

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.

Mann School

Governance	CHARTER	Report Type	Elementary
Address	5376 W. Berks St. Philadelphia, Pa 19131	Enrollment	553
Phone/Fax	215-581-5516 / N/A	Grade Range	'00-06'
Website	Www.Masterycharter.Org/Schools/Elementary-Schools/Mann-Campus/	Admissions Category	Neighborhood
		Turnaround Model	Renaissance Charter

Building/System FCI Tiers

Facility Condition Index (FCI) = $\frac{\text{Cost of Assessed Deficiencies}}{\text{Replacement Value}}$				
< 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	47.70%	\$15,624,702	\$32,755,115
Building	49.01 %	\$15,591,566	\$31,810,162
Grounds	03.51 %	\$33,136	\$944,953

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.00 %	\$0	\$608,012
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.00 %	\$0	\$2,369,622
Windows (Shows functionality of exterior windows)	142.69 %	\$1,649,822	\$1,156,242
Exterior Doors (Shows condition of exterior doors)	19.57 %	\$18,215	\$93,090
Interior Doors (Classroom doors)	423.41 %	\$954,117	\$225,342
Interior Walls (Paint and Finishes)	07.89 %	\$67,739	\$858,602
Plumbing Fixtures	26.91 %	\$233,545	\$867,984
Boilers	00.00 %	\$0	\$1,198,614
Chillers/Cooling Towers	65.60 %	\$1,031,013	\$1,571,616
Radiators/Unit Ventilators/HVAC	117.47 %	\$3,242,005	\$2,759,958
Heating/Cooling Controls	158.90 %	\$1,377,224	\$866,700
Electrical Service and Distribution	152.56 %	\$950,056	\$622,740
Lighting	70.21 %	\$1,563,278	\$2,226,456
Communications and Security (Cameras, Pa System and Fire Alarm)	52.57 %	\$438,441	\$833,958

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

S434001;Mann

Final

Site Assessment Report

February 1, 2017



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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 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):	64,000
Year Built:	1924
Last Renovation:	
Replacement Value:	\$32,755,115
Repair Cost:	\$15,624,702.14
Total FCI:	47.70 %
Total RSLI:	68.76 %



Description:

Facility Assessment

July 2015

School District of Philadelphia

William B. Mann School

5376 W Berks Street

Philadelphia, PA 19131

64,200 SF / 656 Students / LN 02

GENERAL

Site Assessment Report - S434001;Mann

According to the National Register "The William B. Mann School is a historic school building located in the Wynnefield neighborhood of Philadelphia, Pennsylvania. It was designed by Irwin T. Catharine and built in 1923-1924. It is a three-story, nine bay by five bay, brick building on a raised basement in the Colonial Revival-style. It features large stone arch surrounds on the first level, a projecting entrance pavilion, a double stone cornice, and brick parapet topped by stone coping." The school was added to the National Register of Historic Places in 1988.

In 2010 Mann School was converted to a charter school which is run by Mastery Charter Schools, Inc.

The Mastery Charter School system currently runs this campus and is identified as B434001 and was originally constructed as the William B. Mann Public School. This facility recently re-opened its doors in September of 2012 and is located at 5376 W Berks St. in Philadelphia, PA. The design of the U-shaped, concrete and steel-framed building includes brick facades with a concrete foundation, detailing, and ornamental molding.

The main entrance faces the southern exterior on West Morse Street. This School serves students in grades K-6. This school was originally constructed in 1924 and consists of a Basement level and three additional stories with a total gross square footage of 64,200 GSF.

This recent history of this school includes a minor remodeling effort prior to the 2012 reopening. There were no records to indicate the extent or start date or date of completion. This school has several classrooms, a library, computer labs, cafeteria and student interior and exterior commons and auditorium, with supporting administrative spaces. The information for this report was collected during a site visit on July 15, 2015.

Mr. Brian Hightower, Building Engineer, and Mr. Alfred Howard, Director of Facilities for Mastery Charter Schools, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Ms. Dionne Hayes, Director of Operations, was not in attendance.

ARCHITECTURAL/STRUCTURAL SYSTEMS

Foundations are reinforced concrete with masonry construction and appear to be in very good condition. Basement walls are masonry and appear to be in good condition. The superstructure is concrete with steel and masonry construction.

The built up roofing system was reported to have been installed in 2012. There were no reported roof issues during the time of the inspection therefore no recommendations are required at this time.

Exterior walls are a mix of painted naturally exposed brick masonry finish. The exterior brick finish is in good condition and there were no reported issues during the time of the inspection. No recommendations are required at this time.

The wood and metal-framed, double hung windows with standard single pane glass have been replaced in the last twenty years. It is recommended that the exterior window systems be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

The exterior door systems were reported to have been upgraded in 2012 and are typically in good condition. The main entrance is a double door system that has been upgraded from the original construction. This system is in good condition however as indicated in the photo the concrete step does not meet the length of the door thus allowing a trap hazard. Special consideration for a new door system is required and a modification to the exterior step removing the hazard. Remove and replace door and step.

Special consideration for those that may be physically challenged was a main factor in the last re-construction effort for this school. The western entrance serves as the exterior ADA entrance. This is not an automated system and requires support for access. The path of travel is not very clear from that entrance of the school and from the access points. The interior path of travel is partially supported by ramps, some door hardware, hand rails and guard rails that will require modifications to meet the needs of the physically challenged. The building has received limited upgrades and does not fully support a path of travel for those that may be physically challenged. Included in this report is the recommendation for the addition of an elevator to serve all floors.

Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the southern 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 MAC features, such as audible jewels and gongs, an accessible control panel, etc.

Signage criteria have been established for public building such as schools to support the physically challenged and directional needs.

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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 old portion of the building.

Interior partitions include painted and glazed block, plaster on brick and wood framing. Interior partitions are in good condition. There are several transom lites and sidelights constructed into hallway wall systems. 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 wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames at stairwells and exit ways. Doors are generally in good condition considering the age of the application. Doors swing in the direction of exit and do not obstruct hallways. . Universal upgrades are required for the interior door systems it is recommended that the interior doors system be removed and replaced with a new modern metal framed hollow metal door system with consideration for ADA compliance. Special Note: The double door systems leading to the auditorium are elevated on wooden stairs and the door swing exceeds the stair elevation creating a pinch hazard. The modification to the auditorium door systems are recommended to include stair modifications to correct this issue.

Fittings include: chalkboards; marker boards; tack boards; some interior signage; toilet accessories and marble toilet partitions; fixed storage shelving. Most of the systems are in good condition however, there are several tack boards in the hallways for student displays. The systems are beyond the expected service life for this application. Remove and replace tack boards is recommended.

Current legislation regarding stairs requires 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. Stair construction is concrete. Stair treads and landings are finished with concrete and nosings are steel.

Interior wall finishes are typically painted plaster or brick in fair condition. There are several minor areas of wall damage that ranges from serious to minor. Although the school is on a cyclical program of renewal and each painted surface is renewed at year's end this system is at the point in which repairs are necessary. Remove damaged wall finishes and repair areas then apply primer and paint finish. Other wall finishes include: ceramic tile at restrooms in good condition. Wall finishes are generally in fair condition.

Interior floor finishes are typically wooden floors in classrooms and sealed concrete in the corridors. The classrooms 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 wooden floor finish be removed and replaced with an in kind finish. There were no issues with the polished concrete floor finish therefore no recommendations are required at this time.

Interior ceilings are typically 2 x 4 acoustical tile in metal grid in the hallways and a few support rooms. Other ceiling finishes include: exposed or painted structure plaster. The ceiling finish has a few minor blemishes however, included in this report is an interior repair and paint recommendation that should provide the needed effort support to correct these minor problems.

Institutional equipment includes: stage equipment, flyway and curtains each in good condition, Instrumental equipment, limited A/V equipment. Furnishings include: fixed casework; window shades/blinds; and fixed auditorium seating. With the exception of the auditorium seating the furnishings are in good condition. The fixed seating for this school is from the original construction. The systems are in fair condition considering the age and usage. This project provides a budgetary consideration for universal upgrades for the fixed seating and furnishing of this school.

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories and urinals and floor mounted water closets. Lavatories have dual wheel handle faucets and urinals and water closets have manual lever flush valves. Custodial closets have service sinks or mop sinks. There are stainless steel water coolers with integral refrigeration and china drinking fountains with no refrigeration. The kitchen waste is piped through an above floor grease trap. There is a seventy gallon State gas water heater in the basement mechanical room with a small inline circulating pump installed in 1998. There is no domestic water booster pump system.

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. Additional shut off valves have been added to the domestic water piping system for fixture maintenance. Water service is a four inch line and meter from W. Berks St. into the mechanical room. The piping and valves are badly

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corroded and there is no backflow preventer. Rainwater and sanitary main lines connect at N. 54th St. Gas service is from W. Berks St, and the meter assembly is in the Literacy classroom exposed.

Plumbing fixtures on first, second and third levels have been replaced but age is unknown. Appearance and function indicate remaining service life of ten to fifteen years. The water heater should be serviceable for ten or 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 Weil Mclain one hundred ninety five hp sectional cast iron low pressure steam oil fired boilers in the basement mechanical room. The boilers are Model 94 with Powerflame burners and separate oil pumps. Boilers were installed approximately 1990 and reportedly \$100,000 has been spent on maintenance and upgrades the past four years. There is a Skidmore duplex pump condensate return unit with cast iron receiver, installed two years ago. There is no boiler feed pump system nor chemical feed system. After building warmup one boiler will heat the facility. There is a combustion air louver and damper and a field fabricated boiler stack into a brick chimney. There are two 2500 gallon underground oil storage tanks, with only one in use. 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. Valves and traps were replaced two years ago. There is a house fan system in the basement that provided heat and ventilation through a central duct system that is inoperable.

There is no central air conditioning nor separate system for any area, except there are approximately twenty five window units and a Mitsubishi split system for the IT room. There is no cooking nor kitchen hood and no mechanical toilet exhaust.

The boilers have had substantial maintenance recently and should remain serviceable ten to fifteen 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 system is newer and should have remaining service of about twenty years.

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 pad-mount transformer located at the northwest corner of the site. Underground service is routed to a General Electric Spectra Series, 1600A, 208/120V, 3 phase, 4 wire switchboard located in a room adjacent to the gymnasium. The switchboard has a 1600A main circuit breaker and one circuit breaker distribution system that feeds a distribution panelboard located in the Basement Fan Room and panelboards located on each floor. The room housing the switchboard is also used as a storage room and several boxes were placed within the minimum code required working space for the switchboard. The switchboard and electrical distribution system was replaced in a 2001 electrical upgrade project.

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.

Originally, there was one 200A, 120/240V, 1 phase, 3 wire panelboard located in the north and south corridors on each floor. These 120/240V, 1 phase panelboards have reached the end of their useful life and need to be replaced with new panelboards and feeders. Boiler Room Panelboard BR also needs to be replaced due to its age. In 2001, additional surface mounted 208/120V, 3 phase, 4 wire panelboards were installed in the corridors on each floor to serve classrooms and window air conditioning units.

