Tecton ARCHITECTS

SUFFIELD FACILITIES MASTER PLAN

TRI-BOARD UPDATE MEETING

SUFFIELD, CT

6.14.2021

As presented at Tri-Board Meetin (6.14.2021)

Agenda

1. Recap of Project Goals
2. Work Completed to date
3. Select Building Examples *(Fire Station #1, SMS)*
4. Overall Schedule
5. Expected Next Steps

As presented at Tri-Board Meetin (6.14.2021)

Overarching Goals

Tecton ARCHITECTS

Goal #1 - *Create a comprehensive master plan for public buildings that will serve the Town's needs for the next ten years.*

Goal #2 - *Assess the current use and space needs of public facilities (Town and Schools).*

Goal #3 - *Establish a priority, schedule, and budget for replacement, consolidation, or improvement.*

Goal #4 - *Create a framework for the Town's Capital Plan and debt service in accordance with the Debt Management Policy.*

As presented at Tri-Board Meeting (6.15.2021)

BUILDING LIST ~ 11 TOTAL BUILDINGS

Town & Public Safety

- FD Station #1 (HQ)
- FD Station #2
- FD Station #3
- FD Station #4
- Police Department
- Town Hall Annex
- Senior Center

Schools

- A. Ward Spaulding School
- McAlister Intermediate School
- Suffield Middle School
- Suffield High School


As presented at Tri-Board Meeting (5.14.2021)

4 ~ Components of Master Plan

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1. **Existing Conditions Analysis**
2. **Programming Needs & Demographics**

Work Completed

3. *Development of Master Planning Options*
4. *Refine Options & Selection of Preferred Option*

As presented at Tri-Board Meetin (6.14.2021)

WORK COMPLETED TO DATE

1. ***Collected and reviewed data & documents (plans, reports, warranties, utility bills)***

2. ***Conducted walkthroughs of all 11 buildings, both inside & out, with representation from facilities***

3. ***Held a series of preliminary programming discussions to understand space needs and adjacency relationships.***

Town & Public Safety

- *Building & site walkthroughs ~ 2/23/2021*
- *Programming sessions ~ 3/2/2021*

Schools

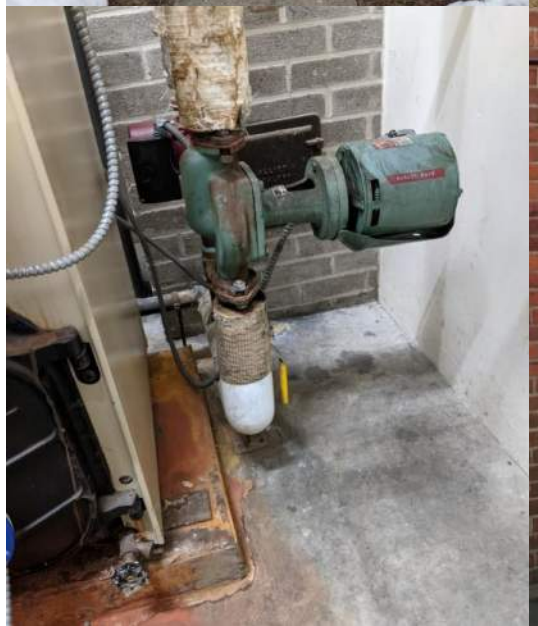
- *Building & Site walkthroughs. Suffield High School & McAlister Intermediate School ~ 3/5/2021, Suffield Middle School and A. Ward Spaulding School ~ 3/16/2021.*
- *Programming Sessions for McAlister Intermediate School and Suffield Middle School ~ 3/23/2021, Suffield High School and A. Ward Spaulding School ~ 3/25/2021.*
- *Information Technology 4/8/2021.*
- *District Leadership on 4/8/2021 to recap programmatic findings.*

As presented at Tri-Board Meetin (6.14.2021)

OUR PROCESS ~ EXISTING CONDITIONS

Areas Studies

1. **Site** *(Pavement, traffic circulation, signs, parking, curbs, sidewalks)*
2. **Architectural Exterior** *(Building envelope, roofs, windows, doors, masonry, trim, downspouts)*
3. **Architectural Interior** *(flooring, ceiling, lighting, wall finishes, doors, frames)*
4. **Code ~ Accessibility / Life Safety** *(accessible entrances, lifts/ramps, floor clearance, sprinklers, fire alarm)*
5. **Building Systems** *(plumbing, heating, ventilation, air conditioning, lighting, electrical systems, technology, fire protection, fire alarms)*



As presented at Tri-Board Meeting (6.14.2021)

OUR PROCESS ~ PROGRAMMING

1. ***Interviews of principals, facilities, and district leadership***
2. ***Questions Included…***
   a. *What spaces get the most use? The least? What is missing?*
   b. *What affects quality of education of a daily basis?*
   c. *What works well, what doesn't?*
   d. *How can this facility better support the staff and/or students?*
3. ***Benchmarking existing space to industry standards.***

As presented at Tri-Board Meeting (6.14.2021)

SELECT BUILDING EXAMPLES
OUR ANALYSIS

As presented at Tri-Board Meeting (6.14.2021)

