SMS

SOMERSET MIDDLE SCHOOL

SMS Community Forum #6

Ai3 Architects, LLC
CGA Project Management

February 10, 2021

School Committee

Christopher Godet, Chair
Michael McDonald, Vice Chair
Victor Machado, Jr.
Robert Gaw
Shauna Geary

School Building Committee

Michael Botelho	Resident & Former School Committee Member
Richard Brown	Town Administrator
Kathleen Byers	Middle School Teacher
Dr. Pauline Camara	Middle School Principal
Carlos Campos	Supervisor of Buildings and Grounds
Chris Godet	Chairman of School Committee
Robert Lima	Resident & Former Water Department Superintendent
Victor Machado, Jr.	Chairman of Building Committee & School Committee Member
Holly McNamara	Chairperson of Board of Selectmen
Steven Medeiros	Resident & Project Architect
Nicole Mello	Middle School Content Coordinator
Cassey Monte	Middle School Teacher
Nick Raffa	Advisory and Finance Committee Chairman
Kevin Scanlon	Resident & Licensed Massachusetts Construction Supervisor
Jeffrey Schoonover	Vice Chairman of Building Committee & Superintendent of Schools
Ronald Tarro	Director of Business and Finances
Elizabeth Haskell	Director of Curriculum and Assessment
Ira Schaefer	Middle School Assistant Principal

Board of Selectmen

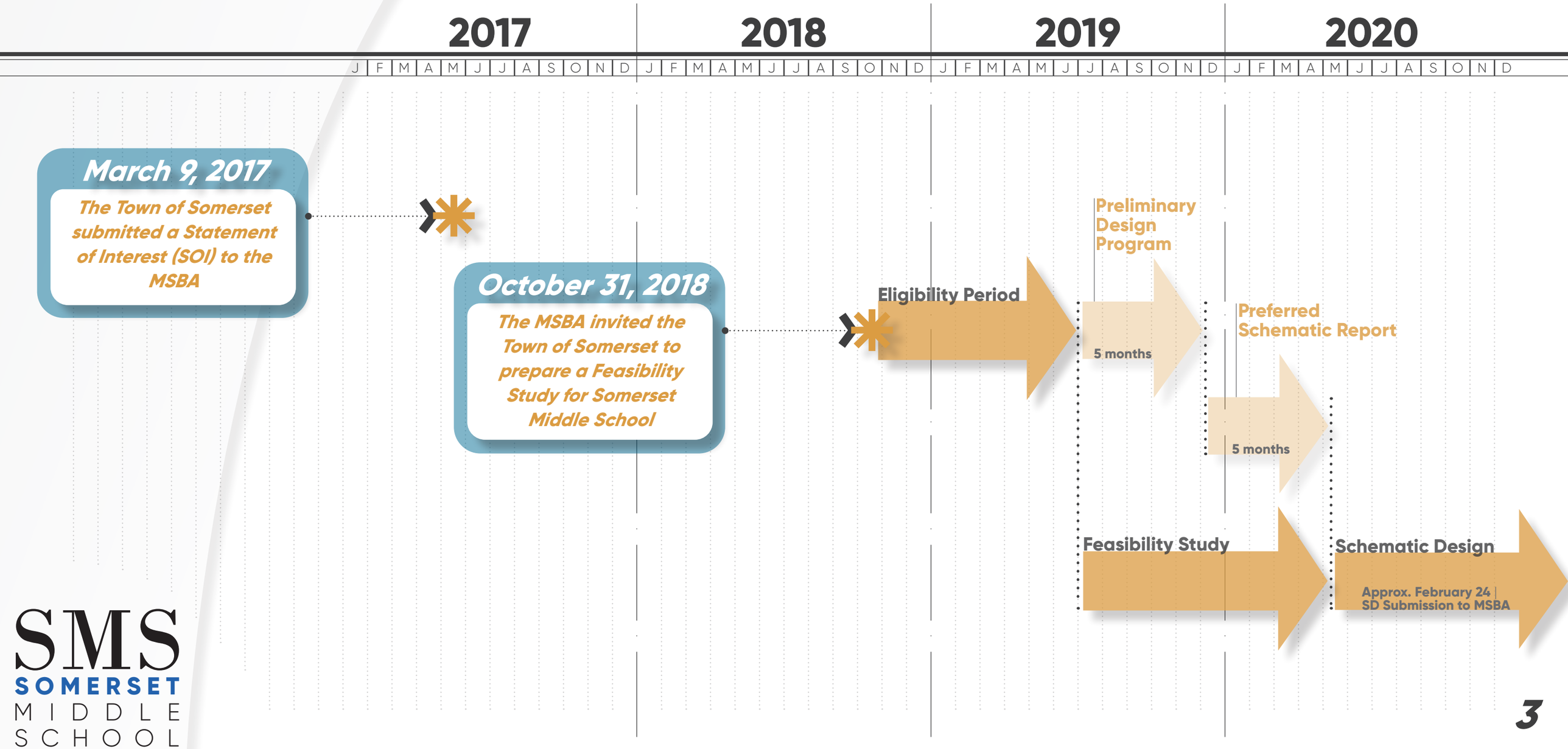
Holly McNamara, Chair
Steven Moniz
Lorne Lawless

architects

PROJECT MANAGEMENT

SMS
SOMERSET
MIDDLE
SCHOOL

SMS | Project Timeline



SMS
SOMERSET
MIDDLE
SCHOOL

Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

2017 MSBA Statements of Interest Intake (Core Program)

Somerset has an opportunity to receive a Grant reimbursement from the MSBA

to pay costs associated with a new school facility project.

Number of SOI's submitted in 2017 **83**

Number of SOI's invited into MSBA Program *(Eligibility Period)* **15**

Approximate percentage of annual Core Program entrants **18%**

What are the initial requirements to receive a Grant from the MSBA?

Complete a comprehensive Feasibility Study in collaboration with the MSBA to determine the **most fiscally responsible and educationally appropriate long-term solution.**

Over the past 18 months,
Somerset has been completing this comprehensive
Feasibility Study & Schematic Design with
very specific guidance from the MSBA.

Over 15,000 collective hours

of meetings, planning, design and discussion by Somerset analysis, investigation,
and reporting by the engineering, design, educational team, and the MSBA!