Receptacles-- Additional receptacles were added in classrooms on the front and rear walls using surface metal raceways. Each classroom typically has a combination of ten (10) duplex or quad receptacles.

Lighting-- Fixtures in corridors and classrooms are generally surface or stem mounted, 4 foot, fluorescent wraparound fixtures with either (2) or (3) T12 lamps and acrylic prismatic lenses. The illumination level in classrooms typically averaged 38 footcandles. Lighting in classrooms are controlled by two switches, one for each row of fixtures. Fluorescent fixtures throughout the building have served their useful life and need to be replaced with energy efficient fixtures with T8 or T5 lamps.

The gymnasium is divided into two sections. One portion is used as a gym and the other portion is used as a cafeteria. The gym is illuminated with (9) metal halide industrial type fixtures. The cafeteria is illuminated with 3 rows of 4 lamp fluorescent wraparound fixtures. The auditorium has (12) ceiling mounted metal halide fixtures that are switch controlled. The lighting system does not allow

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for dimming control in the auditorium.

Restrooms and other office spaces typically have fluorescent wraparound fixtures with acrylic prismatic lenses. The Boiler Room is illuminated with (9) industrial type, metal halide lighting fixtures. The old coal room has industrial fluorescent fixtures that have exceeded their useful life and need to be replaced.

Wall mounted lighting fixtures are located above the doors at exit discharges and high intensity discharge (HID) lighting fixtures provide area 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 Basement Fan Room, and is currently monitored and maintained by Keystone Fire Protection Company. 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. Wireless access points are provided in classrooms, corridors, auditorium, gymnasium and cafeteria for Wi-Fi service throughout the entire school. The Main IT Room is located on Floor 1 behind the Main Office.

Intercom/Paging Systems-- An Aiphone audible/visual intercom system is provided between the main and secondary entrances and the Main Office. The paging system is accessed through the telephone system. Each classroom has a paging speaker. There are also wall mounted paging speakers in corridors. This system is estimated to have 15 years of useful life remaining.

Clock and Program System--The original speakers in classrooms are obsolete and have been replaced with wall speakers. The obsolete wall mounted speakers in classrooms and corridors have been abandoned in place. The program bells in corridors still remain in place. A new clock and program system is needed.

Television System-- There are television outlets in each classroom, but no televisions located within the classrooms.

Video Surveillance and Security Systems-- There are (12) Interior video surveillance cameras that provide coverage of corridors, auditorium and gymnasium. There are also (3) exterior wall mounted cameras that provide coverage of the site and entrances. Surveillance cameras are monitored in the IT room adjacent to the Main Office on Floor 1. Magnetic door contacts are provided on exterior doors to monitor ingress/egress.

Emergency Power System-- There is an Onan standby generator in the building that has been abandoned. No nameplate information was available on the generator to determine generator rated capacity. The associated Onan automatic transfer switch (ATS) and plug-in fusible panelboard are also obsolete and need to be replaced. A new generator system, sized for all emergency egress and exit lighting and an elevator, is included in this report.

Emergency Lighting System / Exit Lighting-- Emergency egress and exit lighting was served by the standby generator. Since the standby generator system has been abandoned in place, there currently are no egress lighting fixtures and exit signs connected on emergency power. No individual emergency lighting units were observed during the site visit as an alternate source of emergency lighting. Many of the exit signs in the corridors and auditorium were not illuminated. Also, directional exit signage was missing in some locations.

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

Conveying Systems-- The building did not have an elevator. Refer to Architectural/Structural Systems for elevator addition.

GROUNDS

There is no school parking thus no driveways or parking lot. There is a concrete paver system that surrounds this school that is on a consistent program of renewal. The landscaping is in good condition and well maintained but with no irrigation system. The landscaping is generally located near the play area of the site with limited turf sections around the general exterior of the school. This deficiency provides a budgetary consideration for the installation of an irrigation system for this site.

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.

RECOMMENDATIONS

- Replace auditorium seating
- Add interior elevator - 4 floors
- Remove and replace wood flooring
- Repair and repaint all interior walls
- Replace inadequate or install proper stair railing
- Replace missing or damaged signage
- Remove and replace tackboards
- Remove and replace interior doors - wood doors with hollow metal frames
- Remove non-rated interior glass panels and replace with studs, gypsum board, paint (E) wall
- Remove and replace exterior doors
- Remove and replace aluminum windows
- Remove and replace defective irrigation system - pop up spray system
- 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 seventy 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, hangars and insulation.
- Replace older plumbing fixtures, including water closets, lavatories, urinals, service sinks, and water coolers. Include fittings and trim.
- Provide a new central station air handling unit for the auditorium 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 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.
- Provide a new central station air handling unit for the gymnasium 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.
- 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 120/240V, 1 phase panelboards in corridors on all floors and Panelboard BR in the Boiler Room. Total of 9 panelboards.
- Replace fluorescent lighting fixtures in corridors, classrooms, cafeteria and support areas throughout the building. (Approximately 55,300 SF)
- Replace lighting system in the auditorium and provide lighting control system.
- Replace lighting in Boiler Room and mechanical spaces in Basement. (Approximately 3,024 SF)
- Replace fire alarm system with an addressable type system, including pull stations, smoke and heat detectors, and audible and visual notification appliances.
- Replace clock and program system.
- Remove abandoned standby generator system and equipment and replace with standby generator system sized for all emergency egress and exit lighting and for an elevator.
- Replace all exit signs in the building with vandal-resistant LED type.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S434001		

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.

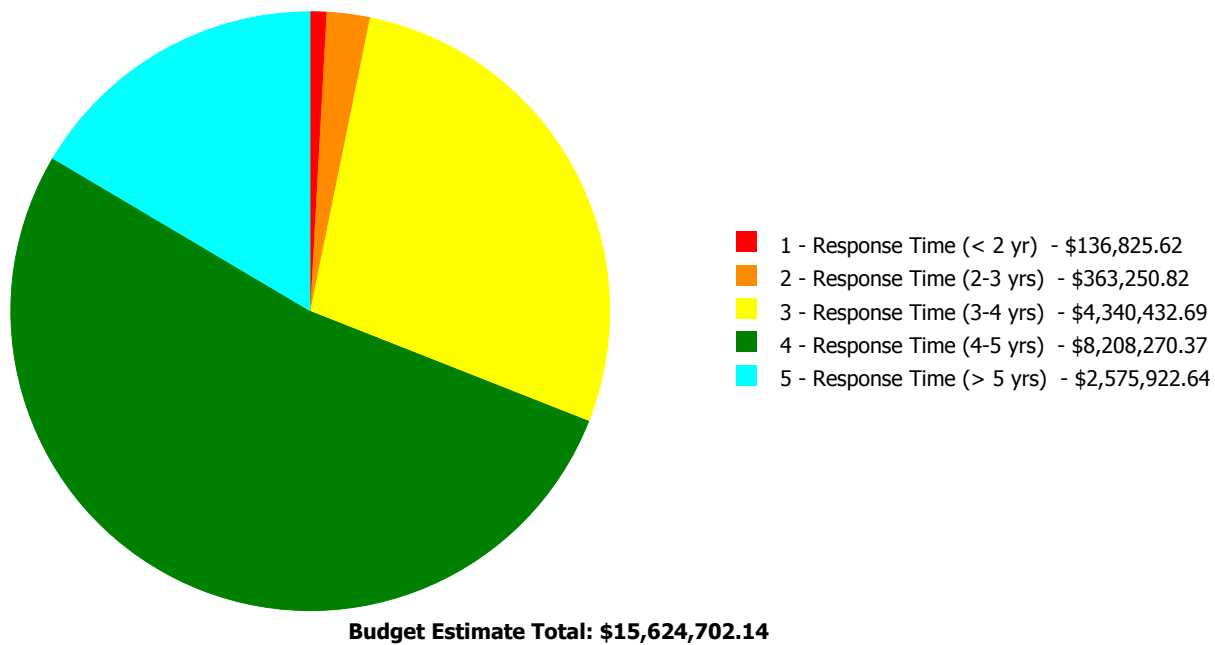
Current Investment Requirement and Condition by Unifomat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	59.00 %	0.00 %	\$0.00
A20 - Basement Construction	59.00 %	0.00 %	\$0.00
B10 - Superstructure	59.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	51.28 %	46.09 %	\$1,668,037.12
B30 - Roofing	85.00 %	0.00 %	\$0.00
C10 - Interior Construction	62.21 %	64.40 %	\$1,014,642.08
C20 - Stairs	59.00 %	111.93 %	\$101,317.68
C30 - Interior Finishes	88.64 %	41.00 %	\$1,297,956.17
D10 - Conveying	14.29 %	300.90 %	\$670,322.07
D20 - Plumbing	37.47 %	66.65 %	\$873,818.11
D30 - HVAC	83.36 %	79.12 %	\$5,650,242.30
D40 - Fire Protection	92.47 %	177.49 %	\$918,409.68
D50 - Electrical	98.20 %	82.84 %	\$3,126,249.14
E10 - Equipment	14.29 %	0.00 %	\$0.00
E20 - Furnishings	105.00 %	197.86 %	\$270,571.65
G20 - Site Improvements	25.21 %	4.52 %	\$33,136.14
G40 - Site Electrical Utilities	40.00 %	0.00 %	\$0.00
Totals:	68.76 %	47.70 %	\$15,624,702.14

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)
B434001;Mann	64,200	49.01	\$136,825.62	\$363,250.82	\$4,340,432.69	\$8,189,417.85	\$2,561,639.02
G434001;Grounds	48,700	3.51	\$0.00	\$0.00	\$0.00	\$18,852.52	\$14,283.62
Total:		47.70	\$136,825.62	\$363,250.82	\$4,340,432.69	\$8,208,270.37	\$2,575,922.64

Deficiencies By Priority

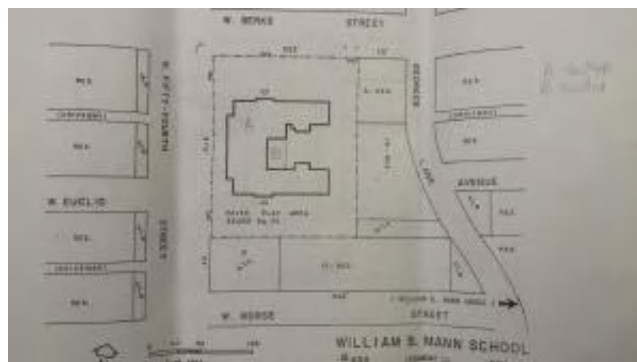


Executive Summary

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.