Tecton ARCHITECTS

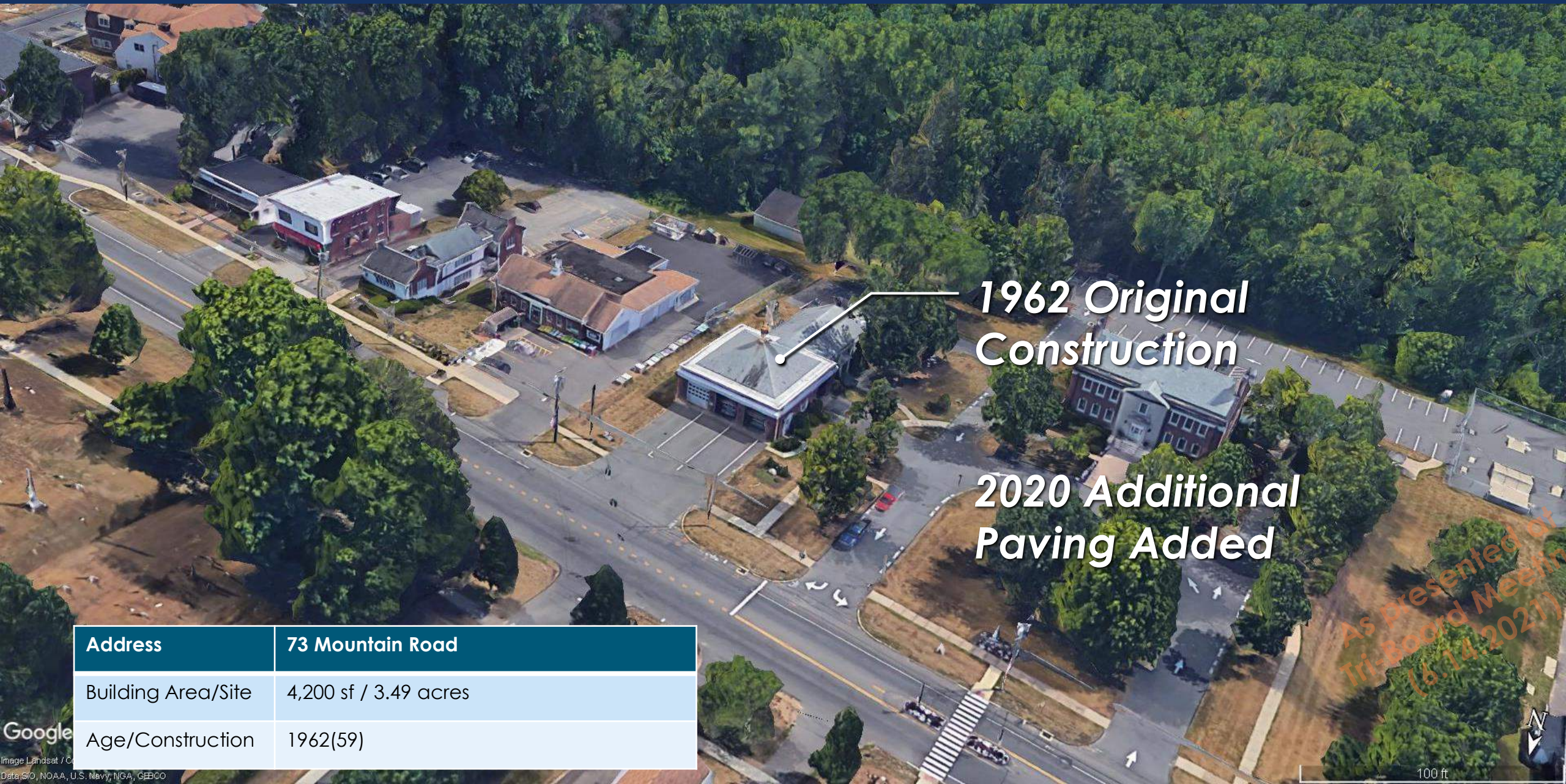
FD STATION #1

INITIAL FINDINGS

As presented at
Tri-Board Meetin
(6.14.2021)

FD STATION #1 ~ EXISTING CONDITIONS

Tecton ARCHITECTS



Address	73 Mountain Road
Building Area/Site	4,200 sf / 3.49 acres
Age/Construction	1962(59)

FD STATION #1 ~ EXISTING CONDITIONS

Site

1. *Recent expansion to paved site area*
2. *Differential settlement and cracking in existing concrete sidewalks*
3. *Apparatus Bay apron is in good condition*

Architectural Exterior

1. *Masonry restoration required at chimney*
2. *Minor rot repair and repainting at wood trim work, railings, and louvers*
3. *Minor downspout repairs/replacement of downspout clips*

Address	73 Mountain Road
Building Area/Site	4,200 sf / 3.49 acres
Age/Construction	1962(61)

As presented at Tri-Board Meeting (6.14.2021)

FD STATION #1 ~ EXISTING CONDITIONS

Architectural Interior

1. *Vinyl asbestos tile present in the building*
2. *Wood fiber tile ceilings present throughout*

Code ~ Accessibility/Life Safety

1. *No accessible entrances*
2. *Non-accessible plumbing fixtures*
3. *Step at transition between apparatus bay and other program areas*

Building Systems

1. *All MEP Systems are old and past their useful life.*
2. *Needs full replacement of all systems*

Address	73 Mountain Road
Building Area/Site	4,200 sf / 3.49 acres
Age/Construction	1962(61)

As presented at the Board Meeting (6.14.2021)

FD STATION #1 ~ PROGRAMMING

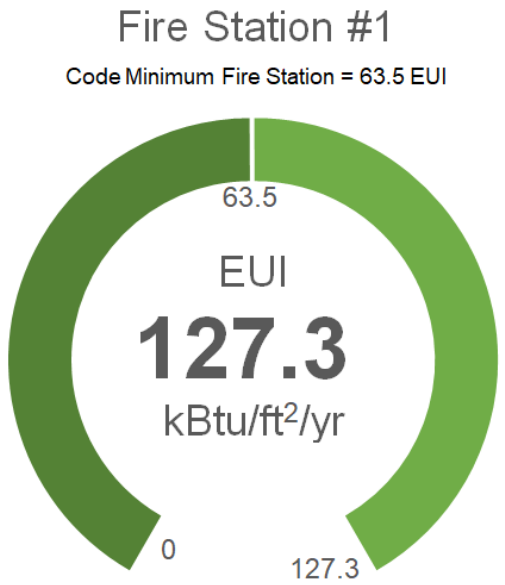
1. *No Public Lobby, Entry or restrooms*
2. *Insufficient Training Room, currently use Substation #2 for Training needs*
3. *Insufficient Administrative offices*
4. *Insufficient bunk and living quarters*
5. *Fitness equipment is currently in basement*
6. *Insufficient Apparatus Space and lacking physical training elements*
7. *Insufficient bay storage, decontamination, SCBA per NFPA standards*
8. *Lack of hot/cold transition zones*
9. *No segregated turnout gear storage*

Address	73 Mountain Road
Building Area/Site	4,200 sf / 3.49 acres
Age/Construction	1962(61)

As Presented at Tri-Board Meeting (6.14.2021)

