



Tecton
ARCHITECTS

MASTER PLAN FACILITIES BOE MEETING

BRANFORD PUBLIC SCHOOLS, CT

11.20.2024

AGENDA

5
min

1 Team & Experience

5
min

2 Our Approach

10
min

3 Your Master Plan

Q & A

*Opportunities
for discussion
along the way!*

An aerial photograph of a coastal town, likely in the Pacific Northwest, showing a mix of residential buildings, green spaces, and waterfront areas. The image is overlaid with a semi-transparent blue filter. The text 'TEAM & EXPERIENCE' is centered in the lower half of the image.

TEAM & EXPERIENCE

A COLLABORATIVE TEAM



JEFF WYSZYNSKI
AIA

*Principal-in-Charge /
Primary Contact*



EDDIE WIDOFSKY
AIA, LEED AP BD+C

*Senior Project
Manager*



ANTONIA CIAVERELLA
EDAC, LEED AP BD+C,
WELL FACULTY, FITWEL

*Architectural Designer,
Engagement Facilitator*



LAURA HILL

Architectural Designer



BRADLEY PARK

MEP Engineering, CES

STAFF OF
50 PEOPLE

90%
REPEAT CLIENTS

100+ K-12
PROJECTS

LANGAN
Civil Engineering

CONSULTING ENGINEERING SERVICES (CES)
MEP Engineering, Fire Protection

MICHAEL HORTON ASSOCIATES
Structural Engineering

RELEVANT EXPERIENCE



BROOKFIELD SCHOOLS MASTER PLAN



Consolidation
New 1,100 PK-5

✓ Successful Referendum

SIMSBURY SCHOOLS MASTER PLAN



Elementary
Renewal (5 Schools)

✓ Successful Referendum

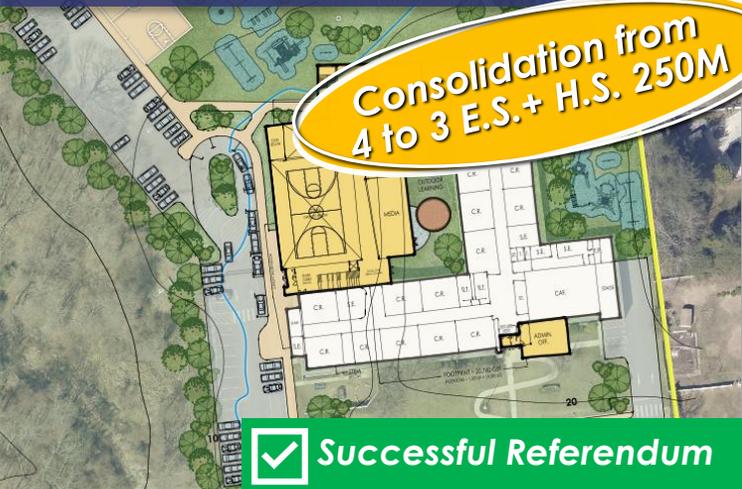
MADISON ELEMENTARY SCHOOLS

Consolidated 2 Elementary Schools



Consolidated 2
Elementary Schools

BARRINGTON SCHOOL PROJECTS



Consolidation from
4 to 3 E.S.+ H.S. 250M

✓ Successful Referendum

WINHAM PUBLIC SCHOOLS

Elementary Schools Consolidation



TRUMBULL SCHOOLS MASTER PLAN

13 buildings studied



13 Bldgs. Studied,
New M.S. Priority

✓ Successful Referendum

An aerial photograph of a coastal town, likely in the New England area, showing a mix of residential buildings, green spaces, and a waterfront with several boats. The entire image is overlaid with a semi-transparent blue filter. The text 'OUR APPROACH' is centered in the lower half of the image.

OUR APPROACH

OUR APPROACH



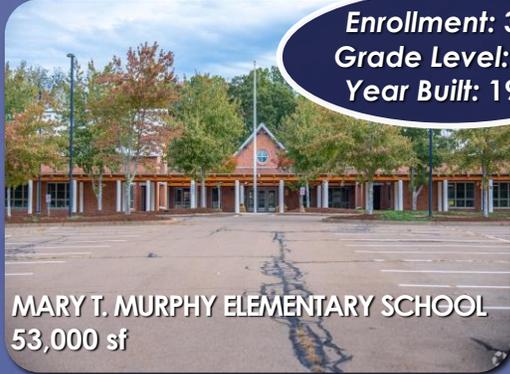
WHY IT MATTERS? / YOUR SCHOOL FACILITIES



Enrollment: 380
Grade Level: PreK-4
Year Built: 1960



Enrollment: 293
Grade Level: PreK-4
Year Built: 1928



Enrollment: 387
Grade Level: K-4
Year Built: 1960

**Mary T. Murphy
Elementary
School**

**Branford
High School**

**Mary R. Tisko
Elementary
School**

**John B. Sliney
Elementary
School**

**Francis Walsh
Intermediate
School**

**Indian Neck
School**



Enrollment: 893
Grade Level: 5-8
***Major Reno: 2022**



Enrollment: 49
Grade Level: PreK
Year Built: 1950



Enrollment: 875
Grade Level: 9-12
Year Built: 1958
Major Reno: 1996



WHY IT MATTERS? / YOUR MISSION

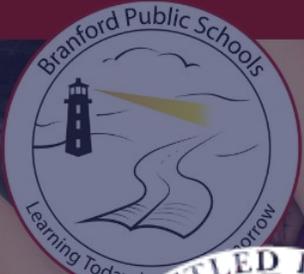


"Committed to developing life-long learners who are capable and confident, who contribute to their community, and who succeed in a changing global society."

