii) Seventy-five percent (75%) on the basis that the population of each member town according to the most recent Federal Census bears to the combined populations of all member towns according to the same Federal Census.

(2) Instructional operating costs shall be apportioned to the member towns as follows:

(i) Twenty-five percent (25%) on the basis that the Average Equalized Valuation of each member town bears to the Total Equalized Valuation of all member towns; and

(ii) Seventy-five percent (75%) on the basis that the "Average Respective Pupil Enrollments" (as defined below) of each member town in all Regional School District schools bears to the "Total Pupil Enrollment" (as defined below).

(3) For purposes of this Agreement:

(i) the Average Equalized Valuation of each member town for fiscal year 2008 shall mean the "Latest Equalized Valuation of such Member Town" (as defined below);

(ii) the Average Equalized Valuation of each member town for fiscal year 2009 shall mean the arithmetic average of the Latest Equalized Valuation of such Member Town for fiscal year 2008 and fiscal year 2009;

(iii) the Average Equalized Valuation of each member town for fiscal year 2010 and each fiscal year thereafter shall mean the arithmetic average of the Latest Equalized Valuation of such Member Town for such fiscal year and the two immediately preceding fiscal years;

(iv) the Latest Equalized Valuation of such Member Town shall mean, with respect to any fiscal year, the equalized valuation of such member town as set forth in Chapter 559 most recently made publicly available prior to the beginning of such fiscal year;

(v) the Total Equalized Valuation of the member towns for any fiscal year shall mean the sum of the Latest Equalized Valuations of all member towns used in computing the Average Equalized Valuation for any member town for such fiscal year;

(vi) the Average Respective Pupil Enrollment of each member town for fiscal year 2008 shall mean such member town's pupil enrollment in the Regional School District on October 1, 2006;

(vii) the Average Respective Pupil Enrollment of each member town for fiscal year 2009 shall mean the arithmetic average of such member town's pupil enrollment in the Regional School District on October 1, 2007 and October 1, 2006;

(viii) the Average Respective Pupil Enrollment of each member town for fiscal year 2010 and each fiscal year thereafter shall mean the arithmetic average of such member town's pupil enrollment in the Regional School District on October 1 within each of the three (3) most recently ended fiscal years immediately prior to the fiscal year for which the determination is to be made; and

(ix) the Total Pupil Enrollment for any fiscal year shall mean the sum of the total pupil enrollments in the Regional School District on each October 1 used in computing the Average Respective Pupil Enrollment for any member town for such fiscal year.

(e) Times of Payments of Apportioned Costs

(1) Capital costs. At least fifteen (15) days prior to the date on which any indebtedness (consisting of interest or principal and interest on bonds and notes) incurred by the District to finance capital costs is payable, each member town shall pay to the District its respective share of the amount that is so payable by the District on said date. All other capital costs incurred by the District not consisting of payments on account of indebtedness as aforesaid shall be paid in the same manner as operating costs.

(2) Special Operating Costs and Operating Costs. Each member town shall pay to the District in each fiscal year its proportionate share, determined as provided in subsections 4 (c) and 4(d) above, of the special operating costs and operating costs. The annual share of each member town shall be paid in twelve (12) equal installments at such times that each installment except the first shall be paid on or before the first day of each month of the fiscal year, and the first such installment shall be paid on or before the fifteenth (15th) day of the first month of the first fiscal year.

SECTION 5. TRANSPORTATION

School transportation shall be provided by the District and the cost thereof shall be apportioned to the member towns as an operating cost.

SECTION 6. AMENDMENTS

This Agreement may be amended from time to time in the manner hereinafter provided, but no amendment shall be made that shall substantially impair the rights of the holders of the bonds or notes or other evidence of indebtedness of the District then outstanding, or the rights of the District to procure the means for payment thereof, provided nothing in this provision shall prevent the admission of a new town or towns to the District and the reapportionment accordingly of capital costs of the District represented by bonds or notes of the District then outstanding and of interest thereon.

Any proposal for amendment, except for a proposal for amendment providing for the withdrawal of a member town (which shall be acted upon as provided in Section 8), may be initiated by a majority vote of the Committee or by a petition signed by ten percent (10%) of the registered voters in said town according to the most recent voting list and the number of signatures on the petition which appear to be the names of registered voters of said town and said petition

shall be presented to the Secretary of the Committee. In either case, the Secretary shall mail a notice in writing to the Board of Selectmen of each member town that a proposal to amend this Agreement has been made and shall enclose a copy of such proposal (without the signatures in the case of a proposal by petition). The Selectmen of each member town shall include in the warrant for the next annual town meeting or a special town meeting called for the purpose an article stating the proposal or the substance thereof. Such amendment shall take effect upon its acceptance by each of the member towns, acceptance by each member town to be by a majority vote at a town meeting as aforesaid.

SECTION 7. ADMISSION OF ADDITIONAL TOWNS

By an amendment to this Agreement adopted under and in accordance with Section 6 above, any other town or towns may be admitted to the District upon adoption as therein provided of such amendment and upon acceptance by the town or towns seeking admission of the Agreement as so amended and also upon compliance with such provisions of law as may be applicable and upon such terms as may be set forth in such amendment.

SECTION 8. WITHDRAWAL

The withdrawal of a member town from the District may be affected by an amendment to this agreement in the manner hereinafter provided by this section. Any member seeking to withdraw shall, by vote at an annual or special town meeting, request the Committee to draw up an amendment to this Agreement setting forth the terms by which such town may withdraw from the District, provided:

(a) that the town seeking to withdraw shall remain liable for any unpaid operating costs which have been certified by the District treasurer to the treasurer of the withdrawing town, including the full amount so certified for the fiscal year in which such withdrawal takes effect; and

(b) that said town shall remain liable to the District for its share of the indebtedness, other than temporary debt in anticipation of revenue, of the District outstanding at the time of such withdrawal, and for interest thereon, to the same extent and in the same manner as though the town had not withdrawn from the District, except that such liability shall be reduced by any amount that such town has paid over at the time of withdrawal and which has been applied to the payment of indebtedness. The clerk of the town seeking to withdraw shall notify in writing the Committee that

such town has voted to request the Committee to draw up an amendment to the Agreement (enclosing a certified copy of such vote). Thereupon, the Committee shall draw up an amendment to the Agreement setting forth such terms of withdrawal as it deems advisable, subject to the limitations contained in the first paragraph of Section 6. The Secretary shall mail or deliver a notice in writing to the Board of Selectmen of each member town that the Committee has proposed an amendment (enclosing a copy of the proposed amendment). The Selectmen of each member town shall include in the warrant for the next annual town meeting or a special town meeting called for the purpose, an article stating the amendment or the substance thereof. Such amendment shall take effect upon its acceptance by all of the member towns, acceptance by each member town to be a majority vote at a town meeting as aforesaid. The withdrawing town's annual share of any future installment of principal and interest on bonds or notes outstanding on the effective date of its withdrawal shall be fixed at the percentage prevailing for such town at the last annual apportionment made next prior to the effective date of withdrawal. Upon the effective date of withdrawal, the terms of office of all members serving on the Committee who reside in the withdrawing town shall terminate.

(c) Money received by the District from the withdrawing town for payment of funded indebtedness or interest thereon shall be used only for such purpose and until so used shall be deposited in trust in the name of the District in the manner provided by law for the deposit of funds of regional school districts.

SECTION 9. AUTHORIZATION OF DEBT

The incurring of indebtedness, except temporary indebtedness in anticipation of revenue, by the District, shall be subject to disapproval by the registered voters in the member towns pursuant to the provisions of clause (d) of Section sixteen of chapter seventy-one of the General Law, as from time to time it may be amended. No such debt shall be incurred unless written notice of the amount of the debt and the general purpose for which it was authorized shall be given to the Board of Selectmen of each member town, nor until the expiration of sixty (60) days from the date on which the Committee votes to authorize said debt. Notwithstanding any provision of applicable law, it shall be the Regional School District's practice that such debt shall not actually be incurred until the amount of the proposed debt has been specifically approved by a two-thirds vote at the

next annual or special town meeting of each member town, to be held within the sixty (60) day notice period set forth in this provision.

SECTION 10. BUDGET

(a) Tentative Budget

No less than fifteen (15) days prior to the date on which the Committee adopts, or is required to adopt, whichever event occurs first, its final budget for the ensuing fiscal year, the Committee shall prepare a tentative operating and maintenance budget including therein provision for any installment of principal or interest to become due in such fiscal year on any bonds, notes or other evidence of indebtedness of the District. Said budget shall be in reasonable detail, including the amounts payable under the classification of expenses recommended by the Massachusetts Department of Education. Copies of such tentative budget shall be mailed to the Chairperson of the Finance Committee and the Board of Selectmen of each member town.

No less than seven (7) or more than fifteen (15) days following the date on which copies of the tentative budget are mailed to the Chairperson of the Finance Committee and the Board of Selectmen of the member towns as aforesaid, the Committee shall hold a public hearing within the District, after posting in at least two (2) public places in each member town at least seven (7) days in advance of the hearing, a notice stating the time, place, and purpose of the hearing, and giving such further notice as may be required by law. At such hearing, the Committee shall present the tentative budget and shall answer any reasonable inquiries with respect thereto.

Nothing in this Section 10 shall limit the ability of the Committee from preparing, reviewing or revising, alone or together with the one or more members of the Boards of Selectmen or Finance Committees of any member town, any preliminary budget in such form as the Committee may deem appropriate.

(b) Annual Budget

The Committee shall adopt an annual operating and maintenance budget on or before the latest date permitted by law therefore. Said budget shall include debt and interest charges as a separate item, and the Committee shall apportion the amount necessary to be raised in order to meet said budget in accordance with the provisions of subsections 4(b), (c) and (d). The amount so apportioned to each member town shall, not later than thirty (30) days following the adoption of the

final annual budget, be certified by the district treasurer to the treasurer of each member town, and each member town shall, at its next annual town meeting, appropriate the amounts so certified to it.

(c) Annual Report

The Committee shall, on or before October 1 of each year, submit an annual report to the Chair of the Board of Selectmen and Finance Committee in each of the member towns, containing a detailed financial statement, and a statement showing the method of computing the annual charges assessed against each member town, together with such additional information relating to the operation and maintenance of the District as may be deemed necessary by the Committee or the selectmen of any member town.

SECTION 11. EMPLOYMENT OF TEACHERS

Any teacher who has professional teacher status or other rights under Chapter 71, Section 41, whose position is superseded by reason of the establishment and operation of the District shall be employed with the same status by the Committee. Any teacher without status in a city or town in the district whose position is superseded by reason of the establishment and operation of the District shall be elected to serve in such District by the Committee; provided, however, that there is an available position which such person is certified to fill. All teachers employed by the District will be entitled to all of the rights set forth in Chapter 71, Section 42B.

SECTION 12. DISPUTE RESOLUTION

Any dispute by a member town or among member towns regarding the provisions of this Agreement or the performance of any member town under this Agreement shall be resolved as follows:

(a) Such dispute shall initially be submitted to the Committee in writing, specifying the dispute.

(b) If the Committee is unable to resolve the dispute within thirty (30) days of the receipt of the written referral to it, the dispute shall be referred to a committee comprised of the Chairs of the Committee and the Boards of Selectmen of each member town.

(c) If this committee is unable to resolve the dispute by unanimous action within fifteen (15) days of the submission of the dispute to it, the dispute shall be referred to a committee comprised of one (1) member of the Board of Selectmen and one (1) member of the Finance

Committee of each member town designated by the respective Board of Selectmen of each member town and a non-voting facilitator, chosen by the Committee, who will chair such committee.

(d) If this committee is unable to resolve the dispute by majority action within sixty (60) days of the submission of the dispute to it, the member towns shall submit such dispute to formal mediation with a professional mediator mutually agreeable to the Board of Selectmen of each member town; provided that if such mutual agreement is not obtained within thirty (30) days of the date the dispute is required to be submitted to formal mediation, the mediator shall be supplied by the nearest office of JAMS (www.jamsadr.com) or any successor organization upon the request of the Board of Selectmen of any member town or the Committee.

(e) The member towns agree not to initiate any litigation relating to a dispute prior to seeking resolution pursuant to the foregoing provisions. Written or oral statements or offers of settlement made in the course of this dispute resolution process will not be offered into evidence or used for any purpose other than this dispute resolution process and shall not constitute any admission or waiver of rights.

SECTION 13. ASSIGNMENT OF PUPILS

All pupils in grades designated by the Committee as elementary school grades, which shall at least be grades Kindergarten through Four (4) in both member towns, shall be guaranteed the opportunity to receive their education in facilities that are located in the respective towns in which the pupils reside, except that in the case of children with special needs, the Committee may provide for appropriate arrangements. For the purposes of this provision, the term "children with special needs" shall have the same meaning as the term "school-age child with special needs" as defined in section one of chapter seventy-one B of the General Laws. Any pupil who has been accepted to attend a public school in either member town other than the one in which he resides pursuant to Chapter 76, Section 12, as of the date that the Regional School District is formed shall be permitted to remain in the District until his high school graduation.

SECTION 14. EFFECTIVE DATE AND JURISDICTION

This Agreement shall take effect upon its acceptance by each of the Towns of Essex and Manchester.

SECTION 15. SEVERABILITY OF SECTIONS

According to Chapter 71. Section 16 (I), in the event that any provision of this Regional School District Agreement is held invalid in any circumstance, such invalidity shall not affect any other provisions or circumstances.

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Appendix C: *MERSD Elementary Task Force Recommendations*

MERSD Elementary Configuration Task Force
Task Force Recommendation to MERSD School Committee

Background

The Manchester Essex Regional School District (MERSD) includes two Pre-Kindergarten through Grade 5 Elementary Schools. Following the completion of a preliminary internal assessment of the existing conditions of the two schools in 2012, the District recognized both buildings would require improvements and commissioned a professional study conducted by Habeeb & Associates Architects in early 2013.

The Habeeb study explored three solutions which were determined by MERSD to be the most logical possibilities moving forward:

Option A: Renovations and additions (if needed) to each of the two schools while maintaining the current grade configuration and serving the residents of each respective town.

Option B: Combine the students of each town and consist of renovations and additions (if needed) to each of the two schools while creating an early education center housing Pre-K, K, 1 and 2 at one of the schools, and grades 3 through 5 at the other.

Option C: Combine the students of each town in a new facility appropriately located on a new site.

The projected cost of the options range from $40MM to $47MM, and the Habeeb report included information about existing educational spaces, required educational spaces, operating capacities, size of additions and projected costs for upgrades, additions, and new structures.

Considering the significant investment that will be required by Essex and Manchester taxpayers to improve the District's aging elementary schools, MERSD fielded a Facilities Expansion Survey in both communities, and formed an Elementary Configuration Task Force in the of Fall 2013. The goal of these two initiatives was to gauge community awareness of critical facilities issues, and learn stakeholder priorities and preferences.

Formation of Elementary Configuration Task Force

The task force is chaired by Caroline Weld and Jim Haskell who represent the Facilities Sub Committee of the MERSD School Committee. It consists of 10 volunteer residents who represent various constituencies in the towns of Essex and Manchester:

Essex	Manchester
Timothy St. Laurent – Preschool Parent	Krista Jakes – Elem/Preschool Parent
Christine Woodman –Elem Parent	Flo Johnson – Elem/Middle School Parent
Michael Gerhardt –Elem Parent	Regina Villa – Community Member at Large
Rebecca Jones – Community Member at Large	Sue Pick – Finance Committee
Susan Coviello – Board of Selectman	Eli Boling – Board of Selectman

Task Force Objective

The Elementary Configuration Task Force was charged with delivering a recommendation to the MERSD School Committee answering the following question: **Should MERSD maintain the current neighborhood school model or move to a unified elementary model?**

Cost and financial impact to taxpayers in Essex and Manchester is top of mind with building projects of this magnitude. Those issues will be addressed in detail by a Building Committee during the next phase, beginning in Spring 2014.

Discovery Process

Between September and December 2013, members of the task force engaged in the following activities to inform their recommendation:

- Attended presentation and reviewed Facilities Needs Assessment from Habeeb & Associates Architects. For copies of presentations and details, click on visit the Elementary Facilities Project Page.
    - Habeeb & Associates Presentation
    - Habeeb & Associates Facilities Report

- Reviewed MERSD regional agreement. To read this agreement, click on Regional Agreement at.

- Read professional journal articles and secondary research about the pros and cons of different school configurations, renovating or replacing buildings, etc. Elementary Task Force Resources

- Reviewed results from Facilities Expansion Survey fielded by MERSD in conjunction with independent technology and communication firm, K12 Insight. For details, click on Elementary Facilities Survey Overview

- Established format, data recording, and data reporting processes for interviews, constituent meetings and public forums. (See Appendix A for Guiding Questions documents).

- Conducted phone interviews with superintendents in other communities throughout Massachusetts using guiding questions about pros/cons of different school configurations, their process for deciding on the configuration, approach for community involvement and awareness, etc.

- Moderated community focus groups with the following constituencies: Memorial School Council, Manchester PTO, Manchester Council on Aging, MEMHS Staff, Essex PTO, Essex Division Chamber, Essex Council on Aging, Manchester Division Chamber, ME Rotary, Essex Elementary Staff, MEMHS School Council, Pre-K Parents Essex, Pre-K Parents Manchester, Memorial Elementary Staff, Realtors, Essex School Council. (Notes for each meeting available upon request.)

Discovery Process (continued)

- Hosted community forums in Essex and Manchester where participants broke out into smaller groups to share opinions and discuss pros and cons of configuration options. (Notes for each forum available upon request.)

- Met six times as a task force, together with the MERSD Superintendent and Director of Finance & Operations, to review, discuss, and debate results of our findings, and arrive at our final recommendation.

- Developed FAQ and Quick Facts to address questions often heard in various groups and forums. (See Appendix B for the group handout).

Major Learning & Themes

- There is no primary or secondary research that will definitively tell us which model is best. Continue to be transparent, and continue dialogue with the communities at large.

- The superintendents interviewed were from a mix of configurations and school/district sizes, and in most cases there were no significant operational savings for one configuration versus another.

- Advocate for the structure that best meets the needs of the two communities, and stay focused on balancing cost challenges with academic and programmatic benefits for our students.

- Neighborhood K-5 schools are the heart of each town, encourage a strong sense of community, provide a preferred smaller overall student population, allow for walking to school, and the mix of younger and older together gives older students the opportunity to be role models.

- While some elementary staff members at both schools pointed to efficiencies and the ability to better balance resources with other configurations, the consensus was that maintaining the neighborhood model for this age group was most appropriate.

- Members of various constituent groups were somewhat open to different configurations but would need to be better informed about the financial benefit of changing the neighborhood model, and what value it brings to the school, curriculum, and our students.

- People definitely buy a house in either Essex or Manchester and expect their young children will go to school in that town K-5. Local realtors strongly supported neighborhood schools and thought home values and demand would be negatively affected for some time if there was a change in configuration.

Recommendation

Based on the learning from our discovery, the task force recommends maintaining the neighborhood school model for the two elementary schools in MERSD. While there is some traction and interest in the unified elementary model, the collective consensus from a variety of community groups clearly points to the neighborhood model.

Following are a variety of quotes gathered during interviews, focus groups, and forums:

> *"When a student is in a school for six years, there are more opportunities for teachers and students to know one another. A deep understanding of all students is essential for strong academic and social growth."*
>
> *"Lots of kids (900) in one building is too many."*
>
> *"Can't imagine being a preschool parent putting a kid on a bus to a different school. Some 5th grade parents already have trouble with this. At this age group, keep it local."*
>
> *"With 3-5 option, would be worried about all of the test taking grades in one building – how that anxiety might affect the culture, plus an even bigger disconnect with 2nd graders not knowing/being exposed to what's coming up."*
>
> *"Neighborhood is preferred, but understand the practical issue of cost."*

To be clear, there were many questions involving cost and financial impact to the residents of Essex and Manchester for the three options outlined in the Habeeb report. As the MERSD School Committee seats a Building Committee and moves to the next phase of addressing our aging elementary facilities, providing this information in more detail will be imperative.

In addition, people are anxious to hear about the District's plan to address/manage the likely surge in enrollment at the renovated schools as they progress to middle-high school. Many questioned how that facility would be able to handle the growing numbers.

For questions about this recommendation or if you need access to any supplemental documents or websites offered in the discover, please contact Caroline Weld or James Haskell.

Respectfully submitted,

Caroline Weld, Co-chair Facilities subcommittee
James Haskell, Co-chair Facilities subcommittee

Questions for the MERSD School Committee

What would happen to the old buildings if one new building was constructed?

True cost and feasibility of options?

Timing of all the options?

Is there an actual parcel of land available that is viable?

What is the expansion plan for both buildings?

What are the growth numbers for both towns?

Memorial school is in worse shape. How are the costs allocated?

Where do you put the students during renovations?

State funding options?

Appendix A

FOCUS GROUP GUIDELINES TO ELEMENTARY TASKFORCE

Questions

- Would you consider an alternative to neighborhood schools?
- What factors influence or guide your position?
- What information is important for the School Committee to communicate to residents of both towns as they move forward in this process?

Appendix B

Quick Fact Document handed to all forum attendees.

What is prompting the effort to explore elementary school options?
The Habeeb report of 2013 finds $6.7M in repairs between Essex Elementary and Memorial Elementary within the next 1-5 years. Below, we've listed the building elements that will require attention in the next 10 years; these items will all cost the district in excess of $100K each.

Issues estimated in excess of $100K each		
Manchester Memorial		**Essex**
Roof ($1.7M)	Parking Areas/Access Drives	Roof ($1.1M)
Boilers ($175K)	Sidewalks/Paved Play Areas	Boilers ($114K)
Windows ($2.4M)	Handicap Accessibility	Windows ($630K)
HVAC ($118K)	Supplemental Air Conditioning	Fire Protection
Fire Protection	Ceilings	Steam Unit Ventilators ($280K)
Interior and Exterior Doors	Painting	Controls ($142)
Kitchen	Floors	Parking Areas/Access Drives
Electric Service	Window Shades	Sink and Faucet Fixtures
Hot Water Unit Ventilators ($367K)	Sink and Faucet Fixtures	
Controls ($179K)		

Costs for repairs to existing buildings come out of the operating budget—the same budget that pays for salaries and educational expenses. More dollars spent on repairs means less money on education.

Charge to the task force: Make a recommendation to the School Committee regarding elementary school configuration.

What have we learned about operating cost savings from the new middle high school building?
Cost per square foot savings is 58% lower for heating and 17% lower for electricity.

What is the difference between MERSD's operating and capital budget:

Operating costs: annual costs such as teacher/staff salaries and benefits, maintenance, educational materials, etc., contained in the school's annual budget, funded by taxation, and approved at the Annual Town Meeting.

Capital costs: Principal and interest payments on long-term debt (typically maturity of 20-30 years) issued to finance the construction of our Middle High School building. Significant renovations or new construction for elementary facilities would be similarly financed. These are usually funded by a debt exclusion—an action taken by a community through a referendum vote

to raise the funds necessary to pay debt service costs for a particular project from the property tax levy, but outside the limits under Proposition 2.5% .

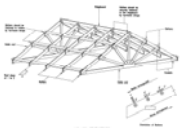
What's the process for renovation/rebuilding of elementary schools going forward?

- Task force makes recommendation to School Committee
- School Committee seats a building committee (Spring 2014)
- Building committee conducts a Feasibility Study (study of all alternatives, including, but not limited to, a final design program, space summary, budget statement for educational objectives, and a proposed total project budget).
- Building Committee prepares a Schematic Design (collaborates with the MSBA and develops a robust schematic design, of sufficient detail, in order to establish the scope, budget, and schedule).
- School Committee brings plan to two towns for a vote.

Where can I find more information about this process?

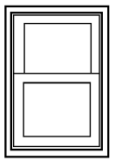
mersd.org go to the district page and look for Elementary Task Force process.

Roofs



Priority 2 (1-5 years); Priority 3 (6-10 years)

Memorial ($1.7M) Priority 2	Essex ($1.1M) Priority 3
	



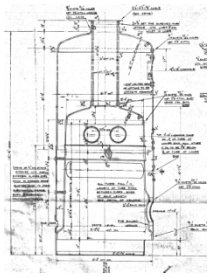
Windows

Memorial ($2.4M) Priority 2	Essex ($630K) Priority 2





Boilers and Controls



Memorial ($175K) Priority 2  ($179K) Priority	Essex ($114K) Priority 3  ($142K) Priority 3

2		

Appendix D: *Configuration Scenario Operational Impact*

Summary of Opertaional Estimated Costs/Savings for Grade Configuration Options 1 & 3

	Configuration Option 1 PreK-3 EES 4-5 @ Memorial	Configuration Option 3 All Students @ Memorial	Notes
Daily Transportation	**$115,200**	**$115,200**	*Additional bus needed in both configurations / Runs to Manchester +6-8 Minutes*
Morning/Afternoon Runs	$92,700	$92,700	
Late Bus	$22,500	$22,500	
Staffing	**$110,000**	**-$135,000**	
Utilities		**-$113,000**	*Assumes a 25K-30K Sq Ft Addition to Current Memorial*
Facilities Rental		**$100,000**	*Assumes Loss of Tennis Courts to Parking Seasonal Tennis Court Rental / $250-500K Replacement + Site Acquistion Cost Unknown*
Estimated Operational Savings / Costs	**$225,200**	**-$32,800**	

K-5 Section/Class Size Distribution Under Grade Level Configuration Scenarios

Modeled Using 2025-2026 Enrollment Data

Configuration 1
Grade PreK-3 @ Essex - Essex Grades 4-5 to Memorial

Essex Elementary		Classrooms Per Grade Level			
Grade Level	Total Students	2	3	4	5
Kindergarten	30	15	10	8	6
First Grade	25	13	10	8	6
Second Grade	37	19	8	6	5
Third Grade	35	18	12	9	7

Memorial School		Classrooms Per Grade Level			
Grade Level	Total Students	2	3	4	5
Kindergarten	36	18	12	9	7
First Grade	45	23	15	11	9
Second Grade	44	22	15	11	9
Third Grade	54	27	18	14	11
Fourth Grade	73	37	24	18	15
Fifth Grade	89	45	30	22	18

EES	
Total Students	117
Avg Class Size	16
# Classrooms	8

Memorial	
Total Students	341
Avg Class Size	19
# Classrooms	18

Configuration 2
Essex Elementary PK-5

Essex Elementary		Classrooms Per Grade Level			
Grade Level	Total Students	2	3	4	5
Kindergarten	30	15	10	8	6
First Grade	25	13	8	6	5
Second Grade	37	19	12	9	7
Third Grade	35	18	12	9	7
Fourth Grade	35	18	12	9	7
Fifth Grade	38	19	13	10	8

Memorial School		Classrooms Per Grade Level			
Grade Level	Total Students	2	3	4	5
Kindergarten	36	18	12	9	7
First Grade	45	23	15	11	9
Second Grade	44	22	15	11	9
Third Grade	54	27	18	14	11
Fourth Grade	73	37	24	18	15
Fifth Grade	89	45	30	22	18

EES	
Total Students	117
Avg Class Size	15
# Classrooms	8

Memorial	
Total Students	341
Avg Class Size	19
# Classrooms	18

Configuration 3
All Students @ Memorial School

Memorial School		Classrooms Per Grade Level			
Grade Level	Total Students	2	3	4	5
Kindergarten	66	33	22	17	13
First Grade	70	35	23	18	14
Second Grade	81	41	27	20	16
Third Grade	89	45	30	22	18
Fourth Grade	73	37	24	18	15
Fifth Grade	89	45	30	22	18

Total Students	506
Avg Class Size	19.5
# Classrooms	26

Staffing Projection Under Grade Level Configuration Scenarios 1 & 3

Modeled Using 2025-2026 Staffing Data

Configuration 1
Grade PreK-3 @ Essex - Essex Grades 4-5 to Memorial

Staffing Categories	Current		PreK-3 EES 4-5 @ Memorial		Change	Estimated Savings/Cost	Notes
	Essex	Manchester	Essex	Manchester			
Principal	1	1	1	1			
Assistant Principal			Stipend			$25,000.00	*Assistant Principal Stipend - support management of additional staff and students*
Pre-K Coordinator							
Admin Assistant	1	1	1	1			
Nurse	1	1	1	1			
Classroom Teachers	8	18	8	18			
General Ed Specialists	3.65	4	2.3	5.35			
Student Services Teachers (MTSS/Coaches/Title 1)	3.75	3.75	3.75	3.75			*District level position assigned based on need*
Special Education Teacher / Prek	4	12	6	11	1	$85,000	*Add Pre-K Teacher*
SPED Team Chair	0.5	0.5	0.5	0.5			
Therapists	0.27	1.8	0.27	1.8			
Counselors & Psychologists	1.4	1.6	1.25	1.75			
Paraprofessionals							
Special Education / Prek	6	16	6	16			*Posiction leve fluid and assigned based on student need not location*
General Education	2.5	2.5	2.5	2.5			
Custodial	2	3	2	3			
Food Service	2	2	2	2			
					1	$110,000	

Configuration 3
All Students @ Memorial School

Staffing Categories	Current		All @ Memorial	Change	Estimated Savings/Cost	Notes
	Essex	Manchester	Memorial			
Principal	1	1	1	-1	-$135,000	
Assistant Principal	0	0	1	1	$95,000	*Reduce to 1 Principal & Assitant Principal for 515 Students*
Pre-K Coordinator			Stipend	NA	$25,000	*Add PreK Director: Stipend Planned + PreK-Expansion*
Admin Assistant	1	1	2			
Nurse	1	1	1	-1	-$85,000	*Reduce to 1 Nurse - Monitor may need additional support for 515 students*
Classroom Teachers	8	18	26			*Maintaing Curent Avg Class Size 19.5*
General Ed Specialists	3.65	4	7.65			
Student Services Teachers (MTSS/Coaches/Title 1)	3.75	3.75	7.5			
Special Education Teacher / Prek	4	12	16	**		*Reduce Special Education Liaison / Add Pre-K Teacher*
SPED Team Chair	0.5	0.5	1			
Therapists	0.27	1.8	2.07			
Counselors & Psychologists	1.4	1.6	3			*Maintain 1:250 Counslor Load through first 2-3 years to support impact of consolidation and reevaluate*
Paraprofessionals						
Special Education / Prek	6	16	22			*Posiction leve fluid and assigned based on student need not location*
General Education	2.5	2.5	4	-1	-$35,000	*Eliminate Library TA Position*
Custodial	2	3	5			
Food Service	2	2	4			
				-2	-$135,000	

Appendix E: *Strategic Plan Overview & District Improvement Plan*

MERSD Strategic Plan Overview

Mission

The Mission of the Manchester Essex Regional School District (MERSD) is to provide a high quality, comprehensive, student-centered educational experience that prepares them for a post-secondary educational or service experience, a career, and life as an engaged member of society.

Vision

MERSD, with the partnership and support of member communities, will provide educational opportunities and resources so that all students can realize their individual, unique, and *highest potential, achieve academic excellence, value integrity and honesty, and become intellectually curious and critical thinkers.*

Core Values

Student Centered

We believe schools must establish a safe environment that supports the development of all students. Schools must engage all aspects of a child's development, including knowledge, a sense of self, emotional well-being, physical health, and skills and strategies to negotiate an ever-changing and unpredictable world.

Student Achievement

We believe MERSD should foster a learning environment that encourages academic achievement, social and emotional freedom and engagement, collaboration and creative problem-solving; the skills to confront new ideas with both rigor and sensitivity, and the awareness to and ability to extend the skills beyond the academic core to include experiential learning, the arts, cultural awareness, and physical and social emotional health.

Equity

We believe our schools must strive to create a just and equitable environment that respects individual differences and the diversity of our communities, country, and world.

Family & Community Partnerships

Schools are a reflection of their communities. We believe that providing a quality education that prepares our students for an unpredictable world is a shared responsibility, fostered by partnerships among the schools, families, educational non-profits, businesses and the community-at-large.

Resources

We believe the District and our community partners should collaborate to provide the necessary funding to equip our students with the essential critical thinking, analytic, communication, and problem-solving skills they need to be productive, contributing members of our local and global communities and deliver on the promise of our students' potential.

Vision of the Graduate

Empathetic Global Citizen Responsible Collaborator	Effective Communicator Critical Thinker Personally Accountable	Social/Emotional Awareness Innovative and Creative

Theory of Action

If we

Keep students at the center of decision making and practice
Cultivate a collaborative and inclusive culture
Articulate the relationship between social emotional well-being and student achievement
Engage in two-way communication with our community

Then…

Students will realize their individual, unique, and *highest potential, achieve academic excellence, value integrity and honesty, and become intellectually curious and critical thinkers.*

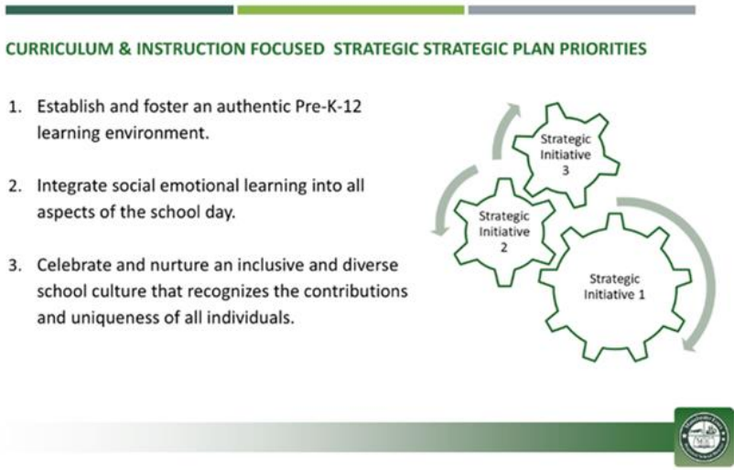
Strategic Priorities

Establish and foster an authentic Pre-K-12 learning environment.	*Integrate social emotional learning into all aspects of the school day.*	*Celebrate and nurture an inclusive and diverse school culture that recognizes the contributions and uniqueness of each learner.*
Maintain a sustainable multi-year operational budget and capital improvement plan.		

MERSD District Improvement Plan 2025–2028

Introduction

This District Improvement Plan (DIP) is the second in a three-cycle sequence designed to carry forward the Manchester Essex Regional School District's long-term Strategic Plan priorities. It outlines the work we will take on between 2025 and 2028 to strengthen teaching and learning, support student well-being, build an inclusive school culture, and maintain sustainable operations.



How Strategic Priorities 1, 2, and 3 Work Together to Improve Instruction and Student Achievement: MERSD's instructional work is intentionally braided across three priorities. Priority 1 centers on authentic learning—coherent PreK–12 curriculum, performance-based assessment, and the Vision of the Graduate—so classroom experiences are rigorous, engaging, and connected to the real world. Priority 2 integrates social-emotional learning (SEL) and a Multi-Tiered System of Supports (MTSS) to ensure students are ready to learn every day through consistent Tier 1 practices, targeted interventions, and partnerships with families. Priority 3 advances Universal Design for Learning (UDL) and inclusive practices so all students can access, participate, and demonstrate mastery in multiple ways. Together, these priorities form the conditions and practices of high-quality instruction: strong core teaching (Priority 1), supportive environments that build readiness and belonging (Priority 2), and universally designed lessons that remove barriers (Priority 3).

This integrated approach strengthens teacher practice and accelerates student learning. Authentic, performance-based tasks demand higher-order thinking; SEL/MTSS routines increase engagement and persistence; and UDL ensures access and challenge for diverse learners. As we build staff capacity through coaching, collaboration, and clear "look-fors," we expect to see higher engagement, more consistent growth across student groups, and measurable gains in academic performance.

Priority 1: Authentic Learning	Priority 2: SEL & MTSS	Priority 3: UDL & Inclusion
• Real-world, inquiry-based tasks • Performance-based assessment • Vision of the Graduate embedded • Teacher coaching & collaboration	• Tier 1 routines for regulation & relationships • Consistent SEL scope & sequence • Data routines for early intervention • Family partnerships	• Flexible design for access & challenge • Multiple means of engagement/representation/action • Model classrooms & peer observation • Coaching aligned to UDL look-fors

Integrated Impact: Strong core instruction + supportive conditions + universally designed lessons ⇒ Higher engagement, access for every learner, and measurable gains in achievement

How to Read This Document

Each section of the DIP is organized under one of the four Strategic Plan priorities. Within each priority, you will find:

- **Objective** – The specific aim or goal we are working toward.
- **Student Impact (if achieved)** – The difference this work will make for students in their daily learning experience.
- **Action Steps / Deliverables** – The concrete tasks, initiatives, or structures we will put in place to reach the objective. These are listed by fiscal year (FY26, FY27, FY28) to show how the work will progress over time.

How to Use This Plan

- Read by Priority to see how the work aligns to our long-term goals.
- Follow the Timeline to understand how initiatives move from foundation to pilot to full implementation.
- Note the Student Impact to see how each action connects back to the classroom experience.
- Use the Glossary as a reference when educational terms appear.

Frequently Used Terms

- **Authentic Learning –** Student-centered authentic learning is an approach to teaching and learning that engages students in inquiry-based experiences that have real-world applications guided by students' experiences, skills, and interests. Authentic learning is grounded in real world issues, problems, and applications. It encourages higher order thinking, empowers students with practical and useful life skills, and invites them to make a difference in their world.
- **Vision of the Graduate (VOG) –** A district-defined set of skills and competencies (e.g., communication, collaboration, critical thinking) that every student should demonstrate by graduation. These skills are embedded into curriculum and assessments across grade levels.
- **MTSS (Multi-Tiered System of Supports) –** A structured framework that provides different levels of academic, behavioral, and social-emotional support. Tier 1 refers to practices all students receive, Tier 2 is targeted support for some, and Tier 3 is intensive support for individual students.
- **SEL (Social-Emotional Learning) –** The process of developing self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.
- **UDL (Universal Design for Learning) –** An instructional approach that ensures lessons are flexible and accessible so all students, regardless of learning style or need, can succeed.
- **Performance-Based Assessment –** An assessment that asks students to demonstrate their learning by doing something meaningful (e.g., creating a presentation, solving a real problem, conducting an experiment) rather than taking a traditional test.
- **Look-Fors –** Agreed-upon indicators that administrators and teachers use to recognize whether a desired practice (such as authentic learning or SEL integration) is happening during classroom visits.
- **FY26, FY27, FY28 –** Fiscal years (July 1 – June 30) that provide a timeline for when action steps will be launched, piloted, or fully implemented.
  This structure is designed to make the DIP both a practical guide for educators and an accessible resource for families and community members who want to understand the district's priorities and track progress over time.

Strategic Priority 1: Establish and foster an authentic PreK-12 learning environment.		
Objective	**Student Impact (if achieved)**	**Action Steps / Deliverables**
Strengthen instructional practice by embedding authentic learning experiences across PreK-12.	Students experience deeper engagement and higher-order thinking through authentic problem-solving opportunities across disciplines.	**FY26 – Expansion of Practices** • Define and articulate shared PreK–12 expectations for "authentic learning experiences." • Conduct an inventory of current practices by grade band and create school-level matrices of strengths and gaps. • Provide ongoing coaching, training, and resources for technology and AI integration to support authentic learning. • Structure professional learning to focus on authentic instruction and assessment practices. **FY27 – Embedding & Piloting** • Pilot expanded student opportunities such as projects, service learning, or capstones. • Strengthen supervision and evaluation routines with "look-fors" for authentic learning, engagement, and higher-order thinking. **FY28 – Implementation & Monitoring** • Scale authentic learning practices across PreK–12. • Memorialize student opportunities (performance, presentation, exhibitions, capstones, service learning, internships etc.) into scope and sequence. • Use observation data and student outcomes to monitor impact and refine practice. **Adopt high-quality inclusive curriculum resources that support real-world, authentic learning in alignment with the Curriculum Review Cycle.*
Align curriculum and assessment to reflect changes in instructional practices, ensuring coherence and consistency across PreK-12.	Students benefit from a coherent PreK-12 curriculum and authentic, performance-based assessments that allow multiple ways to demonstrate mastery in real-world contexts.	**FY 26 – Expansion of Practices** • Audit curriculum maps and assessments PreK–12. • Build shared understanding of authentic, performance-based assessments through professional learning. • Schedule regular routines of data analysis and action planning including formative and performance-based assessments. **FY 27 – Embedding & Piloting** • Design and pilot performance-based assessments. • Develop rubrics, exemplars, and scoring protocols to guide consistency. **FY28 – Implementation & Refinement** • Implement assessments across grades and subjects. • Embed authentic assessments into curriculum maps. • Use student work/data to monitor outcomes and refine practice.

Expand implementation of the Vision of the Graduate by defining developmentally appropriate competencies and embedding them throughout the PreK-12 curriculum.	Students develop competencies like collaboration, communication, and critical thinking through authentic learning opportunities and partnerships that extend beyond the classroom.	**FY 27 – Expansion of Practices** • Respond to NEASC recommendations by creating grade-level benchmarks that define a developmentally appropriate PreK–12 skills continuum. • Align the Vision of the Graduate with classroom opportunities and existing extracurricular/field experiences. **FY 28 – Development & Design** • Develop a matrix illustrating VOG competencies for each grade span. • Embed VOG competencies into curriculum maps and unit design by identifying explicit connections between academic content and VOG skills. • Collect data through observation and student work to monitor success of alignment and guide administrative support. • Provide professional learning to support teacher use of authentic learning strategies to support implementation of Vision of the Graduate. **FY 29 – Implementation & Partnerships** • Implement performance assessments aligned to VOG competencies matrix. • Strengthen partnerships with community organizations by building a district-wide partner network tied to VOG benchmarks.
Elevate student voice by fostering relevance, engagement, and regard for student perspectives in the classroom.	Students will experience learning that is meaningful and relevant, with their perspectives valued in the classroom. This will increase engagement, motivation, and ownership of their learning.	**FY 27 – Foundation** • Establish regular student feedback loops (e.g., surveys, advisory discussions, student-led forums) to inform instructional design and monitor the impact of authentic learning initiatives. • Collect and analyze data on student access, representation, and achievement to identify gaps.

Strategic Priority 2: Integrate social emotional learning into all aspects of the school day.

Objective	Student Impact (if achieved)	Action Steps / Deliverables
Develop and implement a district-wide Multi-Tiered System of Supports (MTSS) model for SEL that supports mental health and wellness.	Students will experience consistent, tiered social-emotional and mental health supports that proactively meet their needs, resulting in increased well-being, improved readiness to learn, and stronger engagement in school.	**FY 26 – Expansion of Practice** • Convene a joint SEL/MTSS leadership team to define essential components of the model. • Audit current SEL and mental health practices across schools; identify strengths, gaps, and existing resources. • Build a foundation for a district-wide data system/process to identify and monitor students in need of SEL/mental health supports.

		• Strengthen access to mental health resources and partnerships with outside providers. **FY 27 – Development & Training** • Establish a district-wide data system/process to identify and monitor students in need of SEL/mental health supports. • Develop tiered supports (universal, targeted, intensive) with clear roles, protocols, and referral pathways. • Systematize tiered supports (universal, targeted, intensive) with clear roles, protocols, and referral pathways. • Targeted training to support SEL tiered supports. • Integrate consistent Tier One practices for emotional regulation and behavior supports across schools. **FY 28 – Implementation & Refinement** • Implement expanded MTSS model across PreK–12. • Establish progress-monitoring routines using student SEL data and well-being indicators. • Develop structured collaboration protocols for student support teams (teachers, counselors, specialists) to align Tier 1 and Tier 2 SEL practices across classrooms. • Refine practices based on evaluation data and stakeholder feedback.
Ensure students experience a consistent, vertically aligned SEL curriculum that builds self-regulation, relationships, and real-world application of SEL skills.	Students gain a foundation of SEL skills and can apply these competencies in school and beyond.	**FY 26 – Alignment & Expansion** • Review and expand existing elementary SEL work (RULER) to ensure alignment with CASEL and other frameworks as appropriate. • Begin developing a PreK–12 SEL scope and sequence (“integration plan”) that articulates tier 1 learning experiences and expectations across grade bands. • Utilize SEL “look-fors” to gather data to inform administrative team of trends, strengths, and areas for growth. **FY 27 – Curriculum & Practice Integration** • Embed SEL competencies into curriculum maps and unit design by identifying explicit connections between academic content and SEL skills. • Extend the K–8 SEL Leadership model to 9–12, with a focus on training staff in strategies that increase student availability for learning. • Launch consistent family engagement routines (e.g., annual SEL forums, ParentSquare updates, family workshops) to communicate SEL goals and strengthen school–home partnership in student well-being. **FY 28 – Implementation & Monitoring** • Finalize and implement the PreK–12 SEL scope and sequence.

		• Integrate SEL “look-fors” into administrative evaluation practices to ensure consistent attention to SEL in instruction. • Monitor student outcomes and refine SEL practices based on feedback and data.
Develop student leadership opportunities through establishing building-level programs that empower students to model and promote RULER Program/CASEL competencies.	Students will gain authentic leadership experiences that build confidence, deepen SEL competencies, and foster a positive school culture where peers model and promote healthy social and emotional behaviors.	**FY 27 – Program Design & Launch** • Establish building-level student leadership teams/programs (e.g., SEL Ambassadors, Peer Leaders, Student Voice Councils) to model RULER/CASEL competencies. • Provide training and mentoring for student leaders to develop facilitation, communication, and peer-support skills. **FY 28 – Student-Led Engagement & Partnerships** • Create opportunities for student leaders to design and lead SEL-focused activities such as school-wide assemblies, advisory sessions, or classroom workshops. • Partner with families and community organizations to host student-led showcases, SEL Family Nights, and collaborative events that reinforce SEL themes. **FY 29 – Expansion & Sustainability** • Formalize recurring structures for student leadership in SEL (e.g., annual leadership retreats, cross-grade mentoring, regular student-led forums). • Integrate leadership opportunities into curriculum and extracurricular programs to ensure equitable access across grade levels. • Monitor impact through student reflections, feedback from peers, and surveys of school culture and climate.
Strategic Priority 3: Celebrate and nurture an inclusive and diverse school culture that recognizes the contributions and uniqueness of each learner.		
Objective (We will…)	**Student Impact (if achieved)**	**Action Steps / Deliverables**
Implement Universal Design for Learning (UDL) practices in all classrooms to create inclusive learning experiences that meet the needs of all students, including those with learning differences.	Students with varied learning profiles will experience instruction that is accessible, engaging, and challenging. All students, including those with learning differences, will be able to participate fully, demonstrate their strengths, and achieve at high levels within a supportive and inclusive classroom environment.	**FY 26 – Foundation & Training** • Establish UDL as a district-wide instructional expectation. • Assess current staff knowledge and training in UDL. • Provide differentiated professional development for staff at varying levels of familiarity with UDL. **FY 27 – Implementation & Support** • Integrate UDL practices into grade level and curriculum teamwork, with teachers sharing strategies and student outcomes. • Identify model classrooms as demonstration sites for UDL in practice.

		• Incorporate ongoing coaching and peer observation focused on UDL implementation. **FY 28 – Monitoring & Accountability** • Focus on UDL "look-fors" during administrative supervision and evaluation practices. • Monitor impact on student access, engagement, and performance through observation and student data. • Adjust training and coaching based on observation and feedback. • Develop family-friendly resources that explain classroom differentiation and UDL strategies, ensuring families understand how instructional practices support diverse learners.
Implement inclusive curriculum and instruction, including diverse voices, perspectives, and cultural experiences across all content areas.	Students will engage with a curriculum that reflects a wide range of experiences and perspectives, helping them feel seen and valued. This exposure fosters empathy, critical thinking, and a deeper understanding of the world, enriching their learning and preparing them for a diverse society.	**Ongoing - Curriculum Review & Equity Lens** • Evaluate instructional materials for bias and inequities to ensure inclusive student learning experiences. **Ongoing - Data & Instructional Practices** • Collect and analyze data on student access, representation, and achievement to identify gaps. • Provide professional learning to support inclusive instructional strategies across grade levels and content areas. **Ongoing - Policy & Systems Alignment** • Use an equity lens rubric to audit and revise school and district policies. **Adopt high-quality inclusive curriculum resources that support real-world, authentic learning in alignment with the Curriculum Review Cycle.*
Provide multilingual learners with high-quality, tailored instruction that supports academic growth and full participation in grade-level learning alongside their peers.	All students benefit from an inclusive learning environment where multilingual learners thrive, fostering stronger peer collaboration, cultural awareness, and a richer classroom experience for everyone.	**FY 26 – Foundations & Capacity** • Ensure all identified teachers are SEI-endorsed. • Adopt an evidence-based ESL/ELD curriculum (WIDA-aligned) that supports MLL students K-12. • Coaching for all teachers with MLL students supporting integration of SEI strategies into daily instruction. • Training for administrators to enhance understanding of SEI strategies **FY 27 – Integration & Implementation** • Implement the ESL/ELD curriculum and align MLL programming with content curriculum and district assessment routines. • Integrate Sheltered English Immersion strategies in all core classes. • Provide ongoing PD/coaching that strengthen teachers' ability to support deeper content understanding, relevance, and transfer of learning for MLL students. **FY 28 – Monitoring & Refinement**

		• Establish a data routine to monitor MLL progress (ACCESS growth, screeners, classroom assessments) and adjust supports. • Calibrate expectations and materials across grades; share exemplars; refine program structure based on results. • Formalize MLL family engagement methods in a regular and ongoing routine.

Standard 4: Maintain a sustainable multi-year operational budget and capital improvement plan.		
Objective (We will…)	**Student Impact (if achieved)**	**Action Steps / Deliverables**
Strengthen financial management systems and processes to support data-driven decision making, operational efficiency, and sustainable resource allocation.	Students benefit from stable, well-resourced schools where funding decisions are efficient, equitable, and aligned to instructional priorities, ensuring that resources directly support teaching, learning, and long-term program sustainability.	**Systems & Tools** • Restructure payroll system; invest in and implement software tools to link payroll and personnel functions, improving reporting and efficiency. **Forecasting & Budget Alignment** • Develop a projection model to assess the long-term impact of increasing numbers of high-needs preschoolers on special education programs and staffing. • Utilize a zero-based budgeting approach in special education to ensure budgets are student-need driven and restructured as required. **Review & Long-Term Planning** • Implement a cyclical review process to evaluate efficiency of major programs and staffing models, reallocating resources to highest-impact areas while identifying opportunities for innovation and cost savings. • Forecast both large-scale and small-scale operational and facilities capital needs. • Advance planning for major capital projects (e.g., High School/Middle School 2034 Renovation Planning).
Optimize organizational structures and resource allocation to increase efficiency, support evolving instructional priorities, and prepare for future growth and program needs.		**Analysis & Immediate Adjustments** • Analyze technology infrastructure for capacity to meet future instructional and operational needs. • Review personnel efficiencies to improve or adjust delivery of programs (carryforward action). • Study options for shared leadership models cross district and the middle/high school.

