



# New Holstein School District Facility Audit



February  
2019

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# HISTORY

**CESA 10 FACILITIES MANAGEMENT DEPARTMENT** - Established in Wisconsin in 1964, Cooperative Educational Service Agencies (CESAs) have a long history of partnering with school districts. CESA 10 Facilities Management Department (CESA FM) is a nonprofit educational service agency providing facilities management services to local government and school district customers throughout the state of Wisconsin.

With decades of experience and expertise in managing institutional facility needs, CESA FM helps to ensure customers benefit from CESA FM's trusted and unbiased judgment and experience gained through the execution of hundreds of investment grade audits, school energy efficiency, construction, renovation and environmental projects, and other facilities services.

CESA FM assists public entities in the management of their facilities needs in the areas of health, safety, energy efficiency, referendum and long-term planning, and construction management. The department's main areas of concentration are:

- **Investment Grade Audits including Long-Term Comprehensive Plans**
- **Referendum Planning**
- **Construction Management**
- **Owner's Representative**
- **Energy Management**
- **Environmental Health and Safety Consulting**
- **Environmental Project Consulting and Management**

CESA FM's vast knowledge of school facilities, coupled with a nonprofit mission to serve, makes a partnership with CESA FM a natural step in developing long-term facility solutions across school and government facilities. CESA FM shares a commitment to customer empowerment through customer-protective processes and customer-oriented solutions.

**MISSION** - With an entrepreneurial mindset and a nonprofit fee structure, CESA FM provides *Safe, Healthy, Efficient, Comfortable, Energy and Resource Conscious* environments for school and government entities through shared knowledge, linkage to resources, and sustainable actions.

**VISION** - Efficient buildings, safe people, healthy environments, sustainable change.

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# INVESTMENT GRADE AUDIT PROCESS

Investment grade audits consist of facility-wide analyses that culminate in the quantification of project costs for educational, technological, infrastructure, and maintenance concerns. CESA FM's audits also include potential costs and energy savings as well as a prioritization tool. CESA FM's specific team approach focuses on customer input and includes the following steps:

- 1 Analyze energy use and building characteristics for a preliminary benchmarking analysis.** This involves analyzing historical utility use and cost and development of the energy utilization index (EUI) of the buildings and to compare the buildings' EUI to similar buildings.
- 2 Identify possible facility improvement measures (FIMs) and maintenance needs.** Based on energy usage, plan review, maintenance logs, past projects, safety issues, and staff input, CESA FM identifies possible projects and current and long-term maintenance needs.
- 3 Create a detailed facility audit.** This assesses current energy costs, condition, safety and compliance issues, and efficiency by carefully surveying each building. This analysis identifies low-cost/no-cost measures, capital improvements, and maintenance tasks that merit further consideration.
- 4 Confirm FIMs using an energy analysis, examining efficiency and infrastructure, and researching potential costs and savings.** This includes a more detailed building survey and energy analysis, including a breakdown of energy use in each building, a savings and cost analysis of all practical measures that meet the District's needs and constraints, and a discussion of any effect on operation and maintenance procedures. It also lists potential capital-intensive improvements that require more thorough data collection and analysis, along with an initial judgment of potential costs and savings.
- 5 Gather additional information as needed including a detailed analysis of capital-intensive modifications.** This step focuses on potential capital-intensive projects identified earlier in the process and involves more detailed field data gathering and an engineering analysis. It provides detailed project costs and savings information with a level of confidence high enough for major capital investment decisions.
- 6 Create and present the report to District and/or Board.** The CESA FM certified energy auditor will bring in subject matter experts (i.e. electrical, technology, environmental health, and safety), provide photographic documentation, and perhaps of most value, create a report of detailed, prioritized recommendations in a flexible format tool that can pivot based on District, Board, and community decisions regarding how to proceed.

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# PRIORITIZATION FACTORS

In order to properly prioritize each building system and component District-wide, an assessment tool based on four criteria is utilized. The rationalization for each criterion is outlined below. Criteria are weighted, after discussion with District administration, to reflect current school and community priorities and funding sources.

## Criteria 1

### SAFETY/HEALTH/COMPLIANCE ISSUES

Staff and student health and safety are critically important. Examples of building systems or components that received priority because of safety, health or compliance concerns that need to be addressed include:

- HVAC Systems
- Building Envelope Maintenance
- Hardscapes & Landscapes
- Exterior Doors
- Lighting
- Windows
- Flooring

**Air quality makes a difference in learning** - There are many benefits to prioritizing safety, health, and compliance issues. Results of poor indoor air quality in schools are documented on the EPA website: <http://www.epa.gov/iaq/schools/benefits.html>.

#### Excerpts from the EPA website:

**Leaky roofs:** *Problems with heating, ventilation and air conditioning systems; insufficient cleaning or excessive use of toxic cleaning chemicals; and other environmental issues can lead to poor IAQ and trigger health problems like asthma and allergies.*

**Ability to Perform:** *Research shows a school's physical environment can affect academic performance. Controlled studies show students perform school work faster as ventilation rates increase. The performance of teachers and staff also improves with higher ventilation rates.*

**Test Scores:** *Students in classrooms with higher fresh air ventilation rates tend to achieve higher scores on standardized tests in math and reading than students in poorly ventilated classrooms.*



**Criteria  
2**

**MATERIALS IN CRITICAL CONDITION/LACK OF FUNCTIONAL CONDITION**

Closely related to safety, health, and compliance, the next criterion used to prioritize facility needs is equipment or materials in critical condition. Items with a high probability of failure in the short-term can generate much higher expenses and a variety of other issues if they are not taken care of promptly. For instance, failure to replace a roofing system now could generate much higher costs due to mold and water damage in the future. This criterion encompasses both the functional condition and remaining useful life of the facility and/or equipment.

**As aptly stated in *Save a Penny, Lose a School*, published by the Rural Trust Policy Brief Series on Rural Education:**

*Reduced funding affects the quality of maintenance in many ways. Schools may be reluctant to follow manufacturers' recommendations if equipment seems to be functioning properly, but neglecting routine maintenance may reduce the life of the machinery and systems, increase the cost of operating them, and decrease their level of performance.*

*Proper maintenance is an important issue because deferring maintenance affects the health, safety, and morale of everyone who uses the facility, as well as the cost of operations. If the building requires extensive repairs, renovation, or replacement, deferred maintenance may even force its closure.*

**Criteria  
3**

**PROJECTS WITH LONG-TERM FUTURES/RETURN ON INVESTMENT**

After immediate needs and health/safety projects are completed, facilities with the highest probability of long-term use should be invested in. This may include long-term planning items such as investing in proper ventilation, windows, and gym flooring in the elementary school; upgrading the auditorium in the middle/high school; and installing new lighting and controls in both buildings.

**Criteria  
4**

**PROJECT COST/PAYBACK CONSIDERATIONS**

Long-term vision is also a factor for project prioritization. For instance, investment in a new heating system may be a wise choice to avoid utility costs, maintenance costs, and the need for multiple upgrades to the system in a short period of time. Additionally, relatively low-cost lighting and controls projects can start saving energy immediately, have fairly short paybacks and long-term savings.

Projects that have been prioritized by this study encompass many systems including each building's exterior and structure, interior and exterior doors, HVAC equipment, lighting, flooring electrical, and plumbing. These upgrades will provide a return on investment from reduced maintenance, lower utility usage, and lower liability and training obligations, all while improving safety, occupant comfort, and providing the best possible learning environment for students.

## EXECUTIVE SUMMARY

At the request of the New Holstein School District, CESA FM technical experts performed a detailed on-site audit of the elementary school and the middle/high school. This audit provides the District with a comprehensive facilities maintenance and capital project plan, complete with identified problems, proposed solutions, and estimated costs. The recommendations in this report aim to improve failing and inefficient equipment, identify needed maintenance, and reduce energy consumption to ensure any taxpayer investment is managed within an appropriate payback period.

According to a recent State of our Schools report released by the Center for Green and Healthy Schools, schools around the nation should be spending around \$145 billion annually to maintain, operate, and renew facilities so they can provide healthy and safe 21st-century learning environments for all children. While on a national level that number is ideal, local districts know their available funding options often fall short of maintenance wants and needs. Therefore, it is imperative that districts engage in proper facilities planning. Planning can include things like:

- Having an up-to-date master facilities plan
- Preparing annual district-wide maintenance, repair, and energy management plans
- Defining and disseminating benchmarks for facilities planning
- Analyzing existing and potential technical assistance and tools, environmental health and safety hazards, and ADA-compliance issues
- Establishing a school district facilities planning designee or committee

The New Holstein School District has done an effective job at utilizing the existing equipment in the buildings to the best of their working ability. Some equipment is reaching, or past, the end of its life and should be planned for replacement to ensure the equipment does not fail when the school is counting on it to create a safe and comfortable environment for students and staff. Common themes throughout the audited buildings include needed improvements in HVAC distribution, lighting, flooring, windows, hardscapes (concrete and asphalt), and building envelope.

The recommendations included in this report are meant to help the District conserve energy, reduce operating and maintenance costs, and improve occupant comfort and safety where applicable. This report will serve as the perfect complement to the 10 Year Capital Improvement Plan the District currently utilizes to strategically plan and budget for equipment replacement and building renovations.

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# DETAILED ANALYSIS OF FACILITIES

## DISTRICT-WIDE FACILITY ANALYSIS



The New Holstein School District, located in east central Wisconsin between Lake Winnebago and Lake Michigan, serves approximately 1,150 students PK-12 and employs a staff of 180. The District houses students in two facilities, the New Holstein Elementary School and the New Holstein Middle/High School, which also includes the District office.

The School District is composed of 11 municipalities in three counties. The District's economic makeup is middle class consisting of manufacturing and agriculture.

**VISION:** The educational vision of the School District of New Holstein is for all students to learn and develop the knowledge and skills necessary to become contributing global citizens in an ever-changing world through:

- Academically challenging curriculum
- Research based and data driven instructional practices
- Student input and ownership
- Real world applications
- Reflection and evaluation for continuous improvement
- Continuous, responsible use of all resources and evolving technology
- Community involvement
- Expectation of appropriate behaviors that lead to successful, productive citizens

**MISSION:** Student learning is our first priority. We provide strong leadership, innovative curriculum, and integrated technology in a climate of mutual respect. In partnership with the community, we prepare our students for the future.

**MOTTO:** Student Learning is our First Priority

From an educational perspective, the Wisconsin DPI rates the District (2017-18 data) as “Exceeds Expectations.” It has a score of 74.2 which is above average compared to the majority of school districts in the state. The District exceeds the priority area standards in student achievement, district growth, closing gaps, and on-track and postsecondary readiness. However, there are facility needs that, if left unaddressed, could affect the health, safety, and achievement of students in the long term.

FINAL - PUBLIC REPORT - FOR PUBLIC RELEASE

November 13, 2018



## New Holstein District Report Card | 2017-18 | Summary

### Overall Score



**Exceeds Expectations**

Overall Accountability Ratings	Score
<b>Significantly Exceeds Expectations</b>	<b>83-100</b> ★★★★★
<b>Exceeds Expectations</b>	<b>73-82.9</b> ★★★★☆
<b>Meets Expectations</b>	<b>63-72.9</b> ★★★☆☆
<b>Meets Few Expectations</b>	<b>53-62.9</b> ★★☆☆☆
<b>Fails to Meet Expectations</b>	<b>0-52.9</b> ★☆☆☆☆

### District Information

Grades	K4-12
Enrollment	1,080
Within District Mobility	0.0%
Between District Mobility	2.9%
<i>Race/Ethnicity</i>	
American Indian or Alaskan Native	0.0%
Asian	0.9%
Black or African American	0.1%
Hispanic/Latino	5.9%
Native Hawaiian or Other Pacific Islander	0.2%
White	90.4%
Two or More Races	2.5%
<i>Student Groups</i>	
Students with Disabilities	14.8%
Economically Disadvantaged	18.0%
English Learners	1.5%

Priority Areas	District Max Score	State Max Score
<b>Student Achievement</b>	<b>67.5/100</b>	<b>63.0/100</b>
English Language Arts (ELA) Achievement	33.6/50	32.1/50
Mathematics Achievement	33.9/50	30.9/50
<b>District Growth</b>	<b>74.6/100</b>	<b>66.0/100</b>
English Language Arts (ELA) Growth	36.8/50	33.0/50
Mathematics Growth	37.8/50	33.0/50
<b>Closing Gaps</b>	<b>68.4/100</b>	<b>67.9/100</b>
English Language Arts (ELA) Achievement Gaps	34.8/50	17.8/25
Mathematics Achievement Gaps	33.6/50	17.3/25
Graduation Rate Gaps	NA/NA	32.8/50
<b>On-Track and Postsecondary Readiness</b>	<b>89.6/100</b>	<b>85.0/100</b>
Graduation Rate	38.6/40	36.3/40
Attendance Rate	38.0/40	36.7/40
3rd Grade English Language Arts (ELA) Achievement	6.9/10	6.3/10
8th Grade Mathematics Achievement	6.1/10	5.7/10

Priority Area Weights	Percentage Weight
Student Achievement	36.3%
District Growth	13.7%
Closing Gaps	25.0%
On-Track and Postsecondary Readiness	25.0%

Note: For details about how weights are determined, see weighting calculator: [https://oea-dpi.shinyapps.io/overall\\_weighting\\_calculator/](https://oea-dpi.shinyapps.io/overall_weighting_calculator/)

Student Engagement Indicators	Total Deductions: 0
Absenteeism Rate (goal <13%)	Goal met: no deduction
Dropout Rate (goal <6%)	Goal met: no deduction

### Test Participation Information

Includes Forward Exam (grades 3-8), ACT (grade 11), and Dynamic Learning Maps (grades 3-8 and 11)

Group	ELA 1-Year	ELA 3-Year	Math 1-Year	Math 3-Year
All-Students Rate	100%	99.8%	100%	99.8%
Lowest Subgroup Rate: Hispanic	100%	98.8%	100%	98.8%

^Note: Outlier score fluctuation is noted by ^ when any school or district report card has a 10-point or greater change (up or down) in its Overall Score. This amount of change in a single year is considered an outlier, and may or may not be reflective of actual school/district change in performance. Careful and cautious review of the report card and all supplemental pages is recommended. For assistance in better understanding this report card, contact the Office of Educational Accountability: [reportcardhelp@dpi.wi.gov](mailto:reportcardhelp@dpi.wi.gov).

## TECHNOLOGY ASSESSMENT

“Technology is at the core of virtually every aspect of our daily lives and work, and we must leverage it to provide engaging and powerful learning experiences and content, as well as resources and assessments that measure student achievement in more complete, authentic, and meaningful ways.”

*The National Education Technology Plan, pg. ix*

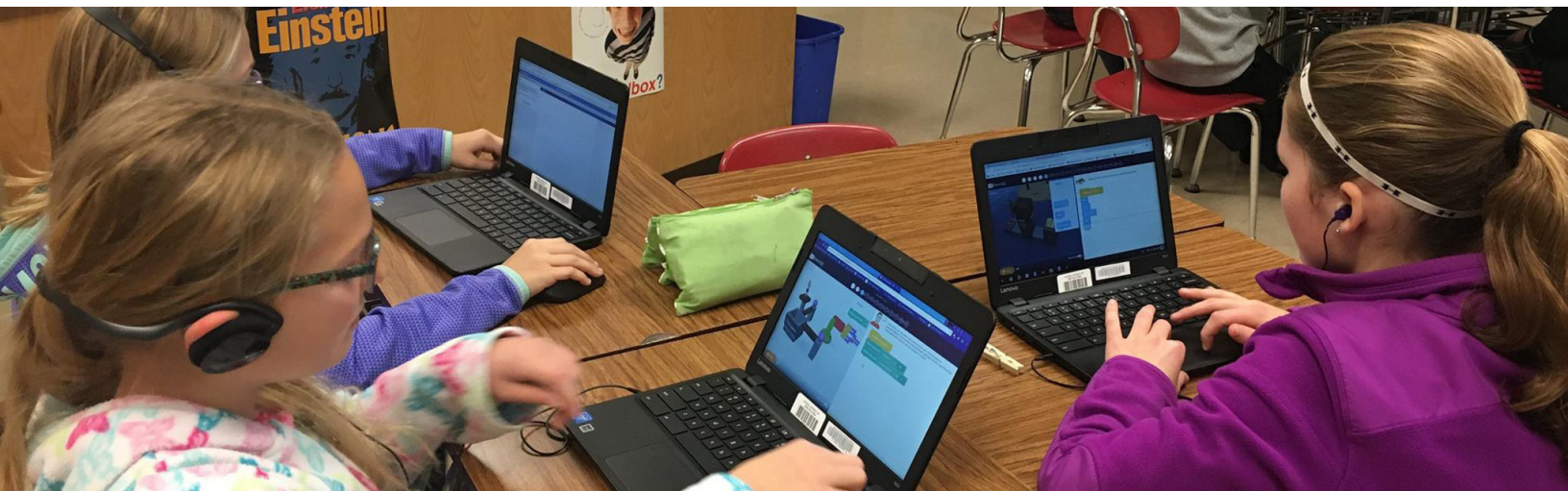
This statement challenges every school district in the nation to provide the technology tools and connectivity to help teachers teach and students learn in a way that reflects the world in which they live. The New Holstein School District has made progress in meeting this challenge, but as technology advances, so do the devices and ways to use them in the classroom. Upgrades to technology and the training to use it are a continuous pursuit and should be budgeted for accordingly each year. Ensuring adequate technological infrastructure not only enhances student learning but can also attract high-quality teachers and new students to the District.