- Haz-Mat Inspection & Report
- Phase 1 Environmental Assessment
- Plumbing Evaluation
- Electrical Evaluation
- Technology Systems Evaluation
- Educational Program
- Visioning Program
- Building Evaluation
- Structural Evaluation
- Heating & Ventilation Evaluation
- Space Summary Spreadsheets
- Site Evaluation
- Geotechnical Investigations
- Site Utility Review
- Permitting Review
- Comparison Matrix
- Sustainable Design Review

Existing Middle School Building Constructed prior to Codes & Regulations

Mass Architectural Access Board
(MAAB) First Version Published
1967

Mass State Building Code
First Edition Published
1975

The International Building Code
(IBC) First Edition Published
1997

1960 | 1970 | 1980 | 1990 | 2000 | 2010 | 2020

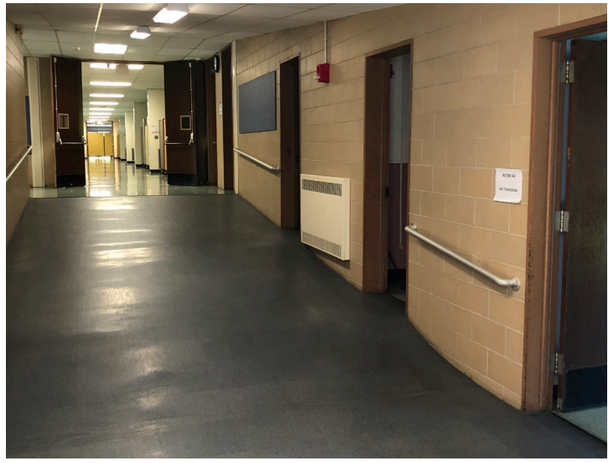
1963
Construction began

1965
Building is occupied

1969
6th Grade wing was constructed

ADA Regulations
were issued
1991

Americans with Disabilities Act
(ADA) was established
1986-87

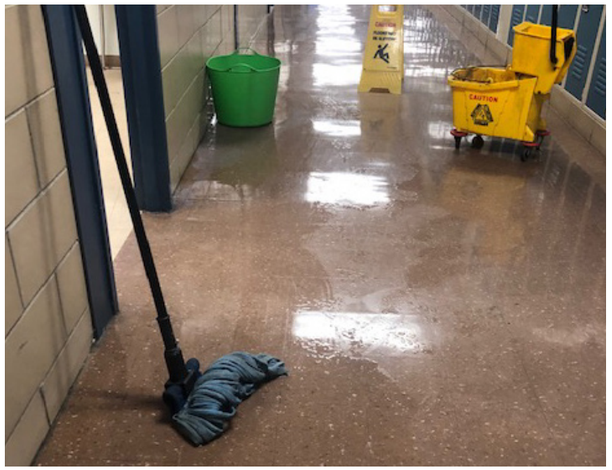


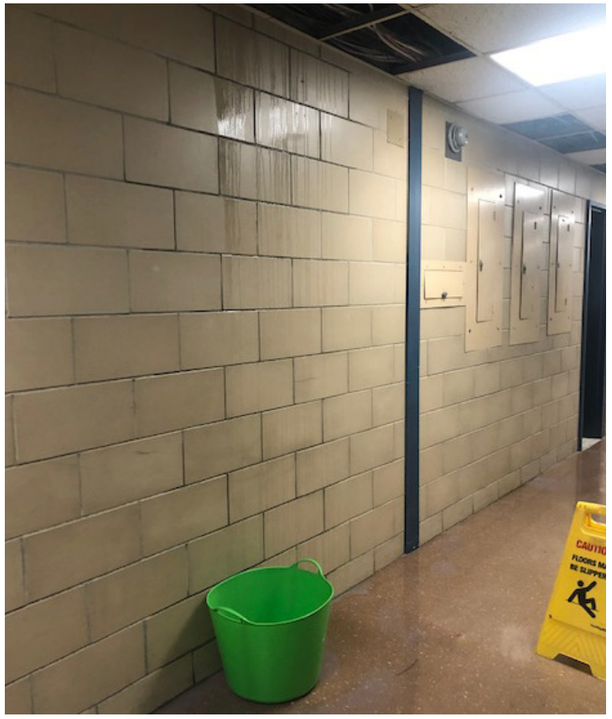
Educational Deficiencies

Exterior Envelope Deficiencies

Code Compliance Deficiencies

Building Systems Deficiencies





Recent Water Infiltration

Code Compliance, Building System, and Educational Deficiencies

Improvements & Repairs to SMS

Roof Projects

2004	Roof replacement
2019	Replace five rooftop exhaust units
2015	Solar array installation

Auditorium

2014	Curtain replaced with the curtain from SBRHS
2016	Ceiling was repainted and mold removed
2016	Seats refurbished
2014	PA system replaced with the SBRHS PA

Media Center

2018	Carpet replaced, New air & heat conditioners installed, walls painted
2020	All new ceiling tiles in library
2020	Mold remediation

Technology/Security

2016	Technology infrastructure updates
2012	Installation/upgrade of security cameras
2018	Main office relocated along with safety vestibule installed
2019	Replacement of a few external doors

Miscellaneous Indoor Projects

1995	Remove all carpet and install VCT tile
1999	Replace boiler with aerco boiler
2004	Install two ADA-compliant bathrooms
2015	Music room 44 renovation/wall replacement
2017	Locker replacement
2017	Wireless clock replacement
2015	Main office/ guidance suite rest rooms flooding issue resolved
2019	Student dining room tables replaced with the Somerset High School dining tables
2015	Main foyer floor tiles replaced and removal/abatement of asbestos tiles
2019	Sub separate classrooms added with various safety upgrades
2013	Electrical upgrades in 6th grade area
2010	Sinks replaced in student restrooms
Ongoing	Repainting classrooms and hallways
2013-2015	Lighting in the building changed to energy efficient lighting
2015	Installed boiler controls

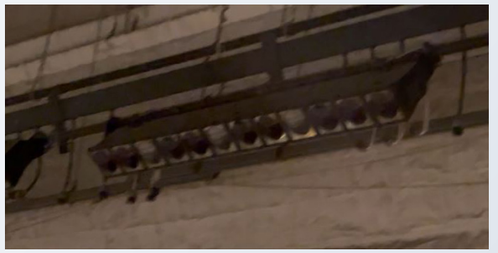
Miscellaneous Outdoor Projects

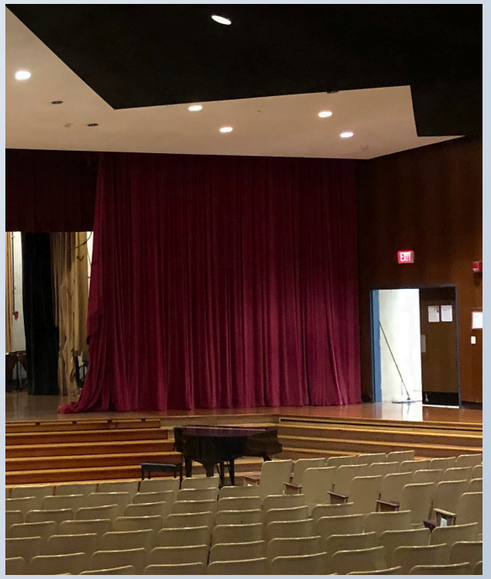
1997	Repair all control joints on outside building
1997	Remove oil tanks in ground
2001	Resurface parking lot
2000	Install ADA-compliant ramp going to/from grade 6 area
2020	Fish pond in the courtyard was refurbished
2016, 2020	Remove rotted trees from courtyard and other areas