		Program Expansion & Restructuring • Plan and prepare for the establishment of universal preschool, including classroom space, location, supervisory structures, and staffing needs. • Move special education chairpersons into an administrative role, ensuring program analysis and revisions prioritize efficiency and sustainability. **Long-Term Alignment & Sustainability** • Reorganize professional stipend structure to better align funding with curriculum and instructional improvement goals. • Continue to refine organizational structures and staffing models to support evolving instructional priorities and program growth.
Expand funding opportunities and future-focused planning to ensure the district is well-positioned to address challenges and opportunities.		**Revenue Review** • Review and adjust existing tuition structures (e.g., preschool, specialized programs) for opportunities to increase revenue. • Conduct a fee structure analysis to identify areas for sustainable increases aligned with community capacity. **Expanded Funding Sources** • Seek grant opportunities and alternative funding streams that directly align with district strategic priorities and improvement goals. • Build internal systems for tracking, applying for, and managing grants to maximize impact. **Long-Term Partnerships & Collaboration** • Investigate and pursue opportunities for shared services and collaboration with area school districts to reduce costs and expand resources. • Establish a process for annual review of revenue opportunities, partnerships, and funding models to ensure sustainability.

MERSD School Improvement Plan

Essex Elementary School

2024-2026

Every student is at the center of decision-making.

District Strategic Initiative 1 (DSI:1)

Establish and foster an authentic Pre-K-12 learning environment.

1. *Conduct external elementary school level assessments of current practice inclusive of authentic learning self-study. [Student Centered, Student Achievement]*
2. *Define "student centered authentic learning" and develop internal needs assessments for secondary level schools. [Student Centered, Student Achievement]*
3. *Map and deliver a developmentally differentiated professional development plan informed by the outcomes of school-based assessments.*
4. *Strengthen traditional academic program practices to ensure horizontal and vertical articulation. [Student Centered, Student Achievement]*
5. *Develop community partners to provide opportunities for students to connect learning to real-life application. [Family and Community Partnership]*
6. *Prioritize and support programming to promote creativity, innovation, and the arts. [Student Centered, Family Community Partnership]*

School Goals	Resources & Responsibilities	Deliverables (what & when) Measures of Implementation Documentation
EES will continue the process to receive NEASC Elementary Accreditation. This will be done as a collaborative exercise with our MMES counterparts. One focus area will be to align the authentic learning experiences at both elementary schools. ***DSI 1.1, 1.2, 1.3, 1.4 ****	• EES Principal • Director of Curriculum, Instruction, and Technology • EES Staff	• NEASC Final Report submitted - Sep 24 • NEASC Priority Areas for Growth submitted - Sep 24 • NEASC Report to be received- Nov-Dec '24 • NEASC Steering Committee to review recommendations - Jan '25 • NEASC Report shared with community- April '25 • NEASC Recommendations integrated into SIP Update - Sep '25 • NEASC progress presented during SIP Presentation - Sep '26

MERSD Instructional Coaches will work with teachers to add at least one novel Authentic Learning Activity to each grade level. ***DSI 1.1, 1.2 & 1.5 ****	• EES Principal • Director of Curriculum and Instruction • MERSD Instructional Coaches • EES Teachers	• Current list of authentic learning activities shared and expanded - Oct/Nov '24 • Additional authentic learning activities implemented, evaluated, and documented Oct '24-Jun '26 • Record of identified authentic learning experiences expanded to include novel grade level experiences - June '26
EES will work collaboratively with district staff and MMES staff to design a shared MERSD Elementary Teacher Assistance Team consultation model ***DSI 1.3, 1.4 ****	• EES Principal • Director of Student Services • EES TAT Team	• Best practice and past practice review - Sep '24-Dec '24 • Current practice overview comparison - Sep '24-Dec '24 • MERSD TAT Consultation Model developed and flow chart created/adjusted - Dec '24-Jun '25 • MERSD TAT Consultation Model presented to staff and implemented- Aug '25-Jun '26
EES administration will collaborate with MMES administration and the Director of Curriculum, Instruction, and Technology to develop and implement a plan for instructional coaching in the areas of literacy and mathematics. ***DSI 1.3 1.4 ****	• EES Principal • Director of Curriculum, Instruction, and Technology • MERSD Instructional Coaches	• Monthly Meetings with Instructional Coaches - Sep '24- Jun'26 • Monthly Elementary Leadership Meetings - Sep '24- Jun'26 • Collaborative Evaluations completed - May '25 and May '26
EES will collaborate with MMES administration and staff to align performing arts curriculum and performances. ***DSI 1.6****	• EES Principal • EES Music Teacher • EES Band Instructor	• Common Elementary Music Expectations and Plan Developed - Dec. '24 • Congruent K-5 Winter and Spring Culminating Music Performances Implemented - Dec '24 - Jun '26
EES administration will collaborate with MMES administration to develop and implement a plan for the new Library Teaching Assistant to support students and staff with authentic learning activities ***DSI 1.3 1.4 ****	• MMES Principal • MERSD Librarian • MERSD Library TA	• Quarterly Meetings with Elementary Library Staff - Sep '24- Jun'26 • Monthly Elementary Leadership Meetings - Sep '24- Jun'26

MERSD Instructional Coaches will design and implement an annual Family Literacy Night and Family Mathematics Night to partner with our students' families in each content area. ***DSI 1.1, 1.2 & 1.5****	• EES Principal • Director of Curriculum, Instruction and Technology • MERSD Instructional Coaches • EES Teachers	• Family Literacy/Mathematics Night Plan Developed - Oct-Dec '24 • Opportunities for grant funding explored - Oct-Dec '24 • Family Literacy/Mathematics Night Plan Implemented - Mar '25 • Family Literacy/Mathematics Night Plan Evaluated and Revised - Jun '25- June '26
EES will expand its partnerships with local community organizations and volunteers to offer after school clubs to students. ***DSI 1.5, 1.6***	• EES Principal • Community Partners/Volunteers	• Community outreach to determine club offerings for each session (4-8 clubs for three sessions per year)-- Sept '24 • Implement three sessions (6 weeks each) of afterschool clubs- Ongoing Sept '24 - June '26

Strategic Initiative 2

Integrate social emotional learning into all aspects of the school day.

1. *Create a K-12 SEL Leadership model charged with training staff on ways to integrate a variety of strategies to help increase student availability for learning. [Student Achievement, Student Centered, Equity]*
2. *Create a Vertical SEL Team to support the implementation of SEL informed instruction. [Student Achievement, Student Centered]*
3. *Design an integration plan and rubric to use to measure effectiveness of SEL integration at the individual student and classroom level. [Student Achievement, Student Centered, Equity]*
4. *Involve families and the community in the SEL work that our staff and students are engaged in. [Family and Community Partnerships]*

School Goals	Resources & Responsibilities	Deliverables (what & when) Measures of Implementation Documentation
EES will work with SEL Leadership Team and MMES staff to implement the developed SEL Scope and Sequence. ***DSI 2.2 ****	• EES Principal • EES Teachers • SEL Leadership Team	• Share Scope and Sequence with EES staff- Sep-Oct '24 • Implement scope and sequence during school day- June '25 • Feedback and refinement to SEL Leadership Team- June '25

		• Continued implementation using feedback/revisions- June ‘26
EES staff will provide resources for families (via weekly newsletter) to support students who are facing struggles with anxiety and other mental health challenges. This will include a collaboration with a child psychologist with specific expertise in the area of anxiety. ***DSI 2.4 ****	• EES Principal • EES Counselor • Director of Student Services • Child Psychologist Consultant	• Admin Training - Sep ‘24 • Staff Training - Dec ‘24 • Monthly Newsletter Outreach- Nov ‘24-Jun ‘26
Families will be engaged in the SEL work that our school is undertaking via regular newsletter updates and community SEL opportunities. ***DSI 2.4***	• EES Principal • MERSD SEL Team	• Newsletter and email updates – Sep ‘24-Jun ‘26 • SEL Opportunities at Open House – Sep ‘24 and Sep ‘25 • Family Charter Night- Sep ‘25
EES will establish a dedicated calm space within the school to support students’ sensory needs and enhance self-regulation skills, leading to improved behavior, social emotional learning, and academic performance. ***DSI 2.3***	• EES Principal • School Counselor • Occupational Therapist	• Calm Space set-up and inventory of resources and materials available in the space, including a replenishment plan– Sep - Oct ‘24 • Staff Training and Utilization Guides– Nov ‘24 • Monitoring and Evaluation Report with ongoing refinements based on feedback – Nov ‘24 - June ‘26
	•	•

Strategic Initiative 3

Celebrate and nurture an inclusive and diverse school culture that recognizes the contributions and uniqueness of all individuals.

1. *Identify and hire a consultant/coach to support the district in achieving cultural proficiency in the area of diversity, equity and inclusion. [Student Centered, Student Achievement, Equity, Family and Community Partnership, Resources]*
2. *Conduct a cultural proficiency, diversity, equity, and inclusion assessment. [Student Centered, Student Achievement, Equity, Family and Community Partnership, Resources]*
3. *Build on and expand inclusion and cultural competence training for staff and students.*

School Goals	Resources & Responsibilities	Deliverables (what & when) Measures of Implementation Documentation
EES will implement the "Investigating History" curriculum as it is released by DESE. This will provide more relevant and inclusive perspectives to students when learning about historical events. ***DSI 3.3****	• EES Principal • EES Teachers • MERSD Director of Curriculum	• Grade 5 - Sep '24-Jun '25 • Grade 3 and 4 - Sep '25-Jun'26 (pending DESE release)
EES will collaborate with MMES to expose students to authors from diverse backgrounds to increase global awareness and appreciation of diverse cultures. ***DSI 3.3***	• EES Principal • Elementary Librarian • FOESS	• Hena Kahn - '24-'25 • TBD - '25-'26
EES will evaluate and revise as needed classroom and schoolwide traditions to ensure they are culturally responsive and accessible to all students, reflecting the diversity of our community. ***DSI 3.2, 3.3***	• EES Principal • EES Leadership Team • EES School Council	• Audit of current traditions– Feb '25 • Creation of inclusive events calendar– June '25 • Revision/Implementation of events/traditions– June '26
	•	•

Strategic Initiative 4

Ensure funding for a stable, multi-year budget and capital improvement plan through collaboration with town and community partners.

1. *Develop and pass a budget that maintains quality and forward progress maintaining efficient practices but shifting to greater advocacy for increased funding to the District.*

2. *Articulate large and small scale operational and facilities capital needs and obligations. [Student Centered, Student Achievement, Equity, Family and Community Partnerships, Resources]*
3. *Continue to evolve the central administrative organization structure to efficiently and effectively support district wide improvement goals. [Student Centered, Student Achievement, Resources]*
4. *Review personnel efficiencies to improve or adjust delivery of programs. [Student Centered, Student Achievement, Equity, Resources]*

School Goals	Resources & Responsibilities	Deliverables (what & when) Measures of Implementation Documentation
EES administration will work collaboratively with MERSD district staff to identify materials and staffing gaps in areas highlighted by the NEASC report. ***DSI 4.1-4****	● EES Principal	● Budget Request - Oct '24-Jun '26

**Shared goal with EES*



Every student is at the center of decision-making.

Appendix F: *Grade-Level Curriculum Guides*

MERSD SPECIALS

Grade K, Trimester 3

LIBRARY

In this Trimester, your child will:

- Learn how to independently navigate *PebbleGo*, an online encyclopedia, via an iPad.
- Choose a research topic and understand what questions are going to be researched.
- Use books and *PebbleGo* to find information about a topic and take notes on a graphic organizer.
- Dictate learned facts about the research topic to the Library Teacher to type up.
- Create a final research poster (produced in collaboration with Technology class) and present their work to their class.

TECHNOLOGY

In this Trimester, your child will:

- Learn about computer science.
- Learn how to create basic codes.
- Create code with offline and online activities.
- Learn how to code robots to solve problems.
- Continue to use our mouse skills and navigation skills to produce and complete projects on the computers.

VISUAL ART

In this Trimester, your child will:

- Hear stories of famous artists.
- Learn how to create clay pinch pot.
- Continue to listen to stories and make connections to the story with art lessons.
- Continue to make art by painting, drawing, and printmaking
- Continue using scissors, tracing and glueing to make collages.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Show the difference between high and low sounds through singing and movement.
- Repeat back simple rhythms by ear with body percussion.
- As a class, sing 5 short songs from memory.
- Distinguish between major and minor chords.

WELLNESS / PE

In this Trimester, your child will:

- Try new fitness movements, activities and skills.
- Demonstrate safe and cooperative play with the parachute.
- Demonstrate beginning jump rope skills with self and partner.
- Demonstrate jumping skills over hurdles.
- Demonstrate beginning lacrosse skills such as passing, catching and shooting.
- Demonstrate walking, running, jogging, leaping, sliding, jumping, hopping, skipping, galloping.
- Continue our P.A. curriculum.

Manchester Memorial Elementary School
43 Lincoln St.
Manchester-by-the-Sea, MA 01944

Essex Elementary School
12 Story St.
Essex, MA 01929

MERSD SPECIALS

Grade K, Trimester 2

LIBRARY

In this Trimester, your child will:

- Demonstrate an understanding of how to locate different genres in the library space.
- Ask and answer questions about key details in a text, with prompting from the Library teacher.
- Will compare and contrast stories.
- Will continue to explore seasonal themes and world traditions via literature, and demonstrate an understanding via student-created projects.

TECHNOLOGY

In this Trimester, your child will:

- Learn about Internet safety and how to stay safe online.
- Create multimedia projects with different apps such as Chatterpix and Book Creator.
- Use their library research to create a multimedia project with digital artwork.
- Create a project that can then be shared with larger audiences.

VISUAL ART

In this Trimester, your child will:

- Create art through printmaking.
- Continue to listen to stories and make connections to the story with art lessons.
- Explore new ways to make art with painting texture with liquid tempera and watercolor paints.
- Learn how to create secondary colors from primary colors.
- Use scissors and glue to create collages.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Show the difference between fast and slow through singing and movement.
- Sing on stage as a group.
- Applaud at appropriate times.

WELLNESS / PE

In this Trimester, your child will:

- Demonstrate beginning Basketball skills.
- Demonstrate moving to various rhythms and demonstrate aerobics to various music.
- Demonstrate appropriate rolling movement turning tumbling.
- Demonstrate skills used in pickleball: striking forehand and backhand.
- Demonstrate moving to various rhythms and can perform dances of various countries.
- Will demonstrate beginning hockey skills.
- Continue our P.A. curriculum.

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MERSD SPECIALS

Grade K, Trimester 1

LIBRARY

In this Trimester, your child will:

- Learn the purpose of the school library and how to check out a book.
- Begin to independently navigate the library's physical space.
- Begin to recognize the difference between fiction and non-fiction books.
- Make predictions about what will happen next in a story.
- Learn about seasonal themes and world traditions via literature, and demonstrate understanding via student-created projects.

TECHNOLOGY

In this Trimester, your child will:

- Learn basic device safety and expectations of device care.
- Identify different kinds of computing devices in the classroom, like the mouse, laptop, printer and ipads.
- Learn how to use the mouse to navigate the computer and different applications.
- Use a program called Kipix to create simple pictures and learn how to type our name.

VISUAL ART

In this Trimester, your child will:

- Students will learn what art is, what an artist does and why art is important to people throughout history and around the world.
- Students will continue to explore new ways to explore artmaking and expressing themselves through drawing, painting, printing, collage and 3D construction.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Recognize music as a cultural universal.
- Sing a variety of songs as a group
- Learn the difference between loud and soft sounds.
- Keep a steady beat using their bodies.
- Respond to music through movement.
- Listen to music silently.

WELLNESS / PE

In this Trimester, your child will:

- Be introduced to a variety of locomotor skills (Hopping, skipping, jumping, leaping, running, galloping and sliding)
- Demonstrate soccer skills including striking, trapping, dribbling, headers, force and passing.
- Begin overhand and underhand throwing and catching
- Take part in Project Adventure curriculum which includes problem solving and teamwork.

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KINDERGARTEN
Trimester 3

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate opinions, information, and experiences in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, like rulers and calculators, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Discover how people and events from the past relate to the present.
- Work to understand how different people see the world differently.

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ENGLISH LANGUAGE ARTS & LITERACY



Grade K, Trimester 3 Big Ideas and Concepts:

- Read early emergent reader texts with purpose and understanding
- Continue to demonstrate developing phonological awareness (medial vowel sounds, blend and segment CVC words, add and delete sounds in words)
- Continue to know and apply word analysis skills in decoding words
- Read most kindergarten high frequency words
- With help from an adult, use written words and drawings to express an opinion or give information about something
- Participate in shared research and writing projects

By the end of Grade K, Trimester 3 students can:

- Recognize and write all uppercase and lowercase letters and sounds.
- Read decodable texts.
- Capitalize the first word in a sentence.
- Recognize punctuation marks used at the end of sentences.
- Use appropriate word spacing in a sentence.

Questions you can ask your child:

- ★ Which words in this book do you know?

Topics you can discuss with your child's teacher:

- ★ How and where to find appropriate books for your child

Grade K, Trimester 3 Big Ideas and Concepts:

- Compare two numbers between 1 and 10 represented as written numerals
- Fluently add and subtract within 5
- Represent and solve addition and subtraction problems within 10 concretely, verbally and symbolically with expressions and equations
- Describe measurable attributes of objects
- Correctly name basic 2D and 3D shapes
- Count to 100 by 1s and 10s, and count on from various starting points
- Find number pairs that add to ten and record them with drawings or equations
- Teen numbers
- Count 20 objects in various arrangements
- Decompose numbers to ten into pairs in more than one way

Questions you can ask your child:

- How can you solve 5-1? How about 3+2?
- What 3D shapes do you know? Can you find any in the room?
- What goes with 7 to make 10?

Topics you can discuss with your child's teacher:

- Things to work on over the summer
- First grade readiness
- How to build excitement about math skills

By the end of Grade K, Trimester 3 students can:

- Compose, decompose and understand numbers 10-19.
- Compare groups of objects using greater than, less than or equal to.
- Add and subtract mentally within 5.
- Use objects, drawings or strategy to add and subtract within 10.
- Use drawings or equations to represent addition and subtraction problems or number combinations.





MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING



Grade K, Trimester 3 Big Ideas and Concepts:

- Observe and communicate that animals (including humans) and plants need food, water, and air to survive. Animals get food from plants or other animals. Plants make their own food and need light to live and grow.
- Recognize that all plants and animals grow and change over time.
- Communicate solutions to reduce the amount of natural resources an individual uses.
- Investigate and communicate the idea that different kinds of materials can be solid or liquid depending on the temperature.
- Make observations to determine that sunlight warms materials on the earth's surface. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.
- Use and share observations of local weather conditions to describe patterns over time.

By the end of Grade K, Trimester 3 students can:

- Describe the life cycle of a plant and tell what plants need to survive.
- Describe ways to reduce, reuse, and recycle.
- Describe how people can build things to protect themselves from the sun's heat.

Questions you can ask your child:

- ★ How do we take care of our house plants?
- ★ How can we take care of the earth?
- ★ How do you protect yourself from the sun?

Topics you can discuss with your child's teacher:

- ★ How science relates to everyday situations in your child's life.
- ★ Places in the community that can help your child learn science.

HISTORY AND SOCIAL SCIENCE

Grade K, Trimester 3 Big Ideas and Concepts:

- Describe the location of people, objects, and places
- With support, explain the similarities and differences between maps and globes
- Explain the location of important places in the student's town.
- Construct maps, drawings, and models of familiar places
- Describe some things people do when they work inside or outside the home
- Ask and answer questions about buying, selling, or trading something and explain how people make choices about the things they need and want
- Give examples of goods and services that people purchase with money they earn

Questions you can ask your child:

- What is your address?
- What is near your school?
- Who helps our community?
- Are toys a want, or a need?

Topics you can discuss with your child's teacher:

- Biographies, autobiographies, and historical fiction
- Celebrations and traditions that are important to our community



By the end of Grade K, Trimester 3 students can:

- Recite their home address.
- Use maps to find familiar locations in familiar places.
- Using relative position, describe the location of objects or places.
- Identify community helpers.
- Tell the difference between wants and needs.
- Explain how money is used.



KINDERGARTEN
Trimester 2

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read and listen to various texts.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate and express opinions, information, and experiences in drawing and writing.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask questions about the natural world and things humans design.
- Learn through various experiences and observations..
- Think of ideas to solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use mathematical reasoning to make arguments about why something is true or false.
- Use tools to show mathematical understanding.

HISTORY AND SOCIAL SCIENCE

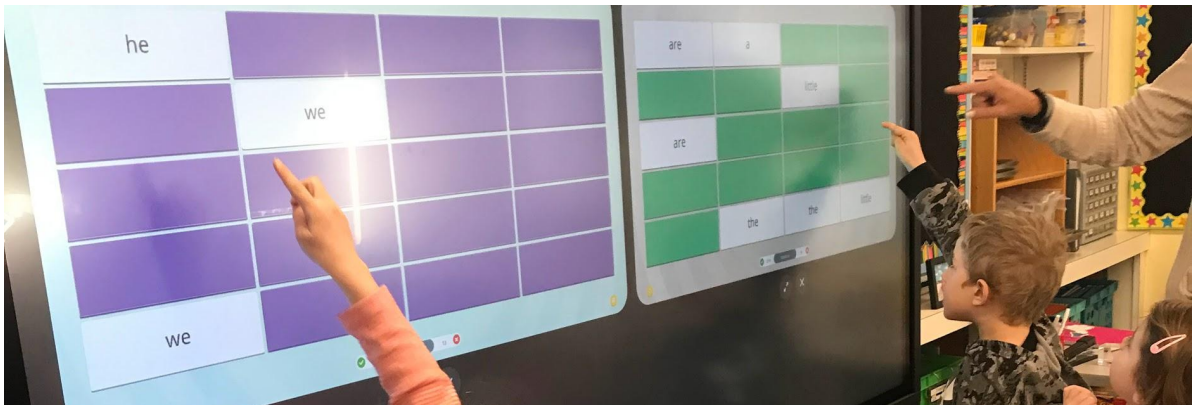
In this Trimester, your child will:

- Learn about their community, the state, country, and world.
- Discover how people and events from the past relate to the present.
- Work to understand how different people see the world differently.

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ENGLISH LANGUAGE ARTS & LITERACY



Grade K, Trimester 2 Big Ideas and Concepts:

- Compare and contrast familiar stories
- Describe the relationship between illustrations and the story
- Continue to expand knowledge of literary genres
- Continue to demonstrate developing phonological awareness (final sounds, blend and segment CVC words)
- Continue to know and apply word analysis skills in decoding words
- Read more high frequency words
- With support, write a 3-5 word sentence and draw a corresponding picture

By the end of Grade K, Trimester 2 students can:

- Blend and read some CVC words
- Begin to read a sentence containing CVC and high frequency words
- Identify how many sounds are in a word
- Write most uppercase and lowercase letters
- Use high frequency words in their writing

Questions you can ask your child:

- ★ Is this book fiction or nonfiction?

Topics you can discuss with your child's teacher:

- ★ How to practice phonological awareness skills with your child

Grade K, Trimester 2 Big Ideas and Concepts:

- Orally count by 1s to at least 50, from 1 or starting at another number
- Compare numerals between 1 and 10
- Decompose numbers into pairs in more than one way
- Describe the length and weight of objects and compare objects by length
- Read and write numbers 0-20 and represent 20 objects with a numeral
- Solve simple number stories and problems involving addition and subtraction using various strategies
- Find combinations of 10
- Compose and decompose numbers 11-19 into a group of ten and some further 1s
- Use names of shapes and relative positions to describe two-dimensional shapes in the environment
- Classify objects into given categories, count the numbers of objects in each category, and sort categories by count
- Name circles, triangles, squares, rectangles, hexagons and some additional 3-dimensional shapes

Questions you can ask your child:

- ★ Which object is heavier /longer/ shorter/lighter?
- ★ How do we sort the groceries before we put them away?

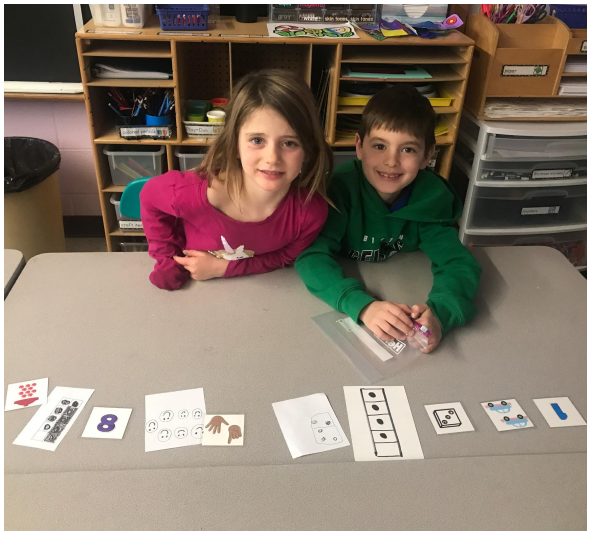
Topics you can discuss with your child's teacher:

- ★ Sorting household objects
- ★ Taking risks, making guesses, double-checking

By the end of Grade K, Trimester 2 students can:

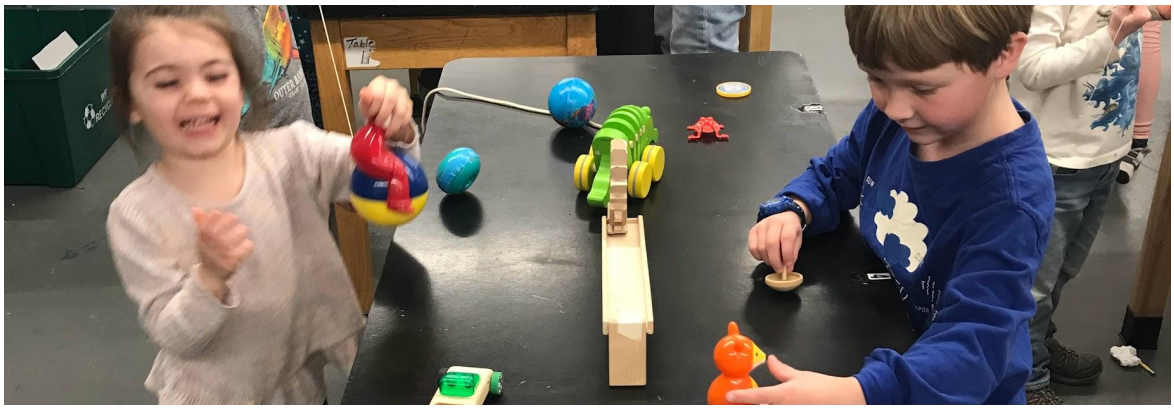
- Represent addition and subtraction concretely and verbally
- Compare quantities and numerals
- Use strategies to make combinations of 10
- Begin to identify 2D and 3D shapes
- Recognize and write teen numbers 10-19
- Sort objects using a rule





MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING



Grade K, Trimester 2 Big Ideas and Concepts:

- Investigate and communicate the idea that different kinds of materials can be solid or liquid depending on the temperature
- Compare the effects of different strengths or different directions of pushes and pulls on the motion of an object
- Obtain and use information about weather forecasting to prepare for and respond to different types of local weather
- Construct an argument supported by evidence for how animals can change the environment.
- Use and share observations of local weather conditions to describe patterns over time

By the end of Grade K, Trimester 2 students can:

- Describe what happens to water when it gets cold
- Explain what happens when an object is pushed or pulled
- Describe what an animal needs to survive



Questions you can ask your child:

- ★ Ask your child to describe different habitats
- ★ Would snow melt faster on a sunny day or a cloudy day?

Topics you can discuss with your child's teacher:

- ★ How science relates to everyday situations in your child's life.
- ★ Places in the community that can help your child learn science.

Grade K, Trimester 2 Big Ideas and Concepts:

- With prompting and support, give examples from literature and informational texts read or read aloud of characters who show authority, fairness, caring, justice, responsibility, or who show how rules are created and followed.
- Ask and answer questions and explore books to gain information about national symbols, songs, and texts of the United States.
- Put events from their personal lives, observations of the natural world, and from stories and informational texts read or read aloud in temporal order, using words and phrases relating to chronology and time.

Questions you can ask your child:

- What can you tell me about bald eagles?
- Tell me about what you did in the morning or afternoon today.

Topics you can discuss with your child's teacher:

- Biographies, autobiographies, and historical fiction
- Celebrations and traditions that are important to our community

By the end of Grade K, Trimester 2 students can:

- Discuss positive traits of a character when reading a story with an adult
- Identify the American Flag, bald eagle, Star-Spangled Banner, and Pledge of Allegiance
- Sequence actions, using *first, next*, and *last*





HISTORY AND SOCIAL SCIENCE

KINDERGARTEN
Trimester 1

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❑ How did you contribute to your **community** today?
- ❑ How did someone help you learn today?
- ❑ Can you tell me about something you **read** today?
- ❑ How could you use the **math** you learned today?
- ❑ What **scientific ideas** did you talk about today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read and listen to various texts.
- Develop speaking and listening skills.
- Communicate and express information through drawing and writing.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask questions about the natural world and human-made things.
- Learn through various experiences and observations.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools to show mathematical umderstanding.

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about their local community, the state, country, and world.
- Discover how people and events from the past relate to the present.
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ENGLISH LANGUAGE ARTS & LITERACY



Grade K, Trimester 1 Big Ideas and Concepts:

- Engage in group reading activities
- Recognize parts of a book and define author and illustrator
- Recognize common types of texts
- Identify key ideas and details about a text
- Develop understanding of concepts of print
- Demonstrate developing phonological awareness skills (rhyming, syllables, beginning sounds)
- Know and apply word analysis skills in decoding words
- Read some high frequency words
- Beginning letter formation
- Draw simple pictures to express an idea

By the end of Grade K, Trimester 1 students can:

- Tell what a story is about
- Identify a text as fiction or nonfiction
- Recognize and produce rhyming words
- Blend and segment 2-3 syllable words
- Write some uppercase and lowercase letters



Questions you can ask your child:

- ★ Who was in the story? Where did it take place?
- ★ What is the first sound in this word?

Topics you can discuss with your child's teacher:

- ★ Does my child engage in group discussions?

MATHEMATICS

Grade K, Trimester 1 Big Ideas and Concepts:

- Oral and rational counting
- Routines such as counting the days of school, number of the day, calendar, weather and temperature observation and data
- Identify and compare geometric shapes (triangles, circles, rectangles)
- Representing and solving addition and subtraction situations concretely, within 5
- Sort objects into categories using attributes such as color or shape
- Numerals 0-10
- The cardinal principle and the successor function

Questions you can ask your child:

- Can you count stairs as you climb or descend ?
- Do you see any numbers in the grocery store or at home ?
- Where can you find a rectangle at home?

Topics you can discuss with your child's teacher:

- Games and activities for home which support learning
- How to incorporate mathematical thinking every day

By the end of Grade K, Trimester 1 students can:

- Identify and describe triangle, square, rectangle, circle
- Read and write numbers 0-10, count orally to 10
- Count a set of 10 or more objects
- Figure out how many objects when one is added to a group, without starting over
- Compare the number of objects in two groups





SCIENCE AND TECHNOLOGY/ ENGINEERING



Grade K, Trimester 1 Big Ideas and Concepts:

- Use and share observations of local weather conditions to describe patterns over time
- Obtain and use information about weather forecasting to prepare for and respond to different types of local weather
- Observe and communicate that plants need food, water, and air to survive. Plants make their own food and need light to live and grow
- Recognize that plants grow and change over time

By the end of Grade K, Trimester 1 students can:

- Report current weather conditions
- Read and analyze weather and temperature data
- Describe the life cycle of a pumpkin or apple
- Describe how trees change in the fall



Questions you can ask your child:

- What is the life cycle of a pumpkin?
- How should you dress for today's weather?
- What happens to trees in the fall?

Topics you can discuss with your child's teacher:

- How science relates to everyday situations in your child's life.
- Places in the community that can help your child learn science.

HISTORY AND SOCIAL SCIENCE

Grade K, Trimester 1 Big Ideas and Concepts:

- Understand and follow rules, limits and expectations with minimal prompting and assistance; with prompting and support, answer questions about the reasons for rules.
- Describe how some days, called civic holidays, are special because they celebrate important events or people in history.
- Compare and contrast traditions and celebrations of people with diverse cultural backgrounds.

Questions you can ask your child:

- Tell me about your classroom rules and why you have them.
- How were you a good friend today?

Topics you can discuss with your child's teacher:

- Biographies, autobiographies, and historical fiction
- Celebrations and traditions that are important to our community

By the end of Grade K, Trimester 1 students can:

- Explain what it means to be responsible
- Describe similarities and differences between themselves and others
- Take on responsibilities and follow through on them
- Be respectful and helpful to others





MERSD SPECIALS

Grade 1, Trimester 3

LIBRARY

In this Trimester, your child will:

- Review how to independently navigate *PebbleGo*, an online encyclopedia.
- Review the question "what is research?" and choose a research topic and determine what questions to answer.
- Use library books and *PebbleGo* to find information about the topic and take notes on a graphic organizer.
- Be interviewed by the Library Teacher about their research topic and create a collaborative multimedia project with Technology class.
- Share their finished research product in Library class.

TECHNOLOGY

In this Trimester, your child will:

- Create multimedia projects with different apps such as Chatterpix.
- Use their library research to create a multimedia project with apps like Book Creator.
- Create a project that can then be shared with larger audiences.
- Use knowledge from throughout the year to create and edit multimedia projects.

VISUAL ART

In this Trimester, your child will:

- Continue to create pictures through direct step by step observation and from imagination.
- Listen to stories that are inspiration for art lessons.
- Create styrofoam stamps for basic printmaking.
- Learn what organic shapes are vs geometric shapes.
- Paint correctly with pan watercolors.
- Build a small basic pinch pot from clay.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Play mallet instruments with proper technique.
- Distinguish between major and minor keys.
- As a class, sing 10 short songs from memory.
- Stay in rhythm while singing or playing as a class by listening to each other.

WELLNESS / PE

In this Trimester, your child will:

- Try new fitness movements, activities and skills.
- Demonstrate safe and cooperative play with the parachute.
- Demonstrate jump rope skills with self and partner.
- Demonstrate track and field skills such as hurdling.
- Demonstrate beginning lacrosse skills such as passing, catching and shooting.
- Continue our P.A. curriculum.

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MERSD SPECIALS

Grade 1, Trimester 2

LIBRARY

In this Trimester, your child will:

- Learn and demonstrate understanding of elements of a story including, plot, character, setting and theme.
- Practice rephrasing assignments: "what am I supposed to do?"
- Understand the purpose of nonfiction text features including table of contents, captions, index and glossary.
- Continue to learn about seasonal themes and world traditions via literature, and compare and contrast literature via author studies.

TECHNOLOGY

In this Trimester, your child will:

- Learn about Internet safety and how to stay safe online.
- Understand how to be a good digital citizen.
- Learn about computer science.
- Learn how to create basic codes.
- Create code with offline and online activities.
- Learn how to code robots to solve problems.

VISUAL ART

In this Trimester, your child will:

- Create pictures by drawing with lines and shapes through direct step by step observation.
- Listen to stories that are inspiration for art lessons.
- Paint with tempera paints mixing the warm and cool colors.
- Learn what organic shapes are vs geometric shapes.
- Paint correctly with pan watercolors.
- Cut small shapes from papers to make a collage.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Perform on stage as a group, singing at an appropriate volume.
- Identify handheld percussion instruments by sight.
- Improvise short rhythmic ideas on handheld percussion instruments.
- Create percussion instruments to connect with 1st grade sound unit.

WELLNESS / PE

In this Trimester, your child will:

- Continue developing beginning Basketball skills.
- Demonstrate moving to various rhythms and demonstrate aerobics to various music.
- Demonstrate appropriate rolling movement turning tumbling and acrobatics.
- Demonstrate skills used in pickleball: striking forehand and backhand.
- Demonstrate moving to various rhythms and can perform dances of various countries.
- Will demonstrate beginning hockey skills.
- Continue our P.A. curriculum.

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MERSD SPECIALS

Grade 1, Trimester 1

LIBRARY

In this Trimester, your child will:

- Learn and practice strategies to find a "just right" book.
- Distinguish fiction from non-fiction.
- Learn the parts of a library book (front/ back cover, spine, call #, verso page, and barcode.)
- Be introduced to non-fiction text features including table of contents, captions, index and glossary.
- Learn about seasonal themes and world traditions via literature, and demonstrate understanding via student-created projects.

TECHNOLOGY

In this Trimester, your child will:

- Learn basic device safety and expectations of device care for both laptops and ipads.
- Learn about the different parts of the computer
- Practice navigating to different applications and websites on the computer.
- Use the application Kidpix to create pictures and practice typing.

VISUAL ART

In this Trimester, your child will:

- Students will learn what art is, what an artist does and why art is important to people throughout history and around the world.
- Students will continue to explore new ways to explore artmaking and expressing themselves through drawing, painting, printing, collage and 3D construction.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Sing together, matching pitch.
- Repeat back simple rhythms by ear.
- Listen with appropriate audience etiquette.
- Express the emotion in music through movement.

WELLNESS / PE

In this Trimester, your child will:

- Continue developing skills used in a variety of locomotor skills (Hopping, skipping, jumping, leaping, running, galloping and sliding.)
- Demonstrate soccer skills including striking, trapping, dribbling, headers, force and passing.
- Be introduced to ball handling skills.
- Take part in Project Adventure curriculum which includes problem solving and teamwork.

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FIRST GRADE
Trimester 3

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate opinions and fictional stories in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, such as number grids and pattern blocks, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

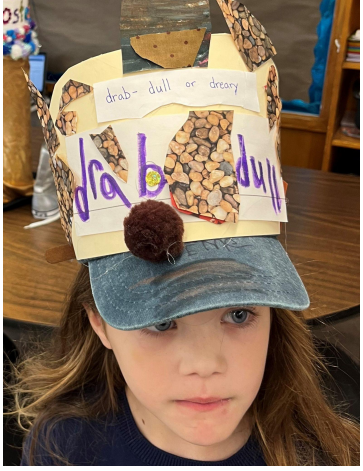
In this Trimester, your child will:

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ENGLISH LANGUAGE ARTS & LITERACY





Grade 1, Trimester 3 Big Ideas and Concepts:

- Know and apply grade-level phonics and word analysis skills to decode unknown words
- Recognize and read irregularly spelled words (including high frequency words)
- Read with sufficient accuracy and fluency to support comprehension
- Demonstrate understanding of spoken words, syllables, and sounds
- Write in various genres

By the end of Grade 1, Trimester 3 students can:

- Decode regularly spelled one-syllable words with vowel teams, r-controlled vowels, diphthongs and more variant vowels.
- Read increasingly complex text with expression and intonation.
- Decode two syllable words following basic patterns.
- Phoneme deletion and substitution.
- Determine central message or lesson of a text.
- Make connections between texts.
- Write about their opinions.
- Write fiction stories.

Questions you can ask your child:

- What lesson can you learn from this book?
- How is this story like another story?
- What story does this remind you of?

Topics you can discuss with your child's teacher:

- Supporting your child's reading fluency with more complex text.
- How to help your child read multisyllabic words.

Grade 1, Trimester 3 Big Ideas and Concepts:

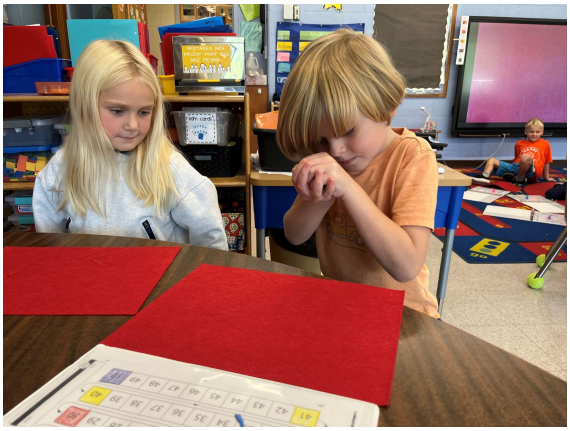
- Understand how counting, addition, and subtraction are related
- Describe geometric shapes
- Reason with shapes and their attributes
- Identify simple fractions
- Tell time to the half hour
- Understand and solve number stories using 2-digit numbers

Questions you can ask your child:

- How much money is this collection of coins worth?
- What time does the clock say?
- What shape has 4 equal sides?
- How do you know this shape is a _____?

Topics you can discuss with your child's teacher:

- What 2D and 3D shapes we study.
- Games that can help your child practice at home.
- Which addition and subtraction strategies work best for your child.



By the end of Grade 1, Trimester 3 students can:

- Know the value of a collection of pennies and dimes.
- Tell the value of a digit in a given number.
- Tell and write time to the hour and half hour on digital and analog clocks.
- Identify attributes of 2D and 3D shapes.
- Separate shapes into equal parts. Describe the parts using the words halves, fourths, and quarters.
- Solve one-step word problems containing 2 digit numbers using addition and subtraction.

MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING





Grade 1, Trimester 3 Big Ideas and Concepts:

- Students will identify similarities and differences among plants of the same kind.
- Students will identify similarities and differences among animals of the same kind.

By the end of Grade 1, Trimester 3 students can:

- Identify the parts of a plant (roots, stems, leaves, flowers, fruits).
- Identify the functions of these plant parts.
- Identify characteristics of animals.
- Categorize animals by similar characteristics.

Questions you can ask your child:

- What are the parts of a plant? What do they do?
- What kind of animal is that and how do you know?
- How are animals alike and different?

Topics you can discuss with your child's teacher:

- Play 20 Questions
- How science relates to your child's life (i.e. seasons, plants, animals, tide pools).

HISTORY AND SOCIAL SCIENCE

Grade 1, Trimester 3 Big Ideas and Concepts:

- Identify what goods and services are
- Identify goods and services in their lives
- Concepts of diversity, equity, and inclusion will be integrated and addressed throughout the year including, but not limited to: cultural differences, different types of abilities and disabilities, family make-ups and traditions

Questions you can ask your child:

- What are things we need in our family?
- Is a ____ need or a want?

Topics you can discuss with your child's teacher:

- Concept of saving money.
- Books to look at about H/SS topics.

By the end of Grade 1, Trimester 3 students can:

- Explain what goods and services are.
- Give examples of goods that people buy and use.
- Give examples of services people do for each other.
- Distinguish between needs and wants.
- Explain why people try to save some of their money rather than spend it all.
- Work to understand how different people see the world and live differently.





FIRST GRADE
Trimester 2

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate information in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, such as number lines, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

In Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Discover how people and events from the past relate to the present.
- Work to understand how different people see the world differently.

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ENGLISH LANGUAGE ARTS & LITERACY



Grade 1, Trimester 2 Big Ideas and Concepts:

- Know and apply grade-level phonics and word analysis skills to decode unknown words.
- Recognize and read irregularly spelled words (including high frequency words).
- Read with sufficient accuracy and fluency to support comprehension.
- Demonstrate understanding of spoken words, syllables, and sounds.
- Write in various genres.

By the end of Grade 1, Trimester 2 students can:

- Decode regularly spelled one-syllable words with digraphs, long vowels with silent “e”, and variant vowel spellings.
- Read words with inflectional endings such as -ed and -ing.
- Read sentences and short passages smoothly.
- Blend and segment sounds in words.
- Identify main topic and supporting details.
- Identify nonfiction text features.
- Write informational pieces.

Questions you can ask your child:

- How do authors show information in a nonfiction book?
- How do you show that an action already happened?
- Can you tell me all the sounds in ____?

Topics you can discuss with your child’s teacher:

- Building your child’s background knowledge to improve reading.
- Supporting your child’s reading fluency.

Grade 1, Trimester 2 Big Ideas and Concepts:

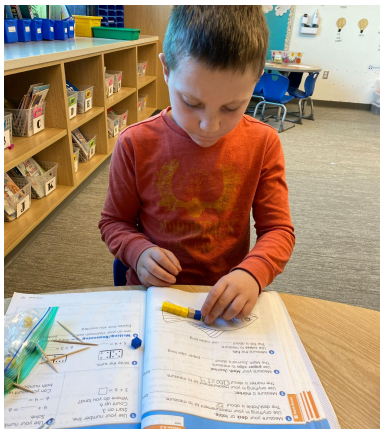
- Understand measurement of length.
- Understand and apply properties of addition and subtraction within 20.
- Understand that two-digit numbers are made of tens and ones (place value).
- Understand and compare numbers using comparison symbols.
- Adding and subtracting two-digit numbers.
- Understanding the basics of telling time.

Questions you can ask your child:

- How many spoons long is ____?
- What are all the doubles facts you know?
- What are some ways to make 10?

Topics you can discuss with your child's teacher:

- How math applies in everyday life.
- Addition and subtraction facts.
- How to practice place value at home.



By the end of Grade 1, Trimester 2 students can:

- Measure length using non-standard tools.
- Solve number stories using addition and subtraction within 20.
- Solve addition and subtraction facts within 20.
- Know doubles facts through 10+10.
- Know complements of 10.
- Tell time to the hour on an analog clock.
- Identify the tens and ones place in a 2-digit number.
- Represent a given number using base-10 blocks.
- Use a tool to add 2 digit numbers.
- Use >,<,= to compare numbers and expressions.
- Identify a penny and a dime.
- Tell the value of a penny and a dime.

MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING



Grade 1, Trimester 2 Big Ideas and Concepts:

- Students will learn about the moon and sun.
- Students will identify similarities and differences among animals of the same kind.
- Students will learn about how light and sound travel.

By the end of Grade 1, Trimester 2 students can:

- Identify the phases of the moon.
- Explain the patterns in the sunrise and sunset.
- Explain how animals use their bodies and senses to meet their needs.
- Build something that sends a signal (light or sound) over a distance.
- Identify that sound is created by vibrations.
- Explain the the properties of materials can affect the passage of light.

Questions you can ask your child:

- What do we call tonight's moon?
- What do you notice about the moon?
- How do we hear sound?
- What stops light?

Topics you can discuss with your child's teacher:

- Observe light and sound in everyday life. What affects it?
- How science relates to your child's life (i.e the moon, animals, seasons, light, sound).

Grade 1, Trimester 2 Big Ideas and Concepts:

- Explain what a map is and why it is used.
- Use cardinal directions (north, east, south, west) and various maps to find and describe places.
- Concepts of diversity, equity, and inclusion will be integrated and addressed throughout the year including, but not limited to: cultural differences, different types of abilities and disabilities, family make-ups and traditions.

Questions you can ask your child:

- Where are the cardinal directions on a given map?
- Look at maps that you have and talk about what information they get from the map.
- How to make a map of a room in your home.

Topics you can discuss with your child's teacher:

- What are some resources for using maps at home?
- Activities they can do to practice using maps with their child.



By the end of Grade 1, Trimester 2 students can:

- Identify physical features on a map.
- Identify and use cardinal directions.
- Explain that a map represents spaces.
- Use maps to identify locations.
- Work to understand how different people see the world and live differently.

FIRST GRADE
Trimester 1

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ How did you contribute to your classroom **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Be exposed to various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways like presentations and conversations.
- Communicate experiences in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask scientific questions about the natural world.
- Learn through various experiences and observations.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, such as manipulatives and number lines, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Work to understand how different people see the world differently.

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ENGLISH LANGUAGE ARTS & LITERACY





Grade 1, Trimester 1 Big Ideas and Concepts:

- Know and apply grade-level phonics and word analysis skills to decode unknown words.
- Recognize and read irregularly spelled words (including high frequency words).
- Demonstrate understanding of spoken words, syllables, and sounds.
- Comprehend and write texts of various genres.

By the end of Trimester 1 students can:

- Decode regularly spelled one-syllable words with short vowels and consonant blends.
- Read words and simple sentences smoothly.
- Identify a rhyme.
- Identify beginning sounds.
- Ask and answer questions about key details in a text.
- Make and confirm predictions.
- Identify story elements.
- Write personal narratives.
- Write words using the sounds they hear.

Questions you can ask your child:

- What rhymes with __?
- What do you think will happen?
- What do you do when you don't know how to spell a word? Can you sound out/spell ___?

Topics you can discuss with your child's teacher:

- Ways to practice phonics and phonemic awareness.
- How you can support your child's spelling and writing development.

Grade 1, Trimester 1 Big Ideas and Concepts:

- Understand and solve simple number stories.
- Understand and apply properties of addition and subtraction within 10.
- Students organize, represent, and interpret data.
- Students will read, write, and count single and double digit numbers.
- Students will learn and apply counting strategies.
- Understand and apply counting strategies through the use of tools such as a number line and manipulatives.
- Understand and apply properties of addition and subtraction within 10.
- Understand and solve number stories using addition and subtraction and represent with a number model.
- Recognize and use number patterns to extend the counting sequence.
- Understand how to represent and interpret data using tally marks.
- Apply appropriate tools and strategies to solve a variety of math problems.

Questions you can ask your child:

- ★ What is a given number?
- ★ Given a group of objects, how many are there?
- ★ How do you show a __ with tallies?
- ★ Can you count to 100 by 10s?

Topics you can discuss with your child's teacher:

- ★ Skip counting strategies.
- ★ Types of number stories.
- ★ How math applies in everyday life.

By the end of Trimester 1 students can:

- Read, write, and count the numbers through 50.
- Solve number stories using addition and subtraction within 10.
- Solve addition and subtraction facts within 10.
- Represent a number using tally marks.
- Answer questions about a tally chart.
- Count by 5s up to 50.
- Count by 10s to 100.



MATHEMATICS

SCIENCE AND TECHNOLOGY / ENGINEERING





Grade 1, Trimester 1 Big Ideas and Concepts:

- Students will learn about what a scientist is and what they do.
- Students will learn about seasons.
- Students will learn about the moon and sun.

By the end of Trimester 1 students can:

- Ask questions and make observations.
- Identify the 4 seasons
- Identify the patterns in seasons.
- Collect data on weather patterns.
- Identify the signs of the various seasons.
- Identify a problem and state possible solutions.

Questions you can ask your child:

- What do scientists do?
- What do you observe?
- What season is it now? How do you know it is summer/fall?
- How do scientists solve problems?

Topics you can discuss with your child's teacher:

- Ways you can help your child learn science.
- How science relates to your child's life (i.e. seasons, observations).

Grade 1, Trimester 1 Big Ideas and Concepts:

- Students will understand what it means to be part of a group and the benefits of being part of a group.
- Students will recognize core values of a community.
- Students will have a basic understanding of the democratic process, including voting.
- Concepts of diversity, equity, and inclusion will be integrated and addressed throughout the year including, but not limited to: cultural differences, different types of abilities and disabilities, family make-ups and traditions.

Questions you can ask your child:

- When do you vote in your classroom and how does it work?
- What are the core values of your school and why are they important?
- How do you want to feel at school/home?

Topics you can discuss with your child's teacher:

- How to incorporate elements RULER at home.
- Books to look at about history and other social studies topics.

By the end of Trimester 1 students can:

- Participate as responsible members of the classroom community.
- Identify the core values of the school.
- Identify the communities that they are part of.
- Describe how they want to feel in their school community.
- Explain how voting helps people make decisions in a community.
- Work to understand how different people see the world and live differently.





HISTORY AND SOCIAL SCIENCE

MERSD SPECIALS

Grade 2, Trimester 3

LIBRARY

In this Trimester, your child will:

- Review how to independently navigate online encyclopedias (*PebbleGo* and *Britannica Online*).
- Participate in a group research project to practice teamwork and note-taking skills.
- Use library books and online encyclopedias to find information about their research topic and take notes using keywords and bullet points.
- Create sentences based on keyword notes.
- Create a multimedia project in collaboration with Technology class.

