



# Whitman Middle School

Community Forum #1 // September 8, 2022

## Agenda

- // Introductions & Summary
  - / The MSBA Process
- // Project Schedule Overview
- // Overview of Existing Conditions
- // Educational Programming
  - / Educational Visioning
  - / Grade-Level Configuration
  - / Preliminary Evaluation of Alternatives
- // 21<sup>st</sup> Century Middle School Design
- // Next Steps

# Ai3 Architects, LLC

Designer (Architect)

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## Middle Schools

Memorial Middle School  
Wilson Middle School  
Seoul Middle School  
Lincoln Middle School  
Hingham Middle School  
Villanova Street Middle School  
Hamlet Ave Middle School  
Nathan Bishop Middle School  
Lynnfield Middle School  
Quincy Central Middle School  
Quincy Sterling Middle School  
Abington Middle/High School  
Christa McAuliffe Charter School  
Foxborough Regional Charter School  
Beverly Middle School  
East Bridgewater Middle/High School  
Kennedy Middle School (Natick)  
Somerset Middle School  
Coakley Middle School (Norwood)\*

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## High Schools

**Whitman-Hanson Regional High School**  
Somerset-Berkley Regional HS  
Natick High School  
Norwood High School  
Plymouth North High School  
Plymouth South High School  
Franklin High School  
Marshfield High School  
Abington Middle / High School  
Westerly High School  
Reading High School  
Hull High School  
Watertown High School\*

\* Project in design

100% FOCUS ON PK-12 ENVIRONMENTS



# A Collaboration Between...



**50+**  
**Professionals**

To best understand Whitman,  
**over 1,500 collective hours**

of meeting,  
planning,  
discussing,  
analyzing,  
investigating,  
and reporting  
have already occurred  
by engineers, designers,  
educators, 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

**Colliers Project Leaders**  
Owner's Project Manager (OPM)

# Partnering with the MSBA



A **partnership** between the  
Massachusetts School  
Building Authority (MSBA) &  
the Town of Whitman



## Notable Milestones so far:

- APR 2019** // WHRSD Superintendent submits SOI (**Statement of Interest**) to MSBA
- APR 2021** // MSBA invites Town of Whitman to conduct **Feasibility Study** for Whitman Middle School
- MAY 2022** // Professional project team established:  
**Colliers Project Leaders** as OPM  
**Ai3 Architects** selected as Designer  
// MSBA Module 3: Preliminary Design Program Initiated

**Whitman has an opportunity to receive grant reimbursement from the MSBA to fund a middle school project.**

# Why Whitman?

The **Massachusetts School Building Authority (MSBA)** offered Whitman a **grant opportunity** for the following reasons:

- // Undersized general classrooms
- // General classrooms lack necessary amenities such as sinks, storage, and integrated technology
- // Lack of educational space for team teaching and both student/staff collaboration
- // Lack of small group work, study, and testing areas
- // Science classrooms do not meet the state guidelines; most of the 7/8th grade instruction & laboratory experiments are limited to teacher demo and are not student-centered
- // Lack of performance, presentation, & instructional space
- // Classrooms without windows or natural daylight
- // Lack of special education space for remedial and tutorial programs
- // SPED services requiring separate areas are being delivered in the classroom
- // Poor and/or ineffective acoustics within the instructional classrooms and academic spaces
- // SPED sub-separate classroom for autistic children does not have separate therapy rooms
- // Lack of student exhibit space
- // Lack of adequate student support space and/or spaces for social-emotional learning
- // Lack of integrated project labs
- // Lack of outdoor educational spaces (indoor-outdoor connections)



# Why Whitman?

The **Massachusetts School Building Authority (MSBA)** offered Whitman a **grant opportunity** for the following reasons:

- // Condition of existing building infrastructure
- // Lack of Building Code compliance
- // Lack of Energy Conservation Code compliance
- // Lack of Seismic Structural Code compliance
- // Lack of modern technology infrastructure & integration
- // Lack of handicap accessibility (building and site)
- // Unorganized building layout that lacks practical adjacencies
- // Inefficient artificial lighting
- // Lack of natural ventilation
- // Outdated mechanical systems
- // Organization deters interdisciplinary or collaborative learning
- // Uncomfortable interior environment
- // Deteriorating interior finishes that are in need of replacement
- // Existing middle school does not support modern middle school educational programming
- // Inadequate / inefficient / poorly distributed HVAC systems
- // Poor on-site vehicular/bus circulation
- // Ineffective stormwater retention system



# Using Grant Money to Fund a Project

**Q** Where does this grant money come from?

The money comes from **taxes paid by Whitman residents** and taxpayers throughout the Commonwealth from:

**1 penny of the State's 6.25% Sales Tax**

**Q** Has it been provided to other communities?

Your state tax dollars have already been spent in hundreds of local towns for their new schools. Whitman once again has been granted the opportunity to accept state grant money for investment in its current and future needs!

