Facility Condition Assessment Summary Report

This report provides a summary of the Facility Condition Index (FCI) value of a school facility and select major building systems. The FCI calculation represents the cost of needed repairs divided by the replacement value. The FCI is a numerical value of condition and helps to identify the need for renewal or replacement of specific parts of the facility. The FCI is particularly useful when comparing similar facilities within the same portfolio.

Fitler School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	140 W. Seymour St.	Enrollment	249
	Philadelphia, Pa 19144	Grade Range	'00-08'
Phone/Fax	215-951-4009 / 215-951-4502	Admissions Category	Citywide
Website	Www.Philasd.Org/Schools/Fitler	Turnaround Model	N/A

Building/System FCI Tiers

Facility Condition Index (FCI) = Cost of Assessed Deficiencies / Replacement Value

< 15%	15 to 25%	25 to 45%	45 to 60%	> 60%
Buildings				
Minimal Current Capital Funding Required	Refurbish Systems in building	Replace Systems in building.	Building should be considered for major renovation.	Building should be considered for closing/replacement.
Systems				
Perform routine maintenance on system	System requires minor repairs	System should be studied to determine repair vs. replacement.	System is nearing end of its life expectancy and should be considered for replacement	System should be replaced as part of the Capital Program

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**71.21%**	**$14,146,475**	**$19,867,232**
Building	72.84 %	$13,989,789	$19,207,000
Grounds	23.73 %	$156,686	$660,232

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	07.32 %	$33,882	$463,160
Exterior Walls (Shows condition of the structural condition of the exterior facade)	90.61 %	$1,270,862	$1,402,580
Windows (Shows functionality of exterior windows)	176.19 %	$1,205,833	$684,380
Exterior Doors (Shows condition of exterior doors)	231.40 %	$127,502	$55,100
Interior Doors (Classroom doors)	316.11 %	$667,882	$211,280
Interior Walls (Paint and Finishes)	90.03 %	$541,910	$601,920
Plumbing Fixtures	00.00 %	$0	$513,760
Boilers	14.29 %	$101,394	$709,460
Chillers/Cooling Towers	119.32 %	$1,109,945	$930,240
Radiators/Unit Ventilators/HVAC	228.63 %	$3,734,893	$1,633,620
Heating/Cooling Controls	158.90 %	$815,182	$513,000
Electrical Service and Distribution	90.02 %	$331,831	$368,600
Lighting	00.00 %	$0	$1,317,840
Communications and Security (Cameras, Pa System and Fire Alarm)	61.60 %	$304,081	$493,620

Please note that some FCIs may be over 100% because there are times when replacing a building system requires that other building systems be upgraded to complete the installation. A FCI of 0.0% represents that there are no current deficiencies with the associated system.

School District of Philadelphia

S623001;Fitler

Final

Site Assessment Report

February 2, 2017

PARSONS

Table of Contents

Site Executive Summary

The organization of this report, as displayed in the Table of Contents, follows the structure of the associated eCOMET database. The overall node for each school campus begins with the letter "S", which indicates the "Site" label. Each Site is comprised of separate "Building" and "Grounds" nodes; their asset names begin with the letters "B" and "G" respectively. Information rolls up to the Site node from the Building and Grounds nodes. This Site report combines facility information with subsections for the Buildings And Grounds nodes.

The basis for the evaluation of condition is the functional systems and elements of a building and grounds organized according to the UNIFORMAT II Elemental Classification. The grouping of these systems and elements and applying a current replacement value to them develops a representative building cost model. Cost Models are typically developed for similar building types and functions. Evaluation of systems and their elements takes into account their current replacement values, life cycles, installation dates and next renewal dates. Systems and their elements that are within their useful lives are further evaluated to identify current deficient conditions that may have a significant impact on a system's or element's remaining service life, and to determine if they are beyond their predicted expected life. The system's or element's current replacement value is based on RS Means Commercial Cost Data.

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) is an industry-standard measurement calculated as the ratio of the repair costs to correct a facility's deficiencies to the facility's Current Replacement Value. Condition Index (CI) for a system is calculated as the sum of a the deficiencies divided by the sum of a system's Replacement Value (both values include soft-cost) expressed as a percentage ranging from 0% 100%.

Gross Area (SF):	38,000
Year Built:	1898
Last Renovation:	
Replacement Value:	$19,867,232
Repair Cost:	$14,146,474.60
Total FCI:	71.21 %
Total RSLI:	59.39 %

Description:

Facility Assessment
September 2015

School District of Philadelphia
Edwin Fitler Academics Plus
140 West Seymour St.
Philadelphia, PA 19144

38,000 SF / 378 Students / LN 06

The Edwin Fitler Academics Plus School is one of the older schools in service to the Philadelphia communities. The school is currently identified as B623001 and was originally designated as the Edwin Fitler High School. This facility is located at 140 West Seymour St., Philadelphia, PA.

This historic high school building is located in the Germantown neighborhood of Philadelphia, Pennsylvania. This is a 3 1/2-story, schist building in the Gothic-style. It features a projecting battlement tower, round arched openings, and three projecting gables. This school was added to the National Register of Historic Places in 1986.

The late Gothic Revival design of the L-shaped, stone, concrete and wood and steel-framed building includes stone and brick facades with a concrete foundation. Constructed in 1898 the school has had two major additions including the classroom cafeteria addition added to the southwestern exterior.

The main entrance faces the Northern exterior facing the drop off drive area on Knox St. General parking is southwest of the school and street side. This School serves students in grades 1 to 8 and has a basement with three stories consisting of a total gross square footage of 38,000 GSF.

This school has several classrooms, a library, kitchen and student commons, auditorium and cafeteria, with supporting administrative spaces.

The information for this report was collected during a site visit on September 30, 2015.

Mr. Ira Revell, Building Engineer, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Mr. Anthious Boone, Principal, also participated in the interview and shared information about the school with the assessment team.

ARCHITECTURAL / STRUCTURAL SYSTEMS

Foundations are concrete and appear to be in good condition. The superstructure is concrete, stone and wood framed steel supported with masonry support and likewise in good condition.

It is worth noting that the wooden framed roofing system has been reinforced with a steel frame system. Although there were a few minor issues that are related to age no notable issues surfaced during the time of the inspection. Therefore no recommendations are required at this time.

The exterior stone and brick surfaces are generally in fair condition for their age. In some locations, bricks have cracked or spalled and should be replaced. The stone work was reported to have been re-pointed within the past ten years. This effort appears to have been limited with additional work now being required. The repointing of deteriorated mortar joints is recommended, using mortar of a similar color and consistency as the original. Following the detailed examination of the stone and brick repair of mortar construction joints, the entire building should be pressure washed to remove stains and embedded pollutants. If moisture is found to be penetrating the masonry facade, the application of a spray sealant to the suspected exterior masonry surface is recommended.

This schools exterior finish for the cafeteria is a metal siding finish. This finish was reported to have been completed in the late 1990's however, there were no records to indicate the date of installation. The painted finish is in very poor condition and peeling from the building in several areas. It is recommended that the exterior painted finish for this cafeteria be repaired and repainted. Special consideration to coordinate this project with the other exterior projects is required.

The exterior windows have been upgraded from the original applications. The window system is estimated to have been installed in the 1990's. Several of the windows are no longer functional and will require attention prior to an overall effort. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system and service doors are recommended for upgrade. The new doors are expected to retain their dimensions and profiles, but that incorporate updated energy-efficient features.

Special consideration for those that may be physically challenged was not a main factor in the design of this school. There is no ADA approved entrance to this school and the interior path of travel is not very clear from that entrance. There are no accommodations that meet the needs of the physically challenged.

The asphalt shingle roofing system was reported to have been installed within the past ten years. This system is in good condition and there were no reported issues during the time of the inspection. Therefore, no recommendation for the asphalt roofing system is required at this time.

The three small sections of built up roof was reported to have been upgraded at the same time as the asphalt shingle roof. The built up roof was installed within the past ten years as reported by the school. The roof is in good condition with few exceptions. Currently there is an active leak that if not repaired soon will start to deteriorate the insulation and the integrity of the classroom finishes. This

deficiency provides a budgetary consideration for built up roof repair for this section.

Interior partitions include wood, plaster and moveable partitions.

The mechanical room has several penetrations and as indicted in the photos an interior wall that has been compromised with several holes for equipment. Also, note the electrical modifications recently completed at this school has left several closet penetrations open. This deficiency provides a budgetary consideration to properly enclose the areas and to meet the current fire life safety requirements for mechanical spaces.

The fire stair, corridor and general access stair doors are a mix of complaint and non-compliant applications. As indicated in the photo one wooden door is failing at the hinge. The interior corridor, exit stair doors are not considered to be code compliant as the usual fire rating tags that indicate the proper installation could not be found. The doors are generally in fair condition considering the age of the application. To restore the door finishes and provide fire rated door systems universal upgrades are required. Also, remove and replace original corridor door that separates the cafeteria from the main building with new code compliant fire rated door system.

There are several transom lites and sidelights constructed into hallway wall systems and in the stairwells. This system appears to have been a part of the original construction for heating and cooling. This is abandoned system and no longer in use. It is recommended that the lites and sidelights be removed and replaced with a fire rated wall construction. The deficiency provides a budgetary consideration to correct the hallway, transoms, lites and sidelights.

Interior doors are typically wood in wood frames with transom lites, sidelights, wired glass glazing. Other interior doors include solid wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames at some of the stairwells and exit ways. Doors are generally in fair condition and are not ADA compliant. The deficiency provides a budgetary consideration to correct the hallway, transoms, and wood doors.

Fittings include: chalkboards; marker boards; tack boards; interior signage; toilet accessories and wood and metal partitions; fixed storage shelving.

There are several tack boards in the hallways for student displays. The systems are damaged and beyond the expected service life for this application. Remove and replace tack boards is recommended.

Some of the classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade damaged chalk boards to new marker board systems.

There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

Stair construction is the original wood framed wood stairs. Stair treads and landings are finished with wood and nosings are wood. Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

Interior wall finishes are typically painted plaster. Other wall finishes include: ceramic tile at restrooms and wood paneling. Wall finishes are generally in poor condition.

There are painted walls, trim, and some painted ceilings in this building. The interior finishes are in fair to poor condition and will require an almost continuous program of renewal of the applied finishes to maintain an acceptable appearance. Cyclical painting should be considered for a standard approach to maintaining the quality of the interior finishes. It is recommended that all previously painted surfaces be repainted according to established cycles for this occupancy and use type. Minor repairs should be completed before work begins. This effort is expected to be coordinated with other mechanical electrical efforts in order to prevent overlapping efforts.

The vinyl tile finish is a 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application. Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and

all ACM.

The ceramic tile finish is in good condition. There were no issues that surfaced during the time of the inspection therefore no recommendations are required at this time.

The classrooms and auditorium in this school have a wooden floor finish that appears to be from original construction. The system is showing signs of age such as the effects of sanding and refinishing with yearly cleaning and waxing with some repairs. The floor finish is in fair condition however, the finish is beyond its expected life cycle. It is recommended that the damaged wood floor finish be removed and replaced with an in kind finish.

The ceiling finish is a mix of painted and acoustical tile finish. Ceilings have been repaired in several areas and are in good condition considering the age of the application and the current condition of the school. The ceiling finish is expected to require upgrades to support the recommended efforts in this report prior to re-opening. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school. No work should be considered until after the recommended exterior efforts are complete.

There is no elevator that services this school. Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To assist those that may be physically challenged and to meet current accessibility legislation to provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the exterior elevation of the building or at another suitable location. The new installation should blend as much as possible with the overall appearance of this historic structure and include all required ADA features, such as audible jewels and gongs, an accessible control panel, etc.

Institutional equipment includes: library equipment; A/V equipment; and laboratory equipment. Other equipment includes kitchen equipment while furnishings include: fixed casework and window shades/blinds. There were no issues that surfaced during the time of the inspection therefore no recommendations are required at this time.

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories, urinals and water closets. Lavatories have dual wheel handle faucets and urinals and water closets have exposed manual lever or concealed pushbutton flush valves. Custodial closets and corridors have cast iron service sinks. Science labs have integral lab equipment sinks. There are stainless steel water coolers with integral refrigeration. A forty gallon Bradford White water heater was installed in the mechanical room in 2005.There is no domestic water booster pump system. A duplex sump pump for ground water removal is located in the mechanical room.

Water piping has been replaced since the original installation with copper. Sanitary, waste, vent and rainwater piping is original installation hub and spigot cast iron. Water service is a four inch line and meter from Seymour St. into the mechanical room and includes a backflow preventer. Gas service is a four inch line with a pressure boost system. The service terminates about ten feet from the exterior wall towards Seymour St. and was never extended and connected to the utility.

Plumbing fixtures were replaced in 2005 and have remaining service life of twenty five years. The water heater should be serviceable for fifteen more years. The cast iron piping has exceeded the anticipated service life. Rainwater and vent piping should continue functioning, but the sanitary and waste piping should be inspected to determine condition and replace damaged portions. The domestic water piping may have lead solder based on age, and should be replaced based on appearance and condition.

HVAC-Heating is generated by two older HB Smith seventy five hp sectional cast iron low pressure steam oil fired boilers in the basement mechanical room. The boilers are Model 350 Mills with Powerflame burners and separate oil pumps. The boilers have gas/oil burners and are piped for both fuels, but the gas piping was not connected to the utility service. Boilers were installed approximately 2001. There is a Flotronics triplex pump condensate return/ boiler feed unit. There are combustion air louvers and dampers and a factory fabricated boiler stack into a brick chimney. There is an 8000 gallon underground oil storage tank and a duplex fuel oil pump system in the mechanical room provides circulation.

Spaces are heated by exposed steam radiators with control valves and F&T traps. Generally radiators are only located in corridors, with none in classrooms. There is a house fan system in the basement that provides heat and ventilation through a central duct system that is functional. This system has several duct mounted pneumatic zone dampers in the basement, some of which are operational.

There is no central air conditioning for any area. There are some window air conditioning units and a ductless split system for the IT room. There is no cooking nor kitchen hood and no mechanical toilet exhaust. There is no central HVAC control system.

The boilers should remain serviceable twenty five more years. The steam piping and radiators are from original construction and should be replaced based on age and condition. The oil storage tanks have no record of testing or maintenance and should be inspected. The condensate return/ boiler feed system has exceeded the service life and should be replaced.

FIRE PROTECTION- There are no sprinklers nor standpipes in this building.

ELECTRICAL SYSTEMS

Electrical Service--The building is served by PECO Energy Company from a utility-owned 300 kVA pad-mount transformer located at the southwest corner of the site. Underground service is routed to Siemens, 1600A, 208/120V, 3 phase, 4 wire Switchboard MDSB located in the Main Electrical Room in the cellar. The switchboard has an incoming section, 1600A main circuit breaker section with electronic metering and surge protective device, and one circuit breaker distribution system that feeds panelboards on each floor and the automatic transfer switch. The electrical distribution system, including the switchboard and all panelboards serving the floors, was replaced in a 2009 electrical upgrade project. There are two surface mounted panelboards located in the corridor on each floor that are provided with surge protective devices. The distribution system equipment is expected to have a remaining useful life of 24 years.

The service entrance switchboard does not have capacity to serve added central air conditioning equipment, an elevator addition, and a fire pump (if required). Another 1600A, 208/120V, 3 phase, 4 wire service distribution switchboard with associated feeder circuit breakers and feeders would be required.

Receptacles-- Additional isolated grounding type receptacles were added in classrooms using surface metal raceways in the 2009 upgrade project.

Lighting—Most of the lighting fixtures in the building are 4 foot wraparound fluorescent fixtures with acrylic prismatic lenses and T8 lamps. Fixtures are either surface mounted to the structure or stem mounted. Vapor-tight fluorescent fixtures are typically provided in restrooms. Classrooms are usually provided with two continuous rows of pendant mounted wraparounds that are controlled by two light switches. Occupancy sensors are provided in classrooms, cafeteria, library and restrooms.

Lighting fixtures were replaced in the 2009 electrical upgrade project, and have a remaining useful life of 24 years.

Wall mounted lighting fixtures with compact fluorescent lamps are located above the doors at exit discharges. Building mounted metal halide floodlighting fixtures provide additional illumination of the site.

