Overview of Existing Conditions and School Needs

- **Educational/Operational Needs**
- **Existing Facility Deficiencies**
- **Facility Inefficiencies**

*Why do the **buildings need** to continue **to evolve**?*

The current facilities are falling short of meeting educational and operational goals

2

Overview of Existing Conditions and School Needs
Operational / Programmatic Needs

*"The **sprawl** really **impacts** the **feeling of being a tight-knit school community**. I can **go days without seeing** some **colleagues**. Totally **impractical in terms of maximizing the school day."***
— PC Teacher

*The current design of **CEMS hinders teachers' ability to offer programming and provide a safe environment to students** on a daily basis. We are **constantly jumping through logistical hurdles** for events, collaborations, and daily teaching – it is truly draining. We work so hard to make the best of what we have, but we spend so much time, effort trying to fit our programming into a building that is simply not built for it. We've reached the breaking point where **our facilities are negatively impacting students' education** on a daily basis.*
– CEMS Teacher

Educational Program Report: Barriers to Education & Key Priorities

Key ES and MS Priorities:

1. _Safety & Security:_ **Comprehensive approach needed - building and site.** Students and staff feeling safe allows them to focus on teaching and learning.

2. _Site Plan:_ **Safer and more efficient** vehicle and pedestrian movement **needed**.

3. _Teaching and Learning:_

   - Many current **classrooms do not support modern teaching & learning** due to their size, age, & design.

   - **Lacking flexible space in classrooms & schoo**ls for collaborative, project-based, integrated, hands-on learning opportunities.

4. _Layout:_ Both are sprawling & CEMS is confusing. Neither is conducive to student, teacher, staff and admin **collaboration** within classrooms & within the school building.

Main Entrance – safety & security

Classroom – lacking space & flexibility

Educational Program Report: Barriers to Education & Key Priorities

4. _Main Offices_

   - Are not connected and /or located at the front entrance **posing a significant management & safety challenges**.

   - Updated offices and main entrances will allow for a "safety-first" design. Sight lines to the parking lot, parent drop-off, and bus loop are imperative. A suite style office would improve privacy & efficiency.

5. _Nurse Clinic:_ modifications are needed to allow for a private connection to main office, have more private exam areas, access to natural light, have closer proximity to an entry/ exit door to allow for ambulance access and closer proximity to all grade levels.

6. _Natural Light:_ The **buildings do not have much natural light**, either in the hallways or in some classrooms. Natural lighting is a critical component of effective learning environments and the climate/culture of a school.

Educational Program Report: Barriers to Education & Key Priorities

7. _Cafetorium:_ Shared by CEMS and Pond Cove. **Entire schedule is built around an hour window during which students in all four grade levels must be served and eat lunch.** (Food deliveries through hallway of middle school – safety concern).

8. _Storage Problems:_ Adequate storage in the vicinity of staff who utilize it is paramount to a smooth and efficient workflow.

9. _Technology Upgrades:_ A future-focused design will ensure classrooms & other learning spaces have the latest technology to promote inquiry, analysis, collaboration, creativity, communication & preparation for future careers.

10. _HVAC:_ The ineffectiveness, age and sound levels of the current HVAC system has direct & negative impacts on student and staff.

"We need a welcoming environment that improves the social and emotional well being of students and staff, provides enough space to accommodate meal scheduling that allows for desirable educational flow of the school day"
– Teacher

Address Educational Barrier –

- *Why do we need to address educational barriers? To allow our students to unleash their full untapped potential when they enter the working world.*

- *How? We design a future-focused schools and classrooms that serve a variety of learning styles and needs, enable coloration and project – based group problem solving, allow for movement and provide flexibility for years to come.*
  - *Our current buildings make collaborating and flexibility very challenging*

Overview of Existing Conditions and School Needs

Existing Facility Deficiencies

The school department has aging school infrastructure that is failing and affecting the safety and wellbeing of occupants as well as weighing heavily on operating budgets