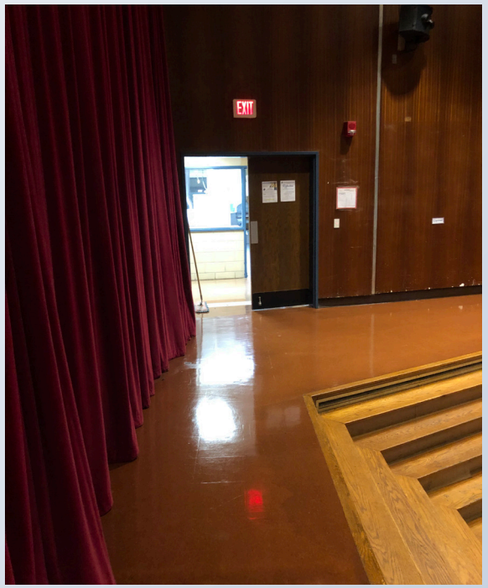
SOMERSET MIDDLE SCHOOL

Salvaged Equipment from SBRHS

- Stage Curtains
- Student Dining Tables
- Sound & Lighting System in Auditorium



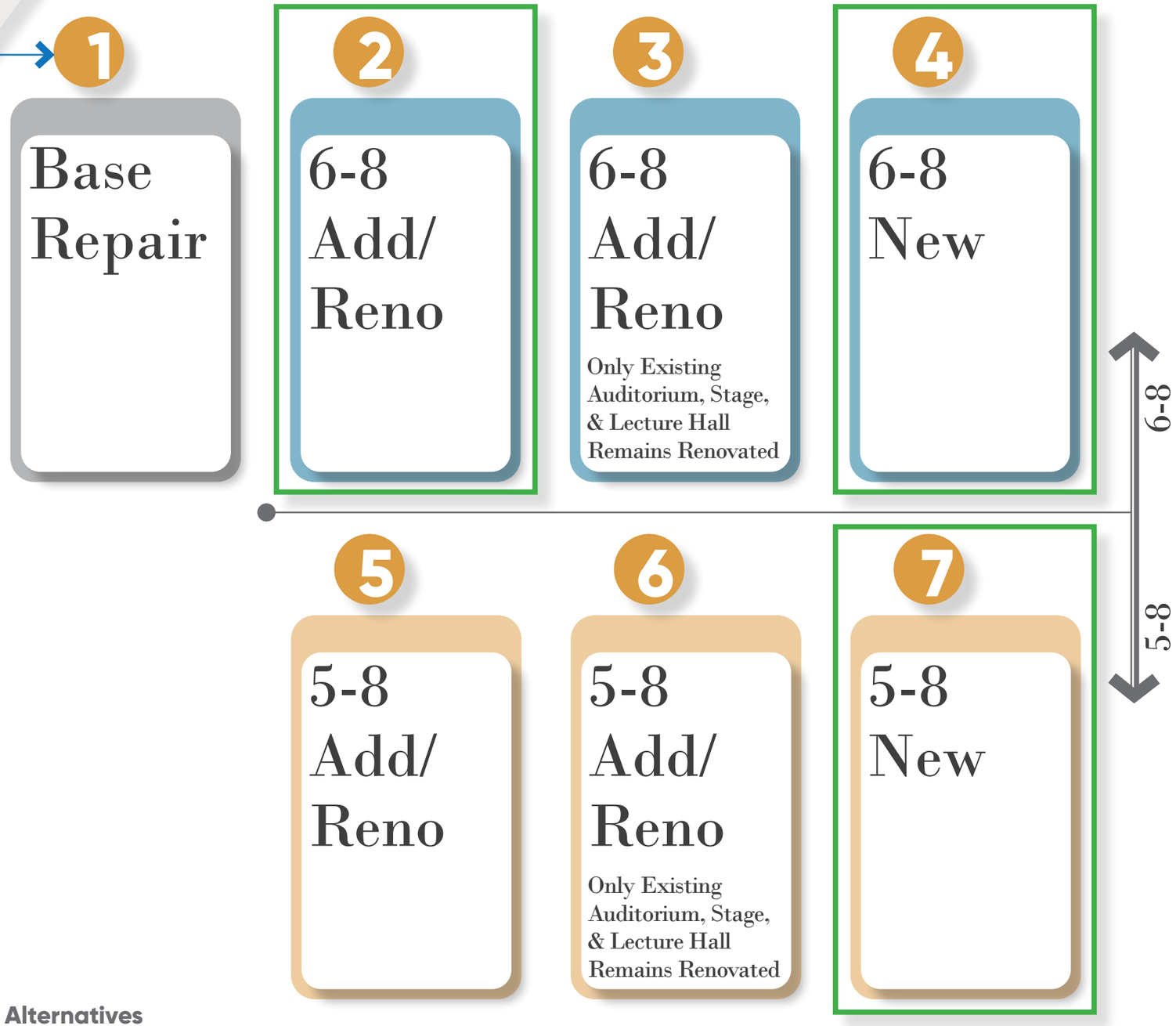




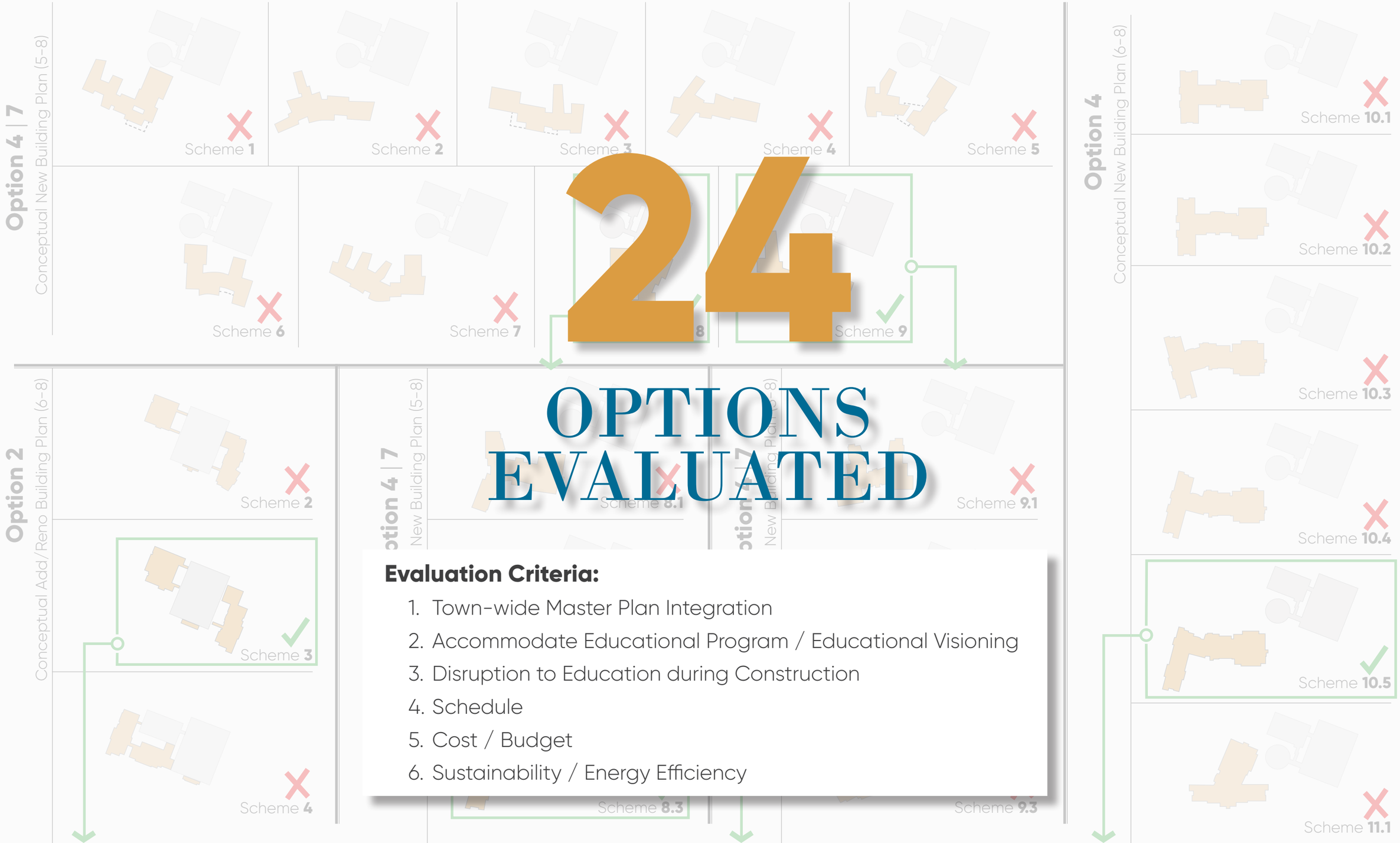
SOMERSET MIDDLE SCHOOL

The School Building Committee Evaluated Numerous Building Options

Somerset Middle School
Preliminary Options



SMS
SOMERSET
MIDDLE
SCHOOL



24 OPTIONS EVALUATED

Evaluation Criteria:

1. Town-wide Master Plan Integration
2. Accommodate Educational Program / Educational Visioning
3. Disruption to Education during Construction
4. Schedule
5. Cost / Budget
6. Sustainability / Energy Efficiency

Option 4 | 7

Conceptual New Building Plan (5-8)

Scheme 1

Scheme 2

Scheme 3

Scheme 4

Scheme 5

Scheme 6

Scheme 7

Scheme 8

Scheme 9

Option 2

Conceptual Add/Reno Building Plan (6-8)

Scheme 2

Scheme 3

Scheme 4

Option 4 | 7

Conceptual New Building Plan (5-8)

Scheme 8.1

Scheme 8.2

Scheme 8.3

Option 4 | 7

Conceptual New Building Plan (5-8)

Scheme 9.1

Scheme 9.2

Scheme 9.3

Option 4

Conceptual New Building Plan (6-8)

Scheme 10.1

Scheme 10.2

Scheme 10.3

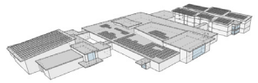
Scheme 10.4

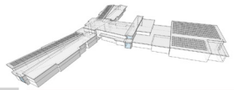
Scheme 10.5

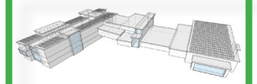
Scheme 11.1

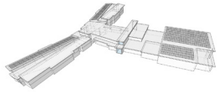
Preliminary Evaluations of Alternatives

For comparative purposes only