TECHNOLOGY

In this Trimester, your child will:

- Create multimedia projects with different apps such as Book Creator.
- Use their library research to create a multimedia project.
- Create a project that can then be shared with larger audiences.
- Use knowledge from throughout the year. to create and edit multimedia projects text and image features.

VISUAL ART

In Trimester, your child will:

- Review basic types of lines adding spirals to make design patterns with markers.
- Know how to use oil pastels with watercolors to paint a landscape resist.
- Create a basic weaving pot holder on a loam.
- Identify geometric and organic shapes.
- Build a clay slab drape mold bowl that is symmetrical.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Categorize instruments of the orchestra by family.
- Read and write 8th notes and rests.
- Play melodies on instruments.
- Sing 10 short songs and 4 longer songs from memory.

WELLNESS / PE

In this Trimester, your child will:

- Students will continue developing skills used in a variety of locomotor skills (Hopping, skipping, jumping, leaping, running, galloping and sliding.)
- Students will demonstrate soccer skills including striking, trapping, dribbling, headers, force and passing.
- Students will begin overhand and underhand throwing and catching.

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MERSD SPECIALS

Grade 2, Trimester 2

LIBRARY

In this Trimester, your child will:

- Review nonfiction text features (Table of Contents, Glossary, Index, Captions, Photos)
- Understand how nonfiction text features may be used as a resource when doing research.
- Learn and practice how to take a research note.
- Learn and practice how to communicate research facts in their own words.

TECHNOLOGY

In this Trimester, your child will:

- Learn about computer science.
- Learn how to create basic codes.
- Create code with offline and online activities.
- Learn and understand how to code robots to solve problems.
- Learn what an algorithm is and how to create one.

VISUAL ART

In Trimester, your child will:

- Learn how to add a horizon line to show distance in their work.
- Add visual texture to drawings and paintings.
- Learn how to mix tints and shades with tempera paint and oil pastels.
- Identify and be able to cut geometric and organic shapes.
- Create basic weaving placemats from painted papers.
- Use symmetry in basic prints.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Identify instruments of the orchestra by sight.
- Sing on stage as a group, matching pitch and diction.
- Clap on offbeats together as a class.

WELLNESS / PE

In this Trimester, your child will:

- Developing Basketball skills.
- Move to various rhythms and combine dance patterns.
- Demonstrate appropriate rolling movement during tumbling and acrobatics.
- Demonstrate skills used in pickleball: striking forehand and backhand.
- Perform dances of various countries.
- Demonstrate beginning hockey skills i.e. shooting, dribbling, passing and control.
- Continue P.A. curriculum.

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MERSD SPECIALS

Grade 2, Trimester 1

LIBRARY

In this Trimester, your child will:

- Understand the relationship between spine label and book content and recognize the call number as a book's "address."
- Be introduced to the Dewey Decimal System for organizing non-fiction books in libraries.
- Practice organizing books on a shelf to inform browsing for books of interest.
- Practice using *Destiny,* the school library database, independently to search for library books.

TECHNOLOGY

In this Trimester, your child will:

- Learn basic device safety and expectations of device care.
- Learn about the different parts of the computer and what they do.
- Learn and practice using QR codes to scan into their Clever account to access our school's subscription applications
- Learn how we can be safe online and a responsible digital citizen.

VISUAL ART

In this Trimester, your child will:

- Students will learn what art is, what an artist does and why art is important to people throughout history and around the world.
- Students will continue to explore new ways to explore artmaking and expressing themselves through drawing, painting, printing, collage and 3D construction.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Sing together with clear diction, matching pitch.
- Improvise movement ideas.
- Repeat simple rhythms on handheld percussion instruments.
- Use the mood meter to show opinions on the emotion in music.

WELLNESS / PE

In this Trimester, your child will:

- Continue developing skills used in a variety of locomotor skills (Hopping, skipping, jumping, leaping, running, galloping and sliding.)
- Demonstrate soccer skills including striking, trapping, dribbling, headers, force and passing.
- Be introduced to ball handling skills.
- Take part in Project Adventure curriculum which includes problem solving and teamwork.

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SECOND GRADE
Trimester 3

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate opinions, information, and experiences in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, like rulers and calculators, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

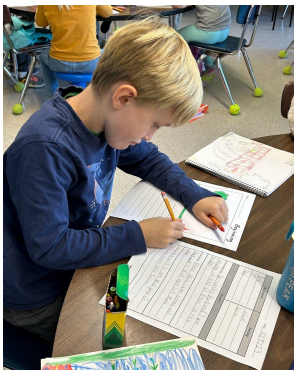
In this Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Discover how people and events from the past relate to the present.
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ENGLISH LANGUAGE ARTS & LITERACY







Grade 2, Trimester 3 Big Ideas and Concepts:

- Know and apply grade level phonics and word analysis skills to decode unknown words
- Recognize and read irregularly spelled words (including high frequency words)
- Read with sufficient accuracy and fluency to support comprehension
- Read various genres including realistic fiction, biography, persuasive text, expository text, myth, and poetry
- Write in various genres
- Apply grade level speaking and listening skills

By the end of Grade 2, Trimester 3 students can:

- Decode and spell words with common vowel teams.
- Decode two-syllable words with long vowels.
- Describe how characters in a story respond to major events and challenges.
- Know and use various text features to locate key facts or information in a text efficiently.
- Write opinion pieces that state an opinion and supply reasons that support the opinion.
- Write informative texts that introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

Questions you can ask your child:

- What problem did the character face? How did they solve it?
- What is your opinion? What are your reasons?
- What does fluent reading sound like?

Topics you can discuss with your child's teacher:

- Strategies for practicing reading and writing over the summer break

Grade 2, Trimester 3 Big Ideas and Concepts:

- Represent and solve problems involving addition and subtraction
- Use place value understanding and properties of operations to add and subtract
- Work with equal groups of objects to gain foundations for multiplication
- Measure and estimate lengths in standard units
- Represent and interpret data
- Reason with shapes and their attributes

Questions you can ask your child:

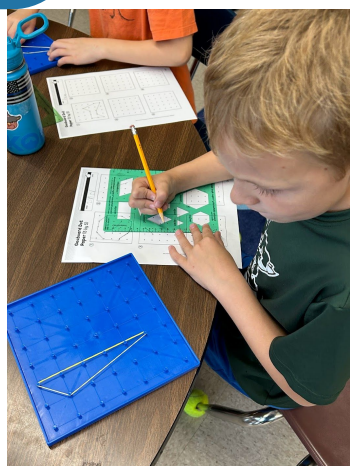
- About how many inches/centimeters is this object?
- What shape is this object?
- Is ___ more or less than ___?

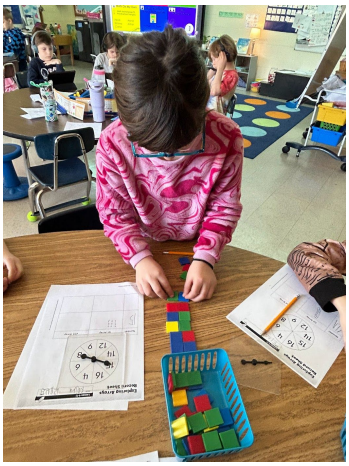
Topics you can discuss with your child's teacher:

- Suggestions for applying math concepts/skills to real-world contexts.
- Strategies for practicing math skills over summer break

By the end of Grade 2, Trimester 3 students can:

- Add up to four 2-digit numbers.
- Compare 3-digit numbers.
- Estimate and measure objects in inches and centimeters.
- Represent data on a line plot.
- Recognize and draw shapes with specific attributes.
- Partition shapes into equal shares.





MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING





Grade 2, Trimester 3 Big Ideas and Concepts:

- Develop and use models to compare how plants depend on their surroundings and other living things to meet their needs in the places they live
- Use texts, media, or local environments to observe and compare different kinds of living things in an area, and differences in the kinds of living things living in different types of areas
- Design and conduct an experiment to show the effects of friction on the relative temperature and speed of objects that rub against each other
- Describe and classify different kinds of materials by observable properties of color, flexibility, hardness, texture, and absorbency
- Analyze data from tests of two objects designed to solve the same design problem to compare the strengths and weaknesses of how each object performs

By the end of Grade 2, Trimester 3 students can:

- Describe what plants need to survive.
- Describe how plants and animals depend on each other in an ecosystem.
- Compare and contrast different materials based on their properties.
- Explain why we choose different materials for different purposes.
- Explain what happens to an object when it slides on a rough surface or a smooth surface.

Questions you can ask your child:

- What kind of materials should you use for this task?
- What happens to butter at different temperatures?

Topics you can discuss with your child's teacher:

- Places in the community that can help your child learn science

Grade 2, Trimester 3 Big Ideas and Concepts:

- Investigate reasons why people migrate (move) to different places around the world, recognizing that some migration is voluntary, some forced
- Give examples of why the United States is called "a nation of immigrants"
- Conduct interviews with family members, neighbors, friends, or school staff to discover where their families came from, how and why they moved to where they now live, and when and why their families came to Massachusetts
- Identify what individuals and families bring with them when they move to a different place and identify the significant impacts of migration; identify elements that define the culture of a society; explain how the community is enriched by contributions from all the people who form it today

Questions you can ask your child:

- Why would someone move to a new place?
- What are some of the cultures represented in your class?
- Where did your ancestors come from?

Topics you can discuss with your child's teacher:

- What are some grade level books we can read together to learn more?

By the end of Grade 2, Trimester 3 students can:

- Identify the types of problems people face that might be addressed by migration.
- Explain why people move to a new location or stay in a particular location.
- Give examples of traditions or customs from other countries practiced in the United States today.
- Describe traditional foods, customs, games, and music of the place they, their family, or their ancestors came.



Amazon



HISTORY AND SOCIAL SCIENCE

SECOND GRADE
Trimester 2

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate opinions, information, and experiences in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
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ENGLISH LANGUAGE ARTS & LITERACY





Grade 2, Trimester 2 Big Ideas and Concepts::

- Notice and talk about the structure of a text. For example, describe how the beginning of a story introduces the characters, or explain what the last paragraph of an article says.

- Explain the overall purpose of a text: for example, the idea the author is trying to explain or the lesson the author is trying to teach.

By the end of Grade 2, Trimester 2 students can:

- Explain how a picture or diagram helps show what a text is saying.

- Gather information from different texts to answer a question.

- When presenting, speak loudly and clearly enough to be heard and understood.

Questions you can ask your child:

- Who is the story about? What do they do? Why?
- What kinds of things can you do to figure out what a word means?
- What kind of writing did you do in school today?

Topics you can discuss with your child's teacher:

- Books and authors to look for at the library
- Types of writing your child is working on

Grade 2, Trimester 2 Big Ideas and Concepts:

- Continue to understand place value in numbers up to 1,000.
- Use various methods to add and subtract with numbers up to 1,000. For example, find the total cost of three items at a clothing store.
- Understand and use standard units and tools of measurement. For example, estimate the length (in feet or meters) of a row of desks.

Questions you can ask your child:

- ★ Would it take more inches or feet to measure our table?
- ★ How much change will we have after we pay for our snacks with a $10 bill?

Topics you can discuss with your child's teacher:

- ★ Which addition and subtraction strategies work best for your child
- ★ Games that can help your child practice math at home.



By the end of Grade 2, Trimester 2 students can:

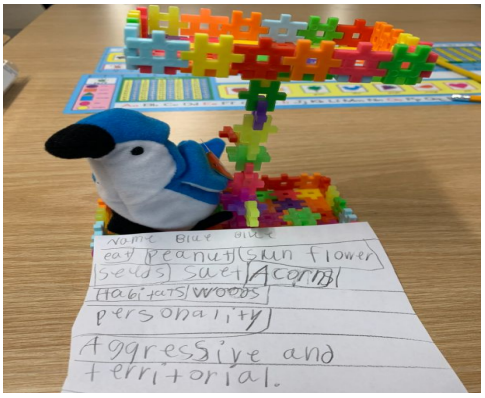
- Add and subtract within 20 quickly and accurately.
- Read, write and count numbers to 1,000.
- Arrange pairs of objects to tell whether a number is odd or even.
- Understand and create visual displays of information, like bar graphs.
- Solve one-step and two-step word problems, including problems involving length.



MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING





Grade 2, Trimester 2 Big Ideas and Concepts

- Understand different kinds of plants & animals live in different environments and areas. For example, compare living things in a desert with living things in an ocean.
- Understand how wind and water can change the shape of land, and how people can prevent or slow down those changes by doing things like planting trees and building fences.

By the end of Grade 2, Trimester 2 students can:

- Create maps to show bodies of water and landforms in an area.
- Explain that water exists on Earth in different places and forms.
- Describe and sort materials by how they look, feel, or act.
- Observe that breaking something does not change its material.

Questions you can ask your child:

- ★ Which of these towels is better for wiping up water? Why?
- ★ Where can we find water near our home?

Topics you can discuss with your child's teacher:

- ★ Places in the community that can help your child learn science

Grade 2, Trimester 2 Big Ideas and Concepts:

- Understand how people interact with the physical world (environment).
- Explain why people decide to live in (settle in) particular places and why they move (migrate).
- Describe countries using their physical characteristics (like climate or geography) as well as their human ones (population or culture).

Questions you can ask your child:

- What are some reasons people move to different places around the world?

Topics you can discuss with your child's teacher:

- Places in the community where people work (like homes, schools, stores, restaurants, offices and factories)



By the end of Grade 2, Trimester 2 students can:

- Create maps to show bodies of water and landforms.
- Identify continents, countries, and physical characteristics such as: rivers, deserts & peninsulas.
- Investigate different reasons people migrate and what individuals and families bring with them when they migrate (like memories, objects, ideas, languages & habitats).



HISTORY AND SOCIAL SCIENCE

SECOND GRADE
Trimester 1

TALK TO YOUR CHILD ABOUT SCHOOL

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- Recognize and read irregularly spelled words (including high frequency words)
- Read with sufficient accuracy and fluency to support comprehension
- Read various genres including realistic fiction, fantasy, expository text, fable, and poetry
- Write informational, opinion, and persuasive pieces
- Apply grade level speaking and listening skills

By the end of Grade 2, Trimester 1 students can:

- Decode regularly spelled one-syllable words with short vowels and consonant blends.
- Read words and simple sentences fluently.
- Ask and answer questions about key details in a text.
- Make & confirm predictions.
- Identify story elements within various genres including realistic fiction, fantasy, expository text, fable, and poetry.
- Produce writing that demonstrates increasing knowledge of language and conventions.

Questions you can ask your child:

- What do you believe will happen next?
- What do you do when you don't know how to spell a word? Can you sound out /spell ___?
- Can you retell a story you read in school today?

Topics you can discuss with your child's teacher:

- Ways to practice phonics and phonemic awareness
- How you can support your child's spelling and writing development

Grade 2, Trimester 1 Big Ideas and Concepts:

- Understand & solve simple number stories in addition and subtraction with a number model
- Understand & apply properties of addition and subtraction within 20
- Organize, represent, and interpret data
- Understand & apply counting strategies through the use of tools such as number lines and manipulatives
- Identify coins and their value
- Generate equivalent names for numbers

Questions you can ask your child:

- What is the sum of _ _ + _ _?
- Is a given number of objects odd or even?
- What is a given coin's value?

Topics you can discuss with your child's teacher:

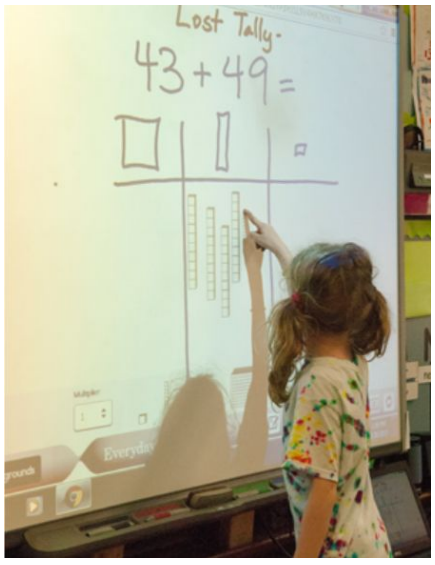
- Strategies to find a sum
- Ways to compare and order numbers
- How math applies in everyday life

By the end of Grade 2, Trimester 1 students can:

- Add and subtract within 10.
- Determine whether a group of objects up to 10 is odd or even.
- Count by 1s, 5s, 10s
- Read and write up to 3-digit numbers.
- Compare and order 2-digit numbers.
- Mentally add or subtract 10 from a given number.
- Plot numbers on a number line by 1s.
- Identify coins and their values.
- Use objects, number lines, or number grids to add a 1-digit number to a 2-digit number.



https://everydaymath.uchicago.edu/parents/2nd-grade/em4-at-home/



https://everydaymath.uchicago.edu/parents/2nd-grade/em4-at-home/

MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING



https://www.istockphoto.com/photos/school-science-project



https://www.teachhub.com/

Grade 2, Trimester 1 Big Ideas and Concepts:

- Students will investigate living vs. non-living things
- Students will explore and compare different habitats
- Students will learn about different ecosystems and how they interact

By the end of Grade 2, Trimester 1 students can:

- Ask questions and make observations.
- Identify a problem and state possible solutions.
- Explain how animals depend on their surroundings and other living things to meet their needs in the places they live.
- Explain differences between living and non-living things.

Questions you can ask your child:

- What animals would we find in our neighborhood?
- How do we know if something is living or non-living?

Topics you can discuss with your child's teacher:

- How to support my child's interest in science
- How to support science in the classroom

Grade 2, Trimester 1 Big Ideas and Concepts:

- Community Citizenship
- Concepts of diversity, equity and inclusion will be integrated and addressed throughout the year including, but not limited to: cultural differences, different types of abilities and disabilities, family make ups and traditions
- Map Skills
- Economics
  - Resources
  - Goods/services
  - Saving/spending

Questions you can ask your child:

- How can you be a good citizen?
- What are the "Core Values" of your school and why are they important?
- How do you want to feel at school and at home?

Topics you can discuss with your child's teacher:

- How to incorporate elements of RULER at home
- How to support my child's interest in helping out within our community

By the end of Grade 2, Trimester 1 students can:

- Participate as responsible members of the classroom. and school community
- Identify the "Core Values" of the school.
- Provide examples of traditions from around the world.
- Identify how goods and services provide for our families and communities.
- Read maps and globes.
- Construct a map of a familiar location.



https://www.socialstudies.com/elementary/



https://www.npr.org/2013/06/11/190669029/what-kids-are-reading-in-school-and-out

HISTORY AND SOCIAL SCIENCE

MERSD SPECIALS

Grade 3, Trimester 3

LIBRARY

In this Trimester, your child will:

- Choose a research topic and identify at least 3 sources to research their topic.
- Take research notes and paraphrase them to produce a script written in the third person.
- Record their script for a multimedia project using applications such as *Book Creator* or *iMovie* in collaboration with Technology class.
- Learn what a bibliography (vs. biography) is and its purpose.

TECHNOLOGY

In this Trimester, your child will:

- Learn about computer science.
- Learn how to create basic codes.
- Create code with offline and online activities.
- Learn and understand how to code robots to solve problems.
- Learn what an algorithm is and how to create one.

VISUAL ART

In Trimester, your child will:

- Cut intricate shapes from painted papers to make detailed collages.
- Create a 3D project from clay.
- Learn about local artist ie: Folly Cove Designers
- Review the printmaking process and create a printed art piece.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- As a group, sing and play instruments at the same time.
- Play instruments on stage.
- Compose blues lyrics.

WELLNESS / PE

In this Trimester, your child will:

- Demonstrate jumping rope and skipping by themselves and with a partner.
- Demonstrate introductory lacrosse skills.
- Demonstrate throwing, catching, and striking skills.
- Develop increased critical thinking and communication skills with relation to problem solving.

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MERSD SPECIALS

Grade 3, Trimester 2

LIBRARY

In this Trimester, your child will:

- Be introduced to, and practice using, reference sources (Almanac, Atlas, Thesaurus, etc.) to find specific types of information.
- Review research note-taking practices.
- Learn what plagiarism is and how to avoid it.
- Discuss ethical use of information and definition of copyright.
- Will learn how to share research information in their own words.

TECHNOLOGY

In this Trimester, your child will:

- Learn about Internet Safety and how to stay safe online.
- Learn about Digital Citizenship and how we can demonstrate this when we use devices.
- Create multimedia projects with different apps such as Book Creator or iMovie.
- Use their library research to create a multimedia project that can then be shared with larger audiences.
- Use knowledge from throughout the year to create and edit multimedia projects text and image features.

VISUAL ART

In Trimester, your child will:

- Understand how to use atmospheric perspective to show space and distance in seascapes and landscapes.
- Review the primary and secondary colors, learn what the tertiary and complementary colors are.
- Learn what negative and positive space are.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Play chords on instruments.
- Identify instruments of the orchestra by sight and sound.
- Read and write quarter and eighth notes and rests.

WELLNESS / PE

In this Trimester, your child will:

- Develop stick handling skills.
- Develop increased flexibility, tumbling and balance.
- Increase spatial awareness skills.
- Continue to explore and develop teamwork and communication skills associated with working together.

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MERSD SPECIALS

Grade 3, Trimester 1

LIBRARY

In this Trimester, your child will:

- Learn how to independently use *Destiny*, the library database, and *SORA*, a digital reading app, to search for books in different formats (books, e-books and audio books).
- With assistance, list the criteria for a Book Review assignment.
- Work collaboratively with a peer to choose a picture book to review and complete a Book Review graphic organizer.
- Work with a peer to summarize and paraphrase information about a book to be shared via a Book Trailer created in Technology class next trimester.

TECHNOLOGY

In this Trimester, your child will:

- Review basic device safety and care.
- Learn how to sign into our Google Classroom accounts and complete assignments.
- Learn about the different parts of the computer and how they work.
- Begin using a program called Keyboarding Without Tears to learn how to keyboard with proper finger placement.

VISUAL ART

In Trimester, your child will:

- Learn what art is, what an artist does and why art is important to people throughout history and around the world.
- Continue to explore new ways to explore artmaking and expressing themselves through drawing, painting, printing, collage and 3D construction.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Sing with clear diction and appropriate expression, matching pitch.
- Sing and dance to a variety of songs.
- Play melodies on instruments.
- Read and play quarter and eighth notes and rests.
- Identify instrument families in a recording by sound.

WELLNESS / PE

In this Trimester, your child will:

- Demonstrate soccer skills within small game situations
- Demonstrate throwing, catching and punting a football
- Demonstrate dribbling, passing and shooting of a basketball
- Demonstrate passing and catching skills used during the game of handball
- Take part in Project Adventure curriculum which includes problem solving and teamwork.

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THIRD GRADE
Trimester 3

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate opinions, information, and experiences in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, like rulers and calculators, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Discover how people and events from the past relate to the present.
- Work to understand how different people see the world differently.

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ENGLISH LANGUAGE ARTS & LITERACY





Grade 3, Trimester 3 Big Ideas and Concepts:

- Expectation #1: Independently and proficiently read and comprehend informational texts, including history/social studies, science, mathematical, and technical texts.
- Expectation #2: Use information gained from illustrations (e.g., maps, photographs) and the words, numbers, and symbols in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
- Expectation #3: Improve writing by making changes. Changes can be larger (like explaining ideas more fully) or smaller (like fixing spelling mistakes).

By the end of Grade 3, Trimester 3 students can:

- Outcome #1: Notice differences between written and spoken English.
- Outcome #2: Use glossaries or a beginner dictionary to determine the meaning of key words and phrases.
- Outcome #3: Read aloud smoothly, not just one word at a time. Notice and try to fix mistakes while reading.
- Outcome #4: Read two or more books on the same topic. Notice what is the same and different.

Questions you can ask your child:

- How can you use a dictionary to find the meaning of a word?
- What is a way you like to practice reading fluency?

Topics you can discuss with your child's teacher:

- Recommended authors and titles
- Ways your child can practice writing

Grade 3, Trimester 3 Big Ideas and Concepts:

- **Expectation #1:** Understand connections between multiplication and the areas of shapes. For example, find the area of a room using floor tiles.
- Expectation #2: Describe, analyze, and compare shapes like rectangles and squares. For example, explain that any shape with four sides can be called a quadrilateral.
- Expectation #3: Fractions & Measurement Compare Fractions and collections of Fractions
- Expectation #4: Numbers & Operations: Multiply Multi-digit Numbers

Questions you can ask your child:

- ★ Can you give me an example of when and why we use fractions?
- ★ What makes a shape a quadrilateral?
- ★ What are some ways to compare fractions?

Topics you can discuss with your child's teacher:

- ★ Games to practice at home
- ★ Which ways have you shown to model fractions?
- ★ Which multiplication and division strategies work well for my child?



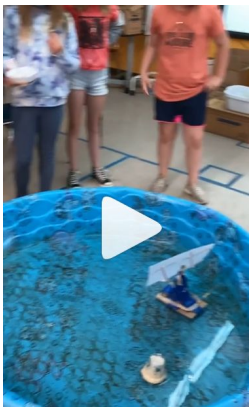
By the end of Grade 3, Trimester 3 students can:

- Outcome #1: Fluently (quickly and correctly) multiply and divide numbers up to 100.
- **Outcome #2:** Explain what the answer to a division problem means in the problem's context.
- **Outcome #3:** Solve problems using units of time (like minutes), mass (like grams), and volume (like liters).
- **Outcome #4:** Sort shapes into categories: for example, shapes with right (90°) angles.
- **Outcome #5:** Explain how to know whether two simple fractions (like ½ and 2/4) are equal.
- **Outcome #6:** Use symbols to compare simple fractions: for example, ½ > 1/3 or 2/5 < 3/5.
- **Outcome #7:** Place fractions on a number line along with whole numbers (like 2 and 5).



MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING



Grade 3, Trimester 3 Big Ideas and Concepts:

- Expectation #1: Understand how balanced and unbalanced forces affect an object.
- Expectation #2: Build models to demonstrate the transfer of energy.
- Expectation #3: Use the engineering process to construct a model and improve it.

By the end of Grade 3, Trimester 3 students can:

- Outcome #1: Explore how objects move and affect each other. Explain how they move differently over rough and smooth surfaces.
- Outcome #2: Draw or build models to show possible solutions to a problem (like how to design safe playground equipment).

Questions you can ask your child:

- ★ What is potential energy?
- ★ What is kinetic energy?
- ★ How do forces affect skyscrapers?

Topics you can discuss with your child's teacher:

- ★ The scientific method
- ★ The engineering design process
- ★ Inquiry based learning

Grade 3, Trimester 3 Big Ideas and Concepts:

- Expectation #1: Explain self-government and how it might look in a classroom (with rules, rights, and responsibilities).
- Expectation #2: Explain how Massachusetts people and events contributed to the American Revolution.
- Expectation #3: Use a current map of Massachusetts to locate and describe the city or town where the school students attend is located, its local geographic features and historic landmarks, and their significance.
- Expectation #4: Research the early history of your town or city and of Massachusetts and New England.

Questions you can ask your child:

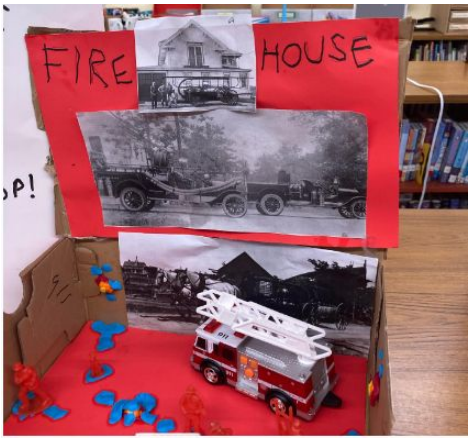
- Why are governments important?
- What rights does the Bill of Rights give people?
- What events led to the American Revolution?

Topics you can discuss with your child's teacher:

- Books about local history to look for at the library

By the end of Grade 3, Trimester 3 students can:

- Outcome #1: Explain how local (town and city) governments are organized in Massachusetts and how to participate in them.
- Outcome #2: Describe the Declaration of Independence, the Constitution (including the Bill of Rights), and the Massachusetts Constitution.
- Outcome #3: Research the demographic origins of our town or city.







HISTORY AND SOCIAL SCIENCE

THIRD GRADE
Trimester 2

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate opinions, information, and experiences in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, like rulers and calculators, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Discover how people and events from the past relate to the present.
- Work to understand how different people see the world differently.

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ENGLISH LANGUAGE ARTS & LITERACY





Grade 3, Trimester 2 Big Ideas and Concepts:

- Expectation #1: Identify common structural elements of fiction (e.g., problem, solution); describe how each successive part of a text builds on earlier sections.
- Expectation #2: Notice differences between literal and figurative language. For example, the "step" is literal in with the next step he reached the finish line but figurative in the next step is finding a partner.
- Expectation #3: Improve writing by making changes. Changes can be larger (like explaining ideas more fully) or smaller (like fixing spelling mistakes).

By the end of Grade 3, Trimester 2 students can:

- Outcome #1: Use books as well as other sources (like videos and websites) when doing research.
- Outcome #2: Read traditional stories like myths. Understand a story's lesson or message for readers.

Questions you can ask your child:

- ★ What was the problem that was explained in one of the myths that you read?
- ★ What are some of the sources you can use when doing research?

Topics you can discuss with your child's teacher:

- ★ How to practice reading fluency in fun ways
- ★ What are some appropriate level books for my child

Grade 3, Trimester 2 Big Ideas and Concepts:

- Expectation #1: Measure lengths to the nearest half inch and represent the data as a line plot.
- Expectation #2: Fluently (quickly and correctly) multiply and divide numbers up to 100.
- Expectation #3: Solve two-step word problems using multiplication, division, addition, and subtraction.
- Expectation #4: Identify arithmetic patterns in the number grid, multiplication table, etc.
- Expectation #5:Understand fractions as a part of 1 whole.
- Relate area to the operations of multiplication and division.

Questions you can ask your child:

- What is your best strategy for solving multiplication/division facts?
- How would you solve this problem?
- How would you measure ½ cup for a recipe?

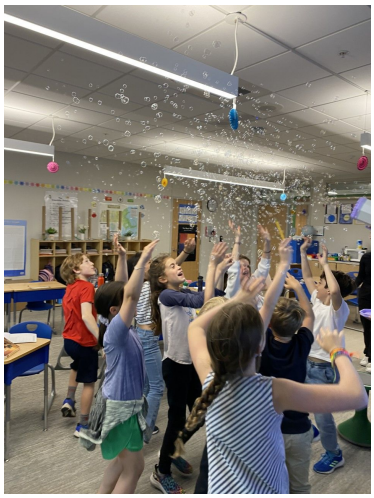
Topics you can discuss with your child's teacher:

- Games/activities to practice skills
- Practical applications for area and perimeter

By the end of Grade 3, Trimester 2 students can:

- Outcome #1: Use a ruler to measure to the nearest half inch
- Outcome #2: Know from memory all products of 1 digit numbers and 10
- Outcome #3: Use adding a group and subtracting a group strategies to multiply
- Outcome #4: Represent and identify fractions using picture, words, and fraction circles, and place fractions on a number line
- Outcome #5: Understand and use area and perimeter and find the area and perimeter of shapes like rectangles





MATHEMATICS

SCIENCE AND TECHNOLOGY / ENGINEERING





Grade 3, Trimester 2 Big Ideas and Concepts:

- Expectation #1: Learn how different organisms have different life cycles.
- Expectation #2: Understand that adaptations develop to help animals survive in their particular ecosystem.
- Expectation #3: Understand the difference between inherited traits and traits that develop due to environmental influences.
- Expectation #4: Understand that environmental changes affect animal survival.

By the end of Grade 3, Trimester 2 students can:

- Outcome #1: Understand that plants and animals can grow and reproduce in different ways.
- Outcome #2: Explain how specific characteristics help living things survive (like how thorns protect roses from being eaten by animals).
- Outcome #3: Explore the difference between inherited traits (like eye color) and traits caused by something in the environment (like when a plant is small because it gets too little sunlight).
- Outcome #4: Explain that when an environment changes, some plants and animals survive and reproduce, some move to other places, and some die.

Questions you can ask your child:

- ★ What is the life cycle?
- ★ What are adaptations?
- ★ How does the environment affect animal survival?

Topics you can discuss with your child's teacher:

- ★ The scientific method
- ★ The engineering design process
- ★ Inquiry based learning

Grade 3, Trimester 2 Big Ideas and Concepts:

- Expectation #1: Analyze the connection between events, locations, and individuals in Massachusetts in the early 1770s and the beginning of the American Revolution, using sources such as historical maps, paintings, and texts of the period.
- Expectation #2: Compare and contrast the roles and leadership decisions of early English leaders of the Puritans of the Massachusetts Bay Colony and the Pilgrims of the Plymouth colony.
- Expectation #3: On a physical map of North America, use cardinal directions, map scales, legends, and titles to locate the Northeast region and identify important physical features (e.g., rivers, lakes, ocean shoreline, capes and bays, and mountain ranges).

Questions you can ask your child:

- What was one goal of the Puritans?
- Where do you live and how does this impact how you live?

Topics you can discuss with your child's teacher:

- Places nearby that are important to the Puritans
- Places in Massachusetts you'd like to visit

By the end of Grade 3, Trimester 2 students can:

- Outcome #1: Use primary sources (like letters and journal entries) to analyze daily life in the Massachusetts Bay Colony.
- Outcome #2: Name the early leaders of the Puritans and describe the Puritans' relationships with Native Peoples.





HISTORY AND SOCIAL SCIENCE

THIRD GRADE
Trimester 1

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
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ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations
- Communicate opinions, information, and experiences in writing for various readers.
- Use knowledge of English grammar and vocabulary in both speech and writing.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, like rulers and calculators, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

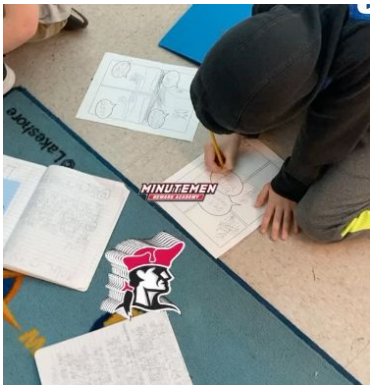
In Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Discover how people and events from the past relate to the present.
- Work to understand how different people see the world differently.
- Use various sources of information in research, discussion, and inquiry.

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ENGLISH LANGUAGE ARTS & LITERACY





Grade 3, Trimester 1 Big Ideas and Concepts:

- Expectation #1: Identify different text features and how they help the reader.
- Expectation #2: Retell stories, including realistic fiction, determine the central message, lesson, or moral and explain how it is conveyed through key details in a text.
- Expectation #3: Organize writing in ways that help readers understand. For example, use linking words and phrases like “another reason” and “after that” to connect ideas and information.

By the end of Grade 3, Trimester 1 students can:

- Outcome #1: Stay on topic and ask and answer questions during discussions.
- Outcome #2: Sound out words with two or more syllables. Use story clues to determine what words mean.
- Outcome #3: Use pictures, headings, and other visual clues to help understand a story or article.
- Outcome #4: Describe characters in a story. Explain how their actions affect what happens.

Questions you can ask your child:

- ★ Who is the story about?
- ★ What do you think that word might mean? How can you figure it out?

Topics you can discuss with your child’s teacher:

- ★ Books and authors to look for at the library
- ★ Types of writing your child is working on

Grade 3, Trimester 1 Big Ideas and Concepts:

- Expectation #1: Solve two-step word problems using addition and subtraction.
- Expectation #2: Develop strategies for solving multiplication and related division facts.
- Expectation #3: Tell time on an analog clock and solve problems involving elapsed time.
- Expectation #4: Use place value understanding and properties of operations to perform multi-digit arithmetic.

Questions you can ask your child:

- How do you use your number grid to add or subtract?
- It takes 30 minutes to get to practice, what time will we need to leave to arrive by 5:30?

Topics you can discuss with your child's teacher:

- How can I help my child master addition and subtraction facts?
- Strategies for telling time and elapsed time
- Methods you use for rounding



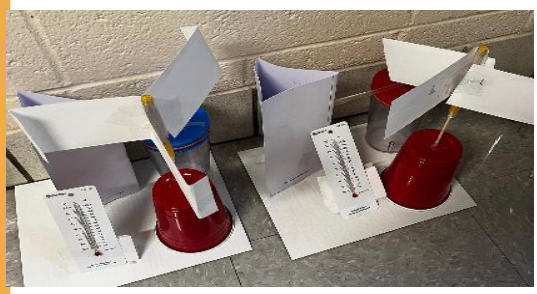
By the end of Grade 3, Trimester 1 students can:

- Outcome # 1: Multiply using strategies for all one-digit numbers times 1, 2, 5 and 10.
- Outcome # 2: Solve two-step word problems with addition, and subtraction using equal groups and arrays.
- Outcome # 3: Add/Subtract within 1,000 using strategies based on place value.
- Outcome # 4: Round numbers to the nearest 10 and nearest 100.
- Outcome # 5: Tell time to the nearest 5 minutes and use a number line to determine elapsed time.
- Outcome # 6: Represent and interpret data on a scaled bar graph.



MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING





Grade 3, Trimester 1 Big Ideas and Concepts:

- Expectation #1: The role of a scientist.
- Expectation #2: The role of an engineer.
- Expectation #3: Introduction and application of the scientific method.
- Expectation #4: Introduction and application of the engineering design process.
- Expectation #5: Create and interpret scientific models, including a model of an aluminum atom and the solar system.

By the end of Grade 3, Trimester 1 students can:

- Outcome #1: Use graphs and charts to talk about weather patterns around the world.
- Outcome #2: Use the engineering design process to solve a problem like flooding.
- Outcome #3: Use the scientific method to investigate a question.

Questions you can ask your child:

- What is an atom?
- Why is gravity important?
- What is a scientist?
- What is an engineer?

Topics you can discuss with your child's teacher:

- The scientific method
- The engineering design process
- Inquiry based learning

Grade 3, Trimester 1 Big Ideas and Concepts:

- Expectation #1: Understand relationships among Native Peoples, Europeans, and Africans in early Massachusetts.
- Expectation #2: Explain how Native Peoples first came into contact with Europeans, and explain why Europeans in the 16th–17th centuries sailed westward across the Atlantic.
- Expectation #3: Explain the diversity of Native Peoples, present and past, in Massachusetts and the New England region.

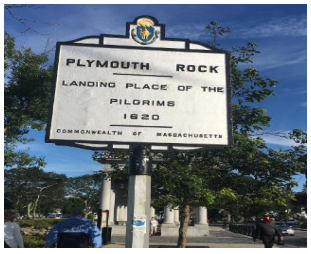
Questions you can ask your child:

- What are the states that make up New England?
- What are some of the Indigenous Tribes in Massachusetts?

Topics you can discuss with your child's teacher:

- Places nearby that are important to the history of Indigenous Peoples
- Books about Native Peoples, Pilgrims, and Explorers





By the end of Grade 3, Trimester 1 students can:

- Objective #1: Find the Northeast United States on a map. Find and name the New England states.
- Objective #2: Describe the various Native Peoples who live or lived in Massachusetts and New England. Explain how the Native Peoples in this area first met Europeans in the 1500s and 1600s.
- Objective #3: Describe what the Europeans thought about the Native Peoples and the environment.
- Objective #4: Explain why the Pilgrims settled in the Plymouth Colony. Describe the Mayflower Compact, the challenges Pilgrims faced, and their relationships with Native Peoples.

MERSD SPECIALS

Grade 4, Trimester 3

LIBRARY

In this Trimester, your child will:

- Choose a research topic and identify authoritative sources for their research.
- Independently conduct research and take notes using at least 3 sources.
- Create a bibliography with assistance, using *EasyBib*, an online citation tool.
- Create a multimedia project based on their research in collaboration with technology class.
- Conduct self-evaluation of their final research product.

TECHNOLOGY

In this Trimester, your child will:

- Create multimedia projects with different Google apps.
- Use their library research to create a multimedia project that can then be shared with larger audiences.
- Learn about computer science.
- Learn and understand how to code robots to solve problems.
- Learn what an algorithm is and how to create one.

VISUAL ART

In this Trimester, your child will:

- Make a clay coil pot.
- Use cut photos and magazine clippings to create a detailed visual self portrait collage.
- Learn about famous folk artists in North America.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Identify pop/rock instruments by sight and sound.
- Play chords on instruments while singing.
- Compose chord progressions.
- Play polyrhythms on percussion instruments.

WELLNESS / PE

In this Trimester, your child will:

- Demonstrate developing lacrosse skills.
- Demonstrate throwing, catching, and striking skills.
- Develop increased critical thinking and communication skills with relation to problem solving.
- Demonstrate a forehand hit in bounds with a tennis/pickleball racquet.

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MERSD SPECIALS

Grade 4, Trimester 2

LIBRARY

In this Trimester, your child will:

- Discuss how to develop a topic for a research project.
- Learn the difference between search engines and websites.
- Practice how to conduct efficient online searches for information.
- Learn how to identify authoritative sources with a focus on publisher, author, and content and, practice evaluating online sources.
- Discuss the importance of citing sources and learn how to use *EasyBib*, an online citation tool, to cite sources.

TECHNOLOGY

In this Trimester, your child will:

- Learn about Internet Safety and how to stay safe online.
- Learn about Digital Citizenship and how we can demonstrate this when we use devices.
- Create multimedia projects to demonstrate how we can be safe online and a good digital citizen.
- Continue to develop our keyboarding skills.

VISUAL ART

In this Trimester, your child will:

- Create a still life from observation.
- Expand on printmaking skills and create a fish print.
- Draw realistically 3D forms using colored pencils.
- Use 1-point perspective in a landscape drawing with oil pastels.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Identify pop/rock instruments by sight and sound.
- Improvise melodies on instruments.
- Perform two-part rounds on stage with appropriate expression.

WELLNESS / PE

In this Trimester, your child will:

- Demonstrate dribbling, shooting, and passing skills.
- Demonstrate volleyball skills i/e setting, bumping, and serving.
- Develop increased flexibility, tumbling and balance.
- Increase spatial awareness skills.

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MERSD SPECIALS

Grade 4, Trimester 1

LIBRARY

In this Trimester, your child will:

- Demonstrate awareness of literature from various cultures and genres, and begin to understand the concept of books as "mirrors or windows" via a Worldly Reading Challenge.
- Learn how to self-check out library books using *Destiny*, the school library database.
- Practice how to conduct an online search for information and begin to learn how to evaluate online sources.

TECHNOLOGY

In this Trimester, your child will:

- Review basic device safety and expectations of device care.
- Practice logging in and getting connected to Google Classroom.
- Review keyboarding finger placement and begin using Learning.com Keyboarding program.
- Focus on accuracy over speed when practicing keyboarding skills.

VISUAL ART

In this Trimester, your child will:

- Students will learn what art is, what an artist does and why art is important to people throughout history and around the world.
- Students will continue to explore new ways to explore artmaking and expressing themselves through drawing, painting, printing, collage and 3D construction.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Connect songs they sing to history and culture.
- Read and play whole, half, quarter and eighth notes and rests.
- Demonstrate context-appropriate audience etiquette.
- Recognize the ways musicians communicate nonverbally.

WELLNESS / PE

In this Trimester, your child will:

- Students will demonstrate soccer skills within small game situations
- Students will demonstrate throwing, catching and punting a football
- Student will demonstrate dribbling, passing and shooting of a basketball
- Students will demonstrate passing and catching skills used during the game of handball
- Students will also take part in Project Adventure curriculum which includes problem solving and teamwork.

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FOURTH GRADE
Trimester 3

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❑ Can you tell me about something you **read** today?
- ❑ How could you use the **math** you learned today?
- ❑ What **scientific ideas** did you talk about today?
- ❑ How did you contribute to your **community** today?
- ❑ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Plan, draft, and revise free verse poetry
- Plan, draft, and revise an expository essay
- Continue to build fluency skills by strengthening intonation and phrasing

SCIENCE AND TECHNOLOGY/ ENGINEERING

In Trimester, your child will:

- Learn that energy can be transferred in waves, like light, sound, and water
- Explore methods of communication, like Morse Code
- Understand scientific concepts like sound waves through hands on experiments

MATHEMATICS

In this Trimester, your child will:

- Use the four operations to work through multi-step word problems
- Explore the properties of angles and learn how to use protractors to measure them
- Analyze numerical patterns

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about the regions of the United States and how their resources, land, people, and important landmarks have helped shape the United States.
- Explore what life is like in the regions of the United States with hands on activities

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ENGLISH LANGUAGE ARTS & LITERACY

Grade 4, Trimester 3 Big Ideas and Concepts:

- Students learn to think critically as they explore the expository, narrative nonfiction, and historical fiction genres and apply new knowledge and skills encompassing the four domains of language
- Students will read fluently, with expression, proper intonation, and phrasing
- Students will write an expository essay
- Students will write responses that reflect understanding using evidence from the text
- Students will identify and use adjectives and figurative language correctly
- Students will plan and draft a free verse poem

By the end of Grade 4, Trimester 3 students can:

- cite relevant evidence from text, and make inferences to support understanding.
- evaluate author's use of sequence text structure.
- identify and analyze author's use of imagery.
- identify the story's problem and solution.
- recognize foreshadowing.
- use text evidence to infer a story's theme.
- analyze an author's use of text features.
- evaluate an author's use of literary elements, such as dialogue.
- analyze and explain the theme in a poem.
- identify examples of imagery and personification.
- determine literary elements of free verse.

Questions you can ask your child:

- What is your favorite genre and why?
- Do your like to write stories or poems better and why?
- How does figurative language make your writing more interesting?

Topics you can discuss with your child's teacher:

- How can I encourage my child to read at home?
- What are some authentic types of writing we can do at home?
- What are some nonfiction titles my child might enjoy reading?

Grade 4, Trimester 3 Big Ideas and Concepts:

- Use the four operations with whole numbers to solve multi-step problems
- Generalize and analyze patterns
- Understand concepts of angles and measures angles
- Recognize that angle measures are additive
- Understand decimal notation for fractions and compare decimal fractions
- Represent and interpret data
- Classify shapes by properties of their lines and angles

Questions you can ask your child:

- Where can we find angles in the real world?
- What is your preferred method for solving multiplication problems and why?
- When would you record a remainder as a fraction?

Topics you can discuss with your child's teacher:

- How can I encourage perseverance in solving multi-step problems?
- How can I help my child multiply and divide efficiently?

By the end of Grade 4, Trimester 3 students can:

- multiply up to 4-digit by 1-digit and 2-digit by 2-digit numbers.
- find extended division facts with 1-digit divisors.
- solve area problems with unknown sides.
- add and subtract fractions and mixed numbers.
- Identify and measure acute, obtuse, and right angles.
- add and subtract to find unknown angle measures.
- continue to describe number patterns.
- divide up to 3-digit by 1-digit numbers.
- find multiples of unit fractions.
- multiply a fraction by a whole number.
- organize and represent fractional data on a line plot.
- add two fractions with denominators 10 or 100.
- use decimal notation for fractions with denominators of 10 or 100.
- use the four operations to solve number stories involving whole numbers of measured quantities.

SCIENCE AND TECHNOLOGY/ ENGINEERING

Grade 4, Trimester 3 Big Ideas and Concepts:

- Understand that energy can be transferred from place to place by waves, which can make objects move.
- Understand the relationship between a particular sound and its properties, including its amplitude and frequency.
- Understand how patterns (light, sound, numbers, etc.) can be used to communicate information over a distance.
- Identify which communication solutions, like Morse Code, are more effective than others.

By the end of Grade 4, Trimester 3 students can:

- show how wave patterns carry energy and can cause objects to move.
- developed and used models of transverse and longitudinal waves.
- explore what changes a sound wave's amplitude, volume, and pitch.
- explore how different technologies use patterns to transfer information from one place to another.
- design and test multiple solutions that use light and sound to transfer information over a distance.

Questions you can ask your child:

- What is the difference between pitch and volume?
- How do stringed instruments make sounds?

Topics you can discuss with your child's teacher:

- Ways of applying what your child learns in science to everyday life
- Places in the community that can help your child learn science

Grade 4, Trimester 3 Big Ideas and Concepts:

- Understand the history of the Midwest region of the United States and how its physical features and political events influenced this history and the diverse cultural nature of the region (Native people, Africans, Europeans and other immigrant groups).
- Understand the history of the Southwest region of the United States and how its physical features and political events influenced this history and the diverse cultural nature of the region (Native people, Mexico, Africans, Europeans and other immigrant groups).
- Understand the history of the West region of the United States and how its physical features and political events influenced this history and the diverse cultural nature of the region (Native people, Mexico, Africans, Europeans and other immigrant groups).

Questions you can ask your child:

- What state in these regions would you most want to visit and why?
- How are natural disasters impacting these regions?

Topics you can discuss with your child's teacher:

- Sources to find accurate and up to date information about the topics we are studying
- Where in the community to learn more about North America

By the end of Grade 4, Trimester 3 students can:

- Be able to locate Midwestern states and name their capitals
- Identify the important physical features of the Midwest (mountains, rivers, ports)
- Be able to locate the Southwestern states and name their capitals
- Identify the important physical features of the Southwest (mountains, rivers, ports)
- Be able to locate the Western states and name their capitals
- Identify the important physical features of the West (mountains, rivers, ports)
- Explain how natural disasters impact these regions

FOURTH GRADE
Trimester 2

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read argumentative texts and think critically about facts and opinions.
- Plan, draft, and revise an essay.
- Continue to refine their "writing about reading" skills by including textual evidence to support their points.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Continue to understand how earth's four systems are constantly interacting (emphasis on the water cycle.)
- Explore physics concepts like simple machines, forces, energy, and motion.
- Learn how to solve a real-world problem using the process of engineering.

MATHEMATICS

In this Trimester, your child will:

- Learn a variety of strategies for multiplying two-digit numbers.
- Understand the process of ordering fractions based on benchmarks.
- Solve real-world problems involving fractions (adding and subtracting.)

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about the regions of the United States and how their resources, land, people, and important landmarks have helped shape the United States.
- Explore what life is like in the regions of the United States with hands-on activities.

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ENGLISH LANGUAGE ARTS & LITERACY



Grade 4, Trimester 2 Big Ideas and Concepts:

- Students learn to think critically as they explore the realistic fiction, argumentative text, and narrative nonfiction genres and apply new knowledge and skills encompassing the four domains of language
- Students will read fluently with expression
- Students will identify action verbs and analyze the use of verb tenses
- Students will write a realistic fiction narrative to develop experiences or events using effective literary techniques, descriptive details, and clear sequences
- Students will write responses to texts that demonstrate understanding
- Students will plan and draft an essay

By the end of Grade 4, Trimester 2 students can:

- cite relevant evidence from text, and make inferences to support understanding.
- identify point of view.
- analyze the author's use of facts and opinions.
- explain the author's use of flashback.
- identify the sequence of events using timelines.
- explain the use of anecdote.
- use antonyms and synonyms to determine meaning.
- analyze the procedural text structure.
- identify and use text structures.
- describe how the compare and contrast text structure contributes to author's purpose.
- analyze how setting and dialogue develop plot.
- identify and analyze elements of narrative poetry.

Questions you can ask your child:

- ★ Do you prefer to read fiction or nonfiction and why?
- ★ What are you writing about in school this week?
- ★ What is the difference between a fact and an opinion?

Topics you can discuss with your child's teacher:

- ★ How can I encourage my child to read at home?
- ★ What are some authentic types of writing we can do at home?
- ★ Who are some poets my child might enjoy reading?