Fire Alarm System-- The fire alarm system is an obsolete 120V wired system that includes only manual pull stations and bell notification appliances. Pull station mounting heights exceed ADA requirements. There are no visual notification appliances in the building. The fire alarm control panel (FACP) is by S.H. Couch Company located in the corridor in the cellar. The entire fire alarm system needs to be replaced to meet current NFPA codes and ADA.

Telephone/LAN-- A telephone and data outlet is provided in each classroom. The telephone service demarcation point is located in the generator room in the cellar. Wireless access points are located to provide Wi-Fi service throughout the entire school. The Main Distribution Frame (MDF) is located in a dedicated room inside Classroom 2006. The MDF has a 250 watt amplifier for the paging system interface with the telephone system.

Intercom/Paging Systems-- An Aiphone audible/visual intercom system is provided between the main and entrance and the Main Office. The paging system is accessed through the telephone system. Each classroom has a ceiling recessed paging speaker that replaced the non-functional paging speakers in the clock/speaker assemblies, which have been abandoned in place. There are also wall mounted paging speakers in corridors. The system is estimated to have 14 years of useful life remaining.

Clock and Program System-- The ceiling speakers in classrooms are used for announcements and program system. The clock system was replaced with a Primex wireless GPS synchronized clock system. The wireless clock transmitter is located in the attic. The system is in good condition with an estimated remaining useful life extending beyond this report.

Television System-- There is no television system in this school.

Video Surveillance and Security Systems-- There is no video surveillance system in this building. It is recommended that at least 13 interior cameras be provided: three on each of the four floors, including the cellar, and one in the cafeteria. The video surveillance

system should include two 16 channel digital video recorders (DVRs) and two monitors. Exterior cameras should also be provided. Refer to the section GROUNDS.

Emergency Power System-- There is a Cummins Onan 35 kW/43.7 kVA, 208/120V, 3 phase, 4 wire standby generator with 145 gallon diesel fuel tank and rupture basin that feeds emergency Panels ELP and EPP via a Cummins Onan 150A automatic transfer switch. A remote generator annunciator panel is located in the Building Engineer's office in the cellar. The standby generator was installed in 2009 and is in good condition with an estimated remaining useful life of 14 years.

Emergency Lighting System / Exit Lighting-- Emergency egress and exit lighting is served by the standby generator and powered from Panel ELP. Exit signs are LED type and in good condition. Vandal resistant exit signs are provided in the cellar.

Lightning Protection System --There is no lightning protection system for this facility.

Conveying Systems-- The building does not have an elevator. It is recommended that a hydraulic elevator be added on the northeast side attached to the building exterior. Refer to narrative under Architectural / Structural Systems.

GROUNDS

The existing sidewalk system is a mix of the original sidewalks installed during the construction of the school and sections that have been replaced over the years. There are a several areas of cracking concrete but no tripping hazards. Sections of the sidewalk system is expected to expire in the near future. Removal of the damaged sections is recommended. Upgrades are required and should include all aspects of current ADA legislation.

The loading dock is located in the parking area near the dumpsters and the access point for students entering the school. The existing recommendation to enclose and move the dumpsters to a new location is related to this effort. After the dumpster correction is complete it is recommended that the loading dock area be clearly marked and safety barriers be placed to protect pedestrian traffic and mitigate possible issues related to loading and unloading materials and supplies.

This school has a perimeter fence surrounding the parking / playground area. The fence has several areas of repairs and the mounting post are damaged in several areas, overall the fence is in fair condition. This fence system is recommended to be repaired and in some areas replaced with a new system within the next five to ten years.

Exterior site stairs as indicated in the photos are in fair condition. The design is original and limited access with non-complaint hand and guard rails. Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

Site Lighting— Site lighting is provided by wall mounted HID lighting fixtures on the building that are aimed to illuminate the site. There are no pole mounted lighting fixtures on the site.

Site Video Surveillance System-- There are no exterior cameras to provide video surveillance of the entrances, site and pave parking and play areas.

RECOMMENDATIONS

- Add external 4 stop elevator
- Remove and replace suspended acoustic ceilings
- Remove and replace wood flooring
- Remove VAT and replace with VCT
- Repair and repaint all interior walls
- Replace inadequate or install proper stair railing
- Replace missing or damaged signage
- Replace blackboards with marker boards
- Remove and replace tackboards
- Remove and replace interior doors
- Remove folding wood partitions; replace with metal studs and gypsum board painted
- Install fire rated walls

- Install fire rated doors where required
- Add firestopping
- Repair Built up roof
- Remove and replace exterior doors
- Remove and replace aluminum windows
- Repaint exterior walls
- Repair cracks in masonry
- Provide a four pipe fan coil system with roof mounted outside air system ducted to each fan coil unit. Provide a fan coil unit for each classroom and separate area. Include new heat exchanger and pump for hot water, piping, control valves and controls, to replace steam heating system.
- Provide a one hundred ten ton air cooled package chiller on the roof with pumps, piping and controls. Connect to new fan coil units and air handling units.
- Inspect fuel oil storage tanks for condition and damage.
- Install NFPA wet pipe automatic sprinkler system in entire building, including fire service, piping sprinkler heads, standpipes and fire pump if required.
- Inspect old cast iron sanitary piping including camera observation and replace damaged sections.
- Replace domestic hot and cold water pipe, fittings, valves, hangers and insulation.
- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Provide a new central station air handling unit for the cafeteria with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.
- Install new mechanical toilet exhaust system in each toilet room including ductwork, registers, inline fan, exterior louver, controls and electrical connection.
- Replace existing condensate return/ boiler feed system with triplex unit with pumps, tank, controls and electrical connection.
- Provide a 1600A, 208/120V, 3 phase, 4 wire service distribution switchboard with associated feeder circuit breakers and feeders to serve added central air conditioning equipment, an elevator addition, and a fire pump (if required).
- Replace obsolete fire alarm system with an addressable type system, including pull stations, smoke and heat detectors, and audible and visual notification appliances.
- Provide a video surveillance system with at least 13 interior cameras, two DVR's and two video monitors.
- Provide 7 exterior cameras for video surveillance of entrances and paved parking and play areas.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 3 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S623001		

Site Condition Summary

The Table below shows the CI and FCI for each major system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

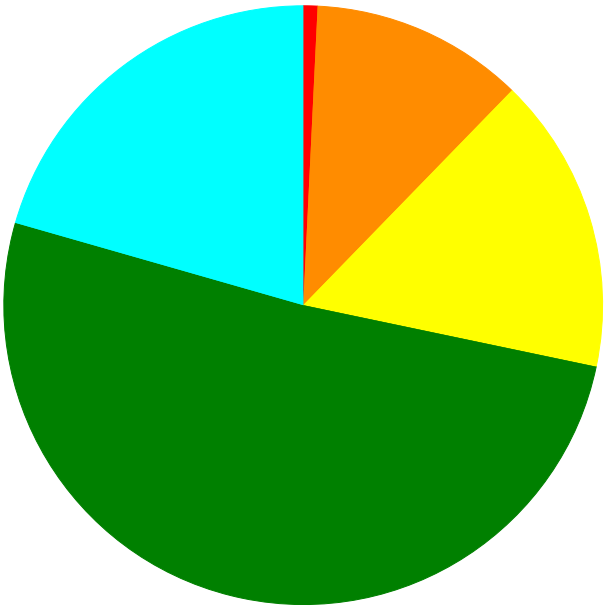
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	35.05 %	121.57 %	$2,604,197.54
B30 - Roofing	51.97 %	7.32 %	$33,882.01
C10 - Interior Construction	34.71 %	85.62 %	$865,137.12
C20 - Stairs	37.00 %	441.22 %	$236,407.92
C30 - Interior Finishes	61.35 %	84.18 %	$1,917,652.05
D10 - Conveying	105.71 %	353.88 %	$1,012,601.25
D20 - Plumbing	75.30 %	48.84 %	$378,978.37
D30 - HVAC	95.41 %	136.30 %	$5,761,414.20
D40 - Fire Protection	105.71 %	177.49 %	$543,605.53
D50 - Electrical	69.68 %	28.47 %	$635,912.80
E10 - Equipment	34.29 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	0.00 %	$0.00
G20 - Site Improvements	35.59 %	16.57 %	$84,757.89
G40 - Site Electrical Utilities	46.67 %	48.36 %	$71,927.92
Totals:	**59.39 %**	**71.21 %**	**$14,146,474.60**

Condition Deficiency Priority

Facility Name	Gross Area (S.F.)	FCI %	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)
B623001;Fitler	38,000	72.84	$69,917.37	$1,614,709.50	$2,161,577.97	$7,233,931.53	$2,909,652.42
G623001;Grounds	25,600	23.73	$38,470.51	$13,052.01	$105,163.29	$0.00	$0.00
Total:		**71.21**	**$108,387.88**	**$1,627,761.51**	**$2,266,741.26**	**$7,233,931.53**	**$2,909,652.42**

Deficiencies By Priority



- 1 - Response Time (< 2 yr) - $108,387.88
- 2 - Response Time (2-3 yrs) - $1,627,761.51
- 3 - Response Time (3-4 yrs) - $2,266,741.26
- 4 - Response Time (4-5 yrs) - $7,233,931.53
- 5 - Response Time (> 5 yrs) - $2,909,652.42

Budget Estimate Total: $14,146,474.60

Executive Summary

Building condition is evaluated based on the functional systems and elements of a building and organized according to the UNIFORMAT II Elemental Classification. The grouping of these systems and elements and applying a current replacement value to them develops a representative building cost model. Cost Models are developed for similar building types and functions. Systems and their elements are evaluated based on their current replacement values, life cycles, installation dates and next renewal dates. Systems and their elements that are within their useful lives are further evaluated to identify current deficient conditions that may have a significant impact on a system's or element's remaining service life, and to determine if they are beyond their predicted expected life. The system's or element's current replacement value is based on RS Means Commercial Cost Data.

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) FCI is an industry-standard measurement of facility condition calculated as the ratio of the costs to correct a facility's deficiencies to the facility's Current Replacement Value. It ranges from 0% (new) to 100% (very poor). Condition Index (CI) is calculated as the sum of a renewable system's Remaining Service Life (RSL) divided by the sum of a system's Replacement Value (both values exclude soft-cost to simplify calculation updates) expressed as a percentage ranging from 100% (new) to 0% (expired).

Function:	Elementary School
Gross Area (SF):	38,000
Year Built:	1898
Last Renovation:	
Replacement Value:	$19,207,000
Repair Cost:	$13,989,788.79
Total FCI:	72.84 %
Total RSLI:	60.12 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B623001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S623001		

Condition Summary

The Table below shows the CI and FCI for each major building system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	35.05 %	121.57 %	$2,604,197.54
B30 - Roofing	51.97 %	7.32 %	$33,882.01
C10 - Interior Construction	34.71 %	85.62 %	$865,137.12
C20 - Stairs	37.00 %	441.22 %	$236,407.92
C30 - Interior Finishes	61.35 %	84.18 %	$1,917,652.05
D10 - Conveying	105.71 %	353.88 %	$1,012,601.25
D20 - Plumbing	75.30 %	48.84 %	$378,978.37
D30 - HVAC	95.41 %	136.30 %	$5,761,414.20
D40 - Fire Protection	105.71 %	177.49 %	$543,605.53
D50 - Electrical	69.68 %	28.47 %	$635,912.80
E10 - Equipment	34.29 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	0.00 %	$0.00
Totals:	**60.12 %**	**72.84 %**	**$13,989,788.79**

Condition Detail

This section of the report contains results of the Facility Condition Assessment. The building is separated into system components based on UNIFORMAT II classification. The columns in the System Listing table below represent the following:

1. System Code: A code that identifies the system.
2. System Description: A brief description of a system present in the building.
3. Unit Price $: The unit price of the system.
4. UoM: The unit of measure for of the system.
5. Qty: The quantity for the system
6. Life: anticipated service life for thesystem based on Building Owners and Managers Association (BOMA) recommendations.
7. Year Installed: The date of system installation.
8. Calc Next Renewal Year: The date of system expiration based on the life, NR stands for non renewable.
9. Next Renewal Year: The suggested system expiration date by the assessor based on visual inspection.
10. CI: The Condition Index of the system.
11. FCI: The Facility Condition Index of the system.
12. RSL: Remaining Service Life.
13. eCR: eCOMET Condition Rating (not used).
14. Deficiency $: The financial investment to repair/replace system.

System Listing

The System Listing table below lists each of the systems organized by their UNIFORMAT II classification. The assessment team was tasked with recording the most recent replacement year of each system, determining the remaining service life based on the theoretical life, and evaluating the condition to confirm the forecast next replacement year. The system listing is the basis for all data contained in the Building Assessment Report.

Additionally, a condition rating (eCR) based on the following guidelines is provided as observed at the time of the assessment.

- Excellent (E) - No noticeable distress or damage. The entire system is free from observable defect.
- Very Good (VG) - Overall no serviceability reduction for the entire system. No degradation of critical components and minor distress and defect noticeable for some but not non critical components within the system.
- Good (G) - Slight or no serviceability reduction for the entire system. There may be noticeable defects for some non critical components and slight noticeable degradation of the critical components.
- Fair (F) - Overall serviceability is degraded but adequate. There may be moderate deterioration for very few of the critical components and few of the non critical components may have severe degradation.
- Marginal (MA) - Overall serviceability and reliability loss. Most if not all of the non critical components suffer from severe degradation and a few of the critical component may have severe degradation.
- Moderate (MO) - Overall a significant serviceability loss. Most if not all the components have severe degradation with the reminder of the component showing visible distress.
- Very Poor (VP) - Overall the system is barely functional. All of the components are severely degraded.
- Non-Functional (NF) - Overall the system does not function with all the components having no serviceability and suffer from severe degradation.

