Boscobel School District

Facility Condition Assessment Report

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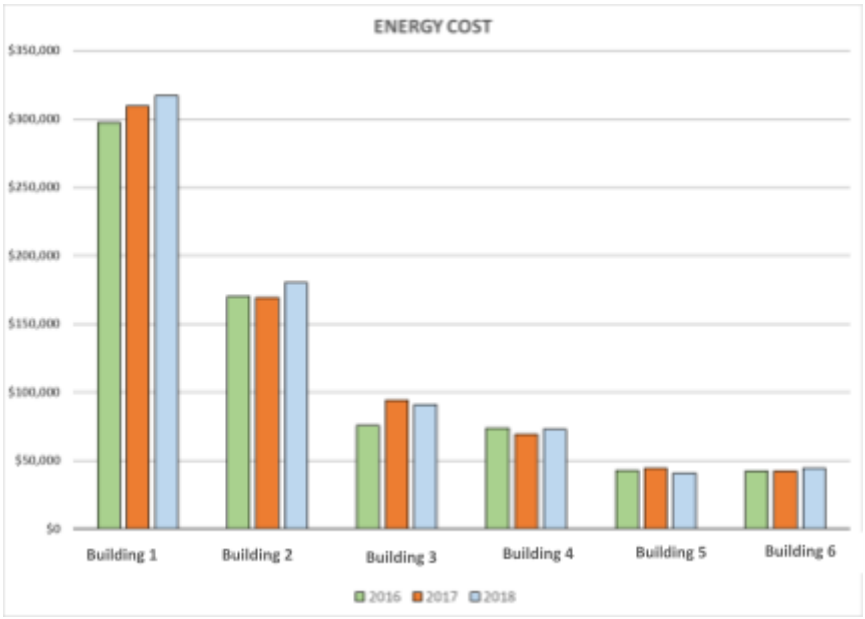
Contents

1. Overview

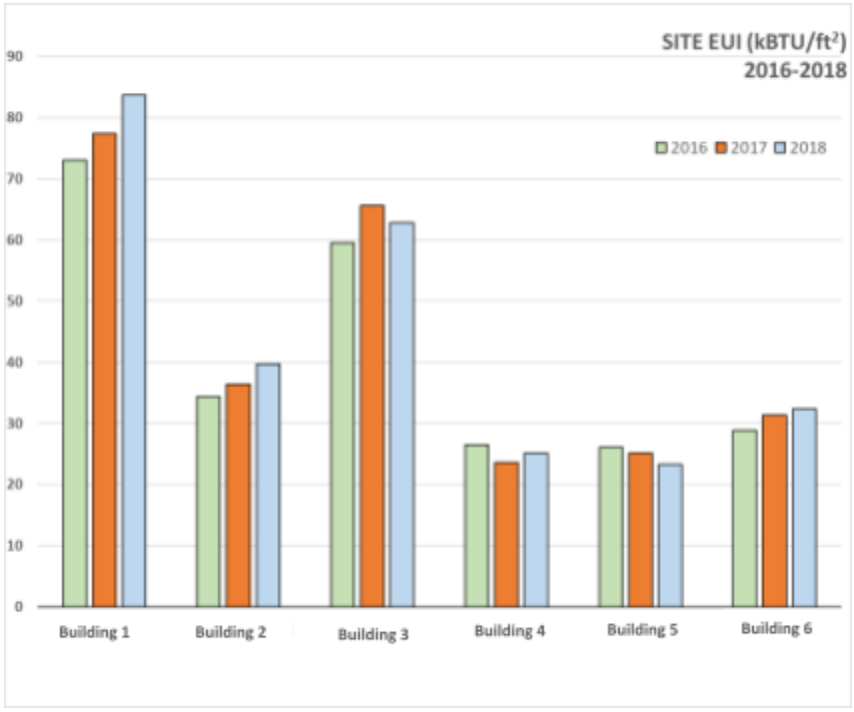
The Boscobel Area School District needed a planning process to guide upgrades and improvements to their facilities and educational services. The facility assessment goals were to ascertain the present physical condition of School District facilities in terms of aesthetics, ADA compliance, code compliance, functional layout, and depreciation/replacement schedules for roofs, heating systems, electrical systems, plumbing systems, structural systems, and other facility systems as applicable.
A Facility Condition Assessment was performed on the Boscobel School district facilities to identify deferred maintenance and energy savings opportunities to help the district capital plan for future facility Maintenance. The Smith Rosenfeld team has completed a comprehensive study of all building assets and has compiled the following report to summarize major facility projects with high priority and short life expectancy. In addition to this report, the district will be provided with the full asset data list, dynamic capital planning visualizations, and a customized maintenance plan.