### Overview of the District’s Digital Technology Plan

The New Holstein School District’s technology plans were discussed and reviewed as part of this report. Their plan embraces the following priorities:

- Learning is paramount
- For effective learning, teachers need to be cognizant of and comfortable with the technologies they are expecting their students to learn and live with.
- Applications of technology are necessary for the continuous improvement of ancillary and administrative operations

The plan goes on to identify the student needs of a curriculum-based interactive software that complements their individual learning styles, while the staff needs the development and support to properly integrate these technological tools into the curriculum.



The District has done a good job of addressing these needs by implementing wireless, interactive whiteboards, student machines in the classroom, and a replacement schedule for hardware. They've also provided staff development and training opportunities through teacher in-service and monthly collaboration, using the training-of-trainers model, utilizing mentors, and offering various opportunities for professional growth.

Finally, the District has utilized a Technology Instructional Coach to collaborate with teachers to develop units and lessons that integrate technology standards into the curriculum. This collaboration offers increased technology exposure and use for the students and the tools and resources necessary to properly integrate it into the curriculum for the teachers.

In any school district, technology is an important piece in enabling students and staff to reach their goals. Having a top notch technology program is a balancing act of keeping up with advances in technology while making wise choices that limit expenses and effectively utilize equipment on hand.

When reviewing technology plans, CESA FM often utilizes advice from the *Wisconsin Superintendent's Digital Learning Advisory Council and Future Ready Framework: A Systemic Approach to Implementation*. This resource recommends implementing technology further down into the elementary grades; developing a district-wide, strategic professional development plan for technology use in every classroom; and making a commitment to upgrade older technology when needed.

After reviewing the New Holstein School District's technology plan, we don't need to pass these recommendations along, as the District is already doing an excellent job using information technology to effectively and efficiently improve learning and meet academic standards. The technology plan has kept up with the fast pace of the field and is well equipped to meet the District's goals. CESA FM auditors found the Information Technology program at the District to be well coordinated and the equipment well utilized and maintained.





## **SAFETY AND SECURITY**

In today's climate, safety and security are of the utmost importance. New Holstein School District realizes the importance of protecting its building occupants, and has invested a good deal of time and money to implement numerous security measures over the past few years.

CESA FM keeps safety in the forefront when conducting our audits. Our reports often contain recommendations for secure entrances, interior and exterior signage, cameras, building alarm systems, fencing, bollards, and more. The New Holstein School District did not merit any of these recommendations. In fact, aside from some environmental safety factors and a few small safety issues, such as adding a safety roller gate to the receiving dock at the middle/high school, the prioritization matrix cites nearly no identified safety or security needs. This level of safety and security is rarely seen in the schools we visit. CESA FM commends the District on its proactive approach to safety.

The District will continue to improve its safety efforts, with the \$59,993 it received in the first round of the School Safety Initiative and the \$59,626 it received in the second round. These new projects are currently being implemented.



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## REFERENDUM CONSIDERATIONS

Referendum options are somewhat variable, depending on the District's level of pursuit for the recommended projects. The existing funding limits and other obligations have disadvantaged the District's ability to maintain the facilities at desired standards. To keep the facilities "as close as possible" to these standards, capital projects have been completed at standards less than preferred and projects have been delayed resulting in the identified list of needed improvements. CESA FM and many other school districts have identified pursuing a referendum as a viable consideration to fund facility improvements.

Many referendum options can be considered. CESA FM has found narrowing referendum options to only two is best. Two options give voters a clear choice between the recommended facility improvements and the resulting impact on the tax levy. Due to this finding, CESA FM is presenting the New Holstein School District with two potential referendum options.

**REFERENDUM OPTION 1** - The first option includes securing **\$8,000,000** to fulfill all of the recommended elementary and middle/high school deferred maintenance projects and facility improvements to the current "best practice standards" set during the other recent facilities projects (i.e., middle school, high school commons, etc.). After conducting the initial audit and subsequent conversations with District administration, CESA FM feels these projects currently offer priority improvement opportunities for the District. The intent for this option is to continue to use the improved facilities standards and conditions for projects, meet all current compliance requirements, and reduce facility operating costs. This number most adequately reflects the estimated project costs to satisfy the identified needs. This option includes reallocating funds from the 10 Year Capital Improvement Plan to other areas, a wider range when choosing finishes and fixtures, and increasing the project scopes to include additional improvement beyond original facilities standards.

**REFERENDUM OPTION 2** - The second option includes securing **\$6,000,000** to complete the projects recommended in this report to a lesser degree. This option is to fulfill all of the recommended elementary and middle/high school deferred maintenance projects listed in this report. After conducting the initial audit and subsequent conversations with District administration, CESA FM feels these projects currently pose the most significant concern for the District. The intent for this option is to bring the buildings back to original facility standards and meet all current compliance requirements. This could also include utilizing existing internal funds from the District's 10 Year Capital Improvement Plan, reducing project scope, and investing in more economical fixtures and finishes.

**OTHER REFERENDUM OPTIONS** - Other referendum options can be developed — for example, a new elementary school or other new construction projects versus the identified renovations and replacements. The estimated costs for these examples may seem too many to be excessive. Lessened funding amounts by reducing the number of projects can also be considered if so desired.

CESA FM recommends the District uses this study to assist in developing the final improvements to be funded and completed. The following sections highlight existing conditions, recommendations, the scope of work, and benefits for each identified problem area. Projects are listed in the order of importance within their description. For example, in the elementary school window replacement description, glass block windows are listed first, as they pose the most significant concern. Wood frame windows are listed next, with glass block and metal frame windows listed last. This prioritization within the project description will help the District identify and manage the desired project scope and costs.

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# NEW HOLSTEIN ELEMENTARY SCHOOL

## FACILITY ANALYSIS

New Holstein Elementary School is located at 2226 Park Avenue in New Holstein, Wisconsin. New Holstein Elementary is home to an Early Childhood program, 4K – 5, with a before and after school care called Husky Den. The school employs a dedicated staff who support almost 500 students.

New Holstein Elementary students and staff focus on P.A.W.S expectations to ensure a positive learning environment for all. P.A.W.S stands for Practice Respect, Act Responsibly, Welcome Friends, and Safety Always. Throughout the year various assemblies are held to celebrate the school community and the following of these expectations.

During the audit, CESA FM technical experts paid close attention to HVAC equipment, lighting, finishes, fixtures, safety concerns, and 21st-century learning spaces. Items identified in this report are meant to improve the efficiency and consistency of the facility over the next 10 years while reducing future operational and maintenance costs.

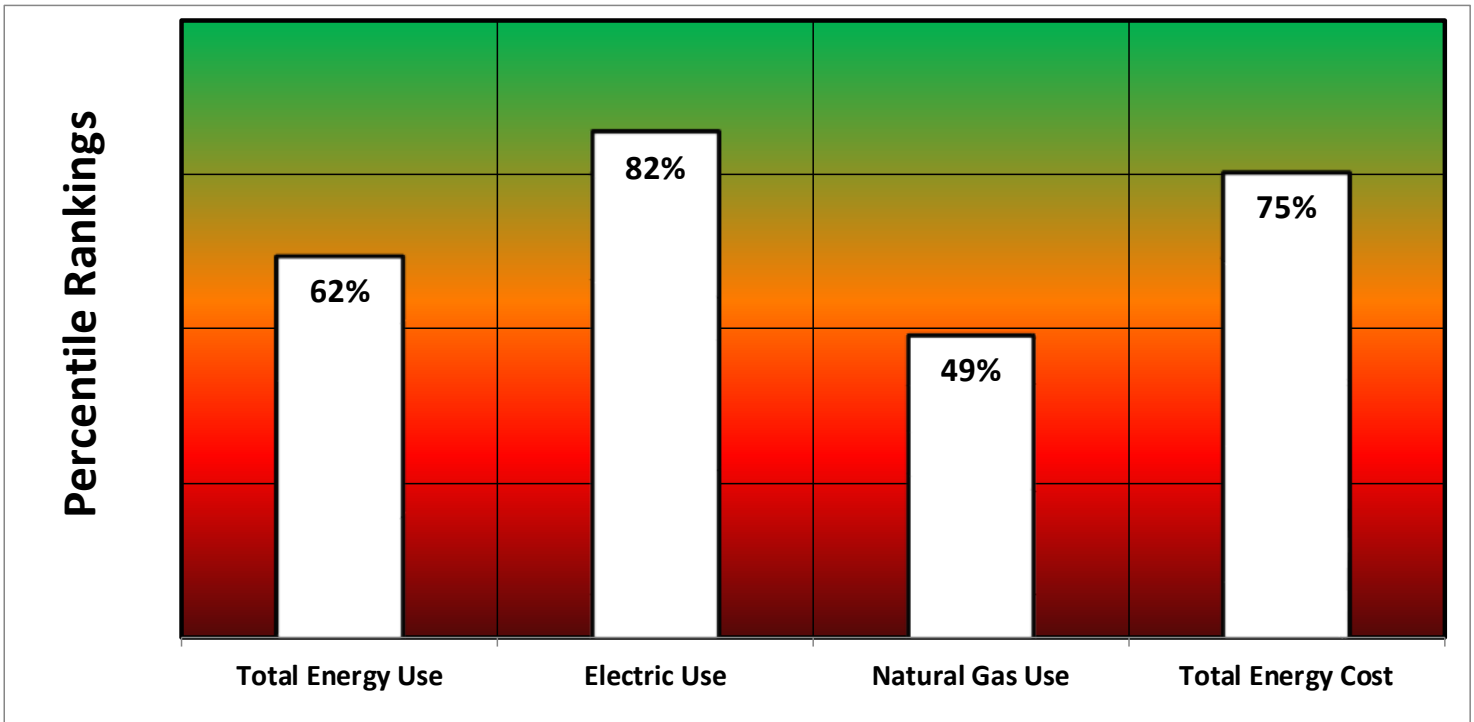
NEW HOLSTEIN ELEMENTARY SCHOOL	
Square Footage	112,362
2017-18 Electric Usage (kWh)	413,598
2017-18 Heating Fuel Usage (Therms)	52,252



## ENERGY USE

The following benchmarking analysis compares New Holstein Elementary School to an average elementary school in Wisconsin. The District uses less electricity but more natural gas per square foot than the average elementary school in Wisconsin.

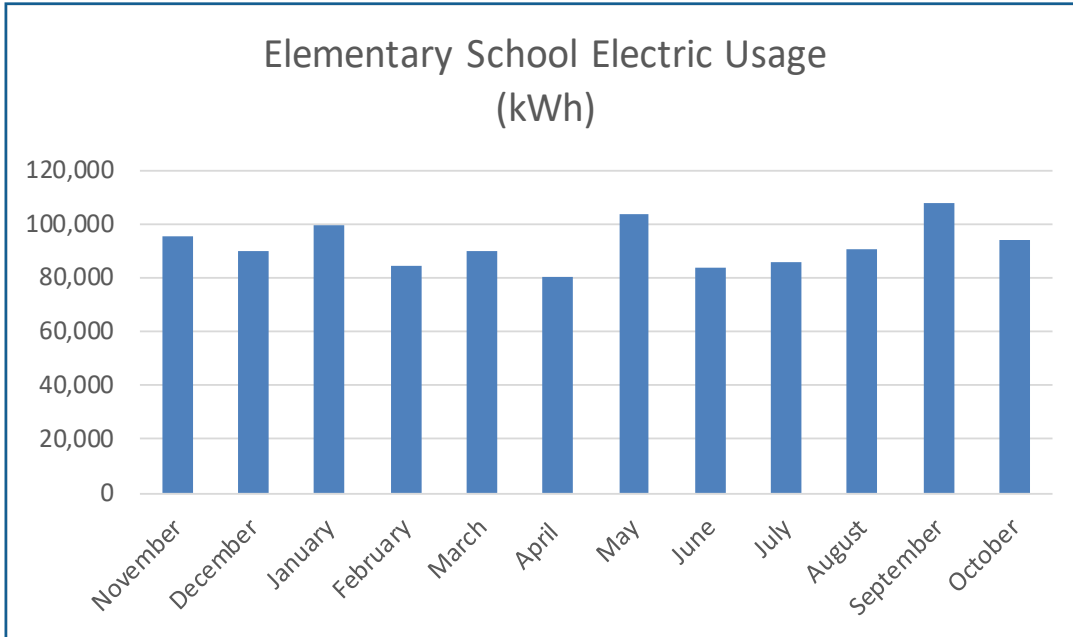
NEW HOLSTEIN ELEMENTARY SCHOOL BENCHMARKING				
	Total Energy Use kBtu/ft2	Electric Use kWh/ft2	Natural Gas Use Btu/ft2/HDD	Total Energy Cost \$/ft2
Average Elementary School	65.33	5.7	6.9	\$0.87
New Holstein Elementary School	58.9	3.7	7.0	\$0.65
Percentile Rankings	62%	82%	49%	75%



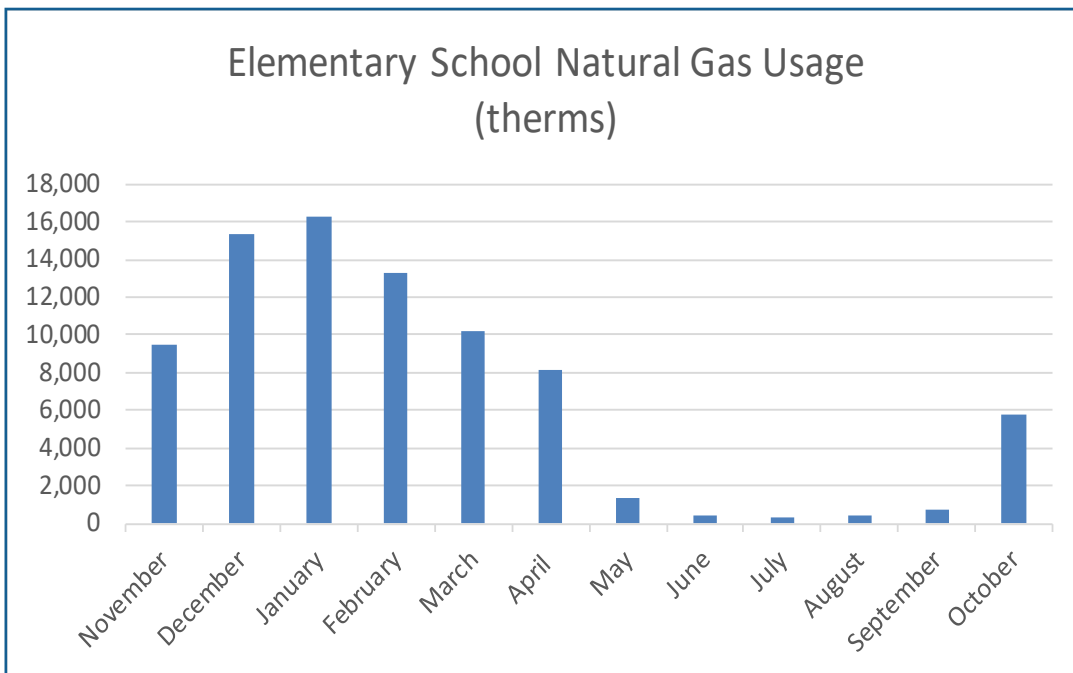
The chart above indicates the level of energy efficiency the facility is running at. Green equals good, yellow equals moderate, and red equals poor.

## UTILITY ANALYSIS

The utility graph below demonstrates the electrical consumption at New Holstein Elementary School from November 2017 through October 2018. This consumption decreases over the summer months due to a decrease in building occupants and equipment usage.



New Holstein Elementary School is heated using natural gas. As shown in the graph below, the gas load follows a typical profile for a building that is heated with natural gas and is exposed to Wisconsin's weather patterns.



## PROJECT PRIORITIZATION

Based on the prioritization factors listed earlier in this report and discussions with District staff, CESA FM created a project prioritization matrix for each school. After identifying concerns and discussing possible solutions with the District, CESA FM picked out the most pressing issues facing each facility. These concerns are outlined in the following section by the existing conditions, recommended improvement measures, potential scope of work, and estimated annual savings.

A chart of the rating guidelines is included below. Projects are graded based on functional condition, predicted remaining useful life, environmental and safety concerns, project costs, and return on investment. Measures with the highest total points should be addressed in the immediate future.

Cost estimating at this juncture can prove difficult. For example, a facility improvement measure recommending a flooring project can vary based on the type of flooring the District chooses. Site conditions, environmental factors, and the availability of materials can also play a role in final project costs.

This report serves as an important first step in identifying facility needs. A copy of the entire prioritization matrix will be provided to the District in an Excel-based tool that can be adapted by District staff based on future replacement schedules, equipment conditions, and District priorities.

