



CAMBRIDGEPORT SCHOOL

89 Elm Street
Cambridge, MA 02139

Facilities Condition Assessment : October 19, 2022

Capacity Analysis
Master Plan

Facilities Condition Assessment, Capacity Analysis and Master Plan for CPS



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7.3 | CAMBRIDGEPORT SCHOOL BUILDING APPENDIX

Historical Summary

The Cambridgeport School is located at 89 Elm Street in Cambridge, MA and one block away from Landmarks Easements. The school began as a single kindergarten class in the Cambridgeport area but was later relocated the Fletcher School building. Named after Ruel Hasseltine Fletcher, a former principal, the original four-level brick building (basement and three floors above grade) was built in 1903.

An addition was built in 1980, and was clad in brick to connect to the customary building practices of the area. There are no asbestos-containing materials in the school. [Ahera 1989-1992] The building was renamed to the Cambridgeport School following the move in 2000-2001, and currently houses students from Preschool (in the Special Start program) to 5th grade. The school was built upon ideals that centered the success of children and to this day continues to build upon a philosophy of community.



Fletcher School. Survey of Architectural History in Cambridge: Cambridgeport by Cambridge Historical Commission, The MIT Press 1971, 95.

FCA FORMS - SCORING BREAKDOWN

Two assessments were performed at each school, a Facilities Condition Assessment was performed by the architectural team and consultants to assess the current physical conditions of the building and the building systems. The Educational Adequacy Assessment looked at how existing spaces in each school support specific educational criteria and needs as identifies by our research.

Each assessor utilized checklists and the assessment criteria and rating scale below to maintain consistency across all fields. Detailed reports for each field can be found in the Appendix. The Conditions criteria grades the overall quality of the building and systems, and the *Priority* criteria sets the time frame for addressing the issues noted. The two numbers were used together to rate the different areas of the facilities.

To complete the analysis, each school was given an overall condition and priority score. These were calculated by combining and weighing all individual assessments based on the District’s priorities. The summary for this school individually can be seen in the following pages.

ASSESSMENT CRITERIA				
CONDITION		PRIORITY		
Excellent	A	No visible defects, new or near new condition, may still be under warranty if applicable	Currently Critical (Immediate	1 Requiring immediate action including a cited safety hazard and ares of accelerated deteriorating, returning a building component to normal operation.
Good	B	Good condition, but no longer new, may be slightly defective or deteriorated, but is overall functional	Potentially Critical	2 Requiring action in the next year including components experiencing intermittent operations, potential life safety issues, and rapid deterioration, returning a building component to normal operation.
Adequate	C	Moderately deteriorated or defective, but has not exceeded useful life	Necessary - Not Yet Critical	3 Requiring appropriate attention to preclude predictable deterioration, potential downtime, additional damage, and higher cost to remediation if deferred further
Marginal	D	Defective or deteriorated in need of replacement; exceeded useful life	Recommended	4 Representing a sensible improvement to the existing conditions (not required for the most basic function of the facility; however, will improve overall usability and/or reduce long-term maintenance costs).
Poor	E	Critically damaged or in need of immediate repair; well part useful life	Does Not Meet Current Code but “Grandfathered”	5 No action required at this time, but should substantial work be undertaken correction would be required

FCA SCORE SUMMARY

ARCHITECTURAL - EXTERIOR	CONDITION	PRIORITY
<ul style="list-style-type: none">A scope of masonry cleaning and repointing should be undertaken in areas of step cracked brick to extend the service life of the masonry and to reduce potential for further issues.Repair of cracked limestone sills is recommended.Windows in good condition overallDoors and entrances in good condition overallSealants in good condition overallMetal panels in good condition overallReplacement of existing roof with new roof with Code compliant insulation and means of secondary drainage is recommended.Replacement of existing roof with new roof with Code compliant insulation is recommended.Replacement of existing roof with new roof with Code compliant insulation and means of secondary drainage is recommended. Include provisions for safe roof access to each roof level.Isolated replacement of cracked, spalled brick.	C	3
ARCHITECTURAL - INTERIOR	CONDITION	PRIORITY
<ul style="list-style-type: none">Most walls gypsum but some have SGFT wainscot and few have SGFT full height.FFE - Varying age but most in adequate condition.Lower grade of casework used. Shows significant damage in most rooms.Classroom sinks and toilet fixtures were well worn.	D +	3
STRUCTURAL SYSTEM	CONDITION	PRIORITY
<ul style="list-style-type: none">General Construction (Roof, Floor, Foundations)	B	5
<ul style="list-style-type: none">Exterior Walls: Repoint masonry, replace caulking, repair wood fascia	C	4
<ul style="list-style-type: none">Lateral Force Resisting System - General		5
<ul style="list-style-type: none">Investigate and repair cracks and uneven flooring at OT/PT room slab on grade.	D	2
<ul style="list-style-type: none">Investigate moisture at slab on grade		4
<ul style="list-style-type: none">Monitor cracks in floor finish at upper floors		
<ul style="list-style-type: none">Investigate/repair built-up flooring at Art Room	D	4
FOOD SERVICE	CONDITION	PRIORITY
<ul style="list-style-type: none">Replace kitchen floor; repair walls & ceilingReplace exhaust hood & fire suppressionReplace serving line equipment	D	3
CONVEYING SYSTEM	CONDITION	PRIORITY
<ul style="list-style-type: none">Clean pit space and pit equipment.Scrape and clean all car and hall door sills of debris.Replace worn rear entrance door operator belt.	D	1

BUILDING SYSTEMS	CONDITION	PRIORITY
◦ Replace plumbing fixtures and fittings, replace waste and vent piping, replace storm water piping, replace heating pumps due to corrosion, replace H&V units, replace classroom window mounted AC cooling units, replace terminal heating units, replace building automation systems, replace roof exhaust fans, replace some lighting fixtures, upgrade lighting controls with energy code compliant system	C-D	3-4
◦ Replace old boiler – leaking at several header locations, replace electrical service and distribution systems – 44+ years old. Replace emergency generator and exhaust – causes fumes to neighbors.	E	1-2
<div>Note: "5" not counted in priority average.</div>	D	3

PORTFOLIO-LEVEL FINDINGS AND DEFICIENCIES

Site

Existing Condition

Cambridgeport School is in a quiet residential area. The front of the school is located on the east side of the site, one step up from grade, bordering Elm Street. The main entry is recessed from the sidewalk and covered, a ramp for accessible entry is located here as well. The floor of the covered exterior space is lined with brick pavers and the ramp is concrete, all in fair condition.

The north side of the site features a large play area, fenced in from the sidewalk with two entry points. There are a series of play structures and free-standing play elements as well as benches surrounding a half court for basketball. The floor on this side is rubber except for the court which is paved with asphalt. The north side of the site is in good condition.

Rounding towards the west side of the building, benches and trees line an alley walkway with a tall fence, leading to a second play area with a large play structure as well as the back entry to the school. The entry is recessed slightly creating a small, covered space paved with rubber flooring. Directly after the play space, there are some planters, a shed, and composting areas for the CitySprouts program. The area that follows is paved with asphalt, there is exterior pipe access, as well a driving lane. At the time of visit, this area was in use for construction materials and machinery for window. A satellite view shows that this are is also used for tandem parking, with 8 cars parked in this space.

The south side of the site is also paved in asphalt, with space for trash, a driveway, and a small area for bike racks. Satellite images show 14 additional cars parked in this area. There is a side egress door to the school up a couple of steps from grade, with no ramp. The south and west side of the site are in fair condition, the asphalt is cracked and patched throughout.



Front Entrance



North Side of Site

Architectural - Exterior

Existing Condition

The building exterior of the Cambridgeport School includes wings of two different vintages. The South wing is the original building constructed in 1903 and exterior comprises multi-wythe brick masonry with limestone window sills and a tar and gravel roof. The North wing is an addition constructed in 1980 and clad in brick veneer, concrete block and insulated metal panels, with a ballasted EPDM roof and a metal roofing system. The windows and doors throughout the building were being replaced with new units at the time of this survey.

The masonry façade is in good condition overall with isolated areas in need of repair. The replacement windows are in very good condition and the roof is in fair condition.

Masonry:
The masonry façade is largely in good condition and there is evidence of previous repointing in some areas. An isolated area of displaced brick is present at the South return on the East Elevation of the South wing. (Ref: Photo AE-10) Step cracking of brick is visible at a few locations such as at the North return Elevation near the East roof deck. (Ref: Photos AE-11-12) A few locations of bulging masonry have also been previously repointed below window sills at the West Elevation of the South wing. (Ref: Photos AE-13-14)

Isolated cracking of the limestone sills is evident at a few locations such as on the South Elevation. (Ref: Photos AE-15-17) Masonry control joint sealants at the North wing have reached the end of their expected service life. (Ref: Photo AE-19)

Insulated Metal Panels:
Insulated metal panels clad the connection between the North and South wings along with a small section at the North end of the building. Some of these panels are being replaced as part of the renovation work in progress. (Ref: Photos AE-20-23)

Windows and Doors:
The windows are hung replacement assemblies with thermally broken aluminum frames with insulated glazing with Low-E coatings. New windows and doors were being installed throughout the building at the time of this survey. (Ref: Photos AE-7-9)

There are new thermally broken aluminum storefront entrance frames stored on site, however, the extent of exterior door replacement is unknown. Some of the existing hollow metal framed doors exhibit surface rusting and peeling paint on the base of these frames at most locations. (Ref: Photo AE-25)



AE-A: Representative multiwythe brick masonry at South wing / original building



AE-B: Transition from original building to North addition along West Elevation

Architectural - Exterior

Existing Condition

Roofing:
There are multiple roof levels. There are roof decks on the on the East and West sides of the second floor of the North wing. The East deck is surfaced with fully adhered EPDM on mechanically fastened substrates. There are many patches and some unadhered membrane throughout the East roof deck. The West roof deck is covered with concrete pavers, preventing a review of the EPDM roof. (Ref: Photos AE-26-28)

The low sloped roofs at the North wing addition are surfaced with loose laid EPDM covered with stone ballast. (Ref: Photos AE-29-33) Some of the stone ballast has been moved around the roof to expose the EPDM presumably to identify and repair sources of roof leakage. Isolated EPDM field repair patches are visible at various locations throughout the roof, with some failing lap sealants. Some areas of the EPDM appear to be secured to the face of the masonry façade with lap sealant and lacked mechanical means of termination. (Ref: Photo AE-33) The extent of insulation (if any) or other existing roofing systems below the EPDM is unknown.

The tar and gravel roof of the South wing appears original to the building. There is evidence of previous repairs to the tar and gravel with use of asphalt in several areas. A wood cornice surrounds the base of this roof and has peeling paint. (Ref: Photo AE-39)

Roof drainage is achieved via internal roof drains, however there is no secondary means of drainage on any roof level. The roof drains and strainers were recently replaced at the EPDM roof, but the drains at the tar and gravel roof appear to be original. (Ref: Photo AE-D)

Roof access to the roof decks is via an exterior door, with a wall mounted ladder providing access to the ballasted EPDM roofs above. There is no access to the tar and gravel roof and to access this roof, facilities personnel use a step ladder placed on a lower roof, which is not considered a safe means of access. (Ref: Photo AE-34) The steep sloped metal roofing located at the North end of the building is in fair condition overall, with some worn coating and isolated surface rust. Associated metal flashings at the ridge and eave are damaged and a snow rail is missing. (Ref: Photos AE-40-43)

Miscellaneous:
The North Elevation has a painted Mural. (Ref: Photo AE-4) Masonry retaining walls at building entrances on the West Elevation exhibit displaced and cracked brick, with efflorescence. (Ref: Photo AE-44) There is some crazing and efflorescence of the masonry at the masonry screen wall on the East Elevation. (Ref: Photo AE-45)



AE-C: Interior of representative classroom with new windows.



AE-D: General view of ballasted EPDM roof at North addition over Gymnasium

Architectural - Exterior

Existing Condition

Reported Envelope Issues:
While on site, discussions were held with facilities personnel to identify any building exterior-related issues that may exist. Those present were shown interior locations of recurrent water leakage that are believed to be related to roofing deficiencies. Roof leaks evidenced by stained ceiling tiles are present in Rooms 301 and 302, as well as within the Main corridor on the third floor. (Ref: Photos AE-46-47)

There are multiple leaks in the Gymnasium, including at middle of the gym and above the stage below the transition from metal roofing to masonry on the exterior. BEA observed drip stains and daylight appears to be visible on the interior at this transition. (Ref: Photos AE-48-52)

Recommendations

Masonry:
A scope of masonry cleaning and repointing should be undertaken in areas of step cracked brick to extend the service life of the masonry and to reduce potential for further issues.

Repair of cracked limestone sills is also recommended.

Windows and Doors:
The replacement of hollow metal doors and frames is recommended if they have not been replaced as part of the current renovation project.

Roofing:
Replacement of all existing roofing systems is recommended. The roof has exceeded its expected service life and should be replaced with a new roofing system with Code compliant insulation and means of secondary drainage. Preparation for re-roofing should include investigation of leak sources at various areas of the building. A scope of repair work based on the results of the leak evaluation should be executed.

New roofing systems should include provisions for a safe means of access to each roof.

Architectural - Interior

Existing Condition

The original Cambridgeport School dates back to 1903 with a significant addition having been built in 1980. It has many iterations of renovations over time: original wall construction is still evident in the basement level while new windows were being installed on the day of the assessment. These iterative repairs lend a lack of cohesiveness to the interiors and varying degrees of disrepair can be found around the building.
One other key feature is that the building is a ‘split level’ with the original construction being about ½ level above the 1980’s addition. This dividing line separates larger, public spaces from typical classrooms and differentiates the interior finishes as well. Overall, with the exception of new windows, much of the interior could use a full renovation/ modernization.

Ceilings:
Typical ceilings are 1x1 acoustical tile ceilings (ACT) which appear to be attached directly to structure above. These ceilings show varying degrees of damage and are almost past their useful life. The ceiling at the basement level is marginal with significant defects. Some portions of the 1980’s wing have 2x4, lay-in ACT ceilings. These tiles are sagging and damaged and should be replaced. The exposed ceiling in the gym is discolored and worn throughout. Gypsum ceilings and bulkheads are of moderate quality where repair is required but not full replacement.

Walls:
Basement walls are a mix of CMU, brick, and SGFT/ glazed block. These create an incohesive look to the basement level rooms. The upper-level classroom walls are composed primarily of gypsum board with exposed CMU in some locations. These walls are in moderate condition in the main classroom areas but are marginal in the entry/cubby areas of the rooms. The corridor walls have a gypsum finish however the quality is marginal and the trim is poorly executed. CMU walls have deep struck joints, sometimes with accent colors painted in the joints, but these give shadows that tend to make the overall appearance look dingy. Areas with exposed, painted brick walls look unfinished due to the rough-laid nature of the masonry in this lower level.

Floors:
The predominant flooring material throughout the school is VCT, including in the stair towers. Ceramic tile is located in all restrooms. Having been installed over what is likely a wood floor structure, the VCT in the 1903 portions has apparent damage with cracking throughout. VCT in the 1980’s wing is in somewhat better condition. The gym has a rubber sports floor that has outlived its useful life.



Typical Room – Basement Level



Typical Classroom Cubbie/ Entry Area – First Floor

Architectural - Interior

Windows:
The windows were being replaced on the day of the assessment. All should be new at this time.

Doors:
Typical doors are hollow metal and show signs of age. It is possible that most can be repaired, rather than replaced if they are code compliant and if new hardware can be installed. Exterior HM doors show significant rust and weather damage. If these are not replaced with the exterior window replacement, they should be considered of poor quality and will need attention within the next year or two.

FFE:
The furniture, fixtures and equipment vary in age throughout the school with the majority of it being in the adequate to marginal range. Some furniture appears to be in good condition, but this is the exception, not the norm. The furniture in the community school area stands out as well past its useful life.

Millwork:
Millwork was the low point of the conditions ranging from adequate to poor. All wet areas were well worn and delaminating. The cubby areas showed significant wear, were inconsistently laid out and need renovation. In some areas it appears that millwork was removed and never replaced, some infilled with a mix of furniture pieces. One exception was that some science casework on the second floor was in slightly better condition however, those rooms were being used as general classrooms, so the science casework was not useful.

Plumbing:
Plumbing associated with the classroom built-ins was in poor condition or missing. Restroom fixtures appear in moderate condition and are covered in more depth by MEP analysis.

Recommendations

The overall conditions rating for the Cambridgeport interiors was a D+ which indicates significant work needed throughout. Having just replaced the windows, a full interior modernization with repair/ replacement of the majority of interior finishes is warranted at this school and, with a priority rating if 3, that would indicate the need within the next 3-5 years. .



Typical Corridor – Second Floor



Typical Classroom - Third Floor

Theater

Existing Condition

The theatrical equipment systems at the Cambridgeport School are minimal and in poor condition.

There is no stage rigging or theatrical lighting present.

The stage drapes are severely damaged. Drapery track appears worn.

Recommendations

Stage Drapery:
Stage draperies should be replaced with new, inherently flame-retardant drapes.

All drapery tracks and hardware should be inspected and replaced or maintained as needed.



Main Curtain with Damage



Detail of Curtain Damage

Structural System

Existing Condition

General
The Cambridgeport School was reportedly constructed in 1903 (originally called the Fletcher School), with a structurally separate addition constructed in 1980. Existing structural drawings for the original building were not available to the design team at the time of our visit to the school; however, a complete set of existing structural drawings for the 1980 addition was available. The three-story original building structure is assumed to consist of unreinforced masonry bearing walls, concrete floor construction, wood framed roof construction, and conventional, spread footing foundations. The two-story 1980 addition consists of a structural steel building frame, composite floor construction, and conventional, spread footing foundations. Both buildings generally appear to be in satisfactory condition.

Existing Structural Systems and Observations
Foundations in the 1903 building are assumed to consist of concrete slabs on grade and concrete foundation walls with continuous footings at perimeter and interior masonry bearing walls. Foundations in the 1980 addition consist of concrete slabs on grade, concrete foundation walls with continuous footings, and individual spread footings at building columns. Foundations for the addition have been designed based on a 1.0 tons per square foot bearing pressure and generally appear to be performing adequately in both buildings. There are a few signs of differential settlements in the original building.

Floor Construction in the 1903 building was not visible during the existing conditions review; however, framing may consist of a concrete slab spanning to masonry bearing walls at the corridor and wood planks supported by wood joists spanning to masonry bearing walls at the classrooms. Floor Construction in the 1980 addition consists of concrete slabs on composite metal deck supported by steel beams spanning to steel (wide flange) columns. Overall, floor construction appears to be performing satisfactorily; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated, or failed structural members.

Roof Construction in the 1903 building reportedly consists of wood planks supported by heavy timber beams spanning to masonry bearing walls. Roof Construction in the 1980 addition consists of galvanized steel roof deck supported by long span open web steel joists. Steel joists are supported by wide flange steel girders spanning to steel (wide flange) columns. No loading information was available for the 1903 building; however, the building may have been designed to comply with the requirements of Boston Building Code which would have required a minimum design roof load of 40 psf. However, drifting snow loads were likely not have been accounted for in the original design. The roof structure of the 1980 addition was designed for a snow load of 30 psf, which meets the current building code for flat roofs. Overall, the roof construction appears to be performing satisfactorily; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated, or failed structural members.



Photo ST-1: Cracks and Moisture in the Slab on Grade at the Mechanical Basement



Photo ST-2: Uneven Floor at OT/PT Room

Structural System

Existing Condition

Exterior Wall Construction of the 1903 building consists of unreinforced solid brick masonry bearing walls. Interior walls are also brick masonry construction. Exterior Wall Construction of the 1980 addition consists of brick masonry veneer supported by CMU backup walls. The exterior wall construction generally appears to be in satisfactory condition.

There is no clearly defined Lateral Force Resisting System in the original building as it was designed and constructed prior to the introduction of the Massachusetts State Building Code (MBC). By default, the masonry walls provide a level of lateral force resistance; however, the structure does not meet current seismic requirements (strength and detailing). Lateral force resistance and seismic hazards, including unreinforced masonry wall issues, would need to be addressed in conjunction with a future major renovation of the building. The 1980 addition is structurally separated from the original building by an expansion joint. The Lateral Force Resisting System consists of steel braced frames and was designed for the wind and seismic load requirements of the Massachusetts State Building Code that was adopted at the time of construction.