	PDP Preliminary Design Program	PDP Preliminary Design Program	PSR Preliminary Design Program	PDP Preliminary Design Program	PSR Preliminary Design Program	PSR Preliminary Design Program	PDP Preliminary Design Program	PSR Preliminary Design Program
	Option 1	Option 2	Option 2	Option 4	Option 4	Option 4	Option 7	Option 7
	Base Repair (**Code Updates Only**)	6-8 Add/Reno	Scheme 3	6-8 New Construction	Scheme 8.4	Scheme 10.5	5-8 New Construction	Scheme 8.3
New Construction GSF	N/A	**75,000** SF	**59,500** SF	**133,481** SF	**131,900** SF	**131,900** SF	**158,205** SF	**154,800** SF
Renovation GSF	**129,000** SF	**74,000** SF	**79,500** SF	**0** SF	**0** SF	**0** SF	**0** SF	**0** SF
Total GSF	**129,000** SF	**149,000** SF	**139,000** SF	**133,481** SF	**131,900** SF	**131,900** SF	**158,205** SF	**154,800** SF
Hard Costs (Approx.)	Unknown	**$71,000,000**	**$73,800,000**	**$66,500,000**	**$68,500,000**	**$68,000,000**	**$79,500,000**	**$76,500,000**
Soft Costs (Approx.)	Unknown	**$16,000,000**	**$16,500,000**	**$15,500,000**	**$15,500,000**	**$15,500,000**	**$18,500,000**	**$17,500,000**
Occupied Phase Const. Premium	Unknown	**$3,500,000**	included above	**$0**	**$0**	**$0**	**$0**	**$0**
Subtotal Individual Project Cost (Range)	**Unknown**	**$88 - $93** million	**$88 - $93** million	**$80 - $85** million	**$82 - $87** million	**$81.5 - $86.5** million	***$95 - $100** million	**$95 - $100** million
Approx. Construction Schedule	**Unknown**	**42** months	**42** months	**24** months	**24** months	**24** months	**36** months	**36** months