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Function:	Elementary School
Gross Area (SF):	64,200
Year Built:	1924
Last Renovation:	
Replacement Value:	\$31,810,162
Repair Cost:	\$15,591,566.00
Total FCI:	49.01 %
Total RSLI:	69.95 %



Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B434001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S434001		

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	59.00 %	0.00 %	\$0.00
A20 - Basement Construction	59.00 %	0.00 %	\$0.00
B10 - Superstructure	59.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	51.28 %	46.09 %	\$1,668,037.12
B30 - Roofing	85.00 %	0.00 %	\$0.00
C10 - Interior Construction	62.21 %	64.40 %	\$1,014,642.08
C20 - Stairs	59.00 %	111.93 %	\$101,317.68
C30 - Interior Finishes	88.64 %	41.00 %	\$1,297,956.17
D10 - Conveying	14.29 %	300.90 %	\$670,322.07
D20 - Plumbing	37.47 %	66.65 %	\$873,818.11
D30 - HVAC	83.36 %	79.12 %	\$5,650,242.30
D40 - Fire Protection	92.47 %	177.49 %	\$918,409.68
D50 - Electrical	98.20 %	82.84 %	\$3,126,249.14
E10 - Equipment	14.29 %	0.00 %	\$0.00
E20 - Furnishings	105.00 %	197.86 %	\$270,571.65
Totals:	69.95 %	49.01 %	\$15,591,566.00

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 the system 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.

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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 \$
A1010	Standard Foundations	\$18.40	S.F.	64,200	100	1924	2024	2074	59.00 %	0.00 %	59			\$1,181,280
A1030	Slab on Grade	\$7.73	S.F.	64,200	100	1924	2024	2074	59.00 %	0.00 %	59			\$496,266
A2010	Basement Excavation	\$6.55	S.F.	64,200	100	1924	2024	2074	59.00 %	0.00 %	59			\$420,510
A2020	Basement Walls	\$12.70	S.F.	64,200	100	1924	2024	2074	59.00 %	0.00 %	59			\$815,340
B1010	Floor Construction	\$75.10	S.F.	64,200	100	1924	2024	2074	59.00 %	0.00 %	59			\$4,821,420
B1020	Roof Construction	\$13.88	S.F.	64,200	100	1924	2024	2074	59.00 %	0.00 %	59			\$891,096
B2010	Exterior Walls	\$36.91	S.F.	64,200	100	1924	2024	2074	59.00 %	0.00 %	59			\$2,369,622
B2020	Exterior Windows	\$18.01	S.F.	64,200	40	1988	2028		32.50 %	142.69 %	13		\$1,649,822.48	\$1,156,242
B2030	Exterior Doors	\$1.45	S.F.	64,200	25	2012	2037		88.00 %	19.57 %	22		\$18,214.64	\$93,090
B3010105	Built-Up	\$37.76	S.F.	16,000	20	2012	2032		85.00 %	0.00 %	17			\$604,160
B3020	Roof Openings	\$0.06	S.F.	64,200	20	2012	2032		85.00 %	0.00 %	17			\$3,852
C1010	Partitions	\$17.91	S.F.	64,200	100	1924	2024	2074	59.00 %	0.09 %	59		\$994.32	\$1,149,822
C1020	Interior Doors	\$3.51	S.F.	64,200	40	1924	1964	2057	105.00 %	423.41 %	42		\$954,117.42	\$225,342
C1030	Fittings	\$3.12	S.F.	64,200	40	1924	1964	2028	32.50 %	29.72 %	13		\$59,530.34	\$200,304
C2010	Stair Construction	\$1.41	S.F.	64,200	100	1924	2024	2074	59.00 %	111.93 %	59		\$101,317.68	\$90,522
C3010230	Paint & Covering	\$13.21	S.F.	64,200	10	2012	2022		70.00 %	7.99 %	7		\$67,738.77	\$848,082
C3010232	Wall Tile	\$2.63	S.F.	4,000	30	2010	2040		83.33 %	0.00 %	25			\$10,520
C3020414	Wood Flooring	\$22.27	S.F.	42,200	25	1924	1949	2042	108.00 %	130.90 %	27		\$1,230,217.40	\$939,794
C3020415	Concrete Floor Finishes	\$0.97	S.F.	22,000	50	1924	1974	2025	20.00 %	0.00 %	10			\$21,340
C3030	Ceiling Finishes	\$20.97	S.F.	64,200	25	2012	2037		88.00 %	0.00 %	22			\$1,346,274
D1010	Elevators and Lifts	\$3.47	S.F.	64,200	35	1924	1959	2020	14.29 %	300.90 %	5		\$670,322.07	\$222,774
D2010	Plumbing Fixtures	\$13.52	S.F.	64,200	35	1985	2020		14.29 %	26.91 %	5		\$233,544.53	\$867,984
D2020	Domestic Water Distribution	\$1.68	S.F.	64,200	25			2042	108.00 %	301.63 %	27		\$325,324.45	\$107,856
D2030	Sanitary Waste	\$2.90	S.F.	64,200	25			2042	108.00 %	169.16 %	27		\$314,949.13	\$186,180
D2040	Rain Water Drainage	\$2.32	S.F.	64,200	30	1924	1954	2025	33.33 %	0.00 %	10			\$148,944
D3020	Heat Generating Systems	\$18.67	S.F.	64,200	35	1990	2025		28.57 %	0.00 %	10			\$1,198,614
D3030	Cooling Generating Systems	\$24.48	S.F.	64,200	30			2047	106.67 %	65.60 %	32		\$1,031,013.13	\$1,571,616
D3040	Distribution Systems	\$42.99	S.F.	64,200	25			2042	108.00 %	117.47 %	27		\$3,242,004.89	\$2,759,958
D3050	Terminal & Package Units	\$11.60	S.F.	64,200	20				0.00 %	0.00 %				\$744,720
D3060	Controls & Instrumentation	\$13.50	S.F.	64,200	20			2037	110.00 %	158.90 %	22		\$1,377,224.28	\$866,700
D4010	Sprinklers	\$7.05	S.F.	64,200	35			2052	105.71 %	202.91 %	37		\$918,409.68	\$452,610
D4020	Standpipes	\$1.01	S.F.	64,200	35				0.00 %	0.00 %				\$64,842
D5010	Electrical Service/Distribution	\$9.70	S.F.	64,200	30	2001	2031		53.33 %	152.56 %	16		\$950,056.23	\$622,740
D5020	Lighting and Branch Wiring	\$34.68	S.F.	64,200	20	1924	1944	2037	110.00 %	70.21 %	22		\$1,563,278.24	\$2,226,456
D5030	Communications and Security	\$12.99	S.F.	64,200	15	1924	1939	2030	100.00 %	52.57 %	15		\$438,441.32	\$833,958
D5090	Other Electrical Systems	\$1.41	S.F.	64,200	30	1924	1954	2045	100.00 %	192.74 %	30		\$174,473.35	\$90,522
E1020	Institutional Equipment	\$4.82	S.F.	64,200	35	1924	1959	2020	14.29 %	0.00 %	5			\$309,444
E1090	Other Equipment	\$11.10	S.F.	64,200	35	1924	1959	2020	14.29 %	0.00 %	5			\$712,620
E2010	Fixed Furnishings	\$2.13	S.F.	64,200	40	1924	1964	2057	105.00 %	197.86 %	42		\$270,571.65	\$136,746
Total									69.95 %	49.01 %			\$15,591,566.00	\$31,810,162

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:	Brick wall tile 20% Painted plaster 80%	
System:	C3020 - Floor Finishes	This system contains no images
Note:	Wood Floor finish 65% Concrete finish 35%	
System:	D5010 - Electrical Service/Distribution	This system contains no images
Note:	There are no step-down transformers.	

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:	\$15,591,566	\$0	\$0	\$0	\$0	\$2,694,272	\$0	\$1,147,337	\$0	\$0	\$2,023,652	\$21,456,827
* 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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B2020 - Exterior Windows	\$1,649,822	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,649,822
B2030 - Exterior Doors	\$18,215	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,215
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	\$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	\$994	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$994
C1020 - Interior Doors	\$954,117	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$954,117
C1030 - Fittings	\$59,530	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$59,530
C20 - Stairs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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C2010 - Stair Construction	\$101,318	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$101,318
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	\$67,739	\$0	\$0	\$0	\$0	\$0	\$0	\$1,147,337	\$0	\$0	\$0	\$1,215,076
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
C3020414 - Wood Flooring	\$1,230,217	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,230,217
C3020415 - Concrete Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$31,547	\$31,547
C3030 - Ceiling Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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	\$670,322	\$0	\$0	\$0	\$0	\$284,081	\$0	\$0	\$0	\$0	\$0	\$954,403
D20 - Plumbing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2010 - Plumbing Fixtures	\$233,545	\$0	\$0	\$0	\$0	\$1,106,854	\$0	\$0	\$0	\$0	\$0	\$1,340,399
D2020 - Domestic Water Distribution	\$325,324	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$325,324
D2030 - Sanitary Waste	\$314,949	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$314,949
D2040 - Rain Water Drainage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$220,185	\$220,185
D30 - HVAC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3020 - Heat Generating Systems	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,771,920	\$1,771,920
D3030 - Cooling Generating Systems	\$1,031,013	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,031,013
D3040 - Distribution Systems	\$3,242,005	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,242,005
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3060 - Controls & Instrumentation	\$1,377,224	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,377,224
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$918,410	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$918,410
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	\$950,056	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$950,056
D5020 - Lighting and Branch Wiring	\$1,563,278	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,563,278
D5030 - Communications and Security	\$438,441	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$438,441
D5090 - Other Electrical Systems	\$174,473	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$174,473
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