**Q** What are the initial requirements to receive a grant?

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

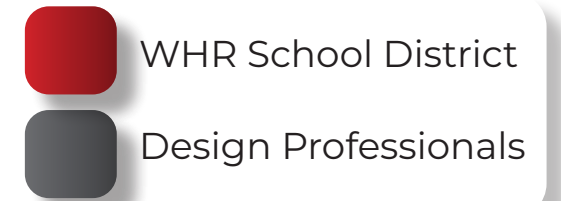


# The MSBA Process Flowchart

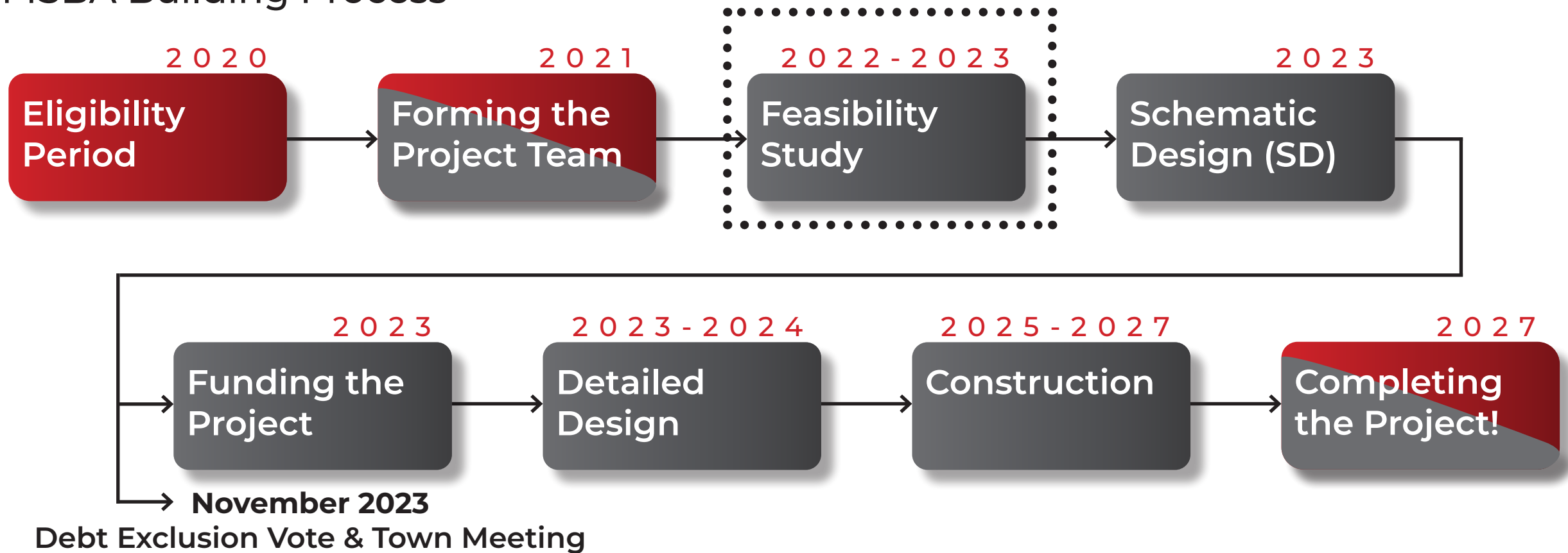
## MSBA Masterplan Process



### Roles

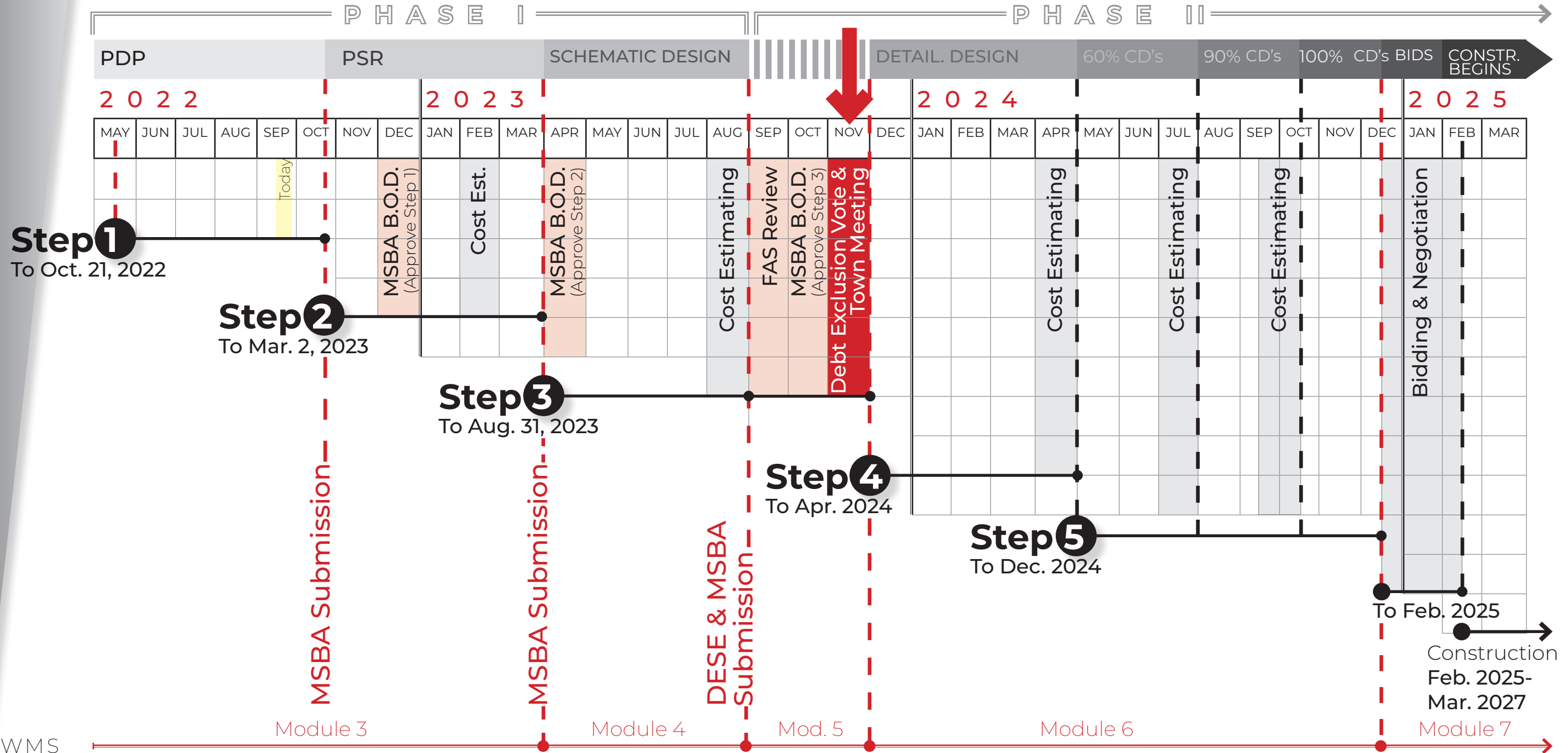


## MSBA Building Process





# WMS Project Schedule Overview





# Existing Conditions Analysis

# Existing Conditions Assessments

## Site/Civil Photos



Primary point of access from CortHELL Ave



Existing loading dock area



Existing outdoor basketball court



Deteriorated asphalt pavement with no curbing



Existing rear athletic fields - History of sub-surface drainage issues

# Existing Conditions Assessments

## Structural Photos



*Cracked, settling brick compromising existing flashing*



*Damage at exterior ramp*



*Rusting at exterior door frames*



*Water infiltration and rust at underside of roof deck (turf gym)*



*Rust at bottom of second floor deck with a history of mold issues*

# Existing Conditions Assessments

## Exterior/Roof Photos



*Spalling of exterior concrete foundations*



*Water ponding - lack of proper drainage*



*Damaged grille for unit ventilator, typ.*



*Roof drain strainers missing and roof membrane at end of useful life*



*Non-compliant exterior walls; heat gain occurring at existing classrooms*



*Water infiltration at exterior walls causing mortar joints to fail*

# Existing Conditions Assessments

M.E.P.F. Photos



*Existing, non-compliant, freestanding epoxy sinks in science classrooms*



*Water service in poor condition*



*No grease interceptor at kitchen sinks*



*Downspout discharging at grade*

# Existing Conditions Assessments

## M.E.P.F. Photos



*Normal power system in poor condition*



*Boilers past useful service life*



*Abandoned fuel oil storage tank*



*Unit ventilators; issues with uneven heating, ventilation, and acoustics*



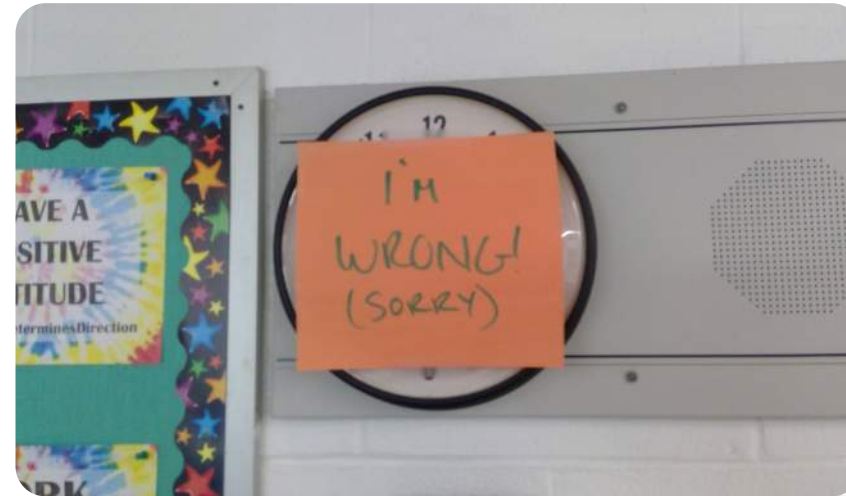
*Inadequate & inefficient fluorescent lighting*