SMS SOMERSET MIDDLE SCHOOL

Conceptual Cost Projections: Somerset Middle School

Estimated Cost to Town of Somerset (Middle School)

** Includes +/-30,000 GSF of 5th grade Program Space and associated Soft Costs - **Approx. $11,500,000***

Why Renovation is NOT an Option

1 Base Repair (Renovation)

ONLY Code Required Upgrades to existing Somerset Middle School

- **DOES NOT** address long-term goals of the Town-wide Masterplan
- **DOES NOT** address educational space deficiencies
- **DOES NOT** address poor existing building natural daylighting / indoor environmental quality
- **DOES NOT** address poor existing building organization
- **DOES NOT** address existing site stormwater drainage issues
- **DOES NOT** address deficiencies in site amenities/outdoor educational space/playfields
- **EXTENDED** educational disruption during construction
- **EXTENDED** phased occupied construction timeline

2 6-8 Add/Reno

Comprehensive renovation of existing middle school and construction of new additions

- Proposed Building and Site design **DOES NOT** fully align with Educational Vision and Educational Program
- **Inefficient** existing building organization does not result in ideal security, sightlines, wayfinding, and natural oversight.
- **Inefficient** existing building organization requires a larger, less efficient overall building footprint.
- **Improved** acoustics, ventilation, indoor environmental quality. However, daylighting and views to the exterior (nature) not ideal as a result of existing building organization.
- **Inefficient** existing building organization requires a larger, less efficient overall building footprint.
- **Resolves** site vehicular circulation and parking challenges
- Maintains and re-constructs existing site amenities and playfields
- Integrates long-term goals of the Town-wide Masterplan
- **Extended** educational disruption during construction
- Occupied multiphase construction project that requires educational swing space.
- **Most Expensive** solution

Construction Schedule
Approx. **42 months**
+ site development

3 6-8 New Construction

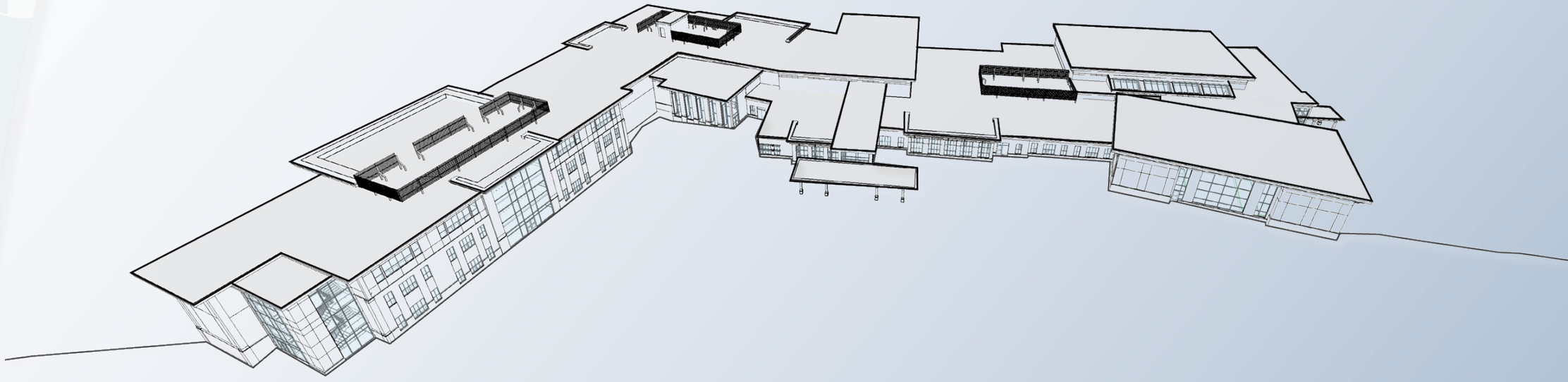
Construction of a new 6-8 middle school at 124,200 GSF

- Proposed Building and Site design aligns with Educational Vision and Educational Program
- **Improved** Security, Sightlines, Wayfinding, and natural oversight.
- **Improved** acoustics, daylighting, ventilation, indoor environmental quality, and views to the exterior (nature)
- **Most Sustainable**, energy efficient option (high performance building envelope and building systems)
- **Most Efficient** long-term operating costs
- **Fully integrated** technology, including outdoor classrooms.
- Academic core allow each grade level to be clearly divided into two neighborhoods while allowing easy access to specialized spaces
- Integration of Learning Commons, Innovation Labs, and Collaboration Spaces, providing a project-based learning style, focusing on critical thinking and problem solving, encouraging exploration, communication, collaboration, and creativity.
- **Expanded** and reconfigured parking for better efficiency and access to the new building and playfields
- **Expanded** outdoor recreational and educational space, creating a universally accessible site, playfields, building, and campus
- **Resolves** existing parent drop-off and pickup challenges – clear separation of onsite vehicular, bus, and pedestrian pathways
- Integration of the recently updated Town-wide Economic Master Plan

Construction Schedule
Approx. **24 months**
+ site development

Conclusion by Somerset & the MSBA:

Construction of a **NEW 124,200 GSF** middle school, serving grades 6-8, is the right-sized, most fiscally responsible and educationally appropriate solution to creating a safe, sound, and sustainable middle school learning environment and community asset for the next **50** years.



Benefits of a New School

Educational

- **Improved acoustics, daylighting, ventilation, indoor air quality,** and views to the exterior (nature)
- Access to **modern educational technology**
- State-of-the-Art Performance Auditorium and Music Spaces
- **Appropriate quantity of and sized General & SPED classrooms**, therapy, and support spaces
- Integrated **grade-level Project Labs**
- Using the site topography to create **expanded outdoor educational and performance spaces**
- Universally accessible building and amenities

Safety, Security, & Technology

- Incorporation of **Passive & Active security** measures
- **Clearly Identifiable and Visible** Site and Building Entrance
- **Natural site surveillance** – clear visual sightlines and program adjacencies
- Clear Separation of on-site vehicular, bus, and pedestrian pathways
- Integration of **interior and exterior surveillance cameras** (CCTV)
- Clear delineation between **"Public" & "Private" spaces**
- **100% wireless access** coverage in building & outdoor educational spaces

Benefits of a New School

COVID-19 Response

- Multiple building points of entry for **distributed student movement**
- Numerous **outdoor classroom and performance spaces**
- **Flexible spaces** to accommodate fluid modifications to classrooms
- **Improved Indoor Air Quality** | Operable Windows, Ventilation system, Indoor Air Quality Assessment, Low-emitting materials specified, & Building walk-off mats
- **Hand Cleaning Awareness** | Signage, Sinks in every classroom, Motion Sensors Faucets, Hand sanitizing stations throughout the building
- Proposed **general classroom size larger than existing classrooms** net square footage
- **Easy Cleaning Surfaces** (smooth, streamlined, high-touch surfaces)