BUILDING ON YOUR STORY

BRANFORD PUBLIC SCHOOLS STRATEGIC COHERENCE PLAN

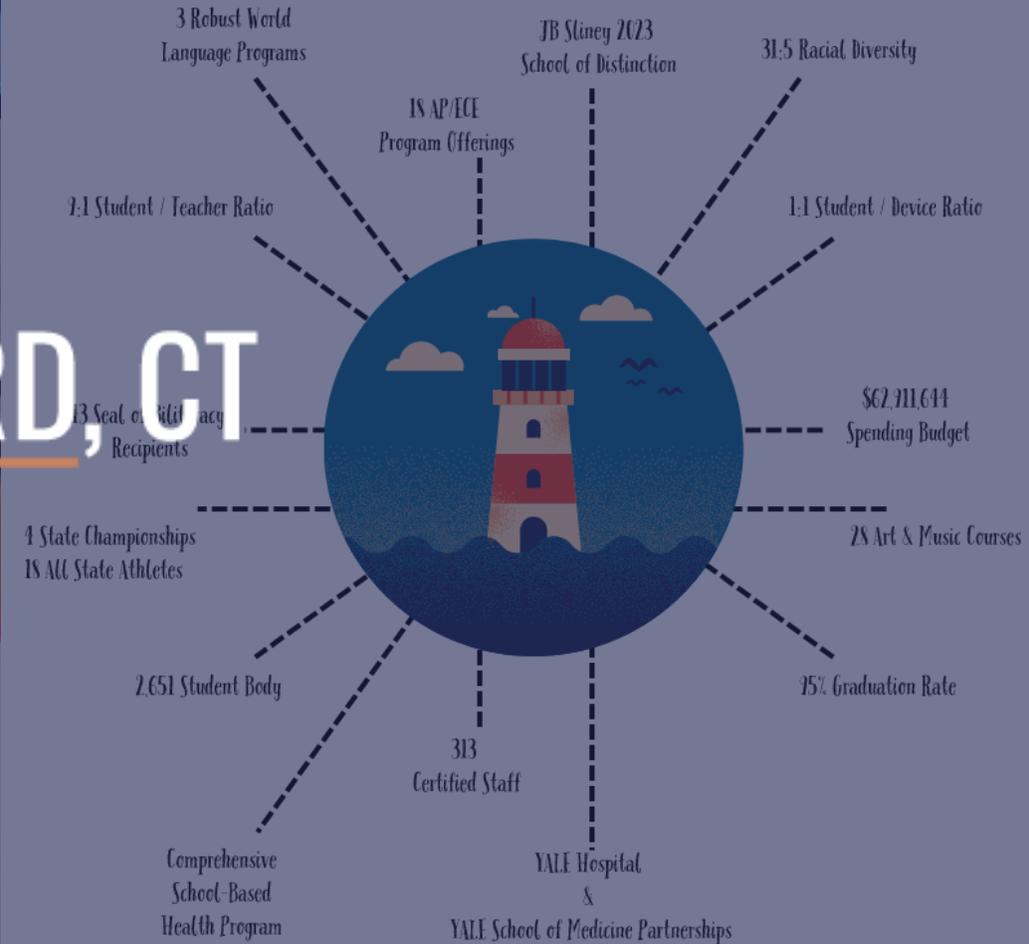
2024 - 2028



TOWN of BRANFORD, CT

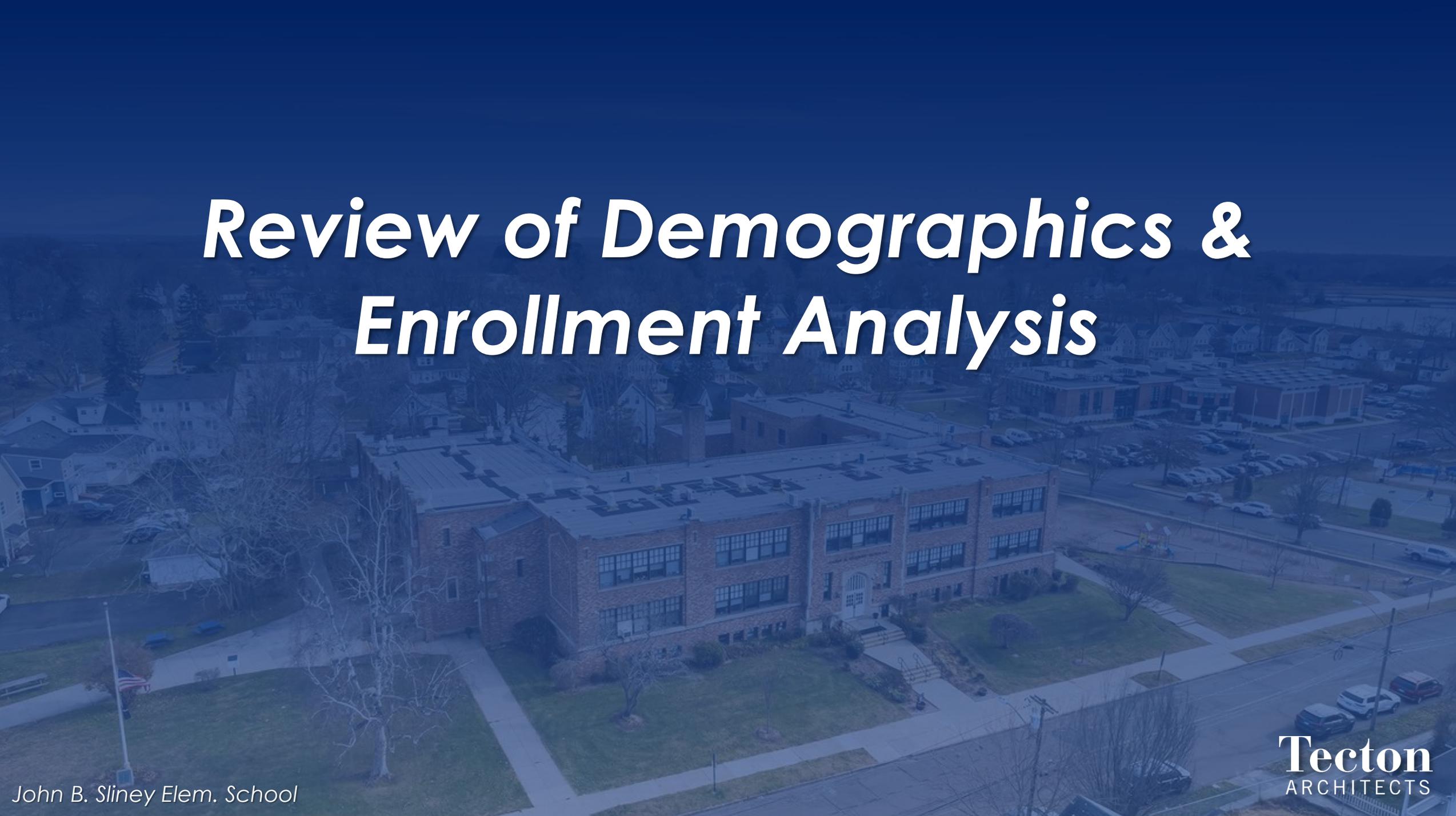


DISTRICT AT A GLANCE



An aerial photograph of a coastal town, likely in the New England area, showing a mix of residential buildings, green spaces, and waterfront areas. The image is overlaid with a semi-transparent blue filter. The text 'YOUR MASTER PLAN' is centered in the lower half of the image.

YOUR MASTER PLAN

An aerial photograph of a large, multi-story brick school building with a flat roof and numerous windows. The building is surrounded by a grassy area and a paved walkway. In the background, there are residential houses and a parking lot with several cars. The entire image has a blue tint.

Review of Demographics & Enrollment Analysis

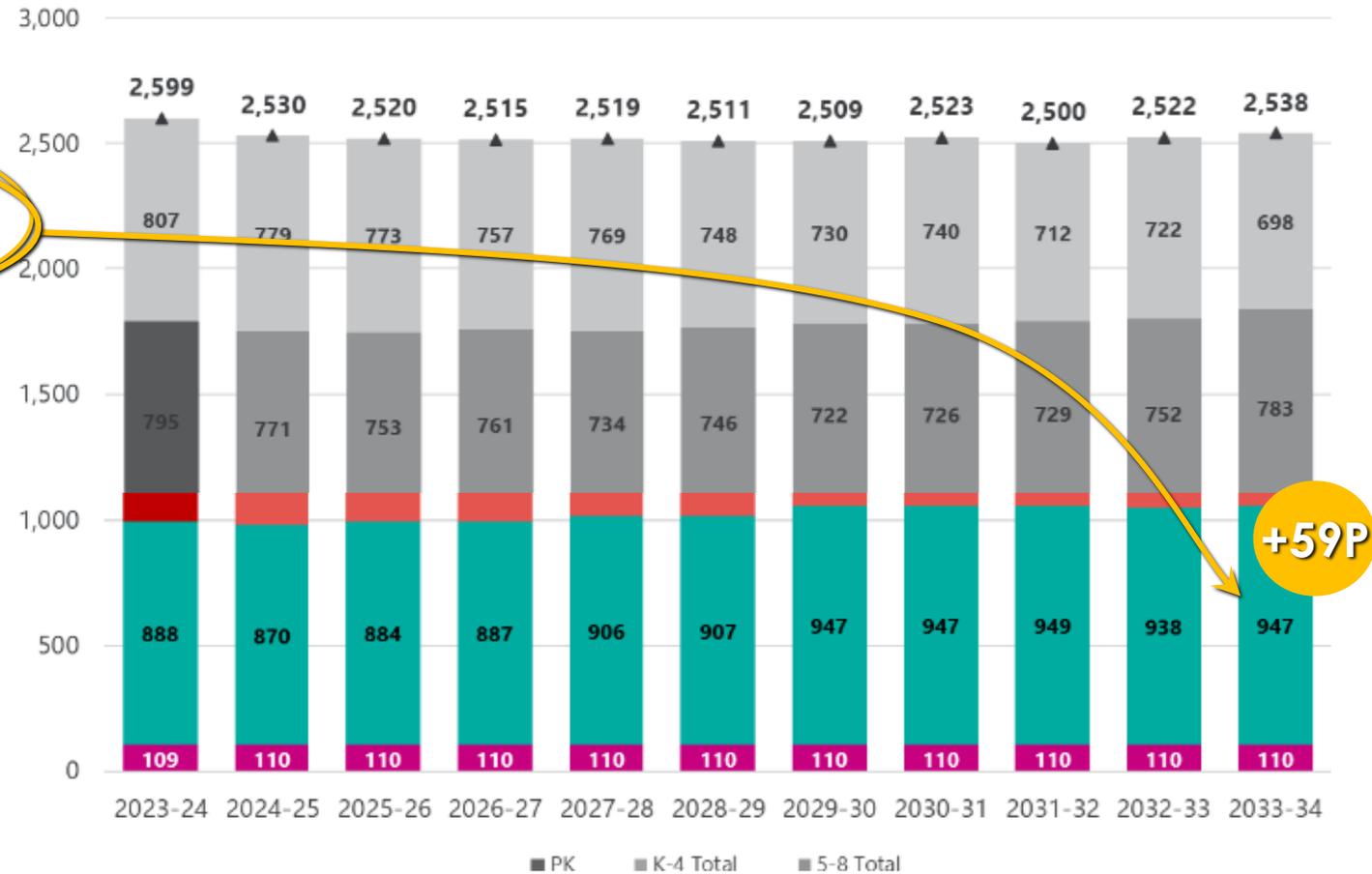
John B. Sliney Elem. School

Tecton
ARCHITECTS

DEMOGRAPHIC ANALYSIS & FORECASTING FUTURE

- Overall enrollment is projected to stay very stable at between 2,500 and 2,550 students over the next decade. However, trends vary by grade grouping.
- K-4 enrollment is projected to increase by 6.6% (~ 60 students) over the next decade, averaging ~920 students.
- 5th-8th enrollment is projected to decline through 2029-30 at 720 students, followed by modest increase to roughly 780 students by 2033-34, with an average enrollment of 748 students over the next 10-years.
- 9th-12th enrollment is projected to decline over the next decade with a loss of ~110 students (-13.5%).

Historic and Projected PK-12 Enrollment 2023-24 to 2033-34
(Medium Projection Model)



BENCHMARKING YOUR SCHOOLS

School Building	Grade Level	Year Built (Reno)	Building Area	Enroll. 2/24	OGA (Max. Allow.) Approx. Area w/gross	Delta	%
Branford High School	9-12	1958 (1996)	392,270	875	171,481	169,753	106%
Francis Walsh Interm. School	5-8	2022* (RNV)	175,913 (5,115 BOE)	893	175,913	32,506	23%
Mary T. Murphy Elem. School	K-4	1960	53,000	387	50,422	6,096	13%
John B. Sliney Elem. School	K-4	1928	54,000	293	39,447	17,305	47%
Mary R Tisko Elem. School	PK-4	1960	53,000	380	49,510	6,944	15%
Indian Neck (Two Structures)	-	1950	12,000	49	-	-	-

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BENCHMARKING YOUR SCHOOLS



Project Number: TBD
 School Name: Mary T. Murphy Elem. School
 LEA Name: Branford School District
 LEA CODE: _____

SPACE STANDARDS WORKSHEET

This worksheet should be completed and submitted with the application for any N (new), E (extension), A (alteration, or RNV (renovation) combination.

State Standard Space Specifications Grades

Projected Enrollment	Pre-K & K	1	2	3	4	5	6	7	8	9	10	11	12
	Allowable Square Footage per Pupil												
0 - 350	124	124	124	124	124	156	156	180	180	180	194	194	194
351 - 750	120	120	120	120	120	152	152	176	176	176	190	190	190
751 - 1500	116	116	116	116	116	148	148	170	170	170	184	184	184
Over 1500	112	112	112	112	112	142	142	164	164	164	178	178	178

Steps for completing Section 1:

- In the field labeled "Projected Enrollment," enter your school's highest projected 8-year enrollment.
- Select "Yes" for each grade served or to be served.
- Answer whether there is 1% additional space for HVAC.
- Enter the existing square footage of your school.
- Enter the square footage of the school built 1990 or earlier.
- Note that all square foot calculations are measured to the exterior walls.

Section 1.

Highest Proj 8-year enrollment:

Pre-K and/or K Yes	6	Pre-K and/or K	6
1 Yes	7	1	120
2 Yes	8	2	120
3 Yes	9	3	120
4 Yes	10	4	120
5	11	5	120
	12		

Section 2.

(a) Total (grades Pre-K through 12)	600
(b) Number of grades housed	5
(c) Average [(a)/(b)]	120
(d) Extra 1% for HVAC (CGS10-286(c)(2))?	Yes
(e) Maximum allowable square footage per space standards [(c) x (d)]	46,904

Mary T. Murphy Elem. School

46,904

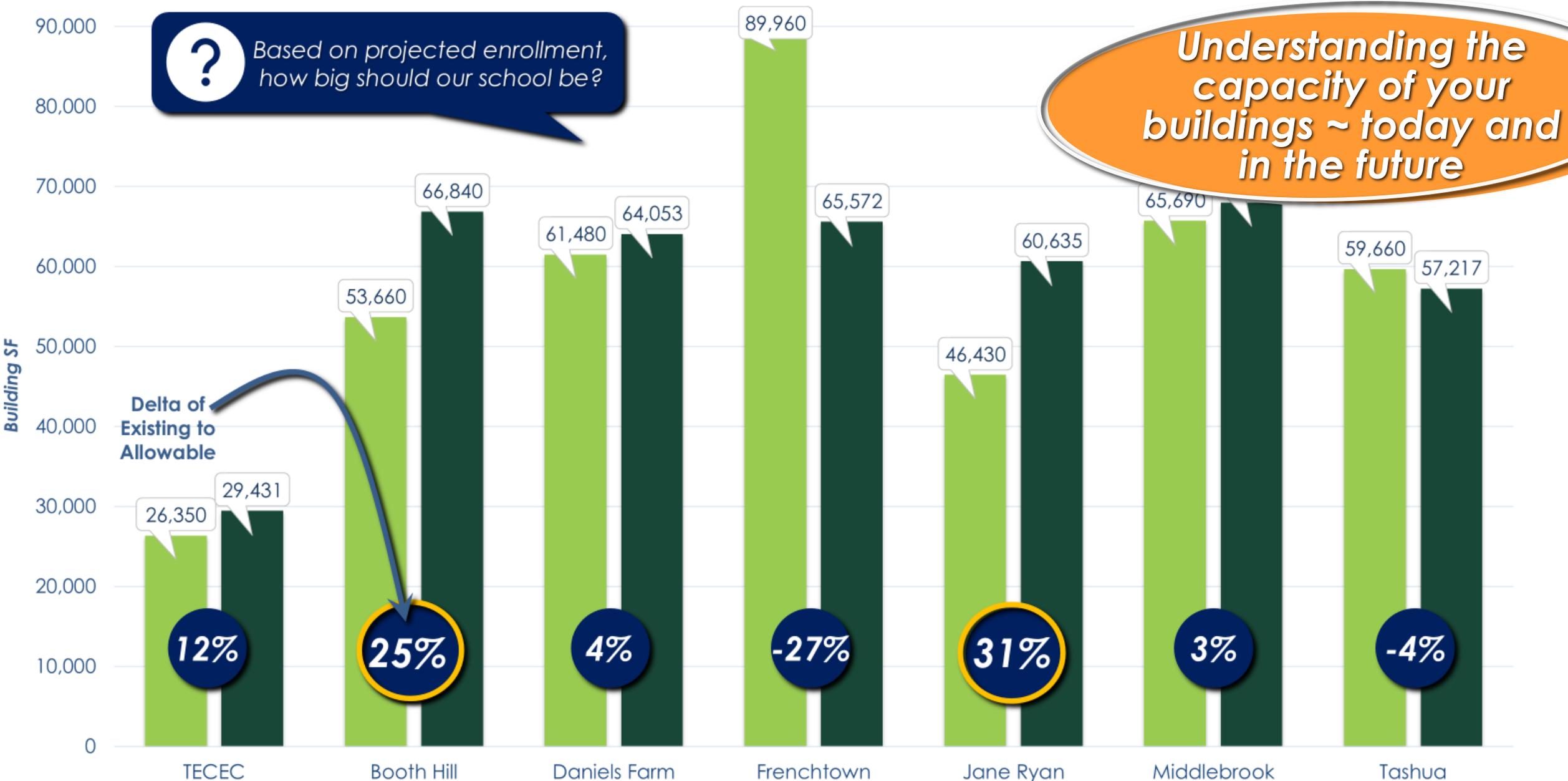
Allowable SF*
(387 Students)
(Grades K-4)