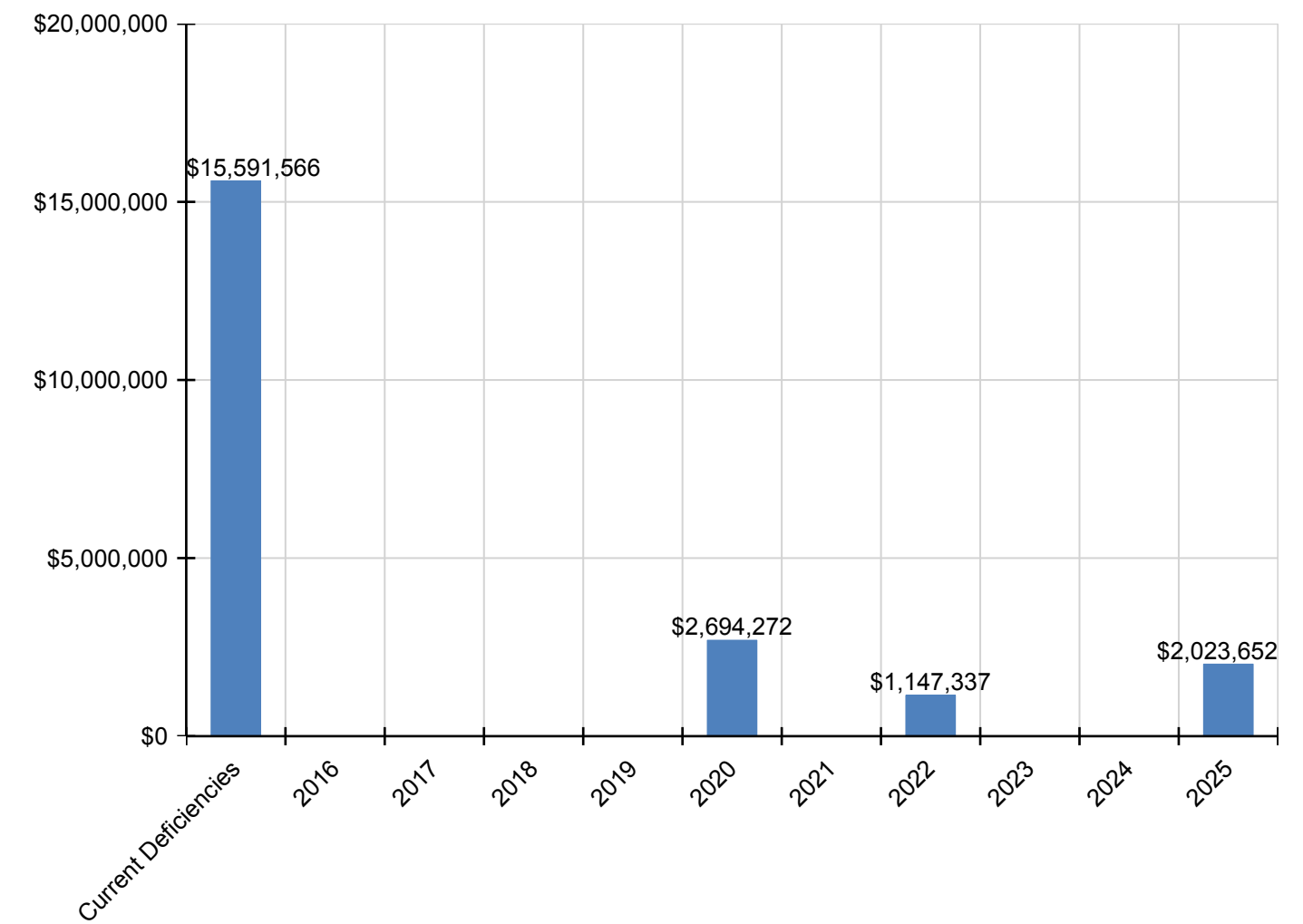
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E1020 - Institutional Equipment	\$0	\$0	\$0	\$0	\$0	\$394,603	\$0	\$0	\$0	\$0	\$0	\$394,603
E1090 - Other Equipment	\$0	\$0	\$0	\$0	\$0	\$908,734	\$0	\$0	\$0	\$0	\$0	\$908,734
E20 - Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E2010 - Fixed Furnishings	\$270,572	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$270,572

** Indicates non-renewable system*

Forecasted Sustainment Requirement

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

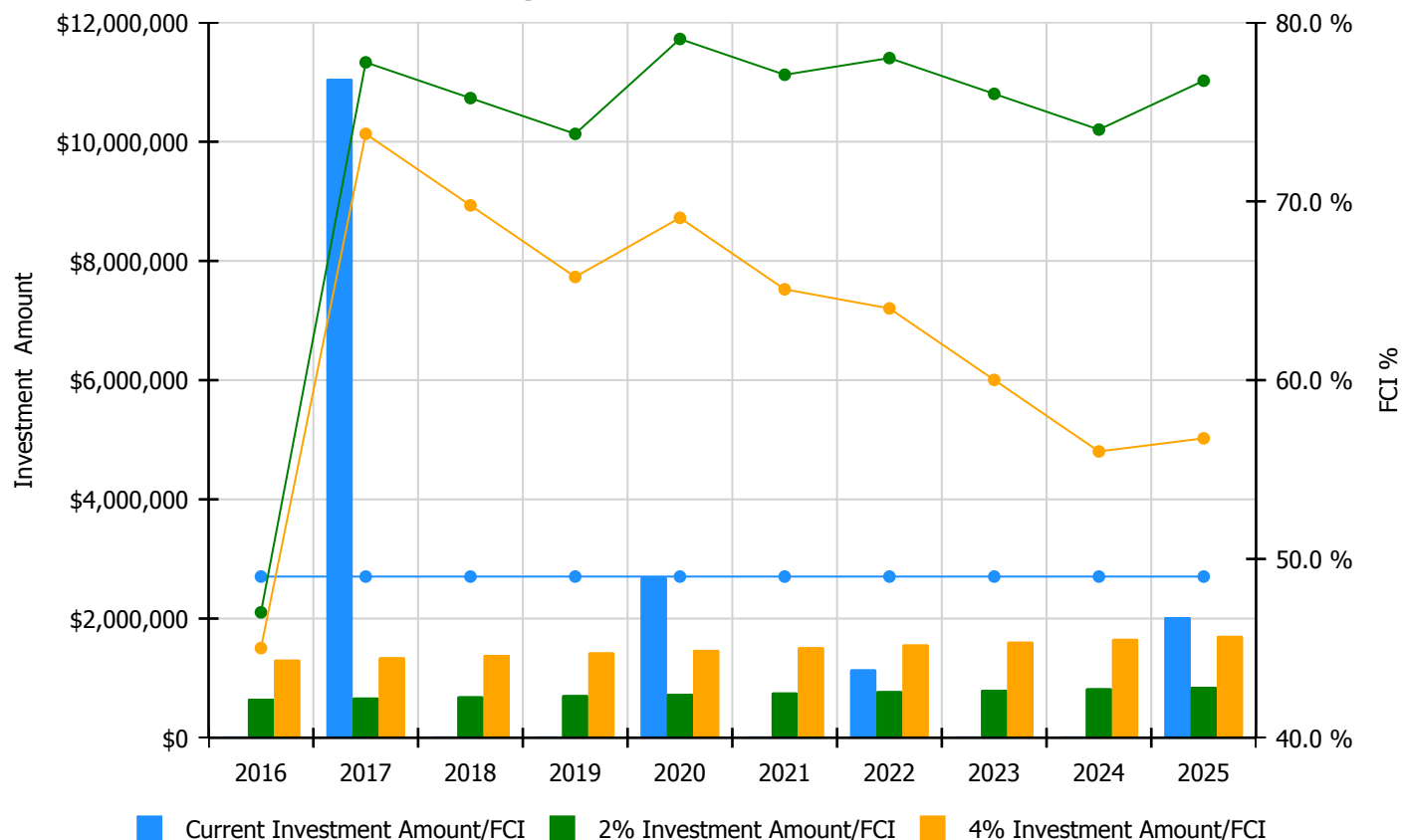


10 Year FCI Forecast by Investment Scenario

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

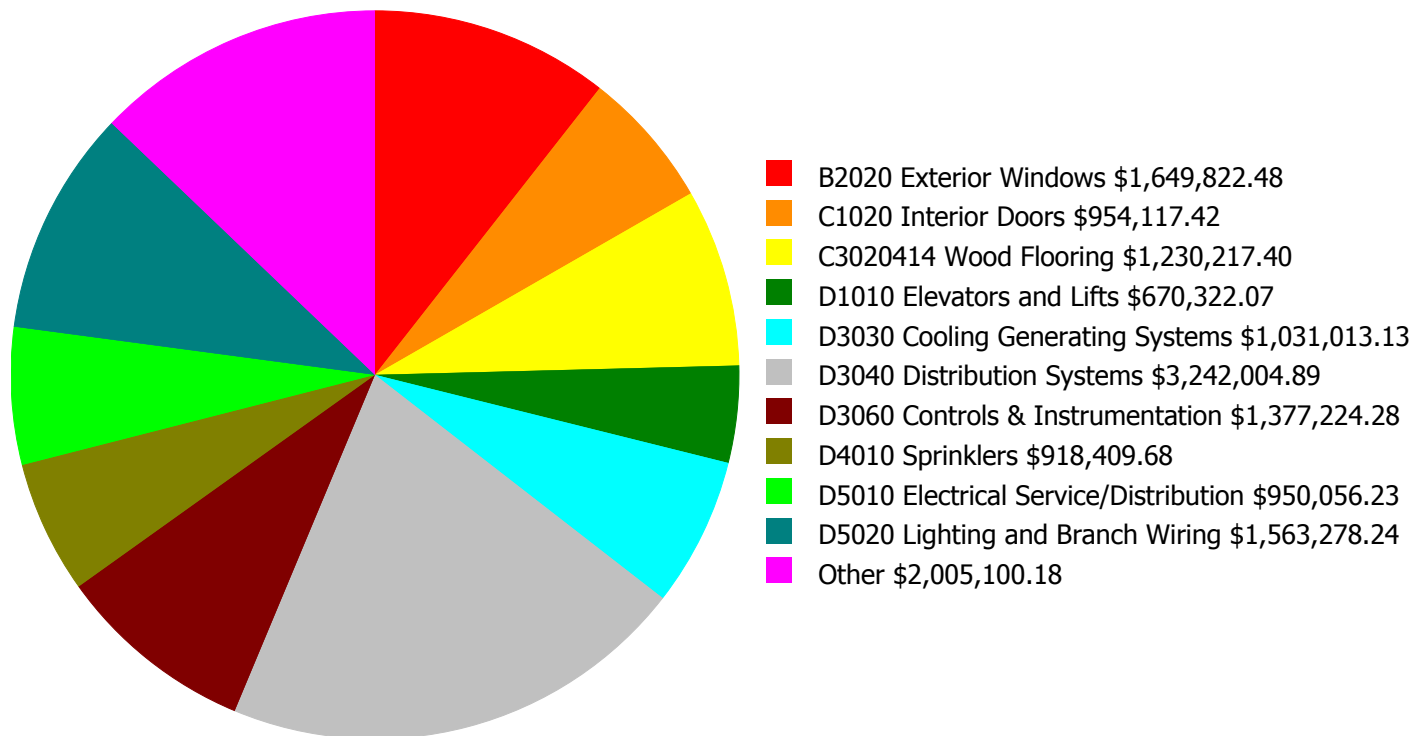
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 49.01%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$655,289.00	47.01 %	\$1,310,579.00	45.01 %
2017	\$11,055,199	\$674,948.00	77.77 %	\$1,349,896.00	73.77 %
2018	\$0	\$695,196.00	75.77 %	\$1,390,393.00	69.77 %
2019	\$0	\$716,052.00	73.77 %	\$1,432,105.00	65.77 %
2020	\$2,694,272	\$737,534.00	79.08 %	\$1,475,068.00	69.08 %
2021	\$0	\$759,660.00	77.08 %	\$1,519,320.00	65.08 %
2022	\$1,147,337	\$782,450.00	78.01 %	\$1,564,899.00	64.01 %
2023	\$0	\$805,923.00	76.01 %	\$1,611,846.00	60.01 %
2024	\$0	\$830,101.00	74.01 %	\$1,660,202.00	56.01 %
2025	\$2,023,652	\$855,004.00	76.75 %	\$1,710,008.00	56.75 %
Total:	\$16,920,460	\$7,512,157.00		\$15,024,316.00	