Grade 4, Trimester 2 Big Ideas and Concepts:

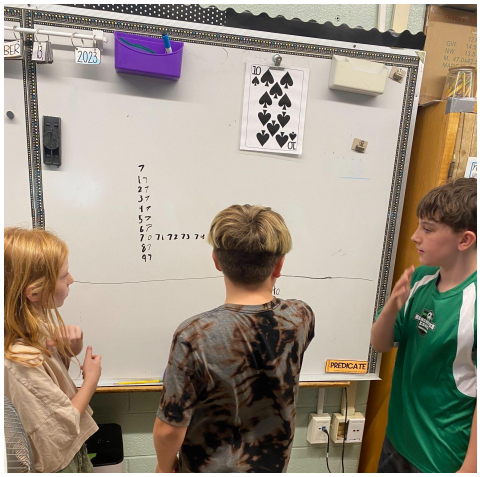
- Understand fraction equivalence and ordering
- Understand the relationship between fractions and decimals
- Understand how to solve problems with whole numbers using the four operations
- Gain familiarity with factors and multiples
- Solve problems involving measurements and conversions of measurements
- Build fractions from unit fractions by applying and extending previous understanding on operations of whole numbers
- Understand properties related to lines, angles and 2-dimensional shapes

Questions you can ask your child:

- What are the different ways you can decompose $^{6}/_{10}$?
- What is your most efficient strategy for multiplication?
- How do we use fractions and decimals at home?

Topics you can discuss with your child's teacher:

- How can I support my child's understanding of fractions and decimals?
- How can I help my child attend to precision when solving problems?

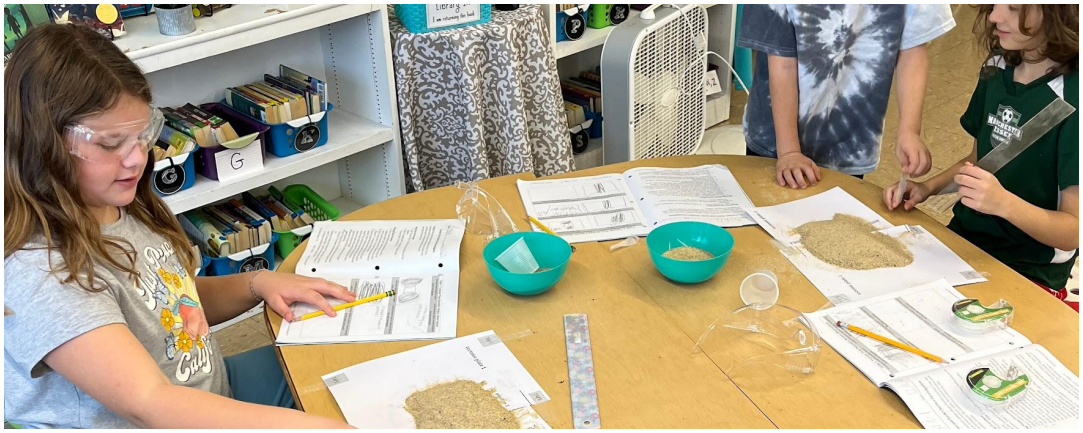


By the end of Grade 4, Trimester 2 students can:

- recognize two equivalent fractions through 12^{ths} using a model.
- recognize that fraction comparisons require same-size wholes.
- compare fractions and decimals using a model.
- represent decimals to hundredths using base-10 numerals.
- translate between decimal notation and fraction with denominators of 10 and 100.
- compare decimals using a model.
- convert between meters, centimeters, and millimeters.
- accurately multiply 2-digit by one-digit whole numbers.
- use a formula to find the perimeter and area of rectangles.
- solve number stories involving units of length, time, and money.
- add and subtract fractions and mixed numbers using a visual tool.
- decompose fraction and represent with an equation.
- solve number stories involving fractions.
- organize and represent data to the ½ and ¼ units on a line plot.
- identify benchmark rotations such as quarter, three-quarter, half, and full turn.
- recognize that angles are measured in iterations of one-degree angles.

MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING



Grade 4, Trimester 2 Big Ideas and Concepts:

- Understand how water moves around Earth, interacting with all of Earth's systems and influencing weather.
- Understand the impacts of urban flooding and water pollution.
- Understand how dams provides energy but also impacts the environment.
- Understand that levers are simple machines because they redirect force to make work easier.
- Understand the differences between the scientific method and the engineering design process and how they work together.
- Understand how potential energy becomes kinetic energy.
- Understand the relationship between the structure of matter and electricity.
- Understand how energy is converted from electrical energy into another form of energy in a circuit.

By the end of Grade 4, Trimester 2 students can:

- analyze how water moves around Earth, interacting with all of Earth's systems and influencing weather.
- describe how the use of dams provides energy but also impacts the environment.
- design, test, and evaluate a prototype that reduces the impact of flooding.
- use simple machines to explore the relationship between forces, energy and motion.
- investigate how levers redirect force to make work easier, and test how the positions of the fulcrum, effort force, and load force affect how forces are redirected.
- design and test a prototype catapult to see how well it can change potential energy into kinetic energy.

Questions you can ask your child:

- ★ Where can you find examples of levers in our home?
- ★ Where do transfers of energy happen in your home or community?
- ★ How does a circuit work?

Topics you can discuss with your child's teacher:

- ★ Studying for unit tests
- ★ Inquiry based learning
- ★ How our science curriculum teaches next generation science skills

Grade 4, Trimester 2 Big Ideas and Concepts:

- Understand the history of the Northeast region of the United States and how its physical features and political events influenced this history and the diverse cultural nature of the region (Native people, Africans, Europeans and other immigrant groups).
- Understand the history of the Southeast region of the United States and how its physical features and political events influenced this history and the diverse cultural nature of the region (Native people, Africans, Europeans and other immigrant groups).

Questions you can ask your child:

- What is our nation's capital and what are some important landmarks there?
- What state along the east coast would you most like to visit and why?

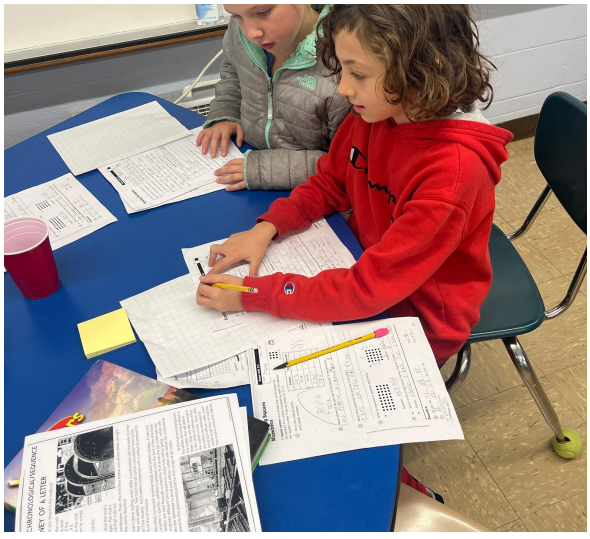
Topics you can discuss with your child's teacher:

- Sources to find accurate and up to date information about the topics we are studying
- Where in the community to learn more about North America

By the end of Grade 4, Trimester 2 students can:

- be able to locate the Northeast states and name their capitals.
- identify the important physical features of the Northeast (mountains, rivers, ports.)
- be able to locate the Southeast states and name their capitals
- identify the important physical features of the Southeast (mountains, rivers, ports.)
- explain how natural disasters impact the northeast and southeast.





HISTORY AND SOCIAL SCIENCE

FOURTH GRADE
Trimester 1

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?

ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read a variety of genres like stories of realistic fiction, and nonfiction articles and texts.
- Strengthen their reading fluency skills by reading aloud and listening to others read.
- Write personal narratives about important moments in their lives.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask scientific questions about the natural world as well as things that humans design.
- Learn through various hands-on experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Learn strategies to solve large addition and subtraction problems.
- Be exposed to various methods for rounding large numbers, and learn how rounding can be applied to real-world problems

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Understand the timeline of the first explorers of North America and recognize the impact their settlement had on the land and people.

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ENGLISH LANGUAGE ARTS & LITERACY



Grade 4, Trimester 1 Big Ideas and Concepts:

- Think critically as they explore the expository and realistic fiction genres and apply new knowledge and skills encompassing the four domains of language
- Read fluently, focusing on rate, accuracy, intonation and expression
- Demonstrate an understanding of sentence structure and the proper usage of nouns
- Write narratives to develop experiences or events using effective literary techniques, well-chosen details, and well-structured sequence
- Write a response to texts using reflective thinking and textual evidence
- Plan and draft a lyric poem

By the end of Grade 4, Trimester 1 students can:

- cite relevant evidence from text, and make inferences to support understanding.
- identify author's use of compare-and-contrast text structure.
- explain the author's purpose and message within a text.
- analyze the author's use of text features.
- identify the problem and solution in plot.
- distinguish between fact and opinion.
- identify how dialogue is used in a story.
- identify main ideas and details.
- summarize, maintaining meaning and logical order.
- analyze how the author shows the changes a character undergoes.
- identify structure of a drama, including acts, scenes, setting, stage directions, and characters.
- analyze point of view.
- describe the purpose of imagery and assonance.

Questions you can ask your child:

- ★ What kinds of things do you like to read and why?
- ★ What are you writing in school this week?
- ★ What new words or phrases did you use in school today?

Topics you can discuss with your child's teacher:

- ★ How can I encourage my child to read at home?
- ★ What are some authentic types of writing we can do at home?
- ★ What is a book series my child might enjoy reading?

Grade 4, Trimester 1 Big Ideas and Concepts:

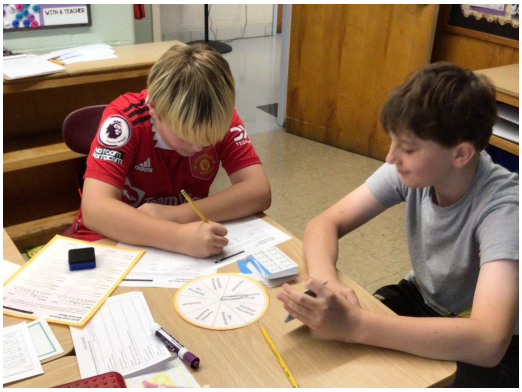
- Understand how to solve problems with whole numbers using the four operations
- Generalize place value understanding
- Understand conversion of measurement from a larger unit to a smaller unit
- Gain familiarity with factors and multiples
- Understand the attributes of lines, line segments, rays and right angles
- Understand the use of formulas to calculate area and perimeter
- Understand the difference between prime and composite numbers

Questions you can ask your child:

- What do you see in nature that is symmetrical?
- Would you measure the length of a driveway in inches or feet?
- What is your preferred method for solving addition problem and why?

Topics you can discuss with your child's teacher:

- How can I help my child to become fluent in math facts?
- How can I encourage perseverance in solving problems?

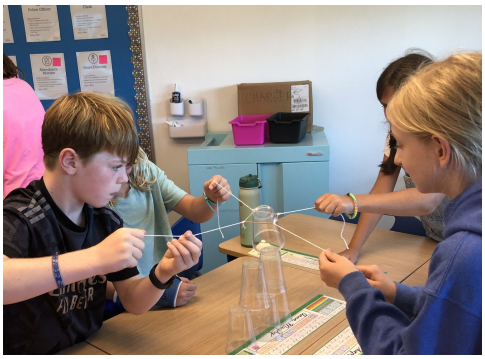


By the end of Grade 4, Trimester 1 students can:

- round number through the 100,000.
- read, write and identify numbers though the 100,000.
- apply the U.S. traditional algorithm for addition and subtraction up to four digit numbers.
- recognize the relationship between place values in a base ten number system.
- convert feet, yards and inches.
- Find the perimeter and area of rectangles.
- Draw and label points, lines, line segments, and rays.
- identify right angles.
- solve multi-step addition and subtraction number stories using an estimate to assess reasonableness of answers
- recognize a number story as additive or multiplicative and explain how they know.
- Identify more than one factor pair for composite numbers less than 40.
- write multiples of a 1-digit number
- identify prime and composite numbers less than 40
- Use fact extensions to multiply by a multiple of 10.
- identify properties of line segments and angles within quadrilaterals and identify right angles within triangles
- identify at least one line symmetry in 2-dimensional symmetric figures.

MATHEMATICS

SCIENCE AND TECHNOLOGY / ENGINEERING





Grade 4, Trimester 1 Big Ideas and Concepts:

- Understand that all matter is made up of atoms and that atoms determine a substance's properties
- Understand the processes that cause Earth's surface to change over time
- Understand how rocks and fossils can be used to identify the processes that have changed Earth's landmass
- Understand the process of weathering and erosion

By the end of Grade 4, Trimester 1 students can:

- follow the scientific method to plan and carry out experiments.
- determine the properties of a solid and find its mass.
- investigate the relationship between an object's speed and its energy.
- predict how energy will change in a collision between a moving marble and a cup at rest.
- model the different ways that tectonic plates move to observe how landforms are created.
- test how the forces of moving water erodes sediment.
- analyze clues in rock to determine how Earth's surface has changed over time.
- analyze and interpret maps of Earth's mountain ranges, volcanoes, and earthquakes to describe patterns.
- explain how non-renewable energy sources are different from renewable resources.

Questions you can ask your child:

- What are the processes that cause earth's surface to change?
- How do mass and speed impact the force of a collision?
- Where in your community are there examples of weathering and erosion?

Topics you can discuss with your child's teacher:

- Ways of applying what your child learns in science to everyday life
- Places in the community that can help your child learn science

Grade 4, Trimester 1 Big Ideas and Concepts:

- Understand how various map features (scales, keys, cardinal directions) help to locate physical features and political regions (countries, states, cities) of North America.
- Understand how archeologists developed theories about ancient migration to North America.
- Students will learn the reasons for early European exploration and conquest of North America.

Questions you can ask your child:

- Ask them to find different places of importance to your family on a map.
- Who do you think migrated to North America first?
- Who were some of the Europeans that first voyaged to North America?

Topics you can discuss with your child's teacher:

- Sources to find accurate and up to date information about the topics we are studying
- Where in the community to learn more about North America

By the end of Grade 4, Trimester 1 students can:

- use map features to locate and identify important physical features in North America.
- on a political map of North America, locate Canada and its provinces, Mexico and its states, the nations of the Caribbean, and the United States of America and its states.
- provide information about the various theories of how ancient people first migrated to North America.
- explain how archeologists conduct research.
- show on a map various European explorations of North America and the Caribbean during the 15th and 16th centuries.





HISTORY AND SOCIAL SCIENCE

MERSD SPECIALS

Grade 5, Trimester 3

LIBRARY

In this Trimester, your child will:

- Independently conduct research and take notes about an activist using authoritative books and online sources.
- Independently create a bibliography using *EasyBib*, an online citation tool.
- Write a script based on their research to be the basis of a self-produced multimedia project using applications such as *BrainPop* in collaboration with Technology class.
- Conduct peer review and evaluation of final video products.

TECHNOLOGY

In this Trimester, your child will:

- Create multimedia/video presentations using Library research.
- Expand on the Library's Worldly Book Challenge by creating movies about Civil Rights Activists.
- Use our knowledge from previous years to develop multimedia projects that incorporate a variety of text, image and video edits and features.

VISUAL ART

In this Trimester, your child will:

- Design a 2D cubist art piece.
- Learn and understand how to draw using cross-hatching basics to show value.
- Create a 2-point perspective dream bedroom.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Analyze the form and harmony of music by listening.
- Make educated guesses about where and when music comes from based on auditory evidence.
- Compose a short piece using digital music software.
- Sing as a group with accurate pitch, rhythm, diction, volume, and expression.

WELLNESS / PE

In this Trimester, your child will:

- Demonstrate developing lacrosse skills.
- Demonstrate throwing, catching, and striking skills.
- Demonstrate an understanding of basic skills associated with track and field.
- Develop increased critical thinking and communication skills with relation to problem solving.

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MERSD SPECIALS

Grade 5, Trimester 2

LIBRARY

In this Trimester, your child will:

- Review prior learning of library research skills.
- Answer the questions: *What are Civil Rights? What is an activist?*
- Be introduced to their capstone research project and all of its components.
- Conduct pre-research on civil rights activists to determine a topic.
- Begin identifying authoritative sources for their research project.

TECHNOLOGY

In this Trimester, your child will:

- Expand on our Computer Science knowledge.
- Learn how to use Scratch to create animations using code.
- Review how to be safe online and a good digital citizen.
- Create multimedia/video presentations on digital citizenship that can be shared with a younger audience using apps such as Green Screen.

VISUAL ART

In Trimester, your child will:

- Design a personal mandala that illustrates things about them.
- Create an abstract drawing using their name and oil pastels, markers, crayon and colored pencils.
- Learn and understand how to draw depth using cross-hatching basics.
- Make a cylinder vase out of clay.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Sing three-part rounds.
- Identify orchestral, pop, and world instruments by sight and sound.
- Place music into genres by listening, supporting choices with auditory evidence.
- Give examples of how the historical and geographical context of music can affect its sound.

WELLNESS / PE

In this Trimester, your child will:

- Demonstrate dribbling, shooting, and passing skills.
- Demonstrate volleyball skills i/e setting, bumping, and serving.
- Develop increased flexibility, tumbling and balance.
- Increase spatial awareness skills specific to spotting, supporting and climbing within the P.A. curriculum.

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MERSD SPECIALS

Grade 5, Trimester 1

LIBRARY

In this Trimester, your child will:

- Continue to explore multicultural literature from various cultures and genres, to expand understanding of literature as "mirrors or windows" via a Worldly Reading Challenge.
- Practice modifying online searches for better results.
- Recognize gaps and inaccuracies in information using critical thinking skills.
- Practice summarizing and paraphrasing information.

TECHNOLOGY

In this Trimester, your child will:

- Review basic device safety and expectations of device care.
- Practice logging in and getting connected to Google Classroom.
- Review keyboarding finger placement and begin using Learning.com Keyboarding program.

VISUAL ART

In this Trimester, your child will:

- Students will learn what art is, what an artist does and why art is important to people throughout history and around the world.
- Students will continue to explore new ways to explore artmaking and expressing themselves through drawing, painting, printing, collage and 3D construction.

MUSIC & PERFORMING ARTS

In this Trimester, your child will:

- Sing rounds.
- Explain the purpose of music in society.
- Play instruments as a group, reading standard notation.
- Read and play whole, half, quarter, eighth, and sixteenth notes and rests.
- Respond to the cues of a conductor.

WELLNESS / PE

In this Trimester, your child will:

- Students will demonstrate soccer skills within small game situations
- Students will demonstrate throwing, catching and punting a football
- Student will demonstrate dribbling, passing and shooting of a basketball
- Students will demonstrate passing and catching skills used during the game of handball
- Students will also take part in Project Adventure curriculum which includes problem solving and teamwork.

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FIFTH GRADE
Trimester 3

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❑ Can you tell me about something you **read** today?
- ❑ How could you use the **math** you learned today?
- ❑ What **scientific ideas** did you talk about today?
- ❑ How did you contribute to your **community** today?
- ❑ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate opinions, information, and experiences in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, like rulers and calculators, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Discover how people and events from the past relate to the present.
- Work to understand how different people see the world differently.

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ENGLISH LANGUAGE ARTS & LITERACY

Grade 5, Trimester 3 Big Ideas and Concepts:

- Compare and contrast stories in different literary forms on their approaches to similar themes and topics
- Explain how a series of stanzas fit together to provide the overall structure of a particular poem
- Analyze multiple accounts of the same event or topic noting important similarities and differences
- Use multiple sources and identify relevant information to support expository response
- Write routinely over extended time frames and shorter time frames for a range of purposes and tasks

By the end of Grade 5, Trimester 3 students can:

- Draw inferences from a text.
- Come to discussions prepared and draw on that preparation to explore ideas under discussion.
- Write an expository essay that students have researched.
- Analyze the meaning of a poem and speakers point of view.
- Demonstrate command of standard english conventions.
- Write a conclusion to their narrative that connects to the story and provides closure.
- Use sensory details

Questions you can ask your child:

- What type of writing do you like best?
- What is a limerick?
- What is your favorite type of poem to read?

Topics you can discuss with your child's teacher:

- Summer reading recommendations
- My child's participation in class discussions
- Transition to middle school

Grade 5, Trimester 3 Big Ideas and Concepts:

- Learn how the powers of 10 affect multiplication and division
- Develop strategies for multiplying & dividing decimals to the hundredth place
- Understand properties of different polygons
- Explore different ways to present data
- Solve measurement conversion problems
- Discover methods to calculate the area of triangles

Questions you can ask your child:

- What is 3.4 times 10 to the power of 4?
- What are some properties of a rectangle?
- How many centimeters equals 3 meters?

Topics you can discuss with your child's teacher:

- Math games
- Projects you can do at home to practice metric measurement conversions

By the end of Grade 5, Trimester 3, students can:

- Multiply and divide decimals by powers of 10.
- Create a line plot with data.
- Use a hierarchy chart to classify polygons by characteristics.
- Explore line plots and coordinate grids.
- Convert U. S. customary and metric measurements.
- Use the Rectangle Method to find the area of a triangle.

MATHEMATICS

SCIENCE AND TECHNOLOGY / ENGINEERING

Grade 5, Trimester 3 Big Ideas and Concepts:

- Understand how energy can be transferred from one place to another in a circuit to do work.
- Understand the interactions between electricity and magnetism.
- Understand how sound energy is transferred from one place to another in waves of vibrating molecules and how sound energy is absorbed be different materials.

By the end of Grade 5, Trimester 3 students can:

- Students will be able to create a functioning circuit.
- Create a model of a motor using an electromagnet.
- Design a sound absorbing wall using materials with properties that modify or change sound waves.

Questions you can ask your child:

- What are the differences between a simple, series, and parallel circuit?
- How electromagnets different from permanent magnets?
- How does the sound from your voice from a Kazoo vibrate?

Topics you can discuss with your child's teacher:

- How can you help reinforce classroom instruction at home
- Places in the community that can help your child learn science.

Grade 5, Trimester 3 Big Ideas and Concepts:

- Understand how the Constitution attempted to balance competing interests, the question of power, and the ideas of slavery.
- Explore the responsibilities of the government in the Constitution and the freedoms granted to citizens in the Bill of Rights.

Questions you can ask your child:

- Why have different people had different rights in this country's history?
- What are the responsibilities of the three Branches of Government?

Topics you can discuss with your child's teacher:

- People and places in Massachusetts related to the Constitution
- Books about the Government and Constitution.

By the end of Grade 5, Trimester 3 students can:

- Read the Preamble and understand the purpose of the Constitution.
- Explain how the framers of the Constitution divided and shared powers.
- Explain that voting rights and property rights did not extend to women or slaves.
- Demonstrate understanding of at least one of the freedoms guaranteed to citizens by the United States.

FIFTH GRADE
Trimester 2

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❏ Can you tell me about something you **read** today?
- ❏ How could you use the **math** you learned today?
- ❏ What **scientific ideas** did you talk about today?
- ❏ How did you contribute to your **community** today?
- ❏ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read various texts, like books, poems, letters, news articles, and Internet pages.
- Speak and listen in formal and informal ways, like presentations and conversations.
- Communicate opinions, information, and experiences in writing for various readers.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester, your child will:

- Ask scientific questions about the natural world and things humans design.
- Learn through various experiences, like observations and experiments.
- Solve problems using the skills and tools of engineers and scientists.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use tools, like rulers and calculators, to show mathematical relationships.

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about their local community and about the state, country, and world.
- Discover how people and events from the past relate to the present.
- Work to understand how different people see the world differently.

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ENGLISH LANGUAGE ARTS & LITERACY





Grade 5, Trimester 2 Big Ideas and Concepts:

- Determine a theme of a story, drama or poem from detail in the text including how characters in a story respond to challenges.
- Describe how a narrators or speakers point of view impact how events are described in story, myth, or drama.
- Write expository texts to examine a topic and convey ideas and information clearly.
- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- Engage effectively in range of collaborative discussions with diverse partners on grade 5 topics and texts.

By the end of Grade 5, Trimester 2 students can:

- Summarize a text
- Use common, grade appropriate Greek and Latin roots as clues to the meaning of a word.
- Develop informational, persuasive and argumentative essays with facts, concrete details, with other information.
- Use a comma to separate an introductory element from the rest of the sentence.

Questions you can ask your child:

- What is the meaning of the word "circ"?
- Give an example of a metaphor or simile.
- What is the difference between a persuasive and argumentative essay?

Topics you can discuss with your child's teacher:

- Activities that can be done at home to improve writing
- Good study habits
- Executive functioning skills

Grade 5, Trimester 2 Big Ideas and Concepts:

- Students will explore fractions using fraction circle pieces, diagrams and number lines.
- Students will explore division number stories resulting in fractional answers.
- Students will extend place value patterns to decimals.
- Students will explore the first quadrant in the coordinate grid.
- Students will add, subtract, multiply and divide fractions.

Questions you can ask your child:

- Tell your child a whole number and ask him/her to find a half, third or fourth of the number.
- Practice using maps that use a grid with a map.

Topics you can discuss with your child's teacher:

- Projects that you can do at home to practice solving problems with fractions and decimals.
- Which strategies for finding common denominators work best in given situations.



By the end of Grade 5, Trimester 2 students can:

- Represent compare and rename fractions using models and manipulatives.
- Solve division number stories and write number models to build an understanding of fractions as division.
- Use place value strategies to compare decimals to the thousandths place.
- Plot points on a coordinate grid using ordered pairs.
- Using algorithms to solve Operations(+, −, x, ÷) with fractions.

MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING





Grade 5, Trimester 2 Big Ideas and Concepts:

- Understand what a watershed is and how water moves through cycles on Earth: for example how rain can evaporate into the air or be absorbed into the ground.
- Understand how people affect the Earth: for example the effects of chemicals from factories and farms and how people can reduce those effects.
- Understand how the engineering design process can be used to solve real world problems.
- Understand how energy flows and matter cycles through an ecosystem.
- Understand how plants make their own food using water, air, and energy from the sun. Explore how the sun's energy helps plants grow and reproduce.

By the end of Grade 5, Trimester 2 students can:

- Graph and compare the amounts of salt water, fresh water and frozen water (ice) on Earth.
- Test a simple system for filtering water. Use the engineering design process to make improvements.
- Explain how different living things produce, consume, and decompose other things.

Questions you can ask your child:

- ★ What could we invent to make our chores at home easier?
- ★ How does water get from the geosphere to the atmosphere?
- ★ How can a filter improve water quality?
- ★ Describe how the energy from the sun transfers to energy in the body?

Topics you can discuss with your child's teacher:

- ★ How can you help reinforce classroom instruction at home
- ★ Places in the community that can help your child learn science.

Grade 5, Trimester 2 Big Ideas and Concepts:

- Explore the events leading up from the French and Indian War to the Revolutionary War.
- Learn about the reasons for the American Revolution and how it involved Massachusetts people.
- Use primary sources to discuss the importance of the Declaration of Independence.

Questions you can ask your child:

- Who was involved in the French and Indian War?
- What led to the American Revolution?

Topics you can discuss with your child's teacher:

- People and places in Massachusetts related to the Revolutionary War
- Books about the Revolutionary War.

By the end of Grade 5, Trimester 2 students can:

- Explain key British policies and the colonial response to them.
- Explain the relationship between Native Peoples and the French and the British.
- Analyze the role and the significance of Massachusetts people during the pre-revolutionary and revolutionary period.
- Demonstrate understanding of the effects of the Revolutionary War.

FIFTH GRADE
Trimester 1

TALK TO YOUR CHILD ABOUT SCHOOL

You can ask...

- ❑ Can you tell me about something you **read** today?
- ❑ How could you use the **math** you learned today?
- ❑ What **scientific ideas** did you talk about today?
- ❑ How did you contribute to your **community** today?
- ❑ How did someone help you learn today?



ENGLISH LANGUAGE ARTS & LITERACY

In this Trimester, your child will:

- Read grade level text with purpose and understanding.
- Explain how an author uses reasons and evidence to support particular points in a text.
- Produce clear and coherent narrative writing in which the development and organization are appropriate to task, purpose, and audience.

SCIENCE AND TECHNOLOGY/ ENGINEERING

In this Trimester , your child will:

- Ask scientific questions about space and matter.
- Learn through various experiences, such as observations and experiments.
- Answer questions using the scientific method.

MATHEMATICS

In this Trimester, your child will:

- Use math to represent and solve real-world problems.
- Use math to make arguments about why something is true or false.
- Use models to show mathematical relationships, such as area and volume.

HISTORY AND SOCIAL SCIENCE

In this Trimester, your child will:

- Learn about the history of our local community, state, country, and world.
- Discover how people and events from the past relate to the present.
- Understand cultural differences and perspectives.

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ENGLISH LANGUAGE ARTS & LITERACY



Grade 5, Trimester 1 Big Ideas and Concepts:

- Use a variety of texts, determine the main idea and supporting details.
- Describe how an author uses one or more text structures to present information in a text.
- Write narratives to develop experiences or events using effective literary techniques, descriptive details, and clear sequence.
- Develop and strengthen writing as needed by planning, revising, editing, rewriting or trying a new approach.
- Determine or clarify the meaning of unknown and multiple meaning words and phrases based on grade 5 reading and content choosing flexibly from a range of strategies.

By the end of Grade 5, Trimester 1 students can:

- Write a story chronologically using appropriate grade level voice, sentence fluency, conventions, word choice, and vocabulary.
- Use a variety of transitional words, phrases and clauses to manage sequence.
- Independently and proficiently read and comprehend literary texts representing a variety of genres, cultures, and perspectives.

Questions you can ask your child:

- What is your favorite genre to read?
- What strategies can you use to construct the meaning of unknown words in a text?
- How do good writers organize their ideas when they are writing?

Topics you can discuss with your child's teacher:

- Choosing an appropriate level book.
- How your child participates in class discussions.
- Available resources to help my child improve in reading.

Grade 5, Trimester 1 Big Ideas and Concepts:

- Students will explore the concept of volume and discover two mathematical formulas for volume.
- Students will review area and develop strategies for finding the area of rectangles in which the length of one side is a fractional part.
- Students will interpret parentheses in mathematical expressions.
- Students will explore place value relationships in multi-digit numbers, powers of ten and exponential notation.
- Students will review familiar and explore new algorithms for multiplying and dividing large numbers.

Questions you can ask your child:

- Which container holds the most? How can you tell?
- What is the value of 4 in 7,401,325?

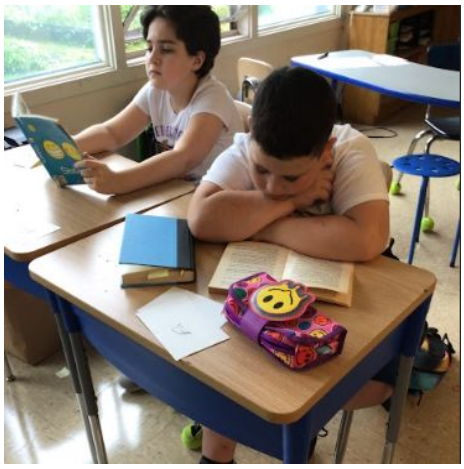
Topics you can discuss with your child's teacher:

- Projects that you can do at home to practice solving problems with volume and area.
- Math games



By the end of Grade 5, Trimester 1, students can:

- Solve area problems using $A = l \times w$.
- Solve volume problems using $V = l \times w \times h$ or $V = B(\text{area of base}) \times h$.
- Write, explain, and compute math expressions using parentheses.
- Understand place value to the millions place. Multiply by the powers of ten.
- Compute problems using US traditional multiplication and division.



MATHEMATICS

SCIENCE AND TECHNOLOGY/ ENGINEERING



Grade 5, Trimester 1 Big Ideas and Concepts:

- Students should understand the Earth's position in our solar system and how it relates with our sun and moon.
- Students will understand the conservation of matter and states of matter.
- Students will be able to distinguish between rock and minerals and understand how minerals are formed and identified based on their properties.

By the end of Grade 5, Trimester 1 students can:

- Use models to explain day and night and how the sun, stars and moon appear in different parts of the sky at different times during a day, month and year.
- Measure, graph and analyze substances before and after a chemical reaction.
- Explain the changes that happen when liquids, gases and solids are heated and cooled.
- Observe properties of various rocks and minerals.

Questions you can ask your child:

- Why does the sun appear larger and brighter than any other star in the sky?
- What is the conservation of matter?
- How can you use properties to identify a mineral?

Topics you can discuss with your child's teacher:

- How can you help reinforce classroom instruction at home?
- Places in the community that can help your child learn science.

Grade 5, Trimester 1 Big Ideas and Concepts:

- Build on prior schema of the New World at the time Christopher Columbus landed and the impact on Native Populations
- Explore the relationships between Native People and European settlers
- Learn about the first English settlements in North America
- Understand how settlements grew into populated colonies
- Explore the similarities and differences between the New England, Middle, and Southern colonies
- Learn about the origins of slavery

Questions you can ask your child:

- How did the colonists and Native People interact?
- How did climate affect the economies of the 3 colonial regions?

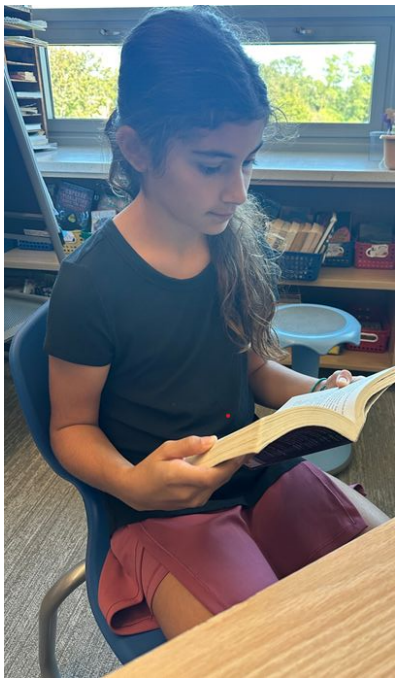
Topics you can discuss with your child's teacher:

- Historical fiction books
- Non fiction books about the American colonies
- Places in the community related to colonial history



By the end of Grade 5, Trimester 1, students can:

- Describe the beginnings and early growth of the American colonies.
- Compare and contrast the three colonial regions
- Explain the Triangular Slave Trade.
- Describe the relationships between Native Peoples and English settlers.



HISTORY AND SOCIAL SCIENCE

Appendix G: *Special Education Program Review*

School Committee Presentation

October 21, 2025

MERSD Special Education

Special education finance and District operating budgets

Navigating volatility, building effective structures, and planning for change

Community	% SPED /Operating Budget
Amesbury	26%
Danvers	26%
Gloucester	27%
Hamilton Wenham	27%
Lynnfield	23%
MASCO	23%
MERSD	26%
Newburyport	27%
North Reading	23%
Pentucket	26%
Rockport	29%
Triton	25%
Massachusetts	22%

Special Education as a Percentage of District Operating Budget

MERSD and Cape Ann Comparables (FY24, RADAR)

Special Education in MERSD

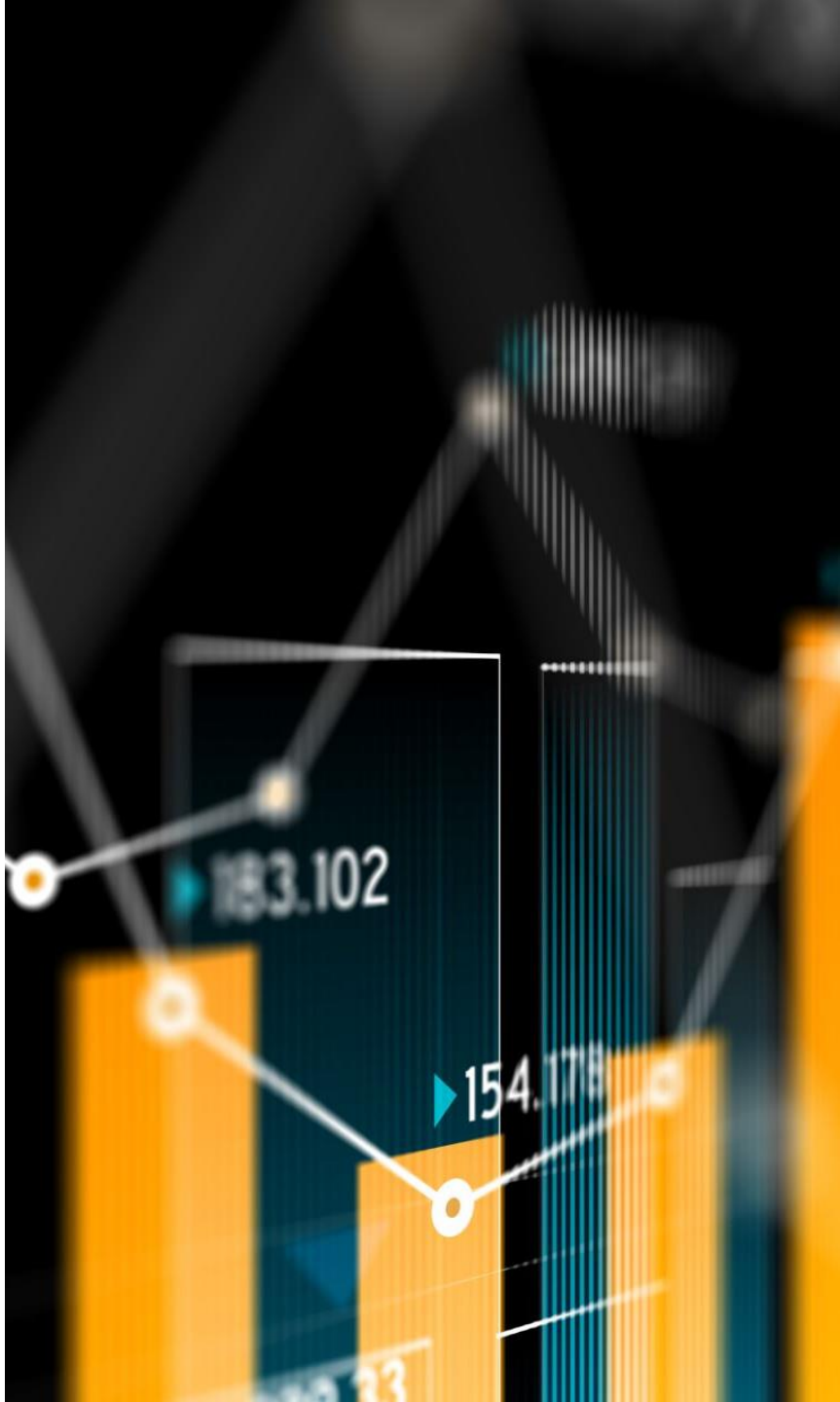
231 Students, 19.6% of all students

- 68% in full inclusion
- 6.5% in partial inclusion
- 17% in substantially separate programs
- 8.5% in out of district placements

Aspen, 10/2025

Data in this presentation

- ASPEN 2026 data
- DESE website state data
- Local databases



Types of Support Provided

- Applied behavioral analysis
- Evaluation and consultation
- Inclusion support and co-teaching
- Language based instructional practices
- Small group academic tutorials and classes
- Speech and language, articulation, and social pragmatics
- Occupational and physical therapies
- Assistive technology

Specialized Programs

Preschool

age 3 and 4

SWD and Peer Pals

RISE

complex needs

ABA methodologies

IRWL

dyslexia

grades 2 through 12

SAIL

autism and emotional/behavioral needs

K-8

ACE

neurological and communication

4-12

Transitions

autism and social/emotional needs

9-12

Out of District Programs

- Collaboratives
- Private Day
- Other Public Schools
- Residential Programs

Understanding Eligibility

Special education regulations, procedures, and parent rights

What is special education and which regulations support it?

Individuals with Disabilities Education Act

- Federal law passed in 1975
- Reauthorized most recently in 2004

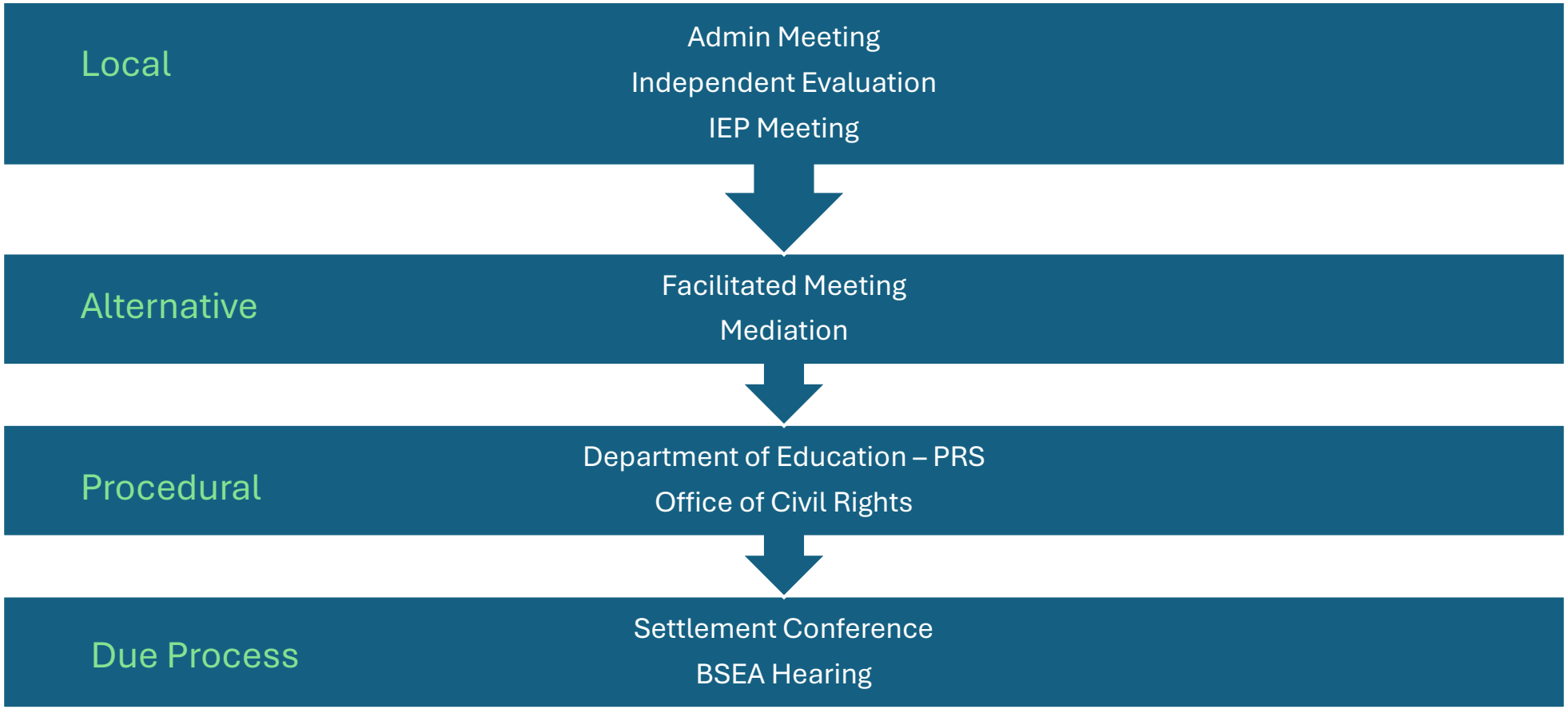
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- Massachusetts special education law
- Last updated in 2022
- Mass special education laws in effect since 1972

Parent Rights under the IDEA

- Prior written notice
- Consent
- Active participation
- Annual IEP meetings and three-year reevaluations
- Independent evaluation
- Access to student record
- Observation of proposed program by parent or designee
- Dispute resolution and due process
- “Stay put” pending appeal

What is dispute resolution?



Special education eligibility criteria

Student has a disability

Lack of effective progress as a result of the disability

Requires specially designed instruction

How do we determine services?