SCHOOL LEGEND
- ES
- MS
- SHARED

Harriman
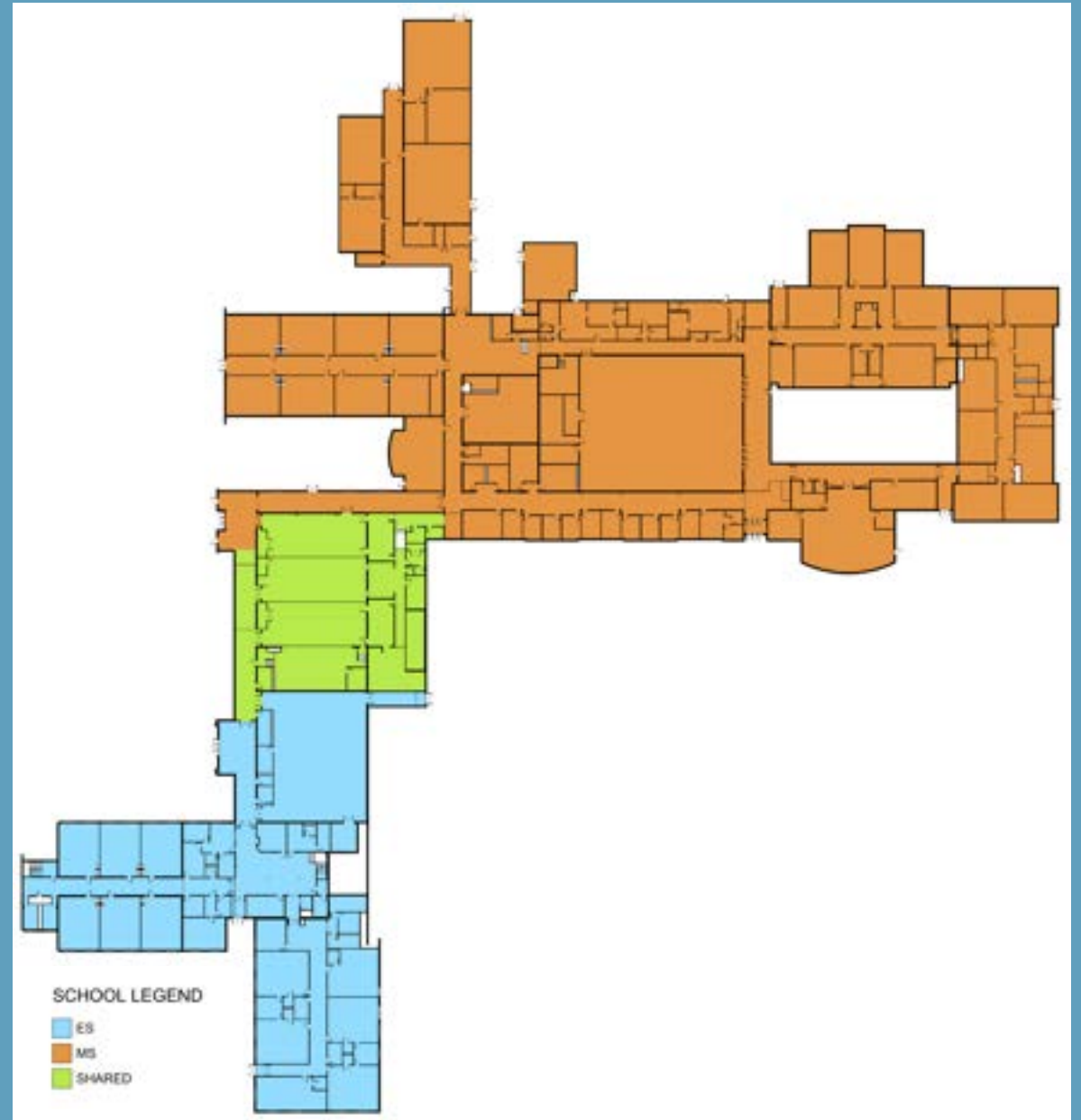
Existing Facility Deficiencies

SITE DEFICIENCIES

- Nothing to prevent public access onto playground from Scott Dyer Road during school hours