# Existing Conditions Assessments

## M.E.P.F. Photos



*Ductless units reduce ceiling heights*



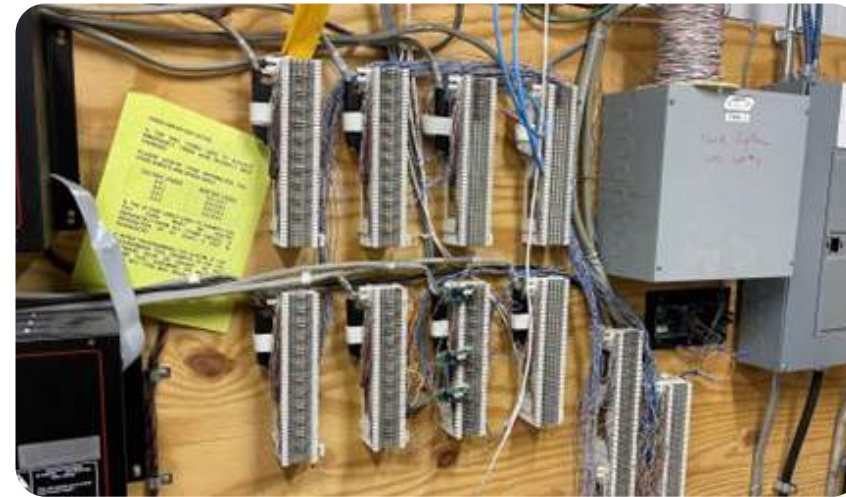
*Problematic master clock system*



*Gas system in fair condition*



*Spec. Edu. room without ventilation*



*Antiquated cabling system*



*Gym indoor AHU's - outlived service life*



# Existing Conditions Assessments

## Typical Classroom Photos



*Typical condition of classroom flooring*



*Typical condition of classroom flooring*



*Typical example of exposed piping*



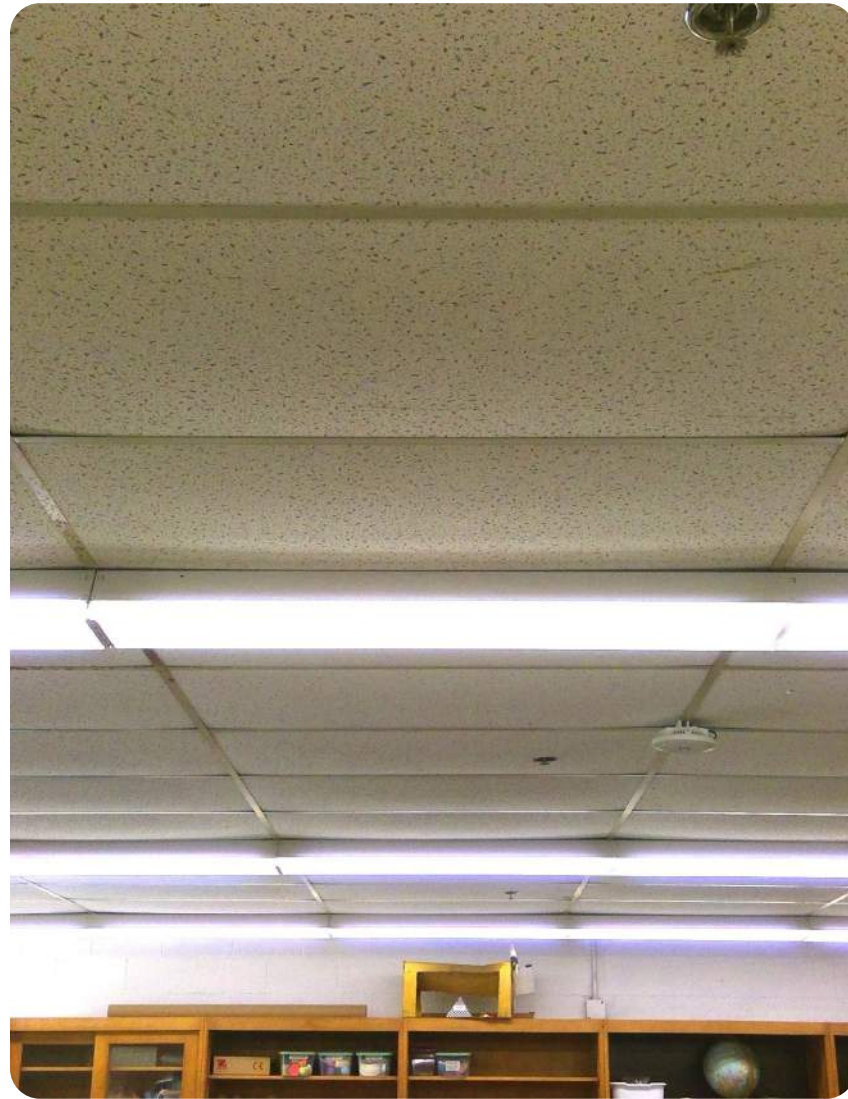
*Rubber base with no wall behind*



*All surface-mounted electrical/data*

# Existing Conditions Assessments

## Typical Classroom Photos



*Visibly sagging ceilings, typical*



*Discolored ceiling grids, typical*



*Typical science classroom countertop*



*No classroom casework, chipped sills*



*Disarray due to lack of storage space*

# Existing Conditions Assessments

## Typical Classroom/Corridor Photos



*Covered windows to stop heat gain*



*Makeshift finishing methods*



*Sagging and stained corridor ceilings*