- Team of parents and educators
- Student evaluation, observation, and progress data
- Discussion of disability related needs
- Goal of meaningful educational benefit and effective progress

Special Education in MERSD

Eligibility Data and Trends

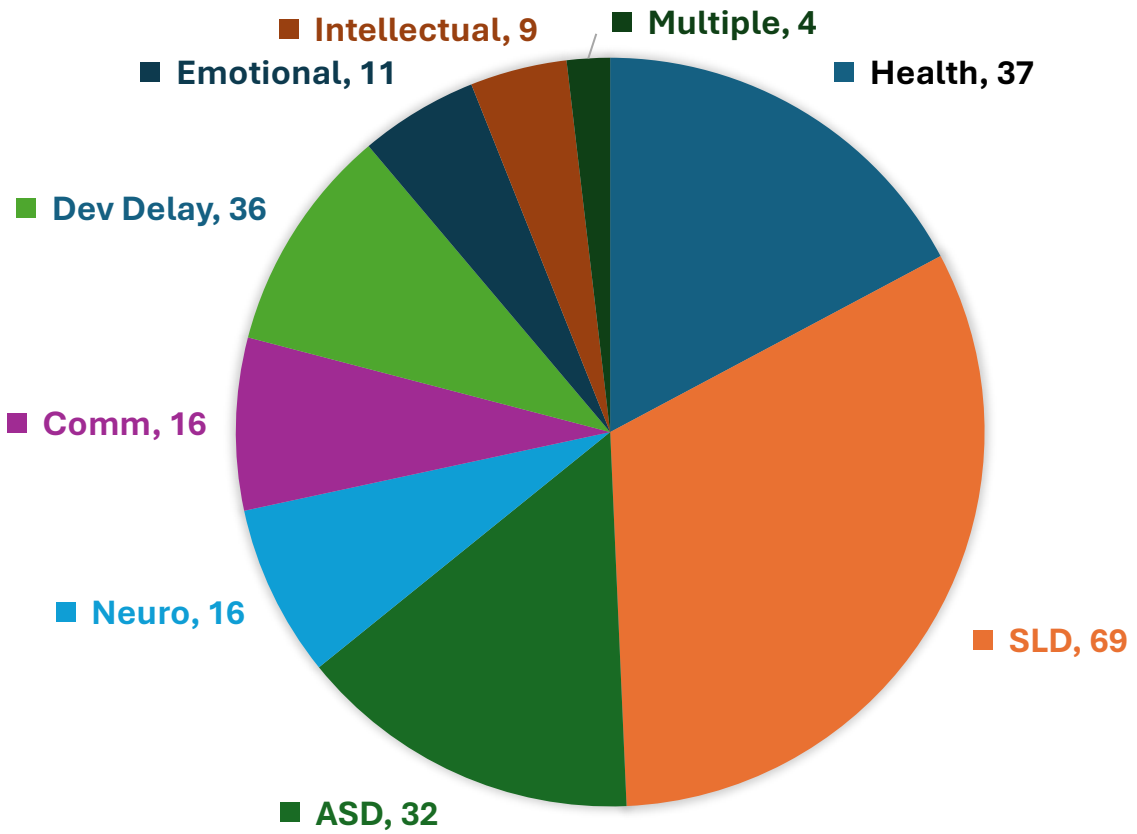
MERSD Eligibility Trends

School Year	Students with Disabilities (SWD)	Percent SWD
25-26	231	19.6
24-25	237	19.6
23-24	232	19
22-23	230	18.5
21-22	225	17.7
20-21	230	18.0
19-20	238	17.1

Eligibility: Cape Ann Comparables (FY25)

District	Percentage Eligible
Amesbury	25.4
Danvers	23.0
Hamilton Wenham	19.4
Gloucester	25.2
Lynnfield	19.3
MASCO	20.5
MERSD	19.6
Newburyport	20.9
North Reading	20.8
Pentucket	23.6
Rockport	24.8
Triton	22.3
Massachusetts	20.6

MERSD Eligibility Categories (FY26)



MERSD Eligibility Trends

Year	Health	SLD	ASD	Neuro-logical	Comm	Dev Delay	Emo-tional	Mult.	Intellec-tual
25-26	37	69	32	16	16	21	11	4	8
24-25	36	72	30	17	21	35	13	4	7
23-24	39	63	27	20	16	36	18	4	6
22-23	39	60	28	21	13	39	18	4	5
21-22	59	56	27	20	12	26	18	4	2
20-21	63	59	26	24	20	18	16	3	0
19-20	65	61	25	22	23	20	18	2	0



Health, Emotional
Communication
Neurological



Autism, SLD,
Multiple, Intellectual

Preschool Enrollment Trends

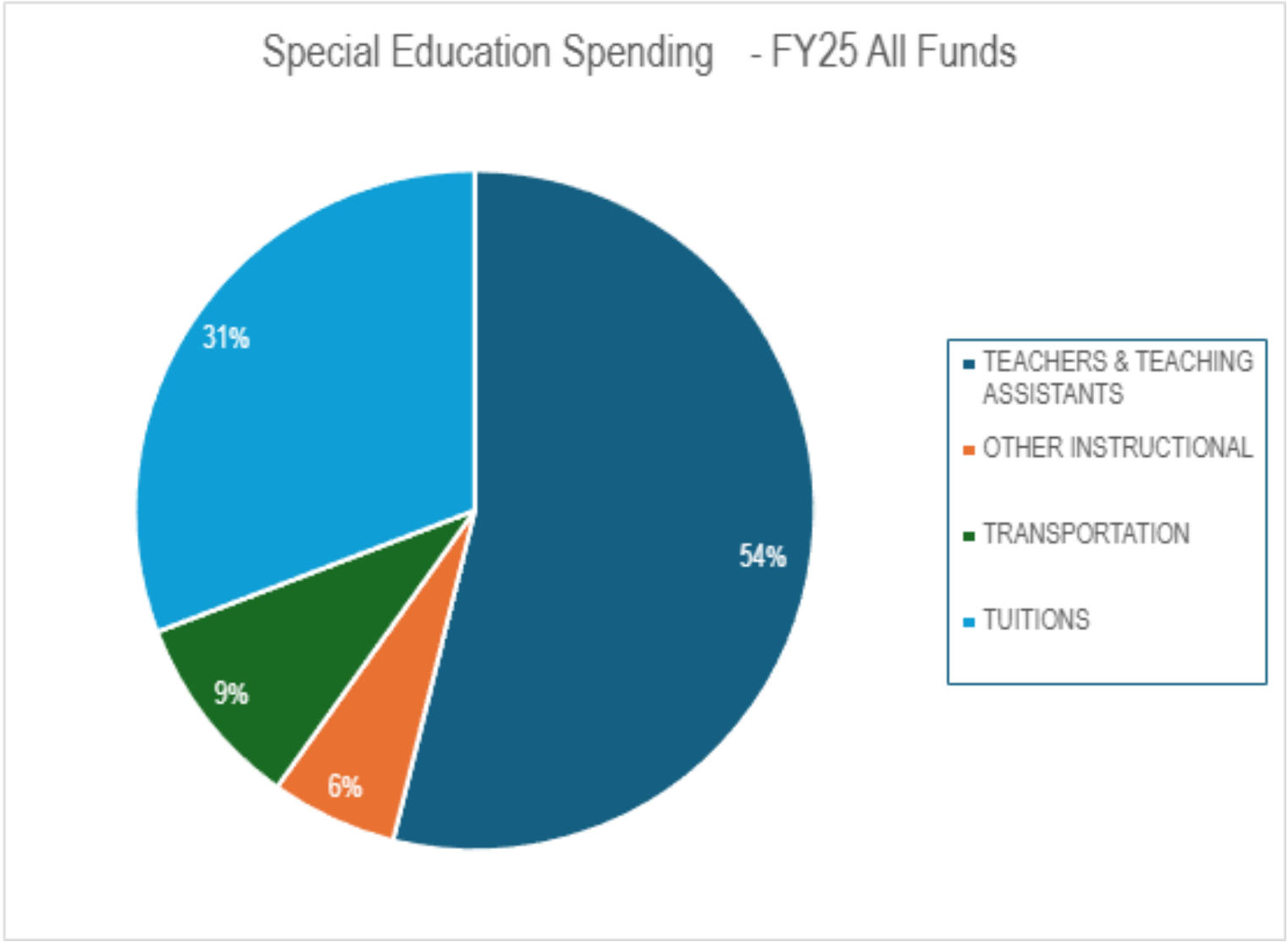
	FY21	FY22	FY23	FY24	FY25	FY26
Total SPED PK	6	5	12	11	13	16
PK SWD with Autism	1	2	3	6	9	6

Special Education Finance

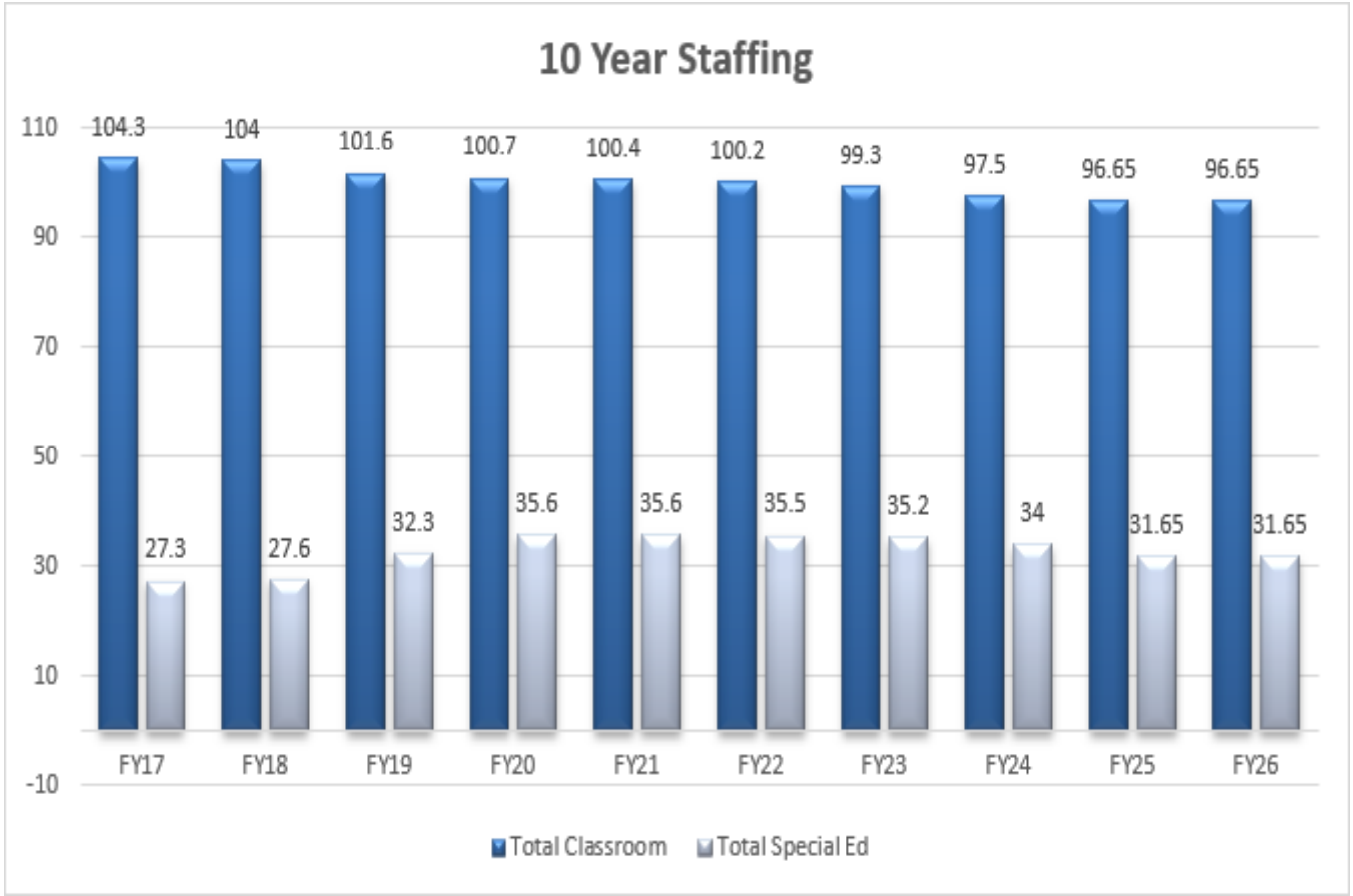
Budgeting Process

- Zero based budget
- Student IEPs and individual needs
- Specialized program enrollment
- Students entering and exiting
- Transitions
  - Early intervention to preschool
  - Preschool to K
  - Post-high school (18-22)

FY26 Special Education Spending

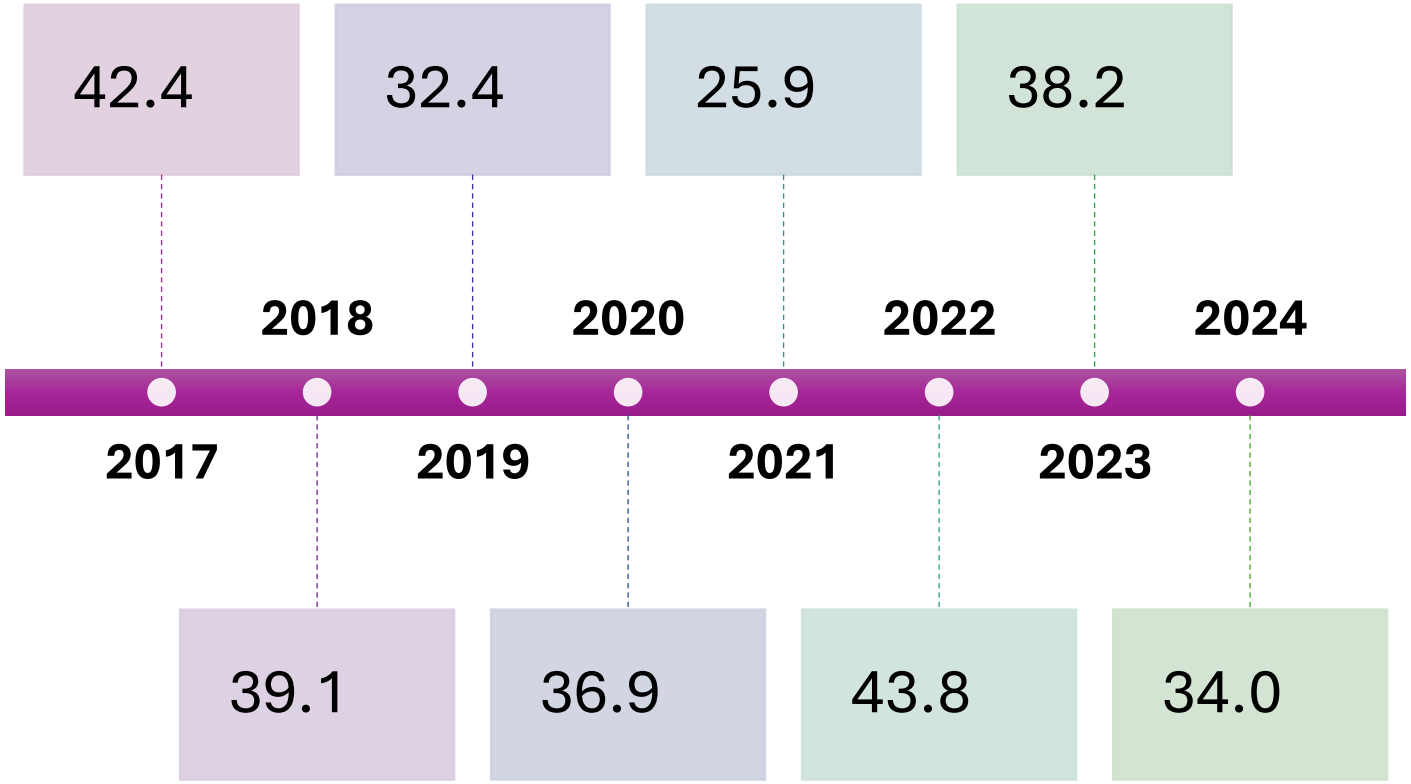


Special Education Teacher Staffing Trend



**Staffing Carried in the Operational Budget Excludes Grant Funded Positions*

Teaching Assistant Trend



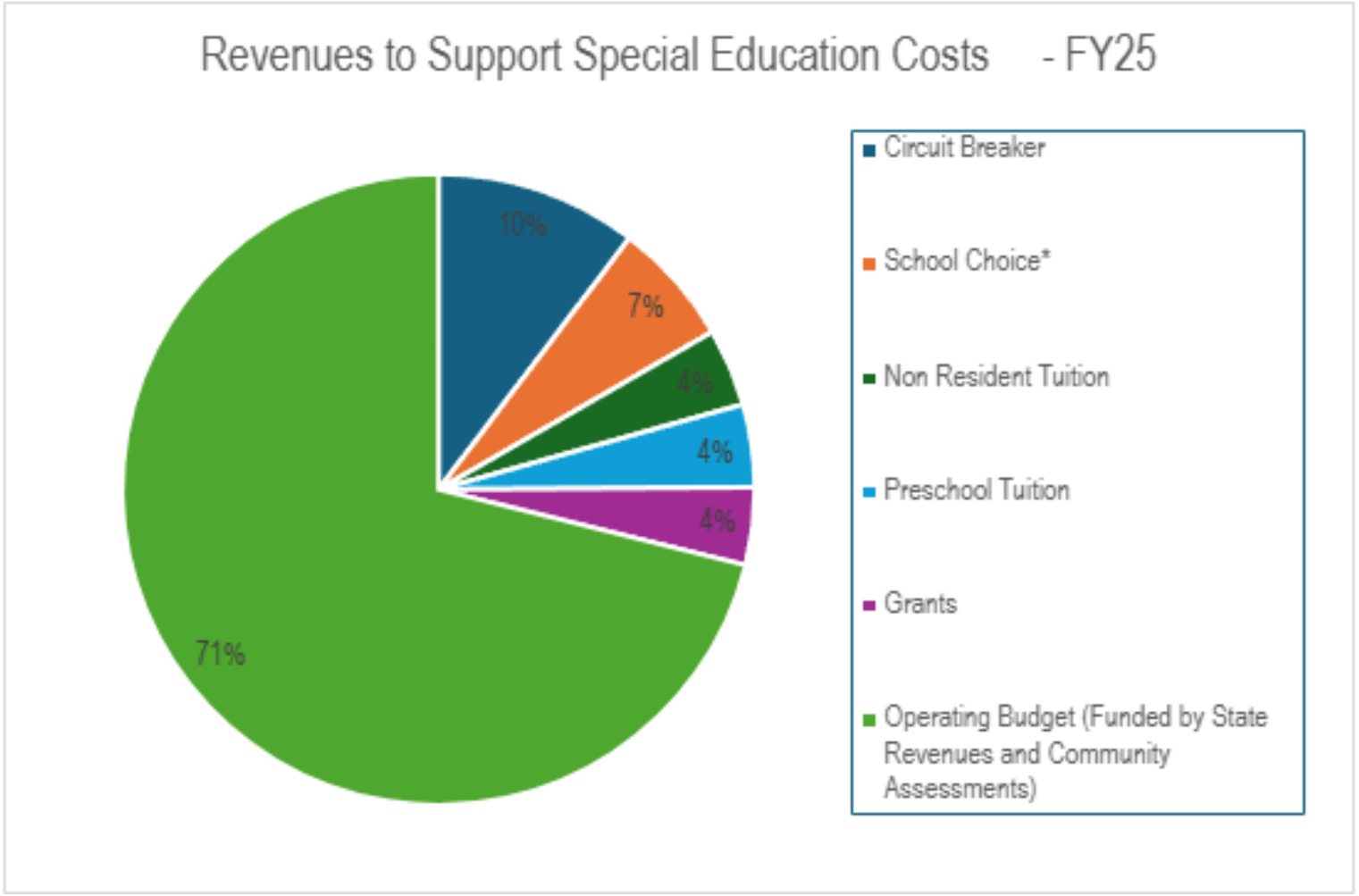
Sources of Revenue

Preschool

Special Education Tuition

Circuit Breaker

Sources of Revenue



Revenue from tuition students (FY26)

Tuition Students	Tuition Amount
SAIL	$75,271
ACE HS (3)	$205,062
Total	$280,333

Current revenue from preschool

28 Peer pals

FY26 Tuition
$400,395

Circuit Breaker

Partial funding of placements above claim threshold

- FY 26 threshold = $53,431

Up to 75% reimbursement for tuitions above threshold

Example

- $100,000 Tuition
- Subtract $53,431 threshold, multiple remaining amount by 75%
- Reimbursement (one year later) = $34,926.75

Out of District

Trends, Analysis, Cost Avoidance

OOD Programs
Funding for Day v. Residential FY26

Program Type	# Students	% of Tuition Costs
Day	17 Students	57%
Residential	4 Students	43%

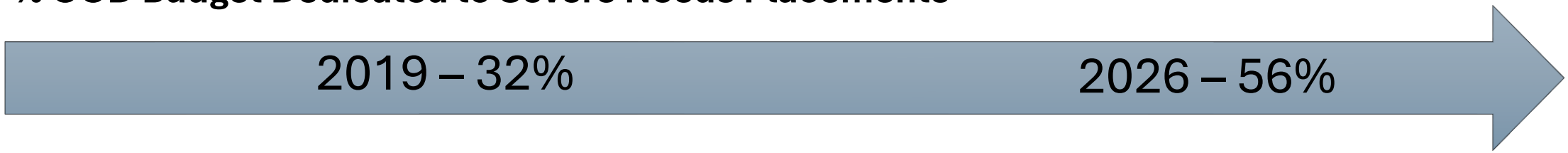
OOD Programs
FY 26 Spending by Disability Type

Disability type	# Students	% of Tuition Costs
Learning disability	24% 5 Students	9%
Mental and behavioral health	28.5% 6 Students	23%
Developmental and severe disabilities (excluding 18-22)	28.5% 6 Students	45%
18-22 programs	19% 4 Students	23%

Changing Cost of a Severe Needs Placement

School	FY2019	FY2026	% Increase
Cotting School	$78,381	$119,501	52.5%
Children's Center for Communication	$90,949	$129,205	42.0%
Hopeful Journeys	$117,340	$160,486	36.8%
Nashoba Learning Group	$108,388	$148,243	36.8%

% OOD Budget Dedicated to Severe Needs Placements



Students attending 18-22 programs

FY20	• 4 Students
FY22	• 5 Students
FY24	• 6 Students
FY26	• 4 Students
FY28	• 8 Students



School Choice and Out of District

District obligated to educate all students accepted via School Choice through graduation

District receives tuition and transportation from sending districts for students who require OOD placements

Specialized programs and OOD cost avoidance

In District vs. OOD

In District Specialized Programs

- Staff salaries
- Benefits
- Tuition revenue

OOD Programs

- Tuition
- Transportation
- Circuit breaker funding

OOD Net Cost – In District Net Cost = Savings from OOD programs

In District Programs FY26

Program	Grades Served	# Students
RISE	K-3	4
SAIL/Transitions	K-12	22
ACE	4-12	24
IRWL	3-12	23
Total Students	K-12	73

Special Education Cost Avoidance Example

- Ms. Sartell's RISE classroom currently has 4 students K-2 requiring intensive, individualized instruction
- One teacher, four assistants

Option 1:

Salary and benefits costs for RISE staff

1 Teacher, 4 Teaching Assistants

$391,687

Option 2	Placement Options	Transportation
Hopeful Journeys	$160,486	225 days x $284/day $63,900
Melmark	$155,772	225 days x $380/day $85,500
KOG	$171,104	225 days x $284/day $63,900
Nashoba Learning Group	$148,243	225 days x $385/day
Average	$158,888	$78,695
Average Tuition and Transport x 4	**$950,332**	

Difference between OOD and In District Costs = $558,645

Anticipated FY27 reimbursement = $316,371

Cost avoidance by program 2026

Program	Grades Served	# Students	Cost Avoidance
RISE	K-3	4	$558,645
SAIL/Transitions	K-12	22	$2,234,299
ACE	4-12	24	$2,556,925
IRWL	3-12	23	$1,224,732
Total		**73**	**$5,023,155**

Estimated Circuit Breaker Reimbursement (FY 27): $2,405,246

OOD and Cost Variability Factors

In-District Programs	Tuition	Transportation	Circuit breaker
• Tuitions and enrollment fluctuate • Must maintain programs for students remaining in District	• Unpredictable, determined annually by OSD • Restructuring	• Rising costs • Personnel shortages • Shared vs. solo runs	• Threshold and percent reimbursement determined annually by state

Cost of Long-Term Placement

- Student with severe special needs
- Enters program grade 2 - FY26
  - Attends local OOD placement with a 1:1 teaching assistant
  - District provides mandated transportation
- Student remains in placement until age 22
- Est. annual cost increase of 4.5%
- Total cost Grade 2 – Program Completion: $5,248,675

Grade	Tuition and Transport	Grade	Tuition and Transport
2	$231,873	9	$315,547
3	$242,307	10	$329,747
4	$253,211	11	$344,585
5	$264,605	12	$360,092
6	$276,513	13	$376,296
7	$288,956	14	$393,229
8	$301,958	15	$410,924
		16	$429,416

Special Education Next Steps

Adapting to changing enrollment

Future Needs and Goals

1

EES building project

- Distribute specialized programs between both buildings
- Preschool, RISE, ACE will be in Essex

2

Student Achievement

- Strengthen Tier 1 instruction
- Prereferral decision making process
- Continue to implement specially designed instruction to close skill gaps

3

Specialized Programs

Maintain high quality in district programs

Expand RISE to prepare for children with autism and developmental disabilities moving through preschool

SUSTAINABILITY WORKSHOP AND USGBC LEED REGISTRATION

SECTION 3.3.6.9

RECEIPT

Invoice # : 91923787
Order # : 13296604
Invoice Date : Dec 02, 2025

Green Business Certification Inc.
2101 L Street NW,
Washington, D.C. 20037
1-800-795-1746
202-828-1145
www.gbci.org/contact

Paid By:
Colleen Soden
19 Richardson Street
Winchester
MA 01890 US
colleen@sodensustainability.com

Paid To:
Green Business Certification Inc.
PO Box 822964
Philadelphia, PA 19182-2964

Payment Method	Payment Date
CREDIT CARD	Dec 02, 2025

Project ID: 1000224335
Project Name: Essex Elementary School
USGBC Member Company : Soden Sustainability Consulting

Item Description	Quantity	List Price/Unit (USD)	Promo Code Discount (USD)	Amount (USD)
LEED for Schools Registration	1	$ 1,350.00	($ 0.00)	$ 1,350.00
			Shipping/Handling	$ 0.00
			Sales Tax	
			Total Paid	**$ 1,350.00**

Thank you for your payment.
Please keep this receipt for your records.

Essex Elementary School

October 30, 2025
School Sustainability Group Workshop #1 Meeting Notes

Meeting Date: October 23, 2025

Attendees:
JCJ: Dustin Lombardi, Eric Haggstrom, Fawn W. Pellegrini
Soden: Colleen Soden, Kelley Tapia
DW: Christina Dell Angelo, John Albright, Jacob Greco
MERSD: Kimberly Provost, Pam Beaudoin, Michelle Cresta
SBC: Mike Gerhardt

Notes – to be used in conjunction with the slide deck

The meeting started with introductions of attendees from Dore + Whittier, JCJ Architecture, Soden Sustainability, and the individuals on the SBC Sustainability Working Group

Workshop Purpose

The purpose of the meeting was to review requirements of the Massachusetts School Building Authority (MSBA) to meet LEED Silver rating, discuss the sustainable measures implemented at the Manchester Memorial Elementary School (MMES), and for the design team to share the proposed sustainable measures for the renovated or new Essex Elementary School. The sustainability workshop introduced key sustainability frameworks and considerations to inform decision-making for the new Essex Elementary School building. The team emphasized aligning sustainability strategies with educational value, cost-effectiveness, and long-term operational benefits.

Design Team's Sustainability Approach

- Focused on learning as the primary outcome.
- Emphasized healthy indoor environments, training opportunities, and maximizing value.
- Aimed to balance minimizing first costs with reducing long-term operations and maintenance costs.

Minimum MSBA Requirements

- Achieve LEED BD+C: Schools Silver under v4.0 with select credits upgraded to v4.1
- Required points:
    - Material Ingredients (20+ compliant products from 5 manufacturers)
    - Low Emitting Materials
    - Indoor Air Quality Assessment
- Must meet MA DOER Stretch Code and be solar-ready.

Incentives Overview

MSBA Enhanced Reimbursement:

- 3% for Opt-In Specialized Energy Code (Net Zero or All-Electric)
- 1% for additional indoor air/material quality credits
- Mass Save Incentives: Achieve EUI < 25 for meaningful savings
- Key Message: Incentives can offset added costs and maximize long-term value.
- Additional conversation: It is assumed, but confirmation from the SBC is needed, that there is agreement to move forward with 3% + 1% = 4% incentives.

Sustainable Design Opportunities

Construction – best practices

- Divert waste from landfill.
- Implement construction-phase air quality plans.

Site Design

- Protect sensitive lands and floodplains.
- Target 90th percentile stormwater events.
- Use native planting; no irrigation.
- EV charging: match or exceed 2 stations from Manchester Memorial.
    - Electric vehicle charging. The building code has been modified since the design of Manchester which provided one station with two plug-in points. Now, code requires 10% spaces to be EV ready.
    - EV-ready means installing conduit and power capacity now, leaving chargers for future installation — lower upfront cost, but less immediate benefit.
    - EV-installed provides immediate functionality and community value but has higher initial cost.
    - Quantity of spaces depends on the number of parking spots in the final design.
    - Discussion question: How might EV charging at the school serve both staff and the wider community, and what's the most value-forward way for us to plan for that—EV-ready or EV-installed now?
- Working Group confirmed design team shall provide covered bike parking and bike lanes.
    - Discussion question: Investing in covered bike racks and safe on-site bike lanes can reduce parking demand and support healthy, low-carbon transportation. As more families and staff look to bike to school, how should we plan for these features to support long-term use—and what level of investment feels appropriate now?
- Perform resiliency assessments for flood, fire, storms.
    - For every project site under consideration in the PSR (Preferred Schematic Report Feasibility Study) phase, the District and Design team must perform a written risk assessment / evaluation for environmental hazards specific to each site including (but not limited to) flooding, high winds, storm surges, power outages, extreme heat and

cold, winter storms, rain, snow, and any other applicable site vulnerability relative to site resiliency or climate change for the anticipated useful life of the building.
    - Will help gather sufficient information to make informed decisions regarding site selection, building location and massing, floor elevations of occupied areas and elevations of critical mechanical equipment, stormwater retention, building materials, emergency back-up systems, systems selection and any other relevant site and building design consideration.
- Light pollution mitigation – best practices
- Open space and rainwater management – both credits are based on the specific site selected. The intent of the Open space credit is to include exterior open space in the design that encourages interaction with the environment, social interaction, passive recreation, and physical activities. (can be hardscape and green).
- Rainwater management is a combination of both subsurface (person-made) filtration and storage as well as thoughtful + useful landscaping.
    - Raingardens; these help reduce the person-made infrastructure by slowing the waterflow and allowing water to infiltrate the soil gradually. This reduces peak flow into the municipal stormwater system — which is often what drives infrastructure costs up.
    - The potential benefits are smaller underground pipes, cleaner water entering local waterways, create hands-on learning spaces for students to learn about science, ecology, and climate resilience.
- MERSD team noted that they have not heard of challenges with the raingarden at MMES. Design Team will pursue raingardens for the EES project.
    - Mike G suggested permeable pavement.
    - Dustin L asked if Essex had Friends of Trees similar to Manchester-by the-Sea. The MERSD individuals stated they do not believe a similar group exists in Essex.

Water

- Target 35% indoor water use reduction.
    - Plumbing fixture flows are listed below – all recommendations match Manchester, with the exception of toilets. MMES toilet's were designed as 1.1 gpf.
    - MERSD team noted they have not heard challenges with the 1.1 gpf toilets and confirmed design team shall proceed with this for the EES project.
- Specify low-flow, code-compliant fixtures.
- Meter domestic hot water and plumbing.
    - Manchester metered:
        - Whole building (prereq)
        - HVAC heating boiler make-up water (Essex may choose to meter the plumbing fixtures)
        - Domestic hot water use

Energy & Carbon

- Target EUI < 25.

- Explore displacement ventilation system.
- Aim for 5% WBLCA reduction in embodied carbon with newer material technologies.
- Commissioning – A Commission team is required by MSBA. The Target for schools is typically 25 EUI. EUI of 25 or lower is threshold for Path 1 incentives with MASS.
- LEED Optimize has gotten harder since MMES.
- Displacement ventilation provides air at flow at floor level rather than at the ceiling. One advantage is the fresh, conditioned air (heat or cool) is at the space occupied by students and staff (as opposed to high at the ceiling).
- Not done at MMES but proposed for EES is mindfulness of embodied carbon. JCJ has the ability and software to provide this review. Just doing the study earns 1-point on the LEED scorecard.

Health & Wellness

- Use Red List-free, HPD/EPD-verified materials.
- Perform IAQ flush-out pre or post-occupancy.
- MERV 13+ filters, CO_2 monitoring, operable windows.
- Maximize daylight, use LED lighting and glare controls.
- Design team encourages operable windows. This typically needs to be balanced with control of the HVAC system. JCJ suggests one operable window in each classroom has been successful on our school projects.

Operations

- Plan for joint-use community facilities
- Adapt Manchester Memorial's LEED O+M Starter Kit.

Next Steps

- Sustainability Working Group to report to School Building Committee.
- Next SWG Meeting: November 17, 2025.
    - Design team to share LEED scorecard progress
- MSBA Submission Timeline:
    - PDP: January 2026
    - PSR: April 2026
- Schematic Design Phase: May–November 2026
    - Finalize Mass Save Memorandum of Understanding.

Action Items / Recommendations

- Pursue all available incentives.
- Match or exceed Manchester Memorial's sustainability benchmarks.
- Consider regenerative strategies that support curriculum and resilience.



Essex Elementary School

Manchester Essex Regional School District

Sustainability Workshop One

District
Dore + Whittier
Design Team

October 23, 2025

Overview

1. Team Introduction
2. Approach
3. MSBA Requirements
4. Incentives
5. Introduction to LEED
6. Sustainable Design Features
   - Construction
   - Site
   - Water
   - Energy & Carbon
   - Health & Wellness
   - Operations
7. Next Steps



Team Introduction

SODEN SUSTAINABILITY

JCJARCHITECTURE



Colleen Soden
LEED BD+C
LEED ID+C



Kelley Tapia
AIA
WELL AP
LEED BD+C
Fitwel Ambassador

Presenter Today



Eric Haggstrom
Director of Sustainability
AIA
LEED AP
Fitwel Ambassador

Presenter Today

c.a.crowley. ENGINEERING, INC.

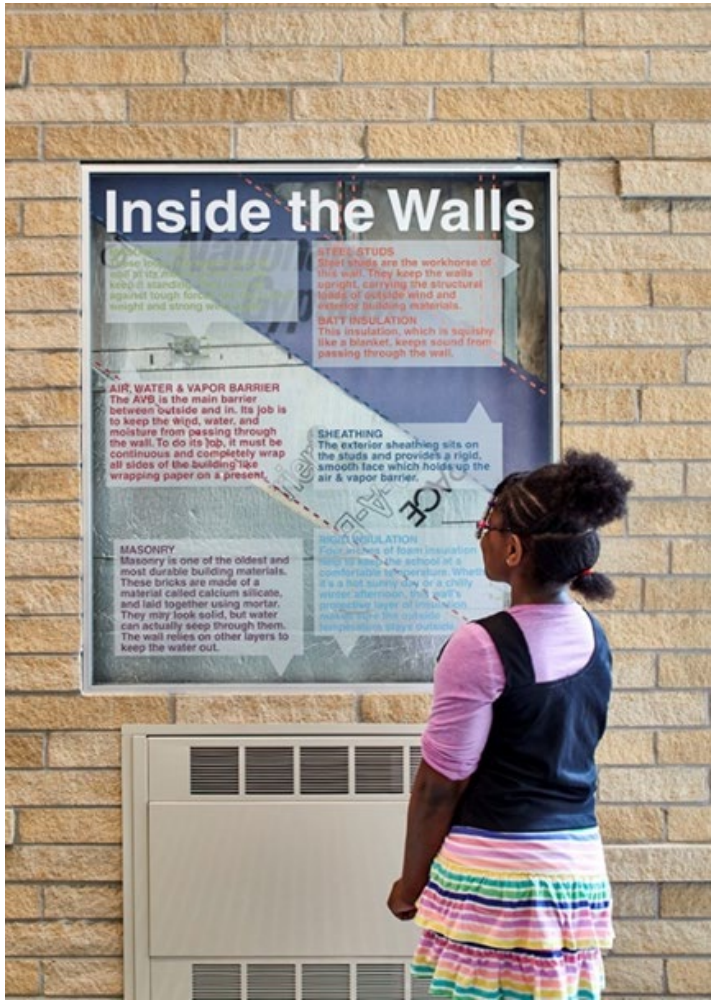
SAMIOTES

studio 2112 LANDSCAPE ARCHITECTURE

Approach

We approach using a lens that **learning is the top priority**:

- Create spaces that **improve learning outcomes**
- Provide **healthy indoor environments**
- Offer **training** opportunities (students, staff + teachers)



- **Maximize value to district:**

Minimize first cost
\+ Minimize operating & maintenance costs
\+ Target incentives

Maximum Value

MSBA Requirements

Minimum Requirements per MSBA Project Advisory #81:

- Achieve **Silver** using LEED-Schools v4.0 / v4.1
- Achieve a minimum of 3 (out of 7) points in the following:
  - MR – Building Product Disclosure and Optimization, v4.1 – Material Ingredients (1 point)
    - Specify at least 20 different products from 5 different manufacturers that meet green certification standards
  - EQ – Low Emitting Materials, v4.1 (1 point)
    - Pursuing: Walls, Flooring, Ceilings
    - Optional: Paints + Coatings, Adhesives + Sealants, Walls, Furniture, Composite wood
  - EQ – Indoor Air Quality Assessment, v4.0 (1 point)
    - Perform pre-occupancy building flush-out

The school must meet the minimum energy efficiency requirements described in the MA DOER "Stretch Code Green Community" standards

MMES ✅ **Be "solar ready"**

Incentives

- For an **extra 3% reimbursement** the project must meet the **Opt-In Specialized Stretch Energy Code**
  - To meet the Opt-In Code you can either be:
    - Net Zero (Zero Energy Pathway)
    - **All Electric Pathway - baseline assumption**
    - Mixed Fuel Pathway (not recommended b/c lose utility incentives)

- For an **additional 1% reimbursement** the project must earn additional material/air quality points (earn 5 of 7 available)
  - MR – Building Product Disclosure and Optimization, v4.1 – Material Ingredients (1 point)
  - EQ – Low Emitting Materials, v4.1 (1 point)
  - EQ – Indoor Air Quality Assessment, v4.0 (1 point)

Incentives

- **Mass Saves Utility Incentives:**
  - New Construction Path 1 requires EUI < 25, which will require an all-electric building design (no gas connection)

- **Maximizing Value**
  - The combination of all available incentives more than offsets any added costs incurred to achieve them, this **minimized first cost** and **maximizes value to the District**

Cutler Elementary School Comparison:
Baseline MSBA vs. Opt-In Green Schools Program

Full Electrification	-$400,000	Lower up-front cost for equipment offset by additional wiring
Additional LEED Points	+$50,000	Cost for full-building flush-out
Utility Incentives	-$350,000	
4% Additional Reimbursement	-$2,700,000	
Total Savings to Town	**$3,400,000**	

- **Recommendation**: Pursue **all** incentives available

Discussion

10/23/2025



Introduction to LEED



Location and Transportation



Sustainable Sites



Water Efficiency



Energy and Atmosphere



Materials and Resources



Indoor Environmental Quality



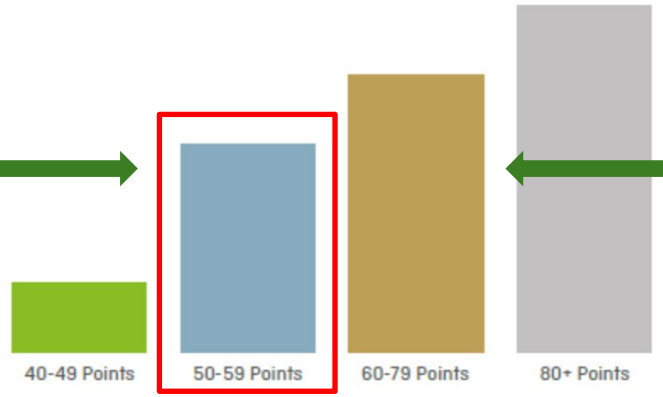
Innovation



Regional Priority Credits

The number of points that a project earns determines its level of LEED® certification.

Essex MSBA Minimum Target + Manchester Memorial (MMES) Target



Manchester Memorial (MMES) Achieved Gold!

Construction

MMES ✅ • Construction and Demolition Waste Management – divert materials away from landfills.

MMES ✅ • Construction Indoor Air Quality Management Plan - this involves ensuring that air quality is maintained during construction.



MMES

Site

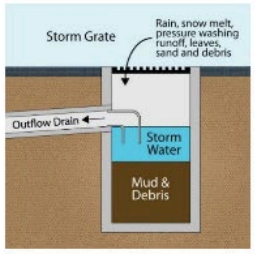
MMES ✅ • Sensitive Land Protection – avoid prime farmland, wetlands, and floodplains.

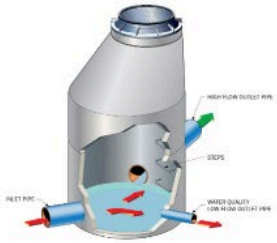
MMES ✅ • Open Space – provide a minimum of **30%** open space on the site, **25%** of which must be vegetated.

MMES ✅ • Rainwater Management – The design is targeting the **90th Percentile Storm Event**. This increases the buildings resiliency in the face of ever worsening climate change driven storm events.

MMES ✅ • Outdoor Water Use Reduction – the exterior site watering requirements will be reduced with native plants and the project will have **no irrigation systems**.











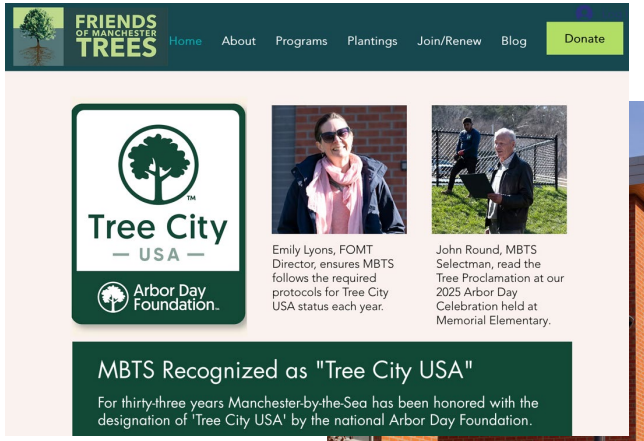
CB | DMH | INF. SYST. | OVERFLOW TO WETLANDS

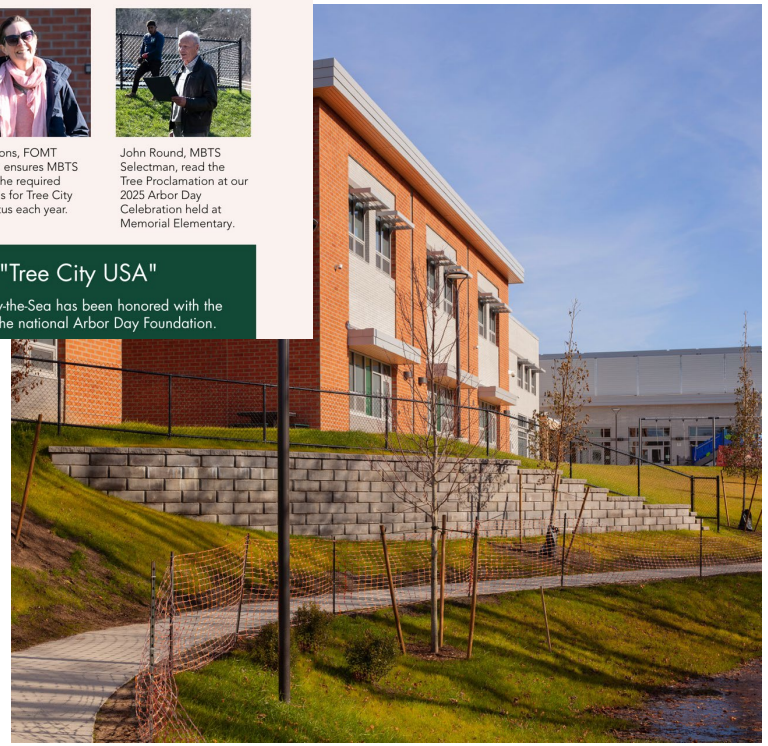
Site

- **Recommendation**: Consider permeable paving and rain gardens to support stormwater infiltration, reduce runoff volume, and improve water quality into Essex Bay -> Ipswich Bay.



Yale Raingardens





MMES

Site

MMES ✅

- EV Charging – code requires 10% of parking spaces be EV ready. MMES provided EV charging station ready on day 1. (LEED - Opt 1 – 5% installed. Opt 2 – 10% EV ready)

- **Recommendation**: Provide charging station to match or exceed Manchester (2)



Site

MMES ✅

- Bicycle Facilities – connect to a bike lane network with diverse uses, provide racks (covered) and shower with change facility. long-term bicycle storage for at least 5% of all regular building occupants (excluding students grade 3 and younger)

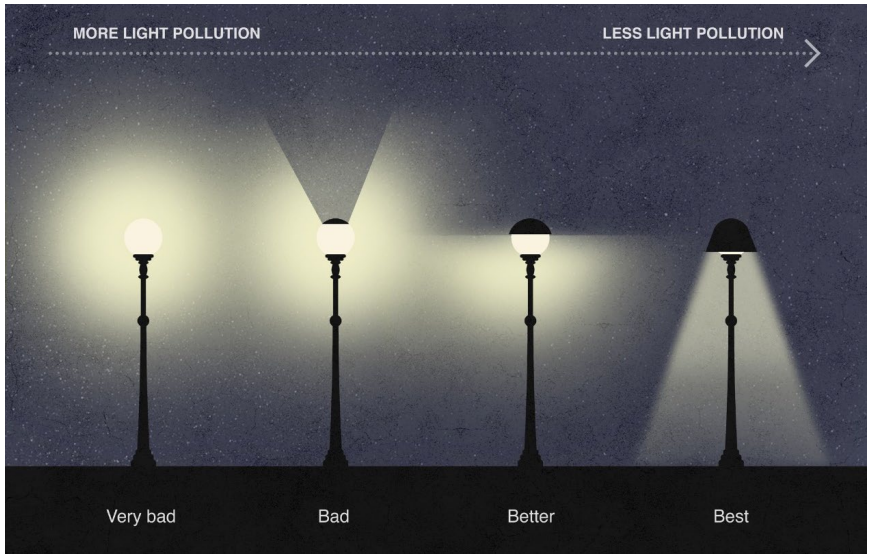
- **Recommendation**: Provide covered bike parking and dedicated bike lanes on school property.

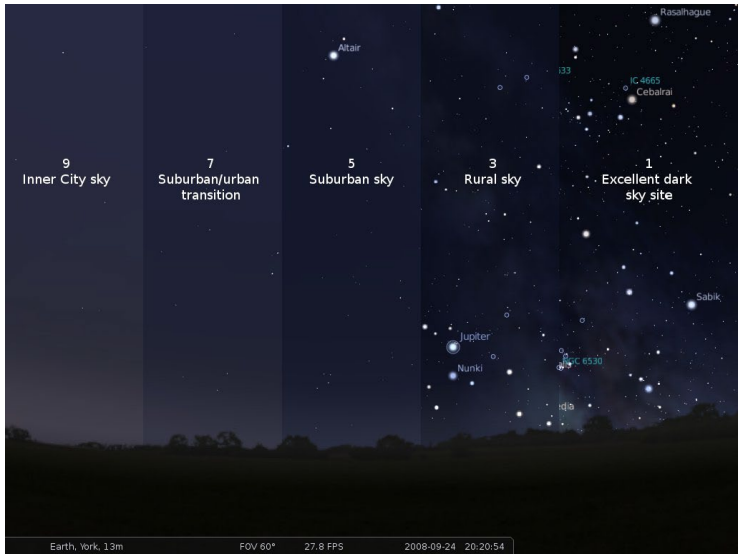


Site

MMES ✅

- Light Pollution - this involves careful selection of outdoor lighting with minimal cost to the project while preserving the night sky.





MMES 🚫

- **Resiliency Assessment –** This is a new MSBA requirement and additional state-wide resources have been created in the past 5 years to allow project teams to perform this analysis.
  - This assessment reviews different climate-change related risks for the site including increased risk of flooding, storm surges, and fire. IPpc98: Assessment and Planning for Resilience pilot

Water

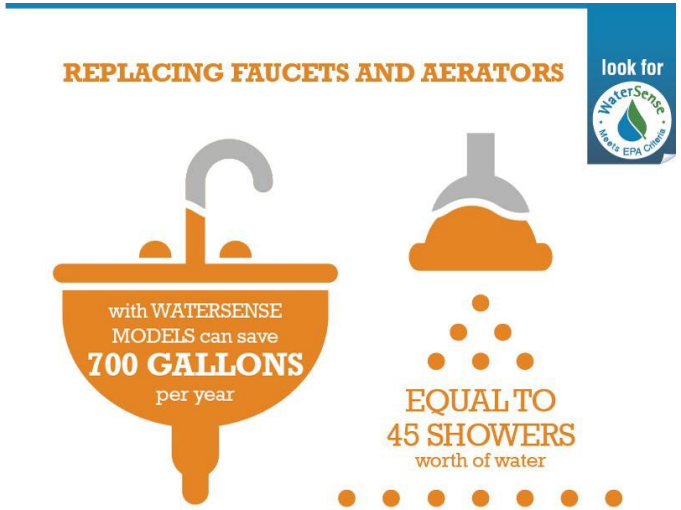
MMES ✅
- Water Metering - the project is designed to meter (2) subsystems, domestic hot water and plumbing fixtures.





MMES ✅
- Indoor Water Use Reduction – the project is targeting a **35% reduction** in water use with low-flow fixtures and low-maintenance fixtures to align with Manchester

- **Recommendations**:
  - Toilets - 1.28 gallon per flush (GPF) (1.6 GPF is code maximum)
  - Urinals (both staff and student use) - 0.125 GPF urinals (1.0 GPF is code maximum)
  - Lavatory faucets will be metering type with low flow restrictors – 0.25 per cycle. (0.25 per cycle is code maximum)
  - Showers will have 1.5 GPM outlets (2.0 GPM is code maximum)
  - Staff sinks with have 0.5 GPM restrictors (0.5 GPM is code maximum)
  - Gender neutral + staff @ each group toilet bank



Discussion

10/23/2025

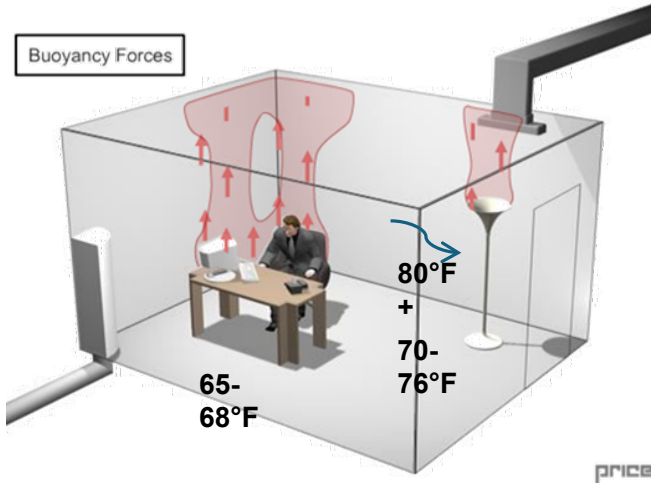


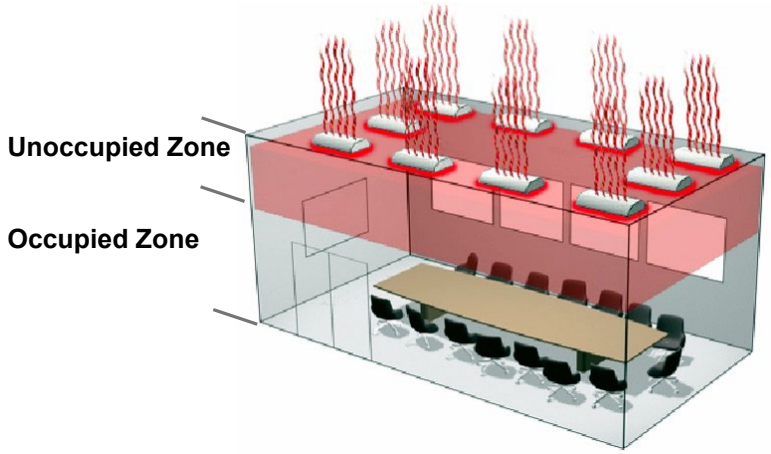
Energy & Carbon

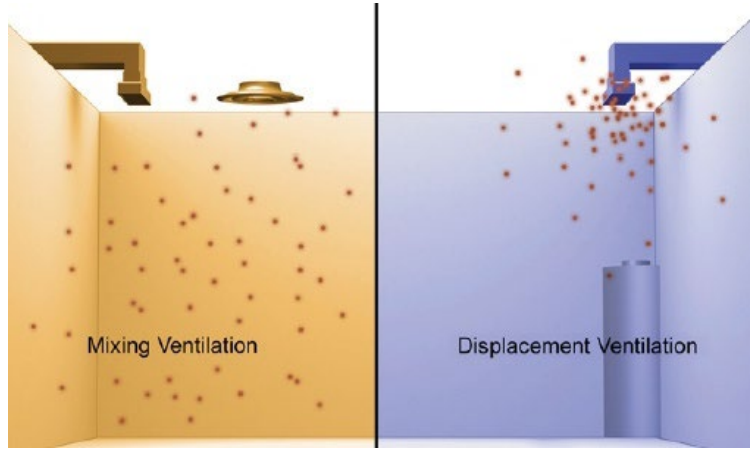
MMES ✅ • Enhanced Commissioning – MSBA requires these processes be completed on every project. This ensures that building systems are installed and operating correctly.

MMES ✅ • Energy Performance – Targeting Energy Use Intensity (EUI) of **25 or lower** to maximize utility incentives

• **Recommendation**: Look to install a displacement air system to match Manchester. Displacement air is **energy efficient** and provides **better air quality**.







Energy & Carbon

MMES

- Building Life-Cycle Impact Reduction – Reducing the embodied carbon of the building (the CO2 released into the atmosphere during the construction as well as the production and delivery of construction materials)

- **Recommendation**: Perform an initial assessment. Technology and methodology has improved over the past 5 years allowing JCJ to perform this assessment in house.

- **Recommendation**: Target 5% reduction. New material technologies including low-carbon-impact concrete, and improved heavy timber construction methods provide new, cost-effective approaches to achieve this target.

Achieving this target also achieves a bonus LEED point in Regional Priorities!



MMES

Health & Wellness

MMES ✅
- BPDO: Material Ingredients - This emphasizes the use of healthy and recycled or upcycled materials using resources such as The Red List and Cradle to Cradle.

MMES ✅
- Low Emitting Materials – This supports the use of materials that do not emit (or emit very low amounts) of VOCs

- **Recommendation**: Increases in adoption of credentialing has increased the number of available products that provide Material Ingredients (Health Product Declarations) and EPDs (Environmental Product Declarations). The team proposes using as many materials with 3rd party certificates as feasible, and cost effective

Health & Wellness

MMES ✅
- IAQ Assessment – This requires either a pre-occupancy building flush-out (circulating outdoor air through the building to ensure any VOCs are removed) or perform a flush-out during occupancy. Ultimately the approach will be driven by the construction schedule, and the team will continue to evaluate as the design develops.
- **Manchester Memorial performed a flush-out during occupancy.**

MMES ✅
- Enhanced Indoor Air Quality
  - Entryway mats to capture dirt and sand
  - MERV 13 (or higher) air filters on ventilation and recirculated air systems
  - Prevention of interior cross-contamination where interior spaces have hazardous gases or chemicals
  - CO2 monitoring in densely occupied spaces (such as the classrooms)
  - Operable windows in 75% of spaces (recommended)

Space Wall CO2 sensor



Unit/Duct CO2 sensor



MERV-14 Filter

Health & Wellness

MMES ✅
- Interior Lighting – Glare control improves students' ability to focus on their work and controllability is required by code.

MMES ✅
- Sustainable Purchasing Lamps - light fixtures will contain low or no mercury in the light bulbs.

- **Recommendation**: Use all LED fixtures to reduce energy consumption



MMES

Operations

MMES ✅
- Joint Use of Facilities – Allow community use of the facilities

MMES ✅
- LEED O+M Stater Kit – this was developed for Manchester Memorial and the existing document can be used as the basis for a similar document for Essex to ensure parity in maintenance and operations standards



MMES



MMES

Discussion

10/23/2025



Next Steps

- Sustainability Working Group feedback to the SBC
- November 17, 2025: Sustainability Working Group Meeting #2
- Submit PDP to MSBA in Jan 2026
- Submit PSR to MSBA in April 2026
- Schematic Design Development occurs May through November 2026
  - Mass Save Program– Complete the MOU (Memorandum of Understanding)



MMES

Thank you!

Contact us for questions/follow-up.