RATING GUIDELINES			
Criteria	Scoring System		
Functional Condition	Poor = 10	Average = 5	Good = 0
Predicted Remaining Useful Life	0% = 10	25% = 5	50% = 0
Environmental Health and Safety Concerns	High = 15	Medium = 8	Low = 0
Project Cost	Less than \$10,000 = 5	\$50,000 = 3	Greater than \$100,000 = 0
Return on Investment	Less than two years = 5	Five years = 3	Greater than 10 years = 0



## ELEMENTARY SCHOOL LOWER LEVEL

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
10	10	15	0	0	<b>35</b>	<b>\$625,000</b>

### LOWER LEVEL

#### Existing Condition

The lower level of the elementary school is outdated with a majority of the space partially used. The existing space uses include offices, multi-purpose area, storage, music rooms, and locker rooms.

The greatest concern is the lack of space utilization for this large area. The justification for the poor space use appears largely due to the poor facilities conditions of the areas. In the large multi-purpose room the walls and ceilings are not adequately sealed. Throughout the area the ceiling tiles and in the music areas, wall tiles are stained and damaged. In the locker rooms reside occupied offices, unused shower rooms and restrooms, and large changing areas all in poor condition. The floor, walls, and ceiling in the multi-purpose room are worn. A makeshift plywood storage room/ area has been constructed in one corner of the large room limiting the activity space and creating a safety concern. The ventilation is inadequate with extremely humid conditions during the non-heating seasons and unbalanced tempered air throughout the area during the heating season. The lighting and controls are inefficient and due for replacement.

#### Recommendation

Redesign layout of area to improve space utilization. Reduce and design locker rooms to the minimum size and function for planned activity compliance. Validate space needs and accommodate for music, early childhood program and Husky Den, offices, and storage. Seal and caulk all of the wall and ceiling penetrations. Replace the ceilings, remove wall tiles, paint walls, add acoustical panels, finish floors, replace lighting and controls, upgrade plumbing fixtures, replace ventilation system, and recommission all HVAC controls in all areas.



Open wall and ceiling penetrations



Stained ceiling and wall tiles



Existing locker room area



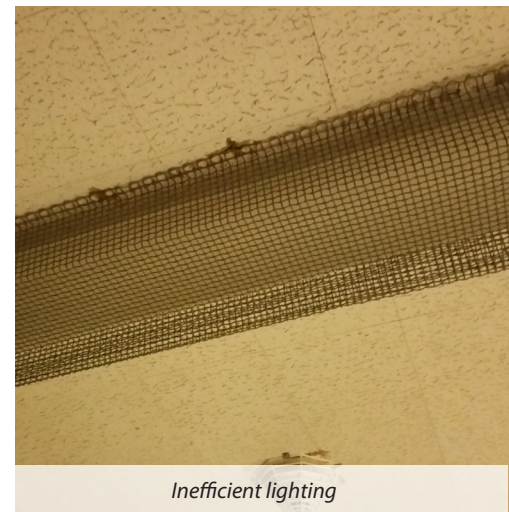
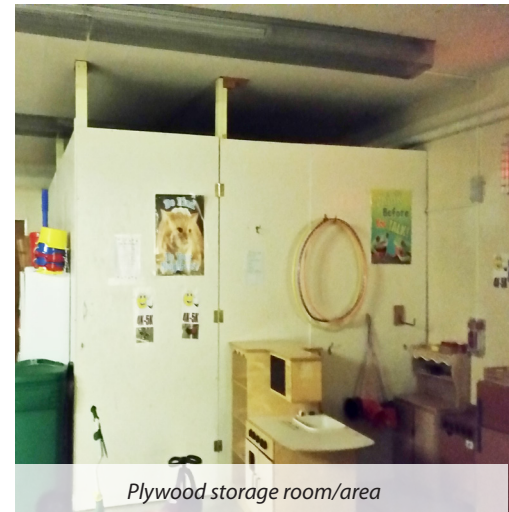
## Scope of Work

- Engage space planning team to specify future space use.
- Design new space layout with specific uses.
- Replace ventilation system with a system providing commercial dehumidification.
- Replace interior fixtures.
- Refinish interior surfaces.
- Recommission all lighting controls and HVAC controls.

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## Benefits

- Major increase in usable space, space utilization, and occupant comfort and safety.
- Moderate aesthetics improvements and lighting electrical savings.
- Minor heating gas savings and operations & maintenance savings.



# ELEMENTARY SCHOOL GYM AND STAGE

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
10	7	15	0	0	<b>32</b>	\$950,000

## STAGE

### Existing Condition

The elementary school gym and stage are outdated, unappealing, uncomfortable, and unsafe. The existing space for this area includes the gym, stage, small storage, and attic mechanical areas.

The greatest concerns are on the stage. The stage lighting fixtures, dimming controls, electrical panels, and hoist mechanism are electrical, fire, pinch, and falling object safety hazards. Overheating of controls, panels, and fixtures are the electrical and fire hazards. Hoist failure and fixture suspension system are pinch and falling object hazards. The stage lighting output is also considerably depreciated and inefficient to operate.

### Recommendation

Replace the stage lighting fixtures, dimming controls, electrical panels, and hoist mechanism.

### Scope of Work

- Contract architect and engineering firm to design lighting, HVAC, and structural components for recommended replacements and upgrades.
- Replace lighting systems and controls.

### Benefits

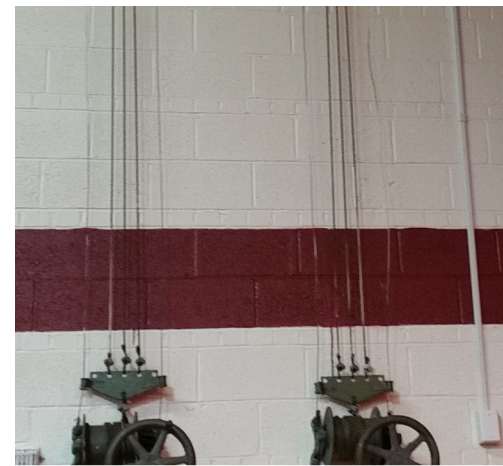
- Major increase in occupant comfort and safety.
- Major aesthetics and use improvements.
- Moderate operations & maintenance savings.
- Minor lighting electrical and heating gas savings.



Stage lights and suspension system



Stage electrical panels and dimmers



Stage lights hoist system

## VENTILATION VOLUME AND CONTROL

### Existing Condition

The second greatest concern for the gym and stage is the limited ventilation volume and control for both areas. The areas are served by air handlers sized for ventilation requirements from the 1950's. The ventilation period demands for current use are beyond the existing equipment capacity and operating condition. The mechanical equipment is located in a small attic type space with no immediate replacement access to the area.

---

### Recommendation

Provide access to the ventilation mechanical areas and replace the areas ventilation system and controls.

---

### Scope of Work

- Provide access to ventilation system equipment and replace ventilation system and controls.
- 

### Benefits

- Major increase in occupant comfort and safety.
- Major aesthetics and use improvements.
- Moderate operations & maintenance savings.
- Minor lighting electrical and heating gas savings.



## FINISHES, FIXTURES, AND EQUIPMENT

### Existing Condition

The next concerns for the gym and stage are the interior finishes, fixtures, and equipment. The main items of concern are the lighting, floors, ceiling, bleachers, divider and stage curtains, scoreboard, and stage projector screen. The light and lighting controls are inefficient. The wood floors are damaged and beyond lasting repair for on-going use. The ceiling is stained and discolored. The bleachers are difficult to operate and keep in repair. The gym divider curtains and stage curtains are soiled, difficult to operate and keep in repair. The scoreboard is outdated. There is only a small manual projector screen on stage for large group presentations.

---

### Recommendation

Replace the lighting and lighting controls. Replace the wood floors, paint, and finish. Remove the existing ceiling panels, paint ceiling, paint walls, and paint exposed structures. Add acoustical panels. Replace the bleachers, divider curtains, stage curtains, scoreboard, and stage projection screen with large power screen.

---

### Scope of Work

- Remove and replace divider curtains, scoreboard, and projection screen.
- Remove ceiling tiles, paint ceiling, walls, and exposed structural components.
- Add acoustical panels.
- Replace, paint, and finish wood floor.
- Recommission all lighting controls and HVAC controls.

---

### Benefits

- Major increase in occupant comfort and safety.
- Major aesthetics and use improvements.
- Moderate operations & maintenance savings.
- Minor lighting electrical and heating gas savings.



*Gym inefficient lighting*



*Damaged wood gym floor*



*Damaged wood gym floor*

## ADDITIONAL PICTURES



## ELEMENTARY SCHOOL EXTERIOR WALLS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
10	5	15	0	0	<b>30</b>	<b>\$450,000</b>

### WEAKENED MORTAR AND CRACKS

#### Existing Condition

The exterior walls are brick and stone face with cracks, rough skim coat concrete patches, and a wood panel covered exit. An elevated and decommissioned chimney is part of the visible exterior walls. The exterior walls have numerous types and sizes of windows to be consider as part of the wall systems.

The greatest concern for the exterior brick walls is the weakened condition of the mortar. The weakened condition is causing moisture to break down the stone and brick masonry walls shown by the new open cracks and past visible sealed cracks. The break down is also most likely causing additional moisture problems behind the wall faces. If not repaired or replaced the masonry wall will continue to deteriorate to the point of wall failure.

#### Recommendation

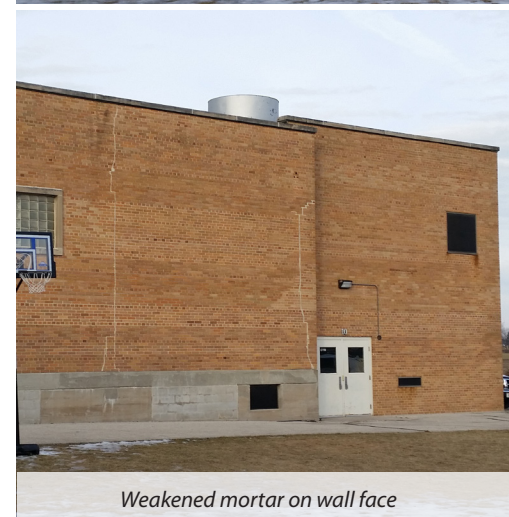
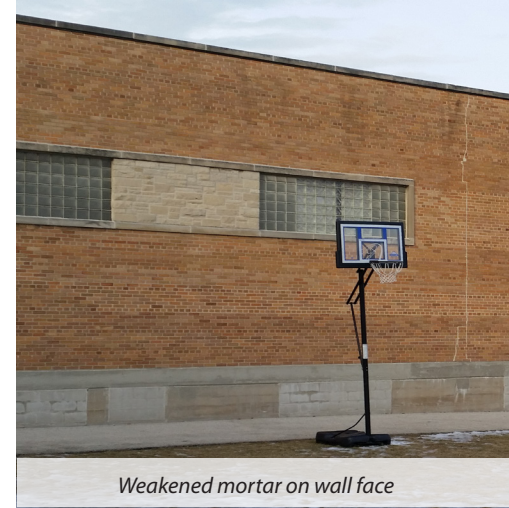
Replace exterior wall brick to provide contiguous, water resistant, and uniform walls.

#### Scope of Work

- Replace brick and stone wall face.

#### Benefits

- Major operations & maintenance savings, safety, and aesthetics improvements
- Minor heating gas savings





## ABANDONED CHIMNEY

### Existing Condition

The second greatest concern for the exterior walls is the elevated and abandoned brick faced chimney. The chimney is a potential falling object hazard for the people, roof, and other items below. Much like the brick wall faces, the chimney will continue to deteriorate until bricks and mortar loosen and possibly fall. The other concern with the abandoned chimney is the potential for water infiltration into the building from around and through the unused chimney.

### Recommendation

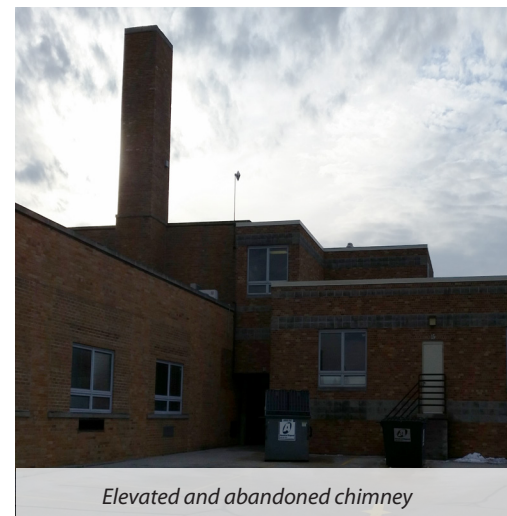
Remove the elevated chimney to below the adjacent roof deck in coordination with brick and face stone replacement. Extend the roof deck to close the open chimney area and roof penetration by integrating with the existing roof deck and roofing membranes.

### Scope of Work

- Remove the chimney (salvage material for potential use in other exterior wall repairs).
- Close the roof over the chimney area.

### Benefits

- Major operations & maintenance savings, safety, and aesthetics improvements
- Minor heating gas savings





## PAST PATCHES AND ENCLOSURES

### Existing Condition

The final exterior wall concern is the rough and unattractive look of the past patches and enclosures visible on the walls. The result is a patchwork or inconsistent building appearance reducing curb appeal for everyone viewing the outside of the building.

---

### Recommendation

Properly patch and skim coat uniformly all past patches and wood panel enclosure in coordination with brick and face stone replacement.

---

### Scope of Work

- Uniformly patch and skim coat past closed openings.
- Replace closed exit wood panel with brick face patch to match existing wall face.

---

### Benefits

- Major operations & maintenance savings, safety, and aesthetics improvements
- Minor heating gas savings



*Past visible wall patches*



*Past visible wall patches*



*Old exit wood panel enclosure*

# ELEMENTARY SCHOOL WINDOW REPLACEMENT

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
10	7	8	0	0	<b>25</b>	<b>\$610,000</b>

## GLASS BLOCK WINDOWS

### Existing Condition

The windows in this facility are of several types including wood framed, metal framed, glass block and combination metal framed and glass block.

The window type of greatest concern are the original glass block only windows. Some of the glass block only windows are installed below grade and in direct contact with asphalt and sub-asphalt materials. Others of the glass block only windows have been covered on the exterior of the building and not removed or covered on the interior of the building. And others of the glass block only windows are above grade with open external and internal surfaces. These windows also do not provide for passive ventilation, which would be utilized during the year and for events if available.

### Recommendation

Remove and properly close externally and internally all below grade glass block windows. Set a building window replacement standard matching the existing vented metal framed windows. Replace the glass block and wood frame windows per the window replacement standard.

### Scope of Work

- Schedule for replacement all non-metal framed only windows or select by window type or location for incremental replacement.

### Benefits

- Energy Savings: Minimal
- Operations & Maintenance Savings: Minimal



Glass Block Windows



Interior View of Glass Block Windows



Covered Glass Block Window

## WOOD FRAME WINDOWS

### Existing Condition

The window type of second greatest concern are the wood frame windows. The wood frame windows frames are showing deterioration and will require replacement in the near future. In addition, this type of window along with the other types gives the building a patchwork or inconsistent building appearance both externally and internally.

---

### Recommendation

Set a building window replacement standard matching the existing vented metal framed windows. Replace the glass block and wood frame windows per the window replacement standard.

---

### Scope of Work

- Schedule for replacement all non-metal framed only windows or select by window type or location for incremental replacement.

---

### Benefits

- Energy Savings: Minimal
- Operations & Maintenance Savings: Minimal





## GLASS BLOCK AND METAL FRAME WINDOWS

### Existing Condition

The final window type of concern are the combination glass block and metal framed windows. These are the most common and cover the majority of the building exterior and classrooms interiors. The primary concern with these windows is the patchwork or inconsistent building appearance. The lower metal framed portion of the windows are in excellent condition and appearance. The metal framed only windows are also in good condition.

### Recommendation

Remove and properly close externally and internally all below grade glass block windows. Set a building window replacement standard matching the existing vented metal framed windows. Replace the glass block and wood frame windows per the window replacement standard.

### Scope of Work

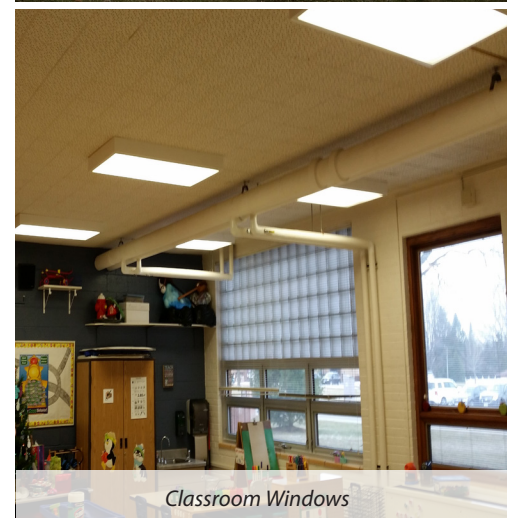
- Schedule for replacement all non-metal framed only windows or select by window type or location for incremental replacement.