X 7.5%
Gross Up

50,422

Gross Square Feet

DEMOGRAPHIC & ENROLLMENT ANALYSIS



DEMOGRAPHIC & ENROLLMENT ANALYSIS



Look at the key "CORE" spaces if expansion is considered

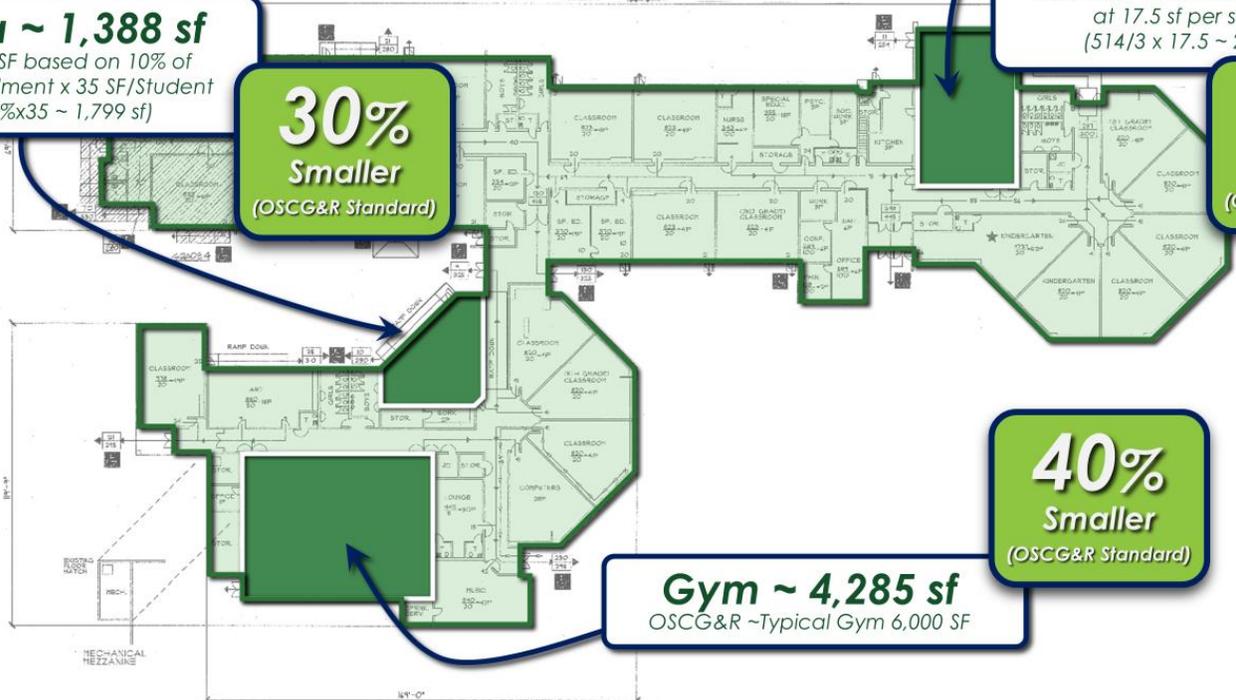
Booth Hill School ~ Existing Floor Plan

Media ~ 1,388 sf
OSCG&R ~SF based on 10% of student enrollment x 35 SF/Student
(514x10%x35 ~ 1,799 sf)

**30%
Smaller**
(OSCG&R Standard)

Cafeteria ~ 2,413 sf
OSCG&R ~SF based on 3 waves at 17.5 sf per student
(514/3 x 17.5 ~ 2,998 sf)

**25%
Smaller**
(OSCG&R Standard)



Gym ~ 4,285 sf
OSCG&R ~Typical Gym 6,000 SF

**40%
Smaller**
(OSCG&R Standard)

DEMOGRAPHIC & ENROLLMENT ANALYSIS



Analyze how much of the building can really be used for education!

Middlebrook ~ Existing Floor Plan

36,773 (14,057 ~13,388 x 1.05)/ 51,280 sf



Middlebrook ~ Lower Level



Middlebrook ~ Upper Level



Middlebrook
Elementary School
55.3%

Community Engagement and Input

BUILDING ON YOUR STORY



TOWN of BRANFORD, CT



HOW IDEAS GET BUILT / THE CONVERSATIONS



MEETING PEOPLE WHERE THEY ARE



HOW IDEAS GET BUILT / THINK TANKS

An opportunity for a diverse, hand-selected group of teachers, students, parents, and board members to...

co-create the mission, vision and story of each unique school project.



Details:

- Who?** A selected group of diverse stakeholders that often includes teachers, students, parents, and board members. (20-25 people per group)
- What?** An active workshop that generates the mission, vision and story for each school.
- When?** Elementary Schools: **9/10**. High School: **9/10**. Same day, two sessions!
- Where?** The elementary Think Tank will be hosted at Sowams School. The high school Think Tank will be hosted at Barrington High School.
- Why?** Your participation will create the guiding principles that become touchstones for the project at each conversation.

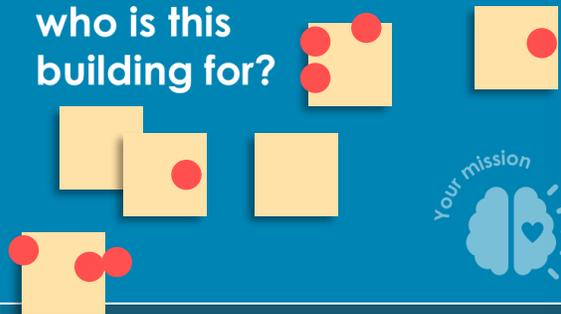
HOW IDEAS GET BUILT / THINK TANKS



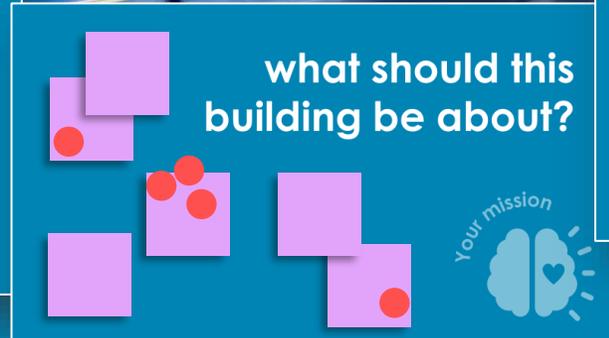
Steps:

- 3 min 1. Brainstorm
- 2 min 2. Upvote
- 5 min 3. Consolidate

who is this building for?



what should this building be about?



what impression do you want to leave?



Your mission



We're doing this for
Insert result for: "Who is this building for?" so that they
can Insert result for: "What should this building be about?" and
ultimately Insert result for: "What impression do you want to leave?".



UPCOMING EVENTS



Community Conversation #2

Topic: Refining the Preferred Option
Barrington High School Auditorium, 6:00-7:00pm

This is an opportunity to update the community on the preferred direction for each of the schools in the RIDE Stage III Submission. Still in Schematic Design, the plans and massing will remain high-level at this phase.



Community Conversation #3

Topic: A More Detailed Look at Space
Barrington High School Auditorium, 6:00-7:00pm

This session is a more detailed update to the community now that the projects have entered the Design Development Phase. More specifics on interior design, building systems, and exterior design will be presented.



Community Conversation #4

Topic: Final Design and What to Expect in Construction
Barrington High School Auditorium, 6:00-7:00pm

Now that the projects are in the Construction Documents Phase, the final design will be presented along with next steps for construction, phasing and occupancy.



SEND US AN EMAIL

construction@barringtonschools.org



VISIT THE WEBSITE

<https://www.barringtonschools.org/page/construction>



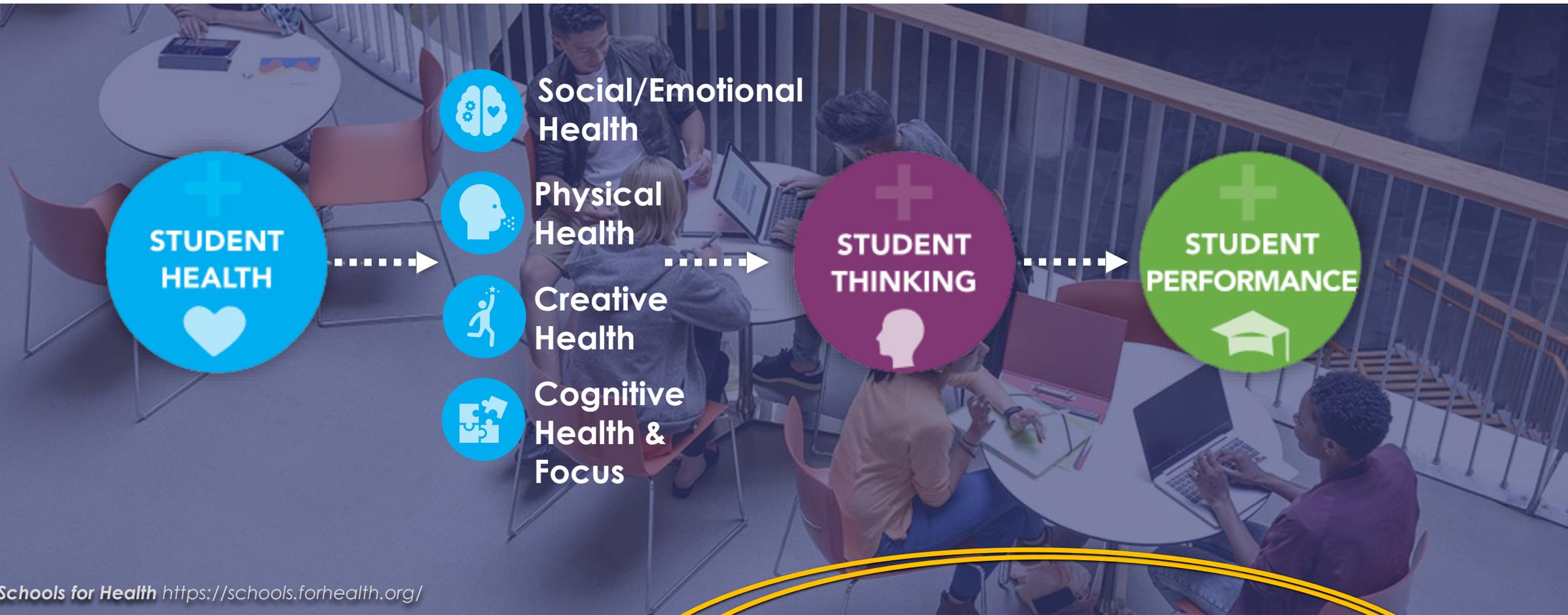
Or scan this code

Educational Programming Needs

EDUCATIONAL PROGRAMMING / WHY IT MATTERS!