Deficiency Summary by System

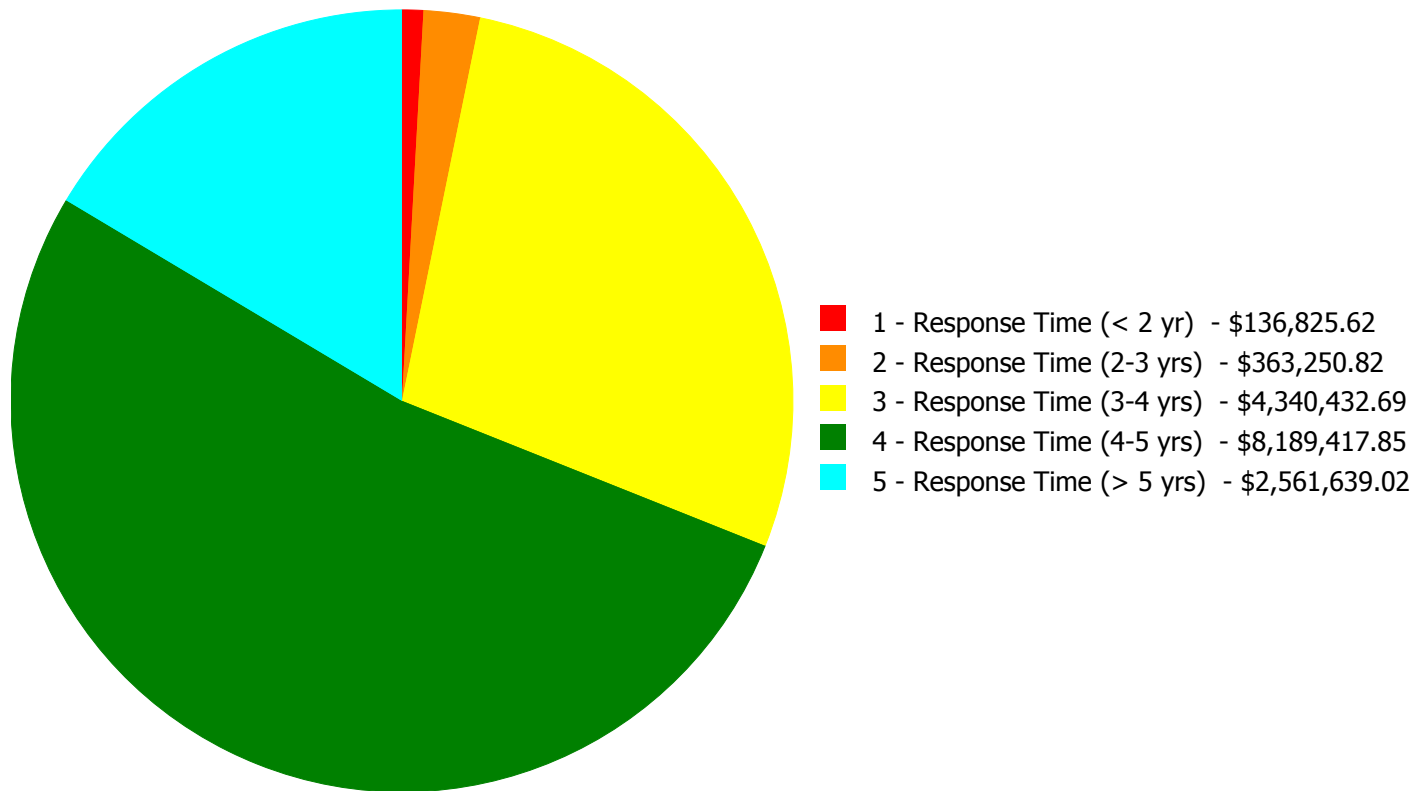
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$15,591,566.00

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: \$15,591,566.00

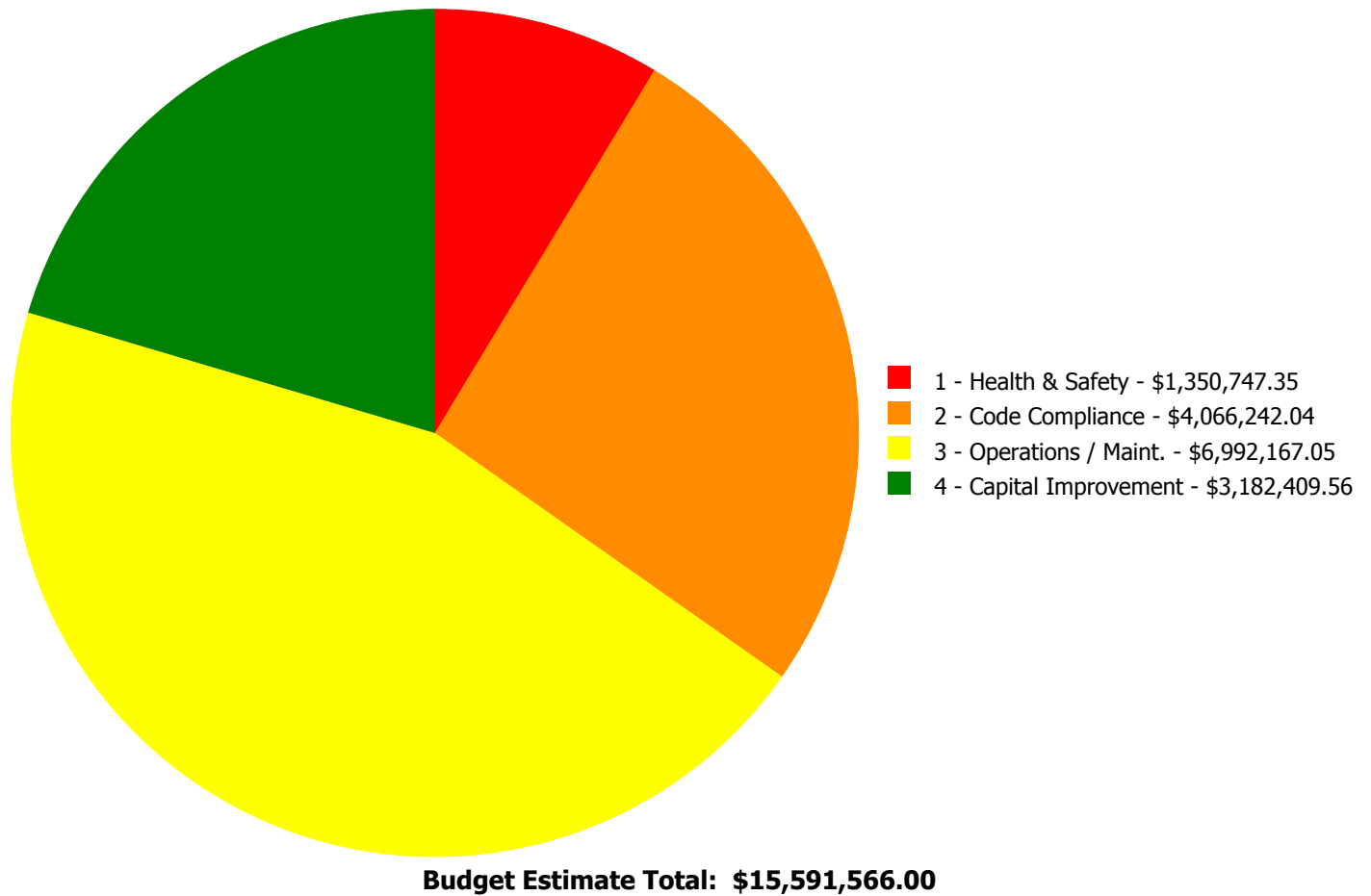
Deficiency By Priority Investment Table

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
B2020	Exterior Windows	\$0.00	\$0.00	\$0.00	\$1,649,822.48	\$0.00	\$1,649,822.48
B2030	Exterior Doors	\$0.00	\$18,214.64	\$0.00	\$0.00	\$0.00	\$18,214.64
C1010	Partitions	\$0.00	\$0.00	\$994.32	\$0.00	\$0.00	\$994.32
C1020	Interior Doors	\$0.00	\$0.00	\$954,117.42	\$0.00	\$0.00	\$954,117.42
C1030	Fittings	\$0.00	\$0.00	\$0.00	\$0.00	\$59,530.34	\$59,530.34
C2010	Stair Construction	\$0.00	\$0.00	\$101,317.68	\$0.00	\$0.00	\$101,317.68
C3010230	Paint & Covering	\$0.00	\$67,738.77	\$0.00	\$0.00	\$0.00	\$67,738.77
C3020414	Wood Flooring	\$0.00	\$0.00	\$0.00	\$0.00	\$1,230,217.40	\$1,230,217.40
D1010	Elevators and Lifts	\$0.00	\$0.00	\$0.00	\$0.00	\$670,322.07	\$670,322.07
D2010	Plumbing Fixtures	\$0.00	\$0.00	\$0.00	\$233,544.53	\$0.00	\$233,544.53
D2020	Domestic Water Distribution	\$0.00	\$0.00	\$0.00	\$325,324.45	\$0.00	\$325,324.45
D2030	Sanitary Waste	\$0.00	\$0.00	\$314,949.13	\$0.00	\$0.00	\$314,949.13
D3030	Cooling Generating Systems	\$0.00	\$0.00	\$0.00	\$1,031,013.13	\$0.00	\$1,031,013.13
D3040	Distribution Systems	\$0.00	\$0.00	\$2,729,756.57	\$306,711.29	\$205,537.03	\$3,242,004.89
D3060	Controls & Instrumentation	\$0.00	\$0.00	\$0.00	\$1,377,224.28	\$0.00	\$1,377,224.28
D4010	Sprinklers	\$0.00	\$0.00	\$0.00	\$918,409.68	\$0.00	\$918,409.68
D5010	Electrical Service/Distribution	\$0.00	\$0.00	\$0.00	\$950,056.23	\$0.00	\$950,056.23
D5020	Lighting and Branch Wiring	\$0.00	\$0.00	\$40,505.93	\$1,397,311.78	\$125,460.53	\$1,563,278.24
D5030	Communications and Security	\$0.00	\$277,297.41	\$161,143.91	\$0.00	\$0.00	\$438,441.32
D5090	Other Electrical Systems	\$136,825.62	\$0.00	\$37,647.73	\$0.00	\$0.00	\$174,473.35
E2010	Fixed Furnishings	\$0.00	\$0.00	\$0.00	\$0.00	\$270,571.65	\$270,571.65
Total:		\$136,825.62	\$363,250.82	\$4,340,432.69	\$8,189,417.85	\$2,561,639.02	\$15,591,566.00

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:



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: D5090 - Other Electrical Systems



Location: Mechanical Room

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace standby generator system

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$136,825.62

Assessor Name: System

Date Created: 08/03/2015

Notes: Remove abandoned standby generator system and equipment and replace with standby generator system sized for all emergency egress and exit lighting and for an elevator.

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

System: B2030 - Exterior Doors



Location: Main Entrance

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Remove and replace exterior doors - per leaf

Qty: 2.00

Unit of Measure: Ea.

Estimate: \$18,214.64

Assessor Name: System

Date Created: 08/10/2015

Notes: The main entrance is a double door system that has been upgraded from the original construction. This system is in good condition however as indicated in the photo the concrete step does not meet the length of the door thus allowing a trap hazard. Special consideration for a new door system is required and a modification to the exterior step removing the hazard. Remove and replace door and step.

System: C3010230 - Paint & Covering



Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 10,000.00

Unit of Measure: S.F.