- Library patio with public access immediately adjacent to site

- People drive on pedestrian walkway between bus and parent loops

- Not enough queuing space for parent loop

- ES PE does not have enough outdoor space because site shared with MS

- Outdoor learning space use inhibited by not having coverage

- Site lines of drop off from main office.
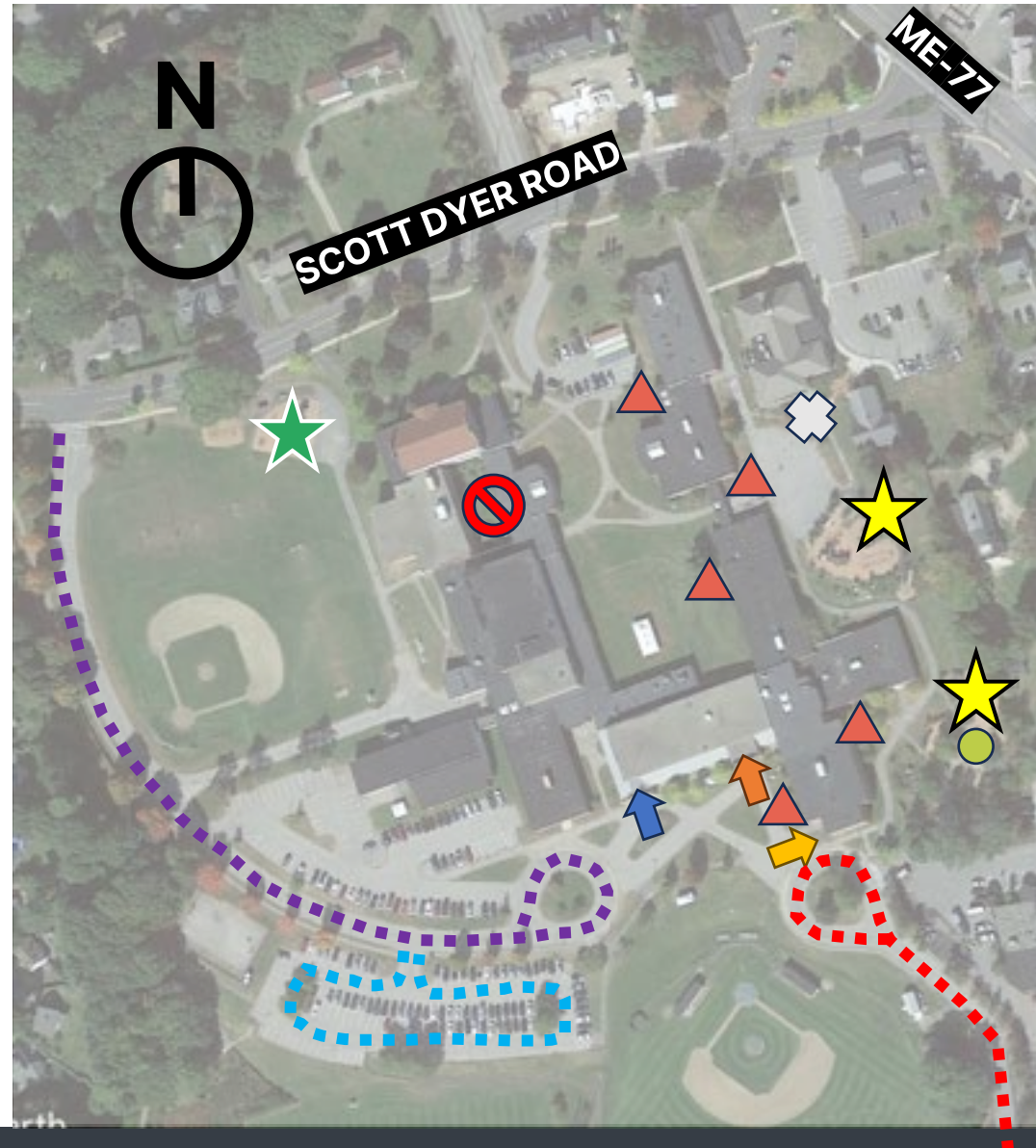
LEGEND

🚫 MS Courtyard cannot be used due to egress

⬡ Library Patio (Public Adjacent to Site)