FIRE STATION #1 ~ BENCHMARKING

System	Equipment Life Expectancy	Equipment Age	Useful Life Percentage
Fire Protection System	40 Years	N/A	
Plumbing Water Heater	25 Years	10 Years	40%
Plumbing Piping & Fixtures	40 Years	40 Years	100%
Mechanical Boiler Plant	30 Years	10 Years	33%
Mechanical Piping & Equipment	40 Years	40 Years	100%
Mechanical Air Conditioning	25 Years	20 Years	80%
Mechanical Controls	20 Years	N/A	
Electrical Service & Distribution	40 Years	20 Years	50%
Electrical Lighting	30 Years	40 Years	133%
Electrical Generator	40 Years	25 Years	63%
Fire Alarm	20 Years	30 Years	150%



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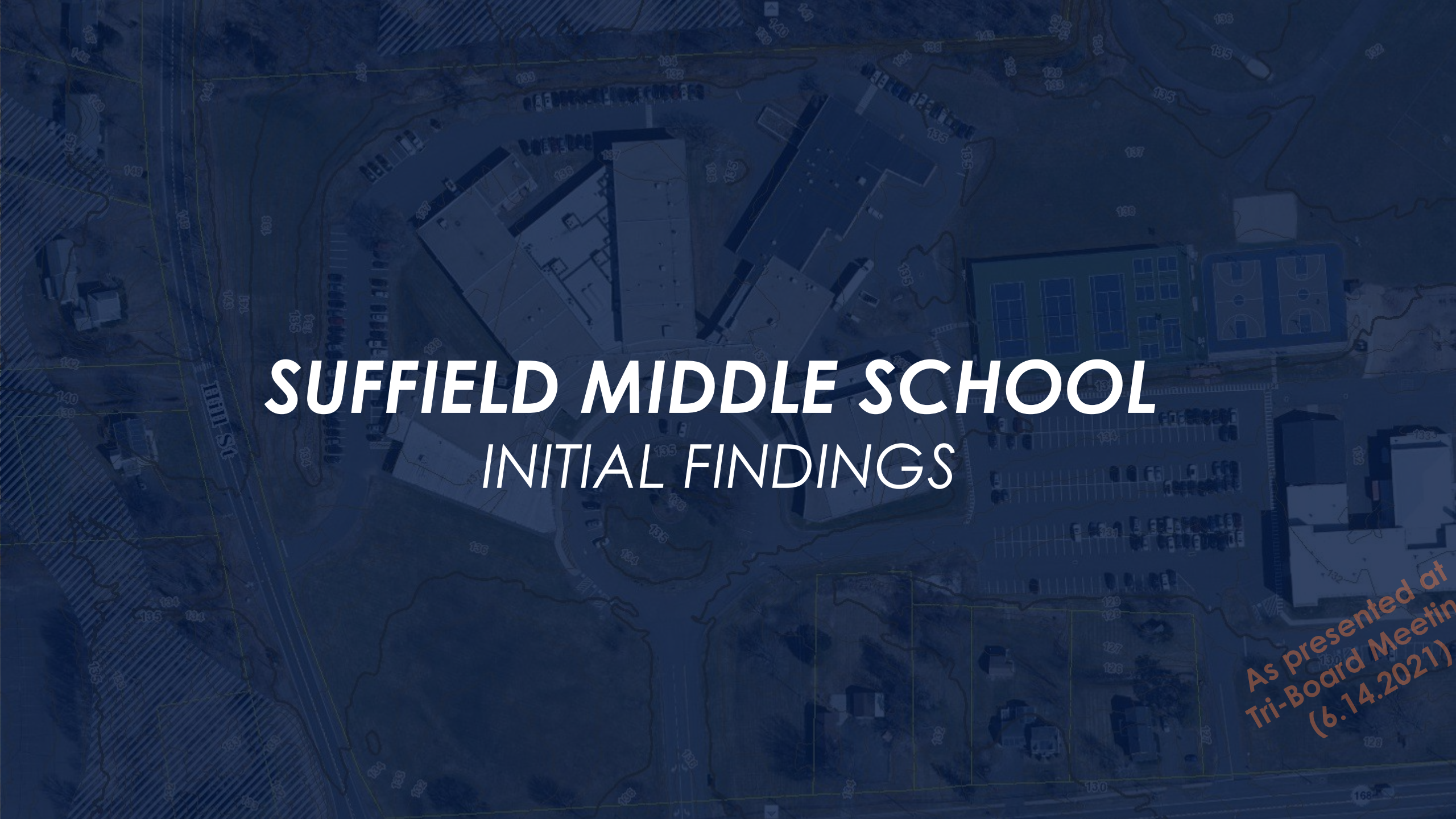

SUFFIELD MIDDLE SCHOOL

INITIAL FINDINGS

As presented at
Tri-Board Meetin
(6.14.2021)