EDUCATIONAL PROGRAMMING / WHY IT MATTERS!



Harvard Schools for Health <https://schools.forhealth.org/>

Whole Child Wellness~

WELL is for people...

BUILDINGS

AND THEIR
EFFECTS
ON

**HUMAN
HEALTH**

Program Summary ~ # of General Classrooms



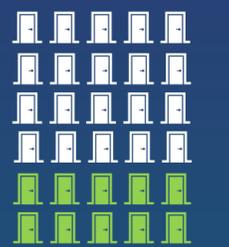
Tecton ARCHITECTS

High School **+24**



RIDE Standard = 950
Analysis utilizes average of 19 students & 22 sq ft

Hampden Meadows **+10**



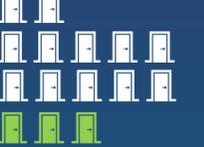
Nayatt **+3**



Primrose Hill **+6**



Sowams **+3**



Analysis of typical classroom capacity

Analysis of specials to understand equity across district

Program Summary ~ Elementary Specials



Tecton ARCHITECTS

☑ = meets SF standard, but improvement could still be needed

No elem. school has a dedicated Gym



Music
1,350 SF



Art
1,200 SF



Media/Library
2,020 SF



STEM
1,200 SF



Health
950 SF



Gym / P.E.
6,300 SF

	Music 1,350 SF	Art 1,200 SF	Media/Library 2,020 SF	STEM 1,200 SF	Health 950 SF	Gym / P.E. 6,300 SF
Hampden Meadows	☑ <small>1 required - 2 exist @ 1,840SF</small>	+SF <small>250 SF</small>	☑ <small>300 SF</small>	+SF <small>300 SF</small>	+1 <small>950 SF</small>	+1 <small>6,300 SF</small>
Nayatt	+1 <small>1,850 SF</small>	+SF <small>350 SF</small>	+SF <small>1,100 SF</small>	+1 <small>1,200 SF</small>	+1 <small>950 SF</small>	+1 <small>6,300 SF</small>
Primrose Hill	+1 <small>1,850 SF</small>	+1 <small>1,200 SF</small>	+SF <small>370 SF</small>	+1 <small>1,200 SF</small>	+1 <small>950 SF</small>	+1 <small>6,300 SF</small>
Sowams	+1 <small>1,850 SF</small>	+SF <small>350 SF</small>	+SF <small>370 SF</small>	+1 <small>1,200 SF</small>	+1 <small>950 SF</small>	+1 <small>6,300 SF</small>

Currently in modulars

EDUCATIONAL PROGRAMMING / ANALYSIS

Program Summary ~ Elementary Special Ed.

☑ = meets SF standard, but improvement could still be needed



OT/PT
650 SF



De-escalation
250 SF



Resource /
Group Rooms
500 SF



Sensory
250 SF



Intervention
(Math, Reading,
Speech)
250 SF



E.L.L. / M.L.L.
500 SF

Hampden Meadows	☑	No Additional SF Proposed
Nayatt	+	885 SF Additional Proposed
Primrose Hill	+	1,560 SF Additional Proposed
Sowams	+	250 SF Additional Proposed

Gain a deeper understanding of specialized education space

Focus on the distribution and scale of support spaces

Program Summary ~ Elementary Special Ed.

☑ = meets SF standard, but improvement could still be needed



OT/PT
650 SF



De-escalation
250 SF



Resource /
Group Rooms
500 SF



Sensory
250 SF



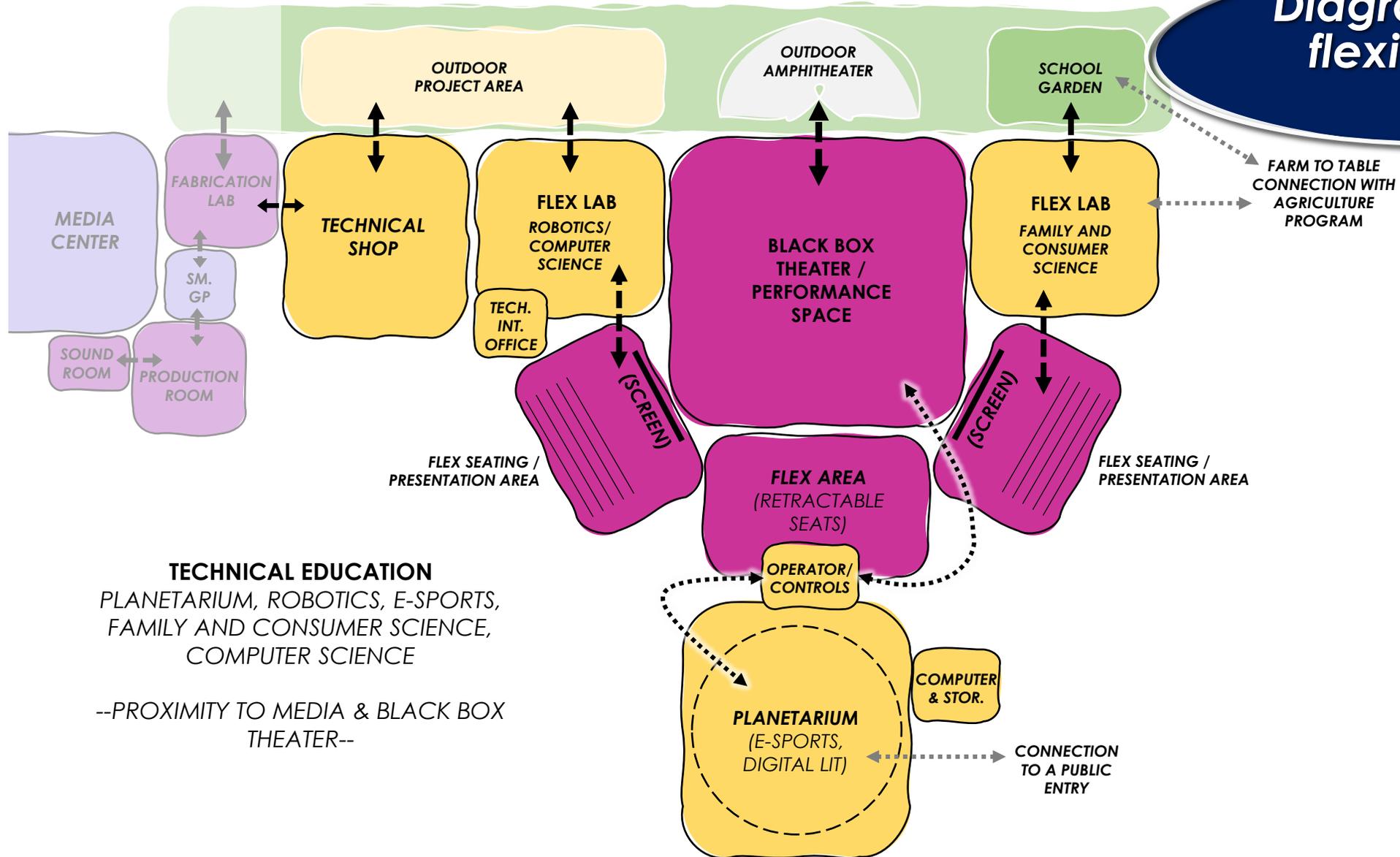
Intervention
(Math, Reading,
Speech)
250 SF



E.L.L. / M.L.L.
500 SF

	OT/PT 650 SF	De-escalation 250 SF	Resource / Group Rooms 500 SF	Sensory 250 SF	Intervention (Math, Reading, Speech) 250 SF	E.L.L. / M.L.L. 500 SF
Hampden Meadows	+SF	+1	☑	+1	☑ <small>On Lower Level (Accessibility Needed)</small>	+1
Nayatt	+1 <small>Currently Uses Stage</small>	+1	☑	+1	☑	+SF
Primrose Hill	+1	+1	☑	+1	+SF	+SF
Sowams	+SF	+1	+SF	+SF	☑ <small>On Lower Level (Accessibility Needed)</small>	+SF