*Missing finishes and general wear*



*De-laminating, "wavy" tiles from moisture infiltration*

# Existing Conditions Assessments

Cafeteria, Kitchen, Gym, Lobby



*No rubber base in the Cafeteria*



*Cafeteria flooring general wear*



*Epoxy terrazzo floors cracking*



*Stained kitchen quarry tiles*



*Gym flooring; includes warping, cupping, gaps & dead spots*

# Existing Conditions Assessments

Non compliance with ADA or IBC



*Lack of ADA accessible amenities*



*Lack of ADA accessible sinks*



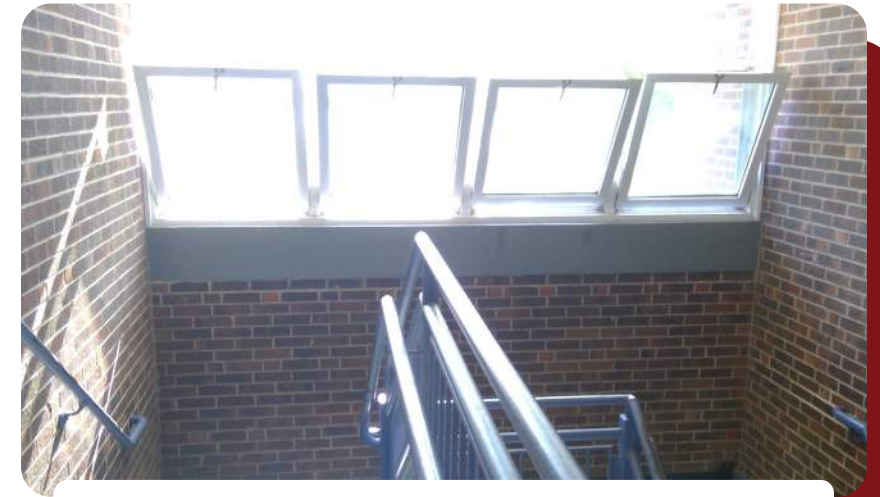
*Narrow egress stairs and landings*



*Classrooms only accessed from egress stairs - non-compliant*



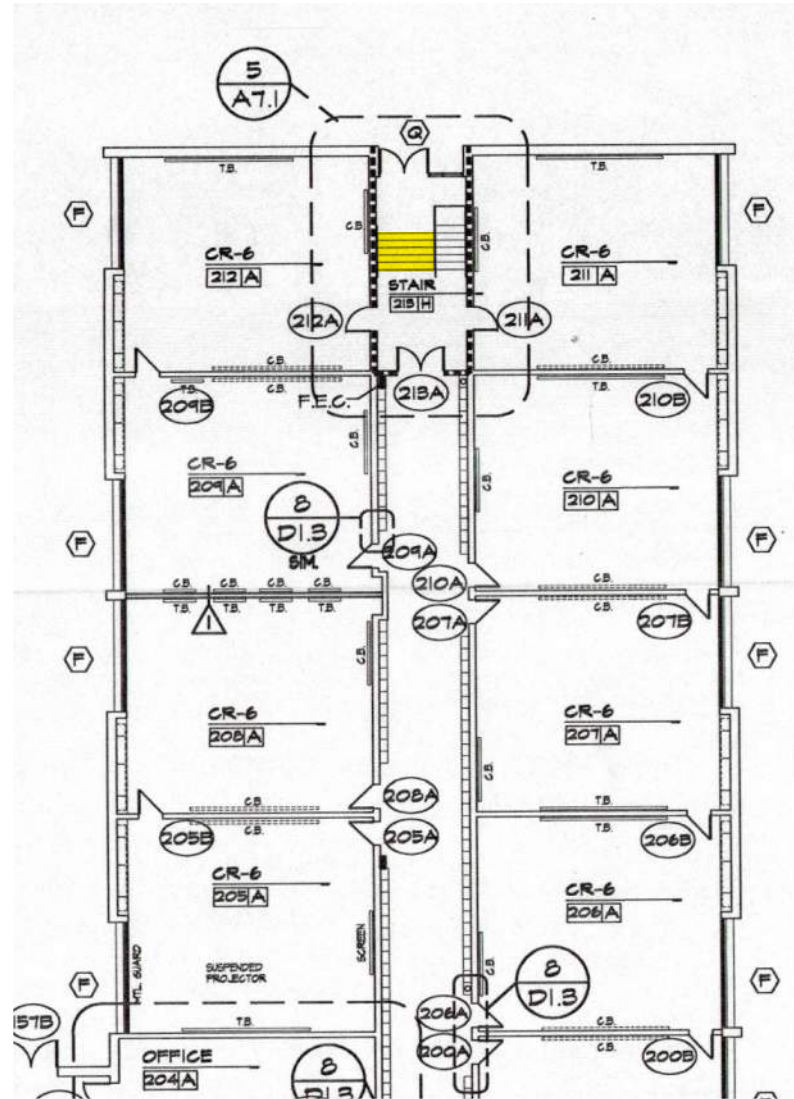
*Fixture quantities do not meet code*



*Windows open into head height*

# Existing Conditions Assessments

Non compliance with ADA or IBC



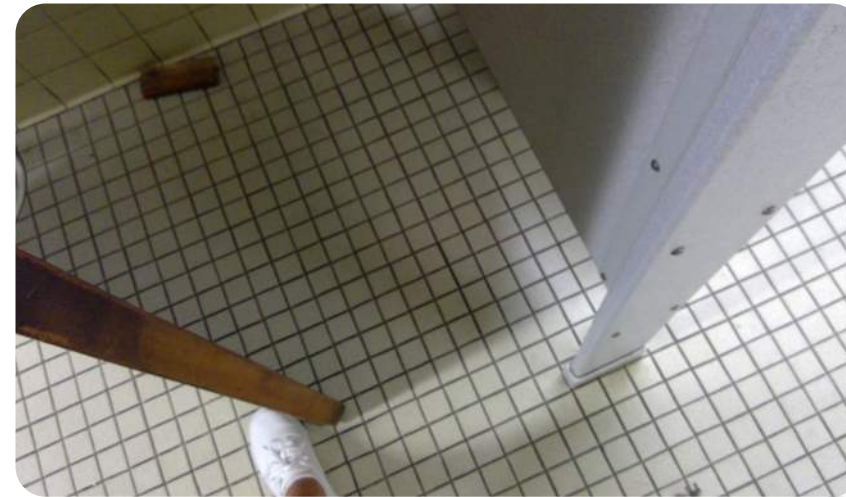
Egress from first floor not ADA accessible



Classrooms without windows



Door frame recesses too deep



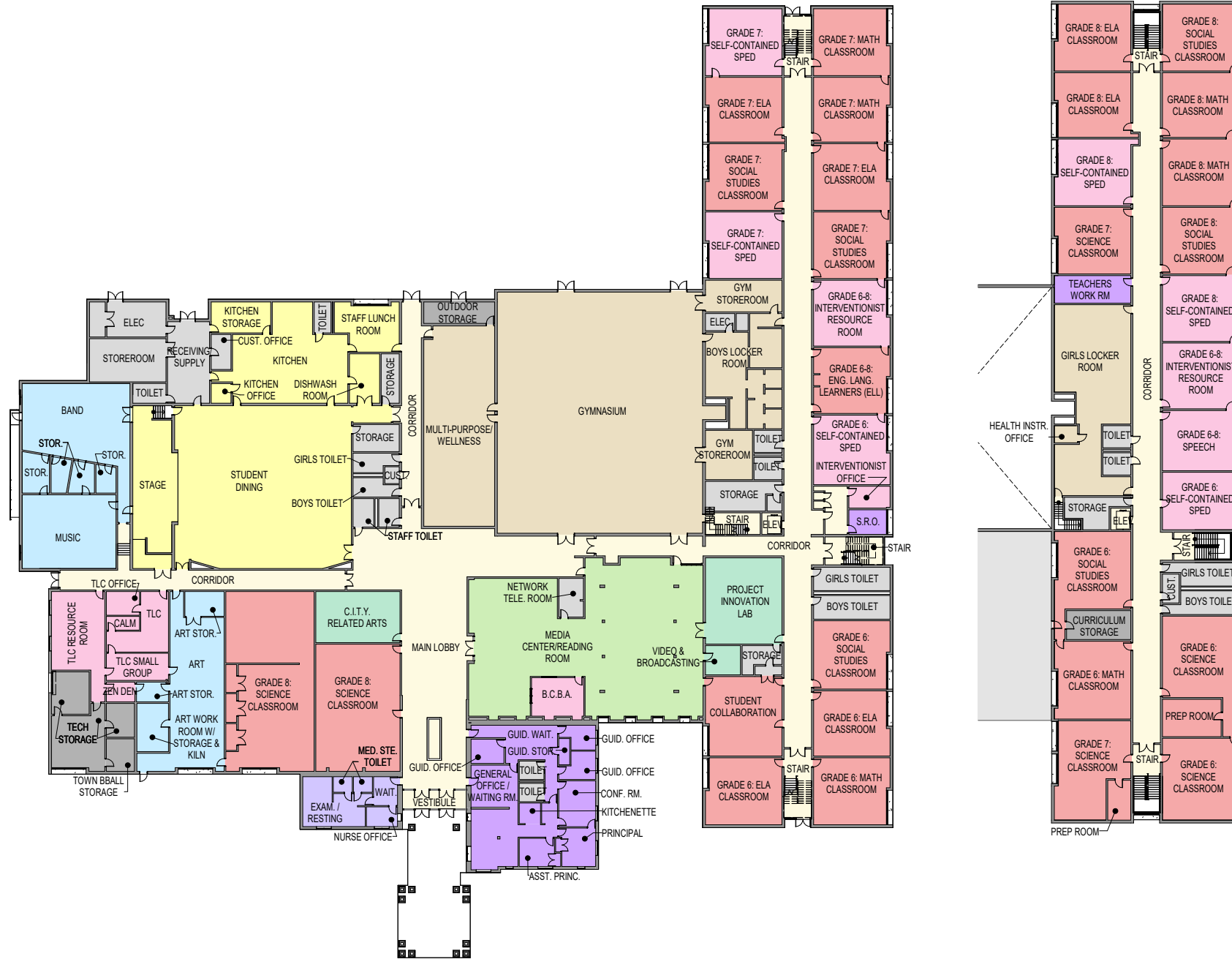
Inadequate clear space in front of doors