Recommendations

Structural Comments/Recommendations
Structural conditions at the school were reviewed at the site (to the extent possible) on August 31, 2022. Note that all windows and glazing elements were being replaced that the time of the structural review. While the building structure was observed to be generally adequate condition, specific structural/structurally related conditions that may require further investigation and/or remediation in the future are listed below.

Evidence of water/moisture issues were observed in the Mechanical basement, which may be due to moisture issues and/or leaking mechanical equipment. A number of cracks were also observed in the slab on grade in this area, which may be due to the same moisture issues and/or equipment loads. Further investigation is recommended. Refer to Photo ST-1.

The floor tiles at the slab on grade in the OT/PT room were cracked and the floor was uneven (raised in some areas). These conditions may be due to moisture issues or soil settlement. Floor tiles should be removed, and the condition investigated and properly repaired to prevent further slab damage and potential tripping hazards. Refer to Photo ST-2.

There are several cracks in the floor tiles at the upper floors, mainly occurring at door thresholds. These are likely due to shrinkage of the floor slab/framing and are not a structural concern. However, these conditions should be remediated for potential tripping hazards. Refer to Photo ST-3.



Photo ST-3: Cracks in Floor Tiles at Upper Floor



Photo ST-4: Added Floor Tiles at Differential Floor Elevations in Classroom

Structural System

It appears that the floor in the Art room was built-up to address floor elevation issues. This is not a structural concern, but should be investigated and repaired in conjunction with a future renovation of the building. Refer to Photo ST-4.

There are reports of numerous roof leaks and evidence of leaks was observed in several locations. Further investigation is recommended.

The exterior veneer of the original building at the addition are in satisfactory condition; however, some repointing of brick joints and repair/replacement of exterior caulking will likely be required in the future. Refer to Photo ST-5.

Wood roof edge fascia is beginning to deteriorate in some locations. The fascia should be repaired to prevent further damage. Refer to Photo ST-6.

General Comments on Renovations, Alterations, Repairs, and Additions
Renovations, alterations, repairs, and additions to existing buildings in Massachusetts are governed by the provisions of the Massachusetts State Building Code (MSBC – 9th Edition) and the Massachusetts Existing Building Code (MEBC), which defines three compliance methods for the repair, alteration, change of occupancy, addition, or relocation of an existing building. The method of compliance is chosen by the Design Team (based on the project scope and cost considerations) and cannot be combined with other methods. The Work Area Compliance Method (IEBC Chapters 4 through 12) is the most common compliance method chosen.

The design and construction of any proposed addition(s) to the existing building would be conducted in accordance with the Code for new construction. Generally speaking, additions should be structurally separated from the existing, adjacent construction by an expansion (seismic) joint to avoid an increase in gravity loads or lateral loads to existing structural elements.

Where proposed alterations to existing structural elements carrying gravity loads result in a stress increase of over 5%, the affected element will need to be reinforced or replaced to comply with the Code for new construction. Alterations to existing structural elements resisting lateral loads (i.e., masonry walls) which result in an increase in the demand - capacity ratio of over 10% should be avoided; otherwise, a seismic evaluation and potential upgrade will be required. Essentially, this means that removal of, or major alterations to the existing lateral force resisting elements (masonry walls) should be avoided if possible. Structurally attached additions (horizontal or vertical) which result in an increase in the demand – capacity ration of over 10% would also trigger a seismic evaluation and potential seismic evaluation.



Photo ST-5: Deteriorated Caulking at Exterior



Photo ST-6: Deteriorated Roof Edge Fascia

Mechanical System

Executive Summary

Fire Protection Systems
The existing building is provided with a partial automatic sprinkler system. The kitchen hood, level 3 classrooms, and some of the level 1 classrooms are provided with sprinklers.

The building is provided with a manual-wet standpipe system located in the center egress stairwell only.

The sprinkler and standpipe system piping consists of black steel pipe. The age of the system is unknown and appears to be in fair condition with no visible signs of corrosion. This pipe has an expected service life of 75 years.

Mechanical Systems
The existing building is heated and ventilated only, and window air conditioning units are installed for cooling specific spaces. Two gas-fired cast-iron boilers produce hot water which is distributed to two heating and ventilation units, perimeter finned tube radiators, and convectors. One of the heating and ventilation units serves the Gymnasium and the other larger unit serve the rest of the building. Outside air for ventilation is introduced through the heating and ventilation units from wall louvers. Fans located on the roof provide exhaust air from toilet rooms, kitchen, and support spaces. The building automation system is mainly pneumatic with minimal DDC controls. In general, the HVAC systems are well beyond expected service life and should be considered for replacement in the near term. The exception is one if the boilers, hot water pumps, and two of the exhaust fans are in good condition with some service life remaining.

Plumbing Systems
The existing building is provided with conventional plumbing systems which include a domestic water distribution system, sanitary waste and vent system, storm water system and a natural gas system.

The plumbing piping systems have an expected service life of 50-100 years. The existing plumbing systems were installed in 1980 and appears to be in fair condition with some visible signs of general wear and corrosion.

Electrical Systems
The existing electrical distribution, lighting, fire alarm, and IT systems are partially original to the 1978 building renovation and new construction project, approximately 44 years old, and have had only minor modifications to support program changes.

This equipment is past its useful life.

Mechanical System

Heating System

Existing Condition
The heating source for the building consists of two gas-fired cast iron boilers located in the basement mechanical room. Boiler B-1 is a Smith Mills Model 4500A and likely pre-dates the 1980 renovation project. This boiler is in poor condition and is leaking at the threaded section connections at the bottom headers. Boiler B-2 is Smith Model V1120 installed in 2003 and appears in adequate condition. The expected service life is 30-years for cast-iron boilers. Hot water is distributed throughout the building using two Taco Model FI base-mounted pumps. The hot water pumps were installed in 2003 and appear in marginal condition. The motor on one of the pumps was recently replaced and the coupling guard is missing. The expected service life is 20-years for base-mounted pumps. Hot water piping appears in good condition with insulation mostly intact.

Recommendations
Boiler B-1 is in poor condition and the rest of the plant is in marginal to adequate condition. Boiler B-1 should be replaced in the short-term due to leaks. Consider wholesale replacement options, along with ventilation and air conditioning upgrades, including the use of heat pumps with either low temperature hot water or refrigerant based distribution.

The mixing valve above the two boilers has been reported to be faulty, and that the hot water temperature entering the system often doesn’t reach the desired setpoint. Multiple classrooms, especially corner rooms with two exterior faces, have insufficient heat capacity due to low entering water temperature, clogged or seizing control valves, or lengths of fin tube that exceed the manufacturer’s recommended maximum length. The mixing valve and control valves should be repaired or replaced in the short term, while a redesign of the perimeter heat should be looked into during a large scale renovation of the mechanical systems.

Cooling System

There is no permanent cooling system in the building. Cooling is provided for select spaces using window air conditioning units.

Recommendations
Consider adding a central cooling system, along with ventilation and air conditioning upgrades, including the use of heat pumps with either low temperature hot water or refrigerant based distribution.



M-1: Vintage Boiler



M-2: Hot Water Pumps

Mechanical System

Ventilating and Air Conditioning System

Existing Condition
The building is served by (2) heating and ventilating units (H&V units). Unit HV-1 serves the entire building except for the Gymnasium which is served by HV-2. Unit HV-1 is located within the basement mechanical room and HV-2 is located within the Gymnasium. Four inline fans are used to return air back to HV-1 and supply air VAV are distributed throughout the building for airflow control. Outside air for ventilation is introduced through the units from wall louvers. Fans located on the roof provide exhaust air from toilet rooms, kitchen, and support spaces. Finned tube radiation is provided at the perimeter throughout the building and convectors are provided in corridors and building entry points. Most of the equipment is original to the 1980s (+40-years in service). Equipment appears in poor condition except for two roof mounted exhaust fans which are newer. Life expectancy is 20-years for HVAC equipment. Ductwork appears in poor condition with a life expectancy of 30-years. Hot water piping within the basement mechanical room appears in good condition with insulation mostly intact. Hot water distribution piping throughout the rest of the building appears original to the 1980s.

Recommendations
The H&V units, heating terminal units, and exhaust fans are well beyond expected service life and should be considered for replacement in the short-term. Consider high efficiency system replacement options including the use of heat pumps with either low temperature hot water or refrigerant based distribution. Include exhaust energy recovery and variable frequency drives or EC motors for airflow modulation.

Ductwork systems are also well beyond expected service life and should be considered for replacement along with equipment upgrades. Hot water piping system should also be considered for replacement along with equipment upgrades. A change-out of system type using heat pumps will require upgrade of the ductwork and piping systems.



M-3: Vintage H&V Unit



M-4: Corroded H&V Dampers

Mechanical System

Building Automation System

Existing Condition
Controls serving the H&V units, heating terminal units, and exhaust fans is predominantly the original pneumatic system installed in 1980s. The head-end has been upgraded over the years to a newer JCI Facility Explorer network controller with Niagara framework. Control air is provided by the original air compressor tank and a newer rotary screw compressor. Life expectancy is 20-years for pneumatic systems and 15-years for electric/electronic systems.

Recommendations
Most of the building automation system is beyond expected service life and should be replaced concurrent with equipment replacements. Replacement systems should include a complete system of DDC controllers, sensors, actuators, and head-end graphics.

The heating system DDC controls are more technologically current and are still serviceable. However, most of the Cambridge School system BAS network resides on a more modern Tridium Niagara platform and ultimately a plan should be developed to transition to this newer platform as the older Metasys system is no longer supported and reaching the end of its expected median service life of 20-years.



M-5: Pneumatic Control Panel



M-6: Updated Network Controller

Electrical System

Power Distribution

Existing Condition
The Cambridgeport School building is currently served by a utility-owned transformer, located at the exterior area of the building.

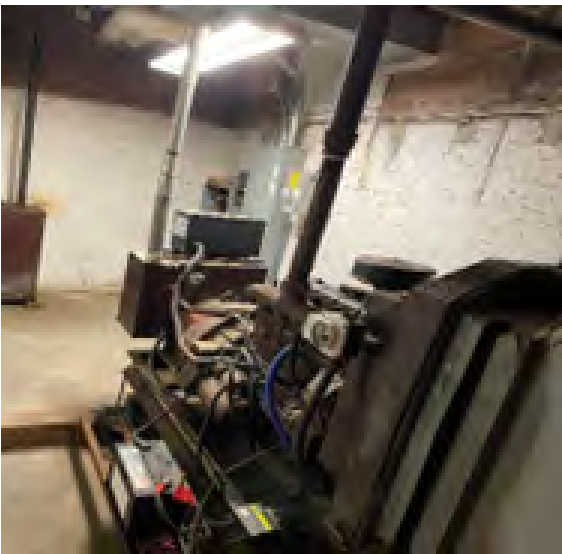
The electrical service is an 1000A, 208/120VAC, 3-phase, 4-wire, underground service, located in the electrical room on the lower level. The Federal Pacific Switchboard main service is floor mounted; this panel is from the 1978 upgrade. Numerous electrical equipment (panels) were observed during a walk-through of the building. It has been observed that the locations of panel boards are poorly designed, as they are situated in corridors and general areas where students frequent. Panel boards are in fair/poor condition given their age, and there were no signs of maintenance being performed on them since 1978.

Emergency Electrical Distribution
The school has an emergency diesel generator located in a generator room. The generator is operational, but is far past its useful life. The generator exhaust location is directly below a tenant window on the exterior of the building; this is a code violation. When maintenance is being performed on it, there have been many complaints about the noise of the generator and the fumes.

The distribution appears to mix normal and emergency power in wire paths. The electrical code requires complete separation between normal and emergency power. This is a NFPA 70 code violation. It also appears the standby loads and Life safety loads are provided in the same raceway/panel. These types of electrical distribution are to be completely segregated.

There were no indications of generator testing or general maintenance. Emergency lighting is provided by dedicated emergency lighting fixtures which energize upon loss of power.

The light level at the stairwells in subject should be reviewed. Emergency exit signs were provided and appeared to be properly located for emergency access.



E-0: Emergency Generator



E-1: Main Electrical Service (Entrance)

Electrical System

Power Distribution

Recommendations
It is generally accepted that the life of an electrical system is thirty (30) years. Beyond that point, it becomes increasingly difficult to cost effectively maintain the system. Wire insulation and equipment failure becomes more common as the system ages, with an increase in outage longevity due to the design of the system and the availability of replacement parts. Often new systems need to be installed to bypass the old system without the benefit of a comprehensive plan designed for the needs of the building. With the aged electrical devices, the devices may not operate under faulty conditions.

The main electrical distribution provides 287KW with an area of 58,646 square feet or 4.9W/SF. New highly efficient mechanical designs generally require 19- 24W/ SF. The main service would be required to be upgraded complete for a large-scale mechanical upgrade.

The electrical code now requires Arc Fault Protection labeling for the safety of the electrical staff. It is recommended that an Arc Fault/Coordination study be performed, and associated labeling be provided to meet today’s electrical code. Arc fault reduction is now a code requirement for electrical services 800A and larger to reduce the available Arc Fault, this is not available on the existing equipment.

Due to the age of the existing electrical distribution system, it is recommended that the existing systems be provided with a full range of electrical preventive maintenance, to include:

- Panelboards and switchgear:
- Inspection and cleaning
 - Ground resistance test
 - Thermal imaging
 - Insulation resistance testing



E-2: Generator Exhaust

Electrical System

- Cables:
- Inspection
 - Verify tightness of bolted connections
 - Insulation resistance testing
 - Circuit Breakers
 - Inspection and cleaning
 - Measure contact resistance
 - Thermographic Survey
 - Operate circuit breaker to verify smooth operation
 - Verify tightness of bolted connections
 - Verify trip operation of circuit breaker by primary current injection
 - Verify setting required by coordination study
 - Verify operation of any auxiliary function (i.e., remote trip and close)

Due to the age of the existing electrical distribution system, it is recommended that the existing systems be scanned with an infrared camera to identify any loose or weak electrical connections. The generator should be tested, and a testing regime should be established.

The generator exhaust location should be reviewed and remedied immediately.

The electrical system should be replaced completely with the next renovation or large-scale mechanical upgrade.

Electrical System

Lighting & Devices

Existing Condition
The majority of the lighting installed in the 1978 building renovation was fluorescent lighting. Lighting control is accomplished with manual switches in most spaces.

Recently, most of the fluorescent lighting in the corridors, common spaces, office, and classrooms were replaced with LED light tubes in the existing fluorescent light fixtures. LED lighting fixtures save energy and have reduced maintenance costs as compared to fluorescent fixtures.

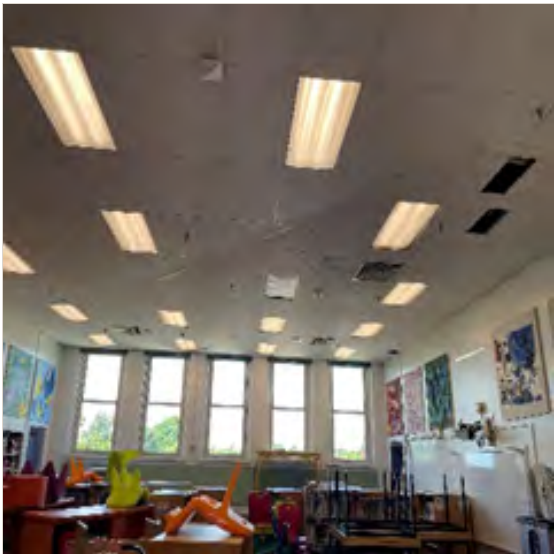
A spot check of wiring devices indicated varying conditions. Light switches and receptacles were generally in poor to fair condition, while many were older and showing wear. Lack of a sufficient quantity of receptacles was noted. In the cafeteria, ground fault circuit breakers were not provided as required by the latest electrical code. Tamper resistance receptacles are also required in Preschools and elementary education facilities.

Recommendations
If a major renovation is undertaken, RFS recommends that the lighting fixtures are removed, and new fixtures be provided that meet current energy efficiency standards and are available for possible utility rebate programs. Lighting in all spaces should be reviewed to ensure adequate levels are provided.

The lighting design should incorporate modern lighting techniques and controls, such as zoned indirect lighting, dimming capabilities for audio-visual presentations, as well as low-level direct lighting. Additionally, high-efficiency light fixtures with daylight harvesting controls should be used; although not required by code, it may offer additional energy savings.

Occupancy sensors should also be provided to comply with current energy conservation requirements. Provide a full test of the emergency lighting, verify that light levels meet existing code required levels and ensure compliance with 527 CMR, NFPA 70 and NFPA 101.

Emergency lighting should be upgraded by providing additional fixtures in areas that lack sufficient levels of emergency lighting (stairways). Exit lighting should be upgraded to cover all means of egress corridors and exit doors, where required.



E-3: Classroom Lighting



E-4: Emergency Egress Lighting

Electrical System

Fire Alarm

Existing Condition
The existing horn/strobe type fire alarm system has been upgraded since the 1978 renovation and appears to be in fair to good condition. There is an additional annunciator at the main entrance. Also at the main entrance is a Knox Box and Beacon.

The International Building Code (IBC) requires that a speaker type system be provided in an education occupancy (K-12). This system is a horn-type system and does not meet today's code requirements.

Smoke detectors are present in most emergency egress paths. Heat detectors were also noted in utility closets, kitchens, and mechanical spaces. The devices appear to be in fair working order.

Pull stations were observed at most exits and at entrance points to level change. CO detection was not noted in classrooms or areas adjacent to carbon monoxide producing equipment.

Horns/lights are installed in corridors and some common spaces to provide alarm notification to occupants. The devices appear in fair/poor working order with white strobe lenses in several areas, and not clear as required by code.

Recommendations
The existing fire alarm control panel is not code complaint - non-compliant ADA type indicating devices are installed. A new addressable voice system should be installed due to occupancy requirements within the building to replace the existing system. Additional speaker strobe coverage and proper relocation of pull stations should be conducted to meet code.

It is recommended that a speaker type-system be provided for transmitting voice notifications in the event of a fire alarm and/or mass notification.

Install carbon monoxide devices in alarms devices in every classroom where carbon emitting devices are located. Verify all devices are provided as required by 527 CMR, NFPA 72, 780 CMR, and the Mass Fire Alarm code (Missing pull stations, smoke detection not code compliant etc.)



E-5: Existing Fire Alarm Device

Plumbing System

Domestic Water System

Existing Condition
Water Service Entrance: The building is provided with a 4” water service entrance which enters the basement level mechanical room and is provided with a 3-inch Neptune meter with remote read.

Domestic Water Heater: Domestic hot water is generated from a simplex RUUD electric water heater with 50 gallons of integral storage and rated at 4,500 watts. The hot water system is fully circulated back to the heater with the use of a Taco Model 006-BT4 cartridge circulator. The domestic hot water system is not provided with an expansion tank or master thermostatic mixing valve. The heater was manufactured in January 2022 and appears to be in good condition. The expected service life for the water heater is 20 years.

A separate RUUD electric water heater with integral storage serves the kitchen. The heater data plate was obstructed from view to verify the size and capacity. The heater is not provided with a master thermostatic mixing valve or expansion tank. The heater was installed 09/2015 and appears to be in good condition.

System Piping: The piping serving the domestic water system includes soldered copper with brass ball valves. Recent repairs and fixture replacements use press fittings. The piping system appears to be in fair condition. The expected service life for copper pipe is 80 years.

Many of the Handwashing sinks in the classrooms are supplied with cold water and have no hot water feeds. The cold water serving these sinks is exposed and uninsulated.

Recommendations
Provide all classroom sinks with hot water as required by CMR 248.

Replace corroded pipe, valves, and fittings as required.

All existing domestic water piping should be provided with fiberglass insulation.

Remove and replace all existing domestic water pipe which contains lead-solder.



PL-1: Exposed uninsulated cold water at classroom sinks

Plumbing System

Domestic Plumbing Fixtures

Existing Condition
The domestic plumbing fixtures located within the building include wall mounted 3.5 gpf and 1.6 gpf water closets with manual flush valves. Floor mounted 1.6 gpf flush tank water closets are provided in single user toilet rooms. The building also includes wall mounted urinals with manual flush valves, wall mount china lavatories with push button manual metering faucets, stainless-steel wall mount handwashing sinks with push button manual metering faucets, and stainless-steel wall mount drinking fountains. Some drinking fountains have been updated with integral bottle fillers and usage counters. Some fixtures did appear to be ADA compliant.

An exterior high/ low drinking fountain is provided on site. The fixture appears to be in good condition.