2. Energy Benchmarking

The utility graph below demonstrates the electrical consumption at Boscobel School District from 2016 through 2018. The general trend across facility buildings has been an increase in energy consumption.



The utility graph below demonstrates the energy use intensity at each of the district's schools from 2016 through 2018. The general trend across facility buildings has been an increase in energy consumption. The average elementary school in Wisconsin uses 64.09 kBTU/ ft^2. Certain facilities in the district are currently using more natural gas per square foot than the average school in Wisconsin.

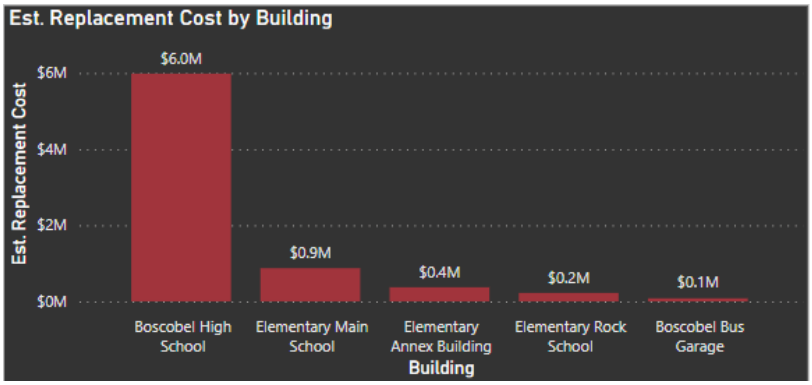


3. Main Facility Condition Assessment Findings

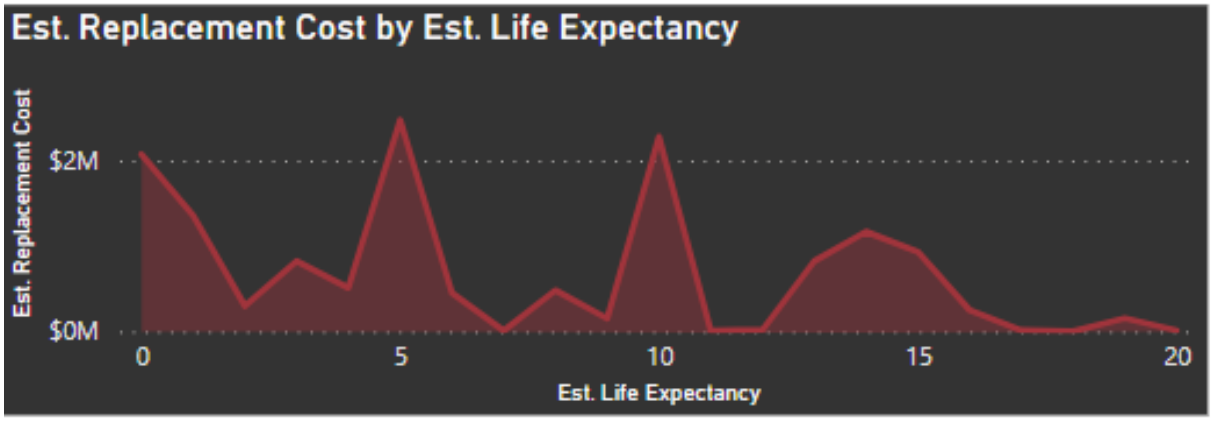
Overview

This section contains a summary of the major take aways from the Facility Condition Assessment including a quick Capital Maintenance snapshot and high level overview of the major facility projects identified as high priority in the study.