Diagrams depicting flexible program spaces



TECHNICAL EDUCATION
 PLANETARIUM, ROBOTICS, E-SPORTS,
 FAMILY AND CONSUMER SCIENCE,
 COMPUTER SCIENCE

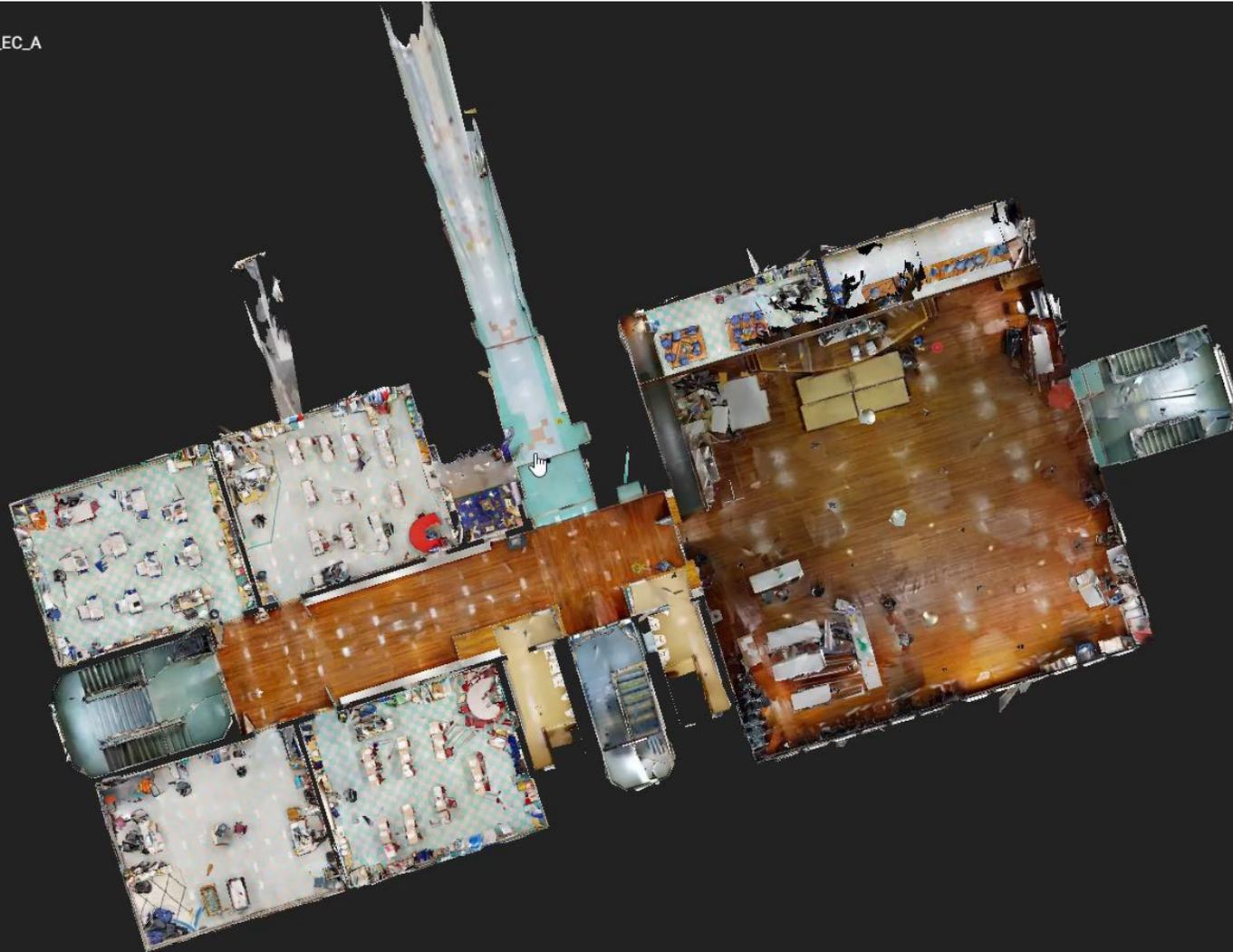
--PROXIMITY TO MEDIA & BLACK BOX
 THEATER--

CONNECTION
 TO A PUBLIC
 ENTRY

Infrastructure Assessment

EXISTING CONDITIONS/ ANALYSIS

23 0105_HFD43AR_EC_A



**Creates digital twin
of existing condition**

**Limits disruption to
school activities**

**Valuable resource to
entire team**

**Can be utilized as a
tool for maintenance
program**

E.B. Kennelly Digital Twin

Conditions Analysis ~ Booth Hill Elementary School



- Student population with limited space
- Limited space for OT/PT, special education; takes place in halls or cafeteria; closets are used as intervention rooms
- Lack of 21st century learning space: breakout, STEAM, outdoor
- No accessible features in building
- Lack of storage throughout
- Poor site circulation: no separation of bus and parent, conflicts with delivery trucks; concerns with security at border of site

Programmatic Needs



Physical Condition



Building by building analysis ~ age, condition, code

- Site, Access, Security
- Architectural Exterior
- Architectural Interior
- Code ~ Accessibility / Life Safety
- Building Systems

Organize existing conditions, analyze & rank priorities

Existing Conditions Analysis, methodology, and conclusions

1 = Poor, 5 = Good

Building Name	Programmatic Needs Rank (Priority)	Physical Condition Rank (Priority)	AVERAGE (Priority)
Booth Hill Elementary	1	2	1.5
Daniels Farm Elementary	2	2	2
Northtown Elementary	4	4	4
Wan Elementary	4	3	3.5
Wink Elementary	3	3	3
Wynnton Elementary	3	3	3

Programmatic Needs

- Grouped by Grade (K-5, 6-8, 9-12)
- Collected & Analyzed Information
- Ranked based upon findings
- Prioritized based upon rankings

Physical Condition

Think of the rankings like a movie, the more stars you have the better!

EXISTING CONDITIONS / ANALYSIS

Programmatic Needs



Educational space
at end of corridor

Temporary partition in classroom



Physical Condition

Inaccessible corridor



Makeshift IT room
with ceiling leaks



Original millwork

EXISTING CONDITIONS / REPORT & LIVING DOCUMENT

SUFFIELD HIGH SCHOOL - 1060 SHELDON ST, SUFFIELD, CT

B. DATA & RANKINGS

B.1 Building Data

The Facility:

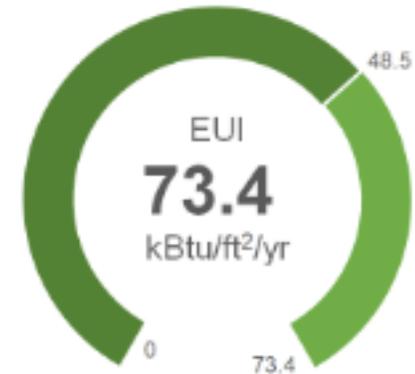
Name:	Suffield High School
Address:	1060 Sheldon St
Type / Use:	High School
Total Building Area (SF):	204,016
Site Area (acres):	60.48
Stories (above grade):	2
Original Construction:	2002
Additions (dates):	2012 (out building)
Construction Type(s):	1B/2C
Building / Framing Materials:	Steel
Roof Types & Age:	Membrane/Asphalt Shingles/Metal(2002) 2017 warranty
Split-level / ramps (interior):	Yes
Heating (types):	Heat Pump
Stairs (interior):	Yes
Fuel Types:	Electricity
Elevator:	Yes
Cooling (centralized):	Yes
Basement:	No
Ventilation:	Yes
Mezzanine (finished):	No
Electrical:	Yes
Crawl Space / Tunnels:	No
Generator:	No
Auxiliary Buildings:	Yes
Fire Alarm:	Yes
Full ADA Compliance:	N/A
Sewer / Septic:	Municipal Water
Municipal Water / Well:	Municipal Water
Sprinklered (full / partial):	Yes, full coverage
Parking Count:	430
School Data	
Enrollment(2020):	776
Enrollment 10-yr:	573
Meals:	3 waves
Net Enrollment Change:	-203
Meal Prep on site?:	Yes
Location in Town:	Central
Start Time:	7:25
Grade Structure:	9-12
Dismissal:	2:05
Pre-K?:	No (Daycare may return)
Buses:	22, 4-5 others
Athletic Fields:	Softball, Baseball, (2) Multiuse Fields, Running Track, Field Event Areas, (2) Basketball Courts, (7) Tennis Courts
Additional Programs:	Agricultural Science

MECHANICAL, ELECTRICAL, FIRE PROTECTION, SECURITY

SYSTEM	EQUIPMENT LIFE EXPECTANCY	EQUIPMENT AGE	USEFUL LIFE PERCENTAGE
Fire Protection System	40 Years	20 Years	50%
Plumbing Water Heater	25 Years	20 Years	80%
Plumbing Piping & Fixtures	40 Years	20 Years	50%
Mechanical Boiler Plant	40 Years	20 Years	50%
Mechanical Piping & Equipment	40 Years	20 Years	50%
Mechanical Air Conditioning	25 Years	20 Years	80%
Mechanical Controls	20 Years	20 Years	100%
Electrical Service & Distribution	40 Years	20 Years	50%
Electrical Piping & Equipment	40 Years	2 Years	7%
Electrical Controls	20 Years	20 Years	55%
Security	20 Years	20 Years	100%

Develop a tool for future use ~ "Living Document"

Suffield High School
Code Minimum School = 48.5 EUI

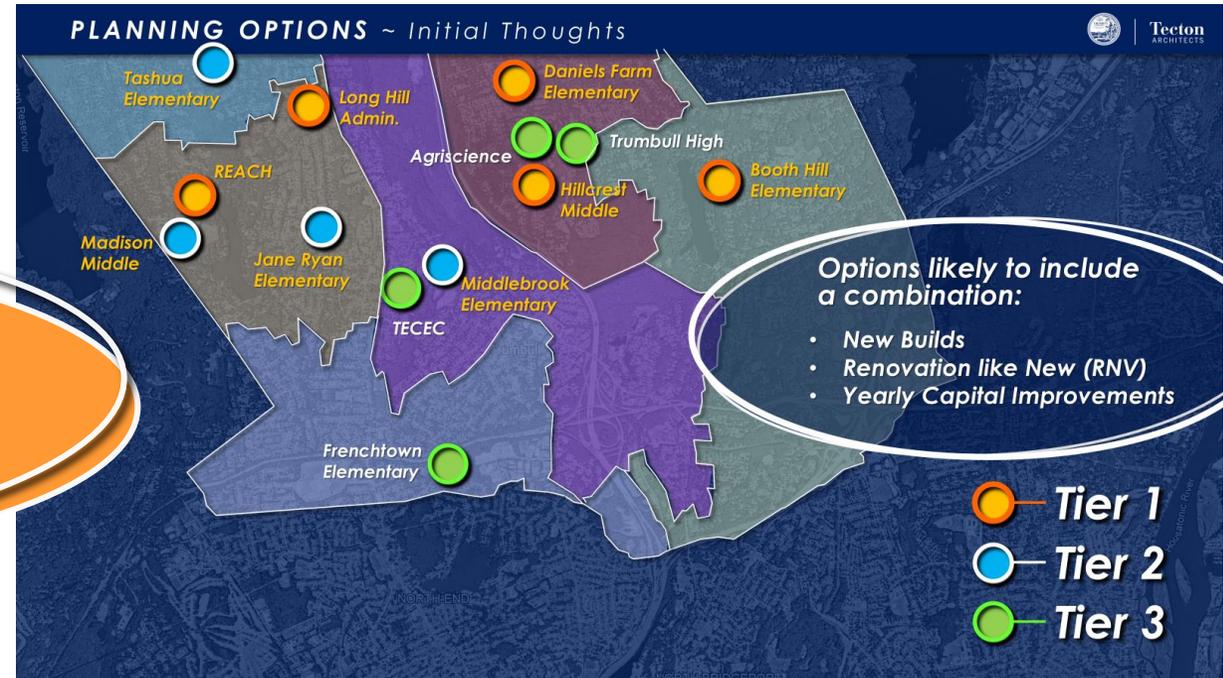


EXISTING CONDITIONS / ANALYSIS

Middle & High Schools – Programmatic Needs									Tecton ARCHITECTS		
									1 = Poor, 5 = Good		
Building Name	Demogr. Capacity	21st Century	Special Ed.	Program Space	Staff/ Support Space	Site (Function)	ADA Compliant	TOTAL	Average	Rank (Priority)	
6-8	Hillcrest Middle School	2	2	1	2	2	2	13	1.86	1	
	Madison Middle School	4	3	3	3	3	4	22	3.14		
9-12	Agriscience & Biotech Center	5	4	N/A	4	4	4	25	4.17	5	
	Trumbull High School	2	4	2	3	3	2	18	2.57	3	
6-12	REACH	4	2	N/A	2	3	3	15	2.50	2	
Ad.	Long Hill Administration	N/A	N/A	N/A	3	2	3	10	2.50	2	