### Benefits

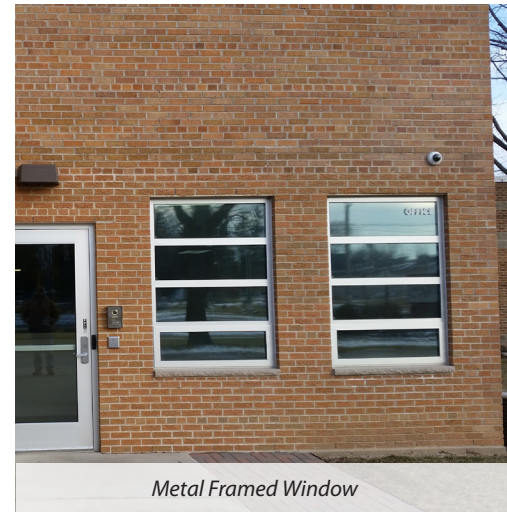
- Energy Savings: Minimal
- Operations & Maintenance Savings: Minimal



Combination glass and metal windows



Classroom Windows



Metal Framed Window

# ELEMENTARY SCHOOL BUILDING OPERATIONS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
8	5	8	0	3	<b>24</b>	\$275,000

## HVAC SYSTEMS AND CONTROLS

### Existing Condition

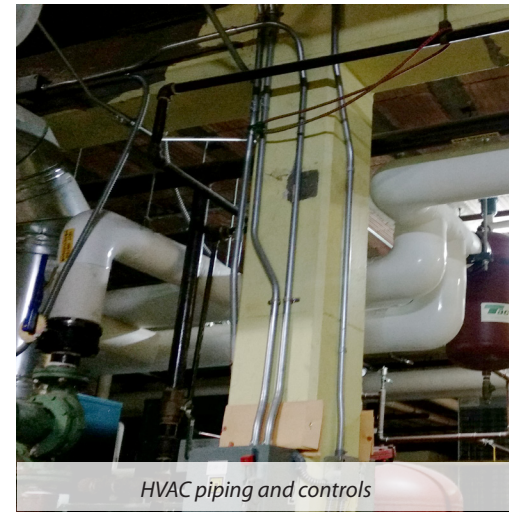
The building operations are restricted due to current systems and controls. The HVAC mechanicals systems provide only marginal ventilation volumes and limited modulation for the entire building.

For students and staff there are only minimal air conditioned spaces for cool down areas. The building does not have emergency electrical power. The main heating equipment is scheduled for planned replacement with boilers currently due for replacement. The abandoned service tunnels have not been appropriately closed. The mechanical systems support and interact with all building areas and other separate area improvements must be considered for total building operations impact.

The greatest concern for building operations is the ventilation systems and controls. The controls in classrooms, capacity of air handlers (i.e. gym), and other equipment capacities and conditions need upgrades and replacements for improved occupant comfort and energy savings.

Air conditioned spaces are limited and additional large area air conditioned spaces would provide cool down areas for students and staff during hot and humid school days. Humidity concerns are noted in the lower level of the building and are suspect in other areas during hot and humid outside supply air conditions.

The heating boilers have been maintained with scheduled replacement and some of the boilers are currently due for replacement. Continuing with the scheduled replacement of boilers and other large mechanical equipment prevents unanticipated and high replacement costs and maintains efficient operation and occupant comfort.



*HVAC piping and controls*



*Small zone air conditioning units*



*Replaced boiler and boiler to be replaced*



## Recommendation

Update, replace, and re-commission ventilation systems and controls in the building. Evaluate, update and replace as needed the unit ventilators in classroom, heating cabinets in restrooms, air handlers for large spaces, and dehumidification system for lower level to reduce operations and maintenance costs. Replace other planned system equipment such as boilers on or ahead of planned schedule to eliminate potential failures. Add air conditioning to select zones as deemed necessary. Update and recommission the automated building controls, set points, schedules, and sequence of operations to maximize comfort and utility savings.

---

## Scope of Work

- Upgrade unit ventilators and controls
  - Replace and upgrade air handler units, boilers and controls.
  - Coordinate dehumidification of lower level with total building operations controls.
  - Recommission building wide systems, equipment, and controls.
  - Add air conditioned area square footage.
- 

## Benefits

- Major occupant comfort and risk mitigation improvements, operations & maintenance savings, and heating gas savings.

## EMERGENCY ELECTRICAL POWER

### Existing Condition

The second greatest concern for the building operations is lack of emergency electrical power for the building. The local utility has provided excellent service with minimal outages and only short periods of outage in the past. The lack of back up emergency electrical power is a risk to building equipment and systems, perishable stock, and adding the potential for early and school day closings.

---

### Recommendation

Install an electric generator to support at a minimum the life safety and security systems including alarms, lighting, egress controls, and locks; building operations heating systems; and food service refrigeration systems.

---

### Scope of Work

- Install an emergency generator.
- 

### Benefits

- Major occupant comfort and risk mitigation improvements, operations & maintenance savings, and heating gas savings.



## **ABANDONED SERVICE TUNNELS**

### **Existing Condition**

The final building operations concern is the condition of the abandoned service tunnels. Without routine services such as inspections, cleaning, and hazardous material removal verification the tunnels are a maintenance, operations, and safety concern. The deterioration of the tunnels and materials contained within the tunnels will continue and potentially caused safety and building operations incidents.

---

### **Recommendation**

Inspect and demolish all abandoned and decommissioned equipment in abandoned service tunnel including the removal of hazardous materials if present. Document tunnel entry procedures and policy, add appropriate confined space signage, and secure for authorized entrance only.

---

### **Scope of Work**

- Demolish out all decommissioned materials and clean tunnels including the abating hazardous materials.
- 

### **Benefits**

- Major occupant comfort and risk mitigation improvements, operations & maintenance savings, and heating gas savings.





## ELEMENTARY SCHOOL HARDSCAPES

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
8	5	10	0	0	<b>23</b>	<b>\$485,000</b>

### CONCRETE DETERIORATION

#### Existing Condition

The hardscapes (concrete and asphalt) are in varied conditions around the site. The type of deterioration and failed concrete also varies. The concrete concerns include exit landings, steps, curbing, and bollard bases. The asphalt concerns include gaps along the edge of the building perimeter and between the gym and adjacent building wing. There is also only a light rope and standards separation used between bus and other vehicle lots during drop off and loading times.

The greatest concern for hardscapes are the needed concrete repairs for the exit landings, steps, walks, curbs, and bollard base. In addition to the repairs the existing step at the food service receiving is an obstacle for staff and delivery personnel used on a daily basis.

#### Recommendation

Repair and replace all cracked, deteriorated, and missing concrete to prevent slips, trips, and falls; improve evacuation egress; and protect entrance thresholds. Replace food service receiving step with ramped concrete to the flat concrete landings to improve access for frequent and repetitive use by site and delivery staff. Add to other elevated exit landings ramped concrete to prevent slips, trips, and falls; and improve evacuation egress. Add handicapped curb ramp to walk from exit 8 on east side of building to the street leading to the park across the street.



*Exit landing cracks*



*Exit landing and walk cracks*



*Deteriorating steps*



## Scope of Work

- Replace concrete steps for Exit 9, Exit 13, and Exit 15.
- Replace Food Service receiving step with concrete ramp.
- Replace concrete pads for Exit 1 and Exit 7
- Replace concrete walk to Exit 7.
- Add handicapped curb to end of Exit 8 walk.
- Repair cracked/missing concrete curbing.
- Repair shed bollard cracked concrete base.

## Benefits

- Major safety improvements, risk mitigation improvements, operations & maintenance savings.



*Missing curbing*



*Cracked bollard base*



*Food Service receiving step*

## GAPS AND CRACKS

### Existing Condition

The second greatest concern are the gaps between the hardscapes and building perimeter. Gaps and cracks exist around the edges of the hardscapes at the building perimeter allowing for infiltration along the building foundation and under the hardscape material. This infiltration reduces the useful life of the hardscape surfaces and building foundation. During excessive rain or snow/ice melt periods the infiltration may also lead to interior leaks and flooding.

---

### Recommendation

Add concrete skirts in place of asphalt around perimeter of building to improve egress and reduce infiltration. Replace asphalt with concrete between gym and 1956 wing on north side of building to improve drainage, increase surface stability, and reduce potential water infiltration. Add concrete pad for generator and air conditioning condensers as deemed necessary. Crack clean and fill, seal coat, and re-paint asphalt to finish disorder created from the above listed concrete.

---

### Scope of Work

- Add concrete skirts around perimeter of building.
  - Crack and gap fill between concrete skirts and building perimeter
  - Add concrete to replace asphalt between gym and 1956 wing.
  - Add concrete pad for generator and air condenser units.
  - Repair transitions from concrete to existing asphalt, crack fill, and seal coat asphalt.
  - Paint traffic directional and parking lines.
- 

### Benefits

- Major safety improvements, risk mitigation improvements, operations & maintenance savings.



*Gaps along building perimeter*



*Gaps around building perimeter*



## SEPARATION BARRIER ROPE

### Existing Condition

The final hardscape concern is use of a temporary separation barrier rope to separate the bus lot and other vehicle lots during bus loading and drop off. The light weight rope and standards do not provide the more rigid and durable separation recommended used for this purpose.

---

### Recommendation

Replace lot separation rope and standards with a more permanent and secure roller gate and fencing to isolate traffic types during bus loading/drop off periods and other events.

---

### Scope of Work

- Add roller gate to separate bus lot from vehicle traffic.

---

### Benefits

- Major safety improvements, risk mitigation improvements, operations & maintenance savings.



*Separation rope and standards*

## ELEMENTARY SCHOOL CLASSROOMS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
8	5	8	0	2	<b>23</b>	\$745,000

### CEILING

#### Existing Condition

The ceiling is deteriorating and with the exposed heating piping provides an unfinished appearance. The lighting and lighting controls are outdated and inefficient. Unit ventilators are outdated and have program controls that are no longer supported. An unstable subfloor with loose surface tile exists in 1956 wing (current art area). Most of the cabinetry is outdated and in poor condition.

The greatest concern for classrooms are the ceilings and unfinished appearance. The exposed heating piping; abrupt transitions between doors, window, and fixtures; and discolored and deteriorating ceiling tiles create a unattractive environment. The large and differing windows types mentioned earlier in this report also add to the unattractive appearance of the classrooms.

#### Recommendation

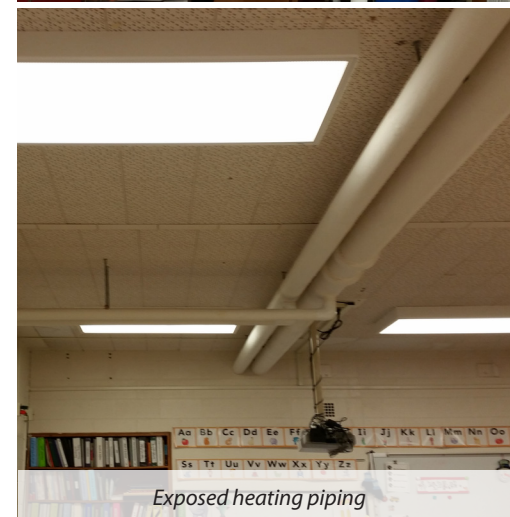
Lower ceiling and replace ceiling tile to improve appearance, enclose some of the heating piping, and increase ventilation in the occupied space. Create smooth transitions between ceiling elevations and other surfaces such as doorways to further improve appearance.

#### Scope of Work

- Remove and/or abate existing ceiling tiles.
- Design ceiling and lighting layout plan.
- Install ceiling suspension supports.
- Install new ceiling suspension grid and ceiling tiles.

#### Benefits

- Major aesthetics and light level improvements
- Moderate energy and operations & maintenance savings.
- Minor safety improvements.



## OUTDATED CONTROLS

### Existing Condition

The second greatest concern in the classroom are the outdated controls for the unit ventilator heating units and lighting. The unit ventilator schedule and set point program controls are no longer supported by the manufacturer and are due for upgrade and replacement. The lighting and controls are also not energy efficient and due for replacement and upgrade.

---

### Recommendation

Replace lighting and lighting controls as part of the ceiling replacement. Reconfigure lighting fixture layout to reduce the number of fixtures. Replace and upgrade unit ventilator controls for maintenance and operations savings. Coordinate lighting and HVAC controls with occupancy sensors for energy savings.

---

### Scope of Work

- Install LED lighting and controls.
  - Replace unit ventilator control boards and upgrade unit ventilator controls.
  - Coordinate occupancy sensors for lighting and HVAC systems.
- 

### Benefits

- Major aesthetics and light level improvements
- Moderate energy and operations & maintenance savings.
- Minor safety improvements.



## CABINETY AND FLOORING

### Existing Condition

The last classrooms concern noted is the outdated cabinetry and flooring. Some of the cabinetry has been recently replaced and more is schedule for replacement. Classroom flooring is aged and needs to be replaced as well.

---

### Recommendation

Remove 1956 wing floor tile, stabilize subfloor, and replace floor tile to keep floor tile in place and reduce slip and fall potential. Continue replacement of cabinetry in classrooms to improve appearance and secured storage in rooms.

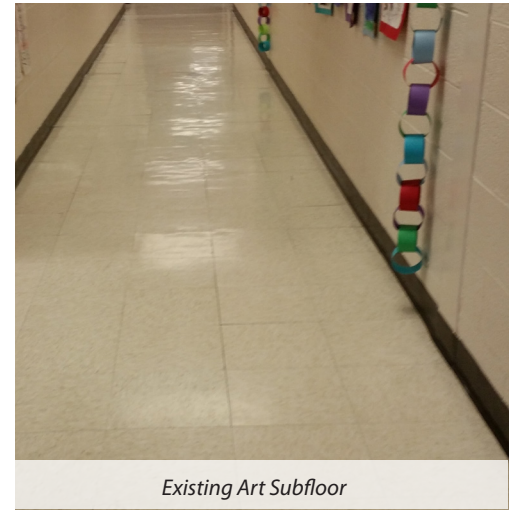
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### Scope of Work

- Remove and replace 1956 wing subfloor and tile.
  - Replace classroom cabinetry.
- 

### Benefits

- Major aesthetics and light level improvements
- Moderate energy and operations & maintenance savings.
- Minor safety improvements.



# ELEMENTARY SCHOOL RESTROOMS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
8	5	8	0	2	<b>23</b>	<b>\$395,000</b>

## INTERIOR FINISHES

### Existing Condition

The heating cabinets are mounted on the floor and exhaust grills on the walls. There is exposed ceiling and wall piping. The entry passage is narrow with old door frames in place without doors. Many of the fixtures are stained. The floor and walls are patched. The stall partitions are a clashing color and material.

The greatest concern for the restrooms are the interior finishes. Open penetrations and exposed pipes are in the walls with different materials covering walls, floors, and ceilings. Multiple remnant door frames narrow the entrance passages.

### Recommendation

Install a suspended ceiling below exposed pipes, heating cabinets, and exhaust grills to improve appearance. Remove entrance passage door frames and widen entry passages to improve egress and appearance.

### Scope of Work

- Install lowered suspended ceiling
- Remove old (open) door frames

### Benefits

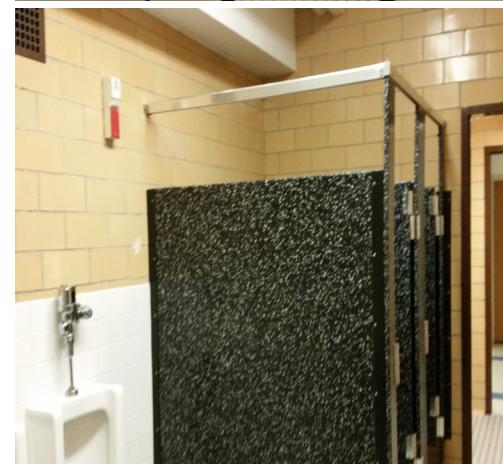
- Major aesthetics and light level improvements
- Moderate operations & maintenance savings.
- Minor energy savings and safety improvements.



*Exposed pipes and penetrations*



*Narrowed door frame passages*



*Patchwork of finishes and colors*



## HVAC AND LIGHTING

### Existing Condition

The second greatest concern in restrooms are the HVAC and lighting. The heating cabinets are mounted on the floor and exhaust grills on the walls. Lights and lighting controls are outdated and inefficient.

---

### Recommendation

Update and raise heating cabinets and exhaust grills to ceiling to protect the units and improve ventilation. Install new lighting and controls.

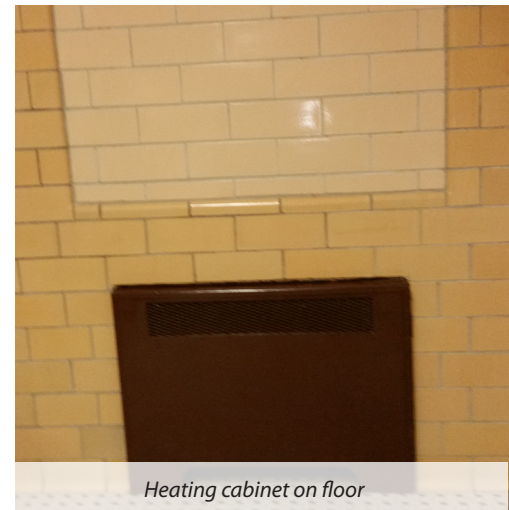
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### Scope of Work

- Update & raise heating cabinets.
  - Relocate exhaust grills.
  - Recommission heating and exhaust ventilation systems.
  - Replace lighting and controls.
- 

### Benefits

- Major aesthetics and light level improvements
- Moderate operations & maintenance savings.
- Minor energy savings and safety improvements.