No visual impairment strips on stairs

# Existing Spatial Assessment

## Whitman Middle School Program

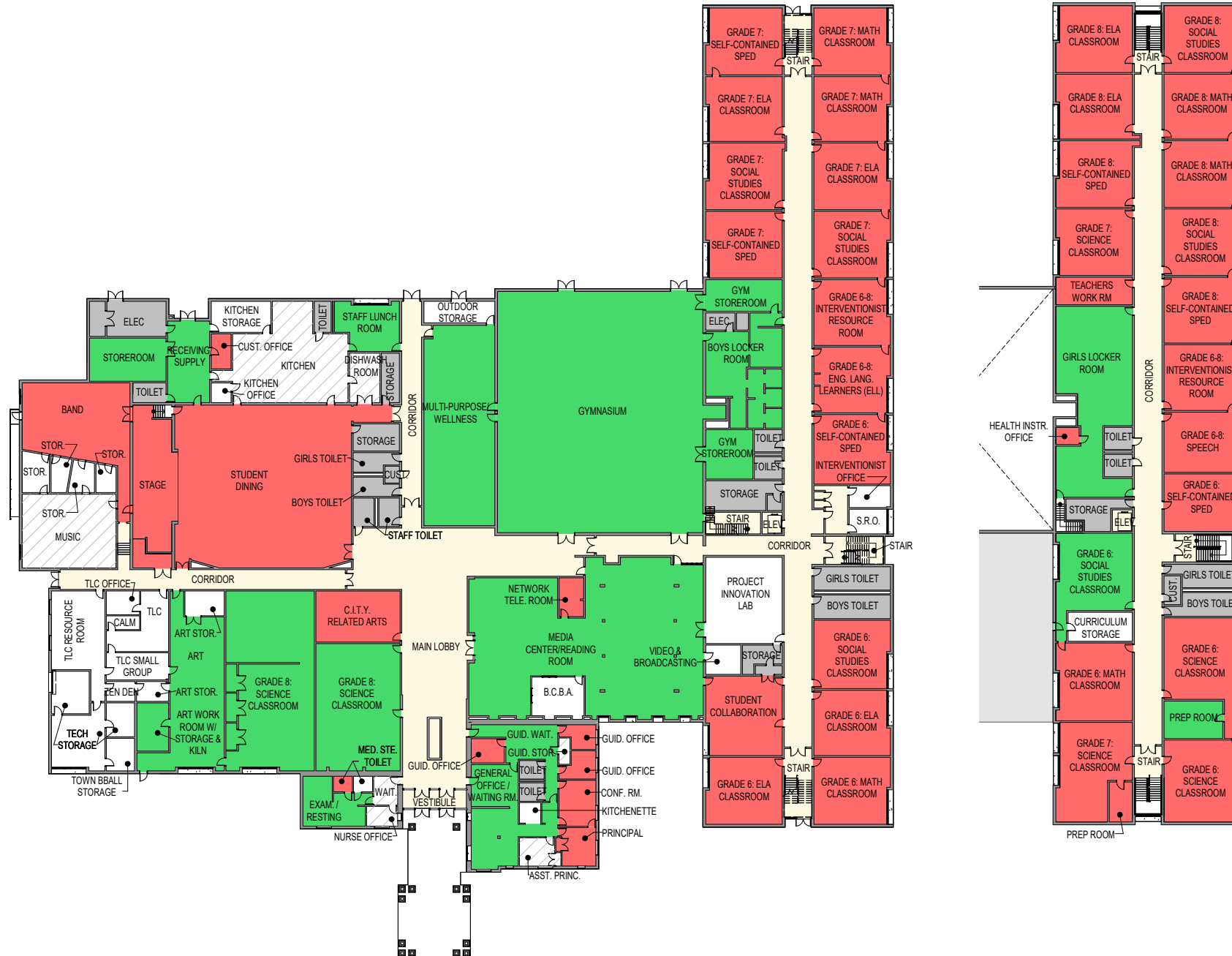


PROGRAM LEGEND	
<span style="display:inline-block; width:15px; height:15px; background-color:#f08080;"></span>	Core Academic Spaces
<span style="display:inline-block; width:15px; height:15px; background-color:#ffb6c1;"></span>	Special Education
<span style="display:inline-block; width:15px; height:15px; background-color:#add8e6;"></span>	Art & Music
<span style="display:inline-block; width:15px; height:15px; background-color:#90ee90;"></span>	Vocations & Technology
<span style="display:inline-block; width:15px; height:15px; background-color:#90ee90;"></span>	Media Center
<span style="display:inline-block; width:15px; height:15px; background-color:#d2b48c;"></span>	Health & Physical Education
<span style="display:inline-block; width:15px; height:15px; background-color:#9370db;"></span>	Medical
<span style="display:inline-block; width:15px; height:15px; background-color:#9370db;"></span>	Administration & Guidance
<span style="display:inline-block; width:15px; height:15px; background-color:#ffff00;"></span>	Dining & Food Service
<span style="display:inline-block; width:15px; height:15px; background-color:#fff2cc;"></span>	Circulation
<span style="display:inline-block; width:15px; height:15px; background-color:#d3d3d3;"></span>	Custodial / Service / Toilet
<span style="display:inline-block; width:15px; height:15px; background-color:#808080;"></span>	Other

*Categories correlate to MSBA  
Space Summary Template*

# Existing Spatial Assessment

## Whitman Middle School Program - Area Deficiencies



SIZE COMPARISON LEGEND	
	>5% Less than MSBA Guidelines
	<5% Greater than MSBA Guidelines
	Acceptable per MSBA Guidelines
	Circulation
	Space Accounted in Crossing Factor
	Not included in MSBA Guidelines





# Educational Programming

# Educational Visioning Recap

## Session 01 - Students

### WHAT they SAID...

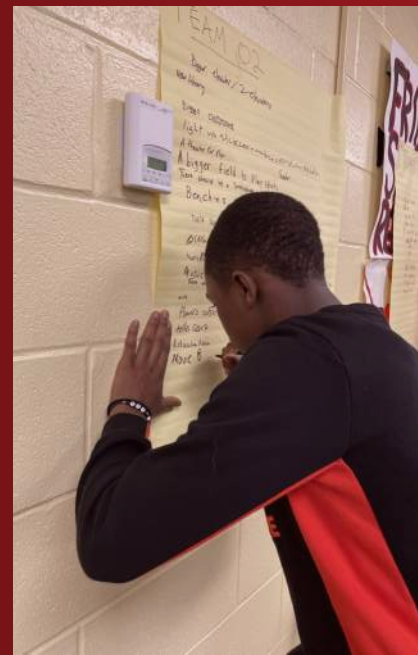
*in no particular order*

- // floor to ceiling **windows**
- // **natural light** and views
- // exposed ceilings/ structure
- // simple colors w/ natural elements
- // mezzanines or **bridges** for **visibility**
- // **flexibility** for group work
- // murals or museum-like **displays**
- // stools/ **furniture** to support fidgeting

- // school "living room" or **commons**
- // **writeable wall** surfaces
- // individual work zones/ **nooks**
- // a covered **outdoor** classroom
- // a dedicated **news media room**
- // different surface textures
- // places to foster **collaboration**
- // exterior **courtyards** with plantings

- // theater/ **auditorium**
- // **fields** and parks (skate park!)
- // spaces for specialized classes
- // sliding or **overhead doors** to **outside**
- // kiln for pottery and ceramics
- // **planetarium/ aquarium/ greenhouse**
- // **quiet spaces/ lounge / big library**
- // spaces to go when they feel **sad**

Whitman Middle School - Session 01



Conley & Duval Elementary Schools



**Grades 6-8**

Inspirational Ideas: Open Discussion

→ "Brain Dash!" Activity w/ Prioritization

→ "Ready, Set, Draw" Activity

**Grade 5**

"Brain Dash!" Activity w/ Prioritization

→ "Ready, Set, Draw" Activity

# Educational Visioning Recap

## Sessions 02 & 03 - Staff & Educators

**WHAT they SAID...**

*in no particular order*

- // **auditorium**
- // courtyards and/or **outdoor spaces**
- // **natural light** and big windows
- // nature/plants throughout
- // learning **pods**
- // **sinks** in all classrooms
- // modern teacher lounge
- // group **counseling space**

- // **interactive classroom/lab**
- // amphitheater
- // **fitness center** w/ running track
- // water feature/fountain
- // a **net-zero energy building**
- // news/media **broadcasting space**
- // game room
- // **zen-den** for adults

- // a **student resource center**
- // 3D printer, wifi, and huddle stations
- // open-shelved **storage**
- // **foreign language** classrooms/labs
- // library gardens
- // **wetlands discovery path**
- // spaces for **project-based learning**
- // views to the sky

Whitman Middle School - Session 02



Session 03



**Session 02**

S.C.O.G. Analysis Group Activity

→ 21st C. Design Patterns Interactive Poll

→ "Brain Dash!" w/ Prioritization

**Session 03**

Review of Session 02 Results/Responses

→ 3D "Ready, Set, Draw" using pieces

# Community Outreach

Elementary School Open Houses on August 30, 2022

## WHITMAN

### Step 1 Stay Informed.

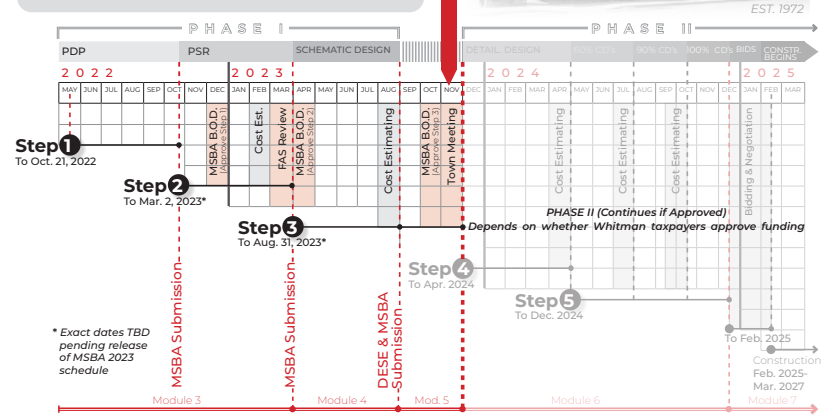
#### Frequently Asked Questions:

- Q) Has a new school already been designed? **NO**
- Q) Is this an Addition/Renovation project or a New Construction project? **TBD**
- Q) How does this affect me? The project will need to be approved for funding by the Whitman taxpayers, and then the MSBA will partially reimburse the project
- Q) Why is this happening now? The aging existing middle school does not fully meet state building codes or the needs of a 21<sup>st</sup> Century educational environment
- Q) How much will the project cost? **TBD**
- Q) What is the MSBA? The Massachusetts School Building Authority partners with communities to support the design/construction of educationally appropriate, sustainable, and cost-effective public school facilities.
- Q) Why is this happening now? The aging existing middle school does not fully meet state building codes or the needs of a 21<sup>st</sup> Century educational environment

**HOW?**  
Attend School Building Committee meetings



**NOV. 2023: Town Meeting VOTE to fund the project** & scan to stay informed



- WHITMAN MIDDLE SCHOOL BUILDING COMMITTEE**
- Frederick Small, Chair
  - Lincoln Harleman
  - Jeffrey Spymanski
  - George Ferro
  - John Stanbrook
  - Brian Stafford
  - Robert Curran
  - David Codoro
  - Don Esson
  - John Selvin
  - Randy LaMolina
  - Cryslar Regan
  - Rich Pulkkinen
  - Ernest Savoyard
  - Christopher Schelen
  - John Stanbrook

## REINVENTING MIDDLE

### Step 2 Provide Input.

We've illustrated new spaces with **5<sup>TH</sup> GRADERS**



We've imagined the possibilities with **6<sup>TH</sup> - 8<sup>TH</sup> GRADERS**

We've moved the pieces around with **WMS TEACHERS**



**Now it's YOUR TURN! (Scan to respond)**

Or visit [www.menti.com](http://www.menti.com) and enter code **9040 9818** to participate in the poll

#### Open Response Questions

**In terms of the PHYSICAL BUILDING:**  
If 5<sup>th</sup> grade students were added to the Whitman Middle School building, what's the biggest...

- 1 ADVANTAGE? \_\_\_\_\_
- 2 CONCERN? \_\_\_\_\_

#### In terms of SOCIALIZATION:

If 5<sup>th</sup> grade students joined the Whitman Middle School 6-8 students, what's the biggest...

- 3 ADVANTAGE? \_\_\_\_\_
- 4 CONCERN? \_\_\_\_\_

#### Multiple Choice Questions

5 Which grade configuration is preferred for Whitman Middle School? (PICK ONE)

- GRADES 5-8
- GRADES 6-8 (current)

6 Does an Auditorium add value to the community and to the schools? (PICK ONE)

- YES
- NO

## SCHOOL

### Step 3 Envision the Future.

#### Middle Schools for 21<sup>st</sup> Century Learning include or account for:

- Clusters of Learning
- Academic Neighborhoods
- Diverse-Use Spaces
- Moveable Walls
- Classroom Flexibility/Size
- Multi-Use Classrooms
- Distributed Resources
- Teacher Teaming
- STEM/STEAM
- Adjacencies
- Alternative Storage
- Extending the Classroom
- Staff Collaboration
- Student Socialization
- Tech-Media Distribution
- Natural Light & Views
- Indoor/Outdoor Spaces
- Gardens for Learning
- Outdoor Gathering
- Auditoriums
- Virtual Learning
- Professional Workshops
- Break-out Spaces
- Independent Nooks
- Maker Spaces
- Project-Based Learning
- Innovation Labs
- Lifelong Health & Fitness
- Varied Performances
- Learning Commons
- Hubs of Activity
- Social, Flexible Dining
- Lecture Style Learning
- Enrichment Spaces
- Layers of Transparency
- Visual Connections
- Display & Personalization
- Museum-like Installations
- Ownership & Branding
- Story-telling & History
- The Building as a Teacher
- Ubiquitous Technology
- Curb Appeal
- Greeting & Gate-keeping
- Safety & Security
- Wayfinding
- Universal Design & Access
- Collaboration Spaces
- Sustainable Design
- Net-Zero Energy
- Community Resources
- ...and more!



All for the benefit of the students, staff, school district, parents, and community



# Grade-Level Configuration

Initial Rationale for Existing and Proposed



## Grade 5 at ELEMENTARY SCHOOLS

- // Students get one more year at a neighborhood school
- // 5<sup>th</sup> grader is a mentor for the 1<sup>st</sup> grader
- // Bus and drop-off/pick-up remain the same for those students
- // Programs remain the same

## Grade 5 at WHITMAN MIDDLE SCHOOL

- // By 5<sup>th</sup> grade, students have outgrown elementary sized spaces
- // 5<sup>th</sup> grade maturity more in line with middle school age than elementary age; less gap
- // Without grade 5, space becomes available at the elementary schools
- // 4<sup>th</sup> grader becomes a mentor for the 1<sup>st</sup> grader
- // 5<sup>th</sup> graders benefit from middle school spaces, like S.T.E.A.M. (science, technology, engineering, arts, and math)
- // 5<sup>th</sup> grade teachers would be at one school instead of two
- // 4 consecutive years at the same middle school, aiding identity & relationship growth
- // Provides same transition time as high school (4 years)

# Grade-Level Configuration

## Grade **5** at **WHITMAN MIDDLE SCHOOL**



### ADVANTAGES?

// 5<sup>th</sup> graders gain access to spaces, academic, and extracurricular programs not available at elementary level:

- science labs
- technology/engineering labs
- art/music enrichment spaces (auditorium, practice rooms)
- sports teams
- after-school clubs

// Separated gathering spaces for controlled interactions

// Opportunity to organize into a lower and upper academy

// Helps ease student transition from elementary to middle school environment...

**prior to their social/emotional & physical developmental changes**

// Including 5<sup>th</sup> grade provides access to educational resources for a greater amount of students within the WHRSD

### CONCERNS?

// Physical size differences of students across grade levels

// Exposure to mature conversations

// Close proximity of different ages on the bus simultaneously

// Vulnerability of younger students at the middle school level

// How the grade levels would be configured

# Virtual Live Polling

Visit [www.menti.com](http://www.menti.com) and enter code **9040 9818** to participate in the poll



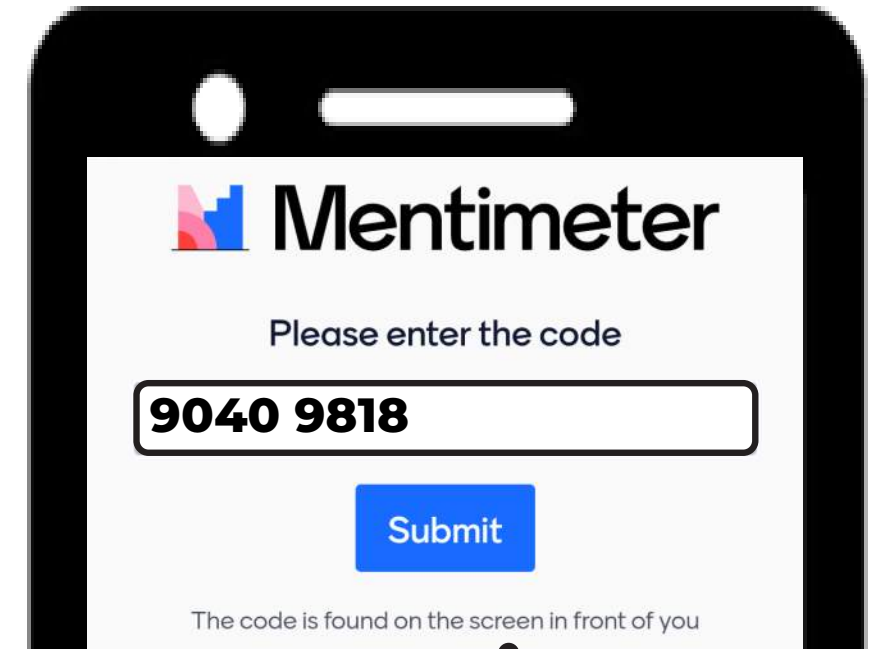
## Step 1

On your  
phone/ tablet/  
computer



## Step 2

Visit the  
Mentimeter  
website



## Step 3

Enter code  
**9040 9818**  
and take poll

# Virtual Live Polling

Visit [www.menti.com](http://www.menti.com) and enter code **9040 9818** to participate in the poll



## Open Response Questions

### In terms of the PHYSICAL BUILDING:

If 5<sup>th</sup> grade students were added to the Whitman Middle School building, what's the biggest...