Objectively rank building based upon condition & need

Prioritize buildings based upon rankings



EXISTING CONDITIONS / REPORT & LIVING DOCUMENT

Suffield High School - ROM Summary													Building Area: 182,025		REMARKS					
SYSTEM / LINE ITEM DESCRIPTION	Amount	Unit	Unit Price	Current Replacement Cost	General Conditions	Bonds, Ins., Permit	(Unforeseen Conditions)	Temporary Facilities and Controls	Subtotal - Line Item	Line Item Contingency + Approx. Soft Costs (Design, printing, advertising, etc.)	Projected Line Item Cost	Escalation, Market Premium	Projected Line Item Cost w/Premium							
													10%	1.5%	7.5%	5.0%		12.5%	20%	
Site Improvements																				
Repairing of existing drives	24,444	SY	\$55	\$ 1,344,444	\$ 134,444	\$ 20,167	\$ 100,833	\$ 67,222	\$ 1,667,111	\$ 208,389	\$ 1,875,500	\$ 375,100	\$ 2,250,600	Repair drive, also and more aggregate						
Repairing of existing parking areas	10,000	SY	\$45	\$ 450,000	\$ 45,000	\$ 6,750	\$ 33,750	\$ 22,500	\$ 558,000	\$ 69,750	\$ 627,750	\$ 125,550	\$ 753,300	Repair base, also and more aggregate						
Granite curbing	6,494	LF	\$50	\$ 324,700	\$ 32,470	\$ 4,871	\$ 24,353	\$ 16,235	\$ 402,628	\$ 50,329	\$ 452,957	\$ 90,591	\$ 543,548	Repair drive curbside perimeter						
Concrete sidewalks	48,100	SF	\$14	\$ 673,400	\$ 67,340	\$ 10,101	\$ 50,505	\$ 33,670	\$ 835,016	\$ 104,377	\$ 939,393	\$ 187,879	\$ 1,127,272	Repair of base material						
Bituminous sidewalks	178	SY	\$45	\$ 8,000	\$ 800	\$ 120	\$ 600	\$ 400	\$ 9,920	\$ 1,240	\$ 11,160	\$ 2,232	\$ 13,392	Repair of base material						
Storm water drainage	182,025	SF	\$10	\$ 1,820,250	\$ 182,025	\$ 27,304	\$ 136,519	\$ 91,013	\$ 2,257,110	\$ 282,139	\$ 2,539,249	\$ 507,850	\$ 3,047,099							
Parking lot lighting	72	EA	\$5,500	\$ 396,000	\$ 39,600	\$ 5,940	\$ 29,700	\$ 19,800	\$ 491,040	\$ 61,380	\$ 552,420	\$ 110,484	\$ 662,904	Includes all site lighting, includes foot light						
Play area surface	0	SY	\$45	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Re-surfacing playground of the High School						
Rollard/Ground lighting	6	EA	\$3,500	\$ 21,000	\$ 2,100	\$ 315	\$ 1,575	\$ 1,050	\$ 24,040	\$ 3,255	\$ 29,295	\$ 5,859	\$ 35,154	Includes existing bollards and new bollard lighting						
Playground Equipment	0	EA	\$65,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							
Fencing (4 ft vinyl coated chain link)	0	LF	\$65	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							
Turf Field Replacement	9,969	SY	\$0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Exteriorly installed. No replacement necessary of this item						
Grass Field Replacement	29,578	SY	\$0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Exteriorly installed. No replacement necessary of this item						
Tennis Courts	4,678	SY	\$0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Exteriorly installed. No replacement necessary of this item						
Basketball Courts	1,233	SY	\$0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Exteriorly installed. No replacement necessary of this item						
Exterior Bleachers	1	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							
Exterior Improvements																				
Brick Repair/Repainting	182,025	SF	\$8	\$ 1,456,200	\$ 145,620	\$ 21,843	\$ 109,210	\$ 72,807	\$ 1,869,079	\$ 233,635	\$ 2,102,714	\$ 420,543	\$ 2,523,257	Replacement of parking deck, re-painting of joints and corners. Includes 8% of existing masonry with areas 10 yards						
Window Replacement	4,686	SF	\$75	\$ 351,450	\$ 35,145	\$ 5,272	\$ 26,587	\$ 17,724	\$ 435,038	\$ 54,379	\$ 380,659	\$ 76,132	\$ 456,791							
Security Window Film (Allowance)	3,124	SF	\$15	\$ 46,860	\$ 4,686	\$ 703	\$ 3,572	\$ 2,381	\$ 57,813	\$ 7,226	\$ 50,587	\$ 10,117	\$ 60,704							
Caulking & Sealant Replacement	182,025	SF	\$2	\$ 364,050	\$ 36,405	\$ 5,461	\$ 27,307	\$ 18,202	\$ 437,024	\$ 54,628	\$ 382,396	\$ 76,479	\$ 458,875	Replacement of all window sealant - all joints						
Exterior Doors	22	EA	\$3,500	\$ 77,000	\$ 7,700	\$ 1,155	\$ 5,827	\$ 3,885	\$ 92,612	\$ 11,576	\$ 81,036	\$ 16,212	\$ 97,248	Replacement of exterior doors and frames						
Patch, repair, paint trim	182,025	SF	\$2	\$ 364,050	\$ 36,405	\$ 5,461	\$ 27,307	\$ 18,202	\$ 437,024	\$ 54,628	\$ 382,396	\$ 76,479	\$ 458,875	Replacement of all exterior trim						
Soffit, canopy repair/refinish	1,550	SF	\$15	\$ 23,250	\$ 2,325	\$ 349	\$ 1,712	\$ 1,141	\$ 26,312	\$ 3,289	\$ 23,023	\$ 4,605	\$ 27,628							
Roof Replacement	138,400	SF	\$28	\$ 3,875,200	\$ 387,520	\$ 58,128	\$ 290,640	\$ 193,760	\$ 4,357,528	\$ 544,691	\$ 3,812,837	\$ 762,567	\$ 4,575,404	Replace in-kind, new insulation below, new roof membrane						
Interior Improvements																				
Door, frame, and hardware replacement	333	EA	\$1,750	\$ 582,750	\$ 58,275	\$ 8,741	\$ 43,706	\$ 29,137	\$ 673,833	\$ 84,229	\$ 589,604	\$ 117,921	\$ 707,525	Exterior include security hardware in device, new door, new locking						
Reconfiguration of door for ADA		EA	\$5,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Existing doors meet ADA requirements						
Flooring	170,025	SF	\$15	\$ 2,550,375	\$ 255,038	\$ 38,256	\$ 191,278	\$ 127,519	\$ 3,142,465	\$ 395,308	\$ 3,537,773	\$ 711,555	\$ 4,249,328	Includes replacement of VCT throughout and strip place. Includes 8% for the Union Center						
Gymnasium Flooring Replacement	12,000	SF	\$18	\$ 216,000	\$ 21,600	\$ 3,240	\$ 16,200	\$ 10,800	\$ 267,840	\$ 33,480	\$ 234,360	\$ 46,872	\$ 281,232	Exteriorism flooring suitable, installed for courts only						
Ceilings	182,025	SF	\$11	\$ 2,002,275	\$ 200,228	\$ 30,034	\$ 150,191	\$ 100,124	\$ 2,482,821	\$ 310,353	\$ 2,172,468	\$ 434,493	\$ 2,606,961							
Toilet Room reconfiguration/renovation		SF	\$325	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							
Milwork	3,320	LF	\$650	\$ 2,156,000	\$ 215,600	\$ 32,340	\$ 157,260	\$ 104,840	\$ 2,648,100	\$ 331,012	\$ 2,317,088	\$ 463,418	\$ 2,780,506							
Caulking and Painting	182,025	SF	\$6.5	\$ 1,183,163	\$ 118,316	\$ 17,747	\$ 88,738	\$ 59,159	\$ 1,449,018	\$ 181,126	\$ 1,267,892	\$ 253,578	\$ 1,521,470							
Interior glazing		SF	\$50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							
Drinking Fountain replacements	20	EA	\$6,500	\$ 130,000	\$ 13,000	\$ 1,950	\$ 9,750	\$ 6,500	\$ 155,200	\$ 19,400	\$ 135,800	\$ 27,160	\$ 162,960							
Chair lift (ADA Accessibility)		EA	\$65,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							
Elevator		STOP	\$65,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							
Misc - Kitchen Equipment	182,025	SF	\$7	\$ 1,274,175	\$ 127,418	\$ 19,113	\$ 96,304	\$ 64,203	\$ 1,574,695	\$ 196,831	\$ 1,377,864	\$ 275,573	\$ 1,653,437							
Water Vapor Emission Control System	182,025	-	\$30	\$ 5,460,750	\$ 546,075	\$ 81,911	\$ 409,164	\$ 272,776	\$ 11,853,765	\$ 1,481,721	\$ 10,372,044	\$ 2,074,409	\$ 12,446,453							
Division 21 - Fire Protection																				
Fire Protection Distribution System	182,025	SF	\$8	\$ 1,456,200	\$ 145,620	\$ 21,843	\$ 109,210	\$ 72,807	\$ 1,869,079	\$ 233,635	\$ 1,635,444	\$ 327,089	\$ 1,962,533							
Fire Pump	182,025	SF	\$1.5	\$ 273,038	\$ 27,304	\$ 4,096	\$ 20,482	\$ 13,654	\$ 337,274	\$ 42,159	\$ 295,115	\$ 59,023	\$ 354,138							
Division 22 - Plumbing																				
Water Distribution and Drainage Systems	182,025	SF	\$10	\$ 1,820,250	\$ 182,025	\$ 27,304	\$ 136,519	\$ 91,013	\$ 2,257,110	\$ 282,139	\$ 2,539,249	\$ 507,850	\$ 3,047,099							
Plumbing Fixtures / Equipment	182,025	SF	\$5.0	\$ 910,125	\$ 91,013	\$ 13,654	\$ 68,257	\$ 45,504	\$ 1,117,543	\$ 139,674	\$ 977,869	\$ 195,574	\$ 1,173,443							
Water Heaters	182,025	SF	\$1.5	\$ 273,038	\$ 27,304	\$ 4,096	\$ 20,482	\$ 13,654	\$ 337,274	\$ 42,159	\$ 295,115	\$ 59,023	\$ 354,138							
Misc - Sanitary Slab Cutting, Floor Repair, Trenching	182,025	SF	\$5	\$ 910,125	\$ 91,013	\$ 13,654	\$ 68,257	\$ 45,504	\$ 1,117,543	\$ 139,674	\$ 977,869	\$ 195,574	\$ 1,173,443							
Division 23 - Mechanical																				

Develop a Flexible - Capital Maintenance Plan

Current Replacement Cost	General Conditions	Bonds, Ins., Permit	(Unforeseen Conditions)	Temporary Facilities and Controls	Subtotal - Line Item	Line Item Contingency + Approx. Soft Costs (Design, printing, advertising, etc.)	Projected Line Item Cost	Escalation, Market Premium
	10%	1.5%	7.5%	5.0%		12.5%	20%	

Facility Master Planning

Indian Neck School

• Middle School Early Years Center •
• Teacher Family Resource Center •



Set the baseline understanding of the Needs & Challenges

Introduce options studied and seek input...What works? What doesn't?