Community

- Integration of the recently updated Town-wide Economic Master Plan
- New roadways, sidewalks, parking, etc. as part of the renovation of the entire site
- Expanded and re-configured parking for **better efficiency and access to the new building and playfields**
- **Universally accessible site, playfields, and building**
- **Positive contributions to sustainability & climate change goals**

Energy Efficiency & Healthy Building Design

- **High Performance Building Envelope**
- **High Efficiency** Building Mechanical and Lighting Systems (100% LED)
- **On-site renewable energy sources**
- ***9 Foundations of a Healthy Building*** (Harvard T.H. Chan | School of Public Health)
  - Improved ventilation, air quality, thermal health, water quality, moisture control, dust & pests, acoustics & noise, lighting systems, safety & security

SMS SOMERSET MIDDLE SCHOOL

SMS
SOMERSET MIDDLE SCHOOL

Existing *(East)*

architects @ 13


South Elementary School site
Fitness & Cross Country trails
Multi-use Playfield
Softball Field
Baseball Field
Overlapping Multi-use Playfield
Existing Middle School
Read Street
Loading Area
Utility Easement
New 6-8 Middle School
124,200 GSF
Secondary Entry Plaza
Multi-use Playfield
Secondary Entry
Bus drop-off zone
Parent drop-off zone
Main Entry Plaza
South Coast bikeway
Brayton Avenue
Existing single site entry point
NORTH
East-West Site Section
Building FFE
Parent Drop-Off
Parking
Brayton Ave

SMS
SOMERSET MIDDLE SCHOOL

***Aerial** (East)*

SMS
SOMERSET MIDDLE SCHOOL

Main Entry

architects @ Ai3

SMS
SOMERSET MIDDLE SCHOOL

Auditorium / Gymnasium Entry

architects @ Ai3

SMS
SOMERSET MIDDLE SCHOOL

Academic Wing & Outdoor Amphitheater

Ai3 architects

SMS
SOMERSET MIDDLE SCHOOL

Main Lobby Vestibule

SMS
SOMERSET MIDDLE SCHOOL

Student Dining

SOMERSET MIDDLE SCHOOL

SMS

Academic Wing / Library Media Center

architects


PASSION
PROJECTS
& GOALS


THINKtank
ESCAPE ROOMS
FOR THE CLASSROOM
OKR

Cost Conscious Design Approach:

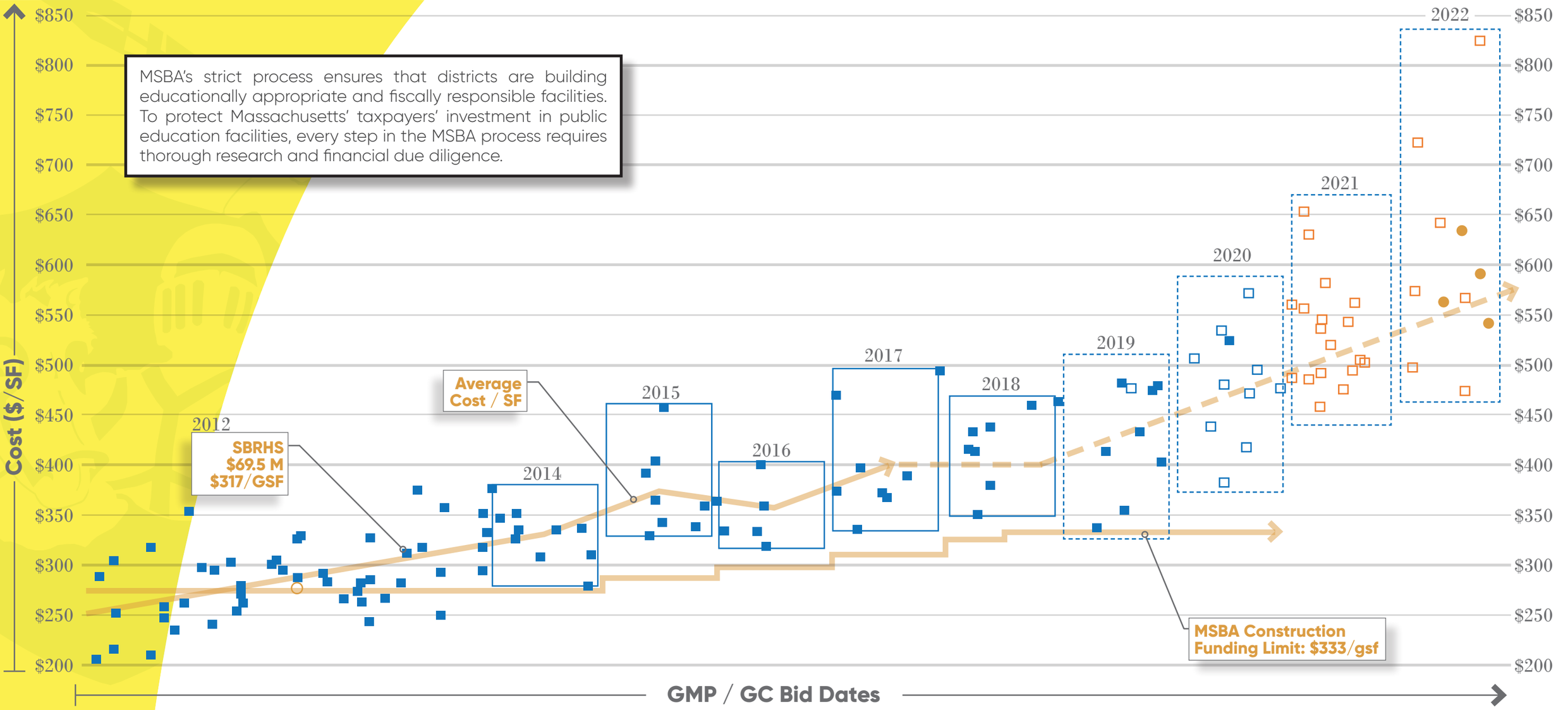
Throughout the Feasibility Study and Schematic Design process, the School Building Committee, School Committee, and Board of Selectmen have been **mindful of the financial impact the project** will have on the Somerset taxpayers, while planning a school that will serve the town for the next 50+ years. The Committee's have explored multiple ways to reduce the cost of the project, all resulting in a lower project cost to taxpayers.