🟢 Gazebo

⭐ ES Play Area

★ MS Play Area

🔺 Outdoor Learning Area

••••• Parent Drop Off

••••• Parents Must Snake Thru Parking at Pick Up

••••• Bus Drop Off

➡ MS Main Entry

➡ ES Main Entry

➡ 1st/2nd Grade Entry

Harriman

Existing Facility Deficiencies

SAFETY AND SECURITY

- **Comprehensive site and building approach needed.**

- **Distance from main entry to office**

- **Lack of separation of private and public spaces**

- **Lack Secure vestibules**

- **Deliveries traversing through school**

- **Lack of compartmentalization of school**

- **Lack of zoned public address**

- **1994 addition done prior to Columbine.**

- **And more.**

LEGEND
- ADMINISTRATIVE
- ATHLETICS
- AUXILIARY
- CLASSROOM
- EGRESS
- FINE ARTS
- KITCHEN/DINING
- SPECIAL SERVICES

▶ Main Entry
◁ Service Entry
🔴 Main Office

MS Gym

MIDDLE SCHOOL

MIDDLE SCHOOL

SHARDE SPACE

Cafeteria

Kitchen

ELEMENTARY SCHOOL

ELEMENTARY SCHOOL

ES Gym

MIDDLE SCHOOL MAIN ENTRY, CAFETERIA ENTRY, LONG HALLWAY TO MS MAIN OFFICE

*upgrades to camera system, communication systems, and entry doors have been made.
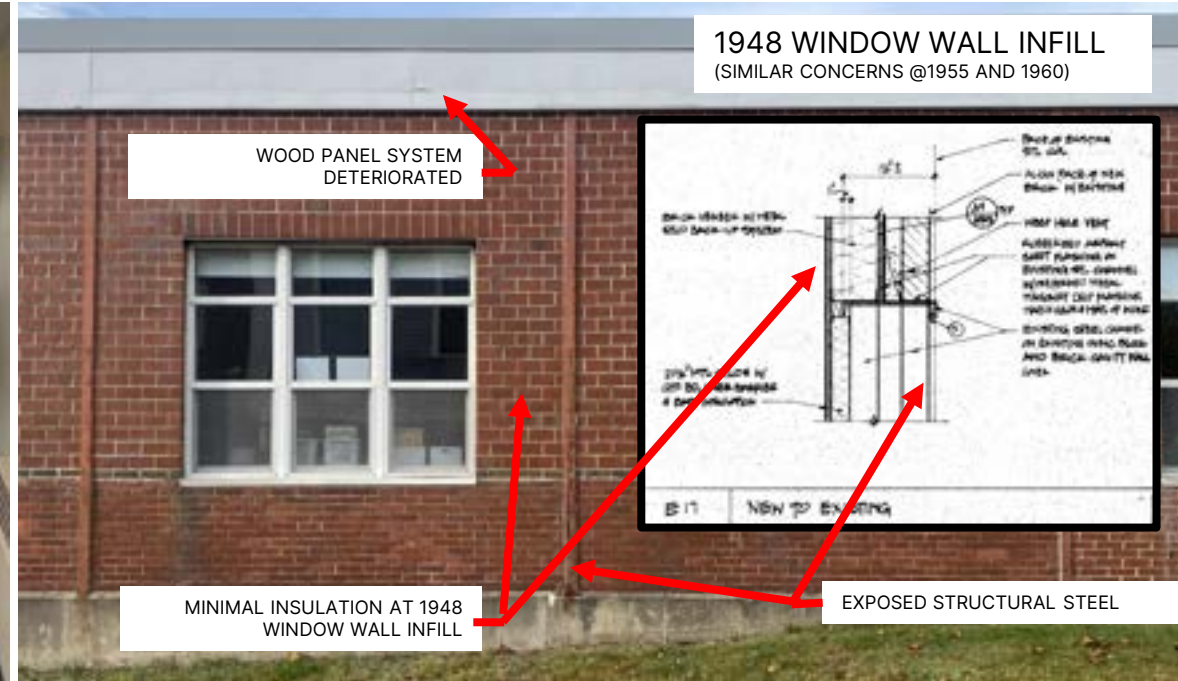
Harriman

Existing Facility Deficiencies

Exterior Envelope

- **Water intrusion**

- **Thermal Bridging**

- **Deterioration**

- **Insulation Values not Code compliant**

ADA accessibility

- **Restroom approach**

- **Door clearances**

- **MS Lack of dual height drinking stations on each floor.**

- **Misc. fixture flush handles and grab bar locations**

- **And more**

LACK OF REQUIRED ADA CLEARANCES

LACK OF REQUIRED DUAL HEIGHT DF

1948 WINDOW WALL INFILL
(SIMILAR CONCERNS @1955 AND 1960)

WOOD PANEL SYSTEM DETERIORATED

MINIMAL INSULATION AT 1948 WINDOW WALL INFILL

EXPOSED STRUCTURAL STEEL

1962 LUNT BLDG ('94 RENO) - LOOSE PRECAST WINDOWSILLS DUE TO INPROPER PLACEMENT OF FLASHING (ONE BRICK COURSE BELOW SILL, TRAPPING WATER & FREEZE THAW ACTION DESTROYED MORTAR JOINTS AT BRICKS & SILL.