INTRODUCTION OF OPTIONS

OPTION 1 Middle School "Swing"

Build a new Hillcrest and use the existing building as swing space for Tier 1 elementary renewal

OPTION 2 "One at a time" please

Methodically replace Tier 1 buildings one at a time as either New, or Renovate Like New

OPTION 3 "If it ain't broke, don't fix"

Resolve issues as they arise as part of a capital improvement program

OPTION 4 Intermediate Introduction

Build two new intermediate schools (GR 4-5) on each side of the district to create swing space and flexibility at elementary level

OPTION 5 Accommodating an Academy

Build two new academy schools (GR 5-6) on each side of the district to create space at both elementary and middle school levels

OPTION 6 Integration Starting at 5th

Reimagine Madison and Hillcrest as district-wide GR 5-6 and GR 7-8 schools (respectively) to create space at elementary and bring students together

OPTION 7 District-wide Middle School

Reimagine Madison as district-wide GR 6-8 to bring students together and free up Hillcrest campus for community amenities

DEVELOPING THE OPTIONS / SEEK COMMUNITY INPUT & FEEDBACK

Do you believe there is a need to improve the physical condition of Trumbull's public schools?

● Yes
● No



390+ Responses!

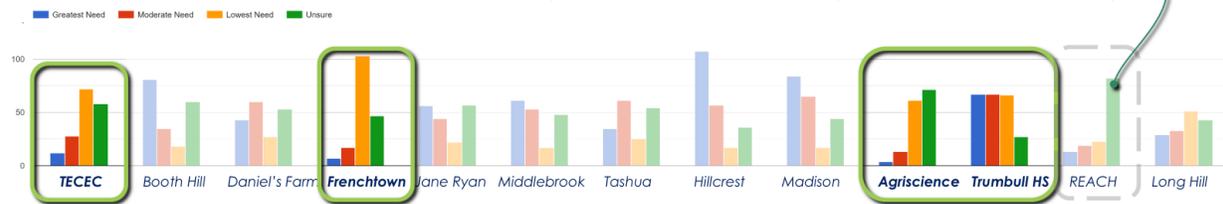
Build understanding & consensus around the needs!

Then focus on prioritizing the needs ...balancing economics, need, equity

Your feedback...greatest need (Booth Hill, Hillcrest & Madison)



Your feedback...lowest need (TECEC, Frenchtown, Agriscience, Trumbull HS)



Unsure?

DEVELOPING THE OPTIONS / COMPARE OPTIONS

Comparing the Options ~ What to consider?

Category	1 Renovate Like New Without Addition	2 Renovate Like New With Addition	3 New Building
Program Improvement	●	●	●
Operational Improvement	●	●	●
Construction Cost	●	●	●
State Reimbursement	●	●	●
Abatement/Demolition	●	●	●
Additional Site Related Costs	●	●	●
Work to Existing Buildings	●	●	●
Swing Space	●	●	●
Disruption to Students	●	●	●
Parent & Bus Separation	●	●	●
Safety & Security	●	●	●
21 st Century Environment	●	●	●



● Not desirable
● Acceptable
● Ideal

Make certain you consider ALL the factors in a project to get the best value!

Chapter 173, Sec. 10-285a.

Costs Analysis New vs. Renovate Like New

Hillcrest Middle School
826 +/- Students

Topic for Consideration	Value Delta	Renovate Like New With Addition	New Building
Construction Costs	\$8,718,019	\$120,365,860	\$129,083,879
Possibility of unforeseen conditions, conflicts, and cost increases	-\$2,834,786	Somewhat Likely, est. 3-5% of const. \$5,416,464	Somewhat limited, est. 1-3% of const. \$2,581,678
General Conditions Analysis (Typically range between 5-10% of construction)	-\$3,820,494	48 Months (uses 8%) \$9,629,269	24 Months (uses 4.5%) \$5,808,775
Temp. Facilities, Field Off., Admin. exp. (Typically between \$25,000 ~ \$35,000 per/month)	-\$845,000	48 Months \$1,560,000	22 Months \$715,000
Temporary Modulars & Swing Space	-\$1,176,000	(8 Modular Classrooms) \$24,500/mth x 48 mths.	\$0
Multiple Move Costs	-\$328,750	(6 Total phased moves) @ 65,750 each	1 Move @ 65,750
Subtotal of Value Lost	-\$9,005,030		
Delta in Resultant Value	(\$287,011)		

DEVELOPING THE OPTIONS / SAFETY & SECURITY

1

Natural Surveillance

Strategies:

To see and be seen.

Create clear sight lines, visibility from Main Administrative Suite & other public areas.

Eliminate blind spots.

2

Natural Access/Control

Strategies:

Define entrance point

Create a focused and designated path

Layer security measures (fences, gates, locks, signage)

3

Territorial Reinforcement

Strategies:

Purposeful landscaping defining public & private space

Expression of ownership of space.

Compartmentalize

4

Activity & Support

Strategies:

Place public functions toward front of building for more eyes up front.

Passive approach to natural surveillance through glazing/views.

5

Systems & Maintenance

Strategies:

Fully integrated technology/equipment to streamline communications.

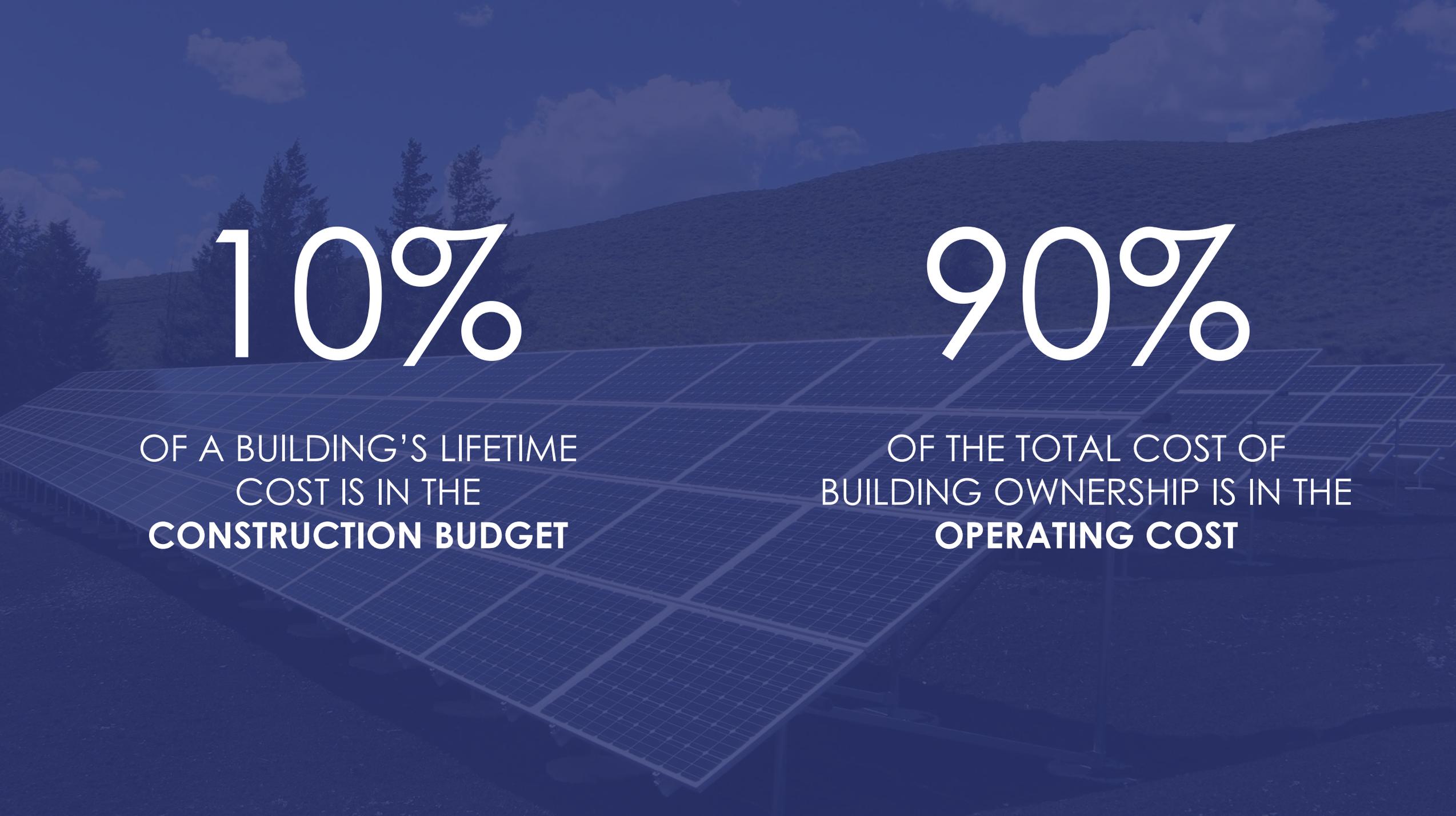
Maintain systems & operability.



Crime Prevention Through Environmental Design (CPTED)

is a multi-disciplinary approach for reducing crime, and fear of crime. CPTED strategies aim to reduce victimization, deter offender decisions that precede criminal acts, and build a sense of community among inhabitants so they can gain territorial control of areas to reduce crime opportunities.





10%

OF A BUILDING'S LIFETIME
COST IS IN THE
CONSTRUCTION BUDGET

90%

OF THE TOTAL COST OF
BUILDING OWNERSHIP IS IN THE
OPERATING COST

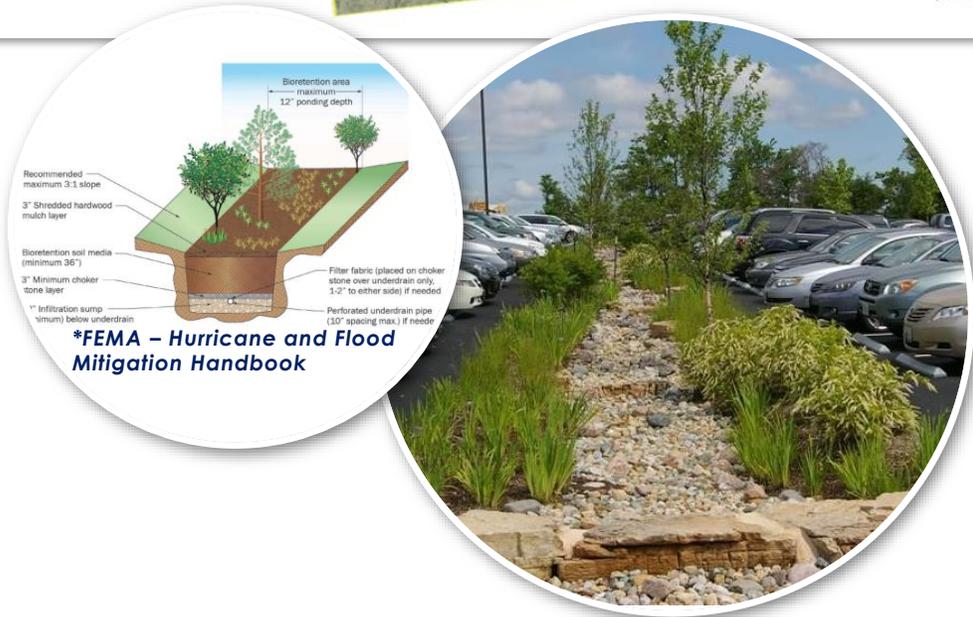
DEVELOPING THE OPTIONS / SUSTAINABILITY & RESILIENCY

Sustainability & Resiliency ~ Site considerations



Explore site and building strategies that reduce energy use, lessen environmental impact, and promote long-term resiliency.