## STAINED FIXTURES

### Existing Condition

The final concern in the condition of the fixtures. Some fixtures are permanently stained with original finishes discolored, worn away, and corroded.

---

### Recommendation

Update and replace plumbing and wall fixtures to improve sanitation and maintenance & operations. Resurface floors and walls with standard finishes to improve appearance, sanitation, and maintenance. Replace stall partitions and paint all paintable surfaces to improve appearance.

---

### Scope of Work

- Update fixtures and mirrors.
  - Resurface walls & floors.
  - Paint.
- 

### Benefits

- Major aesthetics and light level improvements
- Moderate operations & maintenance savings.
- Minor energy savings and safety improvements.



## ELEMENTARY SCHOOL CORRIDORS AND STAIRWELLS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
8	5	8	0	1	<b>22</b>	\$175,000

### CEILING

#### Existing Condition

Much like the classrooms the ceilings and lighting are in need of replacement. There is a patchwork of ceramic tile in the stairwells and corridors. The original stairwell handrails are inadequate. Some corridor doors are missing. The storage cubbies in some corridors do not properly secure student items. Room signage is outdated.

The greatest concern for the corridor and stairwells are the stained ceiling tiles and suspension grid. Like the class rooms there is also an unfinished appearance of ceiling surfaces transitioning into classroom entries. Lights and lighting controls are outdated and inefficient. Battery operated emergency egress lighting is installed along the ceiling in the corridors.

#### Recommendation

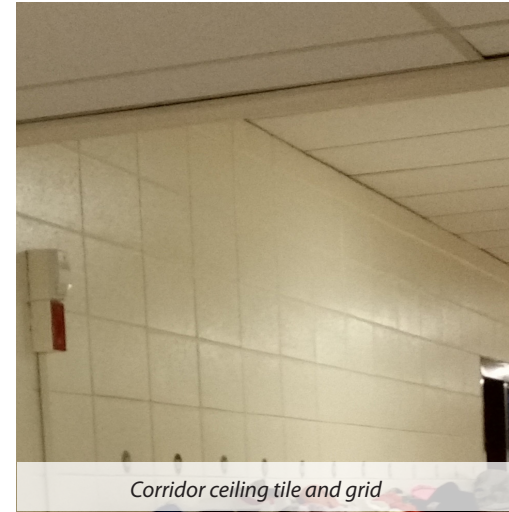
Replace ceiling tile and create smooth transitions between ceiling elevations and other surfaces such as doorways to further improve appearance. Replace lighting and lighting controls as part of the ceiling replacement. Reconfigure lighting fixture layout to reduce the number of fixtures. Replace battery operated emergency egress lights with LED on emergency generator circuit.

#### Scope of Work

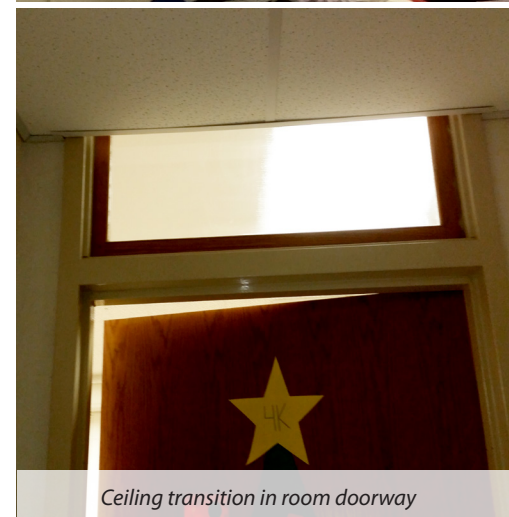
- Remove and/or abate existing ceiling tiles.
- Design ceiling and lighting layout plan.
- Install ceiling suspension supports.
- Install new ceiling suspension grid and ceiling tiles.
- Install LED lighting and controls.

#### Benefits

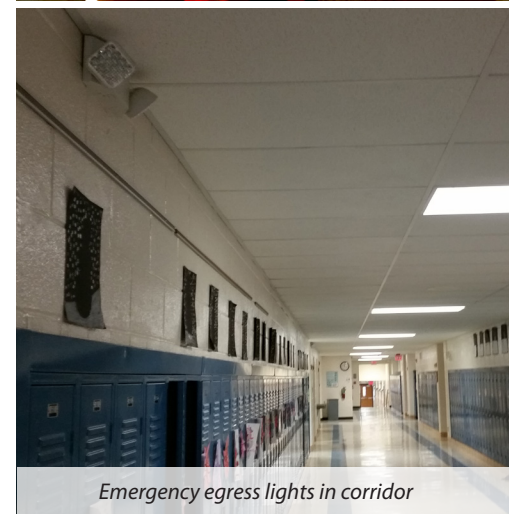
- Major aesthetics and light level improvements.
- Moderate energy and operations & maintenance savings.
- Minor safety improvements.



Corridor ceiling tile and grid



Ceiling transition in room doorway



Emergency egress lights in corridor



## STAIRWELLS AND CERAMIC TILE

### Existing Condition

The second greatest concern in the corridor and stairwells is the ceramic tile dating the internal building appearance. Some of the stairwells have been updated with more modern finishes. The stairwells handrails are original and do not extend beyond the trends per ADA compliance guidelines.

---

### Recommendation

Replace or extend stairwell handrails to meet ADA guidelines. Skim coat and paint ceramic tile walls, steps, and base in corridor and stairwells. Add anti-slip rubber stair treads to steps. Paint corridor and stairwell walls.

---

### Scope of Work

- Extend or replace stairwell handrails.
- Skim coat & cover stairwell ceramic tile.
- Skim coat & epoxy corridor ceramic tile base
- Add rubber floor tread to stairs
- Paint walls.

---

### Benefits

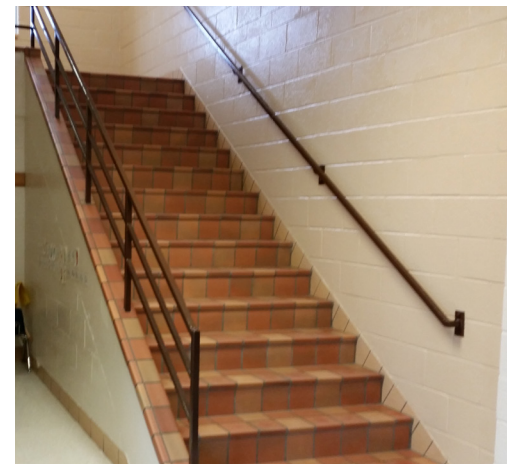
- Major aesthetics and light level improvements.
- Moderate energy and operations & maintenance savings.
- Minor safety improvements.



Ceramic tile in stairwells



Ceramic tile base in corridors



Existing stairwell handrails

## FIXTURES

### Existing Condition

The final concern in the corridor and stairwells are missing and old fixtures. A set of corridor separation doors are missing. Some of the corridors have open cubbies for student item storage, which is unorganized and not secure. Room signage are plastic engraved and mounted on wood placards.

---

### Recommendation

Replace corridor separations doors and upgrade door hardware for current operations. Replace wood/laminate corridor storage cubbies with metal lockers as in most corridor areas. Replace room numbering and use signage with signage standard used at the high school.

---

### Scope of Work

- Replace missing corridor separation doors.
- Replace cubbies with metal lockers.
- Replace room numbering/use signage.

---

### Benefits

- Major aesthetics and light level improvements.
- Moderate energy and operations & maintenance savings.
- Minor safety improvements.



*Missing corridor separation doors*



*Storage cubbies in corridors*



*Room numbering and use signage*

## ELEMENTARY SCHOOL LANDSCAPE

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
8	5	8	0	0	<b>21</b>	\$125,000

### SURFACING MATERIAL

#### Existing Condition

The surfacing materials under playground equipment are not sufficient for fall protection. The benches on the playground are due for painting or replacement. The walking path equipment needs painting. Message board sign is out dated. Additional tables and seating areas may improve grounds use around building.

The greatest concern for the landscape is the fall protection surfacing materials. The existing fall protection material is wood chips. There are deep surface material kick out areas and hard compressed areas under the playground equipment.



*Fall surface kick out areas under swings*

#### Recommendation

Set a standard for the play area fall surface types and conditions. Resurface and maintain the fall protection to the set condition to increase safety.



*Compressed fall surface under slide*

#### Scope of Work

- Resurface loose wood chip layers. Other resurfacing options to consider are installation of unitary synthetic materials, impact maps or combinations.

#### Benefits

- Major safety and aesthetics improvements.
- Moderate increase in outdoor use and accommodation.
- Moderate operations & maintenance savings.

## BENCHES AND PLAYGROUND EQUIPMENT

### Existing Condition

The second greatest concern is the condition of the benches on the playground. There are minimal benches on the playground and walking path areas. The few existing benches are worn with paint peeling and flaking off.

Additionally, there is failing paint on the walking path equipment. The paint has faded and started to wear off. The paint on this equipment also does not match the colors the nearby and newer playground equipment.



*Existing bench with peeling paint*

---

### Recommendation

Electrostatic paint the playground benches and walking path equipment to match the playground equipment to improve appearance and maintenance.

Consider adding additional benches, seating, and tables to grounds to better accommodate use of the grounds. Periodic seating along walking path or other areas of the grounds may increase site use by students, staff, and community members.



*Walking path equipment with worn paint*

---

### Scope of Work

- Paint playground benches and walking path equipment to match play area equipment.
- Add tables and outdoor seating to grounds.

---

### Benefits

- Major safety and aesthetics improvements.
- Moderate increase in outdoor use and accommodation.
- Moderate operations & maintenance savings.



*Newer playground equipment*



## EXTERIOR SIGNAGE

### Existing Condition

The final concern noted is the age of the front sign message board. The sign is outdated and limited in providing curb side information to the public.

---

### Recommendation

Replace the outdated message board sign with LED sign to increase public awareness of site and District information and improve site appearance.

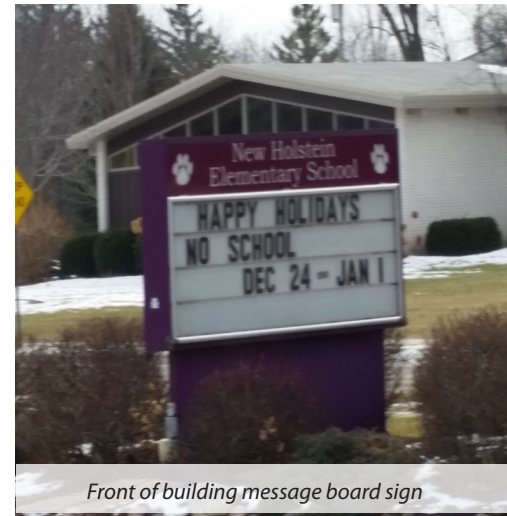
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### Scope of Work


- Replace message board sign with LED.
- 


### Benefits

- Major safety and aesthetics improvements.
- Moderate increase in outdoor use and accommodation.
- Moderate operations & maintenance savings.





 <b>Facility Improvement Measures</b> <b>New Holstein School District</b> <b>Elementary School</b>		Project Recommendation Priority Order						
		0%=10 25%= 5 50%= 0	High=15 Med=8 Low=0	Poor =10 Ave =5 Great =0	<2 yr=5 5 yr= 3 10 yr= 0	Priority	<\$10K=5 \$50K=3 >100K=0	
Area of Improvement	Description of Most Urgent Needs	Useful Life	EHS Concern	Func. Cond.	ROI	Total Points	Proj. Cost	Cost Est.
Lower Level	Penetrations in wall and ceiling are not adequately sealed. Stained ceiling tiles and walls. Locker rooms spaces, fixtures, and layout are not functional. Lighting and controls are inefficient. Ventilation is inadequate. Floor and wall paint and finish is extremely worn. Unfinished appearance of ceiling surfaces transitioning between rooms and areas.	10	15	10	0	35	0	\$625,000
Gym & Stage	Floors are damaged. The ventilation is not adequate. The light and lighting controls are inefficient. Stage lighting and controls are a safety hazard. Bleachers are difficult to operate. Ceiling is stained. Scoreboard is outdated. Only a small manual projector screen on stage. Gym divider curtain and stage curtains are soiled and difficult to operate.	7	15	10	0	32	0	\$950,000
Exterior Wall	Abandoned and elevated chimney is deteriorating. Brick and grout cracks and gaps exist. Removed and patched door and window openings are roughly finished and visible. Gas supply pipe tree and meters are not enclosed. Maintenance shed lower walls are in need of minor repair.	5	15	10	0	30	0	\$450,000
Window Improvements	Glass block window below grade are not sealed on outside and adequately closed on inside. Glass block windows above grade do not provide occupant view from inside building, degrade appearance of the exterior, and do not allow for venting in some areas. Wood framed windows are deteriorating and starting to fail.	7	8	10	0	25	0	\$610,000
Miscellaneous/ Building Operations	No emergency electrical power. Minimal air conditioned cool down spaces. Abandoned service tunnels. Marginal ventilation volumes and modulation flexibility. Heating equipment on scheduled for replacement.	5	8	8	3	24	0	\$275,000
Hardscape	Multiple areas of deterioration and failed concrete. Exit landings, steps, curbing, and bollard bases are cracked with concrete missing. Asphalt gaps are open along the edge of the building perimeter and between the gym and adjacent building wing. No gated barrier between bus and car lots.	5	10	8	0	23	0	\$485,000

 <b>Facility Improvement Measures</b> <b>New Holstein School District</b> <b>Elementary School</b>		Project Recommendation Priority Order						
		0%=10 25%= 5 50%= 0	High=15 Med=8 Low=0	Poor =10 Ave =5 Great =0	<2 yr=5 5 yr= 3 10 yr= 0	Priority	<\$10K=5 \$50K=3 >100K=0	
Area of Improvement	Description of Most Urgent Needs	Useful Life	EHS Concern	Func. Cond.	ROI	Total Points	Proj. Cost	Cost Est.
Classroom	Ceiling tile deterioration and unfinished appearance of ceiling surfaces. Lights and lighting controls are outdated and inefficient. Unit ventilators are outdated and program controls are no longer supported. Unstable subfloor and surface tile in Art room area. Most cabinetry is outdated and scheduled for replacement.	5	8	8	2	23	0	\$745,000
Restroom	Heating cabinets located on floor. Exposed piping on ceilings. Narrow entry passage with door frames and vestibule walls. Exhaust grills on walls. Stained fixtures and mirrors. Patched and aged floor and wall tiles. Clashing toilet stalls colors.	5	8	8	2	23	0	\$395,000
Corridors & Stairwell	Stained ceiling tiles and suspension grid. Unfinished appearance of ceiling surfaces transitioning into classroom entries. Lights and lighting controls are outdated and inefficient. Corridor separation doors missing. Storage cubbies unorganized and inadequate to secure student belongings. Ceramic tile ages building appearance. Existing handrails do not extend per ADA compliance.	5	8	8	1	22	0	\$175,000
Landscape	The surfacing materials under playground equipment are not sufficient for fall protection. The benches on the playground are due for replacement. The walking path equipment needs painting. Additional tables and seating areas may improve grounds use around building. Message board sign is out dated.	5	8	8	0	21	0	\$125,000

## ELEMENTARY SUMMARY

The audit of the New Holstein Elementary School showed a well-cared for facility with staff who are committed to providing an exceptional learning environment for their students. The District is extremely well organized, with a 10-year capital improvement plan that already has upgrades scheduled for the cabinets, concrete, and ceiling. Funds towards a portion of the elementary school gym renovation are already budgeted for the near future.

Two potential areas for improvement that should be considered moving forward are investing in updates to the lower level and renovating the gym and stage areas. The lower level currently houses inefficient lighting, inadequate ventilation, and wall and ceiling penetrations that are not properly sealed. Many of the fixtures and finishes in this section of the building are beyond their useful life, and the improper indoor air quality and lighting levels not only pose a safety concern, but could be negatively affecting test scores.

Similarly, the gym area also houses poor ventilation and lighting. This area also has damaged floors, unsafe stage lighting and controls, and outdated bleachers and equipment. The District has already budgeted a portion of its capital maintenance funds to go toward this endeavor. Additional money will be needed to properly address all the identified safety and facility concerns.

The prioritization matrix serves to provide a starting point for future equipment replacement schedules. Some energy efficient items such as lighting and controls should be budgeted for in the near future, while other proposed projects, such as updating the floor and wall paint can wait longer before implementation.

Findings from this report are meant to enhance the learning environment and improve occupant comfort, which can lead to improved test scores and higher student achievement. These proposed facility improvement measures can also save energy, allow for proper budgeting, and reduce maintenance costs.