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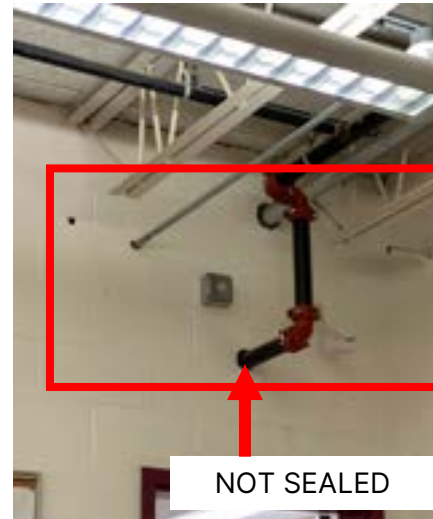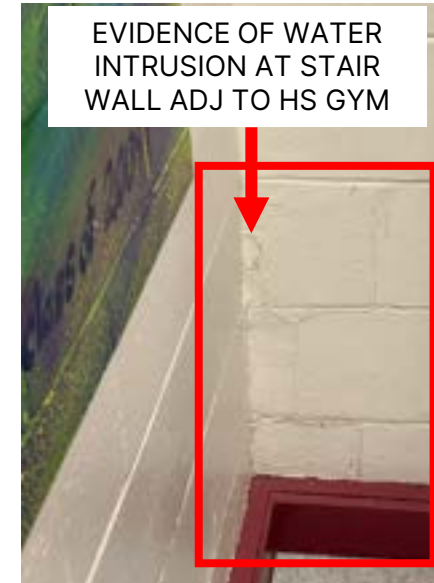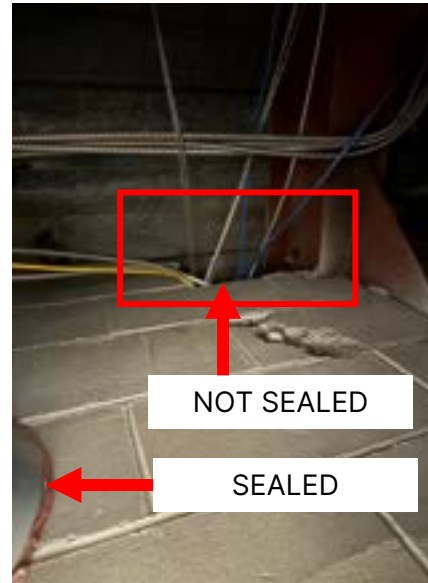# Existing Facility Deficiencies

Fires and Smoke separation

- **Fire and smoke separation not code complaint.**

High School Gym Floor

- **Installation**

- **Moisture / Humidity**

- **Signs of Water intrusion**

HS Water Entrance

- **Repair the leaking water piping in the high school water entrance room.**

NOT SEALED
SEALED

EVIDENCE OF WATER INTRUSION AT STAIR WALL ADJ TO HS GYM

EXPANSION GAP TO SMALL OR NON EXISTANT IN HS GYM
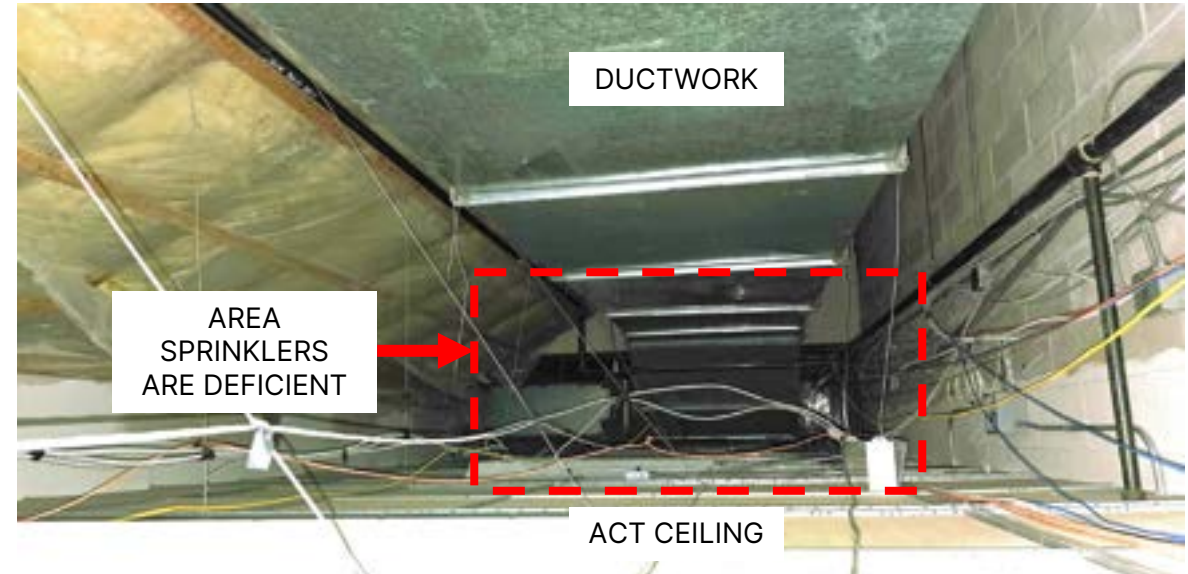