Many of the domestic plumbing fixtures appear to be in poor condition except for some fixtures that have been recently replaced. The domestic plumbing fixtures have an expected service life of 30-40 years.

Recommendations:
Public lavatories shall be provided with thermostatic mixing valves to limit the outlet temperature to a maximum of 110-degrees. Insulation kits shall be provided at all ADA lavatories at the supplies, stops, p-trap and tailpiece.

Urinals shall be side shielded for privacy as required by the Massachusetts Plumbing Code, 248 CMR.

Replace plumbing fixtures and floor drains which are heavily corroded and exceeded their useful service life.

Replace plumbing fixtures throughout the building with water conserving low-flow fixtures.



PL-2: Privacy shields should be provided



PL-3: Abandoned Neutralization Basin

Plumbing System

Sanitary Waste and Vent System

Existing Condition
The building is provided with a sanitary waste and vent system which collects sanitary sewage from the domestic plumbing fixtures located throughout the building.

The pot sink in the kitchen is provided with a 35 gpm floor mounted grease interceptor. The outlet of the interceptor is piped to the sanitary waste piping. The science classroom sinks have been removed from use and the existing basement level neutralizing tank has been abandoned in-place.

It is assumed waste piping 4” and larger is cast iron pipe. The observed pipe 3” and smaller is copper and in fair condition. The expected service life for cast iron pipe is 80-100 years.

The underground sanitary in the 1903 section is believed to be original to the building and has exceeded its service life.

Recommendations
Replace existing corroded and failed piping and fittings as required.
Remove the abandoned pH neutralization tank and all associated waste and vent piping in its entirety.

Coordinate the need to provide an exterior grease interceptor with the Cambridge Sewer Department. Assure interior grease interceptor is properly maintained.

Remove existing under-slab piping which has exceeded its service life. Remove existing running trap located at the sanitary sewer exit in Classroom 01.



PL-5: Corroded Copper Waste Pipe



PL-6: Corroded Copper Domestic & Waste Pipe

Plumbing System

Storm System

Existing Condition
The building is provided with a storm system which collects rainwater from the roof drains located on all flat sections of roof. The piping is installed down through the building and discharges to the municipal storm sewer by gravity.

It is assumed the storm system consists of cast iron pipe with hub and spigot joints. The expected service life for cast iron pipe is 80-100 years.

Recommendations
No immediate action required.

Natural Gas System

Existing Condition
The building is provided with a natural gas system. The service entrance is on the west side of the building. Natural gas serves the mechanical boilers, and kitchen equipment. The natural gas piping is black steel and appears to be in fair condition. The expected service life of black steel pipe is 75 years.

Recommendations
No immediate action required.

Fire/Life Safety

Sprinkler System

Existing Condition
The existing building is provided with a partial automatic sprinkler system. A 4” fire service enters the basement level Boy’s Bathroom room and is provided with a double check valve assembly and a flow switch.

All of the fire protection piping is black steel with grooved and threaded fittings. The expected service life of black steel pipe is 75 years.

Recommendations
It is recommended the existing sprinkler system be maintained in conformance with the requirements of NFPA 25, Inspection, Testing and Maintenance of Water-Based Fire Protection Systems.
Extend an automatic sprinkler system to the remainder of the building when required based on proposed building renovations.



FP-1: Fire Service Entrance

Standpipe System

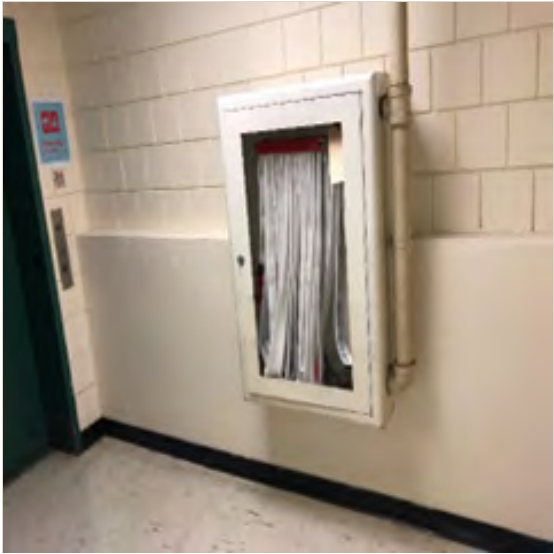
Existing Condition
The existing building is provided with a manual-wet standpipe system located in the center egress stairwell only. The system includes a 2 ½” fire hose valve cabinet served with black steel pipe. All the observed piping appears to be in good condition with no visible signs of corrosion.

The expected service life of black steel pipe is 75 years.

Recommendations
It is recommended the existing standpipe system be maintained in conformance with the requirements of NFPA 25, Inspection, Testing and Maintenance of Water-Based Fire Protection Systems.

Coordinate with the Cambridge Fire Department if they want the existing lengths of hose removed from the valve cabinet. It is common for the responding fire department to use their own lengths of hose for safety reasons.

Extend the manual-wet standpipe system to the remainder of the egress stairs when required based on proposed building renovations and the requirements of the Cambridge Fire Department.



FP-2: Hose Valve Cabinet

Code

Existing Condition

The Cambridgeport Elementary School is an existing 58,646 ft2 three-story Cambridge public school.

Occupancy Classification

- Use Group E (School)

Construction Type

Based on the field observations the building appears to consists of two structures, the original Type III building (masonry exterior walls with at least partial wood-framed interior structure) and a more recent addition of Type IIB construction (unprotected, non-combustible).

Vertical Openings

All existing vertical openings in the work area connecting two or more floors must be enclosed with 1 hour rated construction and approved opening protectives unless the openings meet one of the exceptions in IEBC 803.2.1.

The building has two primary egress stairs that are generally enclosed, although the center stair is open to the main corridor at the 3rd Floor and could require additional enclosure at that level depending on the scope of future renovations.

Interior Finishes

The existing interior finish of walls and ceilings in the work area and in all exits and corridors serving the work area must comply with the code requirements for new construction (IEBC 803.4).

Walls & Ceilings (IBC Table 803.11)

Use Group:	E (Sprinklered)	E (Non-Sprinklered)
Exit Enclosures	Class B	Class A
Exit Access Corridors	Class C	Class B
Rooms & Enclosed Spaces	Class C	Class C

Existing interior finishes in both buildings typically consist of painted gypsum wallboard, tile, or masonry which meets these requirements.



Open Stair At 3rd Floor



Egress Stair

Code

Existing Condition

Means of Egress

Means of egress conforming to the requirements of the building code under which the building was constructed are considered compliant means of egress if, in the opinion of the code official, they do not constitute a distinct hazard to life (IEBC 805.1). This section allows the existing means of egress stairs, doors, etc. to remain unless they are considered hazardous.

There are two primary egress stairs that connect all levels. No significant hazardous egress conditions were noted during the site visit, although both stairs included storage in the stairway as well as wooden floor wedges holding stair doors open, both of which must be removed. There are existing illuminated exit signs, although it appeared additional signs are required (i.e. there isn't a sign identifying the central stair in the 3rd Floor corridor.

Fire Protection Systems

The building does not have sprinkler protection, but does have an existing fire alarm and detection system, as well as fire extinguishers. The following fire protection systems are required in the areas noted if the building is renovated:

- Automatic sprinkler protection is required throughout the work area if the work area includes exits or corridors serving an occupant load greater than 30 and the work area exceeds 50% of an individual floor area (IEBC 804.2.2). Since the gross area of the building is more than 7,500 ft2, if it undergoes a major renovation Massachusetts General Law Chapter 148 Section 26G would require sprinkler protection throughout the building.
- Existing previously approved fire alarm systems are permitted to remain if the building undergoes a Level 1 or Level 2 alteration (IEBC 804.4.1). A Level 3 alteration would require the fire alarm system to comply with the code requirements for new construction, which would require a voice-alarm system (IEBC 904.2).
- Fire extinguishers (527 CMR 1 Section 13.6 & IBC 906.1). Fire extinguishers must be maintained and located throughout the building so that the maximum travel distance to an extinguisher is less than 75 feet.



Entrance



Drinking Fountain

Code

Existing Condition

Accessibility for Persons with Disabilities

The building has an accessible entrance, drinking fountain and toilet room. However, the exterior ramp at the front entrance does not include compliant handrails (i.e. bottom rail is not continuous, etc.). Therefore, if the cost of future renovations exceeds \$100,000 new exterior ramp handrails would be required.

The Cambridge Assessor's on-line database indicates the Cambridgeport Elementary School has an assessed value of \$14,671,900 and the Massachusetts Department of Revenue's website indicates the assessment ratio for Cambridge is 0.92. Therefore, the 100% equalized assessed value is \$15,947,717 and 30% of this value is \$4,784,315. Full compliance with 521 CMR would be required if the aggregate cost of renovations in any three-year period exceed this amount. Although the building is generally accessible, some improvements would be required to achieve full compliance (i.e. the front entrance ramp, the elevator size is sufficient for an existing building (> 4' x 4') but the controls are not compliant (no Braille), not all entrances are accessible, compliant room signage, etc. (note this is not a comprehensive list).



Toilet Room

Conveying System

Existing Condition

The Cambridgeport School is serviced by one (1) direct (in-ground) hydraulic passenger elevator. The elevator has a rated capacity of 2,000 lbs. and travels at a rated speed of 100 fpm. The entrances are 3'-0" wide by 7'-0" high, front and rear opening. The elevator services 7 landings – B, *1, 2, 3, 4, 5, 6.

The elevator was originally installed in 1979 by Beckwith Elevator. The controls and hydraulic equipment were manufactured by US Elevator. US Elevator was sold in 1993 to Thyssen Elevator and the brand and product lines were completely discontinued by 1999. All controller components are current obsolete; in the event of any future failure in the primary motherboard for the controls, the only option would be sending the board and relays to a third party electronics supplier in hopes of the board being repairable. There are no more direct replacement components for this equipment. In the event the board cannot be repaired, the school may likely be without an elevator until the controls can be replaced.

The controls still utilize single automatic operation for dispatching, versus modern selective collective operation. This essentially means that directional calls cannot be placed – the elevator answers hall calls based on a single call function, versus a directional signal. This type of operation was primarily used for freight elevators only.

The in-ground hydraulic jack is not original; it was previously replaced with an ITI jack and rupture valve. Based on the vintage, it is also safe to assume that the jack was installed with a PVC containment liner and may be retained for future use.

The existing signal fixtures and car operating panel are not compliant with current 521 CMR / ADA requirements pertaining to button height.

The elevator does not have Firefighter Services operation in the event of a building fire, or emergency lowering in the event of a building power failure

Maintenance Deficiencies:

- Clean pit space and pit equipment.
- Scrape and clean all car and hall door sills of debris.
- Replace worn rear entrance door operator belt.

CONDITION: D

PRIORITY: 1



Conveying System

Recommendations

We recommend budgeting for a modernization of the elevator immediately. As part of the modernization, we recommend the scope include replacement of the controls, power unit, signal fixtures, machine room and hoistway wiring, car and hoistway door equipment, including door panels, and car enclosure and finishes.

We also recommend adding air conditioning or an oil cooler unit to the machine room. The machine room was observed to be substantially warm. Temperature fluctuations in either direction, heat or cold, have implications on the oil viscosity in the elevator system. As an elevator is used, the friction created by the flow of oil greatly increases the temperature, changing the viscosity. This change in oil viscosity can negatively impact the ride quality and movement of the elevator.

Budget: \$130,000 - \$160,000 (Budget estimates are based on commencement of work in 2023)



Door Hardware

Existing Condition

Site survey showed majority of doors were in adequate shape. Rear and side entry doors look to be deteriorating and should be considered for future repair/ replacement. Classrooms and offices are using lockdown magnetic strips to prevent doors from latching. These will create an unsecure situation and prevent fire rated doors from latching. Exit and corridor doors meet egress requirements. Fire rating was not verified during survey.

Food Service

Executive Summary

The Cambridgeport school is compact kitchen serving a small population of students at the preschool through 5th grade levels. The finishes and kitchen equipment in many circumstances are original to the building. All kitchen equipment at this facility is very outdated and in need of updates. The foodservice operation and programming for this school would benefit greatly from modernized foodservice equipment which would allow the operation some flexibility to adapt, grow and more efficiently serve the district’s needs.

Improving cooking and serving equipment will also modernize the program allowing it to more easily meet the demands of health code regulations as well as improve the appeal of the food offerings. Modernizing workstations, preparation and cooking equipment will allow the kitchen staff to focus on food production resulting in a more efficient operation. Overall, the program is well run and the staff are highly trained and dedicated. However, they lack the full complement of equipment and tools needed to truly operate at a higher level of service.



FS-1: The ceiling material in the kitchen space is not a smooth washable surface and shows significant signs of wear and tear and water damage. Ceilings for this kitchen should be updated to meet modern day food code

Kitchen and Servery

General Overview

The Cambridgeport School Foodservice program currently serves a population of approximately 250 students from Pre-K through the fifth grade. The kitchen is in poor condition with very minimal modifications and equipment upgrades completed over the years. Major infrastructure items such as the cooking equipment, exhaust system and serving lines have not been updated in a significant amount of time. Overall, the kitchen staff does an adequate job of maintaining and keeping the kitchen clean. However, due to the date and condition of the equipment and kitchen finishes, it’s a challenge to maintain this kitchen properly.

The kitchen and storage area walls are finished in a combination of CMU block and painted drywall. In both circumstances signs of significant wear and tear over the years is present. During the time of our site inspection, building exterior windows were being replaced and temporary plywood was sent in place. The temporary wall had large visible gaps to the exterior of the building and is in violation of health code. There's a suspended ceiling grid, but the ceiling tiles used are not smooth nor easily cleanable. The ceiling shows significant signs of age and evident water leaks in some areas. Flooring material used in both the kitchen and servery area is a VCT

tile that is not acceptable in commercial kitchen applications. This material is slippery when wet and does not have the ability to be coved where the flooring material meets the walls. Therefore, an aftermarket coved based product is used to meet the requirement of the health code. The rubber coved base is failing in many areas and should be replaced. Several areas of the kitchen have damaged to the VCT tile exposing the bare subfloor below. In storage rooms for the facility the VCT tile flooring is very poor condition. The flooring material for this entire kitchen should be replaced and brought up to modern health code for proper cleanability and longevity of the kitchen.

Refrigerated and dry storage capacities for the school kitchen are very limited. The operations team does not have sufficient space to properly store and hold food product at food safe temperatures. Not only is the equipment limited, but there’s also a history of issues with existing hot holding and refrigerated storage cabinets of holding temperature. Dry goods product is scattered across the kitchen since there’s no dedicated dry storage room. Canned food product was observed stacked throughout the kitchen and the school would greatly benefit from a dedicated dry storages room with a canned goods storage rack. This style of rack would benefit the staff for proper rotation or product and inventory control.

While there’s several stainless work tables in the kitchen, there is a limited amount of food preparation areas with sinks to properly separate and wash food product prior to the cooking process. Within the kitchen pot washing area, there’s wall mounted wood shelving for storage. Wood is not an acceptable material to be used for storage shelving due the inability to properly clean, especially in a wet area like pot and pan washing. Wall shelving is required by code to be an NSF approved material.

At the cook line there’s exposed utility lines ran surface mounted to building walls. This situation presents a cleanability issue. In newer construction walls in these circumstances are furred out to conceal utility runs for proper cleaning. The exhaust hood for the kitchen space is very dated and should be updated to modern day finishes and technology advancements. The grease filters do not meet current standards and are far more difficult to clean than what is existing on site. The fire protection Ansul system is made of up iron piping and also extremely difficult to clean. Stainless steel or chrome materials are more suitable for cleanability in this environment. There are vents at the front of the exhaust hood for make-up air that are outdated technology and this style of hood is no longer manufactured. The exhaust hood was also penetrated for both electrical and the fire suppression systems which is not acceptable in modern construction and present locations for exhaust fumes and grease to leak and not be retained properly. Utilities and fire suppression systems should not be mounted nor penetrate the exhaust hood and are no longer acceptable in new construction.



FS-2: Exhaust hood over the cooking equipment is extremely dated and original to the building. The grease filters are not nearly as efficient as the technology that’s available today and are more difficult to clean. There are several locations where utilities penetrate the hood which is not acceptable.

The serving line for this kitchen is limited to a pass-through window and significantly limits the staff’s ability to function properly. There’s no heated or refrigerated equipment on the serving line. Alternately, the staff must use mobile hot and cold serving counters. Operationally this proves very challenging to staff and serve students and keep a proper operational flow in a timely manner. The mobile counters being used to not provided tray slides and are at a higher level than what’s recommended for students at this age group. Sneeze guards on these mobile counters are outdated and no longer in compliance with current NSF regulations.

This facility has no means of mechanical ware washing which requires all cooking utensils to be manually washed by the staff. While it’s a small operation, this does require a lot of time and dedicated staff to keep up with this operation. Modern day ware washing equipment allows staff to properly clean and sanitize cooking equipment and utensils at a higher level within a matter of minutes. This facilities operation could be improved by the addition of a mechanical ware washer. The following specific issues will reference codes and standards. For the purposes of this report when the health code is referenced, we are citing requirements of the Federal Food Code, 2017 addition, published by the FDA as well as the Merged Massachusetts Food Code 2013 addition.

We will also reference the National Sanitation Foundation (NSF). This is an independent governing body that develops standards for foodservice equipment and facility design. All equipment, in commercial kitchens must be built in accordance to NSF standards as a requirement of the food codes.



FS-3: Exposed utilities along the cook line building wall present cleanability issues and potential violations of the health code if not properly cleaned. Utilities should be provided within a furred-out wall in these circumstances for proper cleanability.



FS-4: Wood wall shelving is present as storage at the pot washing sink. Wood is not an acceptable storage material for storage especially in a wet area. NSF rated shelving systems must be used throughout commercial kitchens.