- ❶ **ADVANTAGE?** \_\_\_\_\_
- ❷ **CONCERN?** \_\_\_\_\_

### In terms of SOCIALIZATION:

If 5<sup>th</sup> grade students joined the Whitman Middle School 6-8 students, what's the biggest...

- ❸ **ADVANTAGE?** \_\_\_\_\_
- ❹ **CONCERN?** \_\_\_\_\_

## Multiple Choice Questions

❺ Which grade configuration is preferred for Whitman Middle School?  
(PICK ONE)

- GRADES 5-8**
- GRADES 6-8**

❻ Does an Auditorium add value to the community and to the schools?  
(PICK ONE)

- YES**
- NO**



# Site Analysis

## To Inform Options

// Initial Design Intentions:

/ Most efficient solar orientation  
for classroom wings and entry

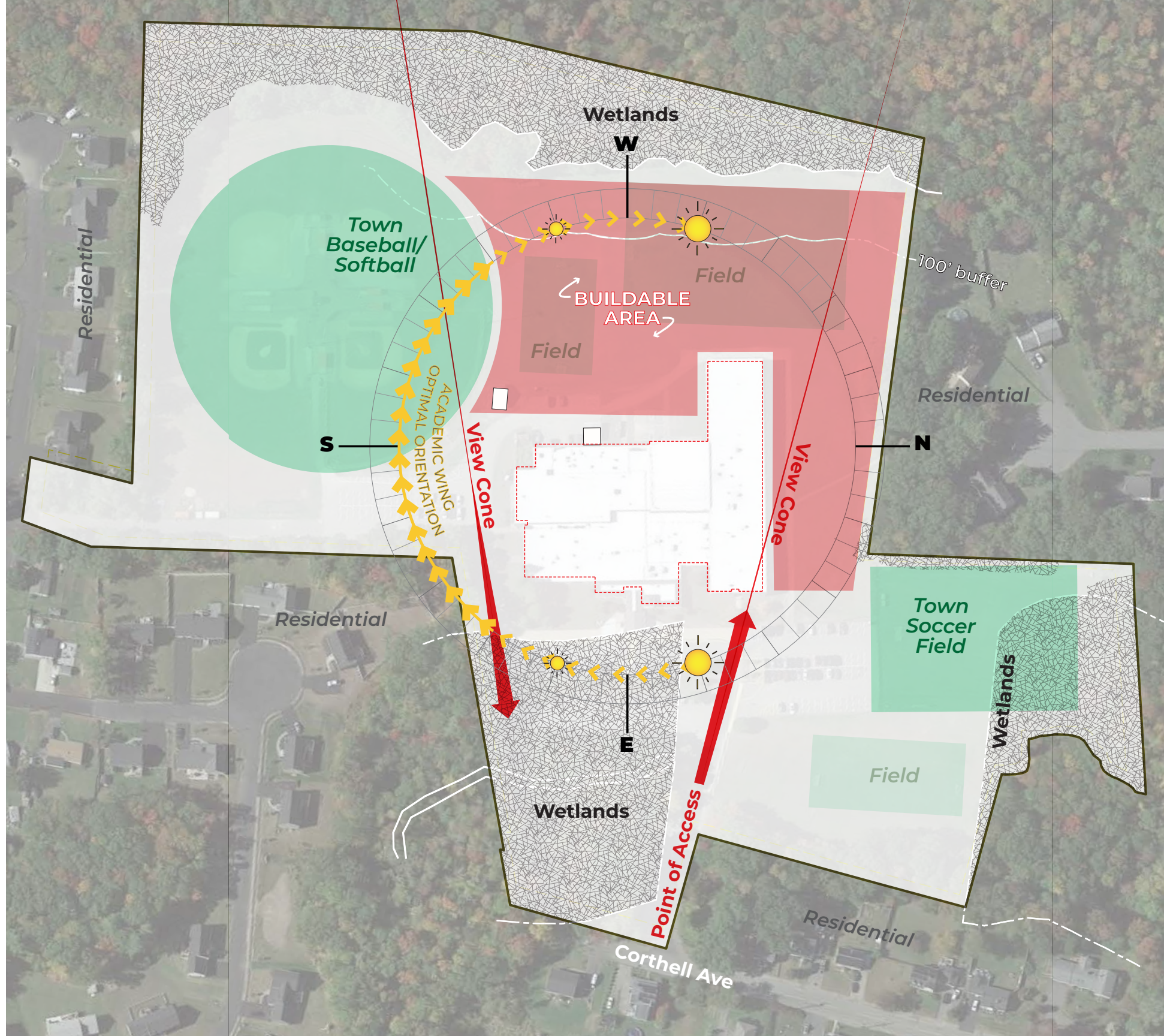
- Occupant thermal comfort
- Reduces HVAC loads

/ Maintain visibility to point of  
access for security, students,  
staff, parents, and visitors

/ Avoid restricted wetland areas  
and buffers (unless previously  
developed)

// Initial site concepts strive to  
minimally disrupt existing Town  
fields

// Concepts are diagrammatic  
and do not represent a hard  
building form



# Preliminary Evaluation of Options - Matrix

The PDP Submission will consider the following:

**DRAFT**

#	Grades	Option for Consideration	Enrollment	Gross SF	Reno. SF	Add/New SF	Total Est. Cost
1	6-8	BASE REPAIR	514 (current)	105,004 sf (current)	N/A	N/A	
2	6-8	ADDITION/RENOVATION	515	126,974 sf	100,484 sf	26,490 sf	
3	6-8	ADDITION/RENOVATION (w/ Auditorium)	515	130,046 sf	90,511 sf	39,535 sf	
4	6-8	NEW CONSTRUCTION	515	110,211 sf	N/A	110,211 sf	
5	6-8	NEW CONSTRUCTION (w/ Auditorium)	515	114,956 sf	N/A	114,956 sf	
6	5-8	ADDITION/RENOVATION	675	143,281 sf	105,004 sf	38,277 sf	
7	5-8	ADDITION/RENOVATION (w/ Auditorium)	675	147,049 sf	89,773 sf	57,276 sf	
8	5-8	NEW CONSTRUCTION	675	131,103 sf	N/A	131,103 sf	
9	5-8	NEW CONSTRUCTION (w/ Auditorium)	675	137,494 sf	N/A	137,494 sf	



# 21<sup>st</sup> Century Middle Schools

# What is 21<sup>st</sup> Century Middle School Design?

An assemblage of collaborative, flexible, technological, social-emotional spaces + more!