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E: ehaggstrom@jcj.com

Innovation + Regional Priority

Innovation

- Green Building Education
- Green Cleaning & IPM
- Thermal Comfort
- Sustainable Purchasing- Lamps
- Biophilic Design
- LEED Accredited Professional

Regional Priority – for Apple + Story Street (not Lincoln)

- Regional Priority: Indoor Water (4)
- Regional Priority: Optimize Energy (8)
- Regional Priority: Open Space (1)
- Regional Priority: Renewable (2)
- *Maybe - Regional Priority: BLC (2)*
- *No* - Regional Priority: High Priority Site (2)



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AN EMPLOYEE OWNED COMPANY

Project Meeting Record

Date: November 19, 2025
Meeting Date: November 17, 2025
Name: Essex Elementary School
MSBA # 202306980020
JCJ # B25302.00
Purpose: Sustainability Working Group Meeting 02
Attendees:

Pam Beaudoin, MERSD
Michelle Cresta, MERSD
Kimberly Provost, EES
Andy Olderman, SBC
Timothy McDonald, SBC
Michael Gerhardt, SBC
Christina Dell Angelo, D+W
Rachel Rincon, D+W
John Albright, D+W
Jacob Greco, D+W
Colleen Soden, Soden
Kelley Tapia, Soden
Eric Haggstrom, JCJ
Fawn Walton Pellegrini, JCJ

Item ID	Description / Notes
11/17.01	General: MERSD and C+W confirmed that the design team shall pursue LEED silver rating per MSBA requirements and the MA DOER Opt In Specialized Stretch Energy Code (all-electric) for an additional MSBA reimbursement of 3% and the additional 1%. It was agreed the design team shall target Mass Saves Path 1 incentives with a goal EUI of 25 with full electrification. Intent of Meeting is to review the EES project DRAFT LEED Scorecard for the EES site (54 points) and the MMES site (51 points). Silver required 50 to 59 points.
11/17.02	Timothy M. suggested the discussed energy level aligns with Passive House strategies. Eric/JCJ explained the Stretch Energy Code integrates some Passive House principles, such as envelope performance and mechanical efficiency. Eric/JCJ also noted several

	small, incremental improvements across mechanical systems can cost effectively achieve a low EUI.
11/17.03	Eric/ JCJ acknowledged that life cycle assessments of Mechanical system selection options will be reviewed. Displacement ventilation was used successfully at Manchester Memorial Elem. Sch.
11/17.04	Location and Transportation, EV Charging Infrastructure: MA DOER Stretch Energy code requires a minimum of 10% of parking spaces be "EV Ready" (Infrastructure in place for Future Level 2 charging stations). It was discussed if 5% of parking spaces shall have EV charging on Day 1. Manchester was EV ready but the District/town purchased the charging stations the project was complete. Christina/D+W raised questions about cost efficiency and whether a PPA model would be more cost effective. Pam/MERSD noted if the costs are similar, she would prefer they be included in the base project vs a PPA . It was decided to include functional EV charging stations for 5% of parking spaces in early estimates to understand cost differentials.
11/17.05	Location and Transportation, Bicycle Access and Parking: Can be a challenge to meet LEED if the Town does not have bike lane network. However, a point may be achieved with bike rack 'parking', covered bike parking, and dedicated bike lanes on the school property. Eric clarified that LEED may accept bike lanes along public streets if they meet network criteria (low mph). Kim/EES noted the bike lanes would be very beneficial. Christina /D+W noted this topic may be expensive. Andy/SBC suggested to keep the efforts to achieve this LEED point for now; the covered aspect can be built into the design of the building. It was agreed the design team will pursue this credit and can reevaluate when further in design.
11/17.06	Sustainable Sites: It was agreed the design team will pursue LEED points for site development, Protect and Restore and also Open Space, for the EES site. However, points for Protect and Restore are unachievable at the MMES site and points for Open Space are complex to achieve at the MMES.
11/17.07	Stormwater Management and Rain Gardens: MMES has rain gardens. Pam/MERSD will confirm with maintenance that there are no challenges and will review if the raingardens can use as part of the educational program. Determining whether to include a rain garden for the EES project depends on: -Maintenance capacity

	-Cost -Educational value Timothy M noted benefits such as improved stormwater quality, biodiversity enhancement, and hands on learning opportunities. The group discussed opportunities to connect built environmental features—especially rain gardens and outdoor learning areas—to the science curriculum. Ideas included student stewardship programs, seasonal monitoring, and partnerships with local conservation groups. Revision of existing or new raingardens at MMES would require coordination with the Conservation Commission.
11/17.08	Water Efficiency and Fixtures: MMES has low flow fixtures. Toilets are specified for 1.1 gpf. Pam/MERSD confirmed the design team shall specify same for the EES project.
11/17.09	Materials and Resources: The Building Life Cycle Impact Assessment is a study that captures how well the building is performing. These points are a Maybe at the EES site and a Maybe to No at the MMES site.
11/17.10	Renovation challenges the MMES site: Existing building is a mix of electric and gas systems, complicating energy performance modeling. Renovation plus expansion creates additional LEED documentation complexities and LEED process coordination when renovating and building concurrently. Site constraints, rain gardens etc will need review by ConCom. The team agree to add a "site specific constraints" column to the Alternative Matrix to help compare feasibility across both sites.
11/17.11	Carbon and Life Cycle Assessment: It is important to evaluate operational and embodied carbon. Manchester Memorial's existing structure limits certain embodied carbon reduction options. For the Essex site, a 5% embodied carbon reduction is considered cost effective and achievable using: -Low carbon concrete mixes -Mass timber strategies his reduction would help secure additional LEED points, including Regional Priority credits
11/17.12	Next meeting will be mid Schematic Design phase once there is one Alternative that the design team is developing a design.

Next Meeting: Next meeting will be mid Schematic Design at a time to be determined.

This Project Meeting Report represents JCJ's summary of discussions, decisions and agreements made collectively by the meeting participants and will become part of the project record and form the basis upon which we will proceed. If any meeting participants wishes to comment or modify these notes, please notify the undersigned in writing within forty-eight (48) hours of receipt of this report or the report will stand as recorded.

JCJ Architecture



Essex Elementary School

Manchester Essex Regional School District

Sustainability Workshop Two

District
Dore + Whittier
Design Team

November 17, 2025

Overview

11/17/2025

1. Welcome
2. Confirm Incentive Targets
3. Essex Site LEED Scorecard
4. Discussion
5. Next Steps



Confirm Incentive Targets

Required:

- Achieve **Silver** using LEED-Schools v4.0 / v4.1
- Achieve a minimum of 3 (out of 7) points in the following:
  - MR – Building Product Disclosure and Optimization, v4.1 – Material Ingredients (1 point)
  - EQ – Low Emitting Materials, v4.1 (1 point)
  - EQ – Indoor Air Quality Assessment, v4.0 (1 point)

- Meet the MA DOER "Stretch Code Green Community" standards
- Be "solar ready"

Recommendation

- Meet the MA DOER "Opt-In Specialized Stretch Energy Code" (All-electric pathway) - **3% Additional Reimbursement**
- Earn 5 (out of 7) of the points listed above (MR/EQ) – **1% Additional Reimbursement**
- Target Mass Saves Path 1 Incentives Program (preliminary EUI target of 25 and Full Electrification)

LEED Scorecard – DRAFT for EES

LEED v4 for BD+C: Schools
Project Checklist

Project Name: New Construction - Essex Site
Project Address: 12 Story Street, Essex, MA 01929
Date: November 2025

Y	?	N			
		1	Credit	Integrative Process	1

4	1	10	**Location and Transportation**		15
0	0	0	Credit	LEED for Neighborhood Development Location	15
1			Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
2		3	Credit	Surrounding Density and Diverse Uses	5
		4	Credit	Access to Quality Transit	4
		1	Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

10	1	1	**Sustainable Sites**		12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
1			Credit	Site Assessment	1
1		1	Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
3			Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
	1		Credit	Site Master Plan	1
1			Credit	Joint Use of Facilities	1

5	1	6	**Water Efficiency**		12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
2	1	4	Credit	Indoor Water Use Reduction	7
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

14	3	14	**Energy and Atmosphere**		31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
5	1		Credit	Enhanced Commissioning - MSBA	6
8	2	6	Credit	Optimize Energy Performance	16
1			Credit	Advanced Energy Metering - Code	1
		2	Credit	Demand Response	2
		5	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
			Credit	~~Green Power and Carbon Offsets~~	2

5	3	5	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
1	1	3	Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

8	0	8	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1		1	Credit	Indoor Air Quality Assessment	2
		1	Credit	Thermal Comfort	1
1		1	Credit	Interior Lighting	2
		3	Credit	Daylight	3
		1	Credit	Quality Views	1
		1	Credit	Acoustic Performance	1

6	0	0	**Innovation**		6
1			Credit	Innovation credit one: Sustainable Purchasing Lamps	1
1			Credit	Innovation credit two: LEED O+M Starter Kit	1
1			Credit	EP: BPDO - Material Ing (40 products from 10 manuf)	1
1			Credit	EP: Low Emitting	1
1			Credit	EP: BPDO - EPD	1
1			Credit	LEED Accredited Professional	1

2	1	1	**Regional Priority**		4
1			Credit	Regional Priority: Open Space (1pt)	1
1			Credit	Regional Priority: Optimize Energy (8pts)	1
	1		Credit	Regional Priority: WBLCA (2pts)	1
		1	Credit	Regional Priority: Indoor Water (4pts)	1
				Alt: REC (2pts), High Priority Site (2pts)	

54	10	46	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

LEED Silver required per MSBA #81

Preliminary Draft Score Card

12 Story Street Site

Initial Results:

Location and Transportation	**4**
Sustainable Sites	**10**
Water Efficiency	**5**
Energy and Atmosphere	**14**
Materials and Resources	**5**
Indoor Environmental Quality	**8**
Innovation	**6**
Regional Priority	**2**

Proposed Target: 54 points (Silver 50 - 59)

Scorecards are preliminary drafts for discussion purposes only. Design team will continue to evaluate and revise these scorecards as the design develops

LEED Scorecard – DRAFT for MMES

LEED v4 for BD+C: Schools
Project Checklist

Project Name: Addition/Renovation - MMES Site
Project Address: 43 Lincoln Street, Manchester-by-the-Sea 01944
Date: November 2025

Y	?	N			
		1	Credit	Integrative Process	1

4	1	10	Location and Transportation		15
0	0	0	Credit	LEED for Neighborhood Development Location	15
1			Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
2		3	Credit	Surrounding Density and Diverse Uses	5
		4	Credit	Access to Quality Transit	4
		1	Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

8	2	2	Sustainable Sites		12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
1			Credit	Site Assessment	1
		2	Credit	**Site Development – Protect or Restore Habit**	2
	1		Credit	**Open Space**	1
3			Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
	1		Credit	Site Master Plan	1
1			Credit	Joint Use of Facilities	1

5	1	6	Water Efficiency		12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
2	1	4	Credit	Indoor Water Use Reduction	7
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

14	3	14	Energy and Atmosphere		31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
5	1		Credit	Enhanced Commissioning - MSBA	6
8	2	6	Credit	Optimize Energy Performance	16
1			Credit	Advanced Energy Metering - Code	1
		2	Credit	Demand Response	2
		5	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
			Credit	~~Green Power and Carbon Offsets~~	2

5	2	6	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
1		4	Credit	**Building Life-Cycle Impact Reduction**	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		2	Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

8	0	8	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1		1	Credit	Indoor Air Quality Assessment	2
		1	Credit	Thermal Comfort	1
1		1	Credit	Interior Lighting	2
		3	Credit	Daylight	3
		1	Credit	Quality Views	1
		1	Credit	Acoustic Performance	1

6	0	0	Innovation		6
1			Credit	Innovation credit one: Sustainable Purchasing Lamps	1
1			Credit	Innovation credit two: LEED O+M Starter Kit	1
1			Credit	EP: BPDO - Material Ing (40 products from 10 manuf)	1
1			Credit	EP: Low Emitting	1
1			Credit	EP: BPDO - EPD	1
1			Credit	LEED Accredited Professional	1

1	1	2	Regional Priority		4
	1		Credit	**Regional Priority: Open Space (1pt)**	1
1			Credit	Regional Priority: Optimize Energy (6pts)	1
		1	Credit	**Regional Priority: WBLCA (2pts)**	1
		1	Credit	Regional Priority: Indoor Water (4pts)	1
				Alt: REC (2pts), High Priority Site (2pts)	

51	10	49	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

LEED Silver required per MSBA #81

Preliminary Draft Score Card

43 Lincoln Street Site

Initial Results:

Location and Transportation	**4**
Sustainable Sites	**8**
Water Efficiency	**5**
Energy and Atmosphere	**14**
Materials and Resources	**5**
Indoor Environmental Quality	**8**
Innovation	**6**
Regional Priority	**1**

Proposed Target: 51 points (Silver 50 - 59)

Scorecards are preliminary drafts for discussion purposes only. Design team will continue to evaluate and revise these scorecards as the design develops

ESSEX ELEMENTARY SCHOOL
MANCHESTER ESSEX REGIONAL SCHOOL DISTRICT

SODEN SUSTAINABILITY JCJARCHITECTURE DORE + WHITTIER

Discussion

Location and Transportation

Electric Vehicles

- MA DOER Stretch Energy code requires a minimum of 10% of parking spaces be “EV Ready” (Infrastructure in place for Future Level 2 charging stations)

Discussion Topic:

- Target for Day 1 charging stations **for either EES or MMES site**

Recommendation

- Provide 5% of parking spaces have EV Charging Station on Day 1



Discussion

Location and Transportation

Bicycle Facilities

- LEED point requires covered bike parking as part of credit. The point also requires access to a bicycle transportation network (or low speed streets) which can be challenging. The design team has listed this point as a Maybe (?) to reflect this. Design team will continue to evaluate this as the design develops.



Discussion Topic:

- Covered bike parking and bike lanes **for either EES or MMES site**

Recommendation

- Provide covered bike parking and dedicated bike lanes on school property.

Discussion

Sustainable Sites

Site Development – Protect or Restore Habitat

- Requires restoration of previously disturbed areas of the site (15% - 1pt / 25% - 2pt). Addition / Renovation on Manchester Memorial site does not include removal of any previously disturbed areas of the site (existing structure and parking areas)

Point likely achievable at EES
Point likely unachievable at MMES



Discussion

Sustainable Sites

Open Space

- Addition of more Structure and Parking on Manchester Memorial Site makes targets for vegetated open space potentially challenging. Design team will continue to review as design develops.

Point likely achievable at EES
Point more complex at MMES so it has been moved from Yes to Maybe (?)



Discussion

Sustainable Sites

Rainwater Management

- Manchester Memorial integrated rain gardens into the stormwater system design.

Discussion Topic:

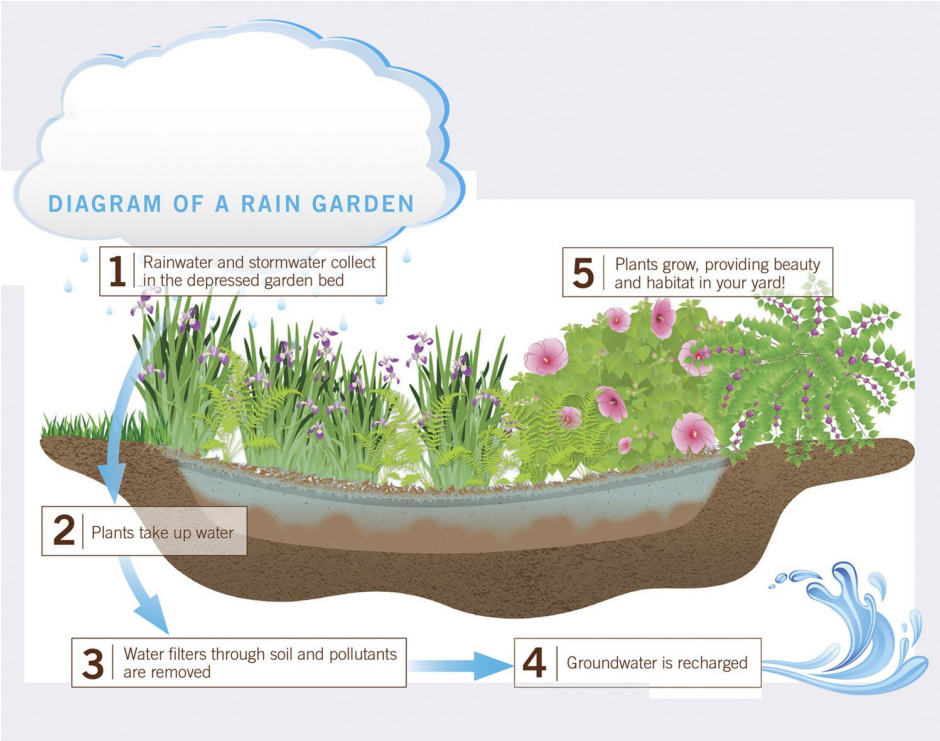
- How successful are the rain gardens at MMES.

Recommendation

- Integrate rain gardens into the design to match MMES

Challenges

- Limited site space at the MMES site may preclude this strategy. Design team will continue to evaluate this as the design develops.



Discussion

Water Efficiency

Indoor Water Use Reduction

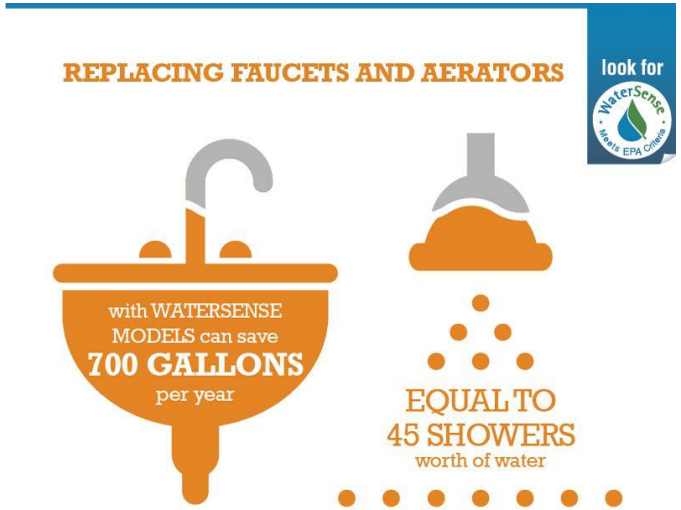
- Manchester Memorial used 1.1 gpf toilet fixtures enabling the project to achieve 3 points in Indoor Water Use Reduction.





Discussion Topic:

- Confirm performance of toilets at MMES **for either EES or MMES site**



Recommendation

- Provide project with toilet fixtures that match the performance achieved at MMES

Discussion

Energy and Atmosphere

Optimize Energy

- The existing Manchester Memorial Elementary School building is a non-conforming condition (does not meet the DOER MA Stretch Energy Code)
- To maintain eligibility for incentives and LEED targets the team is assuming that any additions to MMES are treated as stand-alone with no connection to the existing electrical, heating, cooling, or plumbing systems
- As the design develops this will need to be carefully monitored and managed, adding complexity and potential cost to the MMES addition/renovation option

Discussion

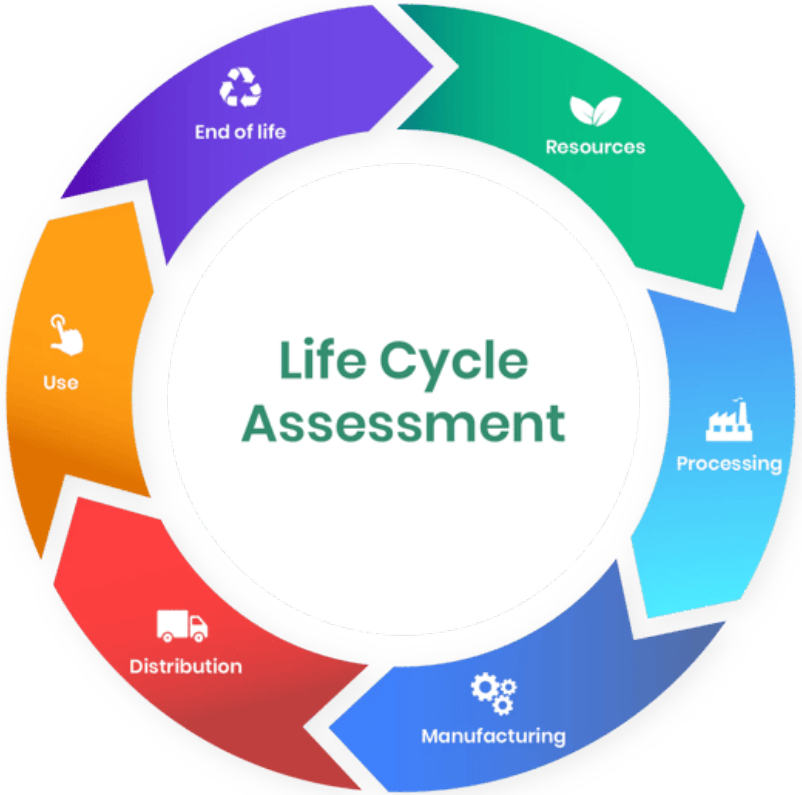
Materials and Resources

Building Life Cycle Impact Assessment

- Addition to Manchester Memorial Elementary School has a smaller footprint and will need to be compatible with existing structural systems that may impact feasibility of reducing embodied carbon impact of New Addition. Design team will continue to evaluate this as the design develops.

Point recorded as Maybe (?) at EES (due to preliminary nature of design)

Point more complex at MMES so it has been moved from Maybe (?) to No



Open Discussion

11/17/2025



Next Steps

- Sustainability Working Group feedback to the SBC
- Submit PDP to MSBA in Jan 2026
- Submit PSR to MSBA in April 2026
- Schematic Design Development occurs May through November 2026
  - Mass Save Program– Complete the MOU (Memorandum of Understanding)
  - Next WG Meeting occurs midway through SD Phase



MMES

Thank you!

Contact us for questions/follow-up.

Colleen Ryan Soden, LEED BD+C
Soden Sustainability: Director
E: colleen@sodensustainability.com

Kelley Tapia, AIA, WELL AP, LEED BD+C, Fitwel Ambassador
Soden Sustainability: Sustainability Architect
E: kelley@sodensustainability.com

Eric Haggstrom, AIA, LEED AP, Fitwel Ambassador
JCJ Architecture: Director of Sustainability
E: ehaggstrom@jcj.com

Appendix

SITE PSR PERMITTING MEMORANDUM

SECTION 3.3.6.10

SITE PSR PERMITTING MEMORANDUM

Re: Essex Elementary School – Essex, MA SCI File # 55044.00

To: JCJ Architecture

From: Michelle Kayserman March 30, 2026
Stephen Powers, PE

The following narrative describes the permitting requirements and estimated time to acquire the anticipated permits for the Proposed Essex Elementary School at 12 Story Street in Essex, MA.

Conservation Commission

At this time, the Town of Essex does not have any bylaws or ordinances giving the Conservation Commission further power to protect the wetlands beyond the Massachusetts Wetland Protection Act, which will be the governing regulation for this project.

Wetland and Water Resources

The site has Bordering Vegetated Wetlands (BVW) Inland Bank, and a pond on the site. Any proposed activity or construction work within the 100-foot buffer zone of these resource areas will need to follow the Massachusetts Wetland Protection Act regulations, and will require the filing of a Notice of Intent (NOI) with the Conservation Commission and MassDEP. We anticipate submitting a Notice of Intent due to the school's immediate proximity to known resources areas. (See Rimmer Environmental Consulting LLC (REC) Wetland Evaluation Report dated November 10, 2025).

The Conservation Commission typically meets on the second (2nd) and fourth (4th) Tuesday of each month at 7:15pm in the Town Hall. The deadline for submission of a complete application is typically three (3) weeks prior to the public hearing date.

A Notice of Intent (NOI) will be required due to the proposed school and site work within immediate proximity to known resources areas. It is anticipated that the NOI will be filed when the design is developed to at least 50% Design Development, with an anticipated filing/hearing in January 2027. It is expected to take 3-6 months after submission to gain approvals which assumes time for a peer review.

Flood Plain

According to MassMapper and the existing conditions survey, no portion of the site falls within any FEMA flood zones. Therefore, no permitting for FEMA flood plain analysis is anticipated. This data is depicted in Figure 1

Wildlife Habitats

The project site is **not** located within Priority Habitat or Estimated Habitat of Rare Wetlands Wildlife as determined by reference to data provided by the Mass. Division of Fisheries and Wildlife – Natural Heritage and Endangered Species Program (NHESP) available on MassGIS. This data is depicted in Figure 2.

On January 30, 2023, the United States Department of Interior Fish and Wildlife Service reclassifying the northern long-eared bat (NLEB) as endangered under the Endangered Species Act. The bat's territories are currently not mapped out on MassGIS.

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Per online consultation with the United States Department of Interior Fish and Wildlife Service (FWS) via the online IPaC platform. The preliminary Beta determination has determined the proposed project will have the following effect determination: "May Affect". However, the proposed Preferred Schematic Design options are developing within previously developed site areas, therefore at this time, **there is no impact**.

MEPA

Based on our initial review of the current Preferred Schematic Design program plans our office found that the project would not trigger a filing for Environmental Notification For (ENF), an Expanded ENF or an Environmental Impact Report (EIR).

The site categories under consideration of triggering any MEPA thresholds are projects Area of Critical Environmental Concern (ACEC), land, traffic, wetlands, water, and wastewater.

Areas of Critical Environmental Concern (ACEC)

The site is not located with an ACEC according to a review of online resources, as well as the REC Wetland Evaluation Report dated November 10, 2025.

Land

In accordance to MEPA regulations, the current Preferred Schematic Design is not altering over 25 acres, nor creating more than 5 acres of impervious area, nor converting any natural resources/ agricultural land. **Therefore a MEPA filing is not required.**

Traffic

In accordance to MEPA regulations, the current Preferred Schematic Design does not create 150 or create 300 new parking spaces. Additional analysis on the Traffic Threshold considerations can be found in the Traffic consultant's study. **Therefore a MEPA filing is not required.**

Wetlands

In accordance to MEPA regulations, the current Preferred Schematic Design does not alter wetlands and therefore does not require a variance in accordance with the MA Wetlands Protection Act. **Therefore a MEPA filing is not required.**

Water

In accordance to MEPA regulations, the Preferred Schematic Design program is not withdrawing water from a groundwater source and is not constructing a new water main that is five (5) or more miles longer. **Therefore a MEPA filing is not required.**

Wastewater

In accordance to MEPA regulations, the Preferred Schematic Design is not constructing a new wastewater treatment and/or disposal facility with a capacity of 100,000 or more gpd. The project does not require a new sewer main more than five miles in length nor ½ or more miles in length, provided the sewer mains are not located in the right of way of existing roadways. New discharge or expansion in discharge to a sewer system does not exceed 100,000 or more gpd of sewage. **Therefore a MEPA filing is not required.**

Planning Board

The Town of Essex Site Plan Review process through the Planning Board is required for any new commercial or industrial buildings, as well as for any alterations of the site that exceed 2,500 square feet (sf) or 30% of the existing gross floor area. It is anticipated that a Site Plan Review submission will be required for any proposed addition or new construction in support of the new school. Additionally, a Land Disturbance Permit will be required as well, which will include a Stormwater Management Plan with the submission.

The Planning Board Site Plan Approval package, Land Disturbance Permit, and Stormwater Management Report will be submitted concurrently to the Town of Essex Planning Board and Highway Department.

A pre-application meeting with municipal department heads is recommended prior to submission to review the project details and confirm the permitting and application requirements for each department. All permit submissions will require plans to be prepared to the level of 50% Design Development (DD) at a minimum.

The Planning Board meets on the first (1st) and third (3rd) Wednesday of each month at 7 p.m. in the Town Hall. As part of the Planning Board submissions, other consultants will need to submit plans for the site plan review application and Stormwater Management and Land Disturbance Permit. We would start this work at the end of DD and expect it to take 3-4 months after submission to gain approvals.

MassDOT

According to the MassDOT State Highway Layouts online mapping tool, none of the streets bordering the site are under MassDOT jurisdiction. Therefore, no MassDOT permitting is anticipated.

NPDES SWPPP

National Pollutant Discharge Elimination System Stormwater Pollution Prevention Plan will need to be developed by the contractor and filed with the Environmental Protection Agency (EPA) 14-days prior to the start of any construction activity.

Town of Essex Building Permit

Civil plans will need to be included with the building permit submission to the Town of Essex by the construction manager (CM) prior to the start of construction.

Permit	Anticipated Permitting Timeline
MEPA	N/A
Notice of Intent(NOI)	3-6 months to be conducted concurrently with Site Plan Review
Site Plan Review	3-6 months to be conducted concurrently with Notice of Intent
NPDES/SWPPPP	1 Month (To be filed 14 days prior to commencement of earth moving / construction).

If you have any questions or comments regarding this memo, please email mkayserman@samiotes.com or spowers@samiotes.com

Figures:

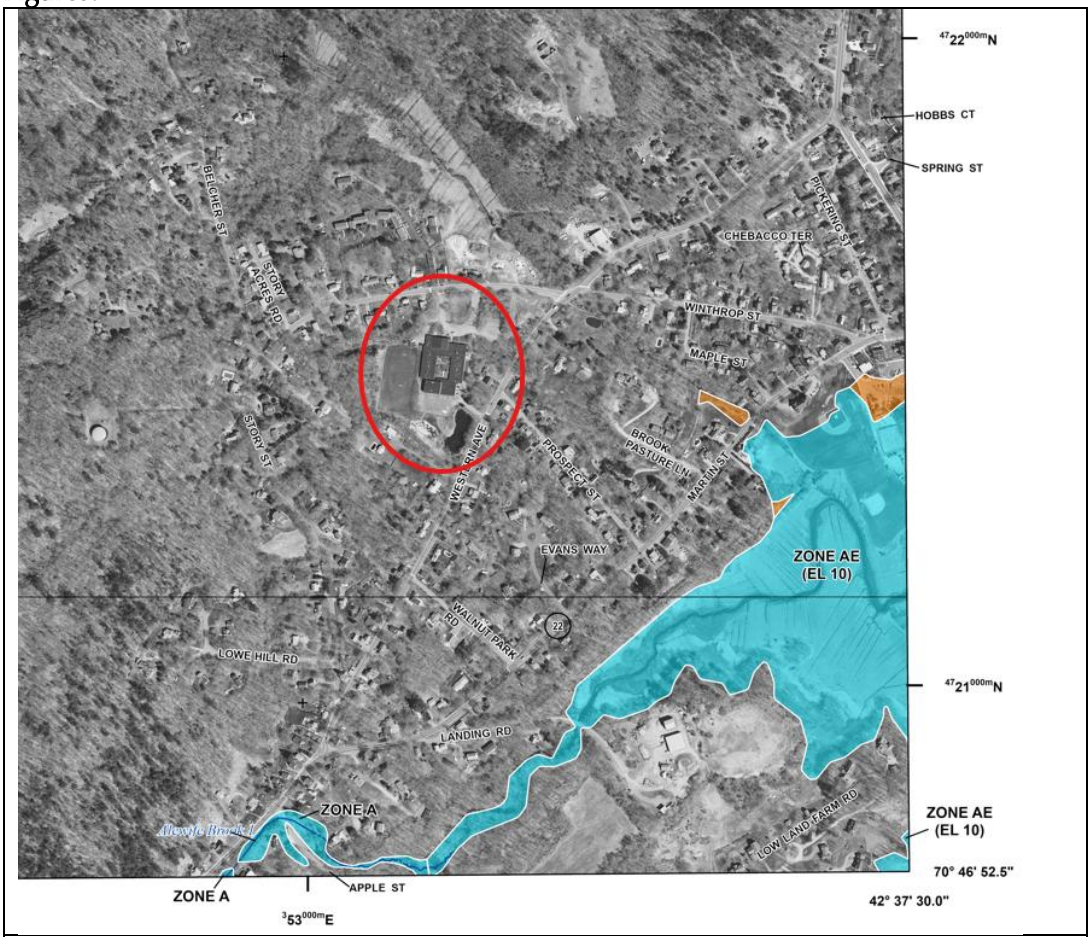


Figure 1: FEMA Flood Map. The project is located outside the Zone AE flood plain.

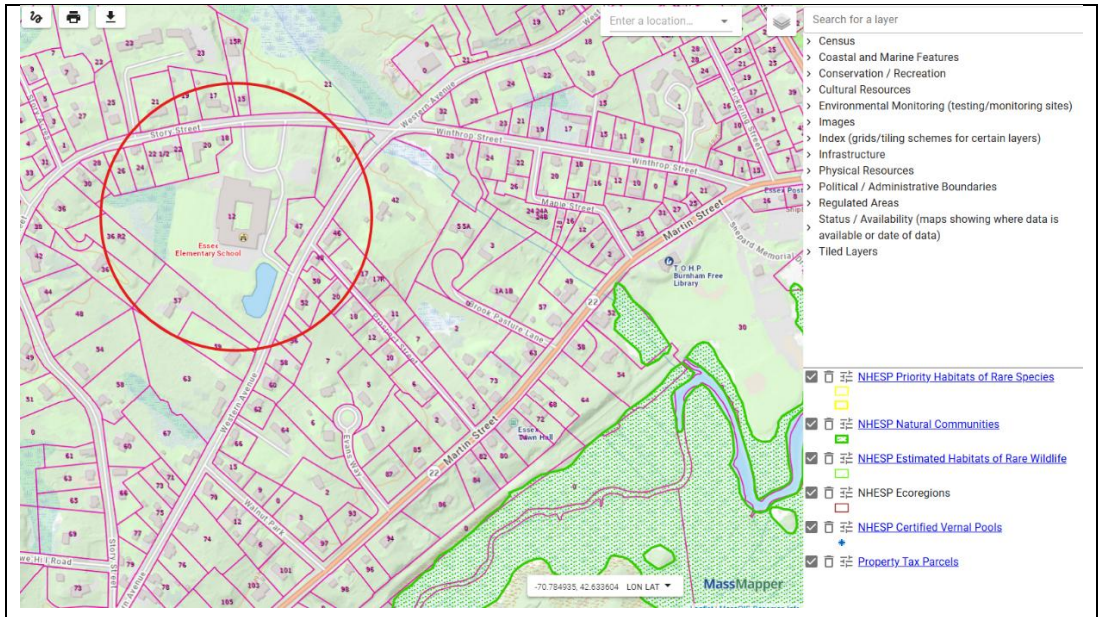


Figure 2. NHESP Habitats Map. The project is located outside of any environmental NHESP Habitats per MassMapper.

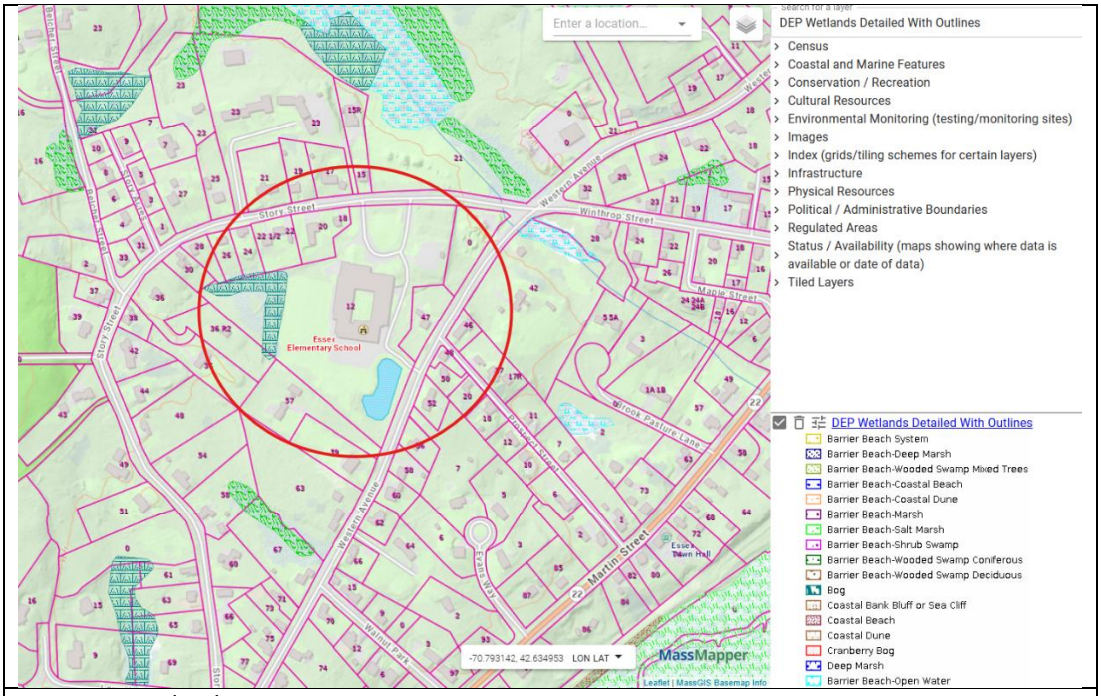


Figure 3. Wetland Locations per MassMapper

STATE SITE PERMIT TRACKING WORKSHEET

SECTION 3.3.6.11

Date:	Mar-26
District:	Manchester-Essex Regional School District (Essex County)
Project Name:	Essex Elementary School
MSBA Project ID:	202306980020

SITE PERMIT	REQUIREMENTS	FILING DATE	EXPECTED RESPONSE DATE	TRIGGER - YES/NO	AGENCY COMMENTS/SUGGESTED ACTIONS	DESIGNER RESPONSES
CONCOM	NOI	Feb-27	Aug-27	YES		Project will need to file a Notice of Intent for work within jurisdictional areas
MHC	PNF	MM/DD/YYYY	MM/DD/YYYY	NO		Not applicable
MA-DOT	PNF with MHC	MM/DD/YYYY	MM/DD/YYYY	NO		Not applicable
MA-DEP	NOI	Feb-27	Aug-27	YES		Project will need to file a Notice of Intent for work within jurisdictional areas
NHESP	NOI	MM/DD/YYYY	MM/DD/YYYY	NO		Not Applicable. Project not located within priority habitat or estimated habitat of Rare Wetlands Wildlife as determined by reference to data provided by NHESP via MassMapper.
MEPA	PNF with MHC	MM/DD/YYYY	MM/DD/YYYY	NO		Not Applicable / Not anticipated based on PSR options

Instructions to complete the permit tracking table:

1. Enter the date the PNF/NOI was filed.
2. Enter the date when the response is expected.
3. If a response is received from CONCOM/MHC/MA-DOT/MA-DEP/NHESP/MEPA, mention 'YES' in the 'trigger' column. Summarize the proposed/requested/mandated action by the agencies in a few words and corresponding Designer responses in the appropriate column. Please include the full response as an attachment with this submittal for MSBA's reference.
4. If there is no response by the expected response date, mention 'NO' in the 'trigger' column.
5. Indicate “Not Applicable” (where appropriate) in the "trigger" column and describe why each item is not applicable.
6. Describe the status of the following approvals. Any status updates/concerns/notes can be mentioned in the 'Designer Responses' column.
7. Make sure to attach the sheet with every submittal for the project to track any changes.
8. Provide the status of any other state or federal approval not listed above (the following list is not a comprehensive itemization of required state approvals; other requirements may apply, and some items listed below may not be applicable to this project).
9. Provide a copy of the PNF, NOI, appropriate application forms and/or approval letters where applicable.

Architect and Engineer Certification

By signing this certification, I hereby certify that all of the information provided in this "Permit Tracking Table" is true, complete and accurate to the best of my knowledge and belief.

Name of Architecture Firm: _____

Name of Architect: _____

Signature of Architect: _____

Date: _____

By signing this certification, I hereby certify that all of the information provided in this "Permit Tracking Table" is true, complete and accurate to the best of my knowledge and belief.

Name of Engineering Firm: Samiotes Consultants

Name of Engineer: Stephen Powers, PE

Signature of Engineer: Stephen Powers

Digitally signed by Stephen Powers
DN: C=US, E=spowers@samiotes.com, O=Samiotes Consultants, OU=Civil Engineering, CN=Stephen Powers
Date: 2026.03.30 13:55:24-04'00'

Date: 30-Mar-26

Use this MEPA guideline checklist to check any aspects that apply to the project, to understand if an ENF/EIR, or any additional review from MEPA may be required.

MEPA Trigger	(a) ENF and Mandatory EIR. (Triggered by any of the items in this column)		(b) ENF and Other MEPA Review if the Secretary So Requires. (Triggered by any of the items in this column)		
DGA/ ENVIRONMENTAL JUSTICE PROTOCOLS	1. If your site has an Environmental Justice population within a 1-mile DGA (Designated Geographical Area) while the project DOES NOT (a) exceed any Air threshold at 301 CMR 11.03(8) OR; (b) generate 150 or more New ADT(Average Daily Traffic) of diesel vehicle traffic over a duration of 1 year (excluding public transit trips) 2. If your site has an Environmental Justice population within a 5-mile DGA (Designated Geographical Area) while the project (a) exceeds any Air threshold at 301 CMR 11.03(8) OR; (b) generates 150 or more New ADT(Average Daily Traffic) of diesel vehicle traffic over a duration of 1 year (excluding public transit trips)	☐ ☐ ☐ ☐	None		
LAND	1. Direct alteration of 50 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices. 2. Creation of ten or more acres of impervious area.	☐	1. Direct alteration of 25 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices. 2. Creation of five or more acres of impervious area. 3. Disposition or change in use of land or an interest in land subject to Article 97 of the Amendments to the Constitution of the Commonwealth, unless the Secretary waives or 4. Conversion of land in active agricultural use to nonagricultural use, provided the land includes soils classified as prime, state-important or unique by the United States Department 5. Release of an interest in land held for conservation, preservation or agricultural or watershed preservation purposes, unless the Secretary waives or modifies the replacement 6. Approval in accordance with M.G.L. c. 121A of a New urban redevelopment project or a fundamental change in an approved urban redevelopment project, provided that the Project 7. Approval in accordance with M.G.L. c. 121B of a New urban renewal plan or a major modification of an existing urban renewal plan.	☐ ☐ ☐ ☐ ☐ ☐
STATE-LISTED SPECIES UNDER M.G.L. c. 131A (Massachusetts Endangered Species Act).	None		1. Alteration of designated significant habitat. 2. Greater than two acres of disturbance of designated priority habitat, as defined in 321 CMR 10.02, that results in a take of a state-listed endangered or threatened species or species of special concern.		☐ ☐ ☐
WETLANDS, WATERWAYS AND TIDELANDS.	1. Provided that a Permit is required: (a) alteration of one or more acres of salt marsh or bordering vegetating wetlands; or (b) alteration of ten or more acres of any other wetlands. 2. Alteration requiring a variance in accordance with the Wetlands Protection Act. 3. Construction of a New dam. 4. Structural alteration of an existing dam that causes an Expansion of 20% or any decrease in impoundment Capacity. 5. Provided that a Chapter 91 License is required, New non-water dependent use or Expansion of an existing non-water dependent structure, provided the use or structure occupies one or more acres of waterways or tidelands.	☐ ☐ ☐ ☐ ☐	1. Provided that a Permit is required: (a) alteration of coastal dune, barrier beach or coastal bank; (b) alteration of 500 or more linear feet of bank along a fish run or inland bank; (c) alteration of 1,000 or more sf of salt marsh or outstanding resource waters; (d) alteration of 5,000 or more sf of bordering or isolated vegetated wetlands; (e) New fill or structure or Expansion of existing fill or structure, except a pile- supported structure, in a velocity zone or regulatory floodway; or (f) alteration of ½ or more acres of any other wetlands.		☐ ☐ ☐ ☐ ☐

			2. Construction of a New roadway or bridge providing access to a barrier beach or a New utility line providing service to a structure on a barrier beach. 3. Dredging of 10,000 or more cy of material. 4. Disposal of 10,000 or more cy of dredged material, unless at a designated in-water disposal site. 5. Provided that a Chapter 91 License is required, New or existing unlicensed non-water dependent use of waterways or tidelands, unless the Project is an overhead utility line, a 6. Construction, reconstruction or Expansion of an existing solid fill structure of 1,000 or more sf base area or of a pile-supported or bottom-anchored structure of 2,000 or more sf base area, except a seasonal, pile-held or bottom-anchored float, provided the structure occupies flowed tidelands or other waterways.		☐ ☐ ☐ ☐ ☐
WATER	1. New withdrawal or Expansion in withdrawal of: (a) 2,500,000 or more gpd from a surface water source; or (b) 1,500,000 or more gpd from a groundwater source. 2. New interbasin transfer of water of 1,000,000 or more gpd or any amount determined significant by the Water Resources Commission. 3. Construction of one or more New water mains ten or more miles in length. 4. Provided that the Project is undertaken by an Agency, New water service to a municipality or water district across a municipal boundary through New or existing pipelines, unless a		1. New withdrawal or Expansion in withdrawal of 100,000 or more gpd from a water source that requires New construction for the withdrawal. 2. New withdrawal or Expansion in withdrawal of 500,000 or more gpd from a water supply system above the lesser of current system-wide authorized withdrawal volume or three- 3. Construction of one or more New water mains five or more miles in length. 4. Construction of a New drinking water treatment plant with a Capacity of 1,000,000 or more gpd. 5. Expansion of an existing drinking water treatment plant by the greater of 1,000,000 gpd or 10% of existing Capacity. 6. Alteration requiring a variance in accordance with the Watershed Protection Act, unless the Project consists solely of one single family dwelling. 7. Non-bridged stream crossing 1,000 or less feet upstream of a public surface drinking water supply for purpose of forest harvesting activities.		☐ ☐ ☐ ☐ ☐ ☐ ☐
WASTEWATER	1. Construction of a New wastewater treatment and/or disposal facility with a Capacity of 2,500,000 or more gpd. 2. New interbasin transfer of wastewater of 1,000,000 or more gpd or any amount determined significant by the Water Resource Commission. 3. Construction of one or more New sewer mains ten or more miles in length. 4. Provided that the Project is undertaken by an Agency, New sewer service to a municipality or sewer district across a municipal boundary through New or existing pipelines, unless an 5. New discharge or Expansion in discharge of any amount of sewage, industrial waste water or untreated stormwater directly to an outstanding resource water. 6. New Capacity or Expansion in Capacity for storage, treatment, processing, combustion or disposal of 150 or more wet tpd of sewage sludge, sludge ash, grit, screenings, or other		1. Construction of a New wastewater treatment and/or disposal facility with a Capacity of 100,000 or more gpd. 2. Expansion of an existing wastewater treatment and/or disposal facility by the greater of 100,000 gpd or 10% of existing Capacity. 3. Construction of one or more New sewer mains: (a) that will result in an Expansion in the flow to a wastewater treatment and/or disposal facility by 10% of existing Capacity; or (b) five or more miles in length. 4. New discharge or Expansion in discharge: (a) to a sewer system of 100,000 or more gpd of sewage, industrial waste water or untreated stormwater; (b) to a surface water of: i. 100,000 or more gpd of sewage; ii. 20,000 or more gpd of industrial waste water; or iii. any amount of sewage, industrial waste water or untreated stormwater requiring a variance from applicable water quality regulations; or (c) to groundwater of: i. 10,000 or more gpd of sewage within an area, zone or district established, delineated or identified as necessary or appropriate to protect a public drinking water supply, an ii. 50,000 or more gpd of sewage within any other area; iii. 20,000 or more gpd of industrial waste water; or iv. any amount of sewage, industrial waste water or untreated stormwater requiring approval by the Department of Environmental Protection of a variance from Title 5 of 5. New Capacity or Expansion in Capacity for:		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

			(a) combustion or disposal of any amount of sewage sludge, sludge ash, grit, screenings, or other sewage sludge residual materials; or (b) storage, treatment, or processing of 50 or more wet tpd of sewage sludge or sewage		☐ ☐
TRANSPORTATION.	1. Unless the Project consists solely of an internal or on-site roadway or is located entirely on the site of a non-roadway Project: (a) construction of a New roadway two or more miles in length; or (b) widening of an existing roadway by one or more travel lanes for two or more miles. 2. New interchange on a completed limited access highway. 3. Construction of a New airport. 4. Construction of a New runway or terminal at an existing airport. 5. Construction of a New rail or rapid transit line along a New, unused or abandoned right-of-way for transportation of passengers or freight (not including sidings, spurs or other lines 6. Generation of 3,000 or more New adt on roadways providing access to a single location. 7. Construction of 1,000 or more New parking spaces at a single location.		1. Unless the Project consists solely of an internal or on-site roadway or is located entirely on the site of a non-roadway Project: (a) construction of a New roadway one-quarter or more miles in length; or (b) widening of an existing roadway by four or more feet for one-half or more miles, excluding widening to add bicycle or pedestrian accomodations. 2. Construction, widening or maintenance of a roadway or its right-of-way that will: (a) alter the bank or terrain located ten more feet from the existing roadway for one- half or more miles, unless necessary to install a structure or equipment; (b) cut five or more living public shade trees of 14 or more inches in diameter at breast height; or (c) eliminate 300 or more feet of stone wall. 3. Expansion of an existing runway at an airport. 4. Construction of a New taxiway at an airport. 5. Expansion of an existing taxiway at Logan Airport. 6. Expansion of an existing terminal at Logan Airport by 100,000 or more sf. 7. Expansion of an existing terminal at any other airport by 25,000 or more sf. 8. Construction of New or Expansion of existing air cargo buildings at an airport by 100,000 or more sf. 9. Conversion of a military airport to a non-military airport. 10. Construction of a New rail or rapid transit line for transportation of passengers or freight. 11. Discontinuation of passenger or freight service along a rail or rapid transit line. 12. Abandonment of a substantially intact rail or rapid transit right-of-way. 13. Generation of 2,000 or more New adt on roadways providing access to a single location. 14. Generation of 1,000 or more New adt on roadways providing access to a single location and construction of 150 or more New parking spaces at a single location. 15. Construction of 300 or more New parking spaces at a single location.		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
ENERGY.	1. Construction of a New electric generating facility with a Capacity of 100 or more MW. 2. Expansion of an existing electric generating facility by 100 or more MW. 3. Construction of a New fuel pipeline ten or more miles in length. 4. Construction of electric transmission lines with a Capacity of 230 or more kv, provided the transmission lines are five or more miles in length along New, unused or abandoned right		1. Construction of a New electric generating facility with a Capacity of 25 or more MW. 2. Expansion of an existing electric generating facility by 25 or more MW. 3. Construction of a New fuel pipeline five or more miles in length. 4. Construction of electric transmission lines with a Capacity of 69 or more kv, provided the transmission lines are one or more miles in length along New, unused or abandoned right		☐ ☐ ☐ ☐
AIR.	1. Construction of a New Stationary Source with federal potential emissions, after construction and the imposition of required controls, of: 250 tpy of any criteria air pollutant; 40 tpy of any HAP; 100 tpy of any combination of HAPs; or 100,000 tpy of GHGs based on CO2 Equivalent.		1. Construction of a New Stationary Source with federal potential emissions, after construction and the imposition of required controls, of: 100 tpy of PM10, PM 2.5, CO, lead or SO2; 50 tpy of VOC or NOx; 10 tpy of any HAP; or 25 tpy of any combination of HAPs.		☐ ☐ ☐

	2. Modification of an existing Stationary Source with federal potential emissions that collectively will result, after construction and the imposition of required controls, of 75,000 tpy of GHGs based on CO2 Equivalent.		2. Modification of an existing Stationary Source resulting in a "significant net increase" in actual emissions, provided that the stationary source or facility is major for the pollutant. For purposes of this threshold, a "significant net increase" in actual emissions shall mean an increase in emissions of: 15 tpy of PM10; 10 tpy of PM 2.5; 100 tpy of CO; 40 tpy of SO2; 25 tpy of VOC or NOx; 0.6 tpy of lead.	
SOLID AND HAZARDOUS WASTE.	1. New Capacity or Expansion in Capacity of 150 or more tpd for storage, treatment, processing, combustion or disposal of solid waste, unless the Project is a transfer station, is an Expansion of an existing facility within a validly site assigned area for the proposed use, or is exempt from site assignment requirements.		1. New Capacity or Expansion in Capacity for combustion or disposal of any quantity of solid waste, or storage, treatment or processing of 50 or more tpd of solid waste, unless the Project is exempt from site assignment requirements. 2. Provided that a Permit is required in accordance with M.G.L. c. 21D, New Capacity or Expansion in Capacity for the storage, recycling, treatment or disposal of hazardous waste.	
HISTORICAL AND ARCHAEOLOGICAL RESOURCES.	None		1. demolition of all or any exterior part of any Historic Structure listed in or located in any Historic District listed in the State Register of Historic Places or the Inventory of Historic and 2. destruction of all or any part of any Archaeological Site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth.	
AREAS OF CRITICAL ENVIRONMENTAL CONCERN.	None		1. Any Project of ½ or more acres within a designated ACEC, unless the Project consists solely of one single family dwelling.	
REGULATIONS.	None		Promulgation of New or revised regulations, of which a primary purpose is protecting against Damage to the Environment, that significantly reduce: 1. standards for environmental protection; . 2.opportunities for public participation in permitting or other review processes; or 3. public access to information generated or provided in accordance with the regulations.	