FCA FORMS - CPORT

Cambridgeport School			Architectural				
EXTERIOR							
Room # on Site:							
Area	Part	Type	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Exterior	Façade	Brick Masonry		B	3	AE-7-13, 18-19	
Exterior	Façade	Limestone Sills		B	3	AE-15-17	
Exterior	Façade	Windows		A	4	AE-7-9	
Exterior	Façade	Hollow Metal Doors, Entrances		A	4	AE-24-25	
Exterior	Façade	Sealants		A	4	AE-19	
Exterior	Façade	Metal Panels		B	4	AE-20-23	
Exterior	Roofing	EPDM Roofing		E	3	AE-26-33	
Exterior	Roofing	Metal Roofing		E	2	AE-40-43	
Exterior	Roofing	Tar and Gravel Roofing		E	3	AE-35-38	
Exterior	Landscape	Masonry Screen Walls		D	3	AE-44-45	

CAMBRIDGEPORT																									
RM NAME	RM #	AREA	CEILING MATERIAL	CEILING CONDITION	CEILING PRIORITY	WALL MATERIAL	WALL CONDITION	WALL PRIORITY	FLOOR MATERIAL	FLOOR CONDITION	FLOOR PRIORITY	WINDOWS MATERIAL	WINDOWS CONDITION	WINDOWS PRIORITY	DOORS MATERIAL	DOORS CONDITION	DOORS PRIORITY	FFE CONDITION	FFE PRIORITY	MILLWORK CONDITION	MILLWORK PRIORITY	PLUMBING CONDITION	PLUMBING PRIORITY		
BASEMENT																									
MUSIC	L2	929 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	AL	A	4	HM	D	3	C	3	D	3	D	3		
STORAGE	L2A	90 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
STORAGE	L2B	172 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
CUSTODIAN OFFICE	L3	438 SF	EXP	D	3	BRICK/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	-	N/A	N/A	N/A	N/A		
STORAGE	L3A	52 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
OT/PT	L6	1010 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	AL	A	4	HM	D	3	C	3	D	3	D	3		
CONFERENCE	L6A	99 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
STORAGE	L6B	110 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	D	3	N/A	N/A		
BOILER ROOM	L11	1280 SF	EXP	D	3	BRICK/SGFT	C	3	CONC?	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
STAIR	L12	287 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
CORRIDOR	L14	1155 SF	ACT	D	3	BRICK	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
GIRLS BATHROOM	L15	285 SF	EXP	D	3	BRICK/CMU/C	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	D	3	
STORAGE	L15A	31 SF	EXP	D	3	GYP	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
BOYS BATHROOM	L16	460 SF	EXP	D	3	BRICK/CMU/C	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	D	3	
ELEC ROOM	L16A	181 SF	EXP	D	3	BRICK	C	3	CONC	D	3	N/A	N/A	N/A	HM	D	3	C	-	N/A	N/A	N/A	N/A		
BATHROOM	L17	67 SF	GYP	D	3	SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	D	3	
AIR HANDLERS	L17	660 SF	EXP	D	3	BRICK	C	3	CONC	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
OT/PT	L18	721 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	AL	A	4	HM	D	3	C	3	N/A	N/A	N/A	N/A		
VESTIBULE	L18A	71 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
BATHROOM	L18B	69 SF	ACT	D	3	SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	D	3	
STORAGE	L18C	150 SF	EXP	D	3	BRICK	C	3	CONC	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
STORAGE	L18D	81 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
OFFICE	L18E	91 SF	ACT	D	3	GYP/SGFT	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
STAIR	L19	354 SF	ACT	D	3	BRICK/SGFT/C	C	3	VCT	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
FIRST FLOOR																									
CLASSROOM	100	845 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	C-D	3	D	2		
OFFICE	100A	188 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
VESTIBULE	100B	165 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	D	3	D	3		
CLASSROOM	101	888 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	C-D	3	D	2		
LD OFFICE	101A	191 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
VESTIBULE	101B	149 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	D	3	D	3		
CLASSROOM	102	1091 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	C-D	3	D	2		
BOOK ROOM	102A	136 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
STORAGE	102B	71 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
CLASSROOM	103	929 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	C-D	3	D	2		
BOOK ROOM	103A	190 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A		
STORAGE	103B	43 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
CLASSROOM	104	844 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	C-D	3	D	2		
VESTIBULE	104A	168 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	D	3	D	3		
STORAGE	104B	193 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N	HM	D	3	C	3	N/A	N/A	N/A	N/A		
CLASSROOM	105	921 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	C-D	3	D	2		
STORAGE	105A	51 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
COPY	105B	159 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	D	3	N/A	N/A		
STORAGE	105C	63 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
STAIR	110	369 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
VESTIBULE	110A	83 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
CORRIDOR	111	880 SF	ACT	C	3-4	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
CORRIDOR	112	710 SF	ACT	C	3-4	SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
STORAGE	112A	33 SF	GYP	C	3-4	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	D	3	
VESTIBULE	112B	169 SF	ACT	C	3-4	SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
VESTIBULE	112C	105 SF	GYP	C	3-4	BRICK/SGFT	C	3	BRICK	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
VESTIBULE	113	43 SF	ACT	C	3-4	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		
FAMILY LIASON	113A	74 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	N/A	N/A	N/A	N/A		
SPEC START	114	1055 SF	ACT/GYP	C	2	SGFT	C	2	VCT	C	2	AL	A	4	HM	D	3	C	2	C	2	D	3		
MAIN OFFICE	114	346 SF	ACT	C	2	GYP/SGFT	C	4	LIN?	C	4	N/A	N/A	N/A	HM	D	3	C	4	C	4	N/A	N/A		
BATHROOM	114A	44 SF	GYP	C	2	GYP/SGFT	C	2	EP	C	2	AL	A	4	HM	D	3	C	2	C	2	D	3		
UNKNOWN	114A	232 SF	GYP	C	4	BRICK/GYP	C	4	VCT	C	4	AL	A	4	HM	D	3	C	4	C	4	N/A	N/A		
BATHROOM	114B	44 SF	GYP	C	2	GYP/SGFT	C	2	EP	C	2	AL	A	4	HM	D	3	C	2	C	2	D	3		
CONFERENCE	114B	219 SF	ACT	C	3-4	GYP/SGFT	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	N/A	N/A	N/A	N/A		
STORAGE	114B	24 SF	GYP	C	4	GYP	C	4	VCT	C	4	N/A	N/A	N/A	HM	D	3	C	4	C	4	N/A	N/A		
STORAGE	114C	90 SF	ACT	C	2	GYP/SGFT	C	2	VCT	C	2	N/A	N/A	N/A	HM	D	3	C	2	C	2	N/A	N/A		
UNKNOWN	114C	149 SF	GYP	C	4	GYP	C	4	VCT	C	4	N/A	N/A	N/A	HM	D	3	C	4	C	4	N/A	N/A		
SPEC START	115	1233 SF	ACT	C	2	GYP/SGFT	C	2	VCT	C	2	AL	A	4	HM	D	3	C	2	C	2	D	3		
STORAGE	115C	84 SF	ACT	C	2	GYP/SGFT	C	2	VCT	C	2	N/A	N/A	N/A	HM	D	3	C	2	C	2	N/A	N/A		
BATHROOM	115D	53 SF	ACT	C	2	GYP	C	2	TILE	C	2	N/A	N/A	N/A	HM	D	3	C	2	C	2	D	3		
CAFETERIA	116	2111 SF	ACT/GYP	C	3	GYP/CMU	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	C	3	N/A	D	3	
COMM SCHOOL DIRECTOR	116A	76 SF	ACT	C	3	SGFT	C	3	WD	C	3	N/A	N/A	N/A	HM	D	3	C	3	C	3	N/A	N/A		
STORAGE	116B	67 SF	ACT	C	3	SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	C	3	N/A	N/A		
STORAGE	116C	447 SF	ACT	C	3	SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A		

STORAGE	116D	70 SF	GYP	C	3	GYP/SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A
KITCHEN	116E	603 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	N/A	N/A	D	3
BATHROOM	116F	26 SF	GYP	C	3	GYP	C	3	TILE	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	D	3
SECOND FLOOR																							
CLASSROOM	200	1024 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	D	3	D	3
SPEECH	200A	188 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	N/A	N/A	N/A	N/A
STORAGE	200B	81 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A
CLASSROOM	201	880 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	D	3	D	3
STORAGE	201A	191 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	D	3	D	3
VESTIBULE	201B	149 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A
CLASSROOM	202	1036 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	D	3	D	3
SOCIAL WORK	202A	207 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A
CLASSROOM	204	1019 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	D	3	D	3
STORAGE	204A	195 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A
LD SPECIALIST	205	695 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	D	3	D	3
CLASSROOM	207	925 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	D	3	D	3
OFFICE	207A	159 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A
STAIR	210	450 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR	211	884 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR	212	186 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	N/A	N/A	N/A	N/A
BATHROOM	212A	27 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	D	3
NURSE	212B	216 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	A	4	HM	D	3	C	3	D	3	D	3
BATHROOM	212C	33 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	A	4	HM	D	3	C	3	N/A	N/A	D	3
CORRIDOR	213	564 SF	ACT	C	3	SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A
STUDY SUPPORT	213A	151 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A
BOYS BATHROOM	215	634 SF	ACT	C	3	GYP/TILE	C-D	3	TILE	C	3	N/A	N/A	N/A	HM	D	3	C	4	N/A	N/A	D	3
GIRLS BATHROOM	216	551 SF	ACT	C	3	GYP/TILE	C-D	3	TILE	C	3	N/A	N/A	N/A	HM	D	3	C	4	N/A	N/A	D	3
GYMNASIUM	217	5014 SF	EXP	C	3	SGFT/TECTUM	C	3	EP	B	4	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A
CUSTODIAL STORAGE	217A	138 SF	EXP	C	3	CMU	C	4	VCT	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A
STAIR	217B	146 SF	EXP	C	3	SGFT	C	3	VCT	C	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A
STORAGE	217C	187 SF	EXP	C	3	CMU	C	4	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	4	N/A	N/A	N/A	N/A
STAGE	217D	190 SF	EXP	C	3	CMU	C	3	WD	D	3	N/A	N/A	N/A	WD	D	3	C	3	D	3	N/A	N/A
STORAGE	217E	173 SF	EXP	C	3	CMU	C	4	VCT	D	3	N/A	N/A	N/A	HM	D	3	N/A	N/A	N/A	N/A	N/A	N/A
OFFICE	217F	95 SF	ACT	C	3	CMU	C	4	VCT	D	3	N/A	N/A	N/A	HM	D	3	C	3	N/A	N/A	N/A	N/A
THIRD FLOOR																							
CLASSROOM	300	1001 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	D-E	3-2
L.D.	300A	188 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
CLASSROOM	301	1028 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	D-E	3-2
OFFICE	301A	191 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
LIBRARY	302	1799 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
OFFICE	302A	131 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
LIBRARY	303	899 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
STORAGE	303A	35 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
HALLWAY	303B	78 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
CLASSROOM	304	779 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	D-E	3-2
STORAGE	304A	126 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
TEACHERS LOUNGE	307	352 SF	ACT	C-D	3	GYP/SGFT	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
AP	308	119 SF	ACT	C-D	3	GYP/SGFT	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
STAIR	310	465 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
CORRIDOR	311	478 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
BOYS BATHROOM	311A	84 SF	ACT	C	3	GYP/TILE	C-D	3	TILE	C	3	N/A	N/A	N/A	HM	D	3	C	4	N/A	N/A	D	3
GIRLS BATHROOM	311B	92 SF	ACT	C	3	GYP/TILE	C-D	3	TILE	C	3	N/A	N/A	N/A	HM	D	3	C	4	N/A	N/A	D	3
ART	312	847 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	D-E	3-2
ART	312A	189 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	D-E	2-3	D-E	3-2
TECH SUPPORT	312B	107 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
ELEC	312C	49 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
STAIR	313	520 SF	ACT	C-D	3	SGFT	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
CUSTODIAL CLOSET	313A	33 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	N/A	N/A	N/A	HM	C-D	3	C	4	N/A	N/A	D	3
MATH/LIT INTERVENTION	314	364 SF	ACT	C-D	3	GYP/SGFT	C-D	3	VCT	C-D	3	AL	A	4	HM	C-D	3	C	4	D-E	2-3	N/A	N/A
ELEV	315	64 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	-	-	-	HM	C-D	3	-	-	-	-	-	-
Room	849	26 SF	ACT	C-D	3	GYP	C-D	3	VCT	C-D	3	AL	-	-	-	HM	C-D	3	-	-	-	-	-

Cambridgeport School			Architectural				
INTERIOR							
Room # on Site:							
Area	Part	Type	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Interior	Ceiling	ACT		C	3		
Interior	Wall	Gypsum/SGFT		C	3		Most walls gypsum but some have SGFT wainscot and few have SGFT full height.
Interior	Floor	VCT		C	3		
Interior	Window	Aluminum		A	4		Windows were being replaced while assessment was performed.
Interior	Doors	HM		D	3		
Interior	FFE	Loose Furniture		C	3		Varying age but most in adequate condition.
Interior	Millwork	PLAM		D	2.75		Lower grade of casework used. Shows significant damage in most rooms.
Interior	Plumbing			D	2.75		Classroom sinks and toilet fixtures were well worn.
				D+	3		

Cambridgeport School	Structural			
Structural or Structurally-Related Item	Condition (A-E)	Priority (1-5)	Photos	Notes
Roof Construction - General	B	5		Evaluate roof structure in snow drift areas in conjunction with future renovation.
Floor Construction - General	B	5		Limited work.
Foundations - General	B	5		Limited work.
Lateral Force Resisting System - General	C	5		Building does not meet the current seismic code. Unreinforced masonry wall issues would need to be addressed in conjunction with a future major renovation.
Exterior Walls - General	C	4	ST-5, ST-6	Repointing of masonry, repair/replacement of exterior caulking, and repair of wood fascia is recommended.
Water/Moisture Intrusion	D	4	ST-1	Evidence of water/moisture within the building at the slab on grade; further investigation is recommended.
Cracks/Uneven Elevation at Slab on Grade	D	2	ST-2	Uneven flooring at OT/PT Room causing potential tripping hazard; investigation and repair is recommended.
Cracks in Floor Finish at Upper Floors	D	4	ST-3	Cracks likely shrinkage related and are not a structural concern.
Floor Elevation Issues	D	4	ST-4	Built-up flooring at Art Room; investigation and repair is recommended in conjunction with a future renovation.

Cambridgeport School			Foodservice				
Kitchen							
Room # on Plan:			Room Use on Plan:				
Room # on Site:			Room Use on Site:				
Area	Part	Type	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Kitchen	Finishes	Ceilings, Walls & Floors		D	3		
Kitchen	Refrigerated Storage	Walk-ins and Reach-ins		D	4		
Kitchen	Food Preparation Equipment	Work Tables, Prep Tables, Prep Equipment		D	3		
Kitchen	Cooking Equipment	Hoods, Ovens, Ranges, Kettles, Braising Pans, Steamers, etc.		D	3		
Kitchen	Serving Equipment	Serving Counters, Heated and Refrigerated Holding & Support		D	3		
			Overall	D	3		Comments:

Replace kitchen floor; repair walls & ceiling
Replace exhaust hood & fire suppression
Replace serving line equipment

Cambridgeport School			Plumbing				
Domestic Water System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Water Service	R08	P1.01		B	4		
Water Heater	R20	P1.02		A	4		
Domestic Water Piping	Building Wide	P1.03		C	3		Domestic water pipe fittings throughout the bulding indicate general corrosion at various pipe fittings at fixtures and equipment due to the municipal water. Fittings should be replaced as required.
Kitchen Water Heater	A122A	P1.04		B	4		
Domestic Plumbing Fixtures							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Water Closets	Building Wide	P2.01		C	4		
Lavatories	Building Wide	P2.02		C	4		
Urinals	Building Wide	P2.03		C	4	PL-2	Provide side shielding for privacy as required by the Massachusetts Plumbing Code, 248 CMR
Service Sinks	Building Wide	P2.04		D	3		
Classroom Sinks	Building Wide	P2.05		D	3	PL-1	
Kitchenettes	Building Wide	P2.06		D	3		
Floor Drains	Building Wide	P2.07		D	3		
Drinking Fountains		P2.08		B	4		

Sanitary Waste and Vent System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Piping - Above Grade	Building Wide	P3.01		C	3	PL-3, PL-4, PL-5	
Piping - Below Grade	Building Wide	P3.02		C	3		
Storm Water System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Piping - Above Grade	Building Wide	P4.01		C	3		
Piping - Below Grade	Building Wide	P4.02		C	3		
Roof Drains	Roof	P4.03		C	3		
Natural Gas							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Gas Service	Site	P5.01		B	4		
Gas Piping	Building Wide	P5.02		B	4		

Cambridgeport School			Fire Protection				
Sprinkler System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Fire Service	R03B	FP1.01		B	4	FP-1	
Piping	Partial Sprinkler System	FP1.02		B	4		
Sprinkler Heads	Building Wide	FP1.03		B	4		
Standpipe System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Hose Valves	Stairwells - Partial System	FP2.01		B	4	FP-2	
Piping	Building Wide	FP2.02		B	4		

Cambridgeport School			Mechanical				
Heating							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Original Boiler	Basement Mech Room	M1.01	1	E	1		Original from 1980, appears to be leaking at several header connections.
Newer Boiler	Basement Mech Room	M1.02	1	B	4		Installed in 2003.
Pumps	Basement Mech Room	M1.03	2	C	4		Installed in 2015, excessive corrosion likely due to boiler room environment, one has new motor with missing coupling guard.
Piping	Building Wide	M1.04	Building Wide	C	4		No reported issues although distribution piping has been in service for over 40-years.
Cooling							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Window AC Units	Building Wide	M2.01					Window AC units in select rooms, no permanent AC systems.
Ventilation							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Heating and Ventilating Unit HV-1	Basement Mechanical Room	M3.01	1	D	3		Original unit from 1980.
Heating and Ventilating Unit HV-2	Gymnasium	M3.02	1	D	3		Original unit from 1980.
Return Air Fans	Basement Mechanical Room	M3.03	4	D	3		Original fans from 1980.
Roof Exhaust Fans	Roof	M3.04	7	D	3		Original fans from 1980 except 2 are newer.
Terminal Heating Units	Building Wide	M3.05		D	3		Original units from 1980.
Building Automation System							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Heating System	Basement Boiler Room	M4.01	1	D	1		
Heating and Ventilating Unit HV-1	Second Floor Mech Room	M4.02	1	D	1		
Heating and Ventilating Unit HV-2	Gymnasium	M4.03	1	D	1		
Roof Exhaust Fans	Roof	M4.04	7	D	1		
Terminal Heating Units	Building Wide	M4.05		D	1		

Cambridgeport School			Electrical				
Power Distribution Systems							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Main Electric Service	Lower level	E1.01	Main Electric Room	E	2	See Report	Service equipment is ~ 44 years old and in poor condition, equipment is past its useful life
Main and General Distribution	All Electrical Distribution	E1.02	Electrical Distribution	E	2	See Report	Distribution/Feeders & branch circuits are from 1978 and are 42 years and are past their useful life.
Coordination/Arc Fault Study	All Electrical Distribution	E1.03	Electrical Distribution	C+	5	See Report	Provide Arc Fault labels
Electrical	All Electrical	E1.04	Electrical	C+	1	See Report	Provide electrical maintenance on all equipment.
Devices	All Electrical Distribution	E1.05	All	C+	5	See Report	Provide tamper resistant outlets, GFCI breakers not provided in kitchen, many devices were aged.
Emergency Power	Main Electric Room	E1.06	N/A	E	1	See Report	Appears in very poor Condition. The generator exhaust does not meet todays code and causes fumes to neighbors while testing, resulting in prohibiting testing of Life Safety system.
Emergency	Main Electric	E1.07	N/A	E	1	See Report	Provide full system test and full test of all emergency egress paths.
Lighting Systems							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Lighting	Building Wide	E1.08	Building Wide	B	4	See Report	Provide energy code compliant lighting in all areas. Many of the corridors, common spaces, classrooms were recently upgraded.
Lighting	Building Wide	E1.09	Building Wide	D	3 & 5	—	Provide energy code compliant lighting controls.
Fire Alarm							
System	Location	Item Code	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes
Fire Alarm	Mechanical Room	E1.10	Building Wide	B	4 & 5	See Report	Provide complete testing of existing fire alarm system and detailed review of devices. The fire alarm system is a horn type system and a speaker type fire alarm system is required for this occupancy type.
CO Detection	Classrooms	E1.11	Building Wide	B	5	See Report	CO detection is required for Group E Class Rooms.

Cambridgeport School			Doors				
Entire School Door Assessment							
Room # on Plan:		N/A	Room Use on Plan:		All of Cambridgeport		
Room # on Site:			Room Use on Site:				
Area	Part	Type	Quantity to be Replaced	Condition (A-E)	Priority (1-5)	Photos	Notes:
Interior	Doors	Alarmed Exit	Survey only for site typcals, quantities and locations not recorded	C	3	See Links	Alarmed Exit 1 Alarmed Exit 2
Interior	Doors	Bathrooms	Survey only for site typcals, quantities and locations not recorded	D	3	See Links	Bathroom 1 Bathroom 2 Bathroom 3
Interior	Doors	Classrooms	Survey only for site typcals, quantities and locations not recorded	B	2	See Links	Classroom 1 Classroom 2 Classroom 3 Magnetic Strips on doors prevent positive latching. This creates an unsecure door and prevents fire rated doors from being to code.
Interior	Doors	Corridor	Survey only for site typcals, quantities and locations not recorded	B	3	See Links	Corridor
Interior	Doors	Gym	Survey only for site typcals, quantities and locations not recorded	C	3	See Links	Gym
Interior	Doors	Library	Survey only for site typcals, quantities and locations not recorded	C	3	See Links	Library
Interior	Doors	Main Entry	Survey only for site typcals, quantities and locations not recorded	C	2	See Links	Main Entry
Interior	Doors	Main Entry Vestibule	Survey only for site typcals, quantities and locations not recorded	B	3	See Links	Main Entry Vestibule
Interior	Doors	Offices	Survey only for site typcals, quantities and locations not recorded	C	2	See Links	Main Office Office Magnetic Strips on doors prevent positive latching. This creates an unsecure door and prevents fire rated doors from being to code.
Interior	Doors	Passage	Survey only for site typcals, quantities and locations not recorded	C	3	See Links	Passage Passage Mort
Interior	Doors	Rear and Side entry Doors	Survey only for site typcals, quantities and locations not recorded	D	2	See Links	Rearandsideentry
Interior	Doors	Storage	Survey only for site typcals, quantities and locations not recorded	C	3	See Links	Storage / custodial

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EAQ FORMS - SCORING BREAKDOWN

The Educational Adequacy Assessment looked at how existing spaces in each school support specific educational criteria and needs as identifies by our research. Each assessor utilized checklists and the assessment criteria and rating scale below to maintain consistency across all fields. All line items were then averaged for the Educational Adequacy Quotient. Detailed reports for this school individually can be seen in the following pages.