NOT SEALED

LEAKING WATER

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Existing Facility Deficiencies

Fire suppression

- **Install sprinklers below ductwork above the ceiling of the middle school corridor**

- **Install a fire protection system in the pool building addition.**

HS Water Entrance

- **Repair the leaking water piping in the high school water entrance room.**

DUCTWORK

AREA SPRINKLERS ARE DEFICIENT

ACT CEILING

SRINKLERS IN THIS BUILDING

NO SRINKLERS IN THIS BUILDING

HIGH SCHOOL

POOL

Harriman

Existing Facility Deficiencies

Aging Mechanical Equipment

- Rooftop Heat Recovery Units (ERVs) at Middle/Elementary School have **aged out and need to be replaced**. Some are **loud** and others are **corroding from the inside out**.

- **Overall aging equipment**

- **Lack of heat in the 4th grade wing.** May require an upgrade to the main pumps.
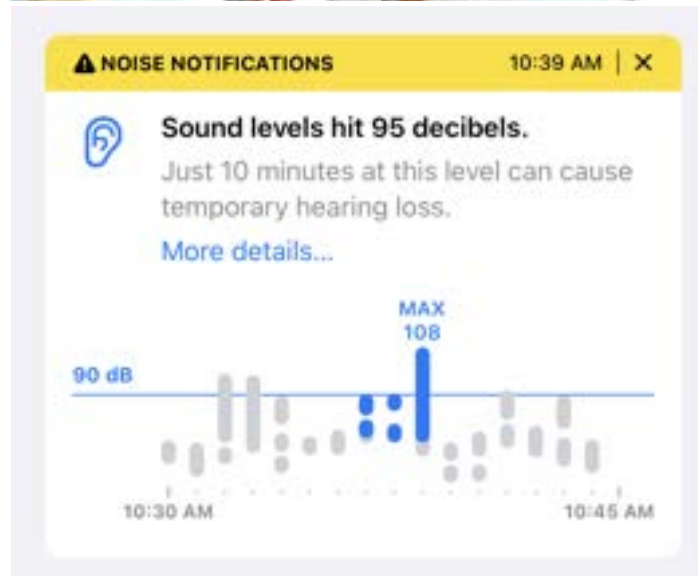
MS/PC: HRU-3 is loud (108 dB at the fan as measured by iPhone).
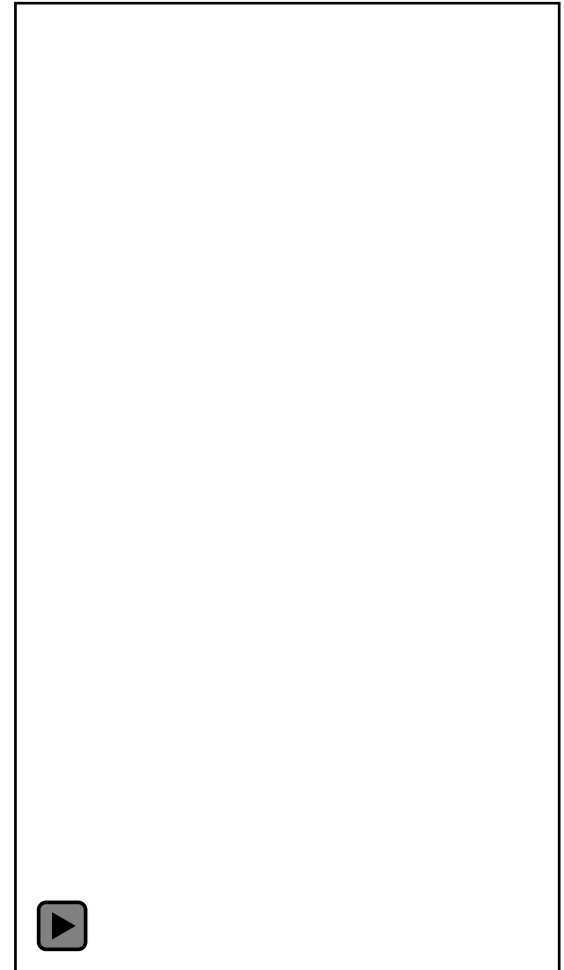
Existing Facility Deficiencies