SUFFIELD MIDDLE SCHOOL ~ EXISTING CONDITIONS

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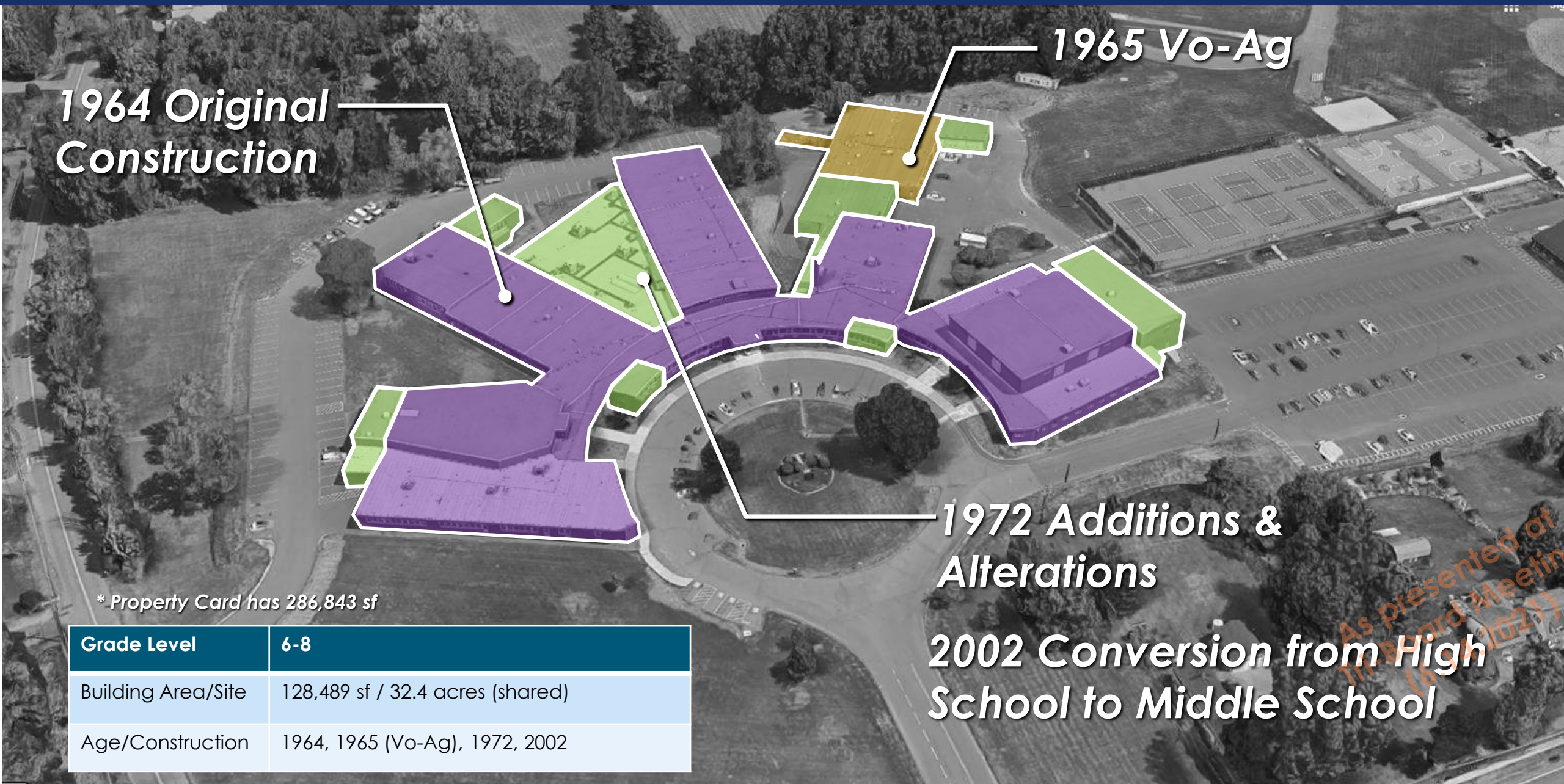


** Property Card has 286,843 sf*

Grade Level	6-8
Building Area/Site	128,489 sf / 32.4 acres (shared)
Age/Construction	1964, 1965 (Vo-Ag), 1972, 2002

As presented at the Board Meeting (6/10/2021)

SUFFIELD MIDDLE SCHOOL ~ EXISTING CONDITIONS

Tecton ARCHITECTS

Site

1. *Site conditions are in fair to poor condition ~ sidewalks, curbs, paving, drainage issues,*
2. *Site traffic flow, parking, security major concerns. Unsecured perimeter access & parking a security concern.*
3. *Fields are remote from building with limited outdoor opportunities for education. Areas of poor drainage on west/southwest side of site.*

Architectural Exterior

1. *Consistent roof leaks, roof replaced in phases by different contractors, various warranties, other envelope concerns ~ pointing of masonry, doors, etc.*
2. *Majority of building contain brick veneer in fair to good condition with areas of isolated spalling at base of wall/ exposed concrete foundation wall. Existing lintels are in fair to poor condition.*

Grade Level	6-8
Building Area/Site	128,489 sf / 32.4 acres (shared)
Age/Construction	1964, 1965 (Vo-Ag), 1972, 2002

As Presented at the Board Meeting (6.14.2021)

SUFFIELD MIDDLE SCHOOL ~ EXISTING CONDITIONS

Architectural Interior

1. *Overall, well maintained, original building well built, but many areas poorly constructed.*
2. *Observed significant inefficiencies due to additions/renovations over time.*
3. *Noise/Acoustical concerns in 70's additions renovations due to "modular" wall construction.*
4. *Various additions eliminated natural daylight to educational space creating poor conditions for educating students.*
5. *Overall condition of finishes are generally in poor condition. However yearly improvements have been made to isolated areas, science labs, finishes in media center, tech education planned.*
6. *Majority of toilet cores are in poor condition due to age and use. In some instances, are not used/obsolete*

Grade Level	6-8
Building Area/Site	128,489 sf / 32.4 acres (shared)
Age/Construction	1964, 1965 (Vo-Ag), 1972, 2002

As presented at Tri-Board Meeting (6.14.2021)

SUFFIELD MIDDLE SCHOOL ~ EXISTING CONDITIONS

Tecton ARCHITECTS

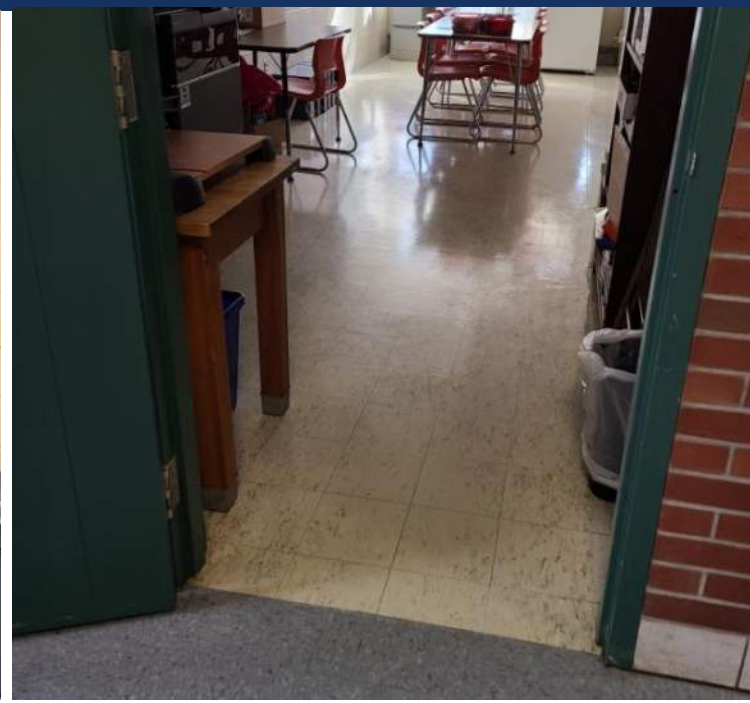
Code ~ Accessibility/Life Safety

1. *While 2002 upgrades addressed some code issues, some accessibility compliance issues remain related to floor & push/pull clearances and reach requirements*
2. *Egress stairwells appear to meet current codes for both guard and handrail requirements.*