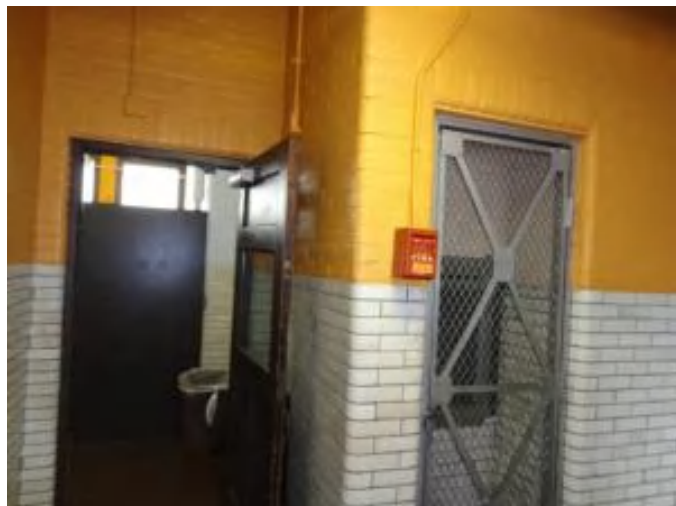
Estimate: \$67,738.77

Assessor Name: System

Date Created: 08/10/2015

Notes: There are several minor areas of wall damage that ranges from serious to minor. Although the school is on a cyclical program of renewal and each painted surface is renewed at years end this system is at the point in which repairs are necessary. Remove damaged wall finishes and repair areas then apply primer and paint finish.

System: D5030 - Communications and Security



Location: Entire Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace fire alarm system

Qty: 64,200.00

Unit of Measure: S.F.

Estimate: \$277,297.41

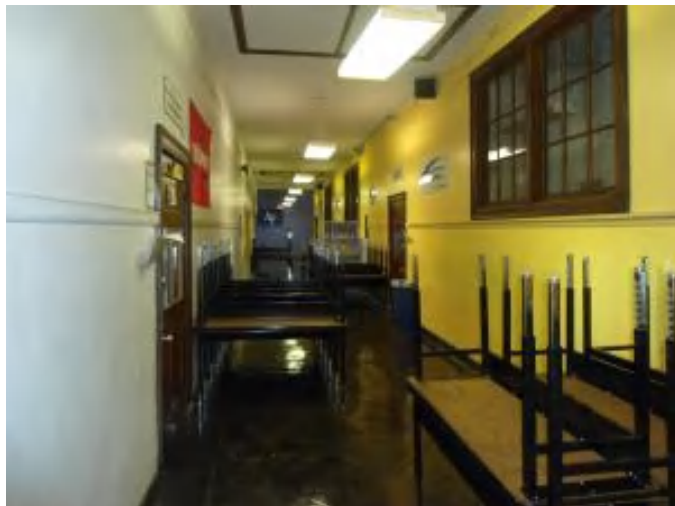
Assessor Name: System

Date Created: 08/03/2015

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

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

System: C1010 - Partitions



Location: Hallways

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Remove non-rated interior glass panels and replace with studs, gypsum board, paint (E) wall

Qty: 20.00

Unit of Measure: S.F.

Estimate: \$994.32

Assessor Name: System

Date Created: 08/10/2015

Notes: There are several transom lites and sidelights constructed into hallway wall systems. 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.

System: C1020 - Interior Doors



Location: Building Wide

Distress: Beyond Service Life

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: 200.00

Unit of Measure: Ea.

Estimate: \$954,117.42

Assessor Name: System

Date Created: 08/10/2015

Notes: Interior doors are typically wood in wood frames with transom lites, sidelights, wired glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames at stairwells and exit ways. Doors are generally in good condition considering the age of the application. Doors swing in the direction of exit and do not obstruct hallways. . Universal upgrades are required for the interior door systems it is recommended that the interior doors system be removed and replaced with a new modern metal framed hollow metal door system with consideration for ADA compliance. Special Note: The double door systems leading to the auditorium are elevated on wooden stairs and the door swing exceeds the stair elevation creating a pinch hazard. The modification to the auditorium door systems are recommended to include stair modifications to correct this issue.

System: C2010 - Stair Construction



Location: Stairs

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 600.00

Unit of Measure: L.F.

Estimate: \$101,317.68

Assessor Name: System

Date Created: 08/10/2015

Notes: Current legislation regarding stairs require 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.

System: D2030 - Sanitary Waste



Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 64,200.00

Unit of Measure: S.F.

Estimate: \$314,949.13

Assessor Name: System

Date Created: 08/09/2015

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

System: D3040 - Distribution Systems



Location: entire building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 26.00

Unit of Measure: C

Estimate: \$2,159,585.75

Assessor Name: System

Date Created: 08/09/2015

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: auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Install HVAC unit for Auditorium (200 seat).

Qty: 400.00

Unit of Measure: Seat

Estimate: \$570,170.82

Assessor Name: System

Date Created: 08/09/2015

Notes: Provide a new central station air handling unit for the auditorium 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: D5020 - Lighting and Branch Wiring



Location: Boiler Room , mechanical

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 3,024.00

Unit of Measure: S.F.

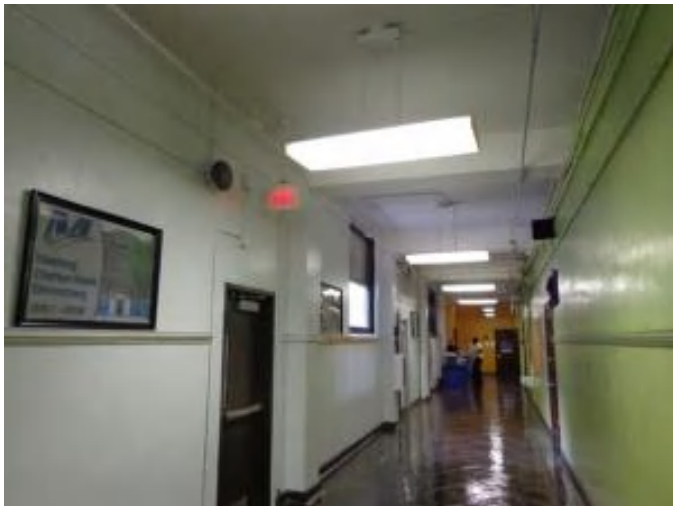
Estimate: \$40,505.93

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace lighting in Boiler Room and mechanical spaces in Basement. (Approximately 3,024 SF)

System: D5030 - Communications and Security



Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Communications and Alarm Systems

Qty: 64,200.00

Unit of Measure: S.F.

Estimate: \$161,143.91

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace clock and program system.

System: D5090 - Other Electrical Systems



Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Emergency/Exit Lighting

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$37,647.73

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace all exit signs in the building with vandal-resistant LED type.

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

System: B2020 - Exterior Windows



Location: Exterior Elevation

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 300.00

Unit of Measure: Ea.

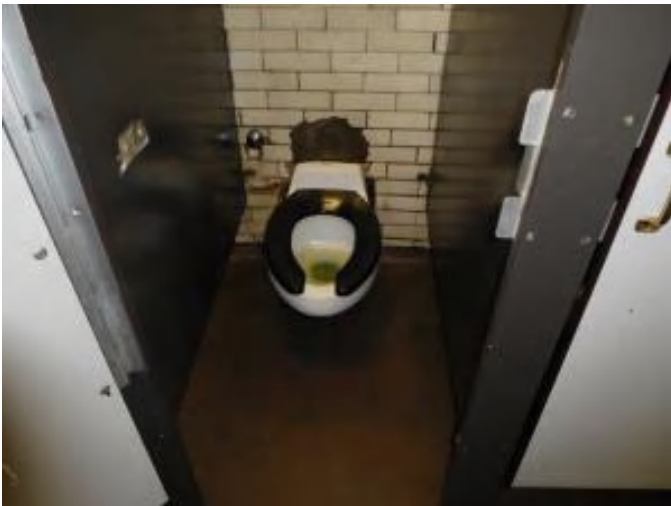
Estimate: \$1,649,822.48

Assessor Name: System

Date Created: 08/10/2015

Notes: The wood and metal-framed, double hung windows with standard single pane glass have been replaced in the last twenty years. It is recommended that the exterior window systems be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: D2010 - Plumbing Fixtures



Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace water closet - quantify additional units

Qty: 10.00

Unit of Measure: Ea.

Estimate: \$124,265.57

Assessor Name: System

Date Created: 08/11/2015

Notes: Replace older plumbing fixtures, including water closets, lavatories, urinals, service sinks, and water coolers. Include fittings and trim.

System: D2010 - Plumbing Fixtures



Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace lavatory - quantify accessible if required

Qty: 10.00

Unit of Measure: Ea.

Estimate: \$64,295.54

Assessor Name: System

Date Created: 08/11/2015

Notes: Replace older plumbing fixtures, including water closets, lavatories, urinals, service sinks, and water coolers. Include fittings and trim.

System: D2010 - Plumbing Fixtures



Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 6.00

Unit of Measure: Ea.

Estimate: \$29,825.04

Assessor Name: System

Date Created: 08/11/2015

Notes: Replace older plumbing fixtures, including water closets, lavatories, urinals, service sinks, and water coolers. Include fittings and trim.

System: D2010 - Plumbing Fixtures



Location: corridors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Water Fountains - without ADA new recessed alcove

Qty: 2.00

Unit of Measure: Ea.

Estimate: \$15,158.38

Assessor Name: System

Date Created: 08/11/2015

Notes: Replace older plumbing fixtures, including water closets, lavatories, urinals, service sinks, and water coolers. Include fittings and trim.

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: 64,200.00

Unit of Measure: S.F.

Estimate: \$325,324.45

Assessor Name: System

Date Created: 08/09/2015

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

System: D3030 - Cooling Generating Systems



Location: roof, mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Install chilled water system with distribution piping and pumps. (+75KSF)

Qty: 64,200.00

Unit of Measure: S.F.

Estimate: \$1,031,013.13

Assessor Name: System

Date Created: 08/09/2015

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

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: 656.00

Unit of Measure: Pr.

Estimate: \$306,711.29

Assessor Name: System

Date Created: 08/09/2015

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: 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: 64,200.00

Unit of Measure: S.F.

Estimate: \$1,377,224.28

Assessor Name: System

Date Created: 08/09/2015

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: 64,200.00

Unit of Measure: S.F.

Estimate: \$918,409.68

Assessor Name: System

Date Created: 08/09/2015

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

This deficiency has no image.

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: 0.00

Unit of Measure: Ea.

Estimate: \$648,711.62

Assessor Name: System

Date Created: 08/03/2015

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: D5010 - Electrical Service/Distribution



Location: Corridors -all floors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Panelboard

Qty: 9.00

Unit of Measure: Ea.