Building	Est. Replacement Cost
Boscobel Bus Garage	$80,625
Boscobel High School	$5,983,350
Elementary Annex Building	$370,700
Elementary Main School	$872,075
Elementary Rock School	$221,800
Total	**$7,528,550**



5 Year Capital Maintenance Costs Per Building



20-Year Capital Maintenance Cost Projection at a Glance

High School Roofing

Est Replacement Cost	Life Expectancy (Years)	Asset Condition (1-5)	Public Facing (1-5)	Classroom Impact (1-5)	Operational Impact (1-5)
$1,500,000.00	5	2	0	5	5

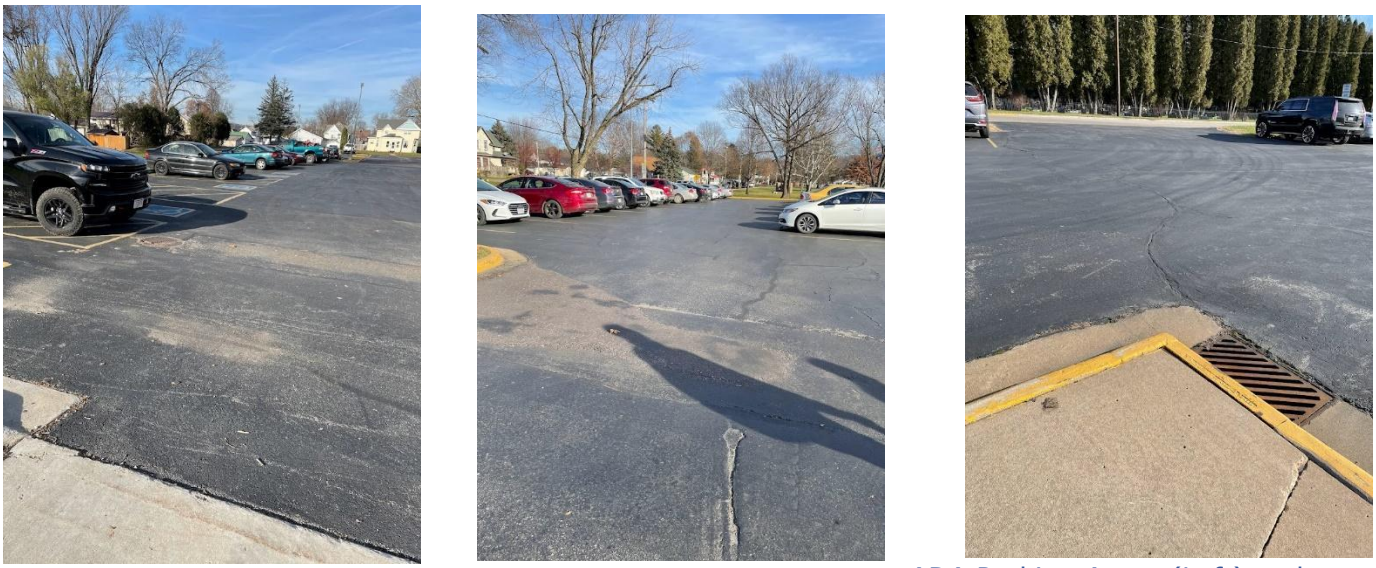
The roofing system is standing seam metal roof with multiple levels and transitions. It slopes to perimeter gutters with some edge runoff. It would be cost prohibitive and difficult to replace in its entirety at the end of its useful service life so the best long terms solution if the facility is planned to be used for the longer term would be to insulate and overlay the area with a membrane roof system. This would allow for modification of the poor details and transitions and would enable the district to increase the R value to help reduce energy costs.

Overall Roof (Left) and Unfinished Roof Edge (Right)

Hardscapes

Est Replacement Cost	Life Expectancy (Years)	Asset Condition (1-5)	Public Facing (1-5)	Classroom Impact (1-5)	Operational Impact (1-5)
$800,000.00	0	3	5	2	4

The overall condition of both the asphalt and concrete hardscape areas align with the estimated age and maintenance efforts to date. The asphalt surfaces appear to have been "slurry-coated" to elongate the useful service life of the surface. However, reflective surface cracking has occurred, and limited crack filling has been performed. Select concrete flatwork and curbing areas are in need of replacement. The ADA parking areas are not in compliance and exceed the 2% recommended slope in all directions.