Structural

1. *Structural system of original building steel frame superstructure with brick/block infill. Traditional slab on grade with concrete infill metal desk slab for second floor.*
2. *No observed structural conditions with building.*

Grade Level	6-8
Building Area/Site	128,489 sf / 32.4 acres (shared)
Age/Construction	1964, 1965 (Vo-Ag), 1972, 2002



As presented at Tri-Board Meeting (6.14.2021)

SUFFIELD MIDDLE SCHOOL ~ EXISTING CONDITIONS

Building Systems

1. *Many renovations and varying vintages of systems. Some newer, some original.*
2. *No central domestic Hot Water Plant. Lots of distributed water heaters. Leads to more maintenance and repairs.*
3. *Electrical systems has many vintages. While service is newer it back feeds original vintage systems.*
4. *Most major mechanical systems past or at the end of their useful life.*
5. *No natural ventilation/windows to many classrooms/educational spaces.*
6. *Overall MEP systems need a complete overhaul.*

Grade Level	6-8
Building Area/Site	128,489 sf / 32.4 acres (shared)
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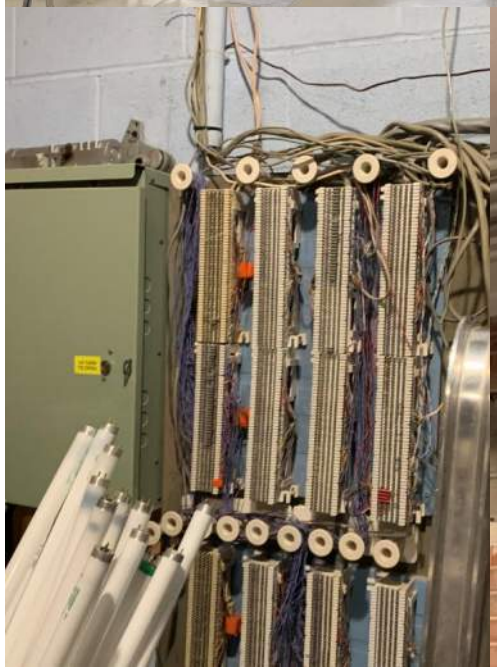


As presented at Tri-Board Meeting (6.14.2021)

Tecton ARCHITECTS

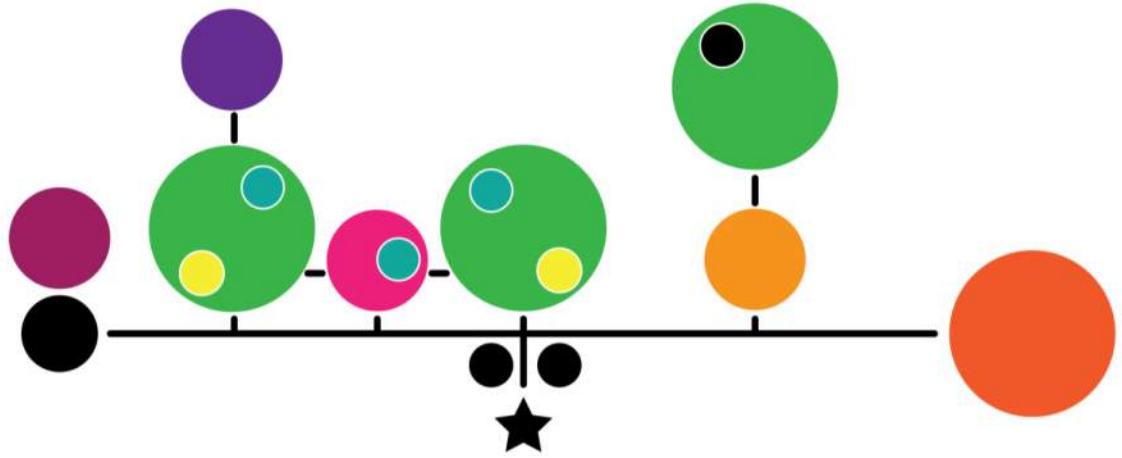
Programming Discussions

1. *Classrooms are decent size throughout school although many of the specialized classrooms are not sized nor do the function correctly (ex. World language)*
2. *Flow of the overall building a concern, tough to implement team model, share spaces, promote collaboration ~ important for this demographic.*
3. *Specialized teaching rooms & core facilities biggest concern – band, cafeteria acoustics & queuing, media center, family & consumer science outdated, limited space for tech ed., many poorly located*
4. *Lack of efficiency in the layout affects quality of education, time in class, and programs offered.*
5. *Currently circulate through classroom to attend special education classes, would like to centralize and share, save on time & reinvest into student*

Grade Level	6-8
Building Area/Site	128,489 sf / 32.4 acres (shared)
Age/Construction	1964, 1965 (Vo-Ag), 1972, 2002

As presented at Tri-Board Meetin (6.14.2021)

SUFFIELD MIDDLE SCHOOL ~ PROGRAMMING



- Entrance
- Office/Admin
- Classrooms
- Gym
- Cafeteria
- Science
- Special Education
- Media/Resource
- Art/Maker
- Auditorium/Music

What's Existing

- *Linear flow*
- *Divided Admin area*
- *Media Center not the heart of the school*
- *Specials are too far away from each other and general classrooms*
- *Special Education is too spread out and doesn't work*

What's Desired

- *Improved flow*
- *Consolidated Admin area*
- *Media Center surrounded by neighborhoods*
- *Neighborhoods surrounded by Specials*
- *Special Education accessible to all*

As presented at the Board Meeting (6.14.2021)

SUFFIELD MIDDLE SCHOOL ~ BENCHMARKING

Suffield Middle School			
Item Description	**2027-28 Enrollment (High)**		
Grade Level	6	7	8
Student Pop. (10/1/18)	162	154	150
Subtotal	466		
Current Space Standard			
SF/Student (Max.)	152	176	176
SF/Grade Level (Max.)	24,624	27,104	26,400

1

State Standard Space Specifications Grades

Projected Enrollment	Pre-K and K	1	2	3	4	5	6	7	8	9	10	11
	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

2

Sec. 10-287c-15. Standards (Reference: Section 10-283a)

(a) **State standard space specifications.** The standard space specifications identifie
this section shall apply to all school building project grants except code and hea
purchases, vocational agriculture equipment, and administrative facilities. For any building constructed prior to 1950, the standard space specifications identified in this section shall be increased by twenty-five per cent.