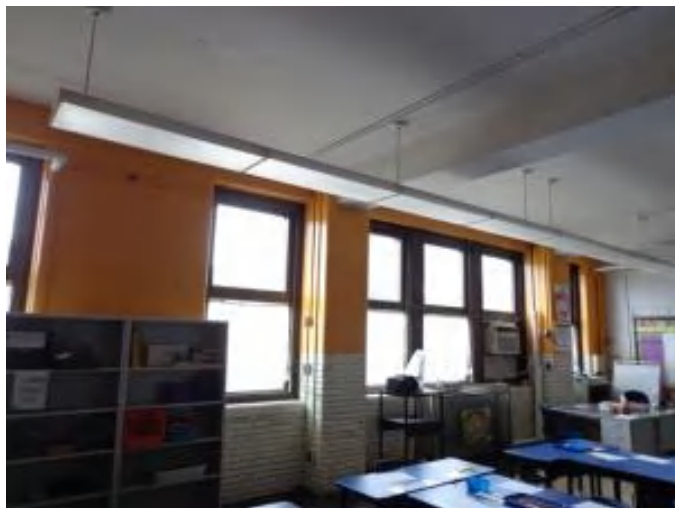
Estimate: \$301,344.61

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace 120/240V, 1 phase panelboards in corridors on all floors and Panelboard BR in the Boiler Room. Total of 9 panelboards.

System: D5020 - Lighting and Branch Wiring



Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 55,300.00

Unit of Measure: S.F.

Estimate: \$1,397,311.78

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace fluorescent lighting fixtures in corridors, classrooms, cafeteria and support areas throughout the building. (Approximately 55,300 SF)

Priority 5 - Response Time (> 5 yrs):

System: C1030 - Fittings



Location: Building Wide Signage

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 200.00

Unit of Measure: Ea.

Estimate: \$51,603.08

Assessor Name: System

Date Created: 08/10/2015

Notes: Signage criteria have been established for public building such as schools to support the physically challenged and directional needs. 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 old portion of the building.

System: C1030 - Fittings



Location: Building Wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 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: 08/10/2015

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

System: C3020414 - Wood Flooring



Location: Classrooms Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace wood flooring

Qty: 42,200.00

Unit of Measure: S.F.

Estimate: \$1,230,217.40

Assessor Name: System

Date Created: 08/10/2015

Notes: The classrooms 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 wooden floor finish be removed and replaced with an in kind finish.

System: D1010 - Elevators and Lifts



Location: New Elevator Intall

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Add interior elevator - 4 floors - adjust the electrical run lengths to hook up the elevator

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$670,322.07

Assessor Name: System

Date Created: 08/10/2015

Notes: Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the southern 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 features, such as audible jewels and gongs, an accessible control panel.

System: D3040 - Distribution Systems



Location: gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install HVAC unit for Gymnasium (single station).

Qty: 4,000.00

Unit of Measure: Ea.

Estimate: \$205,537.03

Assessor Name: System

Date Created: 08/09/2015

Notes: • Provide a new central station air handling unit for the gymnasium 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: D5020 - Lighting and Branch Wiring



Location: Auditorium

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace Lighting Fixtures (SF)

Qty: 3,600.00

Unit of Measure: S.F.

Estimate: \$125,460.53

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace lighting system in the auditorium and provide lighting control system.

System: E2010 - Fixed Furnishings



Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace auditorium seating - add tablet arms if required. Veneer seating is an option.

Qty: 300.00

Unit of Measure: Ea.

Estimate: \$270,571.65

Assessor Name: System

Date Created: 08/10/2015

Notes: The fixed seating for this school is from the original construction. The systems are in fair condition considering the age and usage. This project provides a budgetary consideration for universal upgrades for the fixed seating and furnishing of this school.

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, oil fired, flame retention burner, cast iron, steam, gross output, 6680 MBH, includes standard controls and insulated flush jacket, packaged	1.00	Ea.	mechanical room	weil mclain	94			35	1990	2025	\$150,236.50	\$165,260.15
D3020 Heat Generating Systems	Boiler, oil fired, flame retention burner, cast iron, steam, gross output, 6680 MBH, includes standard controls and insulated flush jacket, packaged	1.00	Ea.	mechanical room	weil mclain	94			35	1990	2025	\$150,236.50	\$165,260.15
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 1600 A	2.00	Ea.	Electrical Service Entrance Room	General Electric	Spectra Series	NA		30	2001	2031	\$40,458.15	\$89,007.93
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 800 A	1.00	Ea.	Basement Fan Room	General Electric	Spectra Series	NA		30	2001	2031	\$21,766.05	\$23,942.66
												Total:	\$443,470.89

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): 48,700

Year Built: 1924

Last Renovation:

Replacement Value: \$944,953

Repair Cost: \$33,136.14

Total FCI: 3.51 %

Total RSLI: 28.52 %



Description:

Attributes:

General Attributes:

Bldg ID:	S434001	Site ID:	S434001
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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	25.21 %	4.52 %	\$33,136.14
G40 - Site Electrical Utilities	40.00 %	0.00 %	\$0.00
Totals:	28.52 %	3.51 %	\$33,136.14

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 \$
G2010	Roadways	\$11.52	S.F.		30				0.00 %	0.00 %				\$0
G2020	Parking Lots	\$7.65	S.F.		30				0.00 %	0.00 %				\$0
G2030	Pedestrian Paving	\$11.52	S.F.	43,500	40	1924	1964	2025	25.00 %	0.00 %	10			\$501,120
G2040	Site Development	\$4.36	S.F.	48,700	25	1924	1949	2020	20.00 %	8.88 %	5		\$18,852.52	\$212,332
G2050	Landscaping & Irrigation	\$3.78	S.F.	5,200	15	1924	1939	2028	86.67 %	72.67 %	13		\$14,283.62	\$19,656
G4020	Site Lighting	\$3.58	S.F.	48,700	30	1924	1954	2027	40.00 %	0.00 %	12			\$174,346
G4030	Site Communications & Security	\$0.77	S.F.	48,700	30	1924	1954	2027	40.00 %	0.00 %	12			\$37,499
Total									28.52 %	3.51 %			\$33,136.14	\$944,953

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.

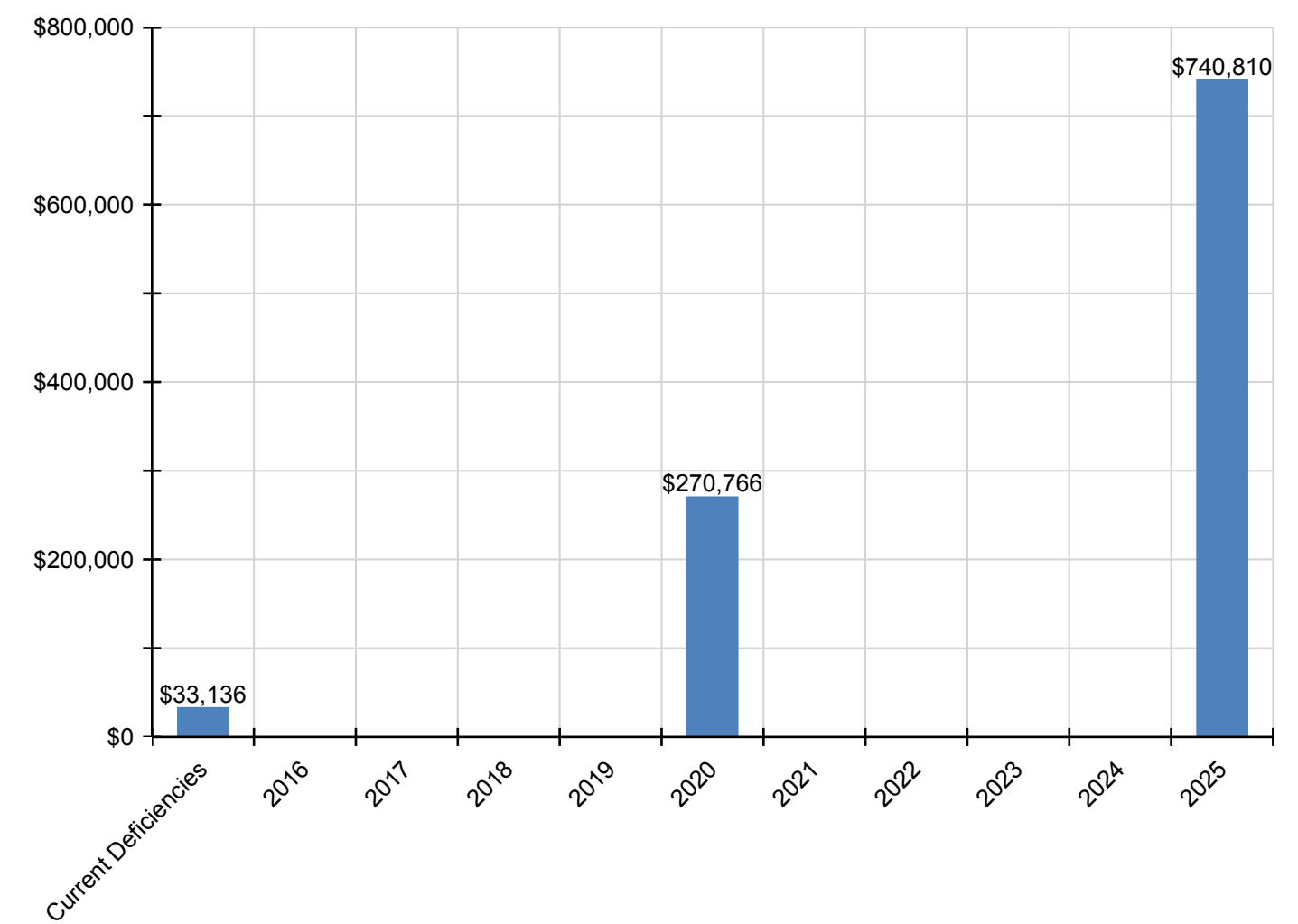
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	\$33,136	\$0	\$0	\$0	\$0	\$270,766	\$0	\$0	\$0	\$0	\$740,810	\$1,044,712
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
G2010 - Roadways	\$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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$740,810	\$740,810
G2040 - Site Development	\$18,853	\$0	\$0	\$0	\$0	\$270,766	\$0	\$0	\$0	\$0	\$0	\$289,618
G2050 - Landscaping & Irrigation	\$14,284	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14,284
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	\$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.