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	38,000	100	1898	1998	2052	37.00 %	0.00 %	37			$699,200
A1030	Slab on Grade	$7.73	S.F.	38,000	100	1898	1998	2052	37.00 %	0.00 %	37			$293,740
A2010	Basement Excavation	$6.55	S.F.	38,000	100	1898	1998	2052	37.00 %	0.00 %	37			$248,900
A2020	Basement Walls	$12.70	S.F.	38,000	100	1898	1998	2052	37.00 %	0.00 %	37			$482,600
B1010	Floor Construction	$75.10	S.F.	38,000	100	1898	1998	2052	37.00 %	0.00 %	37			$2,853,800
B1020	Roof Construction	$13.88	S.F.	12,000	100	1898	1998	2052	37.00 %	0.00 %	37			$166,560
B2010	Exterior Walls	$36.91	S.F.	38,000	100	1898	1998	2052	37.00 %	90.61 %	37		$1,270,861.67	$1,402,580
B2020	Exterior Windows	$18.01	S.F.	38,000	40	1898	1938	2027	30.00 %	176.19 %	12		$1,205,833.38	$684,380
B2030	Exterior Doors	$1.45	S.F.	38,000	25	1898	1923	2027	48.00 %	231.40 %	12		$127,502.49	$55,100
B3010105	Built-Up	$37.76	S.F.	4,000	20	1898	1918	2027	60.00 %	22.43 %	12		$33,882.01	$151,040
B3010140	Shingle & Tile	$38.73	S.F.	8,000	25	1898	1923	2027	48.00 %	0.00 %	12			$309,840
B3020	Roof Openings	$0.06	S.F.	38,000	20	1898	1918	2027	60.00 %	0.00 %	12			$2,280
C1010	Partitions	$17.91	S.F.	38,000	100	1898	1998	2052	37.00 %	18.12 %	37		$123,340.69	$680,580
C1020	Interior Doors	$5.56	S.F.	38,000	40	1898	1938	2027	30.00 %	316.11 %	12		$667,882.20	$211,280
C1030	Fittings	$3.12	S.F.	38,000	40	1898	1938	2027	30.00 %	62.34 %	12		$73,914.23	$118,560
C2010	Stair Construction	$1.41	S.F.	38,000	100	1898	1998	2052	37.00 %	441.22 %	37		$236,407.92	$53,580
C3010230	Paint & Covering	$13.21	S.F.	38,000	10	1898	1908	2027	120.00 %	107.95 %	12		$541,910.16	$501,980
C3010232	Wall Tile	$2.63	S.F.	38,000	30	1898	1928	2027	40.00 %	0.00 %	12			$99,940

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System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3020412	Terrazzo & Tile	$75.52	S.F.	3,000	50	1898	1948	2027	24.00 %	0.00 %	12			$226,560
C3020413	Vinyl Flooring	$9.68	S.F.	5,000	20	1898	1918	2027	60.00 %	156.68 %	12		$75,833.34	$48,400
C3020414	Wood Flooring	$22.27	S.F.	27,000	25	1898	1923	2027	48.00 %	130.90 %	12		$787,105.92	$601,290
C3020415	Concrete Floor Finishes	$0.97	S.F.	3,000	50	1898	1948	2027	24.00 %	0.00 %	12			$2,910
C3030	Ceiling Finishes	$20.97	S.F.	38,000	25	1898	1923	2027	48.00 %	64.35 %	12		$512,802.63	$796,860
D1010	Elevators and Lifts	$7.53	S.F.	38,000	35			2052	105.71 %	353.88 %	37		$1,012,601.25	$286,140
D2010	Plumbing Fixtures	$13.52	S.F.	38,000	35	2005	2040		71.43 %	0.00 %	25			$513,760
D2020	Domestic Water Distribution	$1.68	S.F.	38,000	25	1925	1950	2042	108.00 %	301.63 %	27		$192,559.94	$63,840
D2030	Sanitary Waste	$2.90	S.F.	38,000	25	1925	1950	2042	108.00 %	169.16 %	27		$186,418.43	$110,200
D2040	Rain Water Drainage	$2.32	S.F.	38,000	30	1925	1955	2025	33.33 %	0.00 %	10			$88,160
D3020	Heat Generating Systems	$18.67	S.F.	38,000	35	2001	2036		60.00 %	14.29 %	21		$101,394.17	$709,460
D3030	Cooling Generating Systems	$24.48	S.F.	38,000	30			2047	106.67 %	119.32 %	32		$1,109,945.25	$930,240
D3040	Distribution Systems	$42.99	S.F.	38,000	25	1925	1950	2042	108.00 %	228.63 %	27		$3,734,892.79	$1,633,620
D3050	Terminal & Package Units	$11.60	S.F.	38,000	20	1925	1945	2028	65.00 %	0.00 %	13			$440,800
D3060	Controls & Instrumentation	$13.50	S.F.	38,000	20	1960	1980	2037	110.00 %	158.90 %	22		$815,181.99	$513,000
D4010	Sprinklers	$7.05	S.F.	38,000	35			2052	105.71 %	202.91 %	37		$543,605.53	$267,900
D4020	Standpipes	$1.01	S.F.	38,000	35			2052	105.71 %	0.00 %	37			$38,380
D5010	Electrical Service/Distribution	$9.70	S.F.	38,000	30	2009	2039		80.00 %	90.02 %	24		$331,831.34	$368,600
D5020	Lighting and Branch Wiring	$34.68	S.F.	38,000	20	2009	2029		70.00 %	0.00 %	14			$1,317,840
D5030	Communications and Security	$12.99	S.F.	38,000	15	2009	2024		60.00 %	61.60 %	9		$304,081.46	$493,620
D5090	Other Electrical Systems	$1.41	S.F.	38,000	30	2009	2039		80.00 %	0.00 %	24			$53,580
E1020	Institutional Equipment	$4.82	S.F.	38,000	35	1898	1933	2027	34.29 %	0.00 %	12			$183,160
E1090	Other Equipment	$11.10	S.F.	38,000	35	1898	1933	2027	34.29 %	0.00 %	12			$421,800
E2010	Fixed Furnishings	$2.13	S.F.	38,000	40	1898	1938	2027	30.00 %	0.00 %	12			$80,940
								Total	**60.12 %**	**72.84 %**			**$13,989,788.79**	**$19,207,000**

System Notes

The facility description in the site executive summary contains an overview of each system. The notes listed below provide additional information on select systems found within the facility.

System: C3010 - Wall Finishes — This system contains no images

Note: Painted wall finish 80%
Brick / Tile 20%

System: C3020 - Floor Finishes — This system contains no images

Note: Tile 8%
Vinyl 13%
Wood 71%
Concrete 8%

System: D1010 - Elevators and Lifts — This system contains no images

Note: There is no existing elevator in this school.

System: D5010 - Electrical Service/Distribution — This system contains no images

Note: There is one 37.5 kVA, 120/240-208/120V transformer that has been disconnected and is no longer in use.

Renewal Schedule

eCOMET forecasts future Capital Renewal funding needed to address expiring systems based on the Next Renewal year found in the Cost Models. A 3% annual inflation factor is applied to the costs for systems expiring in future years. The table below reflects recommended Capital Renewal funding needs over the next 10 years. Note: Cells with a zero value indicate systems for which renewal is not scheduled in that year.

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$13,989,789**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$708,468**	**$130,328**	**$14,828,585**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$1,270,862	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,270,862**
B2020 - Exterior Windows	$1,205,833	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,205,833**
B2030 - Exterior Doors	$127,502	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$127,502**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$33,882	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$33,882**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$123,341	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$123,341**
C1020 - Interior Doors	$667,882	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$667,882**
C1030 - Fittings	$73,914	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$73,914**

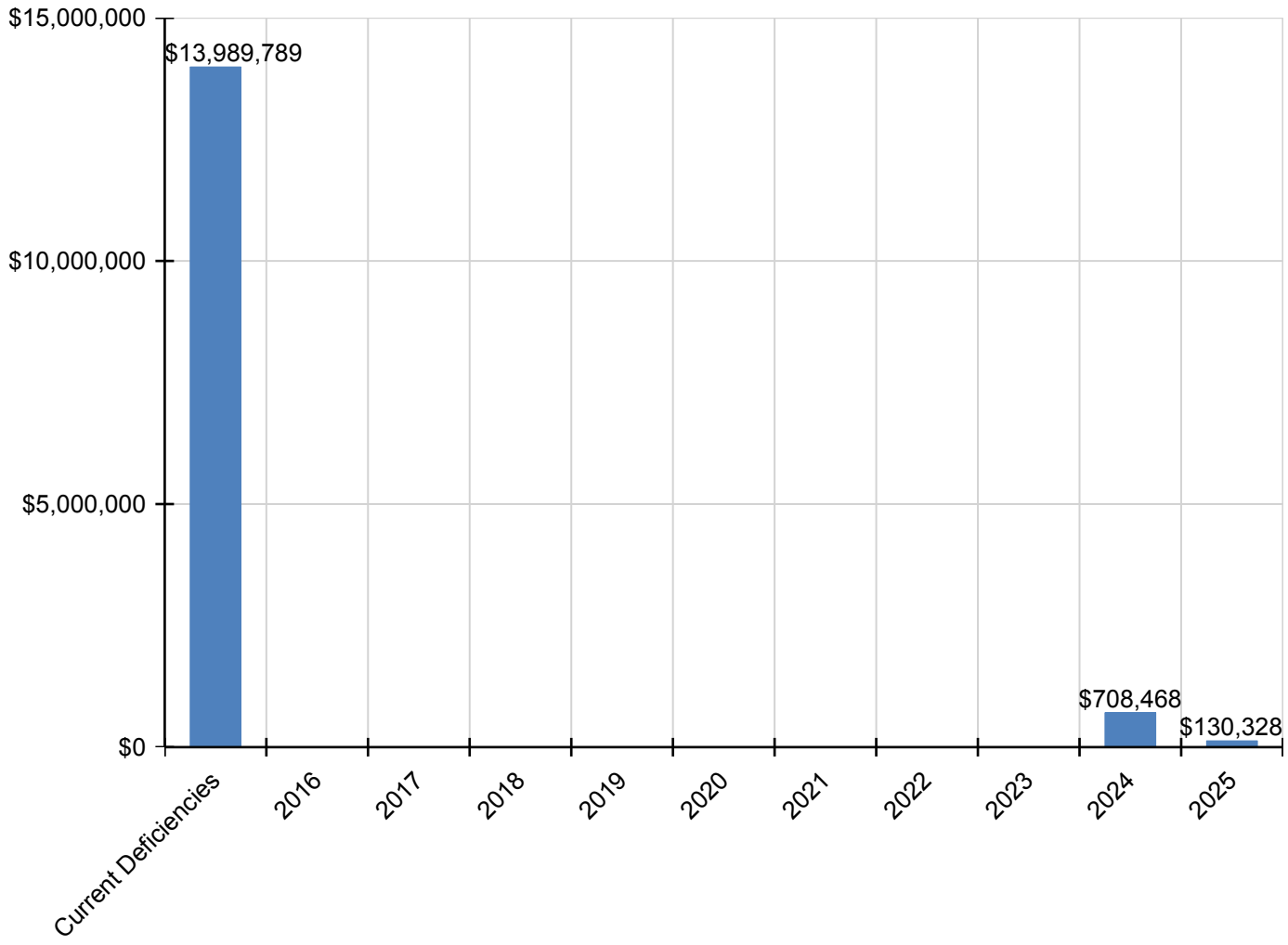
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$236,408	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$236,408**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$541,910	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$541,910**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$75,833	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$75,833**
C3020414 - Wood Flooring	$787,106	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$787,106**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$512,803	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$512,803**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$1,012,601	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,012,601**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2020 - Domestic Water Distribution	$192,560	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$192,560**
D2030 - Sanitary Waste	$186,418	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$186,418**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$130,328	**$130,328**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$101,394	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$101,394**
D3030 - Cooling Generating Systems	$1,109,945	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,109,945**
D3040 - Distribution Systems	$3,734,893	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,734,893**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$815,182	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$815,182**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$543,606	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$543,606**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$331,831	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$331,831**
D5020 - Lighting and Branch Wiring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5030 - Communications and Security	$304,081	$0	$0	$0	$0	$0	$0	$0	$0	$708,468	$0	**$1,012,550**

D5090 - Other Electrical Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

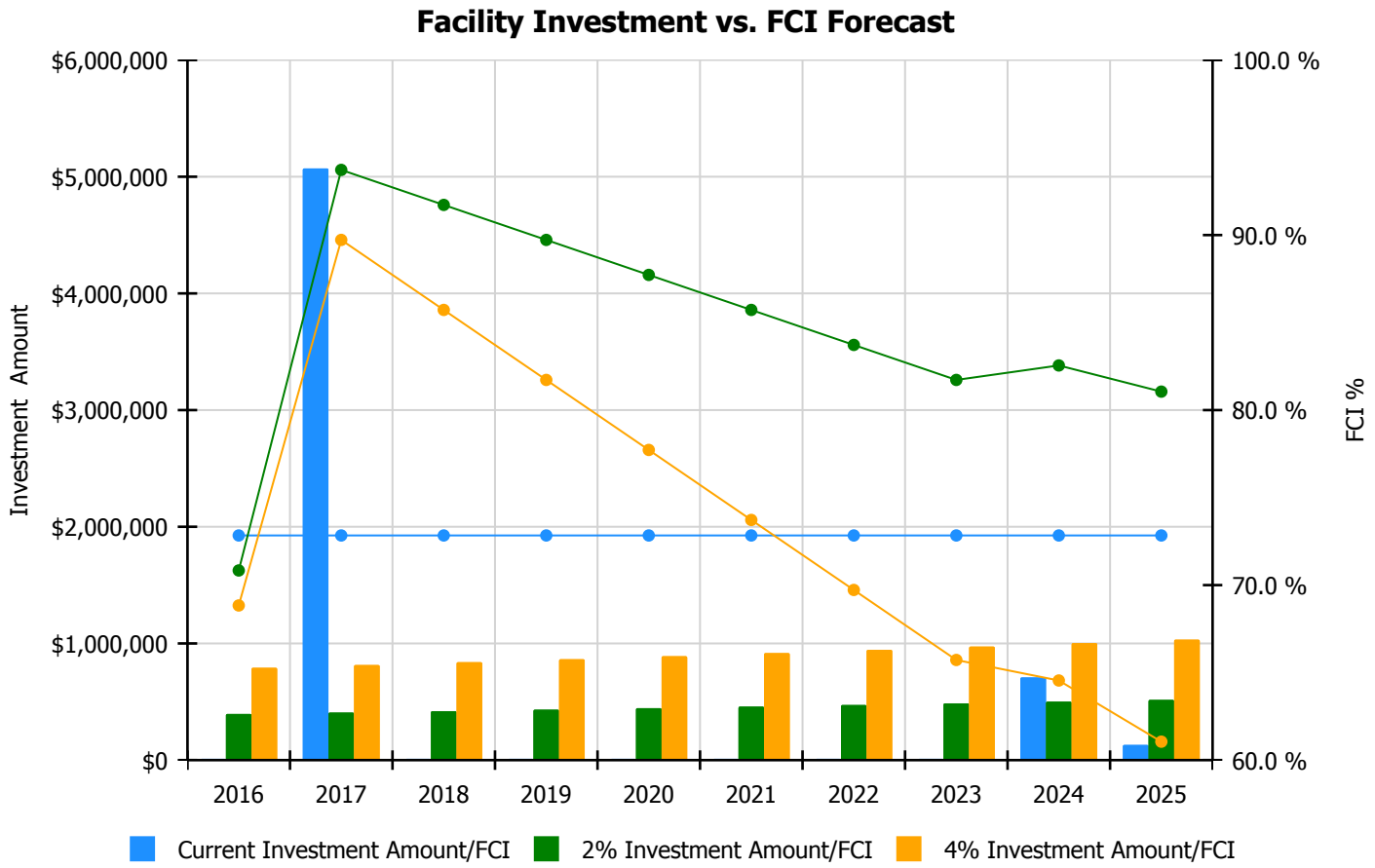
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

The chart below illustrates the effect of various investment levels on the building FCI for the next 10 years. The levels of investment shown below include:

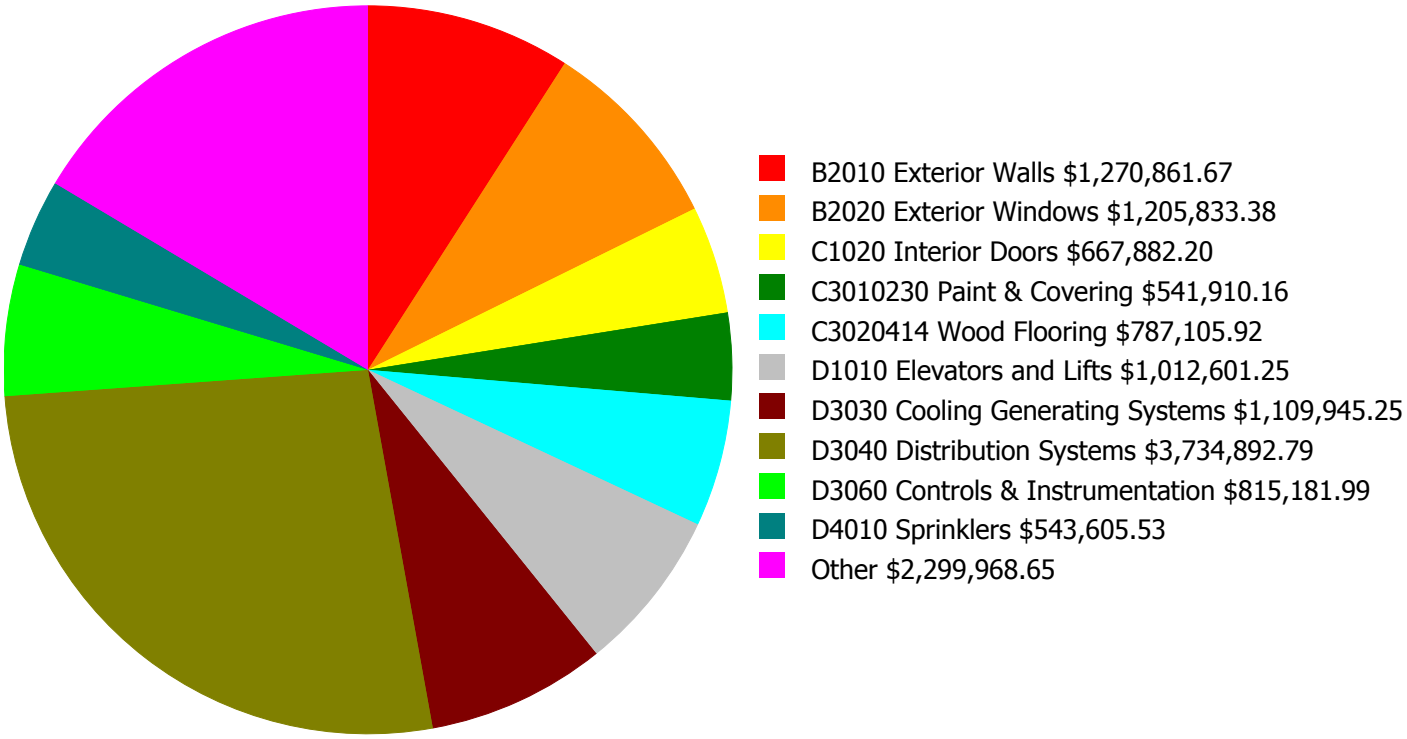
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value of the building, escalated for inflation