ASSESSMENT CRITERIA	
4	Functions excellently
3	Functions well/good enough condition to support educational needs
2	Exists; baseline functionality; doesn't support educational needs
1	Exists; does not function/needs to be replaced
0	Does not exist, but is needed
N/A	Not Applicable; not required

EDUCATIONAL ADEQUACY FORMS - CPORT

Metric	Description	Score	Comments
SITE- Size, Location, Access, Cultural Context			
Consider overall school for this category			
Site Size	Site is 10-15 acres in size; Adequate space for playgrounds & fields	1.5	Larger playground area as compared to Baldwin
Location	Distance to students, near pollution/noise, appropriate to community	3.5	This school is very close to Fletcher Maynard
Access	Parent/Bus drop-off & pick-up; space for queuing, separation of cars, bus & peds, ADA; access for community to recreation & events	3	No drop-off; public spaces (gym & cafeteria) stacked & right next to entrance
Identity & Cultural Context	The campus has a positive identity & represents the mission/values of the school community & surrounding community.	3	Oldest in Cambridge; Mural on "addition" public wing facing playground; the addition looks old; original building is a nice early 19th century architecture.

SECURITY- Site & Building			
Consider overall school for this category			
Building Entry and Sequence	Are there appropriate sightlines from the building entry to parking? Can you get from parking/bus to the door protected from elements?	3	Small canopies at front entry. Minimal non-striped parking at side (staff only); can see street from Principal's office, but not the secretary
Building Security	Secure Vestibule for building entry; internal zones of security	2.5	Secure vestibule; secondary vestibule with window to office, but not locked; doors to academic wings, but can go upstairs at center of building out of sight
Site Security	Safe or Secure Perimeter; Minimal entry points with good visibility & lighting.	4	
Wayfinding	Building organization is easily understood; students, parents & visitors can find their way	1	Split levels make it very confusing to know which floor you are on, especially at upper levels. They have used graphics to clarify. Some rooms on 3rd flr are separated because library bisects floor.
Community Connections	Campus provides for community use & interaction; Campus supports after hours use in a secure way.	3	You have to go upstairs to gym - stairs not separated so even if not in use, visitors can wander or hide. Academic wings do have doors separating them; not sure if they are locked after hours

LEARNING AREAS			
Consider overall school for this category			
Differentiated Learning	Overall compliment of classrooms provide areas for different learning modalities.	2	Classrooms repetitive & square - w/o furnishing to create different areas. It doesn't exist.
Inquiry Based Learning	Learning area has access to space for project based learning	2	Some rooms have sinks, but most don't. Do they designate a room for science?
Large Group Instruction	Area(s) exist for combined classes to gather collectively	2	Only in public spaces like library or cafeteria; no combined classrooms
Distance Learning	Space dedicated for distance learning for individuals or small groups of students; learning labs for distance interventions (infrastructure with computers/technology/display	3	
Independent Study	Areas available for students to study independently	2.5	Size of classrooms & ante-room space can allow for this, but it is still within the walls of the classroom
Small Group Instruction	"Pull-out" spaces available for individual instruction for special needs students	3	
Self-Contained Classrooms	Space exists for special needs students within an independent classroom	4	Special Start rooms are adequate
All School Gathering Area	Spaces exist for campus wide meeting/activities	3.5	Gym & Cafeteria; no real stage or auditorium
Break-Out Areas	Common spaces for students to collaborate and work in small group of 10 or less. Should be assessed on passive supervision, display infrastructure, and spatial acoustics	2	Saw some tables/chairs in corridors, but acoustics & visibility not good
Presentation Areas	Space exists for student, teacher & guest presentations for various size groups	2	space in library & cafeteria, but acoustics in cafeteria would be challenge
Outdoor Learning	Space exists for learning and instruction in appropriate outdoor environments. Should be assessed on supervision, presentation/sharing & environmental comfort	1	Multi-story building with no access except at 1st floor; no area set-up for learning like others, but could be due to construction

Metric	Description	Score	Comments
EDUCATIONAL REQ			
Consider overall school for this category			
Student Centered Sustainable Design™			
Stimulating Architecture	The school environment is welcoming and inspiring. The occupants are engaged.	2	
Safe & Healthy	The school has good sight lines and connections between spaces & to places of vulnerability (stairs/restrooms) to support sense of community & create a safe environment.	2	Sightlines to stair are good in corridor (short distance stair to stair), but sightlines from classrooms is poor - cubby areas at entry create another layer of space that prevents connection to corridor.
Views & Connections	Views provided from classrooms/core learning spaces to outdoors, corridors, or other learning spaces	2	good views to outside; no views between classrooms & corridors
Daylighting	Windows/Skylights; daylighting provided with solar shades or overhangs where appropriate	2.5	Too much window area in some; not enough in others (basement); Glare is a problem unless blinds are drawn
Lighting	Sufficiency (quantity/quality) & differentiation (provides choice/change)	2.5	up/down lights - need to confirm controls w/engineers
Acoustics	Space should have appropriate sound absorption materials to allow for conversations to be heard. Walls designed to minimize sound transfer	2.5	Most have old AC; some don't have any in basement
Thermal Comfort/Air Quality	Spaces are not too hot or too cold; not too much heat gain from sun. The air is "fresh" w/o noticeable odors/stale/mustiness (Ventilation)	2	Damp in basement classrooms. Need to confirm w/engineers (windows were being replaced, so not functioning normally. From Survey: Some classrooms way too hot; others way too cold, so hot we run the AC while the heat's on, 83 degrees inside. Sick feeling, windows don't open very wide
Universal Design	Are spaces designed to meet the needs of all people, including those with physical or SEB challenges or cultural differences.	2	lots of stairs; confusing
Display of Work	Is there adequate areas for student work to be displayed both inside and outside learning spaces	3	
Movement & Exploration	Does the space allow for the different learning modalities to happen dynamically	3	
Adaptability & Flexible Space	How much can the space (walls) change shape or allow change in use by opening or combine with other spaces.	0	No adaptable spaces

Furniture			
Design	Ergonomic needs of students are met; furniture is appropriately sized for age group, per DLR furniture sizing guide	1	Furniture should be replaced
Flexibility	Furniture easily moved to allow for classroom reconfiguration	3	
Variety of Seating Types	Combination of formal and soft seating available within the space. Is their choice in seating.	1	Some rooms do, but many don't have soft seating. Everyone is expected to sit at a desk and all the same
Movement	Furniture design allows for individual student movement which increases attention	1	Most rooms have hard chairs w/no flex

Metric	Description	Score	Comments
INSTRUCTIONAL SPACES			
Classrooms- regular instructional spaces (average for all spaces)			
Size	Physical square footage of rooms as compared to standards	4	Majority of rooms meet standards
Appropriate Support Spaces	Resources Classrooms; Small Group Rooms, etc. nearby	3	Many use the cubby or "storage rm" as small group, spaces don't have windows
Storage for Materials	Space for student material storage including books, work projects, backpacks, coats; Storage for teacher personal materials, classroom supplies	3	Not much casework or furniture storage, but many put cubbies in ante-room at entry
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2.5	Good tech, but limited power on CMU walls
Sink &/or equipment	Provided in-rooms, if needed	3	Some rooms (former science rooms for MS?) have sinks in room. Most rooms have sinks at entry, but they are small for handwashing & not really for project work, but at least they do have access to water
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	3	
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	3	Most rooms accessible; some challenges w/s many steps & some clearance issues in basement

Classrooms - Specialty spaces: SPED			
Size	Physical square footage of rooms as compared to standards	3	
Appropriate Support Spaces	Testing & Conf. Rooms; Life-Skills, Sensory or Decompression Rooms, etc. as required	2.5	Limited, often internal
Storage for Materials	Space for student material storage including books, work projects, backpacks, coats; Storage for teacher personal materials, classroom supplies	2	
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2.5	
Sink &/or equipment	Provided in-rooms, if needed	3	Depends on the room - small rooms did not have access to sinks w/o leaving the room, but larger ones typically did.
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	3	
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	3.5	

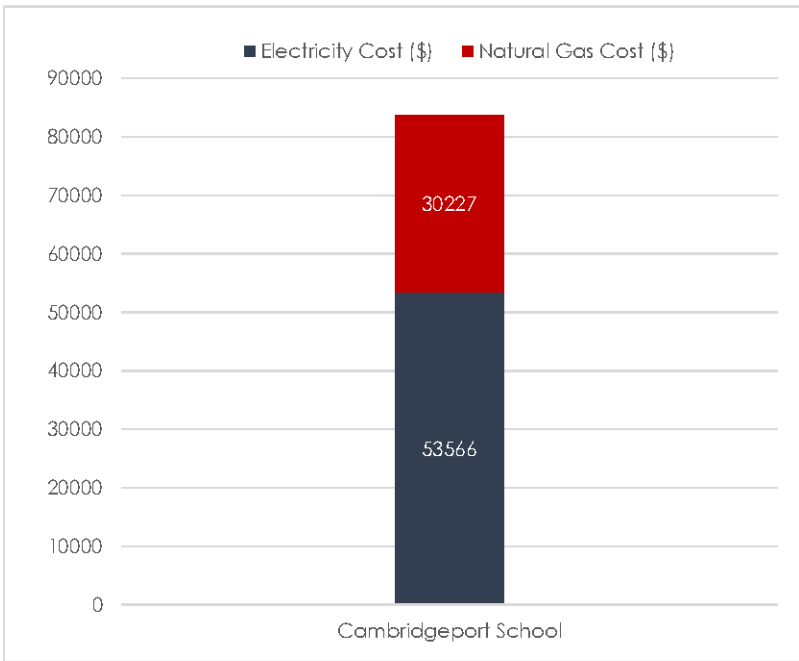
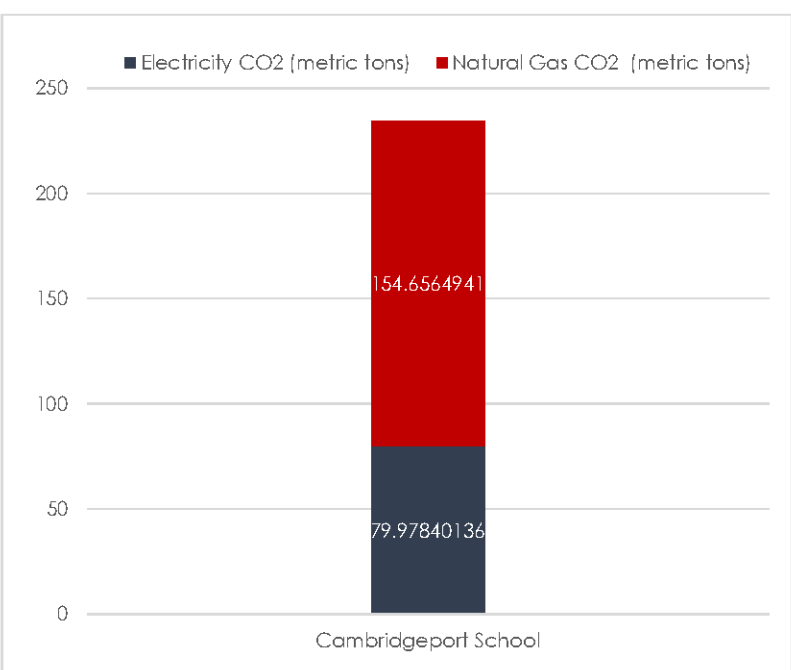
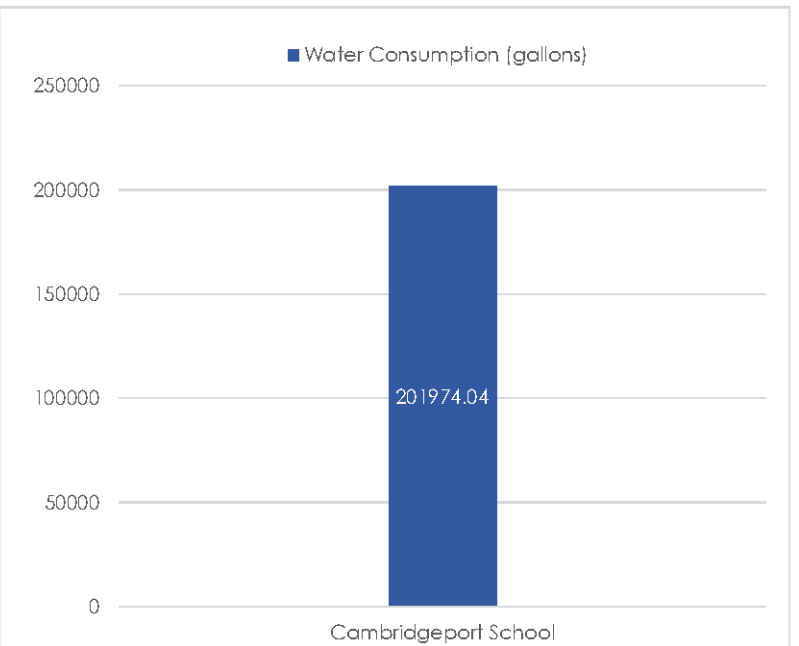
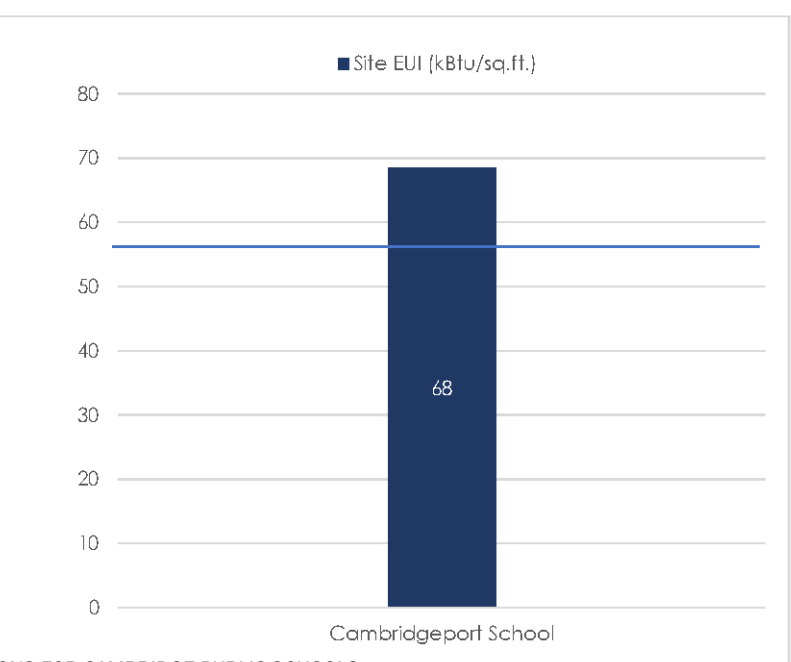
Metric	Description	Score	Comments
Classrooms - Specialty spaces: Science, Applied Learning (Maker Spaces), CTE			
Size	Physical square footage of rooms as compared to standards	3	
Appropriate Support Spaces	Prep Rooms, Chemical Storage; Equipment Storage; Recording, etc. Public Entrance or Waiting as appropriate to program	N/A	
Storage for Materials	Space for student material storage including books, work projects, backpacks, coats. Storage for teacher personal materials, classroom supplies	2	
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2.5	Good tech, but limited power on CMU walls
Sink &/or equipment	Provided in-rooms, if needed	3	Sinks are not HC accessible
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	2	limited to one wall in some rooms because of windows - could benefit from portables
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	3.5	Located on 2nd floor - accessible except for sinks

Classrooms - Specialty spaces: Visual & Performing Arts & Fitness/Health			
Size	Physical square footage of rooms as compared to standards	3	Art room is good size; music is undersized
Appropriate Support Spaces	Kiln Room; Practice Rooms; Instrument &/or Music Storage; Equipment Storage	2	No Kiln, but limited storage
Storage for Materials	Space for student material storage including books, work projects, backpacks. Storage for teacher personal materials, classroom supplies	2	
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2.5	
Sink &/or equipment	Provided in-rooms, if needed	2	Not ADA
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	2	limited to one wall in some rooms because of windows - could benefit from portables
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	3	Music room in basement has ADA issues at door; Art ok

Metric	Description	Score	Comments
PUBLIC & SUPPORT SPACES			
Public Spaces: Media Center, Cafeteria, Gymnasium, Auditorium & Stage			
Accessibility & Location	Degree to which spaces are accessible (ADA) & appropriately located in relation to each other & other functions	3	
IEQ - average for all	Daylight, Views, Thermal Comfort, Air Quality (Ventilation)	2	Cafeteria has great views; Library has daylight, but windows too high for views; gym has none.
Lighting - average for all	Sufficiency (quantity/quality) & differentiation (provides choice/change) for intended uses.	2	Lighting should be upgraded
Acoustics & Privacy - average for all	Do spaces have proper acoustics for intended use & afford ability to achieve visual & auditory privacy when needed.	3	Materials are there but old; not sure how well spaces function
Technology, power & data - average for all	Sufficient technology, power & data for intended uses (i.e. public address system in gym; adequate audio-visual for presentations & performances, etc.)	2	
Display of Student Work, Awards, Notices, etc.	Is there adequate areas for display and communication (cases, screens, interactive dashboards, etc.) in appropriate places to be seen.	2	Not enough at entry & public spaces; plenty in academic corridors; no 3D
Storage for equipment - average for all	Space for the storage of specialized equipment to meet student needs	1	
Media Center	Exists/Adequacy: size & configuration	2	
Cafeteria	Exists/Adequacy: size & configuration; Adequate kitchen & Servery	3	
Gymnasium	Exists/Adequacy: size & configuration	3	Not at ground floor - no direct access to outside; isolated from other public spaces
Auditorium &/or Stage	Exists/Adequacy: size & configuration	1	Not adequate head height

Administrative & Health Offices			
Accessibility & Location	Degree to which spaces are accessible (ADA) & appropriately located in relation to each other & other functions	2	Very small front office area
IEQ - average for all	Daylight, Views, Thermal Comfort, Air Quality (Ventilation)	3	
Lighting - average for all	Sufficiency (quantity/quality) & differentiation (provides choice/change)	2.5	Dimming/choice? Color?
Acoustics & Privacy - average for all	Do spaces have proper acoustics for conversations & afford ability to achieve visual & auditory privacy when needed.	4	
Mail, Copy & Storage	Appropriate for number of staff; record storage & supply storage	1	open area in main office - very cramped
Reception & Welcome Area	Appropriate for the space & size of school; welcoming; appropriate furniture; appropriate acoustics	1	
Admin Offices	Number appropriate for the number of students and configuration the school; indicate how many exist	1	1 or 2 offices in main room
Health Office	Size & configuration appropriate for the number of students and configuration the school; secure meds; privacy & acoustics (HIPPA), etc.	1	Too small; does not meet HIPPA)
Conference room (s)	Number appropriate for the number of students and configuration the school; indicate how many exist	1	1 small conference room at 1st floor

Metric	Description	Score	Comments
Student & Staff Support			
Accessibility & Location	Degree to which spaces are accessible (ADA) & appropriately located in relation to each other & other functions	3	
IEQ - average for all	Daylight, Views, Thermal Comfort, Air Quality (Ventilation)	2	Some rooms internal; some w/out views or light
Lighting - average for all	Sufficiency (quantity/quality) & differentiation (provides choice/change)	2.5	Dimming/choice? Color?
Acoustics & Privacy - average for all	Do spaces have proper acoustics for conversations & afford ability to achieve visual & auditory privacy when needed.	3	
Storage for equipment - average for all	Space for the storage of specialized equipment to meet student needs	2	
Counseling, Guidance Offices &/or Career Ctr	Exists/Adequacy: size & configuration	2.5	Many rooms are narrow & some are small
OT/PT & Speech	Exists/Adequacy: size, configuration (sink, swing, mats, equipment, storage)	3	
Conference Rms	Exists/Adequacy: size & configuration	0	One at admin; need plans to confirm
Toilet Rooms	Availability throughout school	2	May meet code, but no RR at first floor academic wing - they have to go down to basement level.
Storage	Book Storage; General Storage; Supply Storage	1	
Teacher Lounge; Health & Lactation Rooms	Exists/Adequacy: size & configuration; with kitchenette	0	Did not see staff lounge or lunch room
Teacher Workrooms & Planning	Exists/Adequacy: size & configuration; Copy & print locations; collaboration & focus	2	