Architect and Engineer Certification

By signing this certification, I hereby certify that all of the information provided in this "MEPA Trigger Checklist" is true, complete and accurate to the best of my knowledge and belief.

Name of Architecture Firm

Name of Architect

Signature of Architect

Date

By signing this certification, I hereby certify that all of the information provided in this "MEPA Trigger Checklist" is true, complete and accurate to the best of my knowledge and belief.

Samiotes Consultants, Inc

Name of Engineering Firm

Stephen Powers, PE

Name of Engineer

Stephen Powers

Digitally signed by Stephen Powers
DN: C=US, E=spowers@samiotes.com, O=Samiotes Consultants, OU=Civil Engineering, CN=Stephen Powers
Date: 2026.03.30 13:54:22-04'00'

Signature of Engineer

30-Mar-26

Date

RMAT CLIMATE RESILIENCE MEMORANDUM & REPORT

SECTION 3.3.6.12

RMAT CLIMATE RESILIENCE MEMORANDUM

Re: Essex Elementary School, Essex, MA SCI File #55044.00

To: JCJ Architectures

From: Michelle Kayserman
Stephen Powers, PE

March 26, 2026

The project team consulted the RMAT Climate Resilience Design Standards Tool and separated key components of the Proposed Project to generate Asset Risk results. Included with this memo is the DRAFT Climate Resilience Design Standards Tool Project Report for the project currently in PSR. As the design moves forward, the report will be updated.

The RMAT Tool indicates a "High" risk rating for Extreme Precipitation (Stormwater Flooding), Extreme Precipitation (Riverine Flooding), and for Extreme Heat; and "Low" Risk for Sea level surge.

The Extreme Precipitation (Stormwater / Riverine) risks will be mitigated through development of the on-site stormwater management system. The objective of stormwater management for the site is to mitigate any increase in peak storm runoff rates and volume due to construction of the new school & site while improving water quality and resiliency. The following BMP's can be utilized to mitigate any increase in peak stormwater runoff and improve water quality: rain gardens, vegetated filter strips, grassed channel, and subsurface structures for infiltration & detention. As the project moves through design the stormwater management system will be designed in more detail.

Extreme Heat can be mitigated through the installation of shade trees and evergreens throughout the site. New tree plantings located along internal roadways, within and around parking areas, and around play areas and walkways will reduce the heat island effect and provide shade relief for the public in those areas. Additionally, landscape areas planted with a combination of native perennials, grasses, and woody shrubs should further help to mitigate against heat island affect. See the Landscape Architect narratives and design for more in-depth analysis.

If you have any questions or comments regarding this memo, please call or email me at MKayserman@samiotes.com at 508-877-6688 (ext. 16) or Stephen Powers, PE at spowers@samiotes.com; 508-877-6688 (ext. 14).

Samiotes Consultants, Inc.
Civil Engineers + Land Surveyors

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Framingham, MA 01701-4102

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Climate Resilience Design Standards Tool Project Report

55044.00 Essex Elementary School
Date Created: 1/28/2026 6:47:24 PM
Date Report Generated: 2/2/2026 4:24:25 PM
Project Contact Information: TBD (TBD@essexma.gov)

Created By: Samiotes
Tool Version: Version 1.4

Project Summary

Link to Project

Estimated Capital Cost: $1.00
End of Useful Life Year: 2077
Project within mapped Environmental Justice neighborhood: No

Ecosystem Service Benefits	Scores
Project Score	High
Exposure	**Scores**
Sea Level Rise/Storm Surge	Not Exposed
Extreme Precipitation - Stormwater Flooding	High Exposure
Extreme Precipitation - Riverine Flooding	Moderate Exposure
Extreme Heat	High Exposure



Asset Preliminary Climate Risk Rating Summary

Number of Assets: 4

Asset Risk	Sea Level Rise/Storm Surge	Extreme Precipitation - Stormwater Flooding	Extreme Precipitation - Riverine Flooding	Extreme Heat
New School Building	Low Risk	High Risk	High Risk	High Risk
Subsurface Infiltration Systems	Low Risk	High Risk	Moderate Risk	High Risk
Parking Lot	Low Risk	High Risk	Moderate Risk	High Risk
Athletic Field	—— Natural Resource project assets do not receive a preliminary climate risk rating. ——			

Climate Resilience Design Standards Summary

	Target Planning Horizon	Intermediate Planning Horizon	Percentile	Return Period	Tier
Sea Level Rise/Storm Surge					
New School Building					
Subsurface Infiltration Systems					
Parking Lot					
Athletic Field					
Extreme Precipitation					
New School Building	2070			50-yr (2%)	Tier 3
Subsurface Infiltration Systems	2070			5-yr (20%)	Tier 2

Parking Lot	2050		10-yr (10%)	Tier 2
Athletic Field	2030			Tier 1
Extreme Heat				
New School Building	2070	90th		Tier 3
Subsurface Infiltration Systems	2070	50th		Tier 2
Parking Lot	2050	50th		Tier 2
Athletic Field	2030	50th		Tier 1

Scoring Rationale - Project Exposure Score

The purpose of the Exposure Score output is to provide a preliminary assessment of whether the overall project site and subsequent assets are exposed to impacts of natural hazard events and/or future impacts of climate change. For each climate parameter, the Tool will calculate one of the following exposure ratings: Not Exposed, Low Exposure, Moderate Exposure, or High Exposure. The rationale behind the exposure rating is provided below.

Sea Level Rise/Storm Surge

This project received a "Not Exposed" because of the following:

- Not located within the predicted mean high water shoreline by 2030
- No historic coastal flooding at project site
- Not located within the Massachusetts Coast Flood Risk Model (MC-FRM)

Extreme Precipitation - Stormwater Flooding

This project received a "High Exposure" because of the following:

- Increased impervious area
- Maximum annual daily rainfall exceeds 10 inches within the overall project's useful life
- No historic flooding at project site
- Existing impervious area of the project site is between 10% and 50%

Extreme Precipitation - Riverine Flooding

This project received a "Moderate Exposure" because of the following:

- Part of the project is within 200ft of a waterbody and less than 30ft above the waterbody
- No historic riverine flooding at project site
- The project is not within a mapped FEMA floodplain [outside of the Massachusetts Coast Flood Risk Model (MC-FRM)]
- Project is not likely susceptible to riverine erosion

Extreme Heat

This project received a "High Exposure" because of the following:

- 30+ days increase in days over 90 deg. F within project's useful life
- Increased impervious area
- Existing trees are being removed as part of the proposed project
- Existing impervious area of the project site is between 10% and 50%
- Located within 100 ft of existing water body

Scoring Rationale - Asset Preliminary Climate Risk Rating

A Preliminary Climate Risk Rating is determined for each infrastructure and building asset by considering the overall project Exposure Score and responses to Step 4 questions provided by the user in the Tool. Natural Resource assets do not receive a risk rating. The following factors are what influenced the risk ratings for each asset.

Asset - New School Building
Primary asset criticality factors influencing risk ratings for this asset:

- Asset may inaccessible/inoperable for more than a day but less than a week after natural hazard event
- Loss/inoperability of the asset would have impacts limited to local area and/or municipality

- The building/facility provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.
- Some alternative programs and/or services are available to support the community
- Cost to replace is greater than $100 million
- There are no hazardous materials in the asset

Asset - Subsurface Infiltration Systems
Primary asset criticality factors influencing risk ratings for this asset:

- Asset may inaccessible/inoperable for more than a day but less than a week after natural hazard event
- Loss/inoperability of the asset would have impacts limited to the location of infrastructure only
- Inoperability of the asset would not be expected to result in injuries
- Inoperability may moderately impact other facilities, assets, or buildings, but is not expected to affect their ability to operate
- Impact on natural resources can be mitigated naturally with the inoperability of the asset

Asset - Parking Lot
Primary asset criticality factors influencing risk ratings for this asset:

- Asset can be inaccessible/inoperable more than a week after natural hazard event without consequences
- Loss/inoperability of the asset would have impacts limited to the location of infrastructure only
- Inoperability of the asset would not be expected to result in injuries
- Cost to replace is less than $10 million
- There are no hazardous materials in the asset

Asset - Athletic Field
Primary asset criticality factors influencing risk ratings for this asset:

No score available

Project Climate Resilience Design Standards Output

Climate Resilience Design Standards and Guidance are recommended for each asset and climate parameter. The Design Standards for each climate parameter include the following: recommended planning horizon (target and/or intermediate), recommended return period (Sea Level Rise/Storm Surge and Precipitation) or percentile (Heat), and a list of applicable design criteria that are likely to be affected by climate change. Some design criteria have numerical values associated with the recommended return period and planning horizon, while others have tiered methodologies with step-by-step instructions on how to estimate design values given the other recommended design standards.

Asset: New School Building — Building/Facility

Sea Level Rise/Storm Surge — Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation — High Risk

Target Planning Horizon: 2070
Return Period: 50-yr (2%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

The projected values, standards, and guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Tiered Methodology: Tier 3

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
New School Building	2070	50-Year (2%)	9.7	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE
Methodology to Estimate Projected Values : Tier 3

Extreme Heat High Risk

Target Planning Horizon: 2070
Percentile: 90th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]
New School Building	2070	90th	61.20	80.40	41.41

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Days with Max Temp >95°F (days)	Projected Days with Max Temp >90°F (days)	Projected Days with Max Temp <32°F (days)
New School Building	2070	90th	31	67	50

LIMITATIONS: The recommended Standards for ProjectedÂ Days per Year with Max Temp >95Â°F, >90Â°F, <32Â°F are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Number of Heat Waves Per Year (events)	Projected Average Heat Wave Duration (days)
New School Building	2070	90th	1	4

LIMITATIONS: The recommended Standards for ProjectedÂ Number of Heat Waves Per Year and Average Heat Wave DurationÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Cooling Degree Days (base = 65°) (degree days)	Projected Heating Degree Days (base = 65°) (degree days)
New School Building	2070	90th	2045	3437

LIMITATIONS: The recommended Standards for ProjectedÂ Cooling Degree Days and Heating Degree DaysÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Heat Index: APPLICABLE
Methodology to Estimate Projected Values : Tier 3

Asset: Subsurface Infiltration Systems — Infrastructure

Sea Level Rise/Storm Surge — Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation — High Risk

Target Planning Horizon: 2070
Return Period: 5-yr (20%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

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Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Subsurface Infiltration Systems	2070	5-Year (20%)	5.8	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE

Methodology to Estimate Projected Values : Tier 2

Extreme Heat High Risk

Target Planning Horizon: 2070
Percentile: 50th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]
Subsurface Infiltration Systems	2070	50th	58.50	77.70	38.71

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Days with Max Temp >95°F (days)	Projected Days with Max Temp >90°F (days)	Projected Days with Max Temp <32°F (days)
Subsurface Infiltration Systems	2070	50th	18	47	63

LIMITATIONS: The recommended Standards for ProjectedÂ Days per Year with Max Temp >95Â°F, >90Â°F, <32Â°F are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Number of Heat Waves Per Year (events)	Projected Average Heat Wave Duration (days)
Subsurface Infiltration Systems	2070	50th	0	4

LIMITATIONS: The recommended Standards for ProjectedÂ Number of Heat Waves Per Year and Average Heat Wave DurationÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Projected Heat Index: APPLICABLE
Methodology to Estimate Projected Values : Tier 2

Asset: Parking Lot — Infrastructure

Sea Level Rise/Storm Surge — Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation — High Risk

Target Planning Horizon: 2050
Return Period: 10-yr (10%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

The projected values, standards, and guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Parking Lot	2050	10-Year (10%)	6.3	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE
Methodology to Estimate Projected Values : Tier 2

Extreme Heat — High Risk

Target Planning Horizon: 2050
Percentile: 50th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]
Parking Lot	2050	50th	55.80	75.00	36.91

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Days with Max Temp >95°F (days)	Projected Days with Max Temp >90°F (days)	Projected Days with Max Temp <32°F (days)
Parking Lot	2050	50th	9	29	79

LIMITATIONS: The recommended Standards for ProjectedÂ Days per Year with Max Temp >95Â°F, >90Â°F, <32Â°F are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Number of Heat Waves Per Year (events)	Projected Average Heat Wave Duration (days)
Parking Lot	2050	50th	0	0

LIMITATIONS: The recommended Standards for ProjectedÂ Number of Heat Waves Per Year and Average Heat Wave DurationÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Projected Heat Index: APPLICABLE
Methodology to Estimate Projected Values : Tier 2

Asset: Athletic Field — Natural Resources

Sea Level Rise/Storm Surge

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

Target Planning Horizon: 2030

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

The projected values, standards, and guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence.

Applicable Design Criteria

Tiered Methodology: Tier 1

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Athletic Field	2030	25-Year (4%)	7.2	Downloadable Methodology PDF

Return Period Recommendations for natural resource assets and subsequent projected values are provided as a consideration for users, not a formal standard. Users should follow industry best practices for designing natural resource assets in coordination with the appropriate regulatory agencies.

ATTENTION: This is a Tier 1 project. It is advised to compare the extreme precipitation output values to the NOAA+ methodology to calculate total precipitation depth for 24-hr design storms.

This methodology can be found in the following PDF. (Link).

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE
Methodology to Estimate Projected Values : Tier 1

Extreme Heat

Target Planning Horizon: 2030
Percentile: 50th Percentile

LIMITATIONS: The recommended standards are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Applicable Design Criteria

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Annual Average Temperature [°F]	Projected Summer Average Temperature [°F]	Projected Winter Average Temperature [°F]
Athletic Field	2030	50th	54.00	73.20	34.21

LIMITATIONS: The recommended Standards for Projected Average Annual/Summer/Winter Temperature are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Growing Degree Days: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Growing Degree Days (degree days)
Athletic Field	2030	50th	3732

LIMITATIONS: The recommended Standards for ProjectedÂ Cooling Degree Days and Heating Degree DaysÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: NOT APPLICABLE

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Percentile	Projected Number of Heat Waves Per Year (events)	Projected Average Heat Wave Duration (days)
Athletic Field	2030	50th	0	0

LIMITATIONS: The recommended Standards for ProjectedÂ Number of Heat Waves Per Year and Average Heat Wave DurationÂ are determined by the user-drawn polygon and relationships as defined in the supporting Section Documents. The guidance provided within this Tool may be used to inform plans and designs, but is not comprehensive and does not provide guarantees for resilience. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence. One avenue to seek more information would be to access the comprehensive temperature and precipitation projections including additional return periods, time horizons, and seasons at the Climate Projections Dashboard.

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Projected Heat Index: APPLICABLE
Methodology to Estimate Projected Values : Tier 1

Project Inputs

Core Project Information

Name:	55044.00 Essex Elementary School
Given the expected useful life of the project, through what year do you estimate the project to last (i.e. before a major reconstruction/renovation)?	2077
Location of Project:	Essex
Estimated Capital Cost:	$1
Who is the Submitting Entity?	City/Town Essex TBD (TBD@essexma.gov)
Is this project identified as a priority project in the Municipal Vulnerability Preparedness (MVP) plan or the local or regional Hazard Mitigation Plan (HMP)?	No
Is this project being submitted as part of a state grant application?	No
Which grant program?	
What stage are you in your project lifecycle?	Pre-Planning
Is climate resiliency a core objective of this project?	Yes
Is this project being submitted as part of the state capital planning process?	No
Is this project being submitted as part of a regulatory review process or permitting?	Yes
Brief Project Description:	Massachusetts School Building Authority (MSBA)

Project Ecosystem Service Benefits

Factors Influencing Output

- ✓ Project provides flood protection through nature-based solutions
- ✓ Project reduces storm damage
- ✓ Project protects public water supply
- ✓ Project promotes decarbonization
- ✓ Project recharges groundwater
- ✓ Project filters stormwater using green infrastructure
- ✓ Project improves water quality
- ✓ Project protects fisheries, wildlife, and plant habitat
- ✓ Project provides recreation
- ✓ Project prevents pollution
- ✓ Project provides cultural resources/education

Factors to Improve Output

- ✓ Incorporate nature-based solutions that sequester carbon carbon
- ✓ Preserve, enhance, and/or restore coastal shellfish habitats
- ✓ Incorporate vegetation that provides pollinator habitat

Is the primary purpose of this project ecological restoration?

No

Project Benefits

Provides flood protection through nature-based solutions	Yes
Reduces storm damage	Yes
Recharges groundwater	Yes
Protects public water supply	Yes
Filters stormwater using green infrastructure	Yes
Improves water quality	Yes
Promotes decarbonization	Yes
Enables carbon sequestration	Maybe
Provides oxygen production	No
Improves air quality	No
Prevents pollution	Yes
Remediates existing sources of pollution	No
Protects fisheries, wildlife, and plant habitat	Yes
Protects land containing shellfish	Maybe
Provides pollinator habitat	Maybe
Provides recreation	Yes
Provides cultural resources/education	Yes

Project Climate Hazard Exposure

Is the primary purpose of this project ecological restoration?	No
Does the project site have a history of coastal flooding?	No
Does the project site have a history of flooding during extreme precipitation events (unrelated to water/sewer damages)?	Unsure
Does the project site have a history of riverine flooding?	Unsure
Does the project result in a net increase in impervious area of the site?	Yes
Are existing trees being removed as part of the proposed project?	Yes

Project Assets

Asset: New School Building
Asset Type: Typically Occupied
Asset Sub-Type: School (primary, secondary, high, vocational, etc.)
Construction Type: New Construction
Construction Year: 2027
Useful Life: 50

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.
Building may be inaccessible/inoperable for more than a day, but less than a week after natural hazards events without consequences

Identify the geographic area directly affected by permanent loss or significant inoperability of the building/facility.
Impacts would be limited to local area and/or municipality

Identify the population directly served that would be affected by the permanent loss of use or inoperability of the building/facility.
Less than 1,000 people

Identify if the building/facility provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.
The building/facility provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

If the building/facility became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?
Inoperability of the building/facility would not be expected to result in injuries

If there are hazardous materials in your building/facility, what are the extent of impacts related to spills/releases of these materials?
There are no hazardous materials in the building/facility

If the building/facility became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?
Moderate – Inoperability may impact other facilities, assets, or buildings, but is not expected to affect their ability to operate

If this building/facility was damaged beyond repair, how much would it approximately cost to replace?
Greater than or equal to $100 million

Is this a recreational facility which can be vacated during a natural hazard event?
No

If the building/facility became inoperable for longer than acceptable in Question 1, what are the public and/or social services impacts?
Some alternative programs and/or services are available to support the community

If the building/facility became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?
No impact on surrounding natural resources is expected

If the building/facility became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the building is not able to serve or operate its intended users or function)?
Loss of building is not expected to reduce the ability to maintain government services.

If the building/facility became inoperable for longer than acceptable in Question 1, what are the impacts to loss of confidence in government (i.e. the building is not able to serve or operate its intended users or function)?
Reduced morale and public support

Asset: Subsurface Infiltration Systems
Asset Type: Green Infrastructure
Asset Sub-Type: Other Green Infrastructure
Construction Type: New Construction
Construction Year: 2027
Useful Life: 50

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.
Infrastructure may be inaccessible/inoperable for more than a day, but less than a week after natural hazard without consequences.

Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.
Impacts limited to location of infrastructure only

Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.
Less than 5,000 people

Identify if the infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.
The infrastructure does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

Will the infrastructure reduce the risk of flooding?
Yes

If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?
Inoperability of the infrastructure would not be expected to result in injuries

If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?
There are no hazardous materials in the infrastructure

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?
Moderate – Inoperability may impact other facilities, assets, or buildings, but cascading impacts do not affect the ability of other facilities, assets, or buildings to operate

If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?
Less than $10 million
Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.
No
If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?
Impact on natural resources can be mitigated naturally
If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?
Loss of infrastructure is not expected to reduce the ability to maintain government services
What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?
Reduced morale and public support
Asset: Parking Lot
Asset Type: Transportation
Asset Sub-Type: Roads (local)
Construction Type: New Construction
Construction Year: 2027
Useful Life: 20
Identify the length of time the asset can be inaccessible/inoperable without significant consequences.
Infrastructure may be inaccessible/inoperable more than a week after natural hazard event without consequences.
Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.
Impacts limited to location of infrastructure only
Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.
Less than 5,000 people
Identify if the infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.
The infrastructure does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.
Will the infrastructure reduce the risk of flooding?
No
If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?
Inoperability of the infrastructure would not be expected to result in injuries
If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?
There are no hazardous materials in the infrastructure
If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?
Minor – Inoperability will not likely affect other facilities, assets, or buildings
If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?
Less than $10 million
Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.
No
If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?
No impact on surrounding natural resources is expected
If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?
Loss of infrastructure is not expected to reduce the ability to maintain government services
What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?
Reduced morale and public support
Asset: Athletic Field
Asset Type: Open Space
Asset Sub-Type: Open recreation space
Construction Type: New Construction
Construction Year: 2027
Monitoring Frequency: 5

Report Comments

N/A

PSR CIVIL MEMORANDUM

SECTION 3.3.6.13

PREFERRED SCHEMATIC REPORT - CIVIL MEMORANDUM

Re: Essex Elementary School, Essex MA SCI File #55044.00

To: JCJ Architecture

From: Michelle Kayserman
Stephen Powers, PE

March 02, 2026

The following narrative describes the proposed civil / site utility impacts and stormwater management for the Preferred Schematic Report (PSR), addressing the Code Compliance, Addition/Renovation, and New Construction options on the existing Essex Elementary School site at 12 Story Street in Essex, MA. As well as Addition/Renovation at Manchester Memorial Elementary School site at 43 Lincoln St, Manchester-by-the-Sea, MA.

Essex Elementary School – Code Upgrade / Base Repair – Option A0.2

Water Service (Domestic & Fire Protection)

It is assumed the existing water lines would need to be updated to meet current fire protection and domestic water demand codes. There is currently no fire protection line, so at a minimum the addition of a new 6" DICL (ductile iron cement lined) fire protection service pipe (final size TBD my MEP) would need to be added for this option. It is also assumed that a new 4" domestic water service (final size TBD by MEP) would be run in parallel to upgrade the current water service system. From the site visit on September 24, 2025, no fire hydrants were witnessed on the school property. The existing conditions survey does not note any hydrants. A hydrant is located off Story Street, just outside of the school's property line.

Proposed:

1,000 LF 6" DICL
1,000 LF 4" DICL
3 Hydrants

Gas Service

It is assumed there will be no change to the existing gas service.

Electric & Communication Services

The electrical engineer should provide further detail on the any upgrades needed to the existing electrical infrastructure of the school for the code compliance option.

Sewer

It is assumed there will be no change to the sewer service.

Samiotes Consultants, Inc.
Civil Engineers + Land Surveyors

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Framingham, MA 01701-4102

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Stormwater Management

Due to the existing parking lots and walkways non-ADA compliance and the poor condition of the existing asphalt, it is assumed the parking lots would be regraded/repaved; as well as an increase in impervious area from the addition of the fire lane. Due to the Town of Essex's Stormwater regulations, Section 5 the parking lots would need to meet the Town's stormwater regulations.

Proposed:

10,000 Cubic Feet of Storage
2 WQU's (Water Quality Units)
4 Area Drains
9 Catch Basins
5 DMHs
1,500 LF 18" PVC
2,000 LF 12" PVC
1,000 LF 6" PVC

Bituminous Asphalt

Existing Conditions:

The existing bituminous asphalt in both parking lots, driveways, and sidewalks are deteriorating. There are numerous areas where the asphalt is exhibiting signs of gross failure (i.e. "alligator" cracks); The majority of the parking lots would need a full depth reclamation in lieu of mill and overlay for any future work.

Proposed:

It is assumed that the access drive loop will be a heavy-duty asphalt with the following profile (12″ dense graded crushed stone for subbase, 2.5″ HMA binder course; 2″ HMA wearing course) and the parking lots will be regular asphalt profile of 8″ dense graded crushed stone for subbase, 2″ HMA binder course; 2″ HMA wearing course). It assumed that all curbing will be replaced with new curb (final material TBD).

The total existing asphalt area is approximately 70,000 square feet.

Essex Elementary School – Addition/Renovation – Option A1.2-B

Water Service (Domestic & Fire Protection)

It is assumed the existing water lines would need to be updated. There is currently no fire protection line, so a 6″ DICL fire protection service pipe would need to be added for this purpose. It is also assumed that a new 4″ domestic water service would be run in tandem to upgrade the current water service system.

Proposed:

1,200 LF 8″ DICL Water Main
100 LF 6" DICL Fire Protection Line
100 LF 4" DICL Water Line
3 Hydrants
7 Water Gates

Gas Service

It is assumed there will be no change to the existing gas service.

Electric & Communication Services

The electrical engineer should provide further detail on any upgrades needed to the existing electrical infrastructure of the school for the addition and renovation option.

Sewer

It is assumed the sanitary sewer (assume 6″ final size TBD) would exit from the southern side of the building and flow by gravity within the driveway and tie into the existing 8″ PVC sewer main within the site and connect into Story Street main.

Proposed:

1,000 LF 6" PVC Sewer
7 Sewer Manholes
5,000-gallon Grease Trap

Stormwater Management

For the proposed site, a network of drainage pipes, catch basin structures, and drain manholes will be located throughout the site and parking areas. Proposed detention/infiltration systems will be located underground within the parking lots and under fields to maximize use of space. These infiltration systems will receive runoff from the roof of the building and the majority of the site. Runoff from paved areas will run through water quality units before entering the system to remove solids and pollutants before the water enters the detention/infiltration system.

Subsurface Structures (Infiltration chambers/tanks): Subsurface structures are underground systems that capture runoff and gradually infiltrate it into the groundwater. There are several types of underground infiltration systems that can be installed to enhance groundwater recharge. Subsurface structures are constructed to store stormwater temporarily and let it percolate into the underlying soil. These structures are used for small drainage areas (typically less than 2 acres). They are feasible only where the soil is adequately permeable and the maximum water table and/or elevation is sufficiently low. They can be used to control the quantity as well as quality of stormwater runoff, if properly designed and constructed. The structures serve as storage chambers for captured stormwater, while the soil matrix provides treatment.

Deep Sump Catch Basins with hoods: Catch basins are designed to remove trash, debris, and coarse sediment from stormwater runoff, and serve as temporary spill containment devices for floatables such as oil and grease. Some existing systems are to be repurposed, while additional structures will also be required.

Water Quality Units: A proprietary separator that is a flow-through structure with a settling or separation unit to remove sediments and other pollutants. They typically use the power of swirling or flowing water to separate floatables and coarser sediments, are typically designed and manufactured by private businesses, and come in different sizes to accommodate different design storms and flow conditions. The proposed design will utilize water quality units to meet 80% Total Suspended Solids (TSS) removal overall.

Proposed:

30,000 Cubic Feet of Storage
4 WQU's (Water Quality Units)
15 Area Drains
20 Catch Basins
15 DMHs
1,500 LF 18" PVC
1,000 LF 12" PVC
500 LF 6" PVC

Bituminous Asphalt

It is assumed that the access drive loop will be a heavy-duty asphalt with the following profile (12″ dense graded crushed stone for subbase, 2.5″ HMA binder course; 2″ HMA wearing course) and the parking lots will be regular asphalt profile of 8″ dense graded crushed stone for subbase, 2″ HMA binder course; 2″ HMA wearing course). It is also assumed that all existing curbing will be replaced with new curbs (final material TBD). The total proposed asphalt area is approximately 80,000 square feet.

Essex Elementary School – New Construction - Option A2.2-A

For the New Construction options, construction phasing of existing and proposed utility infrastructure will be necessary to maintain services to the existing building while the new one is installed. Once the new building is in place with all working utilities, the old utility services can be demolished. For this reason, all new utilities will be run separately from the existing services and the existing services will be protected and maintained during the construction of the new building.

Water Service (Domestic & Fire Protection)

It is assumed that a new water loop will be installed through the site to provide adequate flows for the new fire protection and domestic water services. The existing water lines on site will remain during the first phase of construction. The new water loop is presumed to be an 8″ DICL main, with a 6″ DICL fire protection service pipe and 4″ DICL domestic water service tapping off of the 8″ main. New hydrants will be installed as needed to bring the site up to code.

Proposed:

2,500 LF 8" DICL Water Main
200 LF 6" DICL Fire Protection Line
100 LF 4" DICL Water Line
4 Hydrants

Gas Service

It is assumed the new building will not have a gas service.

Electric & Communication Services

The electrical engineer should provide further detail on any upgrades needed to the existing electrical infrastructure of the school for the new construction option.

Sewer

It is assumed the new sanitary sewer service (assume 6″ final size TBD) would exit from the southeastern side of the building and flow north by gravity within the new driveway. This 6″ PVC service line will tie into the existing 8″ PVC sewer main within the site near the north entrance.

Proposed:

1,200 LF 6" PVC Sewer
9 Sewer Manholes
5,000-gallon Grease Trap

Stormwater Management

For the proposed site, a network of drainage pipes, catch basin structures, and drain manholes will be located throughout the site and parking areas. Proposed detention/infiltration systems will be located underground within the parking lots and under fields to maximize use of space. These infiltration systems will receive runoff from the roof of the

building and the majority of the site. Runoff from paved areas will run through water quality units before entering the system to remove solids and pollutants before the water enters the detention/infiltration system.

Subsurface Structures (Infiltration chambers/tanks): Subsurface structures are underground systems that capture runoff and gradually infiltrate it into the groundwater. There are a number of underground infiltration systems that can be installed to enhance groundwater recharge. Subsurface structures are constructed to store stormwater temporarily and let it percolate into the underlying soil. These structures are used for small drainage areas (typically less than 2 acres). They are feasible only where the soil is adequately permeable and the maximum water table and/or elevation is sufficiently low. They can be used to control the quantity as well as quality of stormwater runoff, if properly designed and constructed. The structures serve as storage chambers for captured stormwater, while the soil matrix provides treatment.

Deep Sump Catch Basins with hoods: Catch basins are designed to remove trash, debris, and coarse sediment from stormwater runoff, and serve as temporary spill containment devices for floatables such as oil and grease. Some existing systems are to be repurposed, while additional structures will also be required.

Water Quality Units: A proprietary separator that is a flow-through structure with a settling or separation unit to remove sediments and other pollutants. They typically use the power of swirling or flowing water to separate floatables and coarser sediments, are typically designed and manufactured by private businesses, and come in different sizes to accommodate different design storms and flow conditions. The proposed design will utilize water quality units to meet 80% Total Suspended Solids (TSS) removal overall.

Proposed:

30,000 Cubic Feet of Storage
6 WQU's (Water Quality Units)
20 Area Drains
28 Catch Basins
18 DMHs
1,800 LF 18" PVC
1,000 LF 12" PVC

Bituminous Asphalt

It is assumed that the access drive loop will be a heavy-duty asphalt with the following profile (12″ dense graded crushed stone for subbase, 2.5″ HMA binder course; 2″ HMA wearing course) and the parking lots will be regular asphalt profile of 8″ dense graded crushed stone for subbase, 2″ HMA binder course; 2″ HMA wearing course). It assumed that all curbing will be new. The total proposed asphalt area is approximately 110,000 square feet.

Essex Elementary School – New Construction - Option A2.2-B

Construction phasing of existing and proposed utility infrastructure will be necessary to maintain services to the existing building while the new one is installed. Once the new building is in place with all working utilities, the old utility services can be demolished. For this reason, all new utilities will be run separately from the existing services and the existing services will be protected and maintained during the construction of the new building.

Water Service (Domestic & Fire Protection)

It is assumed that a new water loop will be installed through the site to provide adequate flows for the new fire protection and domestic water services. The existing water lines on site will remain during the first phase of construction. The new water loop is presumed to be an 8″ DICL main, with a 6″ DICL fire protection service pipe and 4″ DICL domestic water service tapping off of the 8″ main. New hydrants will be installed as needed to bring the site up to code.

Proposed:

2,500 LF 8" DICL Water Main
200 LF 6" DICL Fire Protection Line
100 LF 4" DICL Water Line
4 Hydrants

Gas Service

It is assumed the new building will not have a gas service.

Electric & Communication Services

The electrical engineer should provide further detail on any upgrades needed to the existing electrical infrastructure of the school for the new construction option.

Sewer

It is assumed the new sanitary sewer service (assume 6″ final size TBD) would exit from the southeastern side of the building and flow north by gravity within the new driveway. This 6″ PVC service line will tie into the existing 8″ PVC sewer main within the site near the north entrance.

Proposed:

1,200 LF 6" PVC Sewer
8 Sewer Manholes
5,000-gallon Grease Trap Tank

Stormwater Management

For the proposed site, a network of drainage pipes, catch basin structures, and drain manholes will be located throughout the site and parking areas. Proposed detention/infiltration systems will be located underground within the parking lots and under fields to maximize use of space. These infiltration systems will receive runoff from the roof of the building and the majority of the site. Runoff from paved areas will run through water quality units before entering the system to remove solids and pollutants before the water enters the detention/infiltration system.

Subsurface Structures (Infiltration chambers/tanks): Subsurface structures are underground systems that capture runoff and gradually infiltrate it into the groundwater. There are a number of underground infiltration systems that can be installed to enhance groundwater recharge. Subsurface structures are constructed to store stormwater temporarily and let it percolate into the underlying soil. These structures are used for small drainage areas (typically less than 2 acres). They are feasible only where the soil is adequately permeable and the maximum water table and/or elevation is sufficiently low. They can be used to control the quantity as well as quality of stormwater runoff, if properly designed and constructed. The structures serve as storage chambers for captured stormwater, while the soil matrix provides treatment.

Deep Sump Catch Basins with hoods: Catch basins are designed to remove trash, debris, and coarse sediment from stormwater runoff, and serve as temporary spill containment devices for floatables such as oil and grease. Some existing systems are to be repurposed, while additional structures will also be required.

Water Quality Units: A proprietary separator that is a flow-through structure with a settling or separation unit to remove sediments and other pollutants. They typically use the power of swirling or flowing water to separate floatables and coarser sediments, are typically designed and manufactured by private businesses, and come in different sizes to accommodate different design storms and flow conditions. The proposed design will utilize water quality units to meet 80% Total Suspended Solids (TSS) removal overall.

Proposed:

25,000 Cubic Feet of Storage
6 WQU's (Water Quality Units)
18 Area Drains
26 Catch Basins
16 DMHs
1,500 LF 18" PVC
1,000 LF 12" PVC
1,000 LF 8" PVC

Bituminous Asphalt

It is assumed that the access drive loop will be a heavy-duty asphalt with the following profile (12″ dense graded crushed stone for subbase, 2.5″ HMA binder course; 2″ HMA wearing course) and the parking lots will be regular asphalt profile of 8″ dense graded crushed stone for subbase, 2″ HMA binder course; 2″ HMA wearing course). It assumed that all curbing will be new. The total proposed asphalt area is approximately 100,000 square feet.

Essex Elementary School – New Construction - Option A2.2-F

Construction phasing of existing and proposed utility infrastructure will be necessary to maintain services to the existing building while the new one is installed. Once the new building is in place with all working utilities, the old utility services can be demolished. For this reason, all new utilities will be run separately from the existing services and the existing services will be protected and maintained during the construction of the new building.

Water Service (Domestic & Fire Protection)

It is assumed that a new water loop will be installed through the site to provide adequate flows for the new fire protection and domestic water services. The existing water lines on site will remain during the first phase of construction. The new water loop is presumed to be an 8″ DICL main, with a 6″ DICL fire protection service pipe and 4″ DICL domestic water service tapping off of the 8″ main. New hydrants will be installed as needed to bring the site up to code.

Proposed:

1,000 LF 8" DICL Water Main
100 LF 6" DICL Fire Protection Line
100 LF 4" DICL Water Line
4 Hydrants

Gas Service

It is assumed the new building will not have a gas service.

Electric & Communication Services

The electrical engineer should provide further detail on any upgrades needed to the existing electrical infrastructure of the school for the new construction option.

Sewer

It is assumed the new sanitary sewer service (assume 6″ final size TBD) would exit from the southeastern side of the building and flow north by gravity within the new driveway. This 6″ PVC service line will tie into the existing 8″ PVC sewer main within the site near the north entrance.

Proposed:

1,000 LF 6" PVC Sewer
6 Sewer Manholes
5,000-gallon Grease Trap

Stormwater Management

For the proposed site, a network of drainage pipes, catch basin structures, and drain manholes will be located throughout the site and parking areas. Proposed detention/infiltration systems will be located underground within the parking lots and under fields to maximize use of space. These infiltration systems will receive runoff from the roof of the building and the majority of the site. Runoff from paved areas will run through water quality units before entering the system to remove solids and pollutants before the water enters the detention/infiltration system.

Subsurface Structures (Infiltration chambers/tanks): Subsurface structures are underground systems that capture runoff and gradually infiltrate it into the groundwater. There are a number of underground infiltration systems that can be installed to enhance groundwater recharge. Subsurface structures are constructed to store stormwater temporarily and let it percolate into the underlying soil. These structures are used for small drainage areas (typically less than 2 acres). They are feasible only where the soil is adequately permeable and the maximum water table and/or elevation is sufficiently low. They can be used to control the quantity as well as quality of stormwater runoff, if properly designed and constructed. The structures serve as storage chambers for captured stormwater, while the soil matrix provides treatment.

Deep Sump Catch Basins with hoods: Catch basins are designed to remove trash, debris, and coarse sediment from stormwater runoff, and serve as temporary spill containment devices for floatables such as oil and grease. Some existing systems are to be repurposed, while additional structures will also be required.

Water Quality Units: A proprietary separator that is a flow-through structure with a settling or separation unit to remove sediments and other pollutants. They typically use the power of swirling or flowing water to separate floatables and coarser sediments, are typically designed and manufactured by private businesses, and come in different sizes to accommodate different design storms and flow conditions. The proposed design will utilize water quality units to meet 80% Total Suspended Solids (TSS) removal overall.

Proposed:

22,000 Cubic Feet of Storage
5 WQU's (Water Quality Units)
16 Area Drains
22 Catch Basins
15 DMHs
1,200 LF 18" PVC
800 LF 12" PVC
800 LF 8" PVC

Bituminous Asphalt

It is assumed that the access drive loop will be a heavy-duty asphalt with the following profile (12″ dense graded crushed stone for subbase, 2.5″ HMA binder course; 2″ HMA wearing course) and the parking lots will be regular asphalt profile of 8″ dense graded crushed stone for subbase, 2″ HMA binder course; 2″ HMA wearing course). It assumed that all curbing will be new. The total proposed asphalt area is approximately 70,000 square feet.

Manchester Memorial Elementary School – Addition/Renovation – Option B1.1

Water Service (Domestic & Fire Protection)

It is assumed the addition would be fed internally and no new external water line would be required. Refer to the plumbing facility assessment section for further in-depth analysis of the building's domestic and fire protection service and capacity

Gas Service

Refer to the plumbing facility narrative section for further in-depth analysis of the building's gas service and capacity.

Electric & Communication Services

The electrical engineer should provide further detail on any upgrades needed to the existing electrical infrastructure of the school for the new construction option.

Sewer

It is assumed that the addition would have an internal connection and tie into the existing sewer line. Refer to the plumbing facility assessment section for further in-depth analysis of the internal building's sewer capacity.

Stormwater Management

A stormwater management system would need to be constructed within the footprint of the new parking lot for the additional impervious area, and the building addition.

Due to the existing tennis courts and rain garden being within the floodplain, if the area is to be converted to parking, compensatory flood plain area will need to be provided elsewhere on site. This may require removing previously built programmatic space. Flood plain elevation per town bylaws on site is 18.25. The proposed building addition would be filling a previously constructed rain garden that was part of the new building project. That rain garden was approximately 5,000 cf of storage.

Proposed:

20,000 Cubic Feet of Storage
1 WQU's (Water Quality Units)
3 Area Drains
10 Catch Basins
12 DMHs
1,000 LF 18" PVC
800 LF 12" PVC
800 LF 8" PVC

Bituminous Asphalt

The parking lots will be regular asphalt profile of 8″ dense graded crushed stone for subbase, 2″ HMA binder course; 2″ HMA wearing course). It assumed that all curbing will be new. The total proposed asphalt area is approximately 45,000 square feet.

If you have any questions or comments regarding this memo, please call or email me at MKayserman@samiotes.com at 508-877-6688 (ext. 16) or Stephen Powers, PE at spowers@samiotes.com (ext. 14).

FIRST RESPONDER MEETING MINUTES

SECTION 3.3.6.14

JCJARCHITECTURE

JCJ.COM

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AN EMPLOYEE OWNED COMPANY

Project Meeting Record

Date: March 3, 2026
Meeting Date: February 27, 2026
Name: Essex Elementary School
MSBA # 202306980020
JCJ # B25302.00
Purpose: First Responder Meeting
Attendees:

Pam Beaudoin, MERSD
Michelle Cresta, MERSD
Kimberly Provost, EES
Christina Dell Angelo, D+W
Rachel Rincon, D+W
Christian Hassel, Essex Fire Department
Thomas Shamshak, Essex Police Chief
James McNeilly, Manchester Fire Chief
Matt Allain, GHT
Dustin Lombardi, JCJ
Fawn Walton Pellegrini, JCJ

Item ID	Description / Notes
02/27.01	The purpose of the meeting is to review initial security concepts for code upgrade/repair, addition/renovation, or new school alternatives for the Essex Elementary School. Once a preferred Alternative is selected by the School Building Committee, then the design team will refine one design for more detailed conversation.
02/27.02	JCJ reviewed the security measures taken at Manchester Memorial Elementary School and proposed implementing the same measures at Essex Elementary School. The team agreed.
02/27.03	JCJ and GHT noted security can be achieved while keeping the school building and site welcoming and friendly, especially for an elementary school environment. GHT referred to the Crime Prevention Through Environmental Design strategies.
02/27.04	GHT proposed software for EES: visitor management system, access control door hardware, intrusion detection system and associated lockdown and duress systems. Additionally, video surveillance system coordination with site (landscaping) sight lines was discussed along with security communications and response system configurations. AED stations can be connected to the communications system as well.
02/27.05	GHT noted weapons detection, vape detection and gunshot detection are other systems that can be provided but the MERSD may not wish or may not need this for their elementary school. • First responders and MERSD team noted that limited issues begin in middle school.

	• There was discussion that these systems are likely not needed but if systems like this were implemented at EES, then the MERSD will need to consider implementing the same systems in the other schools within the district at the same time for equity. • Infrastructure could be provided at EES enabling easier installation in the future. Or, given variables in technology advancement, the current MSBA project would not incorporate this in any capacity. • MERSD team noted that there have been false alarms at the high school.
02/27.06	First responders prefer the emergency drive around the school. • Ladder truck is approximately 110 feet. The Fire dept will send specifications for their largest truck to D+W and JCJ. • Design team to confirm turning radius on the site.
02/27.07	First responders confirmed that both Essex and Manchester respond to emergencies in both towns.
02/27.08	First responders agreed that access from both Story St. and Western Ave. was beneficial. Both streets are narrow proportions
02/27.09	Main Entrance shall include a knox box for Fire and knox box for Police. Keys and more specific needs will be discussed once a preferred alternative is determined and design refinement occurs.
02/27.10	MERSD team would like to keep the same door and sidelight arrangement as they have at MMES. The educators prefer the visibility.
02/27.11	First Responders confirmed that fire hydrants on site shall have FDC connection.
02/27.12	MERSD team would like to keep communicating doors between classroom pairs.
02/27.13	There are various emergency scenarios. Once there is a preferred alternative determined, then JCJ will coordinate plan and site with MERSD and first responders accordingly.
02/27.14	JCJ and D+W will share feedback from this meeting with the Site Safety Security Working Group.

Next Meeting: Next First Responder Meeting to be determined.

This Project Meeting Report represents JCJ's summary of discussions, decisions and agreements made collectively by the meeting participants and will become part of the project record and form the basis upon which we will proceed. If any meeting participants wish to comment or modify these notes, please notify the undersigned in writing within forty-eight (48) hours of receipt of this report or the report will stand as recorded.

JCJ Architecture



Essex Elementary School Project

First Responder Meeting

February 27, 2026 @ 9:00 AM

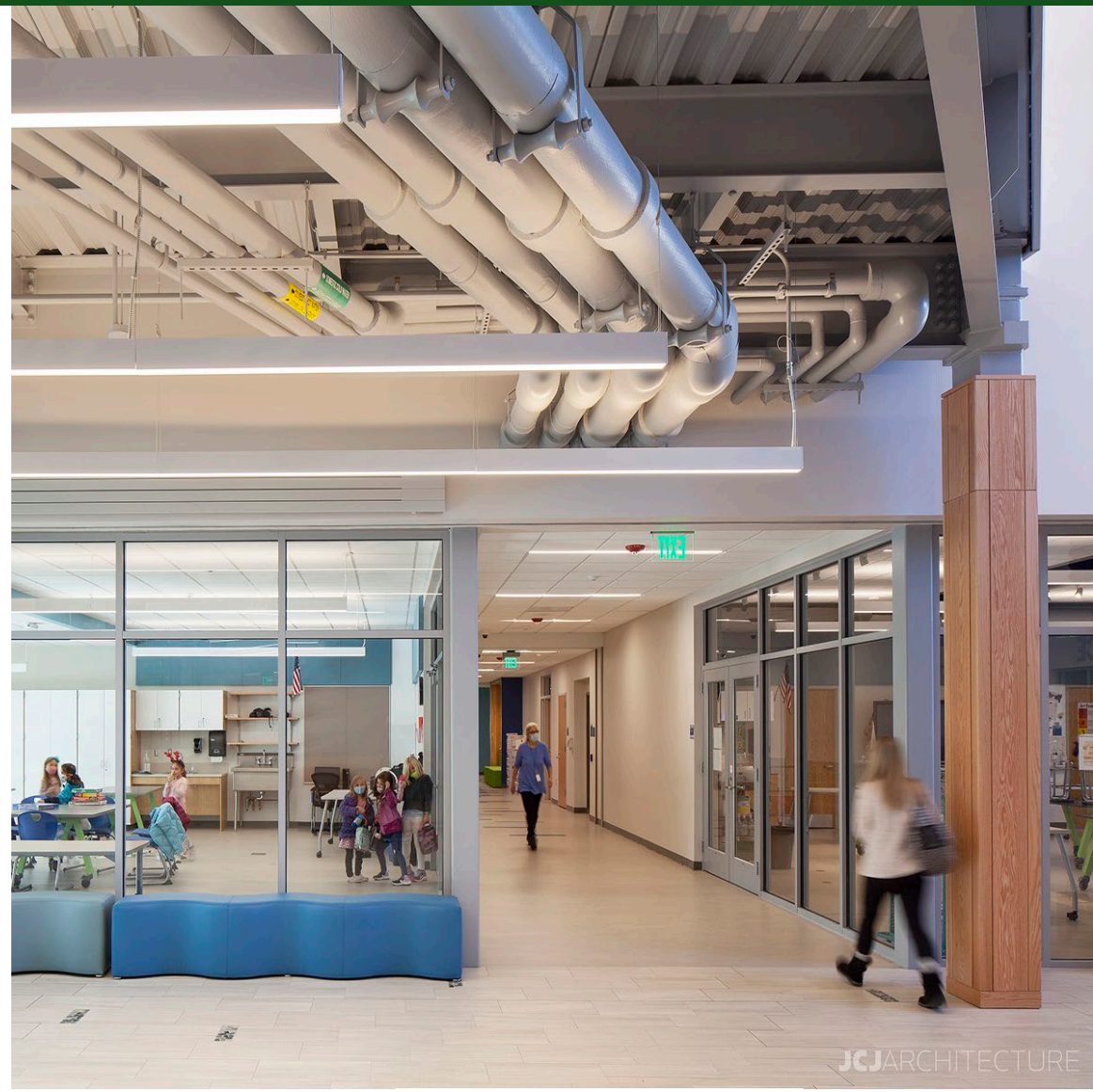
Manchester Essex Regional School District

DORE + WHITTIER

JCJARCHITECTURE

Meeting Agenda

1. Team Introductions
2. MMES-Existing Security applicable for EES
3. Considerations for EES
4. Discussion
5. Conceptual Site
6. Discussion
7. Next Steps



Team Introductions:

DORE + WHITTIER

Michael Burton, Partner In Charge

Christina Dell Angelo, Project Director

Rachel Rincon, Assistant Project Manager

JCJARCHITECTURE

Jim LaPosta, Principal in Charge

Fawn Pellegrini, Project Manager

Jeff Elliott, Project Designer

Dustin Lombardi, Project Architect

Emily Czarnecki, Interior Designer

GOOD HARBOR TECHMARK

SECURITY DESIGN & RISK MITIGATION STRATEGIES

Matthew Allain, Director

Cody Lattin, Security Engineer

Existing Security at Manchester Memorial Elementary School:

Controlled Main Entrance
- Entry storefront glazing and frame system
- Vestibule Transaction Window
- Raptor Visitor Management System

Lockdown

Silent Alarm

Security Cameras, Exterior and Interior

Door Hardware, Card Access

Communicating Doors between Classrooms

EES Entrance

Crime Prevention Through Environmental Design (CPTED) includes:

- Natural Surveillance
- Natural Access Control
- Territorial Reinforcement
- Maintenance and Visibility
- Activity Support



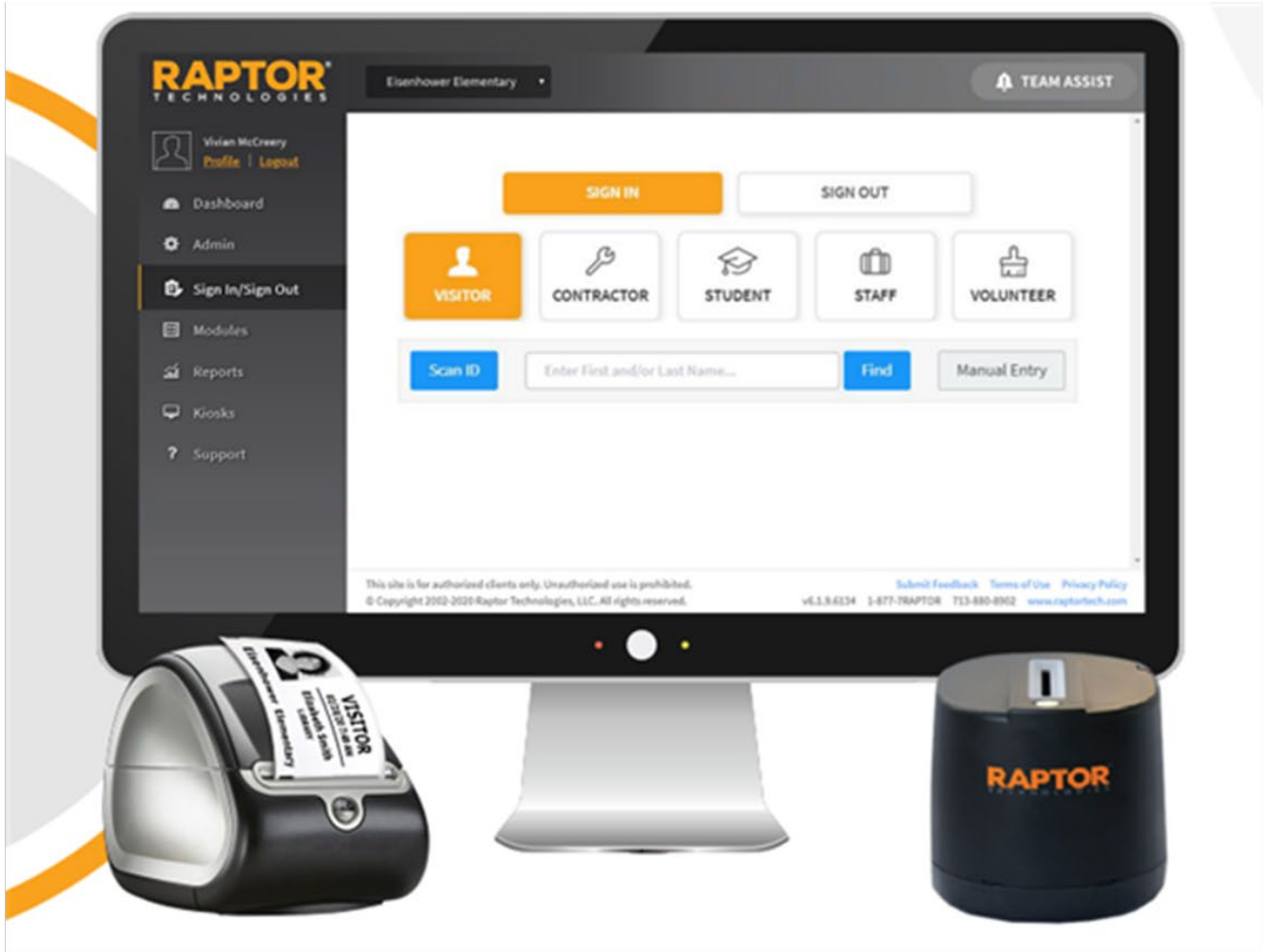
EES Entrance

Design addresses the entry sequence pathways, communication, and access while balancing a welcoming environment



EES Entrance - Raptor Visitor Management System

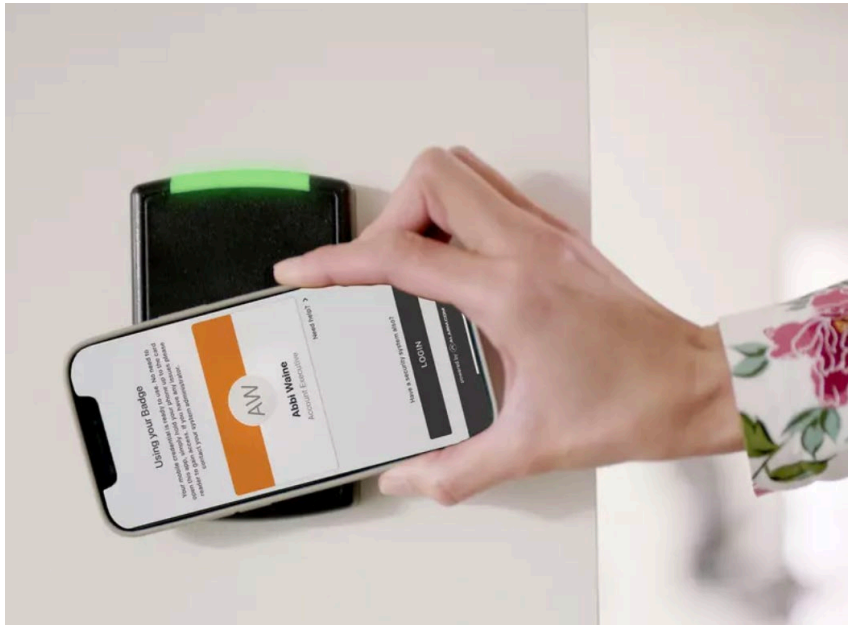




EES Access Control Credentials and Door Hardware



ID Card/ Keyfob Credential



Mobile Credential

EES Intrusion Detection System



EES Video Surveillance









Fixed Cameras

- Indoor/ Outdoor
- Varifocal fixed view lens with infrared illumination (IR).
- Include analytics including license plate recognition (LPR)



Multi-Lens Camera

- Indoor/Outdoor
- Varifocal lenses with infrared illumination (IR)
- 360-degree view at all times. Lenses can also be moved to provide 180, 270 and custom views.