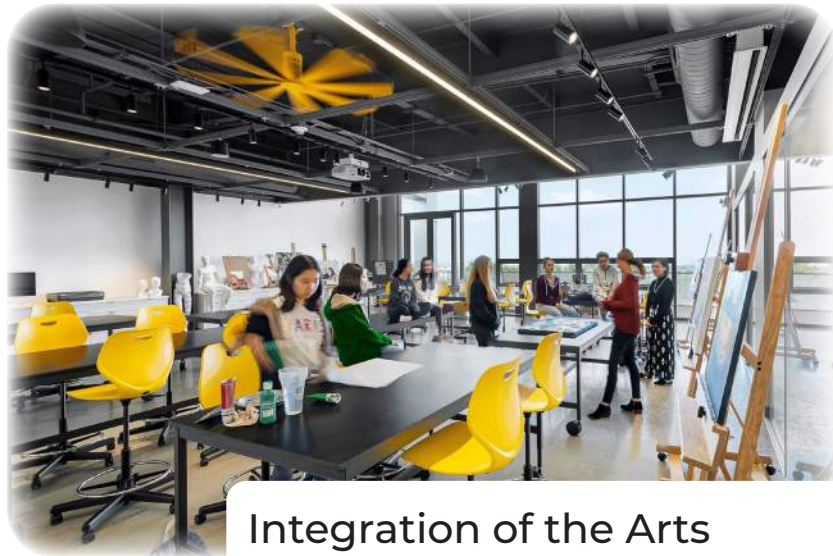
Indoor/Outdoor Connections



Maker Spaces & Labs



Integrated Classroom Tech.



Integration of the Arts



Academic Commons



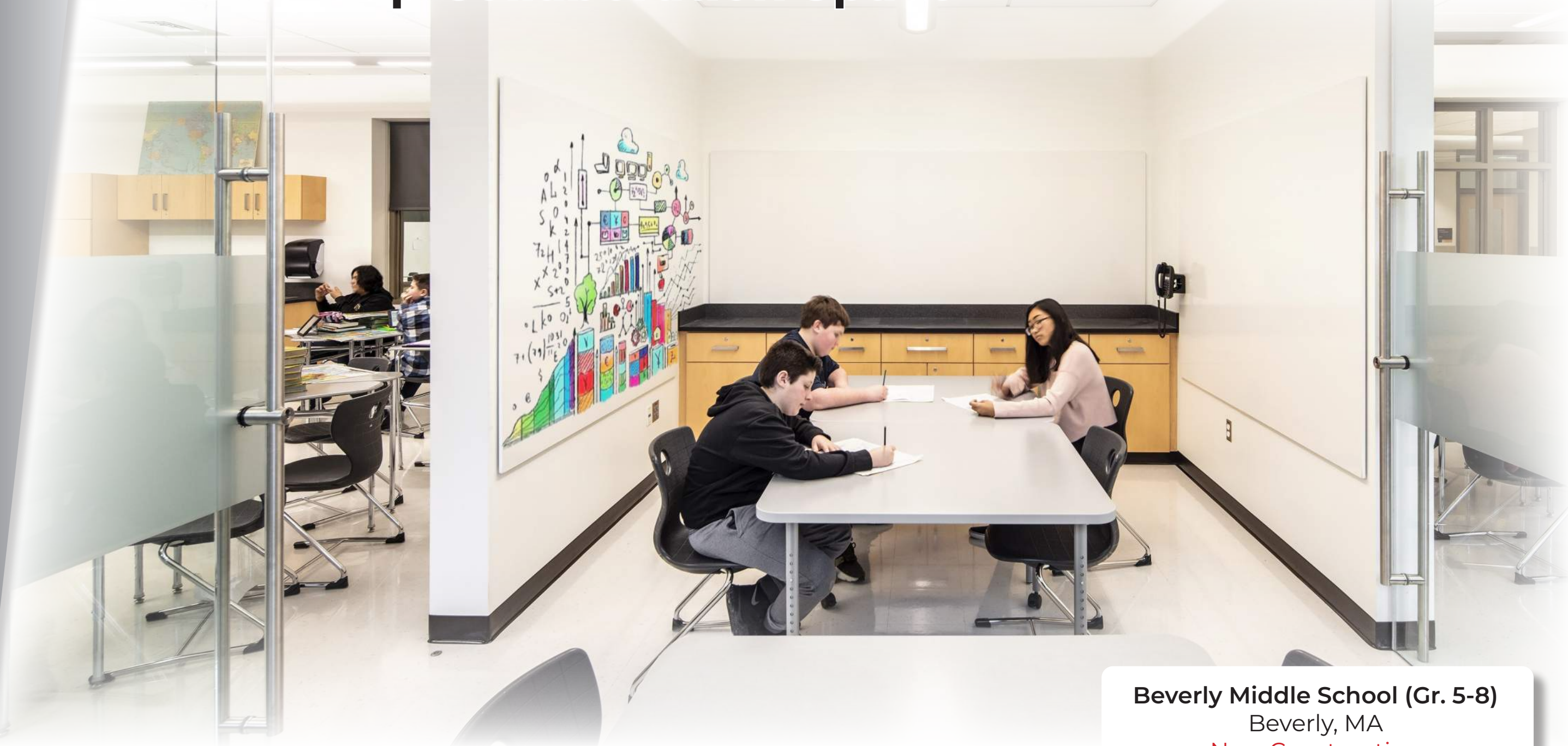
Social-Emotional Spaces

# Classrooms w/ Integrated Technology



**Kennedy Middle School (Gr. 5-8)**  
Natick, MA  
New Construction

# Small Group Collaboration Space



**Beverly Middle School (Gr. 5-8)**  
Beverly, MA  
New Construction

# Spaces for Independent Learners



**Beverly Middle School (Gr. 5-8)**  
Beverly, MA  
New Construction

# Spaces to Support STE Curriculum



**Kennedy Middle School (Gr. 5-8)**  
Natick, MA  
New Construction



# Project-Based Learning Spaces



**Beverly Middle School (Gr. 5-8)**  
Beverly, MA  
New Construction

# Music, Performance, & Lecture Space



**Abington Middle-High School**  
(Gr. PK, 5-12) Abington, MA  
New Construction

# Spaces Specific to School Culture



Plymouth South High School  
Plymouth, MA  
New Construction

# Details Specific to School Personality



**Abington Middle-High School**  
(Gr. PK, 5-12) Abington, MA  
New Construction

# Details Specific to the Community



Abington Middle-High School  
(Gr. PK, 5-12) Abington, MA  
New Construction

# Media Centers



**Cardinal Spellman High School**  
Brockton, MA  
Renovation

# A Warm & Welcoming Environment



CADIGAN HALL

**BC High School, Cadigan Hall**  
Boston, MA  
Addition/Renovation

# Upcoming Milestones

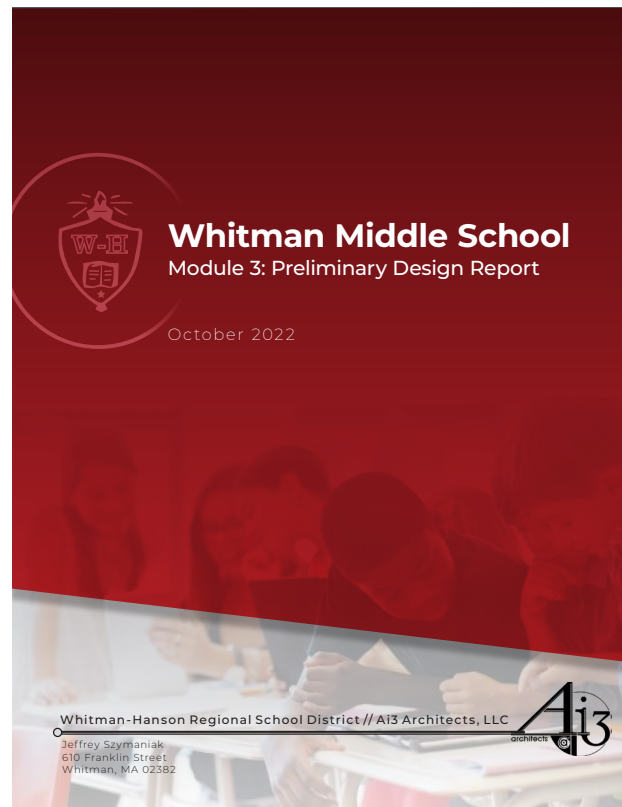
Dates & Content

## PDP Submission

FRIDAY

# OCT 21, 2022

## Report Due to MSBA



Submission of the PDP (Preliminary Design Program) Report

## Community Forum #2

# TBD

## Whitman Middle School Cafeteria

[For all interested Community Members]

Visit [WHRSD.org](http://WHRSD.org) and the **feasibility study** page to continue to stay informed







# Questions?

Thank you