3

State of CT ~ Max Allowable Area Analysis

Take highest student enrollment from 8-year projection ***(2027-28 High Projections from MMI/SLR Updated April 2021)***

Multiply by max allowable as per state standard Space Specifications by grade level & total size of school

Review for applicable allowances (older building inefficiencies)

**BOE Approx. ~ 4,207 sf*

*Max Allowable ~ 78,128 GSF vs. Existing ~ 128,489 GSF**

Existing building is nearly 40% larger than the Maximum Allowable!

As presented at the Board Meeting (6.14.2021)

SUFFIELD MIDDLE SCHOOL ~ BENCHMARKING

Media Center

CT State Standard ~ SF area is based upon 10% of student population x 35 sf per student

1,631 gsf
CT State Standard

4,734 gsf
Existing Media Center

Cafeteria

CT State Standard ~ SF area is based upon 3 lunch periods at 17.5 sf per student

2,718 gsf
CT State Standard

3,318 gsf
Existing Cafeteria

As presented at Tri-Board Meeting (6.14.2021)

SUFFIELD MIDDLE SCHOOL ~ BENCHMARKING

Tecton ARCHITECTS

The importance of Efficiency in a Building

Yellow Outline

Area ~ 128,489 SF

Blue Area

Grade Level ~ 36,134 SF

Upper Level ~ 4,437 SF

+ Chases, wall thickness, etc (3.5%)…

Blue Area (41,991 SF) / Yellow Outline (128,489 SF) → 32.6%

Typical Efficiency Factor ~ 25-30%

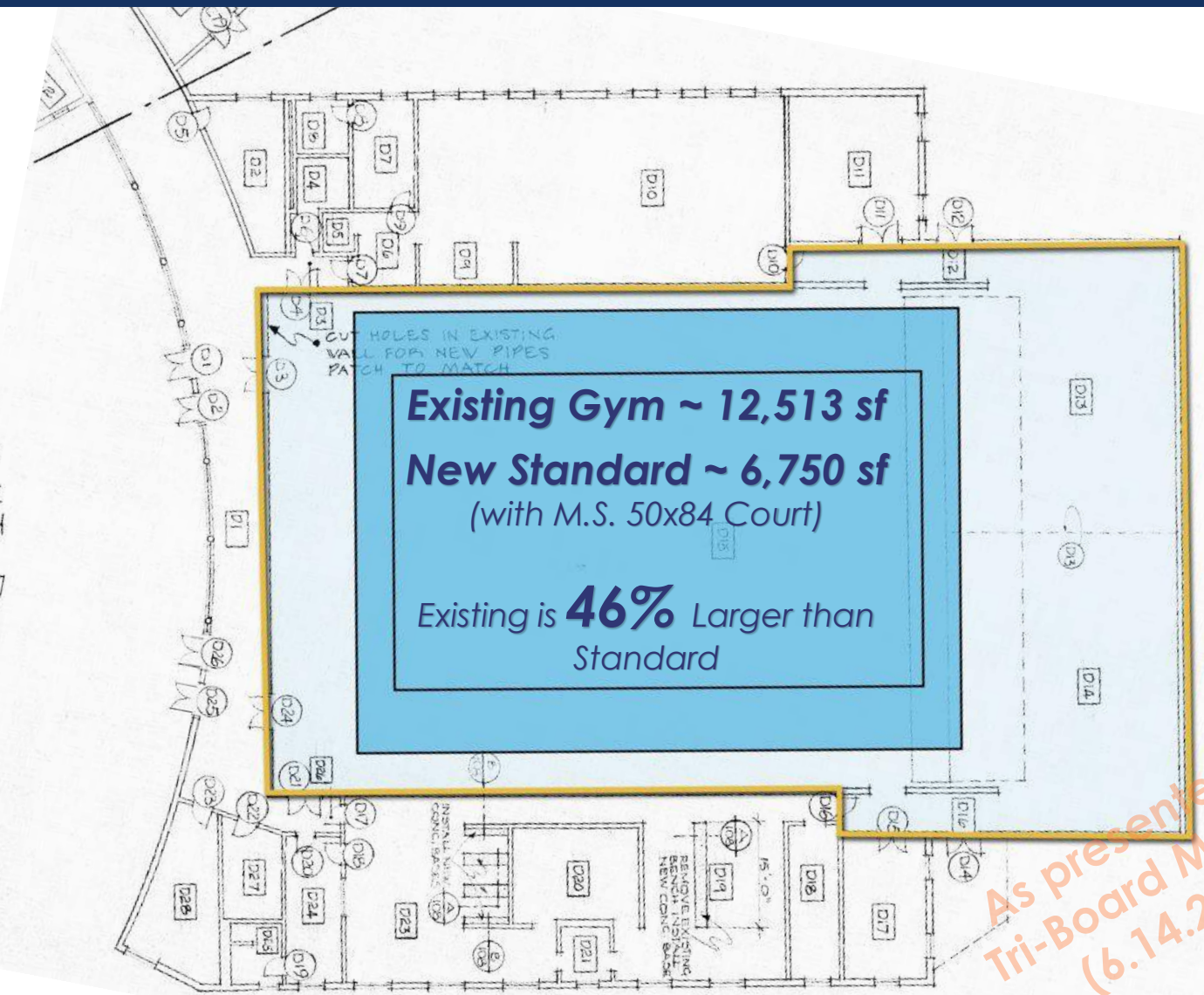
Loss of Education Space is 3,340 – 9,765 sf

As presented at Tri-Board Meeting (6.14.2021)

SUFFIELD MIDDLE SCHOOL ~ BENCHMARKING

Understanding the impact of your Building

1. *Clearly oversized for current population*
2. *Suffers from severe inefficiency and multiple change in use.*
3. *The benefits and challenges of maintaining and operating an oversized school should be considered:*
   a. *Associated operational costs*
   b. ***Loss of the benefit of oversize core spaces (Example Gymnasium)***
   c. *Challenges when reimaging space for a different use (Special Education located in original "shop" classes – or - Housing IT in the original VO-AG Building)*