Year	Investment Amount Current FCI - 72.84%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$395,664.00	70.84 %	$791,328.00	68.84 %
2017	$5,070,922	$407,534.00	93.72 %	$815,068.00	89.72 %
2018	$0	$419,760.00	91.72 %	$839,520.00	85.72 %
2019	$0	$432,353.00	89.72 %	$864,706.00	81.72 %
2020	$0	$445,324.00	87.72 %	$890,647.00	77.72 %
2021	$0	$458,683.00	85.72 %	$917,366.00	73.72 %
2022	$0	$472,444.00	83.72 %	$944,887.00	69.72 %
2023	$0	$486,617.00	81.72 %	$973,234.00	65.72 %
2024	$708,468	$501,216.00	82.55 %	$1,002,431.00	64.55 %
2025	$130,328	$516,252.00	81.05 %	$1,032,504.00	61.05 %
Total:	**$5,909,718**	**$4,535,847.00**		**$9,071,691.00**	

Deficiency Summary by System

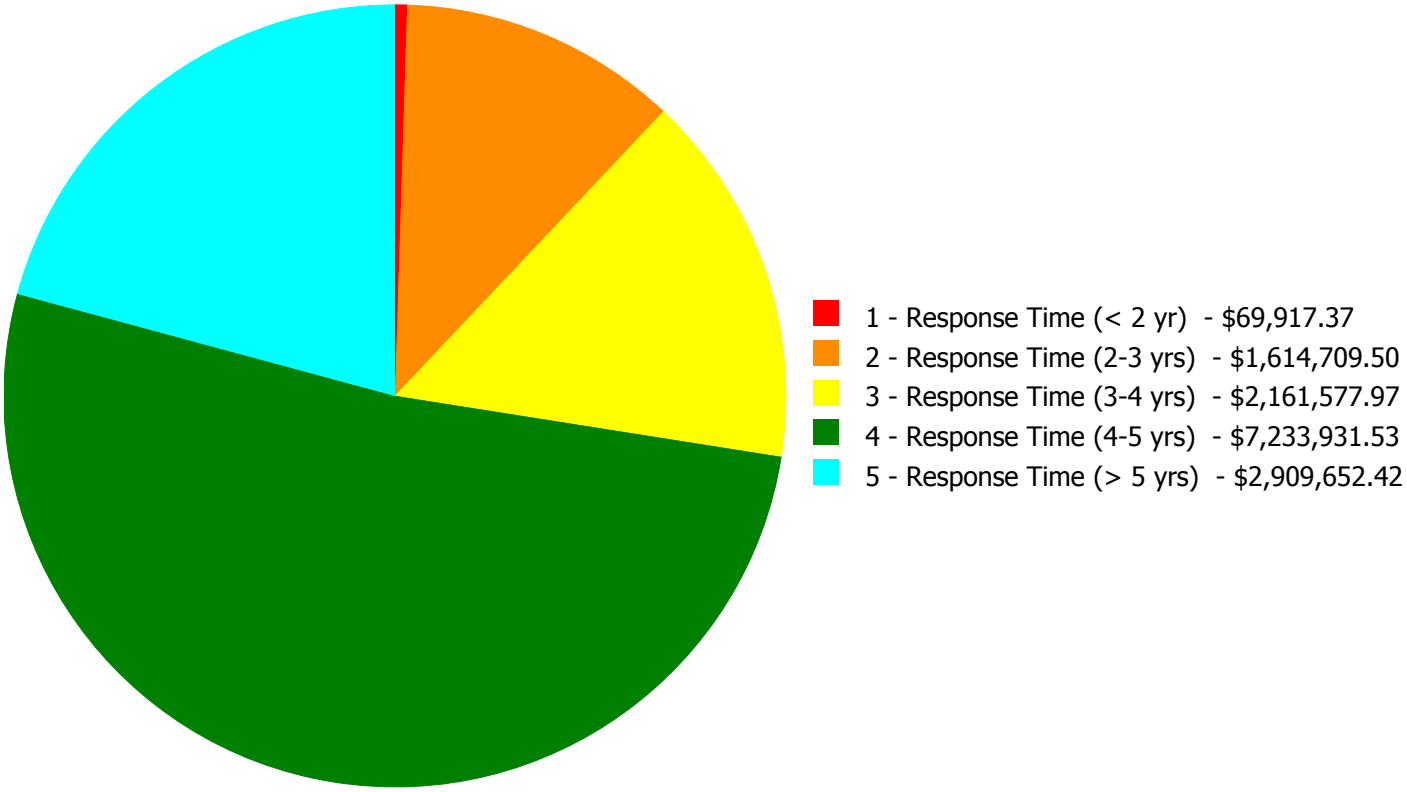
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart lists all current deficiencies associated with this facility.



Budget Estimate Total: $13,989,788.79

Deficiency Summary by Priority

The following chart shows the total repair costs broken down by priority. Assessors assigned deficiencies within eCOMET to one of the following priority categories:



Budget Estimate Total: $13,989,788.79

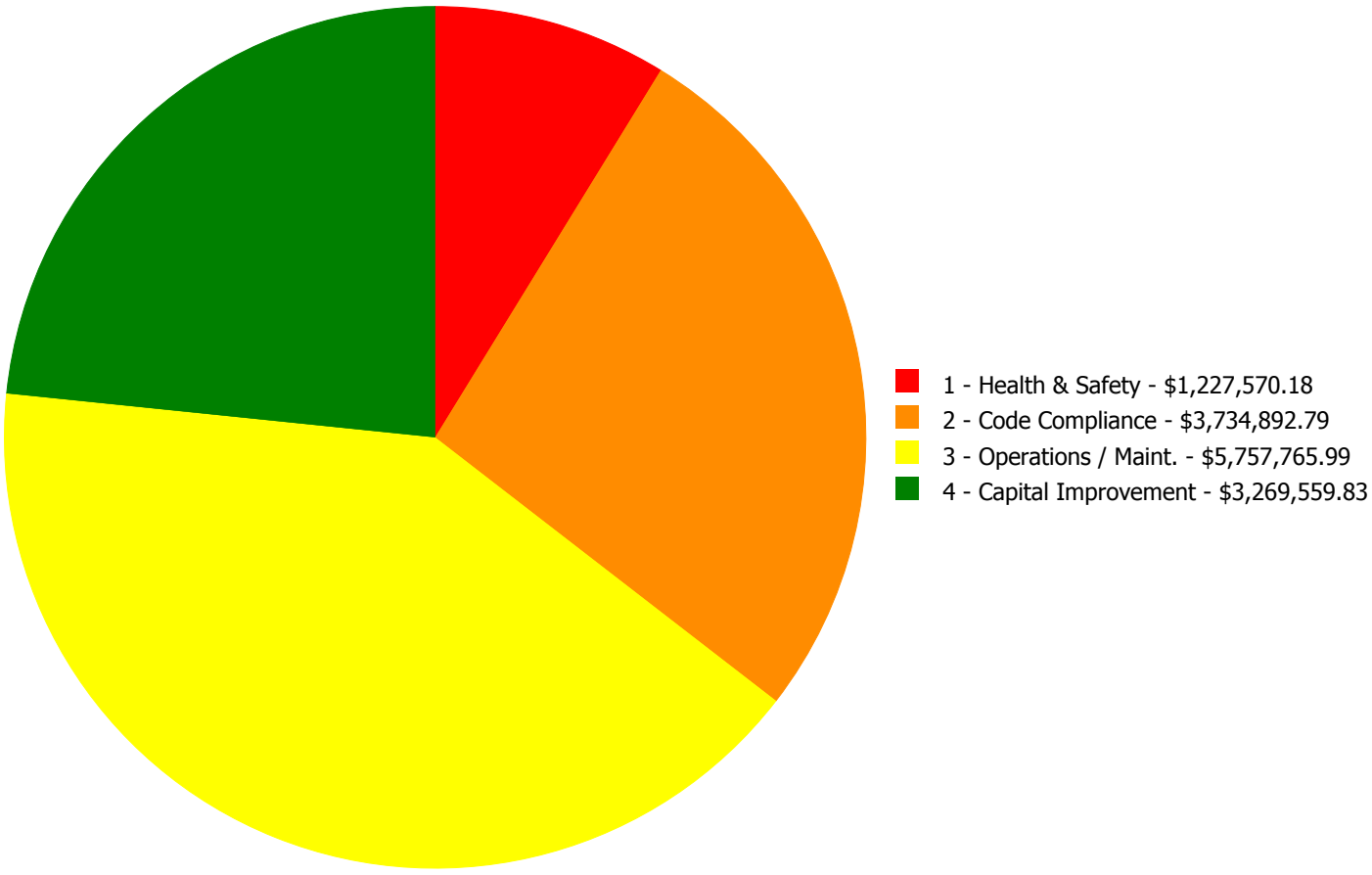
Deficiency By Priority Investment Table

The table below shows the current investment cost grouped by deficiency priority and building system.

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	$0.00	$1,270,861.67	$0.00	$0.00	$0.00	$1,270,861.67
B2020	Exterior Windows	$0.00	$0.00	$1,205,833.38	$0.00	$0.00	$1,205,833.38
B2030	Exterior Doors	$0.00	$0.00	$0.00	$127,502.49	$0.00	$127,502.49
B3010105	Built-Up	$33,882.01	$0.00	$0.00	$0.00	$0.00	$33,882.01
C1010	Partitions	$36,035.36	$31,606.57	$55,698.76	$0.00	$0.00	$123,340.69
C1020	Interior Doors	$0.00	$0.00	$667,882.20	$0.00	$0.00	$667,882.20
C1030	Fittings	$0.00	$0.00	$0.00	$73,914.23	$0.00	$73,914.23
C2010	Stair Construction	$0.00	$236,407.92	$0.00	$0.00	$0.00	$236,407.92
C3010230	Paint & Covering	$0.00	$0.00	$0.00	$541,910.16	$0.00	$541,910.16
C3020413	Vinyl Flooring	$0.00	$75,833.34	$0.00	$0.00	$0.00	$75,833.34
C3020414	Wood Flooring	$0.00	$0.00	$0.00	$0.00	$787,105.92	$787,105.92
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$512,802.63	$0.00	$512,802.63
D1010	Elevators and Lifts	$0.00	$0.00	$0.00	$0.00	$1,012,601.25	$1,012,601.25
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$192,559.94	$0.00	$192,559.94
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$186,418.43	$0.00	$186,418.43
D3020	Heat Generating Systems	$0.00	$0.00	$0.00	$101,394.17	$0.00	$101,394.17
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,109,945.25	$1,109,945.25
D3040	Distribution Systems	$0.00	$0.00	$0.00	$3,734,892.79	$0.00	$3,734,892.79
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$815,181.99	$0.00	$815,181.99
D4010	Sprinklers	$0.00	$0.00	$0.00	$543,605.53	$0.00	$543,605.53
D5010	Electrical Service/Distribution	$0.00	$0.00	$0.00	$331,831.34	$0.00	$331,831.34
D5030	Communications and Security	$0.00	$0.00	$232,163.63	$71,917.83	$0.00	$304,081.46
	Total:	$69,917.37	$1,614,709.50	$2,161,577.97	$7,233,931.53	$2,909,652.42	$13,989,788.79

Deficiency Summary by Category

The following chart shows the total repair costs broken down by deficiency categories. Assessors assigned deficiencies to one of the following categories:



Budget Estimate Total: $13,989,788.79

Deficiency Details by Priority

The deficiency detail notes listed below provide additional information on identified deficiencies found within the facility.

Priority 1 - Response Time (< 2 yr):

System: B3010105 - Built-Up

Location: Roof

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Remove and Replace Built Up Roof

Qty: 1,000.00

Unit of Measure: S.F.

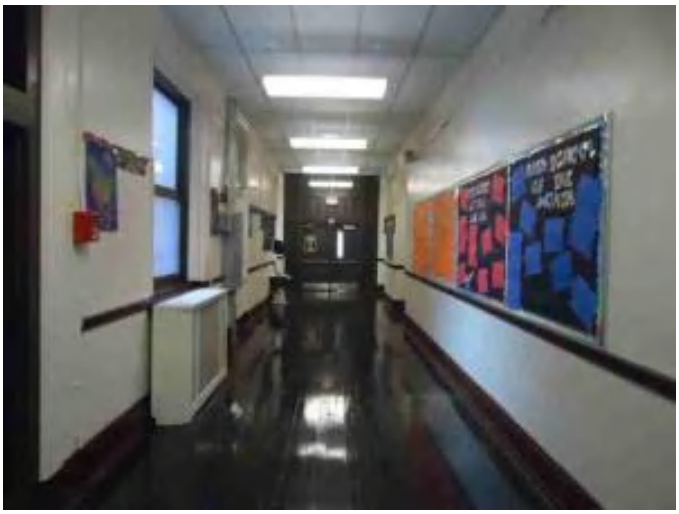
Estimate: $33,882.01

Assessor Name: System

Date Created: 01/22/2016

Notes: The built up roof was installed within the past ten years as reported by the school. The roof is in good condition with few exceptions. Currently there is an active leak that if not repaired soon will start to deteriorate the insulation and the integrity of the classroom finishes. This deficiency provides a budgetary consideration for built up roof repair for this section.

System: C1010 - Partitions



Location: Stairs

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install fire rated walls and door where required - insert number of doors

Qty: 10.00

Unit of Measure: S.F.

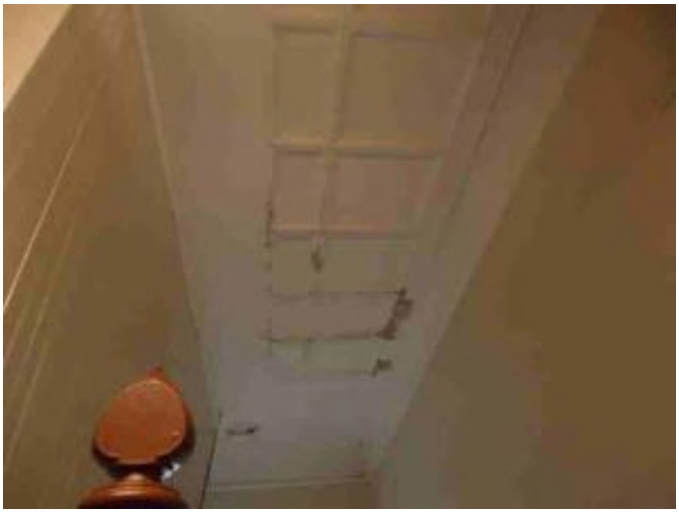
Estimate: $28,300.98

Assessor Name: System

Date Created: 01/22/2016

Notes: The fire stair, corridor and general access stair doors are a mix of complaint and non-compliant applications. As indicated in the photo one wooden door is failing at the hinge. The interior corridor, exit stair doors are not considered to be code compliant as the usual fire rating tags that indicate the proper installation could not be found. The doors are generally in fair condition considering the age of the application. To restore the door finishes and provide fire rated door systems universal upgrades are required. Also, remove and replace original corridor door that separates the cafeteria from the main building with new code compliant fire rated door system.