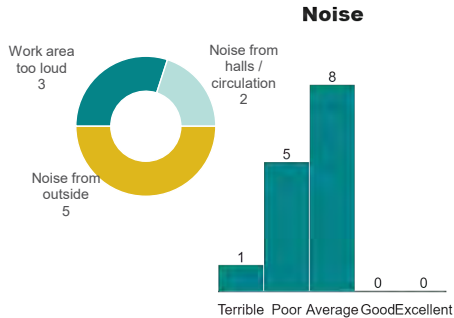
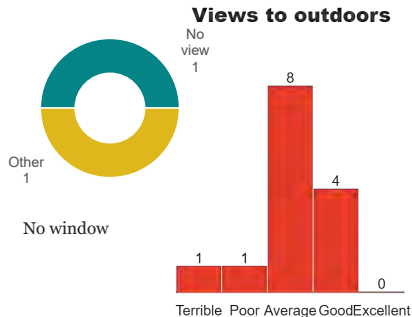
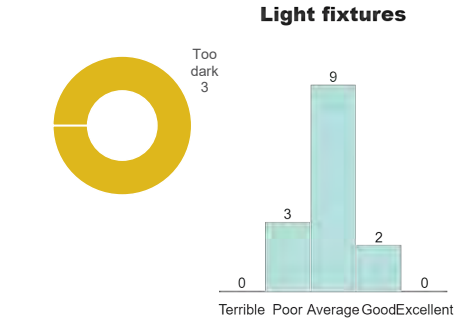
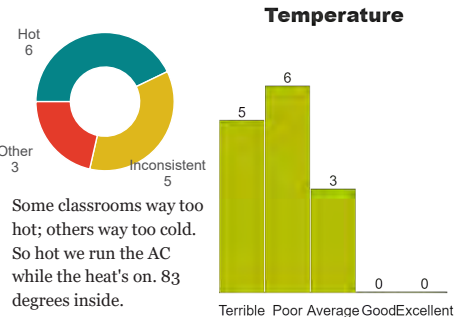
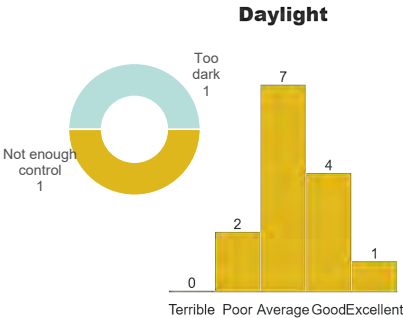
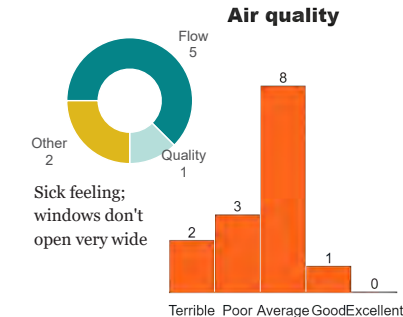




Cambridgeport

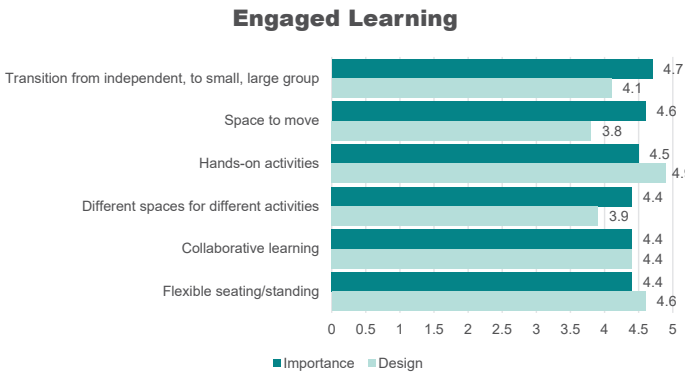


Cambridgeport: IEQ

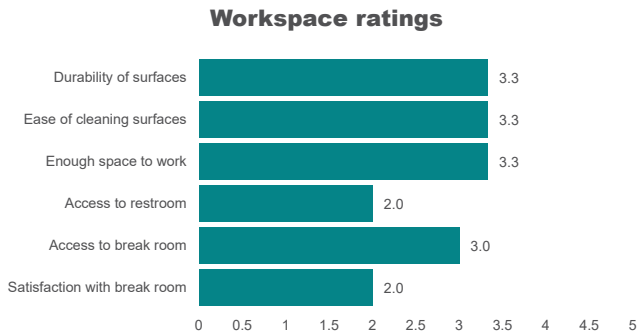




Cambridgeport: Working + Learning



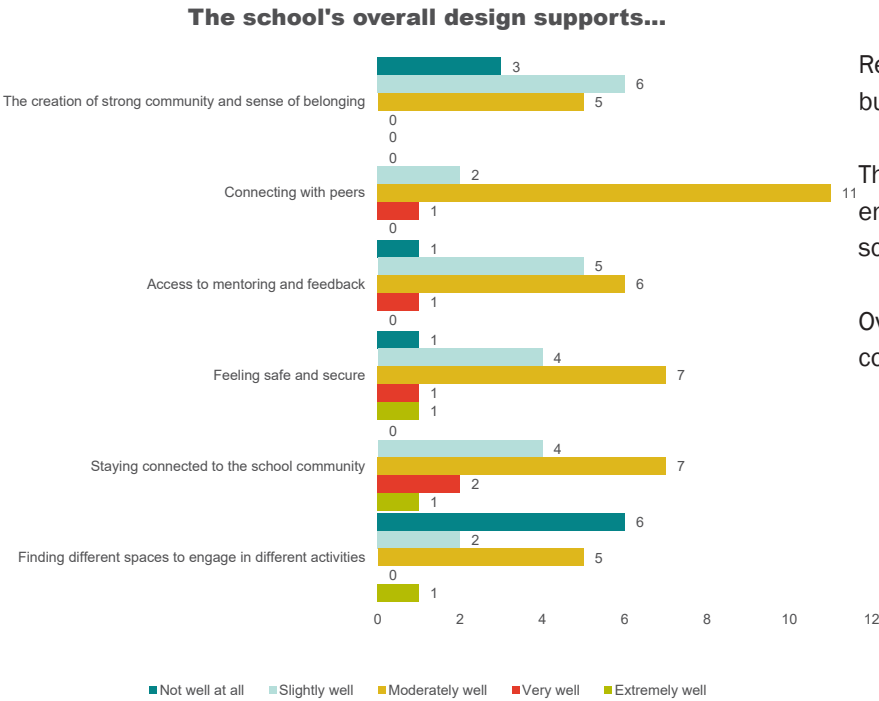
Averages here are determined from a scale of 1 (*Not at all Important*) to 5 (*Extremely Important*). Teachers view all options as important to engaged, active learning. The design of their classrooms could most be improved to support having space for movement and having different spaces for different activities.



3 administrative, kitchen, custodial, or maintenance respondents evaluated their workspaces on a scale of 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Averages were around neutral for durability of surfaces, ease of cleaning, having space, and having access to a break room.



Cambridgeport: Community



Respondents were asked to consider how the overall design of their building supported staff and students and a sense of community.

The biggest areas for improvement were finding different spaces to engage in different activities, as well as creating and connecting to a school community.

Overall, respondents feel quite satisfied with the ability to stay connected to their school community.

3.2 PLAN DIAGRAMS



Building plans redacted at the request of Cambridge Public Schools.

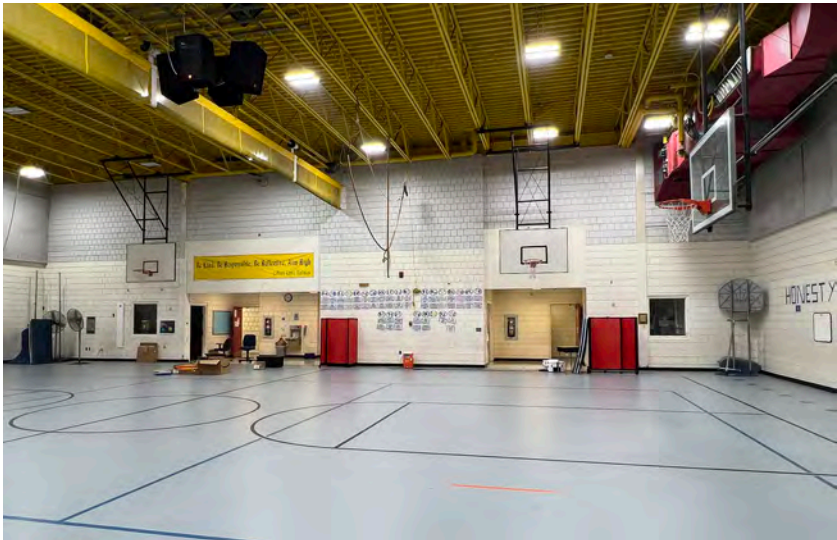
Building plans redacted at the request of Cambridge Public Schools.

3.3 SCHOOL IMAGES

Interior



Cafeteria



Gym



Basement Classroom



Basement Hallway



Library



Special Start Classroom



Stage



Teachers Room

Exterior



AE-1: South Elevation



AE-2: East Elevation, South wing



AE-5: West Elevation, North wing



AE-6: West Elevation, South wing



AE-3: East Elevation, North wing



AE-4: North Elevation



AE-7: Representative multiwythe brick masonry with limestone sills and new windows at South wing



AE-8: Representative multiwythe masonry at South wing



AE-9: Representative multiwythe masonry with limestone sills and new windows at South wing



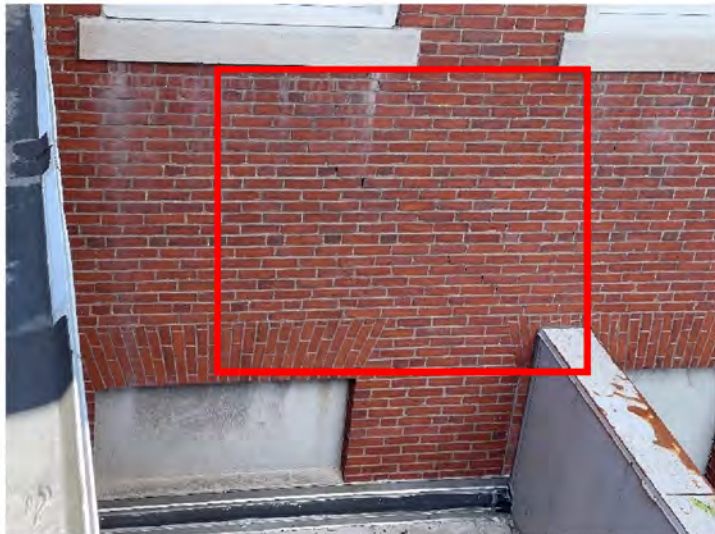
AE-10: Displaced masonry at East Elevation, South return



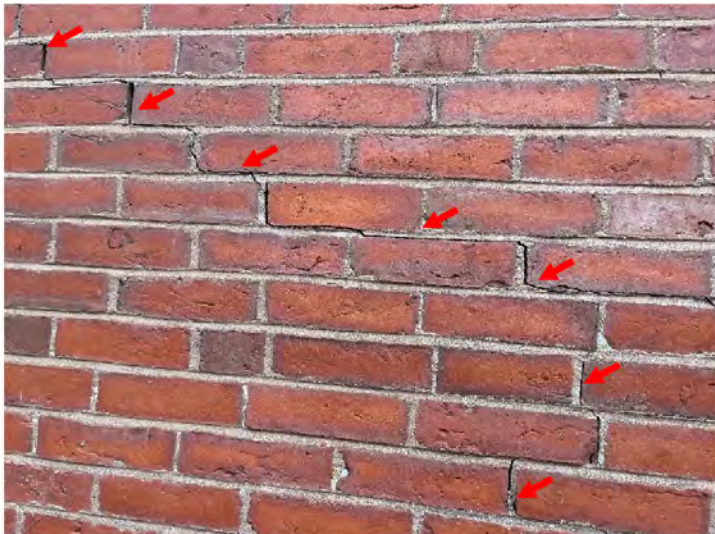
AE-13: Bulge in masonry at East Elevation, has been repointed



AE-14: Façade condition above bulge in masonry that has been repointed at East Elevation



AE-11: Step cracking of brick at West Elevation, North return above roof deck, see next photo



AE-12: Step cracking of brick at West Elevation



AE-15: Representative cracking limestone at South Elevation



AE-16: Representative cracking limestone at South Elevation



AE-17: Typical cracked limestone as viewed from above at Room 201



AE-18: Representative brick veneer at North wing addition



AE-21: Typical insulated metal panel at West Elevation of North wing



AE-22: Area on East Elevation where existing insulated metal panels have been removed, will be replaced.



AE-19: Representative failed control joint sealant at masonry façade at North wing addition



AE-20: Typical insulated metal panel façade along East Elevation of South wing



AE-23: New insulated metal panels stored on site for installation



AE-24: Representative thermally broken aluminum storefront entrance stored on site, prior to installation



AE-25: Interior of typical hollow metal door assembly. Note rusting on base of frame.



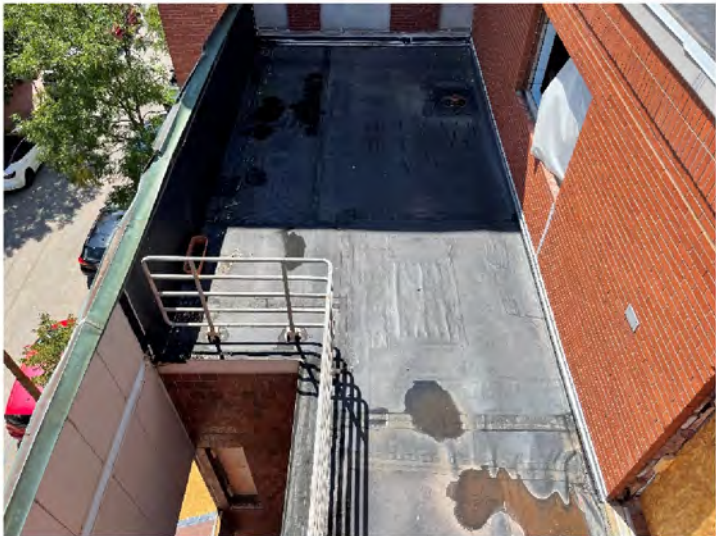
AE-26: West roof deck, covered with pavers



AE-29: Mid-level roof at West side of North wing. Ballast has been moved around, exposing loose laid EPDM.



AE-30: Mid-level roof at East side of North wing.



AE-27: East roof deck, exposed EPDM



AE-28: Representative patches throughout East EPDM roof deck



AE-31: Ballasted EPDM roof over Gymnasium, some ballast has been moved around



AE-32: Typical EPDM patches at Gymnasium roof, lacking lap sealant termination at perimeter.



AE-33: Typical EPDM termination to base of masonry façade on Gymnasium roof with only sealant.



AE-34: Step ladder used to achieve roof access to South wing roof



AE-37: Typical tar and gravel repairs along roof edge at South roof



AE-38: Typical penetrations within South roof



AE-35: General view of roof over South wing



AE-36: Typical roof drain and penetrations in roof over South wing



AE-39: Typical peeling paint on wood cornice surrounding South roof



AE-40: Metal roofing over Stage and stair at North end of building



AE-41: Termination of metal roofing at masonry façade on North Elevation. Daylight and drip staining visible on interior in this area.



AE-42: Missing snow rail at metal roofing on North Elevation



AE-45: Masonry screen wall on East Elevation. Some crazing and efflorescence observed within masonry.



AE-46: Stained ceiling tiles due to roof leakage within Room 301



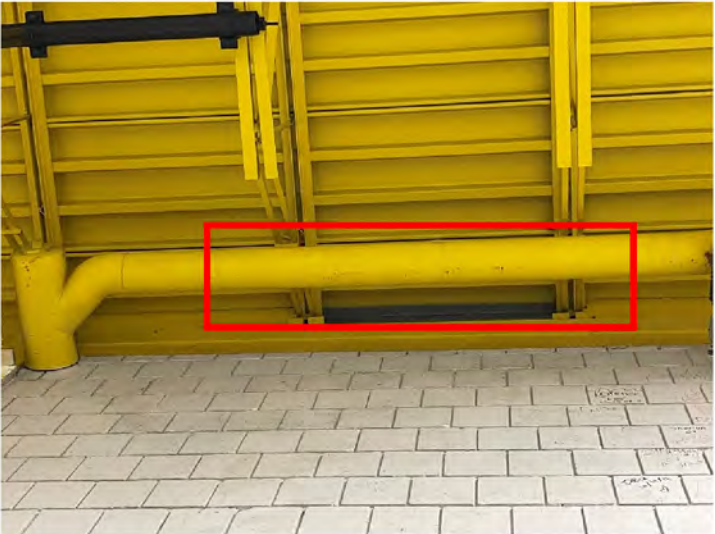
AE-43: Damaged metal roofing at eave of North Elevation entrance.



AE-44: Representative displaced and cracked brick at lower level building entrance on West Elevation



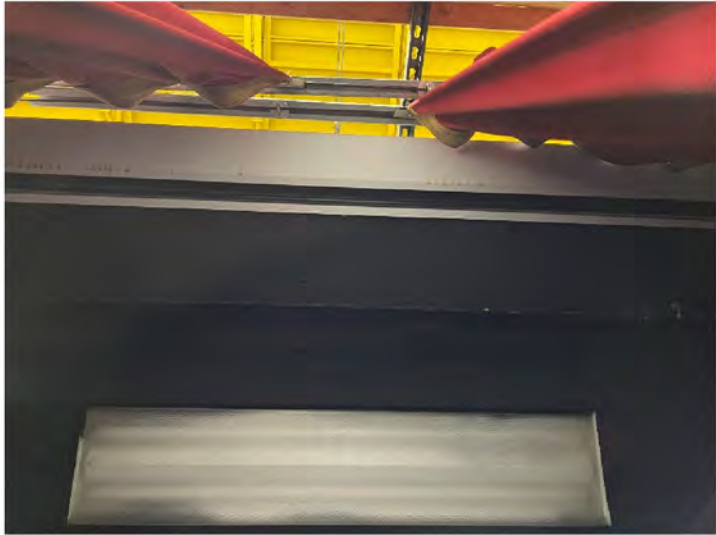
AE-47: Stained ceiling tiles due to roof leakage within Corridor outside Room 302



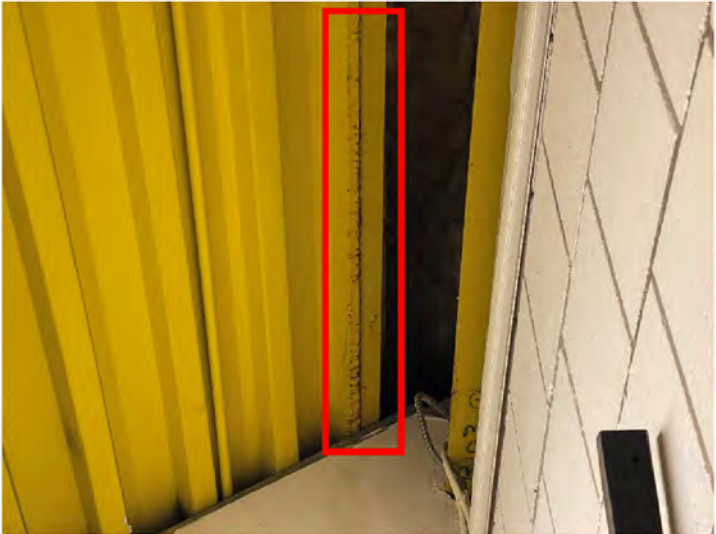
AE-48: Drip staining on exposed piping within Gymnasium due to roof leakage



AE-49: North elevation within Gymnasium where leakage occurs at Stage



AE-50: Drip stains behind stage curtains due to roof leakage at Gymnasium



AE-51: Interior view at intersection of metal roofing and masonry façade within Stage area at Gymnasium. Water drip staining and surface rusting observed.



AE-52: Interior view at intersection of metal roofing and masonry façade within Stage area at Gymnasium. Daylight visible between these assemblies.