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SUFFIELD MIDDLE SCHOOL ~ BENCHMARKING

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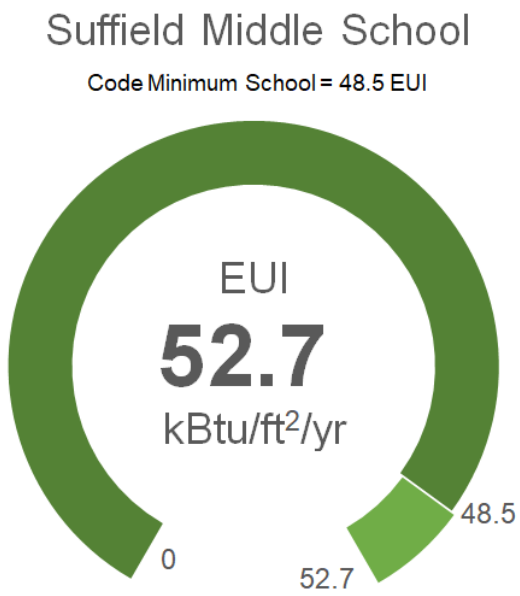
Plumbing Piping & Fixtures	40 Years	40 Years	100%
Mechanical Boiler Plant	40 Years	25 Years	63%
Mechanical Piping & Equipment	40 Years	40 Years	100%
Mechanical Air Conditioning	25 Years	10 Years	40%
Mechanical Controls	20 Years	5 Years	25%
Electrical Service & Distribution	40 Years	20 Years	50%
Electrical Lighting	30 Years	30 Years	100%
Electrical Generator	40 Years	30 Years	75%
Fire Alarm	20 Years	25 Years	125%



As presented at Tri-Board Meetin (6.14.2021)

A. WARD SPAULDING SCHOOL ~ BENCHMARKING

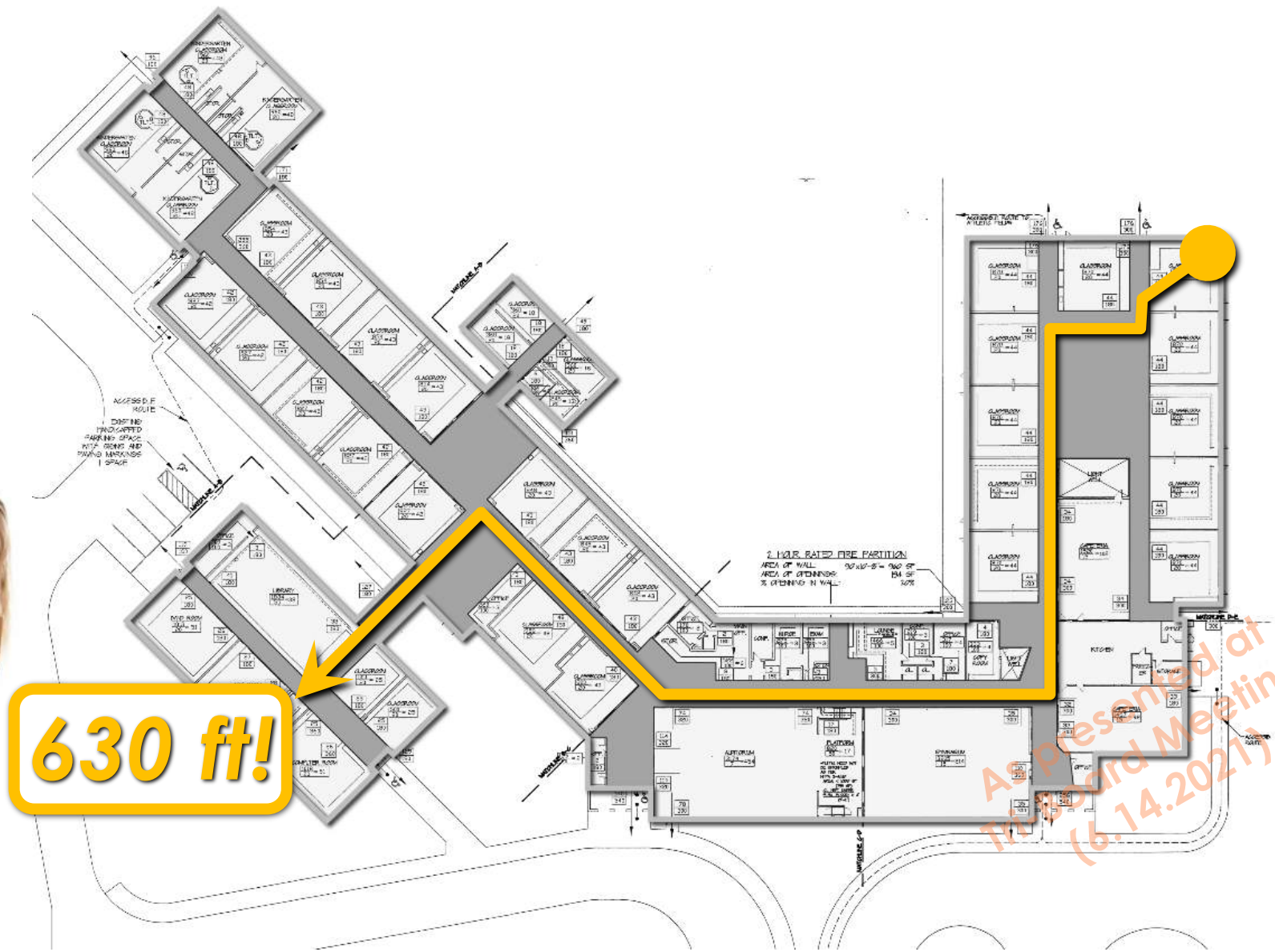
Understanding the impact of your Building

"The gift of time"

Distance of Classroom to Media Center and/or Specialized Education Area…
Approximately 630 feet!

Average speed of a 5-year-old ~ 50 ft every 20 -25 seconds

About a 5 min. walk! Or… 10 minutes away from the classroom with <u>each</u> trip.