- Selection of Option 4 - Scheme 10.5 (**6-8 New Construction** vs phased occupied renovation)
- **Energy Efficiency Partnerships** with local utility programs (NGRID, Liberty Gas): Energy Efficiency Rebates
- **Proactive Building Maintenance Program** (Additional 1.22% MSBA Reimbursement
- Sustainability / Energy Efficient Project (**Additional 2% MSBA Reimbursement**)
    - LEED (Leadership in Energy and Environmental Design) Certification

- Strategic positioning of the new building:
    - Building placement optimizing the existing topography
    - Building organization and orientation based on solar path (**maximize natural daylighting while minimizing operating costs**)
    - **Building placement** to reduce gas, electrical, and water services from Brayton Avenue and Read Street.
    - Away from the existing building to reduce potential educational disruption during construction.
    - Away from the existing building to reduce occupied construction phasing and construction timeline.

- **Simplified and efficient organization** of the new building floor plan
- **Reduced footprint** of the new building (via 3-story building)
- Stacked academic floor plan to **simplify building structure and building constructibility**
- Minimize Roof Transitions
- Use of cost effective, long lasting, durable, low maintenance materials. (Natural Stone, brick, cementitious panels, glass fiber reinforced panels (GFRP)

MSBA's strict process ensures that districts are building educationally appropriate and fiscally responsible facilities. To protect Massachusetts' taxpayers' investment in public education facilities, every step in the MSBA process requires thorough research and financial due diligence.

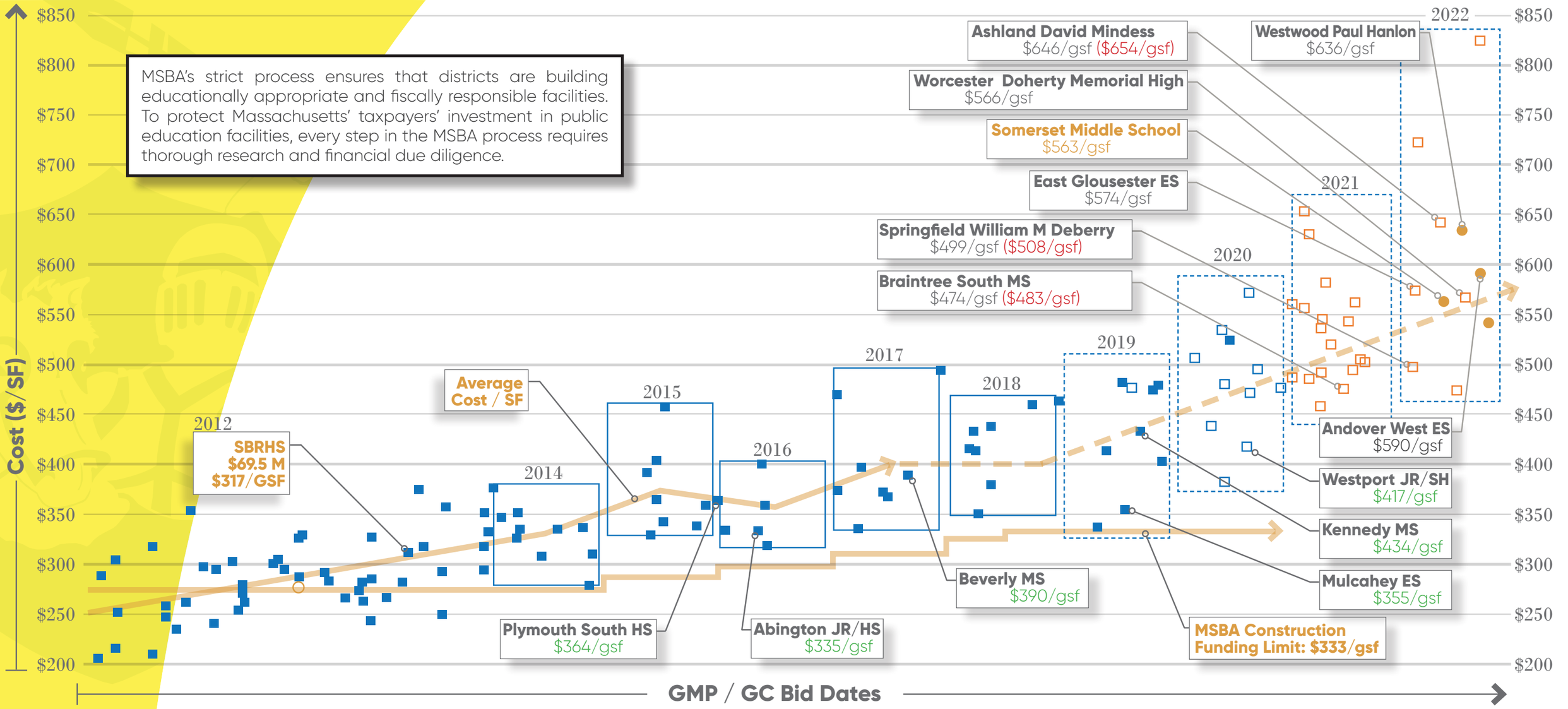


SMS
SOMERSET
MIDDLE
SCHOOL

School Construction Costs: MA Publicly Funded School Projects

Preliminary Cost Projections

MSBA's strict process ensures that districts are building educationally appropriate and fiscally responsible facilities. To protect Massachusetts' taxpayers' investment in public education facilities, every step in the MSBA process requires thorough research and financial due diligence.



New Construction PSR
New Construction SD
New Construction Bid
New Construction PFA Amended
$ Ai3 / CGA Projects

AVERAGE CONSTRUCTION COST $$/GSF FOR PROJECTS BIDDING IN 2022.....**$550 / square foot**

Note: *Analysis is based on PSR estimates and all are escalated to SMS anticipated building schedule*

SMS SOMERSET MIDDLE SCHOOL

School Construction Costs: MA Publicly Funded School Projects

Preliminary Cost Projections

Somerset Berkley Regional High School

222,826 GSF

2012

Construction Cost	**$69.5M - $312/gsf**
Total Project Cost	**$82.8M - $371/gsf**

2022

Construction Cost	**$122M - $550/gsf**
Total Project Cost	**$144M - $648/gsf**

Average **Construction Cost** Projection for 2022:
$550 / square foot

SMS
SOMERSET
MIDDLE
SCHOOL

What is the ESTIMATED COST of the Proposed Project?