OPINION OF PROBABLE REPAIR COST

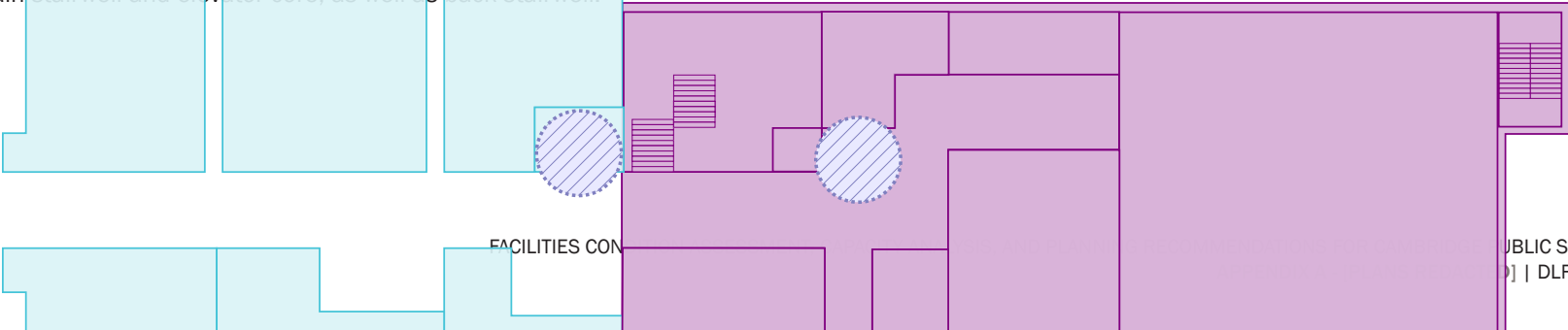
The rough order of magnitude cost estimation included in this phase is based on aspects of the building in need of repair or at the end of useful life to meet code, it does not necessarily include any intervention with the purpose of improving education or carbon/sustainability goals. This is used to identify from a cost perspective which location has the highest facility improvement need and then be used to compare to a replacement/new build cost.

	Cambridgeport			
Gross Floor Area:	58,646			
No. of Students:	252			
Assessed Value:	\$14,671,900			
	Total Project Cost (\$)	Total Construction Cost (\$)	Total Project Cost (\$/GSF)	Total Project Cost (\$/Student)
ARCHITECTURAL - EXTERIOR (EXTERIOR WALLS)	\$ 2,938,491	\$ 2,226,129	\$ 50	\$ 11,660.68
ARCHITECTURAL - EXTERIOR (ROOFING)	\$ 2,408,263	\$ 1,824,442	\$ 41	\$ 9,556.60
ARCHITECTURAL - INTERIOR	\$ 4,740,445	\$ 3,591,246	\$ 81	\$ 18,811.29
ARCHITECTURAL - DOOR HARDWARE	\$ 221,806	\$ 168,035	\$ 4	\$ 880.18
ARCHITECTURAL - EQUIPMENT & FURNISHINGS	\$ 1,170,480	\$ 886,728	\$ 20	\$ 4,644.76
STRUCTURAL SYSTEM	\$ 2,628,704	\$ 1,991,442	\$ 45	\$ 10,431.36
FOOD SERVICE	\$ 335,343	\$ 254,047	\$ 6	\$ 1,330.72
CONVEYING SYSTEM	\$ 117,048	\$ 88,673	\$ 2	\$ 464.48
BUILDING SYSTEMS - PLUMBING	\$ 926,630	\$ 701,993	\$ 16	\$ 3,677.10
BUILDING SYSTEMS - HVAC	\$ 3,950,371	\$ 2,992,705	\$ 67	\$ 15,676.08
BUILDING SYSTEMS - FIRE PROTECTION	\$ 63,401	\$ 48,031	\$ 1	\$ 251.59
BUILDING SYSTEMS - ELECTRICAL	\$ 3,291,976	\$ 2,493,921	\$ 56	\$ 13,063.40
DEMOLITION & SPECIAL CONSTRUCTION	\$ 2,737,402	\$ 2,073,790	\$ 47	\$ 10,862.71
SITWORK	\$ 6,256,920	\$ 4,740,091	\$ 107	\$ 24,829.05
TOTAL	\$ 31,787,280	\$ 24,081,273	\$ 542	\$ 126,140

SITE/BUILDING INTERVENTION EXPLORATIONS

Building plans redacted at the request of Cambridge Public Schools.

- Add adult bathrooms in platform area of boiler room.
- Change layout of existing Pre-K SPED room (Special Start) to increase room square footage.
- Renovate existing bathroom space to improve use of space.
- Light renovation throughout remaining spaces and general upgrade of millwork and finishes.
- Expand basement level to include cafeteria, kitchen, kitchen storage and two (2) Kindergarten classrooms.
- New main stairwell and elevator core, as well as back stairwell.

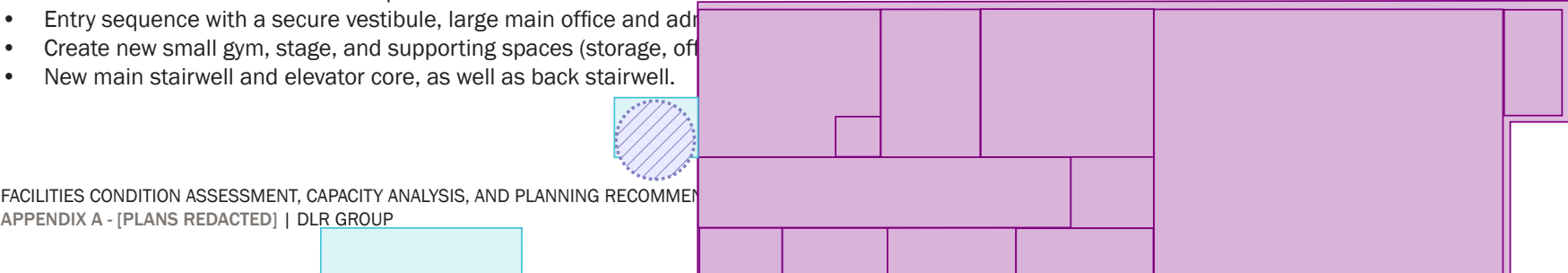


FACILITIES CON

CAMBRIDGE PUBLIC SCHOOLS
APPENDIX A - [PLANS REDACTED] | DLR GROUP

Building plans redacted at the request of Cambridge Public Schools.

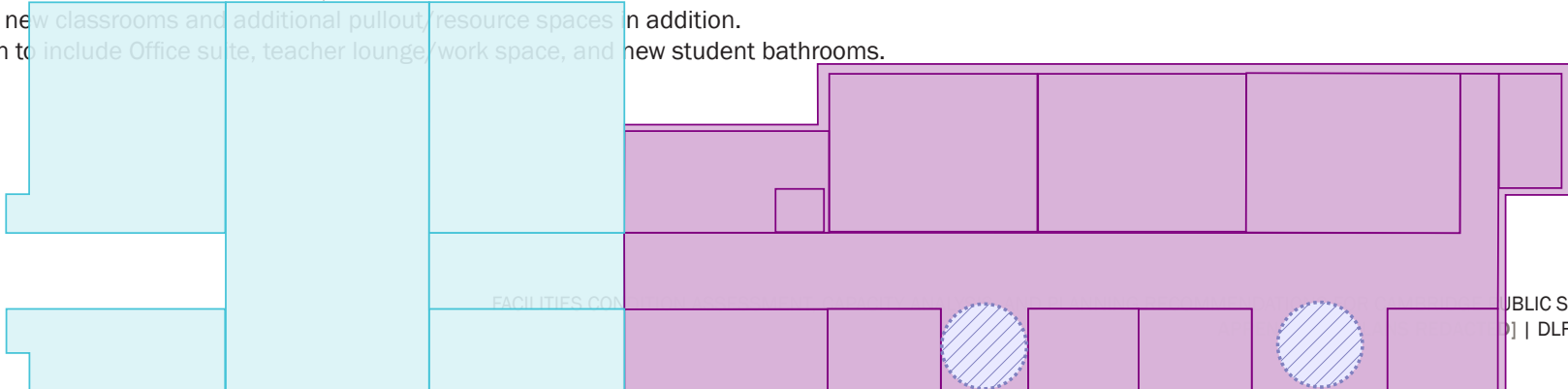
- Renovate existing classrooms spaces to house one (1) Kindergarten classroom (with bathroom) and two (2) Pre-K SPED classrooms (with bathrooms) and one resource room.
- Remaining classrooms to be restructured to meet SF requirements.
- Remove storage room to create a breakout space in front of new resource room.
- Light renovation throughout remaining spaces and general upgrade of millwork and finishes.
- Building addition to be leveled with existing.
- Rethink entrance to include a ramp and stair.
- Entry sequence with a secure vestibule, large main office and administrative spaces.
- Create new small gym, stage, and supporting spaces (storage, office, etc.).
- New main stairwell and elevator core, as well as back stairwell.



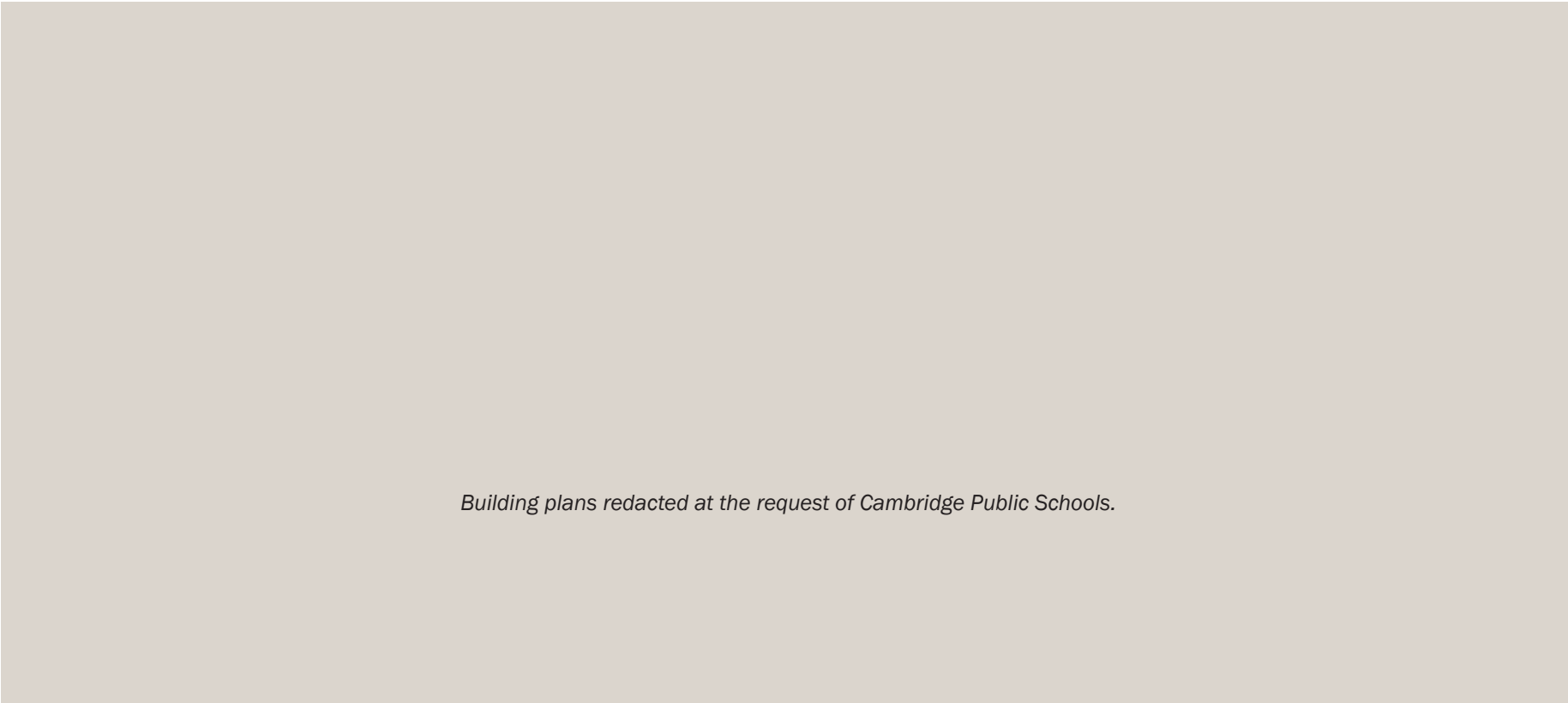
FACILITIES CONDITION ASSESSMENT, CAPACITY ANALYSIS, AND PLANNING RECOMMENDATIONS
APPENDIX A - [PLANS REDACTED] | DLR GROUP

CAMBRIDGEPORT SCHOOL - MAXIMUM INTERVENTION



- Turn current service suite into SPED classroom.
 - Remove storage room 204A to create breakout space.
 - Light renovation throughout remaining spaces and general upgrade of millwork and finishes.
 - New main stairwell and elevator core, as well as back stairwell.
 - Two (2) new classrooms and additional pullout resource spaces in addition.
 - Addition to include Office suite, teacher lounge/work space, and new student bathrooms.
- 

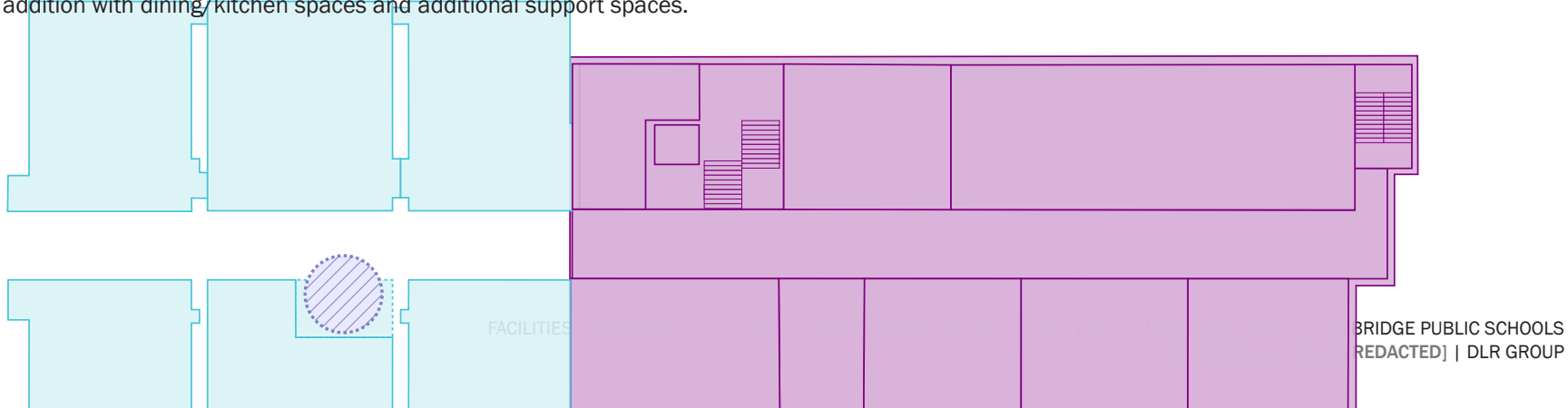
CAMBRIDGEPORT SCHOOL - MAXIMUM INTERVENTION



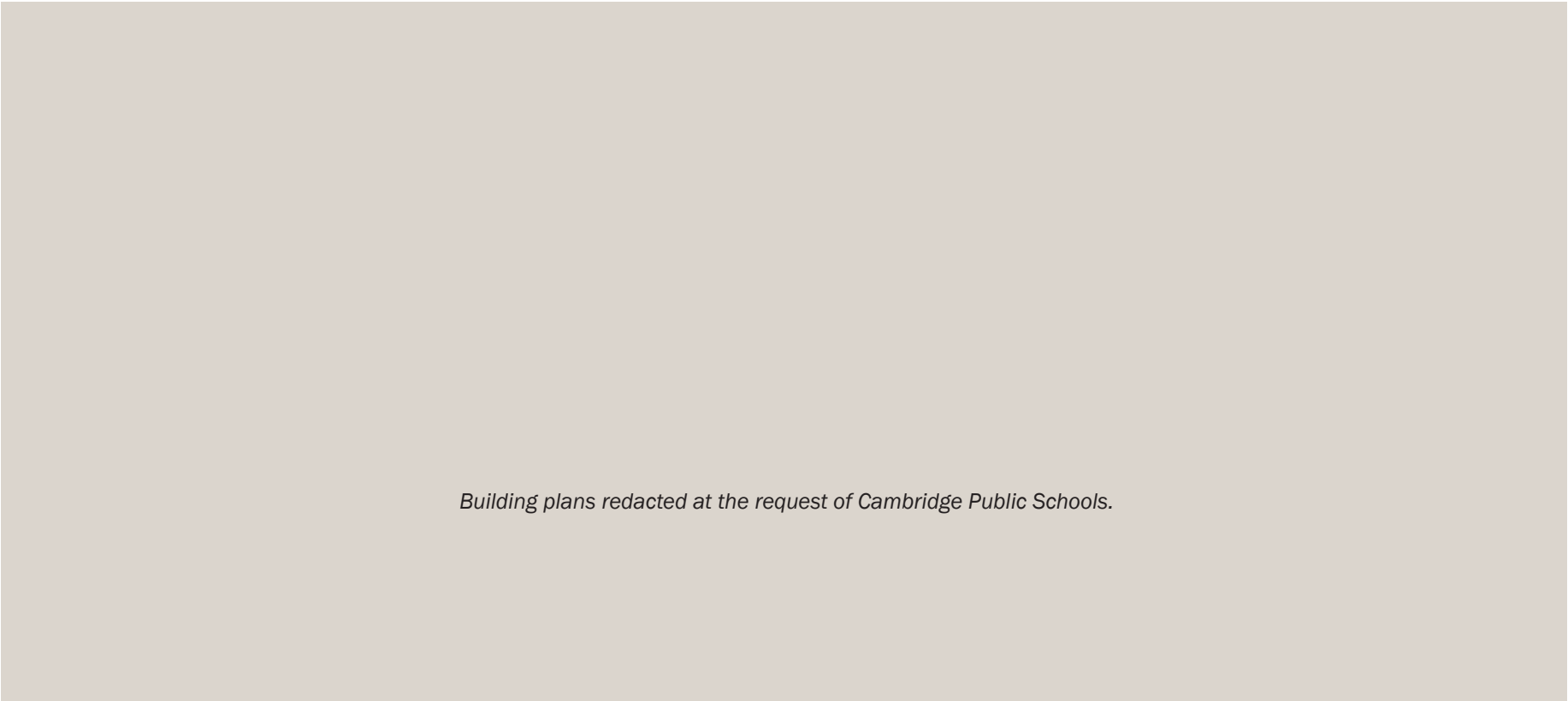
- Relocate Health and Art rooms and renovate new locations.
- Renovate and expand library to take over former health room space.
- Change layout of rooms 304 and 305 to remove bathrooms/support spaces and create two classrooms.
- Light renovation throughout remaining spaces and general upgrade of millwork and finishes.
- New addition with seven (7) new classrooms for various strands and new resource space with breakout spaces along hallway/between classrooms
- Additional student bathrooms.
- New storage space.

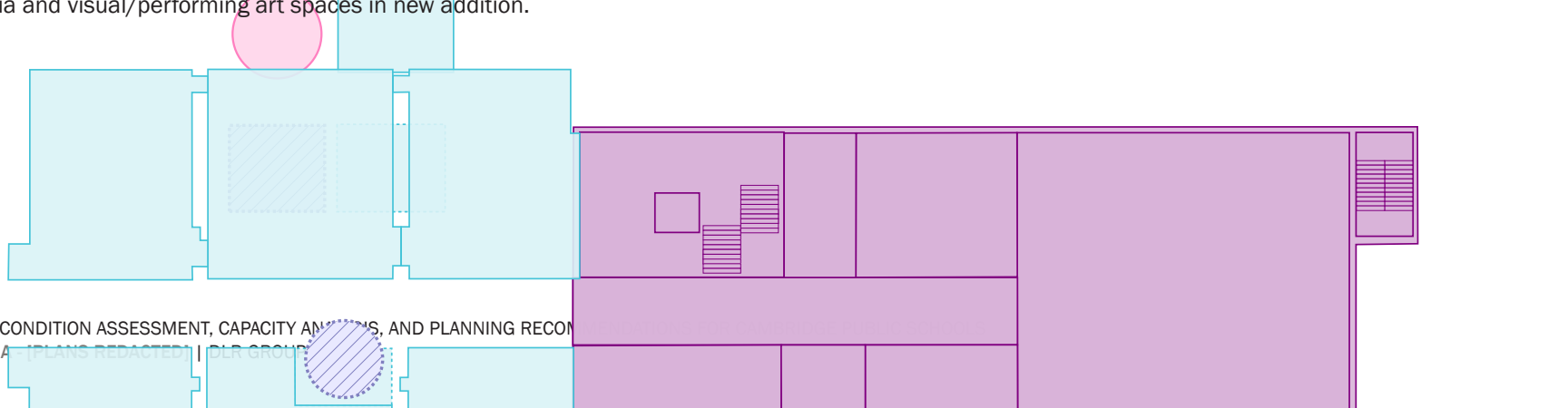
CAMBRIDGEPORT SCHOOL - RECOMMENDED INTERVENTION



- Rework building to be converted into an Early Education Center and administrative center.
 - Reconfigure basement level to include JK classrooms with attached bathroom spaces and additional building support areas.
 - New addition with dining/kitchen spaces and additional support spaces.
- 
- A partial floor plan diagram showing several light blue rectangular rooms (classrooms) on the left and a larger purple rectangular area (support spaces) on the right. A small circular area with diagonal hatching is visible in the lower left. The text "FACILITIES CONDITION ASSESSMENT, CAPACITY ANALYSIS, AND PLANNING RECOMMENDATIONS FOR CAMBRIDGE PUBLIC SCHOOLS REDACTED] | DLR GROUP" is visible at the bottom right.