As Presented at the Board Meeting (6.14.2021)

SUMMARY OF FINDINGS

INITIAL ASSESSMENT

As presented at Tri-Board Meetin (6.14.2021)

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Summary of Findings *~ Town Buildings*

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1. *Generally, buildings have been well maintained.*
2. *Accessibility concerns found in nearly every building.*
3. *Identified programmatic needs primarily at Fire Headquarters and Police (limited expansion for patrol officers, training)*
4. *Older buildings are in need of renovations primarily due to age, condition, end of useful life considerations, in particular MEP systems (Fire Station HQ, Police Station, Annex)*
5. *Long term ~ improvements to living corridors (substations) and apparatus expansion (station No.4)*
6. *Propose preventative maintenance of targeted improvements to remaining buildings to extend useful life.*

As presented at
In Board Meetin
(6.14.2021)

Summary of Findings *~ School Buildings*

Tecton ARCHITECTS

1. *Most buildings have been well maintained, added to and/or modified over their lifespan.* ***No building has received comprehensive, like new, renovations.***

2. *Reuse, modification, and past adaptations have resulted in* ***poor*** *adjacency relationships, internal flow, and efficiencies.*

3. *Majority of building systems (MEP) are at or near end of useful life.*

4. *Accessibility concerns found in nearly every building, uneven compliance throughout the buildings.*

5. *Classroom space generally align with state sf standards. However, several programmatic needs have been identified for core spaces (STEAM), specialized education, lack flexible/adaptable space for 21st century learning.*

6. *Consider enhancements to site definition, security, and traffic flow/safety.*

As presented at Tri-Board Meetin (6.14.2021)

Communications Strategy & Support

1. *Informational Fliers*
2. *Website*
3. *Surveys*
4. *Building Tours*
5. *Public Forums in Fall*
6. *Board Outreach – Progress Updates*
7. *Maintain/Update Overall Schedule*

Goal ~ To provide clarity, transparency, and engagement in the process.

As presented at Tri-Board Meetin (6.14.2021)

PROPOSED MILESTONE SCHEDULE

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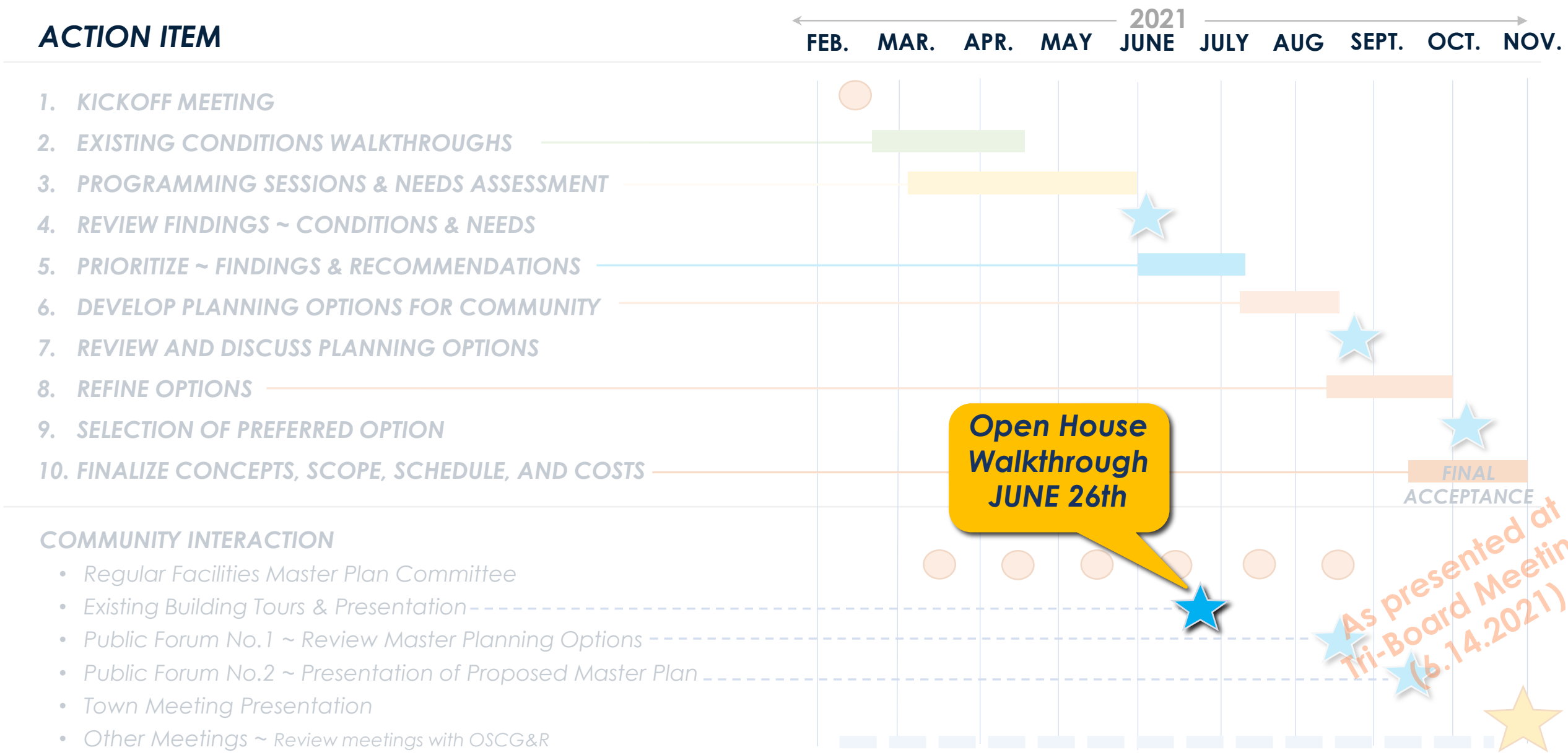

Proposed Next Steps

1. *Finalize conditions & programmatic needs report.*
2. *Engage community, boards, & users in meaningful conversation prior to development of options.*
3. *Discuss Planning Strategies*
   a) *Capital Plan ~ Identify year preventative maintenance plan in conjunction with major capital projects, sequence strategically.*
   b) *Explore both building an operational efficiencies.*
   c) *Consider consolidation and/or department/educational synergies in the planning options.*
   d) *Leverage existing assets, discard obsolete, and maximize reimbursement*

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Tecton ARCHITECTS

SUFFIELD FACILITIES MASTER PLAN

TRI-BOARD UPDATE MEETING

SUFFIELD, CT

6.14.2021

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