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# NEW HOLSTEIN MIDDLE/HIGH SCHOOL

## FACILITY ANALYSIS

New Holstein Middle/High School is located at 1715 Plymouth Street in New Holstein, Wisconsin. The Middle School lists its mission as creating and promoting a school climate where every individual can achieve social, emotional, and academic success, while the High School totes a motto of student learning as its first priority every day of the year.

Both of these philosophies can be accomplished by creating a school environment where students feel safe, are respected, learn to be productive citizens, and have opportunities to grow academically, behaviorally, and socially. And that’s just what the New Holstein Middle/High School does.

During the assessment, CESA FM technical experts paid close attention to HVAC equipment, building envelope measures, finishes, fixtures, safety concerns, and 21st-century learning spaces. Items identified in this report are meant to improve the efficiency and consistency of the facility over the next 10 years while reducing future operation and maintenance costs.

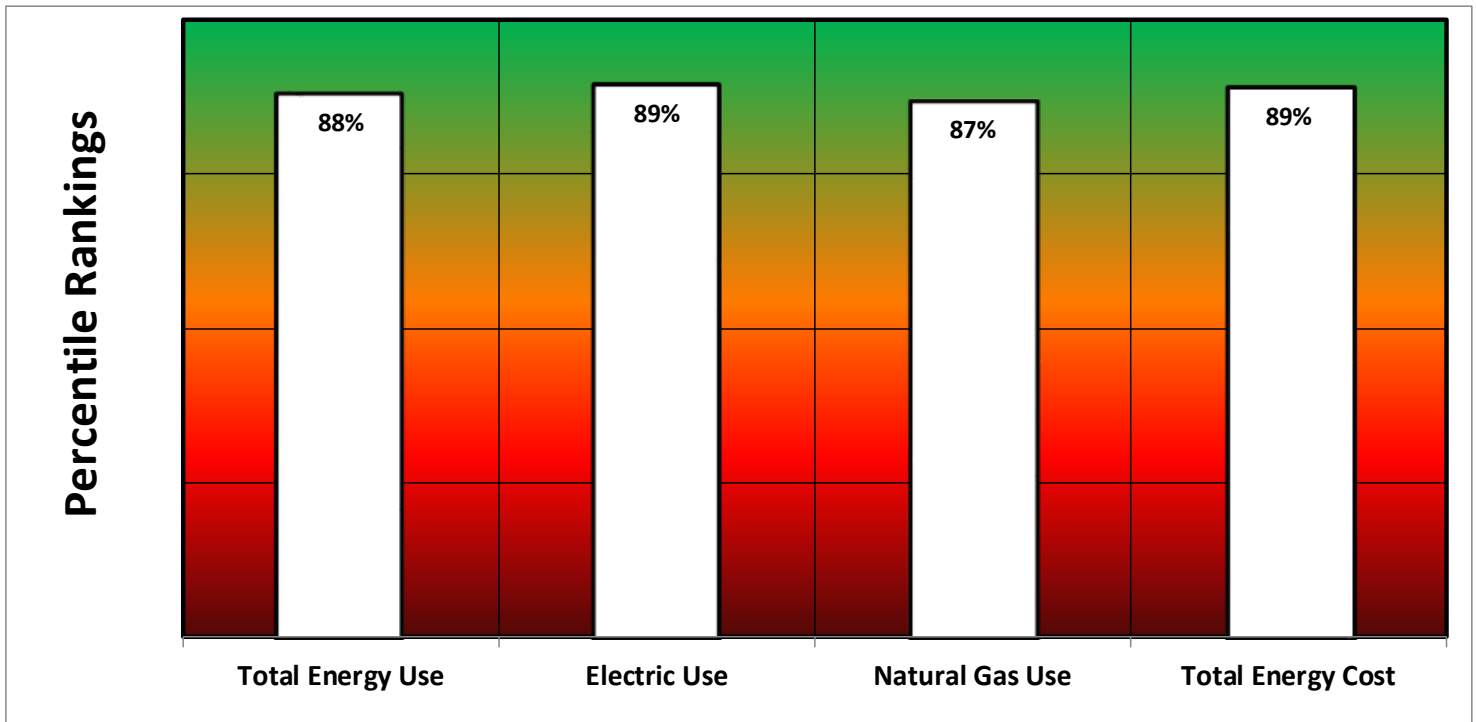
NEW HOLSTEIN MIDDLE/HIGH SCHOOL	
Square Footage	260,128
2017-18 Electric Usage (kWh)	1,104,876
2017-18 Heating Fuel Usage (Therms)	81,713



## ENERGY USE

The following benchmarking analysis compares New Holstein Middle/High School to an average high school in Wisconsin. The District uses less electricity and natural gas per square foot than the average high school in Wisconsin.

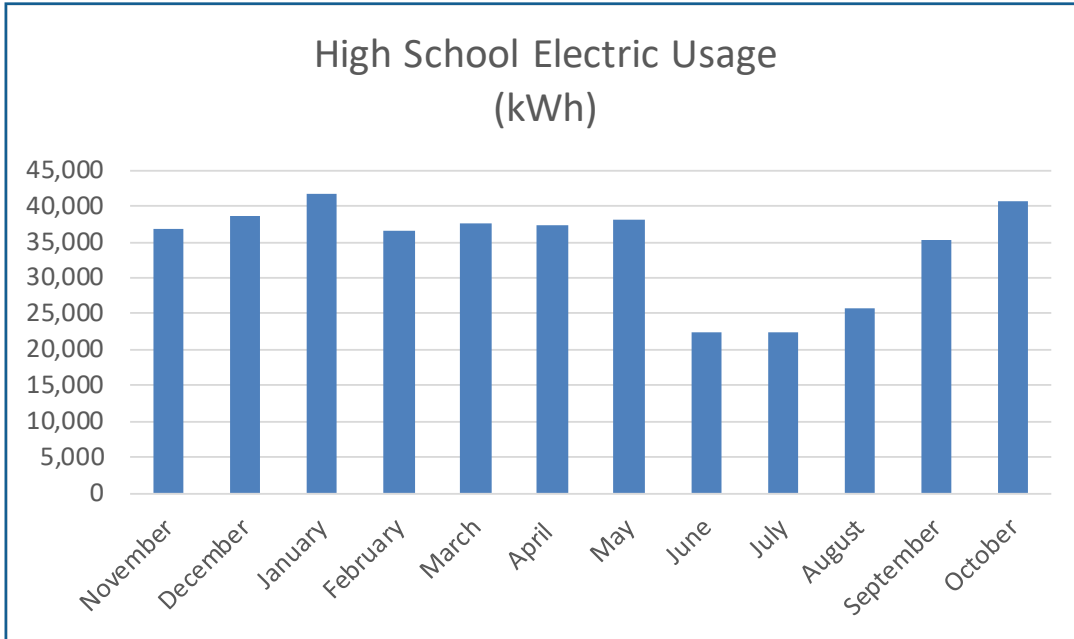
NEW HOLSTEIN MIDDLE/HIGH SCHOOL BENCHMARKING				
	Total Energy Use kBtu/ft2	Electric Use kWh/ft2	Natural Gas Use Btu/ft2/HDD	Total Energy Cost \$/ft2
Average High School	73.84	7.6	7.2	\$1.09
New Holstein High School	45.9	4.2	4.7	\$0.64
Percentile Rankings	88%	89%	87%	89%



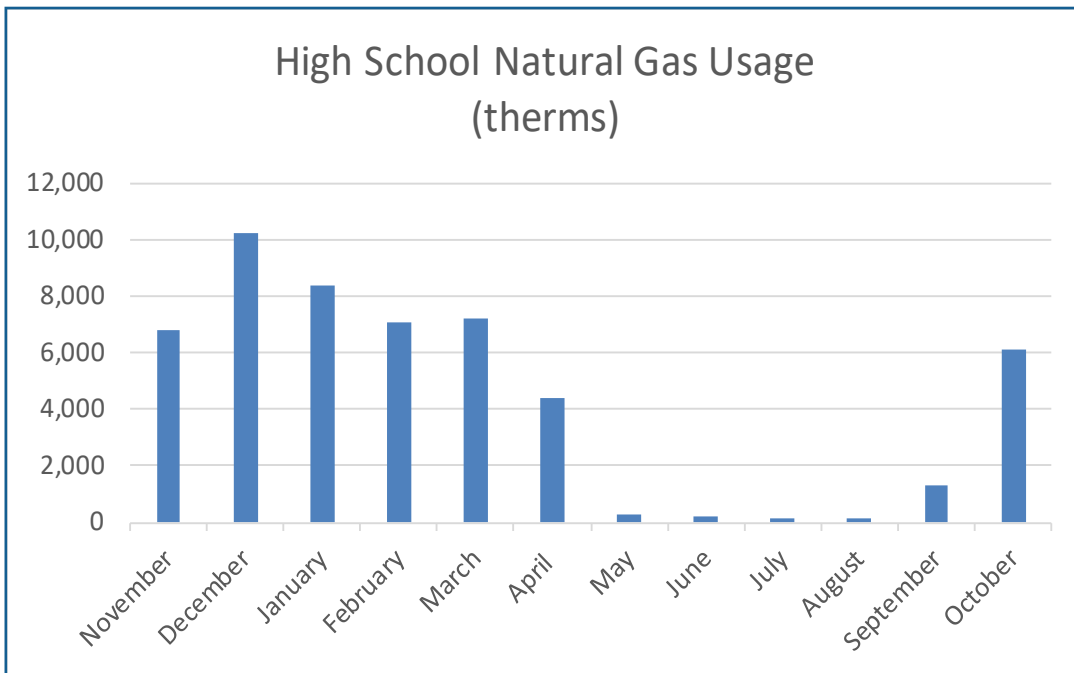
The chart above indicates the level of energy efficiency the facility is running at. Green equals good, yellow equals moderate, and red equals poor.

## UTILITY ANALYSIS

The utility graph below demonstrates the electrical consumption at New Holstein Middle/High School from November 2017 through October 2018. This consumption decreases over the summer months due to a decrease in building occupants and equipment usage.



New Holstein Middle/High School is heated using natural gas. As shown in the graph below, the gas load follows a typical profile for a building that is heated with natural gas and is exposed to Wisconsin's weather patterns.



## PROJECT PRIORITIZATION

Based on the prioritization factors listed earlier in this report and discussions with District staff, CESA FM created a project prioritization matrix for each school. After identifying concerns and discussing possible solutions with the District, CESA FM picked out the most pressing issues facing each facility. These concerns are outlined in the following section by the existing conditions, recommended improvement measures, potential scope of work, and estimated annual savings.

A chart of the rating guidelines is included below. Projects are graded based on functional condition, predicted remaining useful life, environmental and safety concerns, project costs, and return on investment. Measures with the highest total points should be addressed in the immediate future.

Cost estimating at this juncture can prove difficult. For example, a facility improvement measure recommending a flooring project can vary based on the type of flooring the District chooses. Site conditions, environmental factors, and the availability of materials can also play a role in final project costs.

This report serves as an important first step in identifying facility needs. A copy of the entire prioritization matrix will be provided to the District in an Excel-based tool that can be adapted by District staff based on future replacement schedules, equipment conditions, and District priorities.

RATING GUIDELINES			
Criteria	Scoring System		
Functional Condition	Poor = 10	Average = 5	Good = 0
Predicted Remaining Useful Life	0% = 10	25% = 5	50% = 0
Environmental Health and Safety Concerns	High = 15	Medium = 8	Low = 0
Project Cost	Less than \$10,000 = 5	\$50,000 = 3	Greater than \$100,000 = 0
Return on Investment	Less than two years = 5	Five years = 3	Greater than 10 years = 0



# HIGH SCHOOL CLASSROOMS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
10	5	15	0	1	<b>31</b>	\$425,000

## FLOOR TILE

### Existing Condition

Vinyl asbestos tile (VAT) is on the floors in most of the high school classrooms. Lighting and lighting controls are outdated and inefficient. Ceiling tiles and suspension grids are stained and discolored. Classroom cabinets and teacher desks are outdated. Metal door frames are worn and scratched.

The greatest concern for classrooms is the vinyl asbestos floor tile in most rooms. The tile contains the hazardous material asbestos and is a safety concern. The VAT also requires additional management and building services to maintain. The tile is discolored and stained in many classroom areas.

### Recommendation

Properly abate and remove the hazardous asbestos materials from the classrooms. Re-tile the floors with vinyl composition tile (VCT) matching other VCT in the building.

### Scope of Work

- Abate and remove vinyl asbestos tile and mastic
- Re-tile with vinyl composition tile.

### Benefits

- Major safety and aesthetics improvements.
- Moderate light level improvement and energy savings.
- Minor building maintenance and operations savings.



Classroom VAT tile



Classroom VAT tile



Classroom VAT tile



## INTERIOR FINISHES

### Existing Condition

The second greatest concern in the classrooms is the unattractive interior finishes. The classroom ceiling tiles and suspension grid are stained and discolored. The lighting and lighting controls are outdated and inefficient. The metal door frames are scratched and discolored.

---

### Recommendation

To improve appearance remove the ceiling tiles, paint the ceiling suspension grid, and replace ceiling tiles. Replace lighting controls and lighting controls with energy efficient lighting and controls. Paint the door frames.

---

### Scope of Work

- Remove ceiling tile and paint ceiling suspension grid.
- Replace ceiling tile.
- Install new lighting and controls.
- Paint door frames.

---

### Benefits

- Major safety and aesthetics improvements.
- Moderate light level improvement and energy savings.
- Minor building maintenance and operations savings.



Classroom ceiling



Classroom lighting



Classroom door frame

## CABINETS AND DESKS

### Existing Condition

The final concern in the classrooms is the condition of the cabinetry and teachers desks. The cabinets and desks are in outdated and many are in poor condition.

---

### Recommendation

Replace the cabinets and teacher's desks that are in poor condition.

---

### Scope of Work

- Replace cabinets and teacher's desks.
- 

### Benefits

- Major safety and aesthetics improvements.
- Moderate light level improvement and energy savings.
- Minor building maintenance and operations savings.



*Classroom cabinets*



*Classroom teacher's desk*

# HIGH SCHOOL LAB ROOMS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
10	5	15	0	1	<b>31</b>	\$225,000

## FLOOR TILE

### Existing Condition

Vinyl asbestos tile (VAT) is on the floors in most of the high school lab rooms (Science, biology, consumer education, and art). Lighting and lighting controls are outdated and inefficient. Ceiling tiles and suspension grids are stained and discolored. Lab plumbing fixtures, sinks, work tables, cabinets, and teacher desks are outdated and in poor condition. Metal door frames are worn and scratched.

The greatest concern for lab rooms is the vinyl asbestos floor tile in most lab rooms. The tile contains the hazardous material asbestos and is a safety concern. The VAT also requires additional management and building services to maintain. The tile is discolored and stained in many lab room areas.



### Recommendation

Properly abate and remove the hazardous asbestos materials from the lab classrooms. Re-tile the floors with vinyl composition tile (VCT) matching other VCT in the building.

### Scope of Work

- Abate and remove vinyl asbestos tile and mastic.
- Re-tile with vinyl composition tile.
- 

### Benefits

- Major safety, lab accommodations, and aesthetics improvements.
- Moderate light level improvement and energy savings.
- Minor building maintenance and operations savings.

## FIXTURES AND FURNISHINGS

### Existing Condition

The second greatest concern in the lab rooms is the condition of the plumbing fixtures, sinks, work tables, cabinetry, and teacher's desks. The plumbing fixtures, sinks, work tables, cabinets and desks are in outdated and many are in poor condition.

---

### Recommendation

Replace plumbing fixtures and sinks. Replace the student and teacher work tables, cabinets, and teacher's desks.

---

### Scope of Work

- Replace plumbing and sink.
- Replace work tables, cabinets, and teacher's desks.

---

### Benefits

- Major safety, lab accommodations, and aesthetics improvements.
- Moderate light level improvement and energy savings.
- Minor building maintenance and operations savings.



*Damaged work table*



*Chipped cabinets*



*Worn work table tops*

## INTERIOR FINISHES

### Existing Condition

The final concern in the lab rooms is the unattractive interior finishes. The lab room ceiling tiles and suspension grid are stained and discolored. The lighting and lighting controls are outdated and inefficient. The metal door frames are scratched and discolored.

---

### Recommendation

To improve appearance remove the ceiling tiles, paint the ceiling suspension grid, and replace ceiling tiles. Replace lighting controls and lighting controls with energy efficient lighting and controls. Paint the door frames.

---

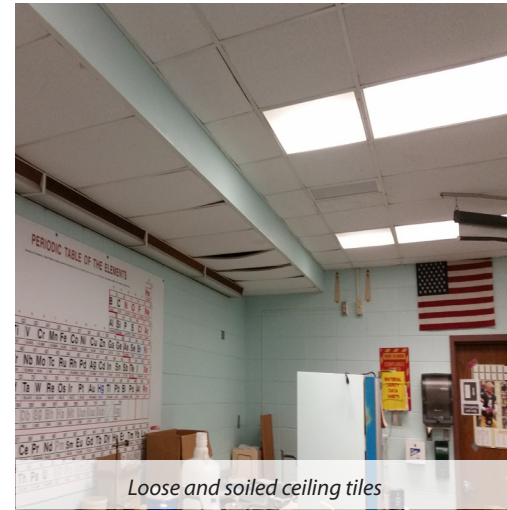
### Scope of Work

- Remove ceiling tile and paint ceiling suspension grid.
- Replace ceiling tile.
- Install new lighting and controls.
- Paint door frames.