System: C1010 - Partitions



Location: Hallways and Stair

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install fire rated walls and door where required - insert number of doors

Qty: 1.00

Unit of Measure: S.F.

Estimate: $7,734.38

Assessor Name: System

Date Created: 01/22/2016

Notes: There are several transom lites and sidelights constructed into hallway wall systems and in the stairwells. This system appears to have been a part of the original construction for heating and cooling. This is abandoned system and no longer in use. It is recommended that the lites and sidelights be removed and replaced with a fire rated wall construction. The deficiency provides a budgetary consideration to correct the hallway, transoms, lites and sidelights.

Priority 2 - Response Time (2-3 yrs):

System: B2010 - Exterior Walls

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Repair cracks in masonry - replace missing mortar and repoint - SF of wall area

Qty: 38,000.00

Unit of Measure: S.F.

Estimate: $1,226,999.94

Assessor Name: System

Date Created: 01/22/2016

Notes: The exterior stone and brick surfaces are generally in fair condition for their age. In some locations, bricks have cracked or spalled and should be replaced. The stone work was reported to have been re-pointed within the past ten years. This effort appears to have been limited with additional work now being required. The repointing of deteriorated mortar joints is recommended, using mortar of a similar color and consistency as the original. Following the detailed examination of the stone and brick repair of mortar construction joints, the entire building should be pressure washed to remove stains and embedded pollutants. If moisture is found to be penetrating the masonry façade, the application of a spray sealant to the suspected exterior masonry surface is recommended.

System: B2010 - Exterior Walls

Location: Cafeteria

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Repaint exterior walls - CMU

Qty: 5,000.00

Unit of Measure: S.F.

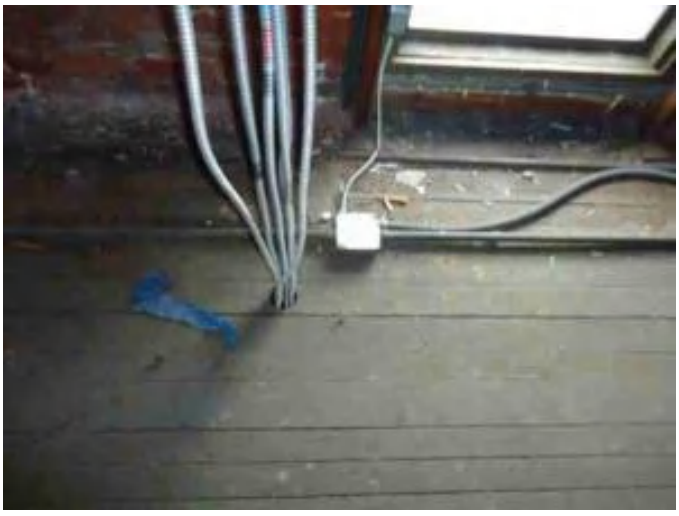
Estimate: $43,861.73

Assessor Name: System

Date Created: 01/22/2016

Notes: This schools exterior finish for the cafeteria is a metal siding finish. This finish was reported to have been completed in the late 1990's however, there were no records to indicate the date of installation. The painted finish is in very poor condition and peeling from the building in several areas. It is recommended that the exterior painted finish for this cafeteria be repaired and repainted. Special consideration to coordinate this project with the other exterior projects is required.

System: C1010 - Partitions



Location: Electrical Mechanical Spaces

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 2 - Response Time (2-3 yrs)

Correction: Add firestopping - per penetration - pick the type of penetration and insert the quantities in the estimate including finish restoration

Qty: 1.00

Unit of Measure: Ea.

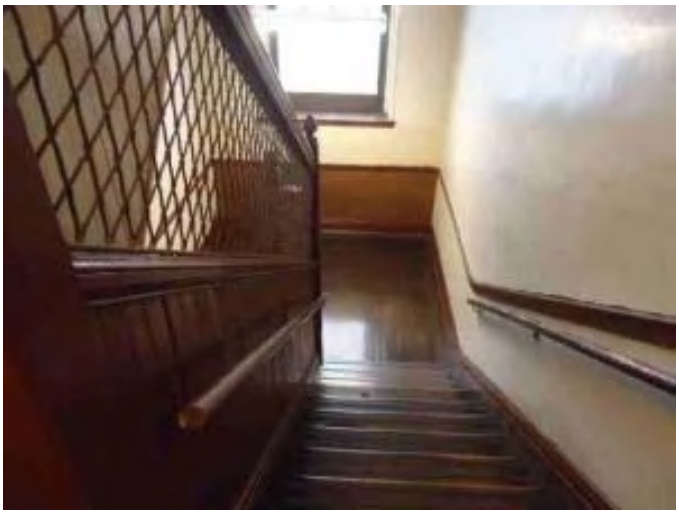
Estimate: $31,606.57

Assessor Name: System

Date Created: 01/22/2016

Notes: The mechanical room has several penetrations and as indicted in the photos an interior wall that has been compromised with several holes for equipment. Also, note the electrical modifications recently completed at this school has left several closet penetrations open. This deficiency provides a budgetary consideration to properly enclose the areas and to meet the current fire life safety requirements for mechanical spaces.

System: C2010 - Stair Construction



Location: Stairs

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 2 - Response Time (2-3 yrs)

Correction: Replace inadequate or install proper stair railing - select appropriate material

Qty: 1,400.00

Unit of Measure: L.F.

Estimate: $236,407.92

Assessor Name: System

Date Created: 01/25/2016

Notes: Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

System: C3020413 - Vinyl Flooring

Location: Building Wide

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 2 - Response Time (2-3 yrs)

Correction: Remove VAT and replace with VCT - SF of area

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $75,833.34

Assessor Name: System

Date Created: 01/25/2016

Notes: The vinyl tile finish is a 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application. Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

Priority 3 - Response Time (3-4 yrs):

System: B2020 - Exterior Windows

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace aluminum windows - pick the appropriate size and style and insert the number of units

Qty: 220.00

Unit of Measure: Ea.

Estimate: $1,205,833.38

Assessor Name: System

Date Created: 01/22/2016

Notes: The exterior windows have been upgraded from the original applications. The window system is estimated to have been installed in the 1990's. Several of the windows are no longer functional and will require attention prior to an overall effort. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: C1010 - Partitions

Location: Classroom

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove folding wood partitions; replace with metal studs and gypsum board painted

Qty: 2,500.00

Unit of Measure: S.F.

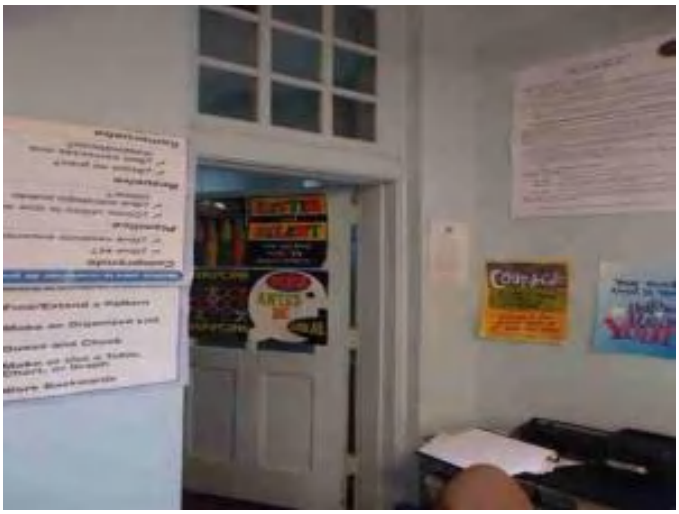
Estimate: $55,698.76

Assessor Name: System

Date Created: 01/22/2016

Notes: There are several movable partitions that remain in classrooms. These wall systems are no longer used and in most cases cannot be used due to damage or wall modifications to support classroom needs. This deficiency provides a budgetary consideration to remove and replace the wall systems with universal removal of the existing movable partitions and upgrades to a permeate wall systems.

System: C1020 - Interior Doors



Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace interior doors - wood doors with hollow metal frames - per leaf

Qty: 140.00

Unit of Measure: Ea.

Estimate: $667,882.20

Assessor Name: System

Date Created: 01/25/2016

Notes: Interior doors are typically wood in wood frames with transom lites, sidelights, wired glass glazing. Other interior doors include solid wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames at some of the stairwells and exit ways. Doors are generally in fair condition and are not ADA compliant. The deficiency provides a budgetary consideration to correct the hallway, transoms, wood doors and frames.

System: D5030 - Communications and Security

Location:	Building wide
Distress:	Life Safety / NFPA / PFD
Category:	1 - Health & Safety
Priority:	3 - Response Time (3-4 yrs)
Correction:	Replace fire alarm system
Qty:	38,000.00
Unit of Measure:	S.F.
Estimate:	$232,163.63
Assessor Name:	System
Date Created:	12/16/2015

Notes: Replace obsolete fire alarm system with an addressable type system, including pull stations, smoke and heat detectors, and audible and visual notification appliances.

Priority 4 - Response Time (4-5 yrs):

System: B2030 - Exterior Doors

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Remove and replace exterior doors - per leaf

Qty: 14.00

Unit of Measure: Ea.

Estimate: $127,502.49

Assessor Name: System

Date Created: 01/22/2016

Notes: The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system and service doors are recommended for upgrade. The new doors are expected to retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: C1030 - Fittings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace missing or damaged signage - insert the number of rooms

Qty: 135.00

Unit of Measure: Ea.

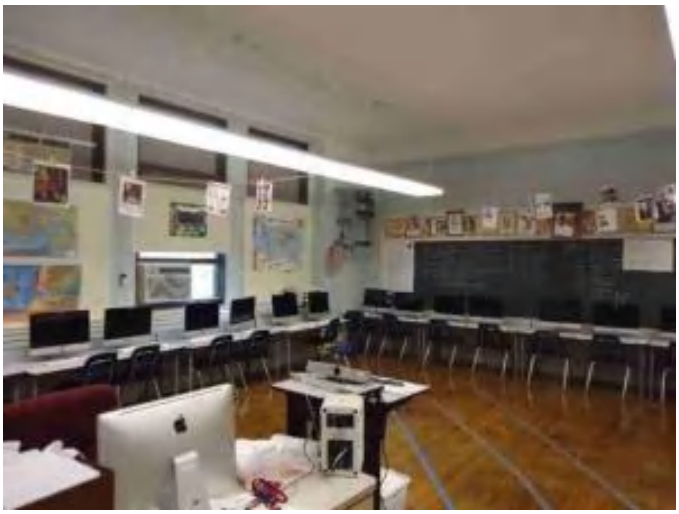
Estimate: $36,573.18

Assessor Name: System

Date Created: 01/25/2016

Notes: There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

System: C1030 - Fittings



Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace blackboards with marker boards - pick the appropriate size and insert the quantities

Qty: 25.00

Unit of Measure: Ea.

Estimate: $29,413.79

Assessor Name: System

Date Created: 01/25/2016

Notes: Some of the classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade damaged chalk boards to new marker board systems.

System: C1030 - Fittings

Location: Hallways

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Remove and replace tackboards - select size

Qty: 10.00

Unit of Measure: Ea.

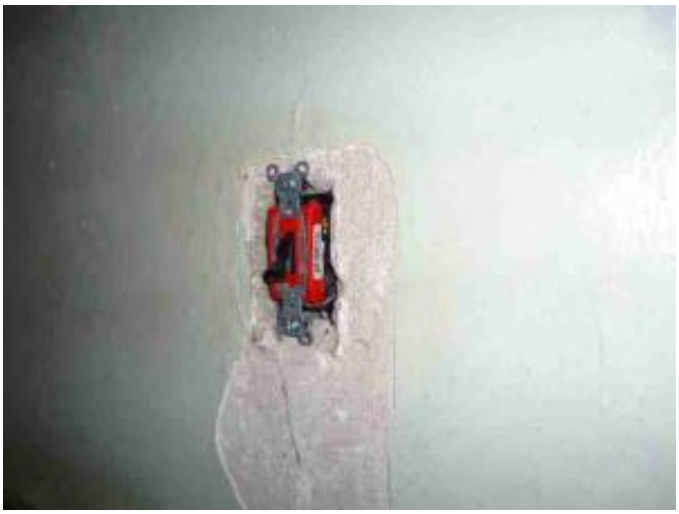
Estimate: $7,927.26

Assessor Name: System

Date Created: 01/25/2016

Notes: There are several tack boards in the hallways for student displays. The systems are damaged and beyond the expected service life for this application. Remove and replace tack boards is recommended.

System: C3010230 - Paint & Covering



Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Repair and repaint all interior walls - SF of wall surface

Qty: 80,000.00

Unit of Measure: S.F.

Estimate: $541,910.16

Assessor Name: System

Date Created: 01/25/2016

Notes: There are painted walls, trim, and some painted ceilings in this building. The interior finishes are in fair to poor condition and will require an almost continuous program of renewal of the applied finishes to maintain an acceptable appearance. Cyclical painting should be considered for a standard approach to maintaining the quality of the interior finishes. It is recommended that all previously painted surfaces be repainted according to established cycles for this occupancy and use type. Minor repairs should be completed before work begins. This effort is expected to be coordinated with other mechanical electrical efforts in order to prevent overlapping efforts.

System: C3030 - Ceiling Finishes

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Remove and replace suspended acoustic ceilings - lighting not included

Qty: 34,000.00

Unit of Measure: S.F.

Estimate: $512,802.63

Assessor Name: System

Date Created: 01/25/2016

Notes: The ceiling finish is an acoustical tile finish. Ceilings have been repaired in several areas and is in good condition considering the age of the application and the current condition of the school. The ceiling finish is expected to require upgrades to support the recommended efforts in this report prior to re-opening. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school. No work should be considered until after the recommended exterior efforts are complete.

System: D2020 - Domestic Water Distribution

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace domestic water piping (75 KSF)

Qty: 38,000.00

Unit of Measure: S.F.

Estimate: $192,559.94

Assessor Name: System

Date Created: 12/17/2015

Notes: Replace domestic hot and cold water pipe, fittings, valves, hangers and insulation

System: D2030 - Sanitary Waste

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Inspect sanitary waste piping and replace damaged sections. (+50KSF)

Qty: 38,000.00

Unit of Measure: S.F.

Estimate: $186,418.43

Assessor Name: System

Date Created: 12/17/2015

Notes: Inspect old cast iron sanitary piping including camera observation and replace damaged sections.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace boiler feed pump (duplex) and surge tank

Qty: 1.00

Unit of Measure: Ea.

Estimate: $101,394.17

Assessor Name: System

Date Created: 12/17/2015

Notes: Replace existing condensate return/ boiler feed system with triplex unit with pumps, tank, controls and electrical connection.

System: D3040 - Distribution Systems

Location: entire building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide classroom FC units and dedicated OA ventilation system. (20 clsrms)

Qty: 40.00

Unit of Measure: C

Estimate: $3,401,715.27

Assessor Name: System

Date Created: 12/17/2015

Notes: Provide a four pipe fan coil system with roof mounted outside air system ducted to each fan coil unit. Provide a fan coil unit for each classroom and separate area. Include new heat exchanger and pump for hot water, piping, control valves and controls, to replace steam heating system.

System: D3040 - Distribution Systems

Location: cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Install HVAC unit for Cafeteria (850 students).

Qty: 378.00

Unit of Measure: Pr.

Estimate: $176,729.85

Assessor Name: System

Date Created: 12/17/2015

Notes: Provide a new central station air handling unit for the cafeteria with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.

System: D3040 - Distribution Systems

Location: toilet rooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide inline centrifugal fan and wall outlet louver for restroom exhaust (8 plbg fixtures)

Qty: 4.00

Unit of Measure: Ea.

Estimate: $107,885.28

Assessor Name: System

Date Created: 12/18/2015

Notes: Install new mechanical toilet exhaust system in each toilet room including ductwork, registers, inline fan, exterior louver, controls and electrical connection.

System: D3040 - Distribution Systems

Location: toilet rooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 yrs)

Correction: Provide inline ceiling exhaust fan and wall outlet louver

Qty: 5.00

Unit of Measure: Ea.