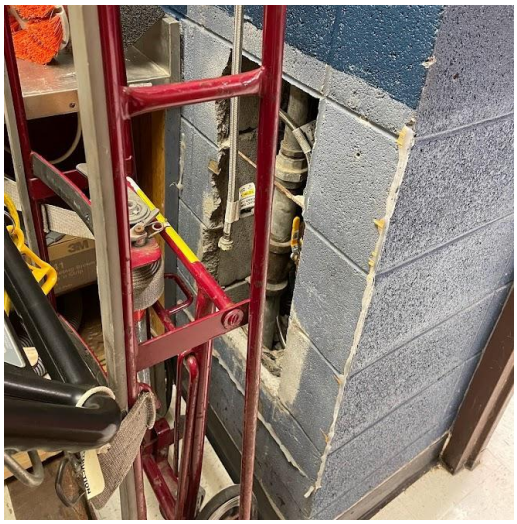


ADA Parking Areas (Left) and Asphalt Cracks (Center and Right)

Plumbing

Est Replacement Cost	Life Expectancy (Years)	Asset Condition (1-5)	Public Facing (1-5)	Classroom Impact (1-5)	Operational Impact (1-5)
$700,000.00	1	1	2	5	5

The existing piping at the Middle/High School is at the end of its useful service life. Currently the system has corrosion issues resulting in particles entering the water piping system. Most issues occur in the difficult to access tunnels under the school. This proposed price includes relocating the piping to the ceiling to connect with existing plumbing fixtures.

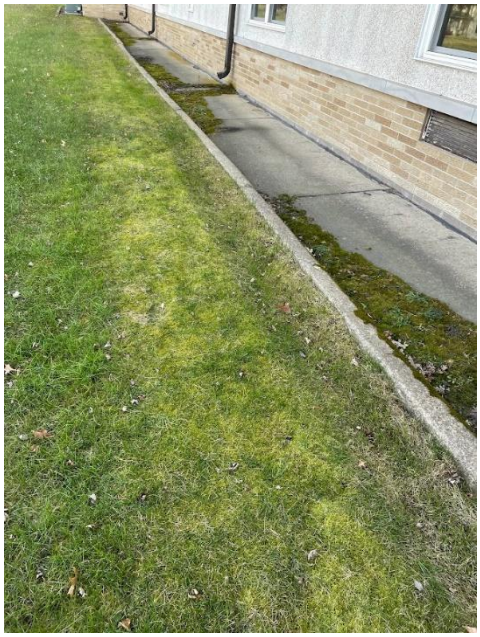


Below Sink Filter (Left) and Filter Behind Drinking Fountain (Right)

Drainage

Est Replacement Cost	Life Expectancy (Years)	Asset Condition (1-5)	Public Facing (1-5)	Classroom Impact (1-5)	Operational Impact (1-5)
$500,000.00	0	2	2	5	5

The current drainage near the front of the building requires major repair. The concrete channel for the water draining from the roof to the front of the HS/MS is not graded properly, resulting in stagnant water and pooling. This estimate includes re-grading the existing concrete channel and replacing existing piping to the municipal sewer as required.

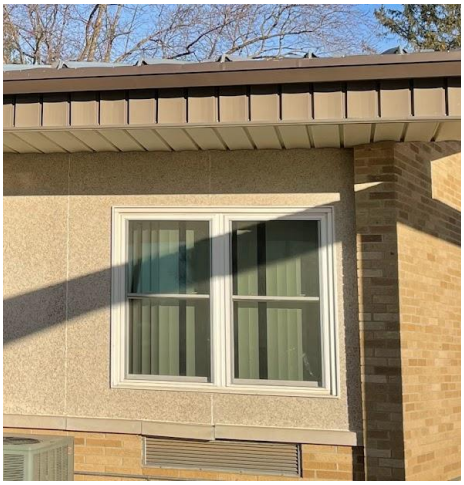


Mold Growth and Water Damage in Concrete Channel

Windows

Est Replacement Cost	Life Expectancy (Years)	Asset Condition (1-5)	Public Facing (1-5)	Classroom Impact (1-5)	Operational Impact (1-5)
$300,000.00	3	1	5	5	5

The windows of this facility were installed in 2017 and should be monitored for leaking and the adjacent walls systems should also be addressed including sealants. The windows installed on the high school are residential windows and could possibly be replaced for security and energy savings purposes depending on the school districts goals and priorities. Windows installed in the cafeteria are lower quality windows with high air leak potential and should be replaced as soon as budgets allow.