Metal Shop Upgrades

- Provide exhaust capture systems for metal shop.

- Gas tank storage

Thermal Comfort

- Provide cooling where it is deemed appropriate.

High school ventilation

- Upgrade High School unit ventilators to **provide more outside air. Existing UV provides an average of 250 CFM of outdoor air. Current standards** for a 25-occupant classroom require **340 CFM.**

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Existing Facility Deficiencies

Egress Lighting

- Replace aging emergency egress lighting system with remote battery head LED units in all buildings.

Firm alarm

- Add additional Fire Alarm Audio/Visual appliances (Horn Strobes) in all classrooms (current distribution is inconsistent) and multi-stall bathrooms in accordance with NFPA 72 and ADA requirements in all buildings. Add smoke detectors at FACP panels (MS/ES) and carbon monoxide/gas detection to kitchen areas in all buildings. Add additional Fire Alarm Annunciators to MS and ES (per Fire Department's request).

Overview of Existing Conditions and School Needs
Facility Inefficiencies

The school facilities are inefficient, expensive to operate, and don't meet today's standards for environmental sustainability

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Identified Efficiencies

ARCHITECTURAL

- **Low-Maintenance Materials** (flooring that does not require stripping & waxing)

- **Wayfinding & Circulation** (minimized travel distance to increase learning time)

- **Increase Thermal Value of Building Envelope** to Code Minimum or Better

- **Increase Daylight** in Areas to Minimize Electric Use

MECHANICAL

- All schools: **Energy Recovery Unit** (for units with outdoor air, if required by ASHRAE 90.1)
- ES/ MS: **Reseal Ductwork**
- MS: **Reinsulated Pipes & Ducts** (in mech & boiler rooms)
- HS: **Relocate CUH Wall Temperature Sensor**
- HS: **Upgrade Kitchen Hood** to Variable Speed

Note: Most items on the facilities list address deficiencies in the system such as lack of heating, cooling, control, fresh air. Fixing these issues might actually increase energy consumption.

ELECTRICAL

- **Providing Middle School with LEDs would be at the top of the electrical list** (Pond Cove and HS have already been converted)

- **Add additional lighting controls in all buildings** (dimming, time clocks, occupancy sensors, etc.)

- **Add electrical meters for each separate building as a key item** in order to properly assess energy usage.

Identified Efficiencies (Cont.)

NATURAL GAS

- **Natural gas could be beneficial.** Based on the Colby report, the two schools consumed 167,000 gallons of oil at $3.60/gallon or $2.60 per therm. Using a G42 gas rate schedule from Until, natural gas will cost around $1.20 per therm. **This could save the schools around $330,000 annually. All figures should be confirmed. These savings represent a conversion from oil to natural gas. Costs to bring natural gas to the site**, install in each building, and covert the burners will **require further analysis** to determine estimated costs.

- **Regarding increased efficiencies.** The boilers are design for minimum supply water temperatures around 170 deg F. In order to get the benefits of high efficiency gas boilers year-round (93% +/-), **they would have to be replaced and operate at supply water temperatures around 130 deg F. The equipment in the schools is designed for 180 deg F and would have to be replaced throughout both buildings. The costs to convert all heating equipment would be cost prohibitive.** There might be some benefit in the shoulder seasons, but the boilers will be operating at normal efficiencies (85% +/-) during most of the heating season.

The Educational Visioning Process

Translating the educational needs into architecture

What should we do about it?

- Take the updated conditions data and community input and finalize a list of prioritized goals for improvements to the school department's facilities

- Come up with creative options for meeting the needs that reflect the community's goals