---

### Benefits

- Major safety, lab accommodations, and aesthetics improvements.
- Moderate light level improvement and energy savings.
- Minor building maintenance and operations savings.



# HIGH SCHOOL CORRIDORS AND RESTROOMS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
10	5	8	0	2	<b>25</b>	\$255,000

## CORRIDORS

### Existing Condition

High school corridor ceiling grids are stained. Lighting and lighting controls are outdated and inefficient. High school metal corridor lockers exterior surfaces are worn and scratched. Most of the high school restroom floor and wall tiles and fixtures are stained and out of date. The toilet stalls colors and materials clash. An excellent standard for the restroom finishes has been set in the high school commons restrooms.

The greatest concern for corridors is the unattractive interior finishes. The corridor ceiling tiles and suspension grid are stained and discolored. Lighting and lighting controls are outdated and inefficient. The metal lockers in the corridors are worn and scratched.

### Recommendation

To improve appearance replace the ceiling tiles and ceiling suspension grid. Replace lighting controls and lighting controls with energy efficient lighting and controls. Electrostatic paint corridor lockers.

### Scope of Work

- Replace ceiling tile and suspension grid.
- Electrostatic paint lockers.
- Upgrade lighting and controls to LED.

### Benefits

- Major aesthetics improvements.
- Moderate building maintenance and operations savings.
- Minor light level improvement and energy savings.



Ceiling tile and discolored suspension grid



Metal corridor lockers

## RESTROOMS

### Existing Condition

The greatest concern in the restrooms are wall tiles, floor tiles and fixtures are stained and out of date. The restroom stall partition colors and materials clash with the other finishes in the rooms.

---

### Recommendation

Update the restrooms using the surface and fixture standards set in the commons restrooms.

---

### Scope of Work

- Upgrade restrooms to newer addition standards.

---

### Benefits

- Major aesthetics improvements.
- Moderate building maintenance and operations savings.
- Minor light level improvement and energy savings.



High school wall cabinet heater



High school wall tiles



High school floor tiles



# HIGH SCHOOL AND MIDDLE SCHOOL BUILDING OPERATIONS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
10	5	8	0	1	<b>24</b>	\$290,000

## KITCHEN STOREROOM

### Existing Condition

There is a reoccurring kitchen storeroom water infiltration issue, redundant emergency generator systems, and no emergency electrical power to food service refrigeration systems. The building chiller water pumps are scheduled for replacement. Re-commissioning of building systems and controls are overdue. No renewable energy demonstration equipment is installed or in use.

The greatest concern for building operations is the reoccurring water infiltration into the kitchen storeroom located near the center of the building. The leak appears during heavy rain storms. The staff is prepared to contain the leaks during rain events and clean up after. The concerns are not knowing the source, the other potential damage being created under the building, and the need to monitor, contain, and clean up after each leak.



### Recommendation

A basic leak investigation study on reoccurring leaks into the kitchen storeroom should be completed. The cost to contain and properly drain the excess water during rain storms can be estimated as part of the study and corrective action taken based on the investigation report.

### Scope of Work

- Investigate and correct the water infiltration leak.

### Benefits

- Major safety improvements, operations & maintenance savings, and energy savings.
- Moderate educational opportunity.

## ELECTRICAL GENERATORS

### Existing Condition

The second greatest concern for the building operations is maintaining redundant emergency electrical generators for each the middle school and high school. Neither generator provides an emergency power circuit to the food service refrigeration systems. An original generator was in place at the high school. A second emergency generator was added as part of the middle school addition. The second generator now has the capacity to support both the middle school and high school.

---



*Old high school generator*

### Recommendation

Add the food service circuit and high school emergency circuits to the middle school generator. Decommission the high school generator once this has been accomplished.

---



*Newer middle school generator*

### Scope of Work

- Add food service circuit to middle school emergency generator.
  - Connect high school emergency circuits to the middle school generator.
  - Decommission the high school emergency generator.
- 

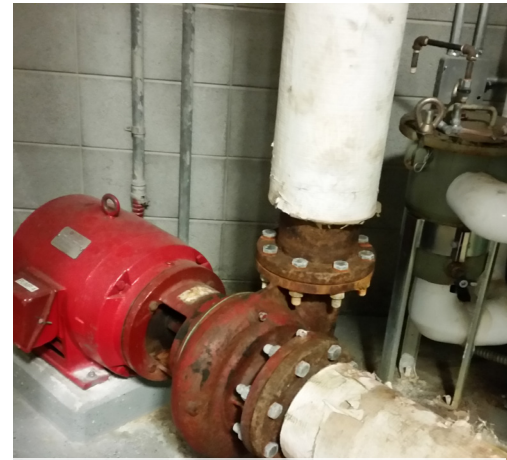
### Benefits

- Major safety improvements, operations & maintenance savings, and energy savings.
- Moderate educational opportunity.

## CHILLED WATER DISTRIBUTION

### Existing Condition

The next building operations concern is the condition the chilled water pumps and lack of recommissioning the other building systems, equipment, and controls. The chilled water distribution system includes inefficient pumps and constant volume chilled water delivery to the terminal HVAC units. The existing pump motors lose energy in the form of heat, friction, and other motor (core) losses. The current pumping system is delivering a constant amount of water throughout the building at a constant water supply temperature. The overdue recommissioning of other pieces of equipment, systems, and controls increases the potential for other inefficient building operations such as the chilled water pumping.



*Constant volume chilled water pump*

### Recommendation

Replace the chilled water pumps and motors with NEMA premium efficiency motors. Install variable speed drives on the pump motors to reduce the energy used by slowing down the motor when the demand for chilled water flow is less than the maximum amount. Recommission the other building operations equipment, systems, and controls to schedule, sequence, and operate within the most efficient set points for building operations during varying conditions. At a minimum control strategies such as morning warm-up, maintaining night set-back temperatures and classroom temperature monitoring will be verified or restored with the recommissioning.



*Variable volume hot water heating pumps*

### Scope of Work

- Replace and upgrade chilled water pumps and motors.
- Add a variable speed drive to each new pump.
- Recommission systems & controls.

### Benefits

- Major safety improvements, operations & maintenance savings, and energy savings.
- Moderate educational opportunity.



*Direct digital control (DDC) panel*



## **RENEWABLE ENERGY SYSTEM**

### **Existing Condition**

The last building operations concern is the lack of renewable energy system use. Typically a small renewable energy system is in use for educational demonstration and energy savings.

---

### **Recommendation**

Consider the installation of a small renewable energy system for educational demonstration and energy savings.

---

### **Scope of Work**

- Install exterior, free standing solar panels.
- 

### **Benefits**

- Major safety improvements, operations & maintenance savings, and energy savings.
- Moderate educational opportunity.

# HIGH SCHOOL AND MIDDLE SCHOOL HARDSCAPES

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
10	5	8	0	0	<b>23</b>	<b>\$284,000</b>

## RECEIVING DOCK

### Existing Condition

The receiving dock is deteriorating and has minimal fall protection. The dock also has restricted vehicle access. West lot asphalt is due and scheduled for replacement. Excess west lot surface water runoff draining to athletic field was observed. The walkway to the concession stand and track is cracked and uneven.

The greatest concern for hardscapes is the access to and condition of the dock and receiving area. Due to the current marked traffic pattern and parking areas the access to the dock is restricted. The dock base, walls, and receiving deck need concrete repairs and additional safety railings for operator and site occupant protection.

### Recommendation

Add safety roller gate(s) to the receiving deck and wall tops. Patch and finish the receiving dock base drive, walls, and receiving deck. Paint warning stripes on and around dock. Excavate the grounds area directly west of the dock and within the existing asphalt perimeter to open up access for delivery vehicles to the dock.

### Scope of Work

- Add safety roller gate to receiving dock.
- Flat and vertical patch concrete receiving dock.
- Paint warning stripes on and around receiving dock.
- Open delivery access to dock by removing obstacles and increasing hard surface area.

### Benefits

- Major safety improvements and operations & maintenance savings.
- Moderate aesthetics improvements.



Receiving dock entrance drive



Receiving dock drive base



Receiving dock top deck



## ASPHALT

### Existing Condition

The second greatest concern is the condition of the west lot asphalt. Pot holes, large cracks, and gaps have formed on the asphalt surface. The drainage from the lot is spilling over the west edge and draining to the athletic field areas.

---

### Recommendation

Excavate the west lot base for proper drainage, replace asphalt, and restripe and paint. Excavate the east lot and visitors' lot base for proper drainage, replace asphalt, and re-stripe and paint. Most of this work is planned for completion over the summer in 2019.

---

### Scope of Work

- Replace asphalt (West side lots).
- Re-stripe and paint west side lots.
- Curb or re-berm west side of west lot.
- Replace asphalt (East/Visitor lots).
- Re-stripe and paint east side and visitors lots.

---

### Benefits

- Major safety improvements and operations & maintenance savings.
- Moderate aesthetics improvements.



West lot asphalt pot hole



West lot drainage basin



West lot drainage to athletic field

## CRACKED WALKWAY

### Existing Condition

The final hardscape concern is the cracked and uneven concrete walkway to the concession stand and track. The cracks have continued to widen and deepen. The unevenness creates a slip, trip, and fall surface that should be corrected.

---

### Recommendation

Repair and replace all cracked and uneven track and concession stand walkway concrete to prevent slips, trips, and falls.

---

### Scope of Work

- Replace track and concession stand concrete walkway.

---

### Benefits

- Major safety improvements and operations & maintenance savings.
- Moderate aesthetics improvements.



*Existing walking cracks*



*Existing walkway cracks*

## HIGH SCHOOL LOCKER ROOMS

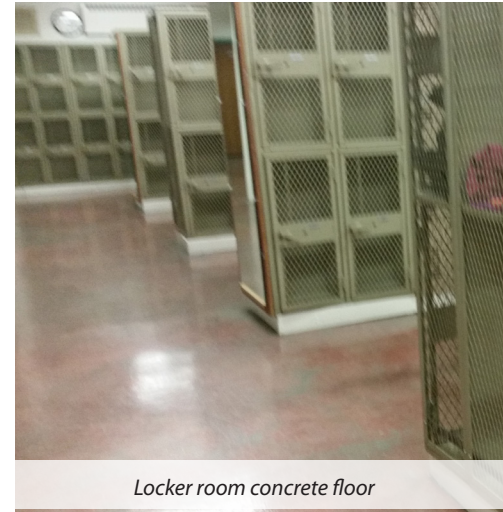
Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
5	5	5	4	2	<b>21</b>	\$15,000

### INTERIOR FINISHES

#### Existing Condition

The high school locker room floors and lockers exterior surfaces worn and scratched. Lights and lighting controls are outdated and inefficient.

The concern for locker rooms is the appearance of the interior finishes. The floors are polished concrete with urethane finish. The finish is worn, pitted, and due for re-coating.



Locker room concrete floor

#### Recommendation

Prepare the urethane finish for top coating by deep scrubbing. Heavily re-coat with urethane to fill pitted areas and provide a smooth easily cleanable floor surface.

#### Scope of Work

- Prepare and re-coat urethane floor.

#### Benefits

- Major appearance and operations & maintenance savings.
- Moderate energy savings.



## **PAINT**

### **Existing Condition**

In the locker rooms the paint finish on some of the lockers is worn and scratched. Many of the lockers have not been recently repainted creating an unfinished appearance. Some locker room lockers are newer and not in need of painting.

---

### **Recommendation**

Prepare and electrostatic paint the lockers with standard locker room locker color.

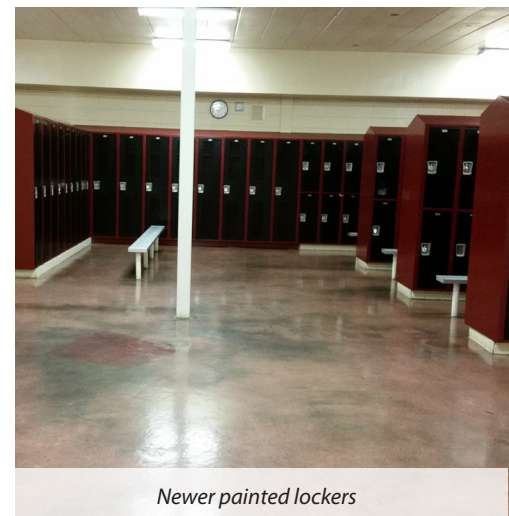
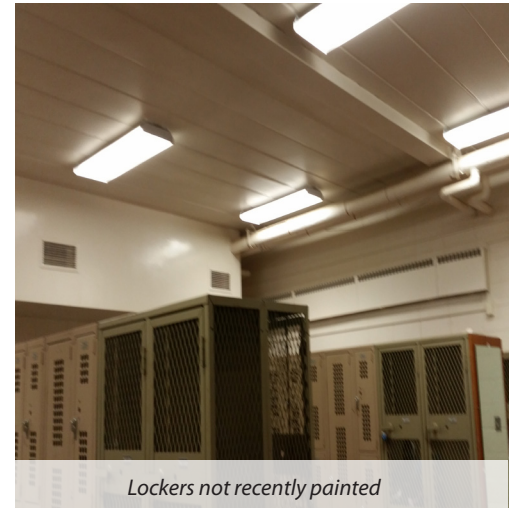
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### **Scope of Work**

- Electrostatic paint lockers.
- 

### **Benefits**

- Major appearance and operations & maintenance savings.
- Moderate energy savings.





## LIGHTING

### Existing Condition

Lighting in the locker rooms is outdated and inefficient. The lighting is T8 fluorescent consuming extra wattage to provide adequate light levels in the locker rooms.

---

### Recommendation

Replace existing lighting with LED lighting with occupancy controls.

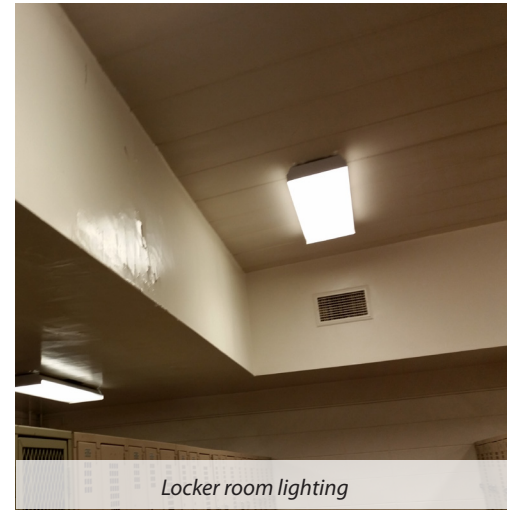
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### Scope of Work

- Upgrade lighting to LED
  - Add occupancy controls to LED lighting.
- 

### Benefits

- Major appearance and operations & maintenance savings.
- Moderate energy savings.



# HIGH SCHOOL AUDITORIUM

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
8	5	5	0	2	<b>20</b>	\$438,000

## INTERIOR FINISHES

### Existing Condition

Behind the auditorium the back stage ceiling is damaged and the floor tile is vinyl asbestos tile (VAT). In the auditorium the floors (carpet, concrete, and wood) and seating are in need of and are scheduled for replacement. Lights and lighting controls throughout the auditorium areas are outdated and inefficient. The large projector power screen malfunctions.

The greatest concern for the auditorium area is the damaged and hazardous material containing interior finishes. The ceiling is damaged and needs to be replaced. The floor tile contains the asbestos and is a safety concern. The VAT also requires additional management and building services to maintain. The tile is also discolored and stained.

### Recommendation

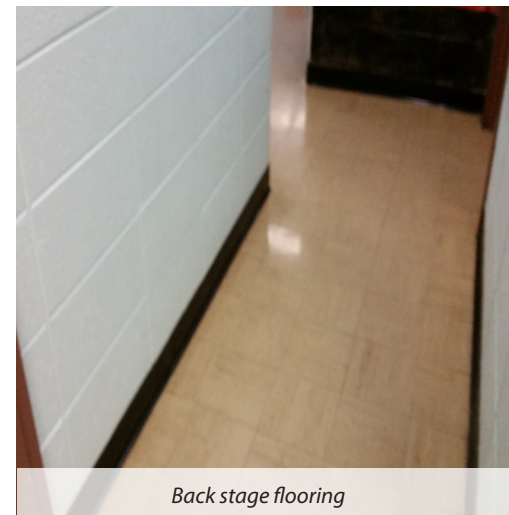
Properly abate and remove the hazardous asbestos materials from the floor areas. Re-tile the floors with vinyl composition tile (VCT) matching other VCT in the building. To improve appearance and ongoing maintenance replace ceiling tiles with suspension grid/tile ceiling.

### Scope of Work

- Abate and remove vinyl asbestos tile and mastic
- Re-tile with vinyl composition tile.
- Replace ceiling tile.