Residential Style Window on Main School (Left) Cafeteria Window (Right)

Fire Alarms

Est Replacement Cost	Life Expectancy (Years)	Asset Condition (1-5)	Public Facing (1-5)	Classroom Impact (1-5)	Operational Impact (1-5)
$500,000.00	0	2	2	5	5

The Fire Alarm system is outdated and needs to be upgraded to be code compliant. The detection devices are currently zones, so the system does not detect the exact alarm pulled. Smoke detectors should also be placed in the hallways which will help detect a fire without have to pull a manual station. New horn and strobe devices should be installed throughout the school.

Existing Horn, Strobe and Pull Devices

High School Mechanical Systems

Est Replacement Cost	Life Expectancy (Years)	Asset Condition (1-5)	Public Facing (1-5)	Classroom Impact (1-5)	Operational Impact (1-5)
$275,000.00	0	1	2	5	5

The mechanical systems that serve the High School are a combination of pneumatic and direct digital control. According to ASHRAE standards the following building equipment is near or past it's usable life and should be replaced:

- Trane AHU-Interior Mechanical Storage Room 47A
- Unit Ventilators (Quantity of 8) Unit Ventilators with Steam Reheat
- Exhaust Fans Metal Shop/ Exterior Side wall
- Exhaust Fans Metal Shop- Center finishing Area
- Exhaust Fans Science Room Fume Hood Exhaust Fan
- Air Handling Units -N,S,W,E

Air Handling Unit (Top Right) Unit Ventilator (Top Right) Exhaust Fan (Bottom Center)

Elementary School Mechanical Systems

Est Replacement Cost	Life Expectancy (Years)	Asset Condition (1-5)	Public Facing (1-5)	Classroom Impact (1-5)	Operational Impact (1-5)
$250,000.00	0	1	2	5	5

The mechanical systems that serve the High School are a combination of pneumatic and direct digital control. According to ASHRAE standards the following building equipment is near or past it's usable life and should be replaced

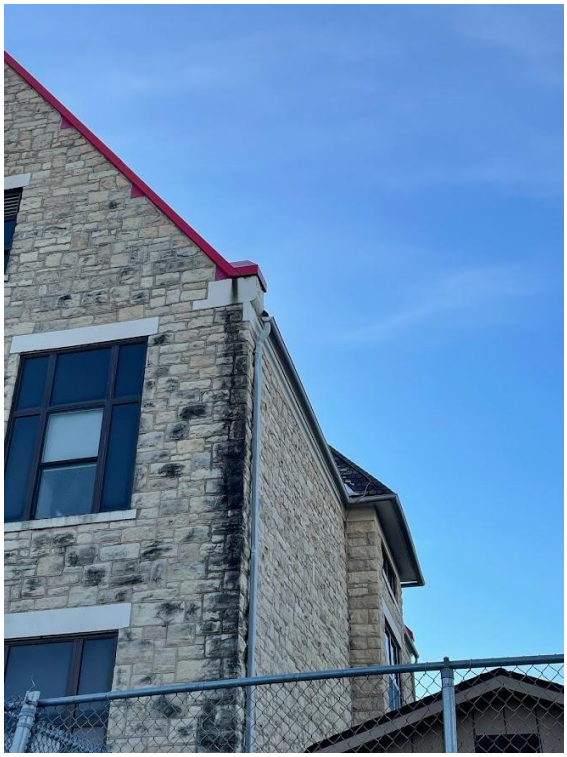
- AHU-Interior (Quantity of 3)- Fan Room AHU South/Stage Mezzanine AHU North/Fan Room AHU Gym
- Boiler B-2 Weil-McLain
- Pump P-1 Secondary Hot water System Pump
- Boiler Pump $1500- Hot Water System Boiler Circulation Pump
- Water Softener $7000- Water Room/ Rm# 102

Boiler B-2 (Left) Air Handling Unit (Right)

Rock Roofing

Est Replacement Cost	Life Expectancy (Years)	Asset Condition (1-5)	Public Facing (1-5)	Classroom Impact (1-5)	Operational Impact (1-5)
$200,000.00	0	3	5	4	4

The shingle roof of this facility is in overall good condition. Repairs should be made to the flashings, copings and gutters to address the water infiltration into the stone exterior. Staining from these locations are obvious on the exterior.



Damage and Staining to Stone Exterior