Estimate: $48,562.39

Assessor Name: System

Date Created: 12/17/2015

Notes: Install new mechanical toilet exhaust system in each toilet room including ductwork, registers, inline fan, exterior louver, controls and electrical connection.

System: D3060 - Controls & Instrumentation

Location: entire building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 4 - Response Time (4-5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 38,000.00

Unit of Measure: S.F.

Estimate: $815,181.99

Assessor Name: System

Date Created: 12/17/2015

Notes: Install new direct digital control system and building automation system with remote computer control capability and graphics package.

System: D4010 - Sprinklers

Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 4 - Response Time (4-5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 38,000.00

Unit of Measure: S.F.

Estimate: $543,605.53

Assessor Name: System

Date Created: 12/17/2015

Notes: Install NFPA wet pipe automatic sprinkler system in entire building, including fire service, piping sprinkler heads, standpipes and fire pump if required.

System: D5010 - Electrical Service/Distribution

Location: Main Electrical Room

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 4 - Response Time (4-5 yrs)

Correction: Add Electrical Switchgear and Distribution System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $331,831.34

Assessor Name: System

Date Created: 12/16/2015

Notes: Provide a 1600A, 208/120V, 3 phase, 4 wire service distribution switchboard with associated feeder circuit breakers and feeders to serve added central air conditioning equipment, an elevator addition, and a fire pump (if required).

System: D5030 - Communications and Security

This deficiency has no image.

Location:	Building wide
Distress:	Security Issue
Category:	1 - Health & Safety
Priority:	4 - Response Time (4-5 yrs)
Correction:	Add/Replace Video Surveillance System
Qty:	13.00
Unit of Measure:	Ea.
Estimate:	$71,917.83
Assessor Name:	System
Date Created:	12/16/2015

Notes: Provide a video surveillance system with at least 13 interior cameras, two DVR's and two video monitors.

Priority 5 - Response Time (> 5 yrs):

System: C3020414 - Wood Flooring

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace wood flooring

Qty: 27,000.00

Unit of Measure: S.F.

Estimate: $787,105.92

Assessor Name: System

Date Created: 01/25/2016

Notes: The classrooms and auditorium in this school have a wooden floor finish that appears to be from original construction. The system is showing signs of age such as the effects of sanding and refinishing with yearly cleaning and waxing with some repairs. The floor finish is in fair condition however, the finish is beyond its expected life cycle. It is recommended that the damaged wood floor finish be removed and replaced with an in kind finish.

System: D1010 - Elevators and Lifts

Location: Building Wide

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Add external 4 stop elevator - adjust the electrical run lengths to hook up the elevator

Qty: 1.00

Unit of Measure: Ea.

Estimate: $1,012,601.25

Assessor Name: System

Date Created: 01/25/2016

Notes: There is no elevator that services this school. Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To assist those that may be physically challenged and to meet current accessibility legislation to provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the exterior elevation of the building or at another suitable location. The new installation should blend as much as possible with the overall appearance of this historic structure and include all required ADA features, such as audible jewels and gongs, an accessible control panel, etc.

System: D3030 - Cooling Generating Systems

Location: roof, mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install chilled water system with distribution piping and pumps. (+25KSF)

Qty: 38,000.00

Unit of Measure: S.F.

Estimate: $1,109,945.25

Assessor Name: System

Date Created: 12/17/2015

Notes: Provide a one hundred ten ton air cooled package chiller on the roof with pumps, piping and controls. Connect to new fan coil units and air handling units.

Equipment Inventory

The following table represents the inventory details of the inventory found in the building, which fall under the following subsystems:

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 2700 MBH, includes burners, controls and insulated jacket, packaged	1.00	Ea.	mechanical room	hb smith	3500a	ma2001-16		35	2001	2036	$50,376.70	$55,414.37
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 2700 MBH, includes burners, controls and insulated jacket, packaged	1.00	Ea.	mechanical room	hb smith	3500a	ma2001-15		35	2001	2036	$50,376.70	$55,414.37
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 1600 A	2.00	Ea.	Main Electrical Room	Siemens	Cat. No. SB3 Rev. A	NA		30	2009	2039	$40,458.15	$89,007.93
												Total:	**$199,836.67**

Executive Summary

Building condition is evaluated based on the functional systems and elements of a building and organized according to the UNIFORMAT II Elemental Classification. The grouping of these systems and elements and applying a current replacement value to them develops a representative building cost model. Cost Models are developed for similar building types and functions. Systems and their elements are evaluated based on their current replacement values, life cycles, installation dates and next renewal dates. Systems and their elements that are within their useful lives are further evaluated to identify current deficient conditions that may have a significant impact on a system's or element's remaining service life, and to determine if they are beyond their predicted expected life. The system's or element's current replacement value is based on RS Means Commercial Cost Data.

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) FCI is an industry-standard measurement of facility condition calculated as the ratio of the costs to correct a facility's deficiencies to the facility's Current Replacement Value. It ranges from 0% (new) to 100% (very poor). Condition Index (CI) is calculated as the sum of a renewable system's Remaining Service Life (RSL) divided by the sum of a system's Replacement Value (both values exclude soft-cost to simplify calculation updates) expressed as a percentage ranging from 100% (new) to 0% (expired).

Function:	
Gross Area (SF):	25,600
Year Built:	1898
Last Renovation:	
Replacement Value:	$660,232
Repair Cost:	$156,685.81
Total FCI:	23.73 %
Total RSLI:	38.09 %

Description:

Attributes:

General Attributes:

Bldg ID:	S623001	Site ID:	S623001

Condition Summary

The Table below shows the CI and FCI for each major building system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
G20 - Site Improvements	35.59 %	16.57 %	$84,757.89
G40 - Site Electrical Utilities	46.67 %	48.36 %	$71,927.92
Totals:	**38.09 %**	**23.73 %**	**$156,685.81**

Condition Detail

This section of the report contains results of the Facility Condition Assessment. The building is separated into system components based on UNIFORMAT II classification. The columns in the System Listing table below represent the following:

1. System Code: A code that identifies the system.
2. System Description: A brief description of a system present in the building.
3. Unit Price $: The unit price of the system.
4. UoM: The unit of measure for of the system.
5. Qty: The quantity for the system
6. Life: anticipated service life for thesystem based on Building Owners and Managers Association (BOMA) recommendations.
7. Year Installed: The date of system installation.
8. Calc Next Renewal Year: The date of system expiration based on the life, NR stands for non renewable.
9. Next Renewal Year: The suggested system expiration date by the assessor based on visual inspection.
10. CI: The Condition Index of the system.
11. FCI: The Facility Condition Index of the system.
12. RSL: Remaining Service Life.
13. eCR: eCOMET Condition Rating (not used).
14. Deficiency $: The financial investment to repair/replace system.

System Listing

The System Listing table below lists each of the systems organized by their UNIFORMAT II classification. The assessment team was tasked with recording the most recent replacement year of each system, determining the remaining service life based on the theoretical life, and evaluating the condition to confirm the forecast next replacement year. The system listing is the basis for all data contained in the Building Assessment Report.

Additionally, a condition rating (eCR) based on the following guidelines is provided as observed at the time of the assessment.

- Excellent (E) - No noticeable distress or damage. The entire system is free from observable defect.
- Very Good (VG) - Overall no serviceability reduction for the entire system. No degradation of critical components and minor distress and defect noticeable for some but not non critical components within the system.
- Good (G) - Slight or no serviceability reduction for the entire system. There may be noticeable defects for some non critical components and slight noticeable degradation of the critical components.
- Fair (F) - Overall serviceability is degraded but adequate. There may be moderate deterioration for very few of the critical components and few of the non critical components may have severe degradation.
- Marginal (MA) - Overall serviceability and reliability loss. Most if not all of the non critical components suffer from severe degradation and a few of the critical component may have severe degradation.
- Moderate (MO) - Overall a significant serviceability loss. Most if not all the components have severe degradation with the reminder of the component showing visible distress.
- Very Poor (VP) - Overall the system is barely functional. All of the components are severely degraded.
- Non-Functional (NF) - Overall the system does not function with all the components having no serviceability and suffer from severe degradation.

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2020	Parking Lots	$8.50	S.F.	10,000	30	1980	2010	2027	40.00 %	0.00 %	12			$85,000
G2030	Pedestrian Paving	$12.30	S.F.	25,600	40	1970	2010	2027	30.00 %	4.57 %	12		$14,382.85	$314,880
G2040	Site Development	$4.36	S.F.	25,600	25	1970	1995	2027	48.00 %	63.05 %	12		$70,375.04	$111,616
G2050	Landscaping & Irrigation	$4.36	S.F.		15	1970	1985	2027	80.00 %	0.00 %	12			$0
G4020	Site Lighting	$4.84	S.F.	25,600	30			2029	46.67 %	0.00 %	14			$123,904
G4030	Site Communications & Security	$0.97	S.F.	25,600	30			2029	46.67 %	289.66 %	14		$71,927.92	$24,832
								Total	**38.09 %**	**23.73 %**			**$156,685.81**	**$660,232**

System Notes

The facility description in the site executive summary contains an overview of each system. The notes listed below provide additional information on select systems found within the facility.

No data found for this asset

Renewal Schedule

eCOMET forecasts future Capital Renewal funding needed to address expiring systems based on the Next Renewal year found in the Cost Models. A 3% annual inflation factor is applied to the costs for systems expiring in future years. The table below reflects recommended Capital Renewal funding needs over the next 10 years. Note: Cells with a zero value indicate systems for which renewal is not scheduled in that year.

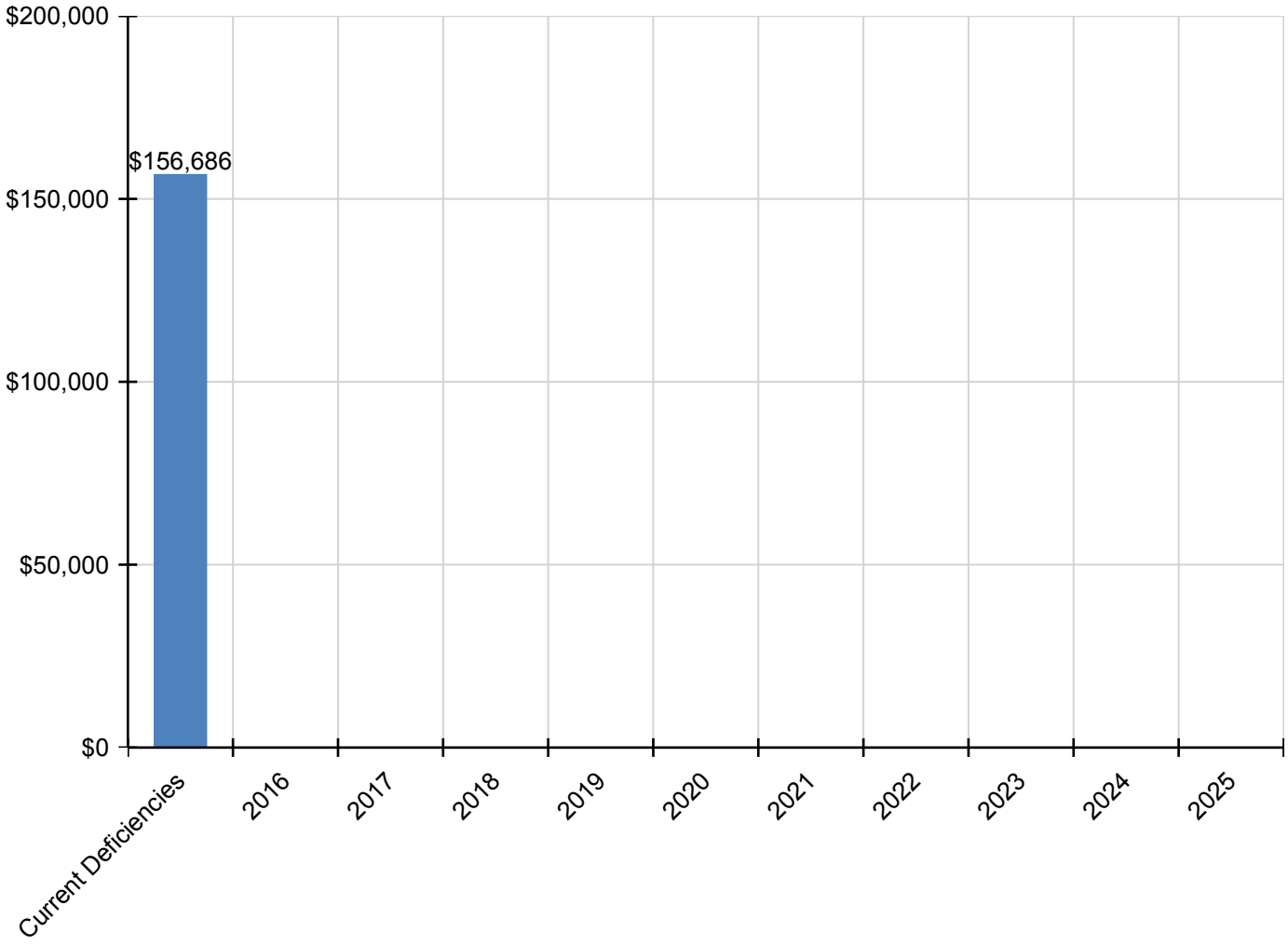
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$156,686**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$156,686**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2030 - Pedestrian Paving	$14,383	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$14,383**
G2040 - Site Development	$70,375	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$70,375**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$71,928	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$71,928**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

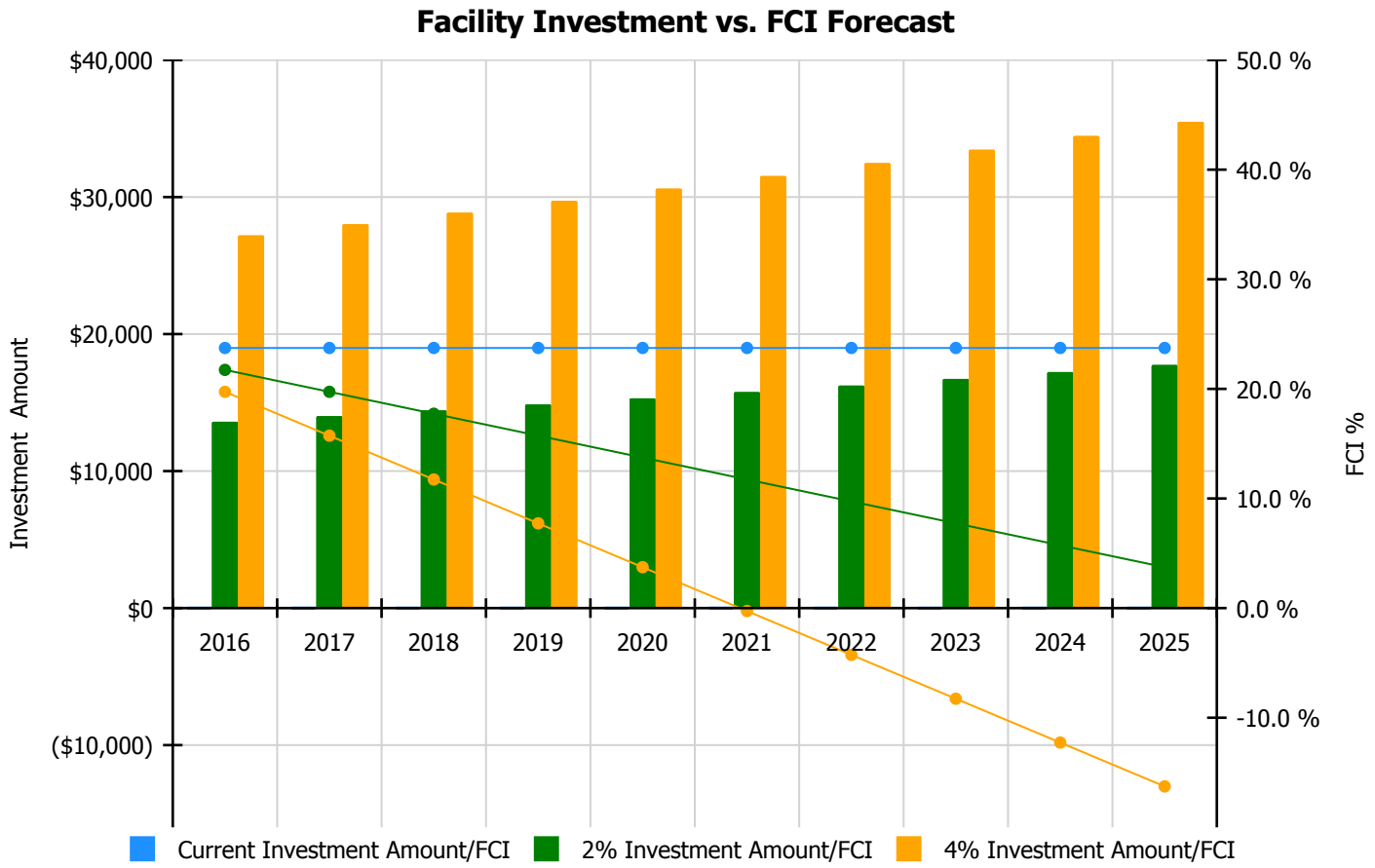
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