CAMBRIDGEPORT SCHOOL - RECOMMENDED INTERVENTION



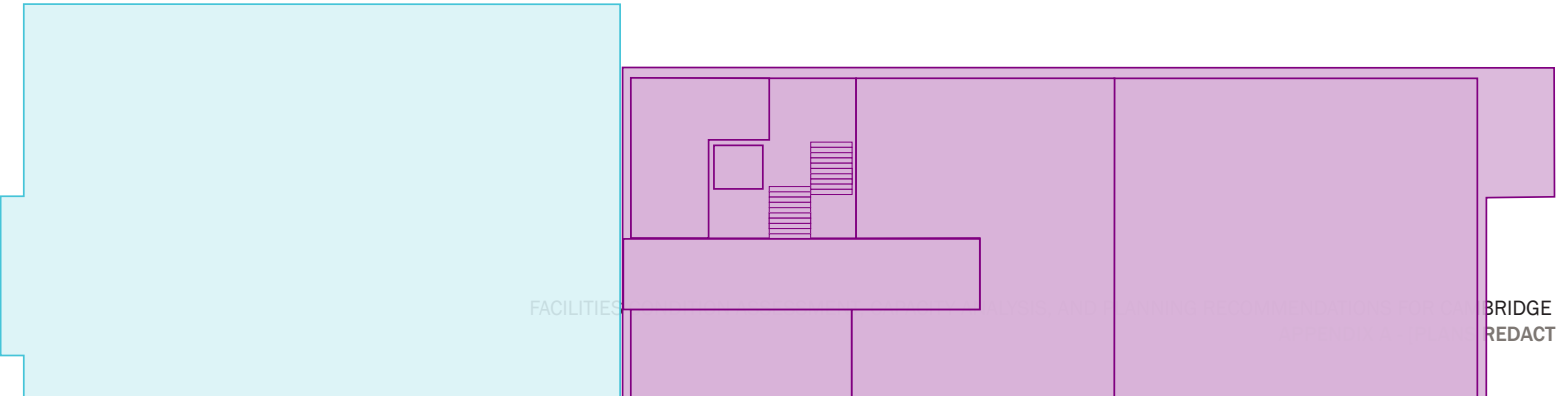
- Reconfigure classrooms to become EEC spaces with attached bathrooms and breakout space for cluster.
 - New addition with EEC admin space connected to accessible entrance and secure lobby.
 - Media and visual/performing art spaces in new addition.
- 
- A partial floor plan diagram showing several light blue rectangular rooms (classrooms) on the left and a larger purple rectangular area (support spaces) on the right. A new addition, indicated by a pink circle, is shown at the top center. A small circular area with diagonal hatching is visible in the lower left. The text "FACILITIES CONDITION ASSESSMENT, CAPACITY ANALYSIS, AND PLANNING RECOMMENDATIONS FOR CAMBRIDGE PUBLIC SCHOOLS REDACTED] | DLR GROUP" is visible at the bottom right.

CAMBRIDGEPORT SCHOOL - RECOMMENDED INTERVENTION



Building plans redacted at the request of Cambridge Public Schools.

- Reconfigure classrooms to become EEC spaces with attached bathrooms and breakout space for cluster.
- New addition with small gym and PE support spaces.
- Additional JK classrooms in new addition.

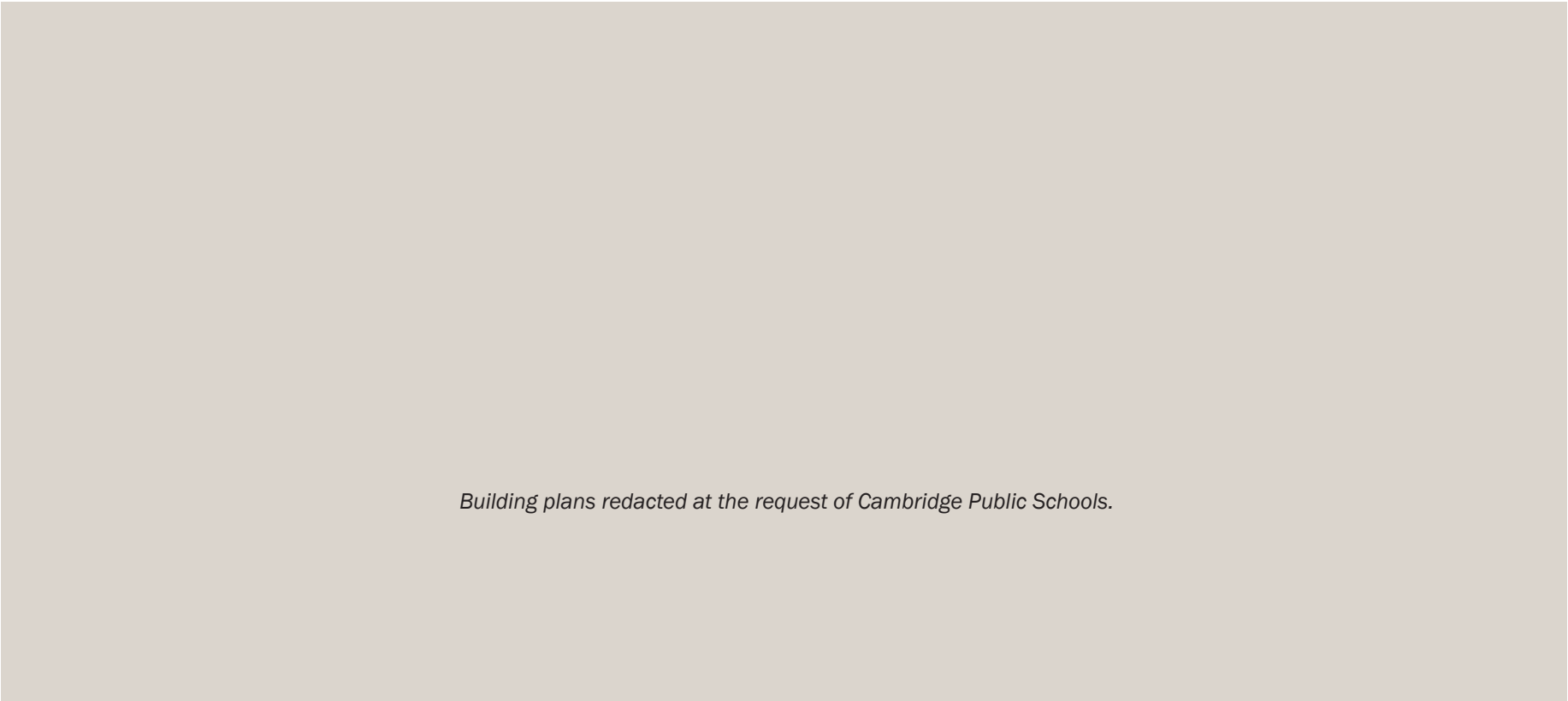


FACILITIES

FACILITIES CONDITION ASSESSMENT, CAPACITY ANALYSIS, AND PLANNING RECOMMENDATIONS FOR

CAMBRIDGE PUBLIC SCHOOLS
APPENDIX A - [PLANS REDACTED] | DLR GROUP

CAMBRIDGEPORT SCHOOL - RECOMMENDED INTERVENTION



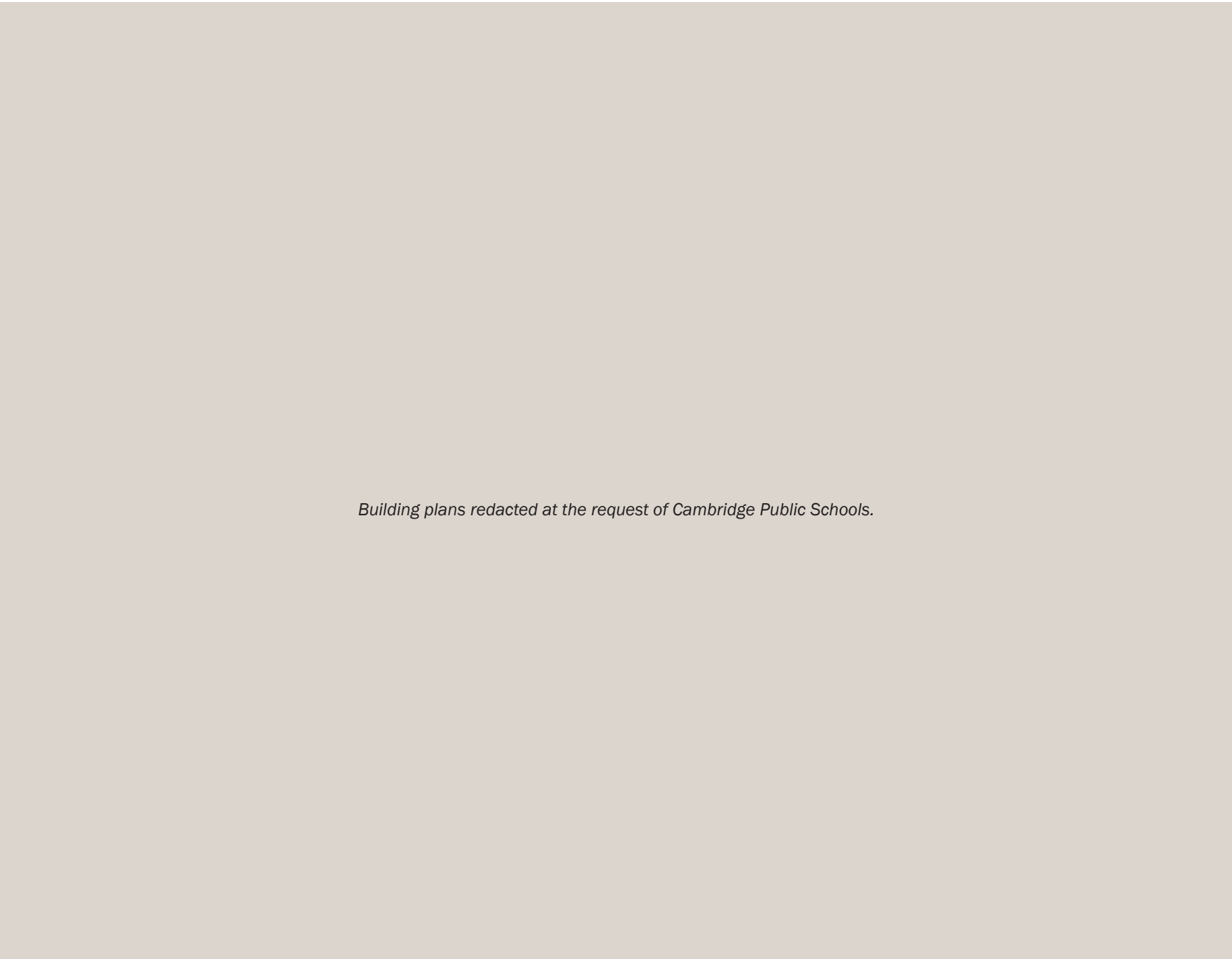
Building plans redacted at the request of Cambridge Public Schools.

- Reconfigure top level to become an admin center with office space, collaboration spaces, and service areas.
- Separate lobby accessed through back side of the building with elevator and separate stair.



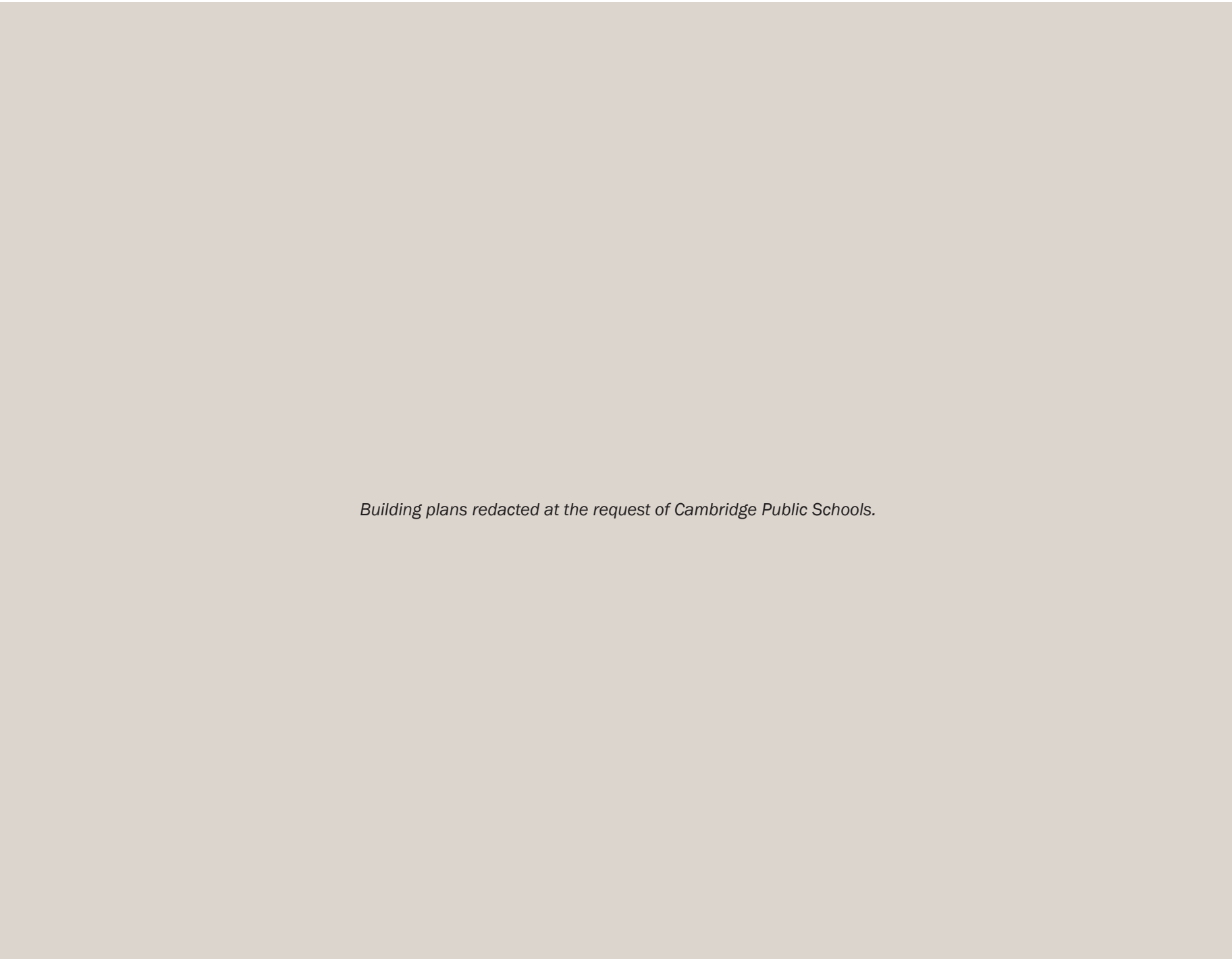
FACILITIES CONDITION ASSESSMENT, CAPACITY ANALYSIS, AND PLANNING RECOMMENDATIONS FOR CAMBRIDGE PUBLIC SCHOOLS
APPENDIX A - [PLANS REDACTED] | DLR GROUP

CAMBRIDGEPORT SCHOOL - DISCARDED OPTIONS



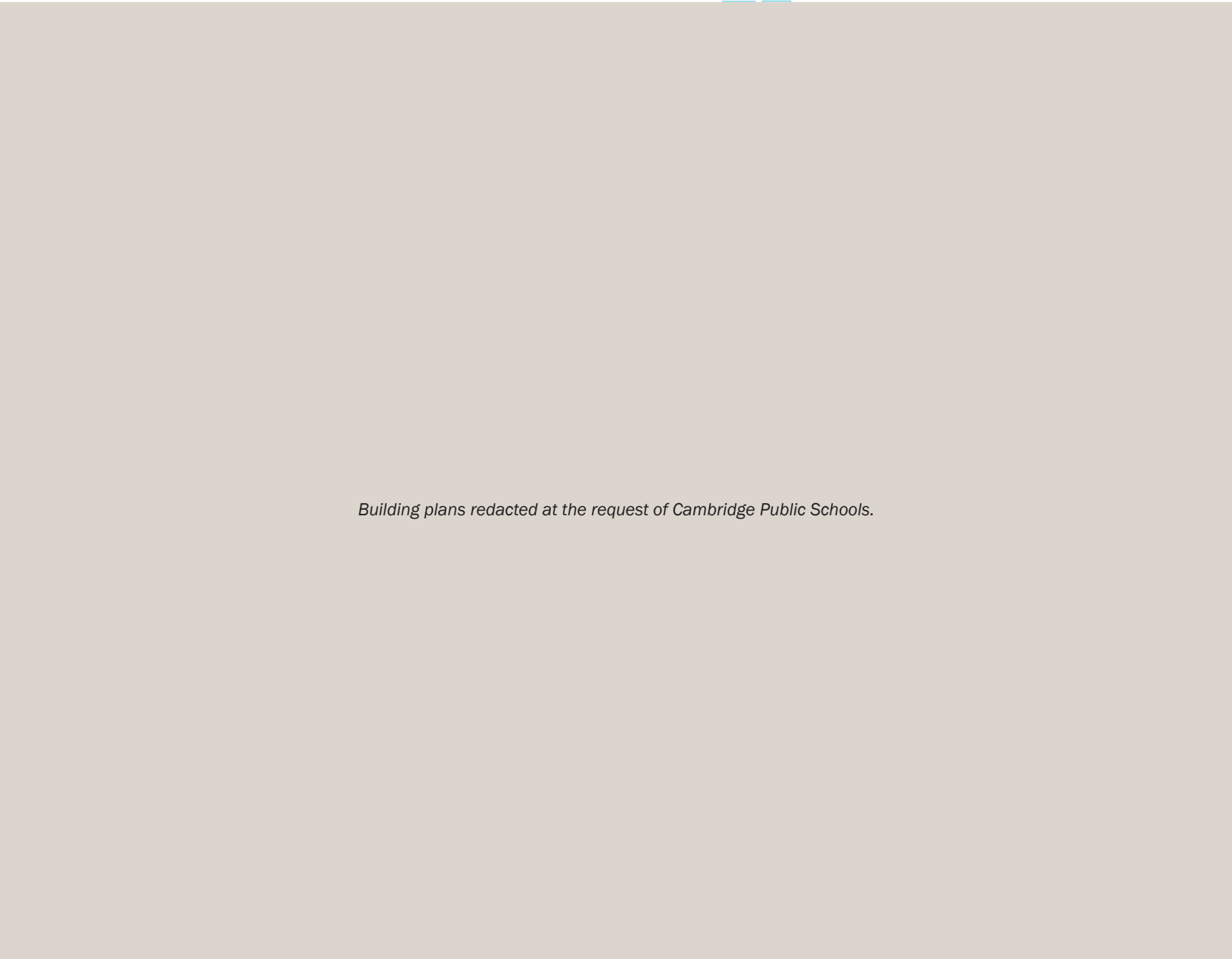
Building plans redacted at the request of Cambridge Public Schools.

CAMBRIDGEPORT SCHOOL - DISCARDED OPTIONS



Building plans redacted at the request of Cambridge Public Schools.

CAMBRIDGEPORT SCHOOL - DISCARDED OPTIONS



Building plans redacted at the request of Cambridge Public Schools.

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