EES Lockdown and Duress Systems



Lockdown Button:
Upon lockdown activation, first responders are alerted, doors that are normally held open will automatically close and secure, and doors that are normally unlocked will automatically lock.

All secured doors will require a credential or key to gain access.

Students and staff will always have the ability to egress from a space. Lockdown doors will only prevent ingress.

First responders will obtain a credential or key from the Knox Box.



Duress Button
Triggers a silent alarm to staff only or to include first responders.

EES Security Communication & Emergency Response Systems

Provides a centralized security communication system supporting two-way audio/video communication, integrated cameras, and mobile applications.

Door stations serve as controlled calling points for parents, visitors, and staff to request access or initiate emergency communication.

Supports situational awareness and response through visual verification and real-time interaction before granting access.



Integrated AED stations emergency services during a medical incident.



EES - Optional Detection and Monitoring Systems



Weapons Detection



Vape Detection



Gunshot Detection

Open Discussion



OPTION A1.2-B ADDITION/ RENOVATION

SITE PLAN

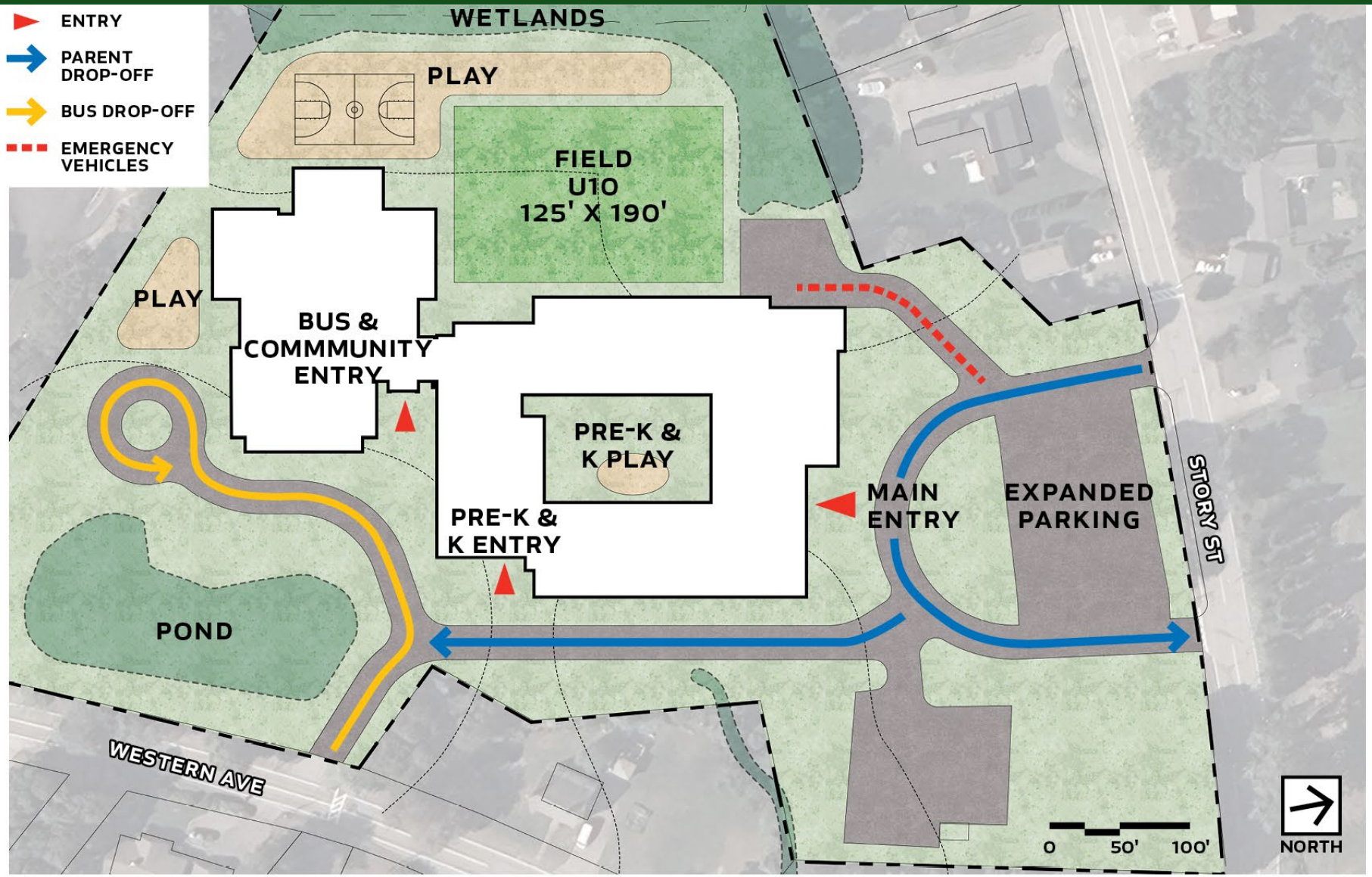
PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
24,637 GFA ADDITION

TOTAL: 77,673 GFA

CONSIDERATIONS

- ADDITIONAL 4000 GFA NEW CONSTRUCTION TO REMOVE STUDENT OCCUPIED SPACES FROM EXISTING LOWER LEVEL
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION



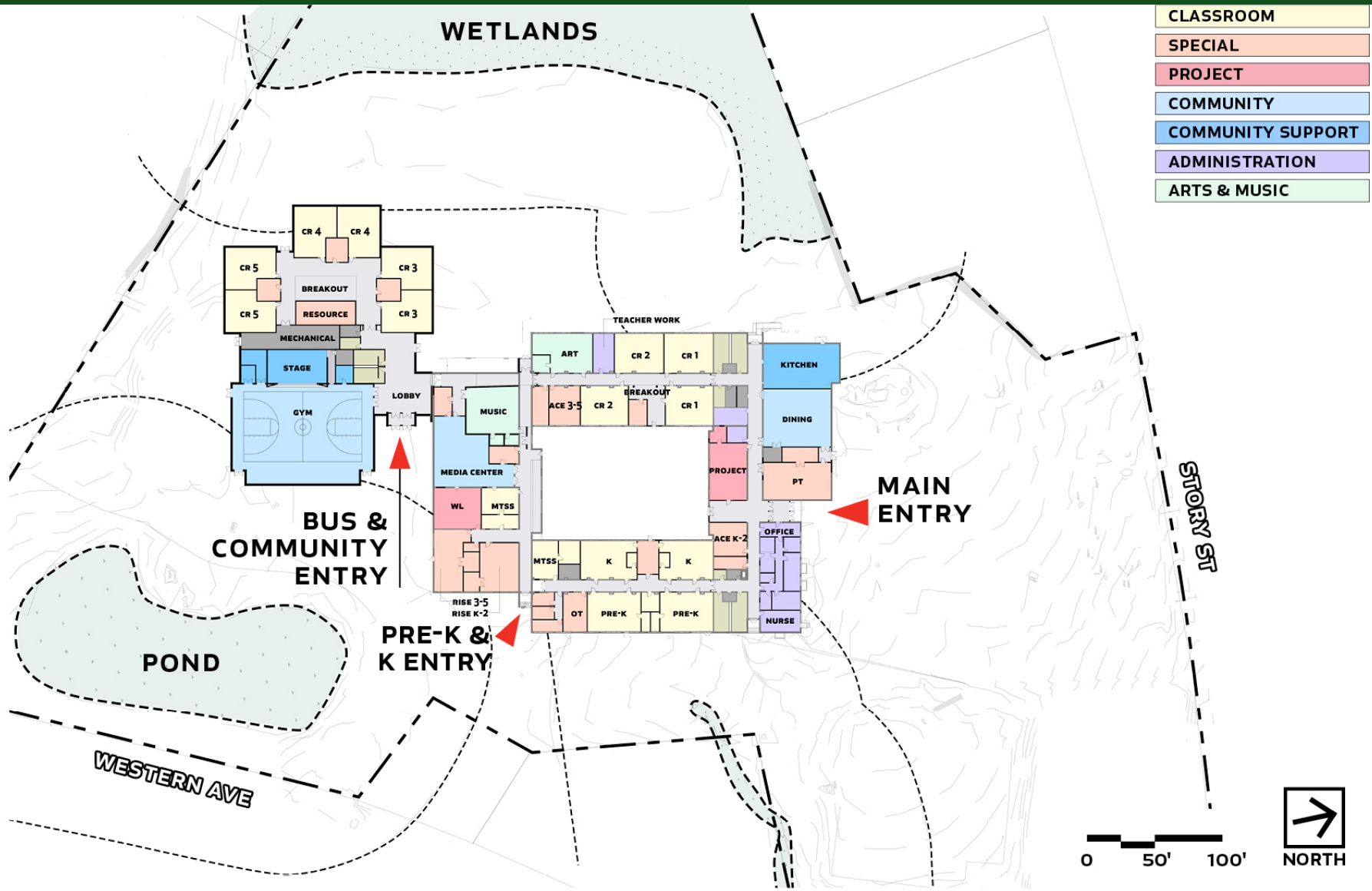
OPTION A1.2-B ADDITION/ RENOVATION

MAIN FLOOR

PRE-K – 5
250 STUDENTS + 30 PRE-K

53,036 GFA RENOVATION
24,637 GFA ADDITION

TOTAL: 77,673 GFA



CONSIDERATIONS

- ADDITIONAL 4000 GFA NEW CONSTRUCTION TO REMOVE STUDENT OCCUPIED SPACES FROM EXISTING LOWER LEVEL
- FULL-SIZE GYM ACCOMODATED IN ADDITION
- CONSTRUCTION WILL REQUIRE NUMEROUS SMALL PHASES IN AN OCCUPIED BUILDING
- SWING SPACE (6 CLASSROOMS) ACCOMMODATED IN ADDITION

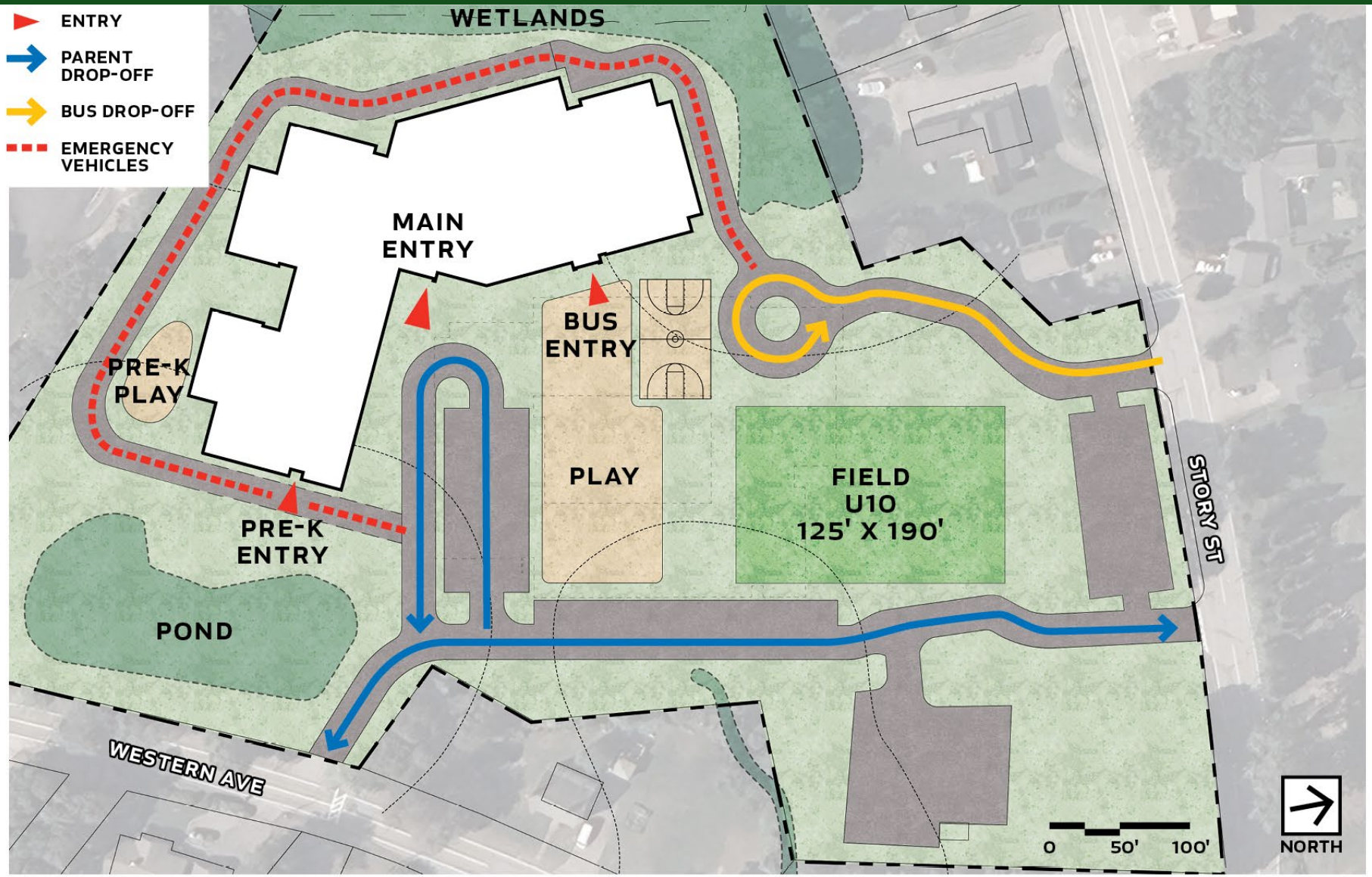
OPTION A2.2-A
NEW CONSTRUCTION

SITE PLAN

PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS

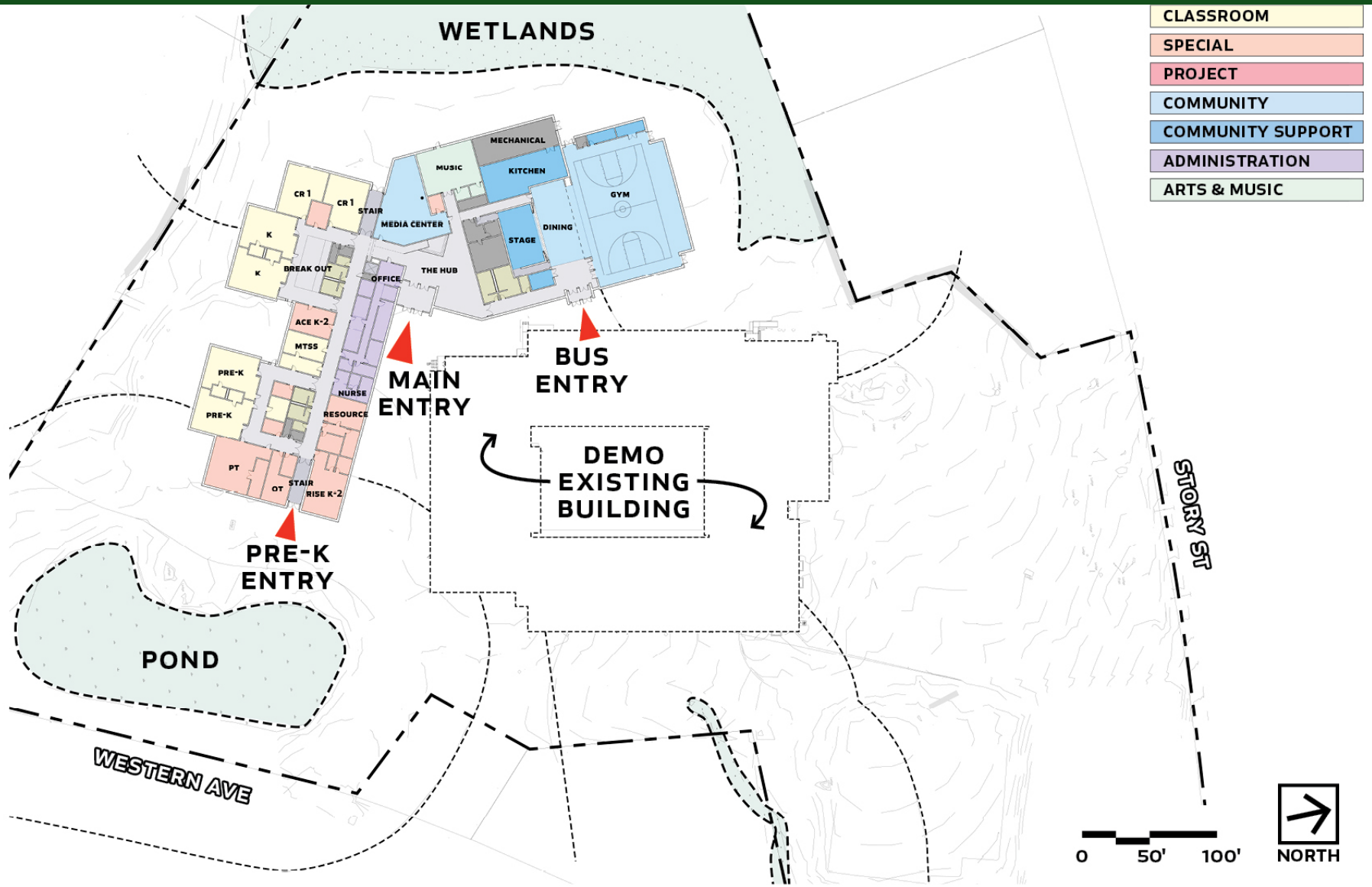
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

OPTION A2.2-A
NEW CONSTRUCTION

FIRST FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA



CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

OPTION A2.2-A
NEW CONSTRUCTION

SECOND FLOOR
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA



CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC

0 50' 100'
NORTH

CONSIDERATIONS
- ALL NEW CONSTRUCTION IN SINGLE PHASE
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS AND IMPROVED SIGHT LINES
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- TWO-STORY BUILDING REDUCES FOOTPRINT TO MAXIMIZE SITE POTENTIAL

OPTION A2.2-F
NEW CONSTRUCTION

SITE PLAN

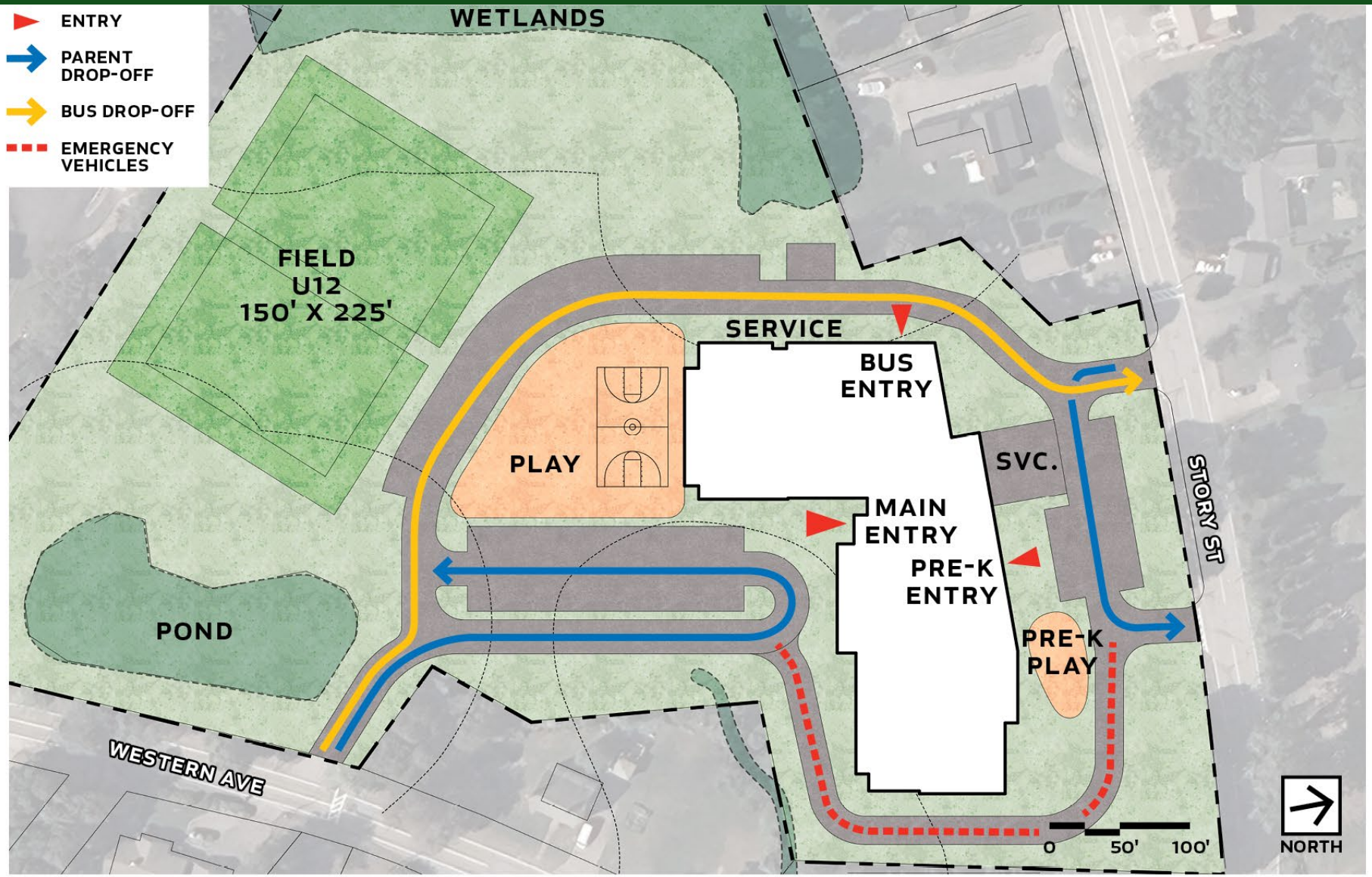
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS

- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



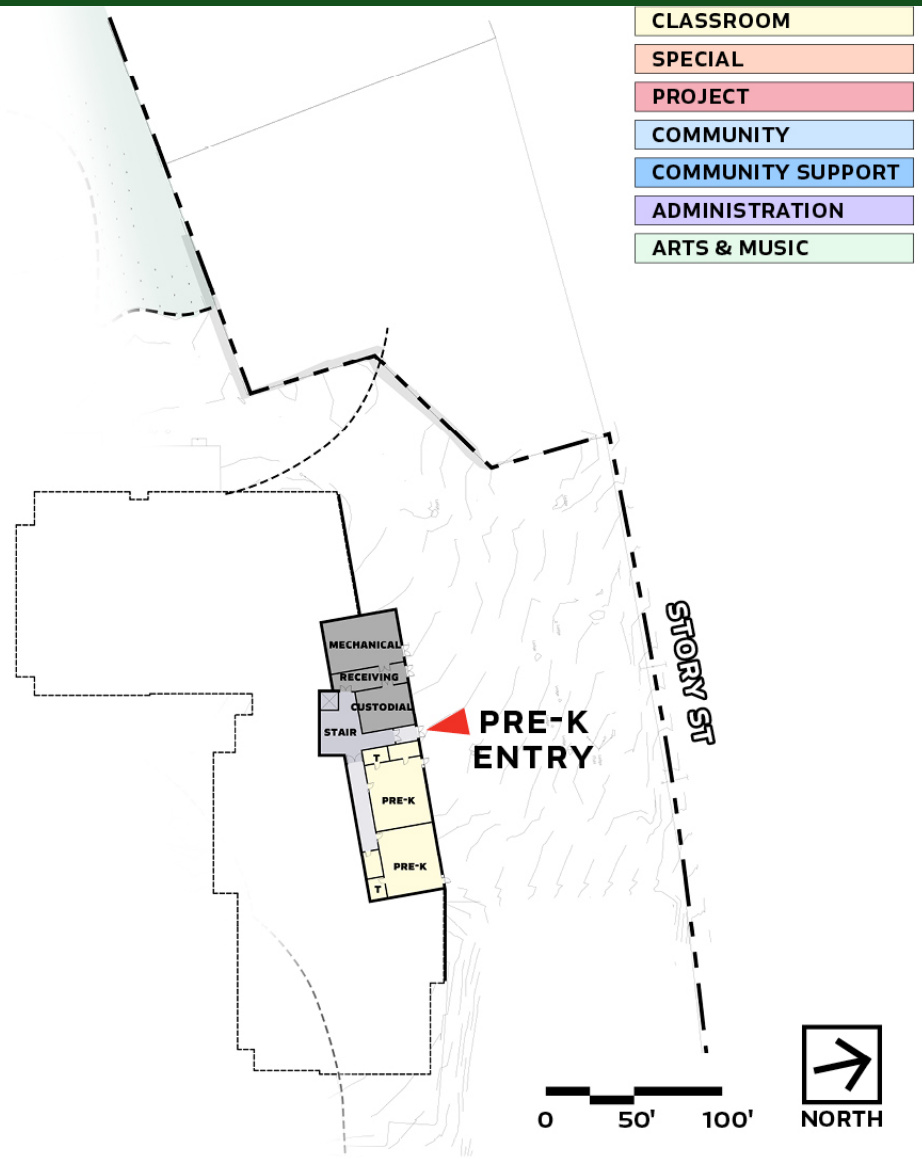
OPTION A2.2-F
NEW CONSTRUCTION

LOWER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



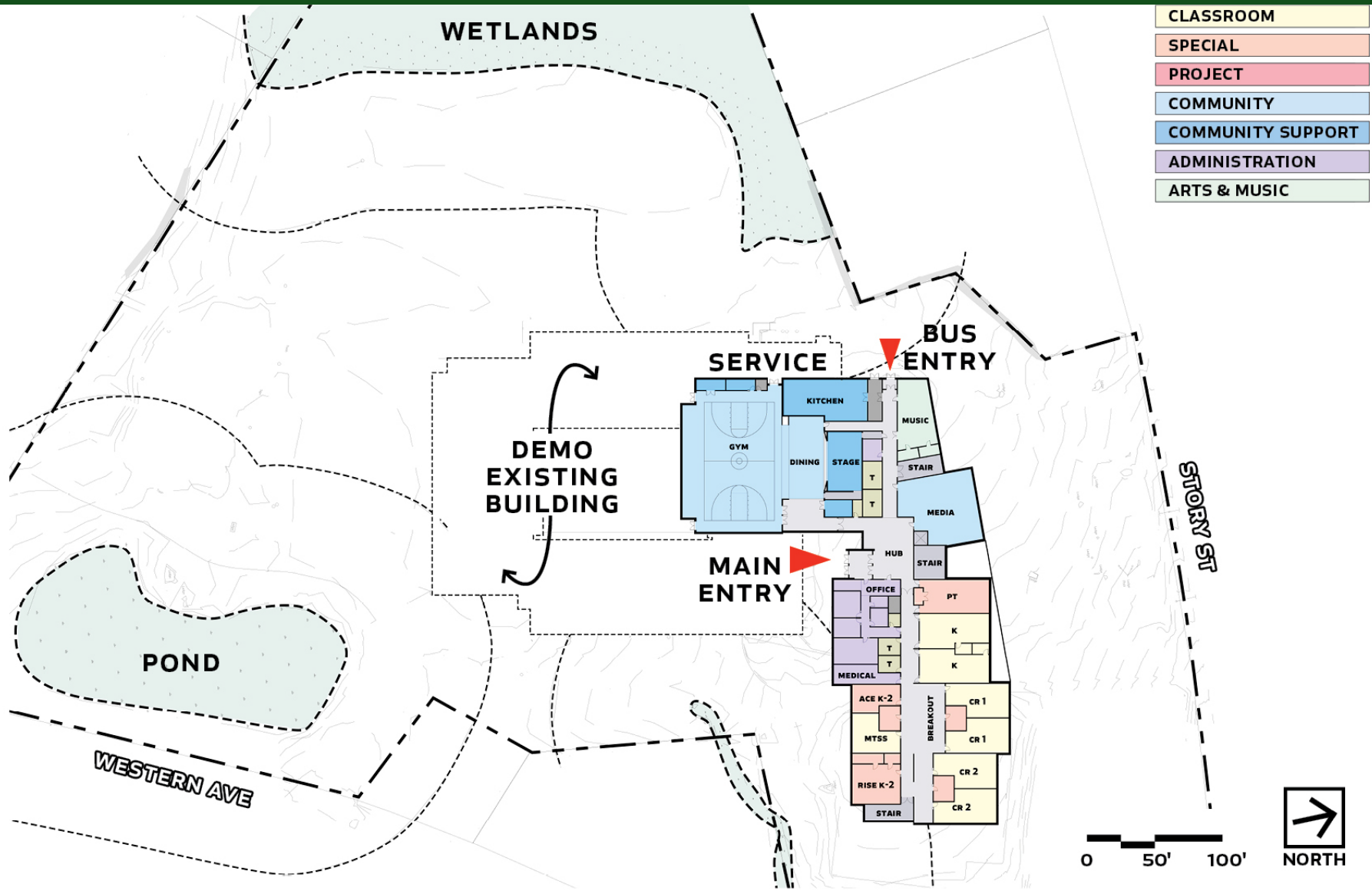
OPTION A2.2-F
NEW CONSTRUCTION

MAIN LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
- LARGER FIELD CAN BE ACCOMODATED



OPTION A2.2-F
NEW CONSTRUCTION

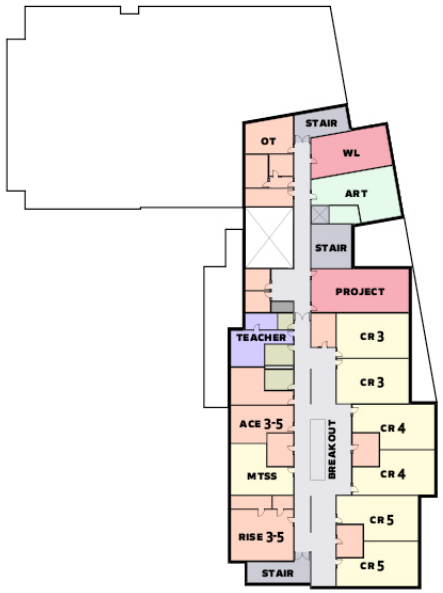
UPPER LEVEL
PRE-K – 5
250 STUDENTS + 30 PRE-K

73,673 GFA NEW

TOTAL: 73,673 GFA

CONSIDERATIONS
- NEW CONSTRUCTION SPLIT INTO TWO PHASES
- SITE LAYOUT PROVIDES FULL PERIMETER ACCESS
- DESIRED ROOM SIZES AND ADJACENCIES CAN BE OPTIMIZED
- ACCESS TO COMMUNITY SPACES EASILY CONTROLLED
- COST TRADE-OFF OF THREE-STORY REDUCED FOOTPRINT WITH MORE EXPENSIVE FOUNDATIONS ON SLOPE
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CLASSROOM
SPECIAL
PROJECT
COMMUNITY
COMMUNITY SUPPORT
ADMINISTRATION
ARTS & MUSIC



0 50' 100' NORTH

Open Discussion



First Responder Meeting

Provide feedback to the Site, Security, and Safety Working Group

Submit PSR to MSBA in April 2026

Schematic Design Development occurs May through December 2026



MSBA BUDGET STATEMENT

SECTION 3.3.6.15

Budget Statement for Preferred Schematic - Expenditures

As reported on the school district's most recent three end of year information, please updated to the 3 latest fiscal year periods and complete the fields below.

Category	2022-2023 FY2023 Staff (FTE)	2022-2023 FY2023 Budget	2023-2024 FY2024 Staff (FTE)	2023-2024 FY2024 Budget	2024-2025 FY2025 Staff	2024-2025 FY2025 Budget	Change from Previous Year Staff (FTE)	Change from Previous Year Budget	Post-Constuction Budget Staff	Post-Constuction Budget Budget	New Facility vs. Current Staff (FTE)	New Facility vs. Current Budget
Salaries												
Administration												
Admin. Secretary	7.75	427,164	7.75	435,289	7.75	476,089	0.00	40,800	7.75	515,319	0.00	39,230
Assistant Principal	2.00	216,463	2.00	221,650	2.00	222,424	0.00	774	2.00	240,752	0.00	18,328
Business Office	5.00	388,785	5.00	447,602	4.00	494,220	-1.00	46,618	4.00	534,944	0.00	40,724
Curriculum Director/Coord.	1.00	122,796	1.00	150,000	1.00	144,013	0.00	(5,987)	1.00	155,880	0.00	11,867
Custodians/Maintenance Staff	2.00	142,590	2.00	149,998	2.00	165,720	0.00	15,722	2.00	179,375	0.00	13,655
Executive Secretary	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Facilities Manager	1.00	114,689	1.00	119,556	1.00	122,495	0.00	2,939	1.00	132,589	0.00	10,094
Guidance	10.00	1,004,143	10.60	937,653	10.00	978,647	-0.60	40,994	10.00	1,059,288	0.00	80,641
Legal	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Nurse	3.00	254,822	3.00	218,336	3.00	233,081	0.00	14,745	3.00	252,287	0.00	19,206
Other	4.60	299,779	4.60	337,290	5.00	280,100	0.40	(57,190)	5.00	303,180	0.00	23,080
Principal	4.00	566,912	4.00	573,342	4.00	572,386	0.00	(956)	4.00	619,551	0.00	47,165
Special Education Director	1.00	151,673	1.00	155,427	1.00	159,275	0.00	3,848	1.00	172,399	0.00	13,124
Superintendent/Asst. Superintendent	1.00	214,820	1.00	220,190	1.00	225,695	0.00	5,505	1.00	244,292	0.00	18,597
Transportation	0.25	9,000	0.25	15,292	0.25	16,481	0.00	1,189	0.25	17,839	0.00	1,358
Treasurer	0.20	28,116	0.20	28,819	0.20	30,750	0.00	1,931	0.20	33,284	0.00	2,534
Total Administration	**42.80**	**3,941,752**	**43.40**	**4,010,444**	**42.20**	**4,121,376**	**-1.20**	**110,932**	**42.20**	**4,460,977**	**0.00**	**339,601**
Instruction - Teaching Services												
Arts	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Business	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Communications	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Coping Instructor	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Culinary Arts	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
ELL	1.00	100,241	1.00	107,490	1.00	110,177	0.00	2,687	1.00	119,256	0.00	9,079
ELA	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Family Consumer Services	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Foreign Language	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Health Services	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
History & Social Science	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Instructional Assistant/Paraprofessionals	36.40	916,373	42.00	874,390	42.00	887,359	0.00	12,969	42.00	960,477	0.00	73,118
Library/Media	1.00	107,079	1.00	110,809	1.00	114,349	0.00	3,540	1.00	123,771	0.00	9,422
Mathematics	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
MCAS	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Music	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Other	26.05	464,370	25.05	533,309	27.25	608,075	2.20	74,766	27.25	658,180	0.00	50,105
Physical Education	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Reading	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Science	0.00		0.00		0.00		0.00	-	0.00	-	0.00	
Special Education	36.87	3,190,372	35.80	3,151,987	34.80	3,201,238	-1.00	49,251	34.80	3,465,020	0.00	263,782
Substitute Teachers	0.00	147,000	0.00	191,400	0.00	191,400	0.00	-	0.00	207,171	0.00	15,771
Technology	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Classroom Teacher	68.00	9,454,554	69.00	9,323,777	67.00	9,730,873	-2.00	407,096	67.00	10,632,697	0.00	901,824
Total Instruction - Teaching Services	**169.32**	**14,379,989**	**173.85**	**14,293,162**	**173.05**	**14,843,471**	**-0.80**	**550,309**	**173.05**	**16,166,573**	**0.00**	**1,323,102**
Total Salaries Administration & Instruction	**212.12**	**18,321,741**	**217.25**	**18,303,606**	**215.25**	**18,964,847**	**-2.00**	**661,241**	**215.25**	**20,627,550**	**0.00**	**1,662,703**
Employee Benefits												
All employee-related fringe (health insurance, retirement etc)		**5,395,288**		**5,308,712**		**5,957,107**		**648,395**		**8,935,661**		**2,978,554**
Materials & Services												
Materials												
Audio-Visual Materials		-		-		-		-		-		-
Culinary Arts Materials		-		-		-		-		-		-
General Office Supplies & Classroom Supplies		237,378		243,881		226,968		(16,913)		245,670		18,702
Information technology		-		-		-		-		-		-
Hardware		201,796		206,210		209,760		3,550		227,044		17,284
Software		112,100		164,921		110,091		(54,830)		119,162		9,071
Library Materials		-		-		-		-		-		-

Budget Statement for Preferred Schematic - Expenditures

Category	2022-2023 FY2023 Staff (FTE)	2022-2023 FY2023 Budget	2023-2024 FY2024 Staff (FTE)	2023-2024 FY2024 Budget	2024-2025 FY2025 Staff	2024-2025 FY2025 Budget	Change from Previous Year Staff (FTE)	Change from Previous Year Budget	Post-Constuction Budget Staff	Post-Constuction Budget Budget	New Facility vs. Current Staff (FTE)	New Facility vs. Current Budget
Non info-tech equipment		51,975		53,130		61,100		7,970		66,135		5,035
Testing Materials & Supplies		14,300		13,200		13,115		(85)		14,196		1,081
Textbooks		77,575		86,402		81,050		(5,352)		87,729		6,679
Vocational Program Materials		-		-		-		-		-		-
Total Materials		**695,124**		**767,744**		**702,084**		**(65,660)**		**759,936**		**57,852**
Services												
Athletics		60,000		60,000		64,500		4,500		69,815		5,315
Attendance		-		-		-		-		-		-
Food Service		-		-		-		-		-		-
Health Services		260,000		338,689		313,120		(25,569)		338,921		25,801
Other Student Activities		451,069		425,973		397,794		(28,179)		430,572		32,778
Psychological Services		-		-		-		-		-		-
School Security		73,000		63,000		72,500		9,500		78,474		5,974
Student Transportation		1,065,300		1,107,649		1,111,841		4,192		1,223,025		111,184
Total Services		**1,909,369**		**1,995,311**		**1,959,755**		**(44,248)**		**2,140,807**		**181,052**
Total Material & Services		**2,604,493**		**2,763,055**		**2,661,839**		**(109,908)**		**2,900,743**		**238,904**
Facility Costs & Capital Improvements												
Facility Costs												
Custodial Supplies		60,000		65,000		68,000		3,000		81,600		13,600
Electricity		291,000		392,000		400,000		8,000		432,960		32,960
Heating Oil		-		-		-		-		-		-
Maintenance										-		
Building Security Maintenance		-		-		-		-		-		-
Elevator		-		-		-		-		-		-
Equipment Maintenance		-		-		-		-		-		-
Exterminating		-		-		-		-		-		-
Facility Maintenance		202,300		231,000		248,700		17,700		269,193		20,493
Fire Alarm		-		-		-		-		-		-
Fire Extinguisher Inspection		-		-		-		-		-		-
Generator		-		-		-		-		-		-
HVAC Maintenance		-		-		-		-		-		-
Other		491,131		518,536		566,883		48,347		613,594		46,711
Site Maintenance (Grounds)		95,000		95,000		104,000		9,000		112,570		8,570
Technology		-		-		-		-		-		-
Trash Removal		30,731		33,500		47,000		13,500		50,873		3,873
Natural Gas		145,000		288,000		243,000		(45,000)		263,023		20,023
Snow Removal		-		-		-		-		-		-
Telephone		49,508		44,500		37,000		(7,500)		40,049		3,049
Water/Sewer		41,661		47,700		58,700		11,000		63,537		4,837
Total Facility Costs		**1,406,331**		**1,715,236**		**1,773,283**		**58,047**		**1,927,398**		**154,115**
Captial Improvements												
Captial Improvements		**50,000**		**101,264**		**65,000**		**(36,264)**		**100,000**		**35,000**
Total Facility Costs & Capital Improvements		**1,456,331**		**1,816,500**		**1,838,283**		**21,783**		**2,027,398**		**189,115**
Debt Service												
Short-term		25,928		51,457		65,000		13,543		-		(65,000)
Long-term		4,480,668		4,123,563		3,898,063		(225,500)		4,000,000		101,937
Total Debt Service		**4,506,596**		**4,175,020**		**3,963,063**		**(211,957)**		**4,000,000**		**36,937**
Total Budget & Staff	**212.12**	**32,284,449**	**217.25**	**32,366,893**	**215.25**	**33,385,139**	**-2**	**1,009,554**	**215.25**	**38,491,352**	**0**	**5,106,213**

Budget Statement for Preferred Schematic - Revenue

As reported on the school district's most recent three End of Year Pupil and Financial Reports schedule 1, please update to the 3 latest fiscal year periods and report sources of revenue in the fields below.

	FY23 End of Year Financial Report							FY24 End of Year Financial Report							FY25 End of Year Financial Report						
	Regular Day	Special Education	C74 Occupational Day	Adult Education	Other Programs	Un-distributed	Total	Regular Day	Special Education	C74 Occupational Day	Adult Education	Other Programs	Un-distributed	Total	Regular Day	Special Education	C74 Occupational Day	Adult Education	Other Programs	Un-distributed	Total
A. Revenue from Local Sources																					
Assessments received by Regional Schools	-	-	-	-	-	29,478,692	29,478,692	-	-	-	-	-	31,042,602	31,042,602	-	-	-	-	-	30,284,790	30,284,790
E&D Fund Appropriations	-	-	-	-	-	520,000	520,000	-	-	-	-	-	-	-	-	-	-	-	-	350,000	350,000
Tuition from Individuals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuition from Other Districts in Comm.	-	224,993	-	-	-	-	224,993	-	226,130	-	-	-	-	226,130	-	-	-	-	-	-	-
Tuition from Districts in Other States	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Previous Year Unexpended Encumbrances (Carry Forward)	-	-	-	-	-	-	-	-	-	-	-	-	10,101	10,101	-	-	-	-	-	27,099	27,099
Transportation Fees	10,635	-	-	-	-	-	10,635	10,125	-	-	-	-	-	10,125	2,500	-	-	-	-	-	2,500
Earnings on Investments	-	-	-	-	-	201,168	201,168	-	-	-	-	-	279,816	279,816	-	-	-	-	-	240,265	240,265
Rental of School Facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Revenue	-	-	-	-	-	62,669	62,669	-	-	-	-	-	42,732	42,732	-	-	-	-	-	20,265	20,265
Medical Care and Assistance	-	103,436	-	-	-		103,436	-	95,040	-	-	-	-	95,040	-	88,397	-	-	-	-	88,397
Non Revenue Receipts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue From Local Sources	**10,635**	**328,429**	**-**	**-**	**-**	**30,262,529**	**30,601,593**	**10,125**	**321,170**	**-**	**-**	**-**	**31,375,251**	**31,706,546**	**2,500**	**88,397**	**-**	**-**	**-**	**30,922,419**	**31,013,316**
B. Revenue from State Aid	-	-	-	-	-	-	-	-	-	-	-	-	3,230,738	3,230,738	-	-	-	-	-	-	-
School Aid (Chapter 70)	-	-	-	-	-	3,160,298	3,160,298	-	-	-	-	-	128,214	128,214	-	-	-	-	-	3,348,466	3,348,466
Mass School Building Authority - Construction Aid	-	-	-	-	-	524,332	524,332	-	-	-	-	-	219,263	219,263	-	-	-	-	-	6,270	6,270
Pupil Transportation (Ch. 71, 71A,71B,74)	-	-	-	-	-	241,451	241,451	-	-	-	-	-	-	-	-	-	-	-	-	223,514	223,514
Charter Tuition Reimbursements & Charter Facilities Aid	-	-	-	-	-	-	-	-	-	-	-	-	1,136,337	1,136,337	-	-	-	-	-	1,377,661	1,377,661
Circuit Breaker	-	-	-	-	-	766,210	766,210	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Foundation Reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue From State Aid	**-**	**-**	**-**	**-**	**-**	**4,692,291**	**4,692,291**	**-**	**-**	**-**	**-**	**-**	**4,714,552**	**4,714,552**	**-**	**-**	**-**	**-**	**-**	**4,955,911**	**4,955,911**
C. Revenue from Federal Grants																					
ESE Administered Grants	49,238	408,769	-	-	-	261,063	719,070	52,871	223,808	-	-	-	227,769	504,448	50,274	344,472	-	-	-	51,732	446,478
Direct Federal Grants	-	-	-	-	-	1,000	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue Federal Grants	**49,238**	**408,769**	**-**	**-**	**-**	**262,063**	**720,070**	**52,871**	**223,808**	**-**	**-**	**-**	**227,769**	**504,448**	**50,274**	**344,472**	**-**	**-**	**-**	**51,732**	**446,478**
D. Revenue from State Grants																					
ESE Administered Grants	-	-	-	-	-	35,000	35,000	2,082	-	-	-	-	10,000	12,082	485	-	-	-	-	-	485
Other State Grants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue From State Grants	**-**	**-**	**-**	**-**	**-**	**35,000**	**35,000**	**2,082**	**-**	**-**	**-**	**-**	**10,000**	**12,082**	**485**	**-**	**-**	**-**	**-**	**-**	**485**
E. Revenue - Revolving & Special Funds																					
School Lunch Receipts	-	-	-	-	-	616,915	616,915	-	-	-	-	-	630,160	630,160	-	-	-	-	-	544,156	544,156
Athletic Receipts	-	-	-	-	-	244,789	244,789	-	-	-	-	-	262,146	262,146	-	-	-	-	-	268,390	268,390
Tuition Receipts - School Choice	290,000	315,618	-	-	-	-	605,618	325,000	512,890	-	-	-	-	837,890	385,000	665,844	-	-	-	-	1,050,844
Tuition Receipts - Other	-	-	-	-	-	238,267	238,267	350,536	-	-	-	-	-	350,536	-	-	-	-	-	405,076	405,076
Other Local Receipts	-	-	-	-	-	46,069	46,069	-	-	-	-	-	47,538	47,538	-	-	-	-	-	52,553	52,553
Private Grants	-	-	-	-	-	28,888	28,888	2,499	-	-	-	-	54,343	56,842	26,380	-	-	-	-	67,417	93,797
Total Revenue Revolving & Special Funds	**290,000**	**315,618**	**-**	**-**	**-**	**1,174,928**	**1,780,546**	**678,035**	**512,890**	**-**	**-**	**-**	**994,187**	**2,185,112**	**411,380**	**665,844**	**-**	**-**	**-**	**1,337,592**	**2,414,816**
Total Revenue All Sources	**349,873**	**1,052,816**	**-**	**-**	**-**	**36,426,811**	**37,829,500**	**743,113**	**1,057,868**	**-**	**-**	**-**	**37,321,759**	**39,122,740**	**464,639**	**1,098,713**	**-**	**-**	**-**	**37,267,654**	**38,831,006**