The chart below illustrates the effect of various investment levels on the building FCI for the next 10 years. The levels of investment shown below include:

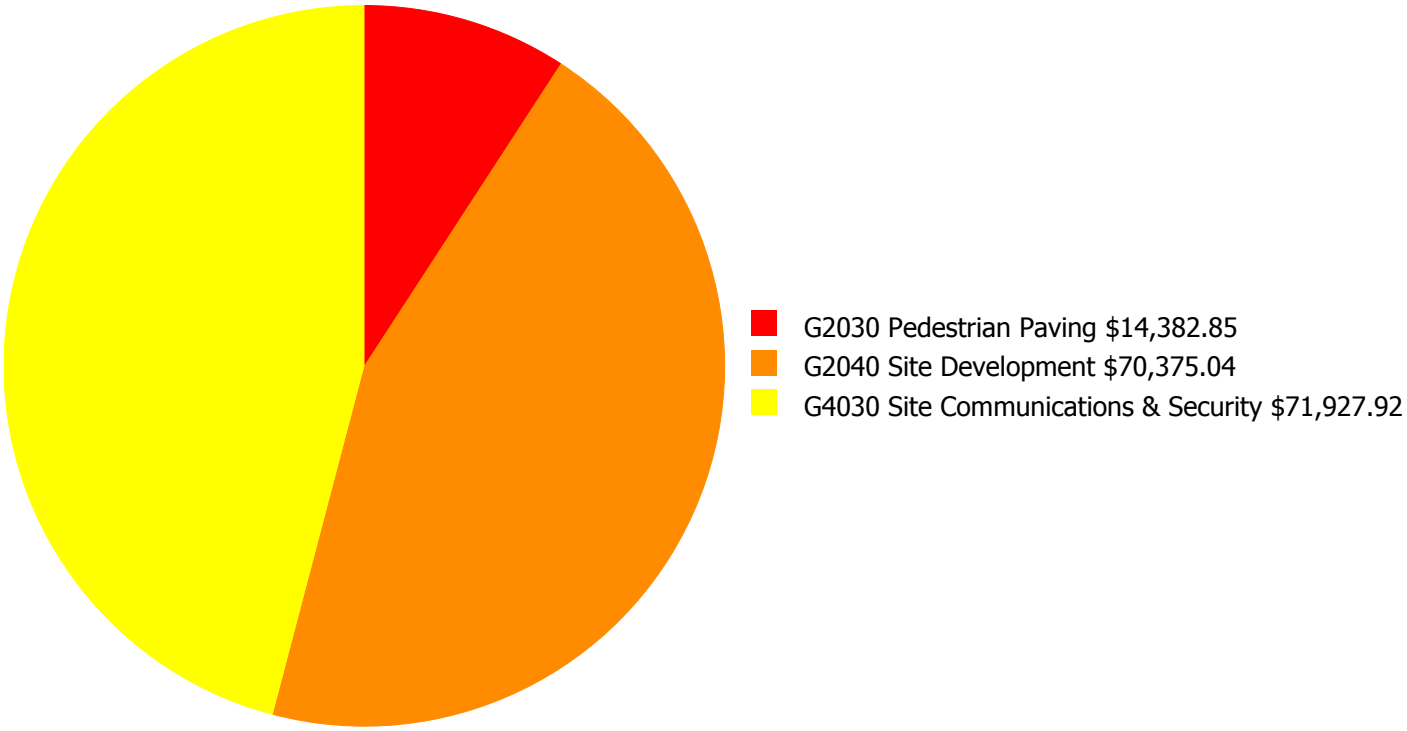
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value of the building, escalated for inflation



Year	Investment Amount Current FCI - 23.73%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$13,601.00	21.73 %	$27,202.00	19.73 %
2017	$0	$14,009.00	19.73 %	$28,018.00	15.73 %
2018	$0	$14,429.00	17.73 %	$28,858.00	11.73 %
2019	$0	$14,862.00	15.73 %	$29,724.00	7.73 %
2020	$0	$15,308.00	13.73 %	$30,616.00	3.73 %
2021	$0	$15,767.00	11.73 %	$31,534.00	-0.27 %
2022	$0	$16,240.00	9.73 %	$32,480.00	-4.27 %
2023	$0	$16,727.00	7.73 %	$33,454.00	-8.27 %
2024	$0	$17,229.00	5.73 %	$34,458.00	-12.27 %
2025	$0	$17,746.00	3.73 %	$35,492.00	-16.27 %
Total:	**$0**	**$155,918.00**		**$311,836.00**	

Deficiency Summary by System

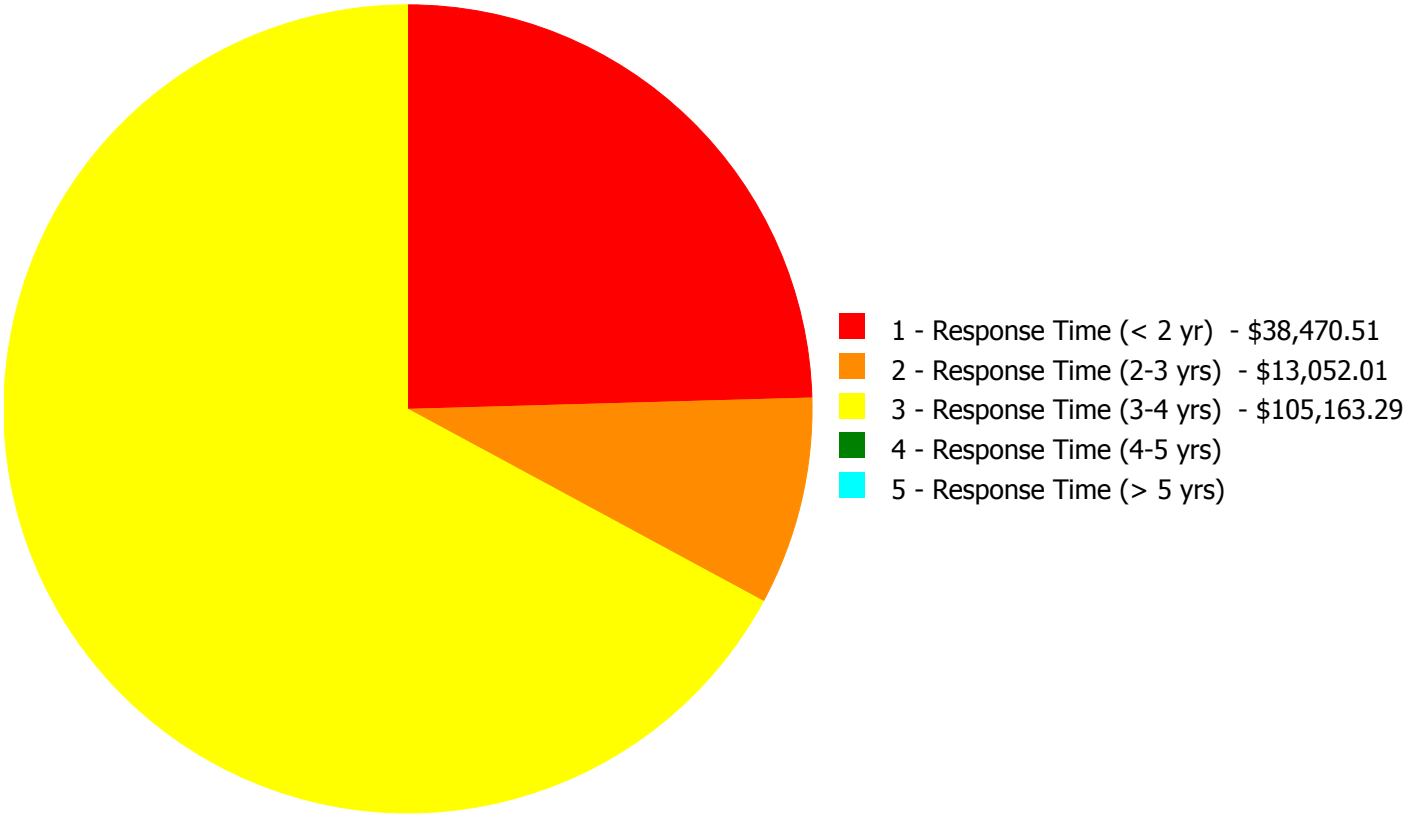
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart lists all current deficiencies associated with this facility.



Budget Estimate Total: $156,685.81

Deficiency Summary by Priority

The following chart shows the total repair costs broken down by priority. Assessors assigned deficiencies within eCOMET to one of the following priority categories:



Budget Estimate Total: $156,685.81

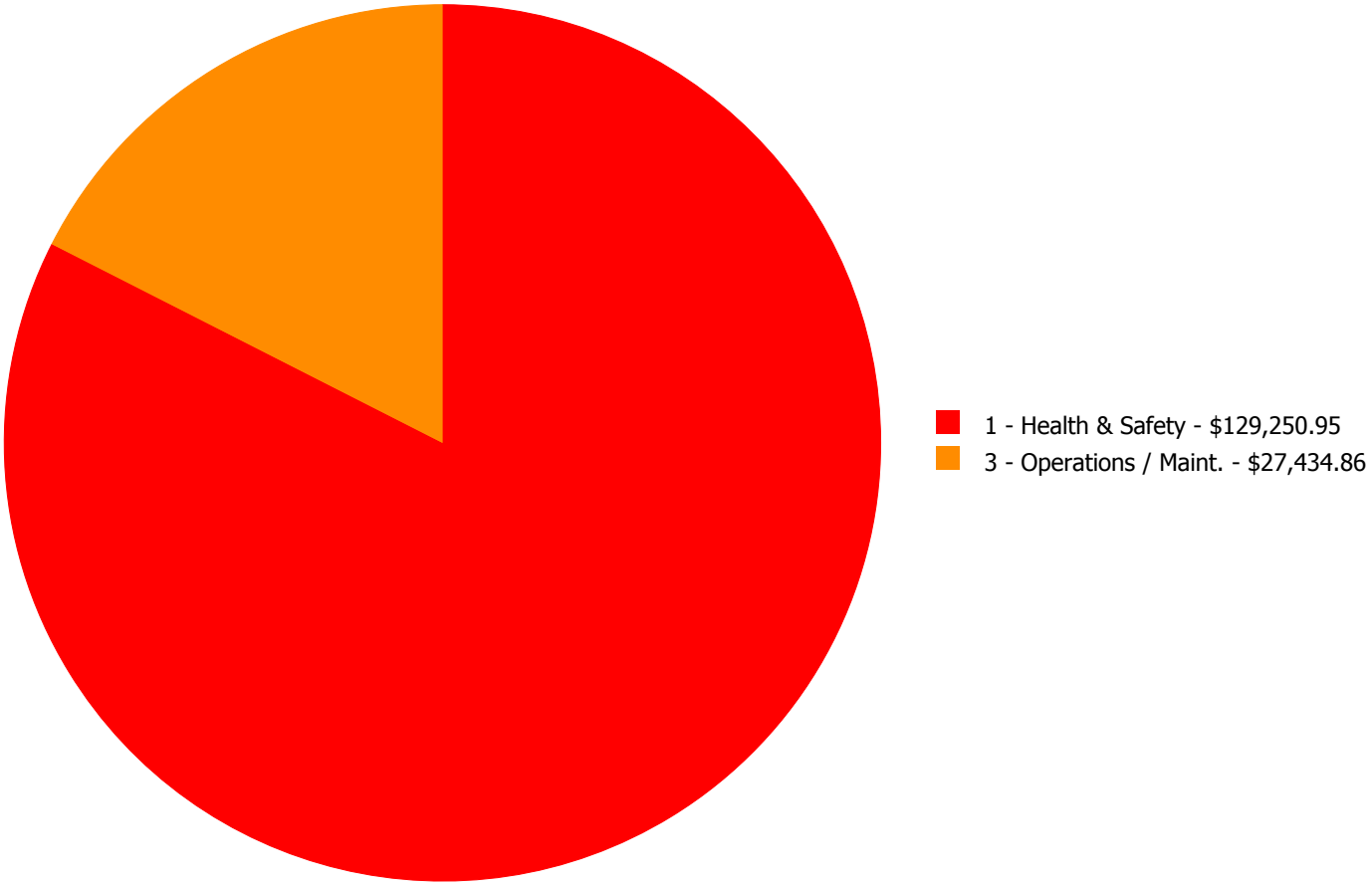
Deficiency By Priority Investment Table

The table below shows the current investment cost grouped by deficiency priority and building system.

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	$0.00	$0.00	$14,382.85	$0.00	$0.00	$14,382.85
G2040	Site Development	$38,470.51	$13,052.01	$18,852.52	$0.00	$0.00	$70,375.04
G4030	Site Communications & Security	$0.00	$0.00	$71,927.92	$0.00	$0.00	$71,927.92
	Total:	$38,470.51	$13,052.01	$105,163.29	$0.00	$0.00	$156,685.81

Deficiency Summary by Category

The following chart shows the total repair costs broken down by deficiency categories. Assessors assigned deficiencies to one of the following categories:



Budget Estimate Total: $156,685.81

Deficiency Details by Priority

The deficiency detail notes listed below provide additional information on identified deficiencies found within the facility.

Priority 1 - Response Time (< 2 yr):

System: G2040 - Site Development

Location: Exterior Stairs

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace or install exterior guardrails

Qty: 200.00

Unit of Measure: L.F.

Estimate: $38,470.51

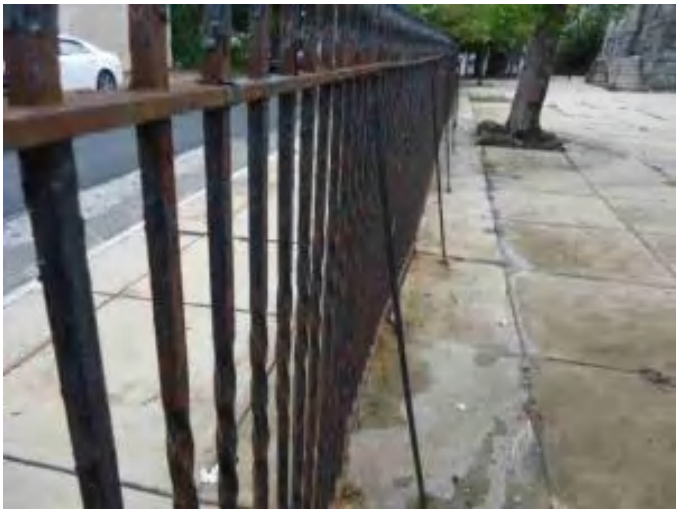
Assessor Name: Hayden Collins

Date Created: 01/25/2016

Notes: Exterior site stairs as indicated in the photos are in fair condition. The designe is original and limited access with non-complaint hand and guard rails. Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

Priority 2 - Response Time (2-3 yrs):

System: G2040 - Site Development



Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 yrs)

Correction: Paint steel picket fence - LF of fence 6' high

Qty: 200.00

Unit of Measure: L.F.