### Benefits

- Major safety and aesthetic improvements.
- Moderate building operations savings.
- Minor energy savings.





## AUDITORIUM ROOM

### Existing Condition

The second greatest concern is the interior finishes in the very large auditorium room. The room conditions are unattractive and uncomfortable for occupants. The carpeted areas are stained and torn. The seating has worn upholstery and uncomfortable seats. The walls and ceiling are dingy.

### Recommendation

Paint the painted walls and ceilings. Replace carpet, finish wood floors, and seal concrete floors. Upgrade or replace seats.

### Scope of Work

- Paint walls.
- Replace floor / carpet.
- Upgrade seating (600 seats).

### Benefits

- Major safety and aesthetic improvements.
- Moderate building operations savings.
- Minor energy savings.



Auditorium carpet



Auditorium seating

## LIGHTING

### Existing Condition

The next auditorium concern is outdated and inefficient lighting throughout the area. The current lighting and controls do not provide the opportunities expected for current presentations.

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### Recommendation

Replace room and stage lighting and lighting controls with updated lighting and controls.

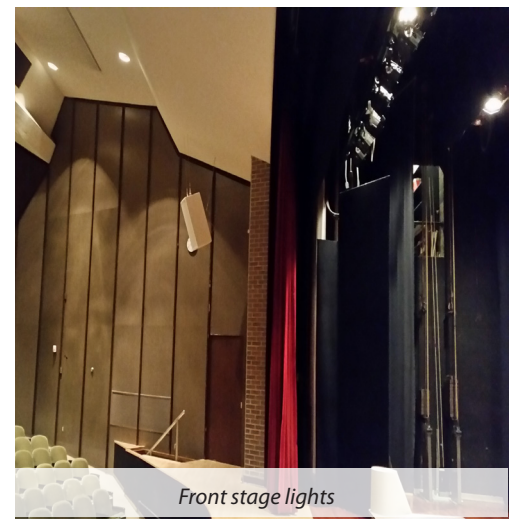
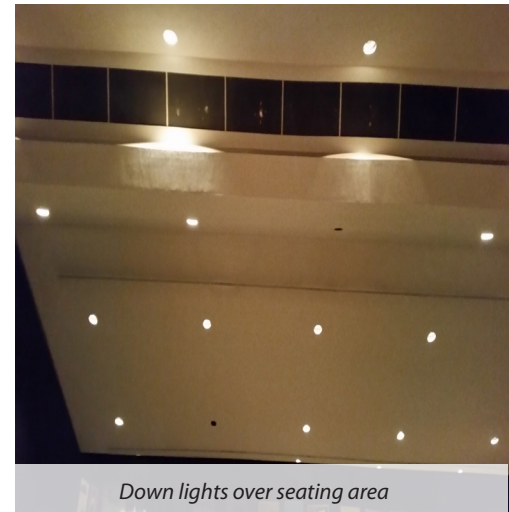
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### Scope of Work

- Replace lighting and lighting controls with energy efficient lighting and controls.
- 

### Benefits

- Major safety and aesthetic improvements.
- Moderate building operations savings.
- Minor energy savings.





## **PROJECTOR**

### **Existing Condition**

The last auditorium concern is the large projector power screen malfunctions and requires manual service for each use. The frequency of use is lessened by not being functional and often delays program start or extends end of event clean up time.

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### **Recommendation**

Replace the power projector screen.

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### **Scope of Work**

- Replace Power Screen
- 

### **Benefits**

- Major safety and aesthetic improvements.
- Moderate building operations savings.
- Minor energy savings.

# MIDDLE SCHOOL GYM

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
5	5	0	3	3	<b>16</b>	\$28,000

## LIGHTING

### Existing Condition

Middle school gym lights and lighting controls are outdated and inefficient.

The middle school gymnasium currently utilizes T8 fluorescent fixtures for lighting. This source of lighting is less efficient due to the watts used compared to the lumens it distributes.



Gym ceiling with lighting fixtures

### Recommendation

Install LED fixtures in place of the existing T8 fluorescent fixtures. The LED fixtures utilize fewer watts per lumen output and provide control options to create a selection of lighting scenes for different space use and events. Motion sensors installed with the fixtures to reduce the hours of operation will also save energy. The LED have a longer operating life without the need for periodic lamp or ballast changes.

### Scope of Work

- Upgrade lighting and controls to LED.

### Benefits

- Moderate energy and operations & maintenance savings.
- Minor electric cooling savings.

# HIGH SCHOOL EXTERIOR WALLS AND DOORS

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
5	5	0	4	0	<b>14</b>	\$30,000

## EXTERIOR WALL

### Existing Condition

Exterior limestone soiled, stained, and minor cracks. Shop exit doors are scheduled for replacement.

The limestone dimensional edge and face stone used to trim the building had become soiled, stained, and has minor cracks in the mortar joints. The stone face has accumulated air borne dirt, soot, and mild acid staining due to the environmental conditions. This is most noticeable when the surface is wet.



Concession stand

### Recommendation

Clean the limestone to remove the discoloration. Tuck-point weak mortar areas and minor cracks in the stone.

### Scope of Work

- Clean exterior limestone.
- Tuck-point and caulk limestone where needed.

### Benefits

- Major operations & maintenance savings.
- Moderate safety and appearance improvements.
- Minor energy savings.



## DOORS

### Existing Condition

The shop doors have deteriorated and are becoming difficult to open. This is mainly a safety concern. New doors will also save energy over the existing doors that have worn weather stripping and a lower R-value than the new doors.

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### Recommendation

Replace the existing shop doors with new doors. The new doors will reduce infiltration of the outside unconditioned air into the shop areas during periods of hot and humid outside air and reduce the loss of heated air from the shops to the outside during periods of cold outside air temperatures. Increasing the insulation value of the doors will reduce the conductive heat transfer. In other words, the higher the R-value of the doors, the lower the amount of energy transferred in or out of the building.

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### Scope of Work

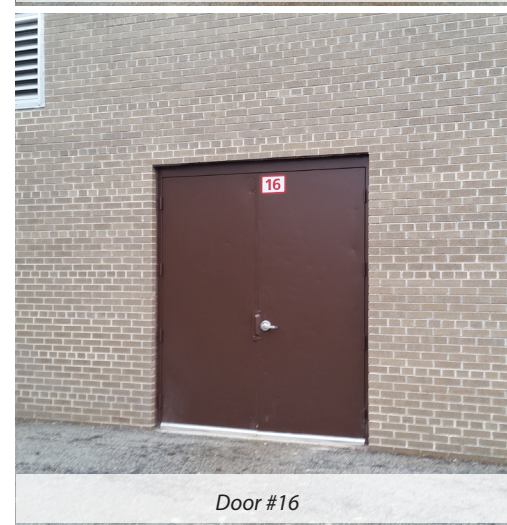
- Install new doors and frames for exits #16 & #17.
- 

### Benefits

- Major operations & maintenance savings.
- Moderate safety and appearance improvements.
- Minor energy savings.



Door #17



Door #16

## HIGH SCHOOL ATHLETIC FIELD

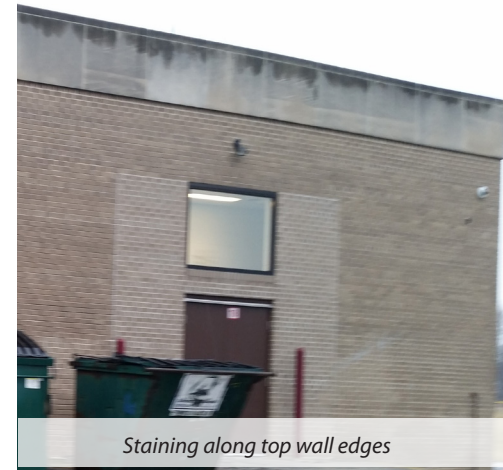
Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
5	5	0	2	1	<b>13</b>	\$75,000

### CONCESSION STAND ROOF

#### Existing Condition

The shingled concession stand roof is scheduled for replacement. The athletic field lights are providing depreciated lumens and color rendering since the original installation in 1990.

The greatest concern for the athletic fields, in addition to the walkway replacement covered in hardscapes section of this report, is the aging shingled roof on the concession stand. The roof is currently scheduled for replacement. In a short time, the shingles will start to fail and a new roof will be needed.



*Staining along top wall edges*

#### Recommendation

Replace the shingled roof with a lower maintenance, longer lasting metal roof. The main advantages of metal over asphalt shingle roof are longer expected life, less roof weight, ease to install, fire resistance, heat conduction, minimal pitch, and maximum rain and snow shedding. The disadvantage of a metal roof over shingles is the slightly higher cost, noise during heavy storms, and potential for denting.

#### Scope of Work

- Replace concession stand roof.

#### Benefits

- Major operations and maintenance savings.
- Moderate appearance improvement and energy savings.
- Minor safety improvement.

## POLE LIGHTING

### Existing Condition

The second greatest concern is the pole lighting for the athletic fields. The light depreciation and loss of color rendering of the existing light continues since original installation. The 1990 lights are now producing a much lower quality and quantity of light than when originally put in use.

---

### Recommendation

Replace the High Intensity Discharge (HID) lighting on the athletic field pole lighting with light emitting diode (LED) fixtures. HID lighting is the past standard for exterior lighting applications. The HID lighting produces light by creating an arc over two electrodes through a gas medium contained in a pressurized glass bulb, hence the name “high intensity discharge.” This lighting source has significant lumen depreciation providing less light output throughout the lifetime of the lamps. Replacing these fixtures will reduce fixture wattage and extend the lifetime of the lamps. This reduces maintenance cost while lumen depreciation is also greatly reduced. LED lighting has improved color rendering and will more accurately represent the colors of the object being lit and will not “shift” colors at the end of life like the typical HID lighting system.

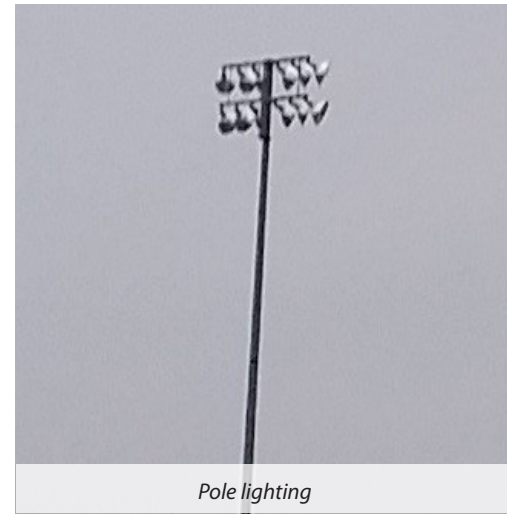
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### Scope of Work

- Replace field lights with LED.
- 

### Benefits

- Major operations and maintenance savings.
- Moderate appearance improvement and energy savings.
- Minor safety improvement.



# HIGH SCHOOL VEHICLES AND EQUIPMENT

Function Condition	Predicted Useful Life	Environ/Safety Concern	Project Cost	Return on Investment	Total Points	Cost Estimate
5	5	0	3	0	<b>13</b>	\$58,000

## VEHICLES

### Existing Condition

FFA van, drivers' education car, and grounds service tractor are scheduled for replacement.

All of these vehicles are past routine trade in cycle and are scheduled for replacement. The operating conditions and trade in value of each will continue to decrease over time.

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### Recommendation

Review current and planned frequency of use, hours of use, and maximum load to determine acceptable replacement makes and models. Replace per each specified vehicles.

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### Scope of Work

- Trade-in and replace FFA Van.
- Trade-in and replace Driver's Ed Car.
- Trade-in and replace 1500 Series Tractor.


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### Benefits

- Major complement of vehicle selection for use.
- Moderate safety improvements and operations & maintenance savings.
- Minor appearance improvement.



FFA van

 <b>Facility Improvement Measures</b> <b>New Holstein School District</b> <b>Middle/High School</b>		Project Recommendation Priority Order						
		0%=10 25%= 5 50%= 0	High=15 Med=8 Low=0	Poor =10 Ave =5 Great =0	<2 yr=5 5 yr= 3 10 yr= 0	Priority	<\$10K=5 \$50K=3 >100K=0	
Area of Improvement	Description of Most Urgent Needs	Useful Life	EHS Concern	Func. Cond.	ROI	Total Points	Proj. Cost	Cost Est.
High School Classrooms	Vinyl asbestos tile in most classrooms. Lights and lighting controls are outdated and inefficient. Ceiling grids stained. Most cabinetry and teacher desks are outdated. Metal door frames worn and scratched.	5	15	10	1	31	0	\$425,000
Labs (Science, Consumer & Art)	Vinyl asbestos tile in most lab rooms. Cabinetry, work tables, and plumbing fixtures in poor condition. Lights and lighting controls are outdated and inefficient.	5	15	10	1	31	0	\$225,000
Corridors & Restrooms	Most of the High School restroom tiles and fixtures stained and out of date. Clashing toilet stalls colors and materials. High School corridor ceiling grids stained. High School metal corridor lockers exterior surfaces worn and scratched.	5	8	10	2	25	0	\$255,000
Miscellaneous/ Building Operations	Reoccurring episodic kitchen store room water infiltration issue. Redundant emergency generator systems. No emergency electrical power to food service refrigeration systems. Building chiller water pumps scheduled for replacement. Re-commissioning of building systems and controls overdue. No renewable energy demonstration and use.	5	8	10	1	24	0	\$290,000
Hardscape	Deteriorating dock with no fall protection and restricted vehicle access. West lot asphalt scheduled for replacement. Excessive west lot surface water runoff to athletic field. Cracked and uneven track/concessions walkway.	5	8	10	0	23	0	\$284,000
Locker Rooms	High School locker room floors and lockers exterior surfaces worn and scratched. Lights and lighting controls are outdated and inefficient.	5	5	5	2	21	4	\$15,000

 <b>Facility Improvement Measures</b> <b>New Holstein School District</b> <b>Middle/High School</b>		Project Recommendation Priority Order						
		0%=10 25%= 5 50%= 0	High=15 Med=8 Low=0	Poor =10 Ave =5 Great =0	<2 yr=5 5 yr= 3 10 yr= 0	Priority	<\$10K=5 \$50K=3 >100K=0	
Area of Improvement	Description of Most Urgent Needs	Useful Life	EHS Concern	Func. Cond.	ROI	Total Points	Proj. Cost	Cost Est.
Auditorium	Back stage ceiling damaged. Floors (carpet, tile, and wood) and seating scheduled for replacement. Vinyl asbestos floor tile in back stage areas. Lights and lighting controls are outdated and inefficient. Large projector power screen malfunctions.	8	5	5	0	2	20	\$438,000
Middle School Gym	Middle school gym lights and lighting controls are outdated and inefficient.	5	5	0	3	3	16	\$28,000
Exterior Walls and Doors	Exterior limestone soiled, stained, and has minor cracks. Shop exit doors scheduled for replacement.	5	5	0	4	0	14	\$30,000
Athletic Field	Shingled concession stand roof scheduled for replacement. Athletic field lights lumen depreciated.	5	5	0	2	1	13	\$75,000
Vehicles and Equipment	FFA van, drivers education car, and grounds service tractor scheduled for replacement.	5	5	0	3	0	13	\$58,000

## MIDDLE/HIGH SCHOOL SUMMARY

Similar to the elementary school, the audit of the New Holstein Middle/High School showed a well-cared for facility with exceptional staff. Recent capital improvements budgeted for this facility include updates to the chiller water pumps, west lot asphalt, shingled concession stand roof, and auditorium flooring. Additional projects in the science area and auditorium are slated for the near future.

Two potential areas for improvement that should be considered moving forward are updating the high school classrooms, including the science, consumer, and art labs, and renovating the existing auditorium. Both these areas could benefit from new flooring, lighting, and ceiling grids. The floor tile in both areas is thought to be asbestos containing, so environmental contingencies should be budgeted for prior to scheduling any work in these areas. The classrooms and lab stations would also benefit from updated cabinetry, work areas, teacher desks, and plumbing fixtures.

The auditorium is in need of a major revamp. While the District does have some funds set aside for this project, it would be wise to budget accordingly to ensure all health and safety concerns are addressed at once. Updating this space would not only benefit the staff and students, but members of the community as well.

The prioritization matrix serves to provide a starting point for future equipment replacement schedules. Some items such as lighting and water infiltration systems should be budgeted for within the near future, while metal door frames and lockers can wait longer before implementation.

Findings from this report are meant to enhance the learning environment and improve occupant comfort, which can lead to improved test scores and higher student achievement. These proposed facility improvement measures can also save energy, allow for proper budgeting, and reduce maintenance costs.



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## SUMMARY

The CESA FM team audited the New Holstein facilities in winter of 2018-19. The educational facility is well maintained and District leadership and facility staff should be commended on how the school is being run, maintained, and managed.

The recommendations included in this report are meant to assist the District over the next 10 years in conserving energy, reducing operating and maintenance costs, and improving occupant comfort and safety where applicable. The District can achieve a safer and more effective learning environment by prioritizing projects that need to occur and determining both a short and long-term facility plan that aligns with the goals and budget of the District.

Any questions about this report can be directed to John Berget at 715-720-2196.