Project Design Phase	100% Schematic Design February 2021 Grades 6-8
	124,200 GSF
Estimated Construction Cost	$**69,956,365** million
Estimated Total Project Cost	$**84,945,490** million
Estimated Town Share	$**52,000,000** million

Estimates assume a construction start of Summer 2022

Approximately **$563 / square foot** Construction Cost (Including Add Alt #**1** PV reinstall)

1. *Third party cost estimates are not represented as the final construction costs, as the information they are based on are Schematic Design Drawings.*
2. *Estimates assume public bidding under Chapter 149 (Design - Bid - Build) of the MGL.*

Preliminary Tax Impact Analysis

20 YEARS		3% INTEREST RATE			
CATEGORY	BASE	$100,000 Property Value		$311,000 Property Value	
		Per Year	Per Month	Per Year	Per Month
TOTAL	$85.0M	$120	$10	$371	$31
FSA	$800K [1]				
MSBA	$32.9M				
TOWN	$51.3M				

25 YEARS		3.25% INTEREST RATE			
CATEGORY	BASE	$100,000 Property Value		$311,000 Property Value	
		Per Year	Per Month	Per Year	Per Month
TOTAL	$85.0M	$105	$9	$328	$27
FSA	$800K [1]				
MSBA	$32.9M				
TOWN	$51.3M				

30 YEARS		3.5% INTEREST RATE			
CATEGORY	BASE	$100,000 Property Value		$311,000 Property Value	
		Per Year	Per Month	Per Year	Per Month
TOTAL	$85.0M	$97	$8	$302	$25
FSA	$800K [1]				
MSBA	$32.9M				
TOWN	$51.3M				

[1] *Feasibility study was paid with cash appropriation.*

Assumptions:

**** Estimated Interest rates ranges are subject to change.***

** Tax rate impact assumes no growth in assessed value over the life of the bonds.*

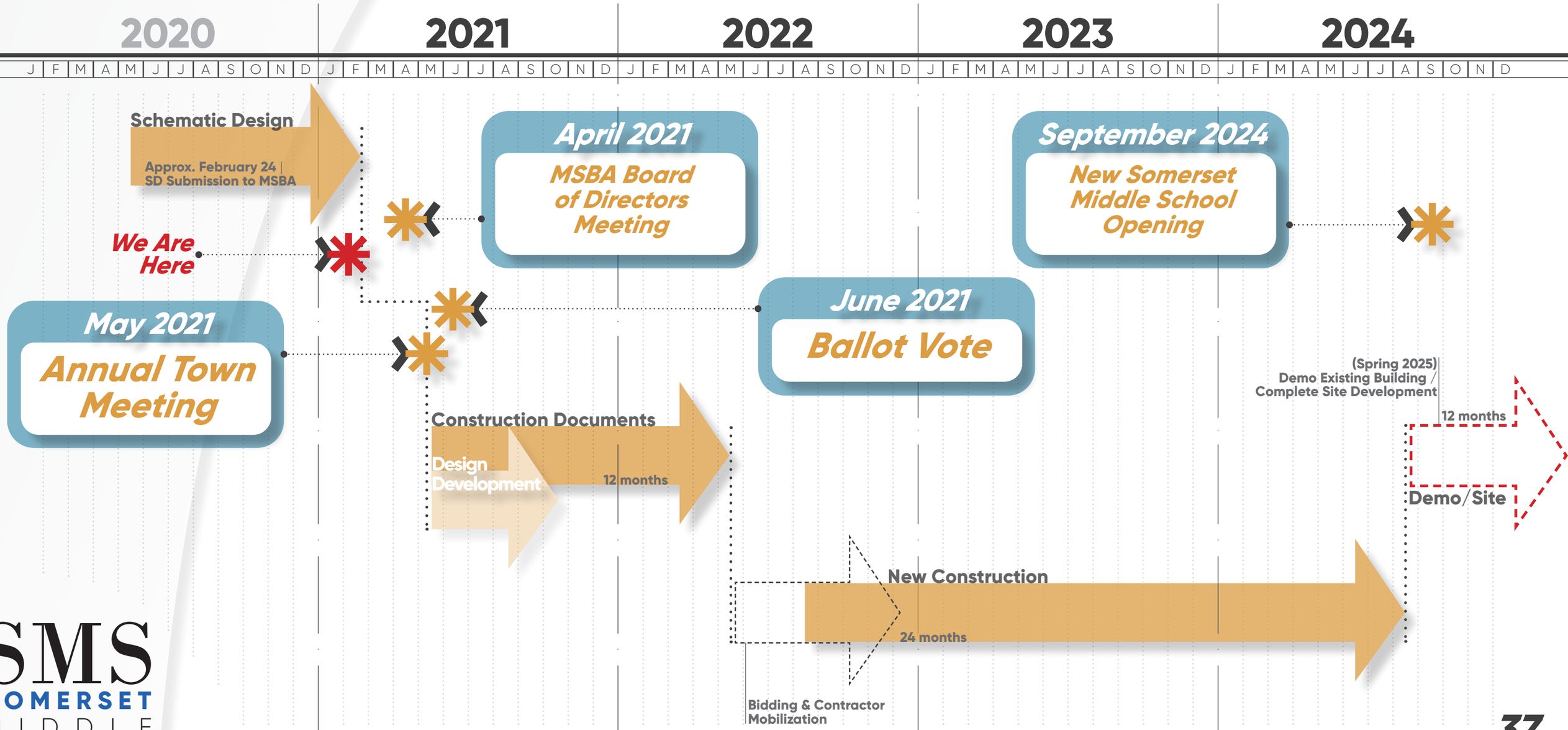
** Tax rate impact assumes the residential to commercial/industrial/personal property tax rate shift will ren*

** Tax rate impact assumes the average home value will remain constant over the life of the bonds.*

** Bonds issued on a level debt service basis.*

** Data based on information provided by Hilltop Securities, Inc.*

SMS | Project Timeline



SMS
SOMERSET
MIDDLE
SCHOOL

Frequently Asked Questions

I. What is the role of the Massachusetts School Building Authority (MSBA)?

II. Why did the SMS SBC/SC/BOS all endorse the construction of a new 6-8 Middle School instead of proposing to expand & renovate the existing building?

III. What are some of the existing building challenges?

IV. What are the safety & security measures included in the proposed project?

V. What is the project timeline?

VI. What happens if the debt exclusion vote DOES or DOES NOT pass in May 2021?

VII. What are the educational & community benefits associated with the new middle school?

VIII. What is the estimated cost of the project & what does it include?

SOMERSET MIDDLE SCHOOL

SMS

Thanks for Participating!

Continued Communications

For project related questions, *please Email:*

- Email: smsbuildingproject@somersetschools.org

For more info, *visit our Website:*

- Somerset Middle School Building Project
- Visit: http://bit.ly/SMSbuildingproject

Follow us on:

SMS_BuildingCommittee