Estimate: $13,052.01

Assessor Name: Hayden Collins

Date Created: 01/25/2016

Notes: This school has a perimeter fence surrounding the parking / playground area. The fence has several areas of repairs and the mounting post are damaged in several areas, overall the fence is in fair condition. This fence system is recommended to be repaired and in some areas replaced with a new system within the next five to ten years.

Priority 3 - Response Time (3-4 yrs):

System: G2030 - Pedestrian Paving

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 3 - Response Time (3-4 yrs)

Correction: Remove and replace concrete sidewalk or concrete paving - 4" concrete thickness

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $14,382.85

Assessor Name: Hayden Collins

Date Created: 01/25/2016

Notes: The existing sidewalk system is a mix of the original sidewalks installed during the construction of the school and sections that have been replaced over the years. There are a several areas of cracking concrete but no tripping hazards. Sections of the sidewalk system is expected to expire in the near future. Removal of the damaged sections is recommended. Upgrades are required and should include all aspects of current ADA legislation.

System: G2040 - Site Development

Location: Site

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 3 - Response Time (3-4 yrs)

Correction: Build secure trash dumpster enclosure

Qty: 1.00

Unit of Measure: Ea.

Estimate: $18,852.52

Assessor Name: Hayden Collins

Date Created: 01/25/2016

Notes: The loading dock is located in the parking area near the dumpsters and the access point for students entering the school. The existing recommendation to enclose and move the dumpsters to a new location is related to this effort. After the dumpster correction is complete it is recommended that the loading dock area be clearly marked and safety barriers be placed to protect pedestrian traffic and mitigate possible issues related to loading and unloading materials and supplies.

System: G4030 - Site Communications & Security

This deficiency has no image.

Location: Exterior

Distress: Security Issue

Category: 1 - Health & Safety

Priority: 3 - Response Time (3-4 yrs)

Correction: Add Video Surveillance System

Qty: 7.00

Unit of Measure: Ea.

Estimate: $71,927.92

Assessor Name: Hayden Collins

Date Created: 12/16/2015

Notes: Provide 7 exterior cameras for video surveillance of entrances and paved parking and play areas.

Equipment Inventory

The following table represents the inventory details of the inventory found in the building, which fall under the following subsystems:

No data found for this asset

Glossary

ABMA	American Boiler Manufacturers Association http://www.abma.com/
ACEEE	American Council for an Energy-Efficient Economy
ACGIH	American Council of Governmental and Industrial Hygienists
AEE	Association of Energy Engineers
AFD	Adjustable Frequency Drive
AFTC	After Tax Cash Flow
AGA	American Gas Association
AHU	Air Handling Unit
Amp	Ampere
ANSI	American National Standards Institute
ARI	Air Conditioning and Refrigeration Institute
ASD	Adjustable Speed Drive
ASHRAE	American Society of Heating Refrigerating and Air-Conditioning Engineers Inc.
ASME	American Society of Mechanical Engineers
Assessment	Visual survey of a facility to determine its condition. It involves looking at the age of systems reviewing information from local sources and visual evidence of potential problems to assign a condition rating. It does not include destructive testing of materials or testing of systems or equipment for functionality.
ATS	After Tax Savings
AW	Annual worth
BACNET	Building Automation Control Network
BAS	Building Automation System
BCR	Benefit Cost Ratio
BEP	Business Energy Professional (AEE)
BF	Ballast Factor
BHP	Boiler Horsepower (boilers)
BHP	Brake Horsepower (motors)
BLCC	Building Life Cycle Cost analysis program (FEMP)
BOCA	Building Officials and Code Administrators
BTCF	Before Tax Cash Flow

BTS	Before Tax Savings
Btu	British thermal unit
Building Addition	An area space or component of a building added to a building after the original building's year built date.
CAA	Clean Air Act
CAAA-90	Clean Air Act Amendments of 1990
CABO	Council of American Building Officials
CAC	Conventional Air Conditioning
CADDET	Center for the Analysis and Dissemination of Demonstrated Energy Technologies
Calculated Next Renewal	The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system.
Capital Renewal	Capital renewal is condition work (excluding suitability and energy audit work) that includes the replacement of building systems or elements (as they become obsolete or beyond their useful life) not normally included in an annual operating budget. Calculated next renewal The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system. Next renewal The assessor adjusted expected useful life of a system or element based on on-site inspection.
CDD	Cooling Degree Days
CDGP	Certified Distributed Generation Professional
CEC	California Energy Commission
CEM	Certified Energy Manager
CEP	Certified Energy Procurement Professional
CFC	Chlorofluorocarbon
CFD	Cash Flow Diagram
CFL	Compact Fluorescent Light
CFM cfm	Cubic Feet per Minute
CHP	Combined Heat and Power (a.k.a. cogeneration)
CHW	Chilled Water
Condition	Condition refers to the state of physical fitness or readiness of a facility system or system element for its intended use.
COP	Coefficient of Performance
Cp	Heat Capacity of Material
CPUC	California Public Utility Commission
CRI	Color Rendering Index
CRT	Cathode Ray Tube VDT HMI

CTC	Competitive Transition Charge
Cu	Coefficient of Utilization
Current Replacement Value (CRV)	CRV represents the hypothetical total cost of rebuilding or replacing an existing facility in current dollars to its optimal condition (excluding auxiliary facilities) under current codes and construction standards.
Cv	Value Coefficient
CWS	Chilled Water System
D d	Distance (usually feet)
DB	Dry Bulb
DCV	Demand Control Ventilation
DD	Degree Day
DDB	Double Declining Balance
DDC	Direct Digital Controls
Deferred maintenance	Deferred maintenance is condition work (excluding suitability and energy audit needs) deferred on a planned or unplanned basis to a future budget cycle or postponed until funds are available.
Deficiency	A deficiency is a repair item that is damaged missing inadequate or insufficient for an intended purpose.
Delta	Difference
Delta P	Pressure Difference
Delta T	Temperature Difference
DG	Distributed Generation
DOE	Department of Energy
DP	Dew Point
DR	Demand Response
DX	Direct Expansion Air Conditioner
EA	Energy Audit
EBITDA	Earnings before Interest Taxes Depreciation and Amortization
ECI	Energy Cost Index
ECM	Energy Conservation Measure
ECO	Energy Conservation Opportunity
ECPA	Energy Conservation and Production Act
ECR	Energy Conservation Recommendation
ECS	Energy Control System

EER	Energy Efficiency Ratio
EERE	Energy Efficiency and Renewable Energy division of US DOE
EIA	Energy Information Agency
EIS	Energy Information System
EMCS	Energy Management Computer System
EMO	Energy Management Opportunity
EMP	Energy Management Project
EMR	Energy Management Recommendation
EMS	Energy Management System
Energy Utilization Index (EUI)	EUI is the measure of total energy consumed in the cooling or heating of a building in a period expressed as British thermal unit (BTU) per (cooled or heated) gross square foot.
EO	Executive Order
EPA	Environmental Protection Agency
EPACT	Energy Policy Act of 1992
EPCA	Energy Production and Conservation Act of 1975
EPRI	Electric Power Research Institute
EREN	Efficiency and Renewable Energy (Division of USDOE)
ERV	Energy Recovery Ventilator
ESCO	Energy Service Company
ESPC	Energy Savings Performance Contract
EUI	Energy Use Index
EWG	Exempt Wholesale Generators
Extended Facility Condition Index (EFCI)	EFCI is calculated as the condition needs for the current year plus facility system renewal needs going out to a set time in the future divided by Current Replacement Value.
f	Frequency
F	Fahrenheit
Facility	A facility refers to site(s) building(s) or building addition(s) or combinations thereof that provide a particular service.
Facility Condition Assessment (FCA)	FCA is a process for evaluating the condition of buildings and facilities for programming and budgetary purposes through an on site inspection and evaluation process.
Facility Condition Index (FCI)	FCI is an industry-standard measurement of a facility's condition that is the ratio of the cost to correct a facility's deficiencies to the Current Replacement Value of the facilities. The higher the FCI the poorer the condition of a facility. After an FCI is established for all buildings within a portfolio a building's condition can be ranked relative to other buildings. The FCI may also represent the condition of a portfolio based on the cumulative FCIs of the portfolio's facilities.

FC	Footcandle
FCA	Fuel Cost Adjustment
FEMIA	Federal Energy Management Improvement Act of 1988
FEMP	Federal Energy Management Program
FERC	Federal Energy Regulatory Commission
FESR	Fuel Energy Savings Ratio
FLA	Full Load Amps
FLF	Facility Load Factor (usually monthly)
FLRPM	Full Load Revolutions per Minute
FMS	Facility Management System
FPM fpm	Feet per Minute (velocity)
FSEC	Florida Solar Energy Center
Ft	Foot
GPM gpm	Gallons per Minute
GRI	Gas Research Institute
Gross Square Feet (GSF)	The size of the enclosed floor space of a building in square feet measured to the outside face of the enclosing wall.
GUI	Graphical User Interface
H h	Enthalpy Btu/lb
HCFC	Hydrochlorofluorocarbons
HDD	Heating Degree days
HFC	Hydrofluorocarbons
HHV	Higher Heating Value
HID	High Intensity Discharge (lamp)
HMI	Human Machine Interface
HMMI	Human Man Machine Interface
HO	High Output (lamp)
HP Hp hp	Horsepower
HPS	High Pressure Sodium (lamp)
HR	Humidity Ratio
Hr hr	Hour

HRU	Heat Recovery Unit
HVAC	Heating Ventilation and Air-Conditioning
Hz	Hertz
I	Intensity (lumen output of lamp)
I i	Interest rate or Discount rate
IAQ	Indoor Air Quality
ICA	International Cogeneration Alliance
ICBO	International Conference of Buildings Officials
ICC	International Code Council
ICP	Institutional Conservation Program
IECC	International Energy Conservation Code
IEEE	Institute of Electrical and Electronic Engineers
IESNA	Illuminating Engineering Society of North America
Install year	The year a building or system was built or the most recent major renovation date (where a minimum of 70 of the system?s Current Replacement Value (CRV) was replaced).
IRP	Integrated Resource Planning
IRR	Internal Rate of Return
ISO	Independent System Operator
ITA	Independent Tariff Administrator
k	Kilo multiple of thousands in SI system
K	Kelvins (color temperature of lamp)
K k	Thermal Conductivity of Material
KVA	Kilovolt Ampere
KVAR	Kilovolt Ampere Reactive
kW	kiloWatt
kWh	kiloWatt hour
L	Length (usually feet)
LCC	Life Cycle Costing
LDC	Local Distribution Company
LEED	Leadership in Energy and Environmental Design
LEED EB	LEED for Existing Buildings

LEED NC	LEED for new construction
LF	Load Factor
LHV	Lower Heating Value
Life cycle	The period of time that a building or site system or element can be expected to adequately serve its intended function.
LPS	Low Pressure Sodium (lamp)
Lu	Lumen Output of a Lamp or Fixture
M	Mega multiple of millions in SI system
M&V	Measurement and Verification
MACRS	Modified Accelerated Cost Recovery System
MARR	Minimum Attractive Rate of Return
Mbtu	Thousand Btu
MCF	Thousand Cubic Feet (usually of gas)
MEC	Model Energy Code
Mm	Multiple of Thousands in I/P System
MMBtu	Million Btu
MMCS	Maintenance Management Computer System
MMI	Man Machine Interface
MMS	Maintenance Management System
MSE 2000	Management System for Energy 2000 (ANSI Georgia Tech Univ)
MW	MegaWatt
MWH MWh	MegaWatt hour
NAAQS	National Ambient Air Quality Standards
NAESCO	National Association of Energy Service Companies
NAIMA	North American Insulation Manufacturers Association
NEA	National Energy Act of 1978
NECPA	National Energy Conservation Policy Act
NEMA	National Electrical Manufacturer's Association
NERC	North American Electric Reliability Council
Next Renewal	The Next Renewal date is an override of the 'Calculated Next Renewal' date and is based upon the assessor?s visual inspection.

NFPA	National Fire Protection Association
NGPA	National Gas Policy Act of 1978
NLRPM	No Load Revolutions per Minute (speed)
Nn	Equipment or Project lifetime in economic analysis
NOPR	Notice of Proposed Rule Making from FERC
NOx	Nitrogen Oxide Compounds
NPV	Net present value in economic analysis
NREL	National Renewable Energy Laboratory
NUG	Non-Utility Generator
O&M	Operation and Maintenance
OA	Outside Air
ODP	Ozone Depletion Potential
OPAC	Off-Peak Air Conditioning
P	Present value in economic analysis
PBR	Performance Based Rates
PEA	Preliminary Energy Audit
PF	Power Factor
PID	Proportional plus integral plus derivative (control system)
PM	Portfolio Manager in Energy Star rating system
PM	Preventive Maintenance
PoolCo	Power Pool Company or Organization
POU	Point of Use
PQ	Power Quality
PSC	Public Service Commission
PSIA psia	Pounds per square inch absolute (pressure)
PSIG psig	Pounds per square inch gauge (pressure)
PUC	Public Utility Commission
PUHCA	Public Utilities Holding Company Act of 1935
PURPA	Public Utilities Regulatory Policies of 1978
PV	Photovotaic system

PV	Present Value
PW	Present Worth
PX	Power Exchange
q	Rate of heat flow in Btu per hour
Q	Heat load due to conduction using degree days
QF	Qualifying Facility
R	Electrical resistance
R	Thermal Resistance
RC	Remote controller
RCR	Room Cavity Ratio
RCRA	Resource Conservation and Recovery Act
Remaining Service Life (RSL)	RSL is the number of years service remaining for a system or equipment item. It is automatically calculated based on the difference between the current year and the 'Calculated Next Renewal' date or the 'Next Renewal' date whichever one is the later date.
Remaining Service Life Index (RSLI)	RSLI is defined as a percentage ratio of the remaining service life of a system. It usually ranges from 0 to 100
REMR	Repair Evaluation Maintenance Rehabilitation (REMR) is a scale used to objectively rank systems based on their condition
Renewal Schedule	A timeline that provides the items that need repair the year in which the repair is needed and the estimated price of the renewal.
RH	Relative Humidity
RLA	Running Load Amps
RMS	Root Mean Square
RO	Reverse Osmosis
ROI	Return on Investment
RPM	Revolutions Per Minute
RTG	Regional Transmission Group
RTO	Regional Transmission Organization
RTP	Real Time Pricing
SBCCI	Southern Building Code Congress International
SC	Scheduling Coordinator
SC	Shading Coefficient
SCADA	Supervisory Control and Data Acquisition Systems

SEER	Seasonal Energy Efficiency Ratio
SHR	Sensible Heat Ratio
Site	The grounds and utilities roadways landscaping fencing and other typical land improvements needed to support the facility.
Soft Cost	An expense item that is not considered direct construction cost. Soft cost includes architectural engineering financing legal fees and other pre-and-post construction expenses.
SOx	Sulfur Oxide Compounds
SP	Static Pressure
SP SPB	Simple Payback
SPP	Simple Payback Period
SPP	Small Power Producers
STR	Stack Temperature Rise
SV	Specific Volume
System	System refers to building and related site work elements as described by ASTM Uniformat II Classification for Building Elements (E1557-97) a format for classifying major facility elements common to most buildings. Elements usually perform a given function regardless of the design specification construction method or materials used. See also Uniformat II.
T	Temperature
T	Tubular (lamps)
TAA	Technical Assistance Audit
TCP/IP	Transmission Control Protocol/Internet Protocol
TES	Thermal Energy Storage
THD	Total Harmonic Distortion
TOD	Time of Day
TOU	Time of Use
TQM	Total Quality Management
TransCo	Transmission Company
U	Thermal Conductance
UDC	Utility Distribution Company
UL	Underwriters Laboratories
UNIFORMAT II	The ASTM UNIFORMAT II Classification for Building Elements (E1557-97) a format for classifying major facility components common to most buildings.
USGBC	US Green Building Council
v	Specific Volume

V	Volts Voltage
V	Volume
VAV	Variable Air Volume
VDT	Video Display Terminal
VFD	Variable Frequency Drive
VHO	Very High Output
VSD	Variable Speed Drive
W	Watts
W	Width
WB	Wet bulb
WH Wh	Watt Hours
Year built	The year that a building or addition was originally built based on substantial completion or occupancy.
Z	Electrical Impedance