Sustainability & Resiliency ~ Building considerations



SUSTAINABILITY COMPREHENSIVE APPROACH

► Design Philosophy

*Building Orientation
Building Massing
Passive Solar
Stormwater*

► Building Materials

*Resilient Systems - ICF
Component Construction
Life Cycle Costing
Recycled & Durable*

► Building Systems

*Efficiency & EUI
Electrification, VRF
Geothermal
Photo Voltaic*

► Rebates & Incentives

*Setting a Net-Zero Target
Grants & Incentives (IRA)*



Rainwater harvesting barrels and raised garden beds will be located on site.

ICF (Insulated Concrete Form)
Improves resiliency from storm events, creates thermal mass which reduces energy savings, and maximizes thermal envelope.

A Learning Garden
is planned for both courtyard areas and the team biologist is also integrating educational opportunities in preparation for the management plan involving the state protected plant species and garden of roses on site.



Native plantings also unite the school's vision with that of the "Pollinator Pathway" in the Brookfield community.



Outdoor classrooms and a Nature Walk are incorporated as a unifying element of the landscaping plan with a bioretention basin provided near the main entryways to promote rainwater collection, treatment and reuse.

Native plantings also unite the school's vision with that of the "Pollinator Pathway" established in the Brookfield community.

Room Views

DEVELOPING THE OPTIONS / MAXIMIZE FUNDING SOURCES

Inflation Reduction Act (IRC Section 48)

- Currently navigating for public & private clients – Madison, Cheshire, Trumpf, Inc.
- Early phases of development
 - Electronic portal application
 - Work together & identify possibilities



**Dynamic Glass – 30% Rebate
Saves \$\$ on energy, window treatments**

ELIGIBILITY	FEDERAL TAX CREDIT
Property Owners/Developers	Transferable, One Time
Government Buildings Owners	Paid Directly by the IRS
Tax Exempt Building Owners	

ENERGY %	QUALIFICATION
6%	Base Credit
+24%	Bonus - for projects started before 01/29/23, or meeting prevailing wage req't's
+10%	Domestic Content Bonus - 100% US steel/iron & 40% US manufactured products
+10%	Energy Community Bonus - located in brownfield, coal, oil, or natural gas sites
+10 or 20%	Low-Income Bonus - located in low-income or tribal lands, low-income housing

Federal tax credit for:

- Solar
- Geothermal
- Combined heat & power system
- Waste Energy Recovery Properties

- Dynamic glass
- Fiber-optic Solar
- Fuel cells
- Small wind energy
- Standalone energy storage
- Qualified biogas property
- Microgrid controllers

DEVELOPING THE OPTIONS / REFINING THE DETAILS

Refining the options with detail



Middle School - Budget Summary				Updated: 4/8/2024
Grade Levels	Proj. Enr.	Highest 10 Yr . (Projected Enrollment)		
6-8	826	2029-30		
Max. Area Allowed	135,706	with 1% mechanical factor		
New Building GSF	145,884	7.50%	Typical gross up factor	
Existing Building	117,000			
Proposed Building (New Construction)	145,884			

Project Cost Summary				
Site Improvements	21.97	Acre	\$425,000	\$9,337,250
Paving Lot & Vehicular Circulation	200	SF	\$9,250	\$1,850,000
Building Environmental Remediation	117,000	SF	\$30	\$3,510,000
Whole Building Demolition	117,000	SF	\$20	\$2,340,000
New Construction	145,884	SF	\$575	\$83,883,271
Geothermal Bore Field & Systems Premium	145,884	SF	\$22.50	\$3,282,389
Carbon Neutral & Netzero Premium	145,884	0	\$18.50	\$2,698,853
Construction Cost Subtotal		Avg/sf	\$732.79	\$106,901,763

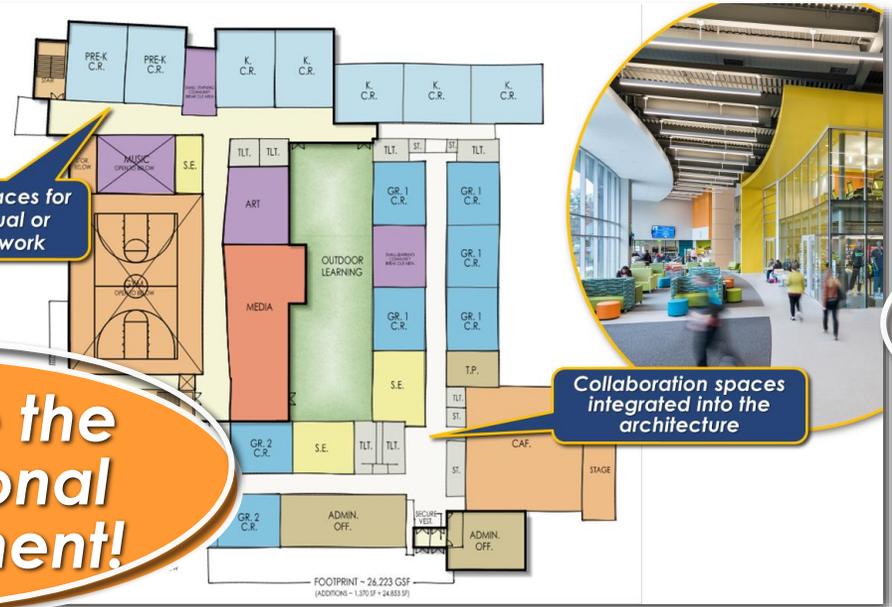
Soft Costs	19.50%			\$20,845,844
Phasing & Logistics Costs (Contemplates occupied Site)	1.25%			\$1,336,272
Project Cost + Construction Cost Subtotal		Avg/sf	\$884.84	\$129,083,879

Cost Escalation	9.2%	Mid 2026	4.5%/year	\$11,878,944
Total Project Cost (With Escalation)	\$966.27			\$140,962,823

Total Project Costs	\$966.27			\$140,962,823
<small>(Assumes higher %, most econ. sol. CGS 10-285a)</small>				
			34.29%	(\$48,336,152)

Budget Responsibly

Total Project Costs: \$140,962,823
Cost to Trumbull: \$95,445,927



Innovate the educational environment!

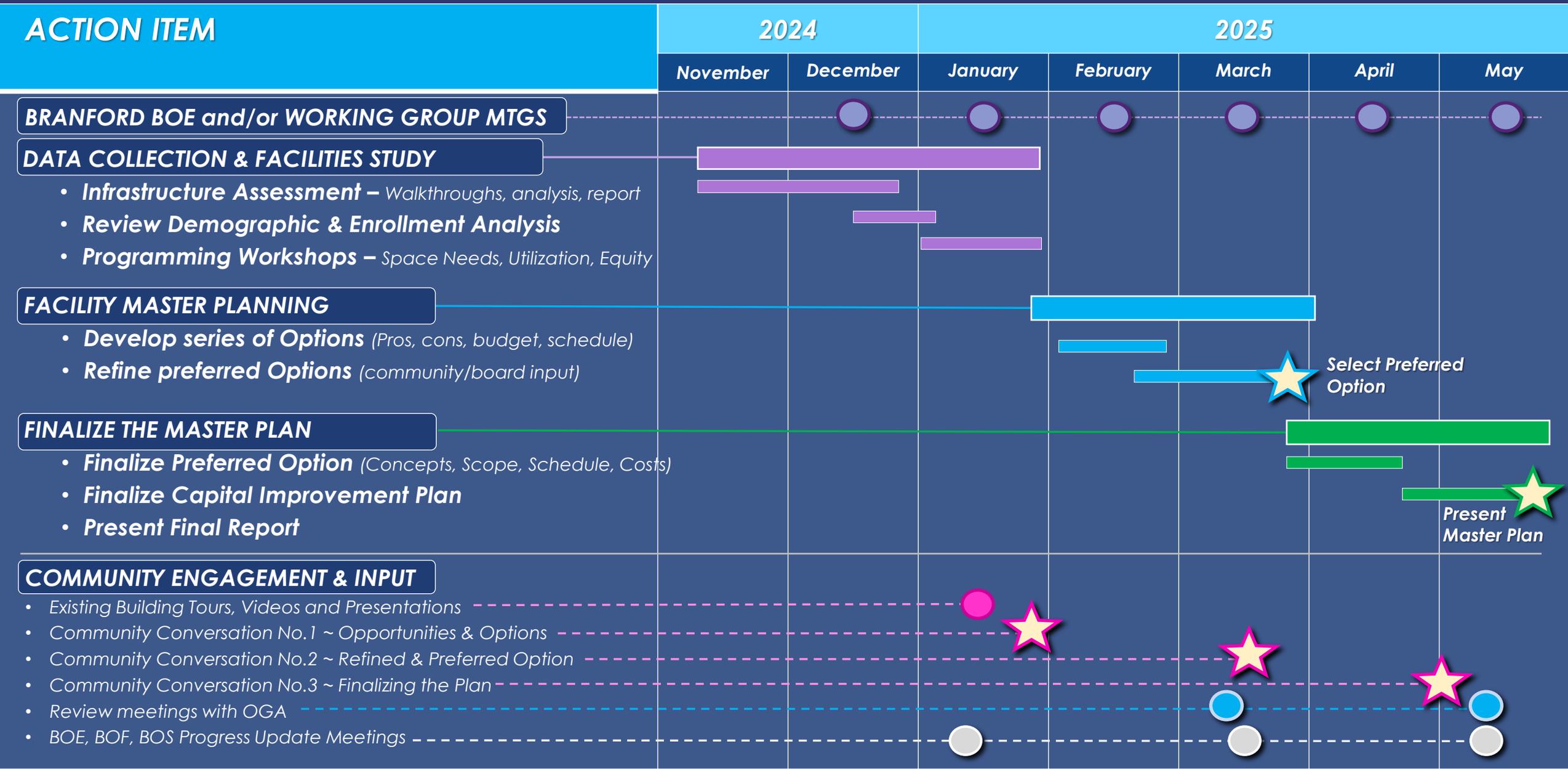
THE FINAL MASTER PLAN

School	Stud. Pop.	G.L.	Addition GSF	Existing GSF	Subtotal GSF	RIDE Guidance (GSF)	Project Budget
High School	1,111	9-12	80,898	168,060	248,958	205,535	\$115,000,000
Nayatt	555	PK-5	47,330	34,920	82,250	83,805	46,000,000
Sowams	465	PK-5	42,090	32,490	74,580	74,865	43,000,000
Primrose	555	PK-5	150		150	83,805	46,000,000

Finalizing the plan!



BRANFORD REVISED “DRAFT” MILESTONE SCHEDULE



Branford's Facility Master Plan

***Impactful** community conversations*

***Generational**, long term thought process*

***Equitable**, facilitate access to education*

***Best value**, financially responsible*

***Creative solutions** to optimize space*

***Elevate** educational environment*



Tecton
ARCHITECTS

MASTER PLAN FACILITIES BOE MEETING

BRANFORD PUBLIC SCHOOLS, CT

11.20.2024