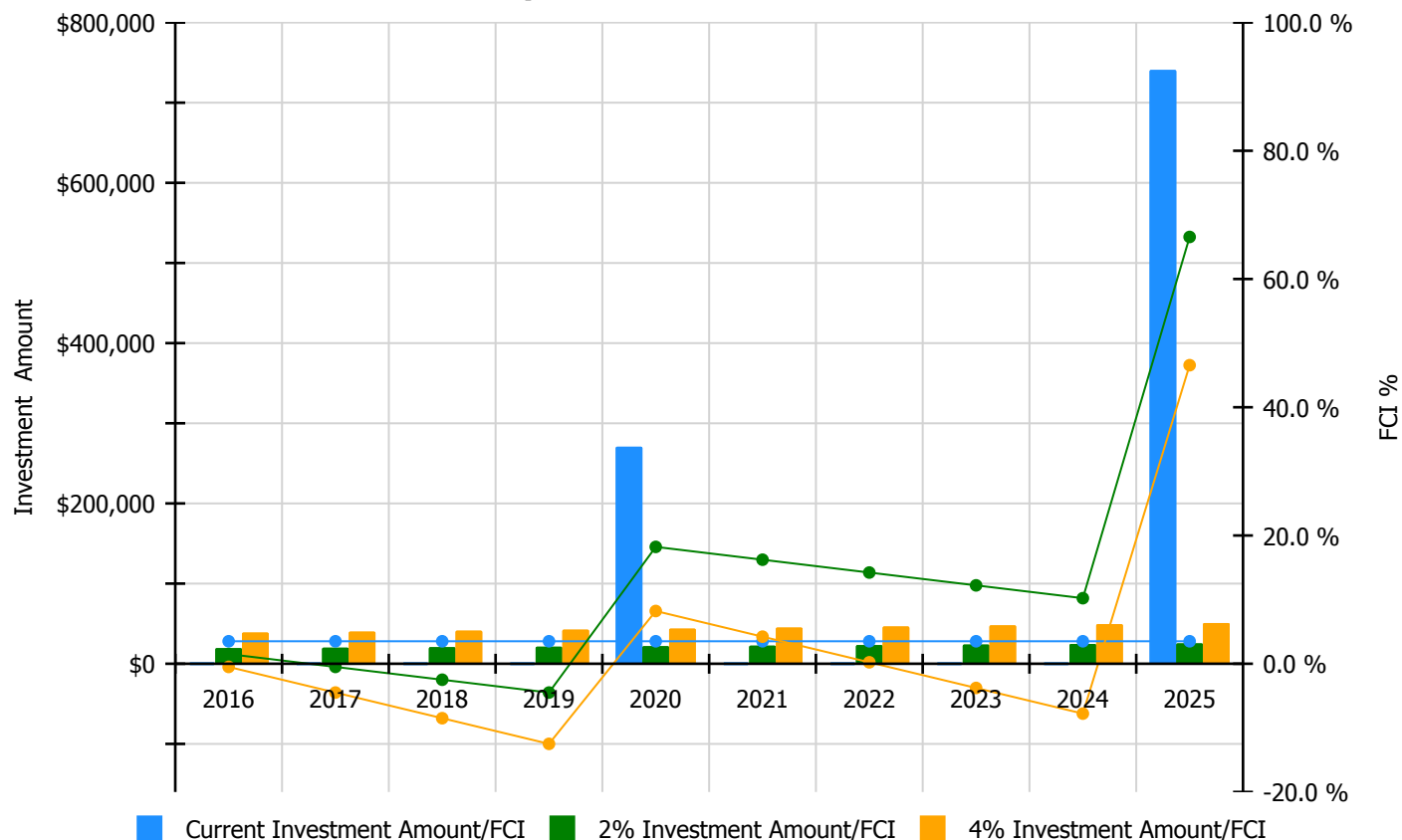


10 Year FCI Forecast by Investment Scenario

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

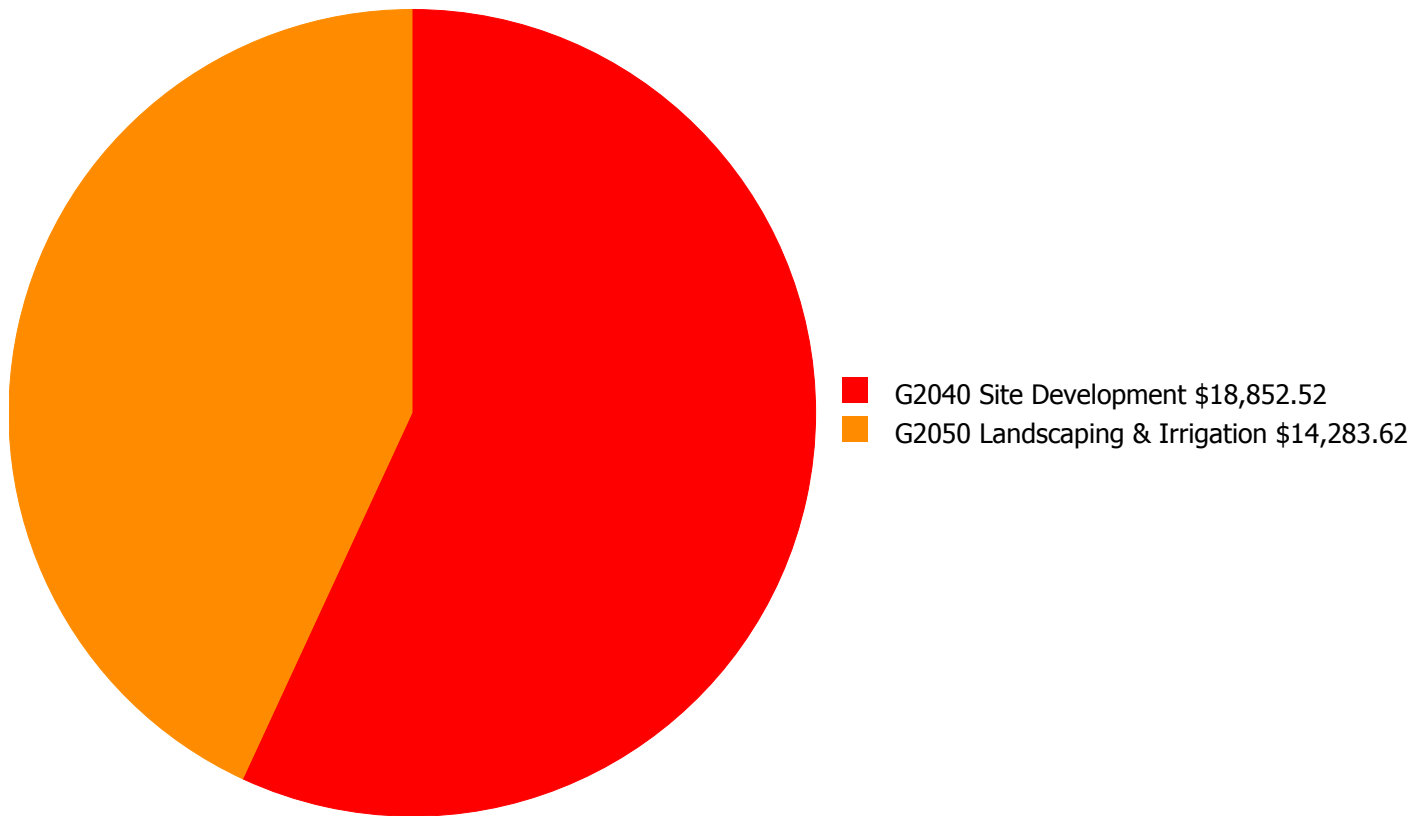
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 3.51%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$19,466.00	1.51 %	\$38,932.00	-0.49 %
2017	\$0	\$20,050.00	-0.49 %	\$40,100.00	-4.49 %
2018	\$0	\$20,652.00	-2.49 %	\$41,303.00	-8.49 %
2019	\$0	\$21,271.00	-4.49 %	\$42,542.00	-12.49 %
2020	\$270,766	\$21,909.00	18.22 %	\$43,818.00	8.22 %
2021	\$0	\$22,566.00	16.22 %	\$45,133.00	4.22 %
2022	\$0	\$23,243.00	14.22 %	\$46,487.00	0.22 %
2023	\$0	\$23,941.00	12.22 %	\$47,882.00	-3.78 %
2024	\$0	\$24,659.00	10.22 %	\$49,318.00	-7.78 %
2025	\$740,810	\$25,399.00	66.56 %	\$50,798.00	46.56 %
Total:	\$1,011,576	\$223,156.00		\$446,313.00	

Deficiency Summary by System

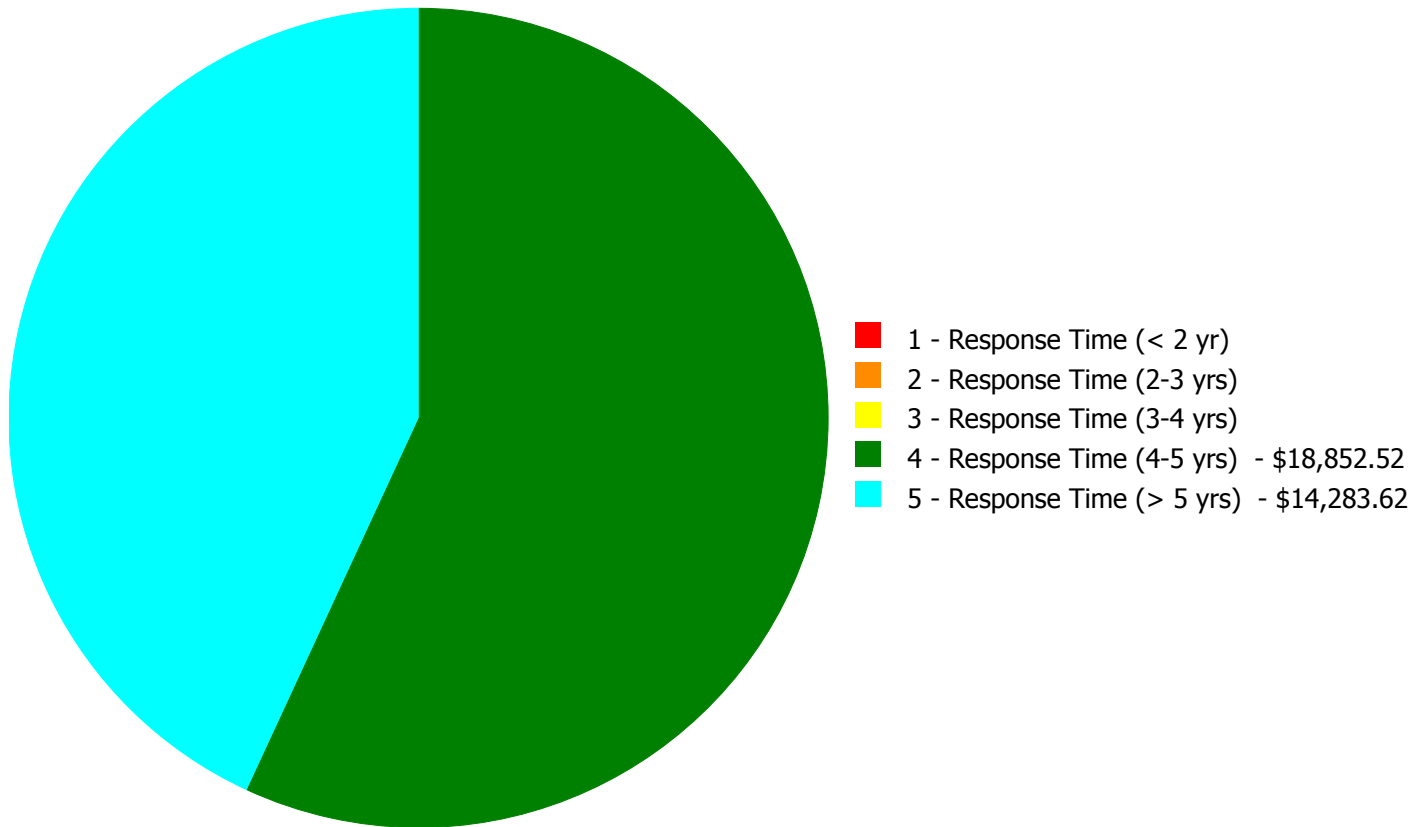
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$33,136.14

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: \$33,136.14

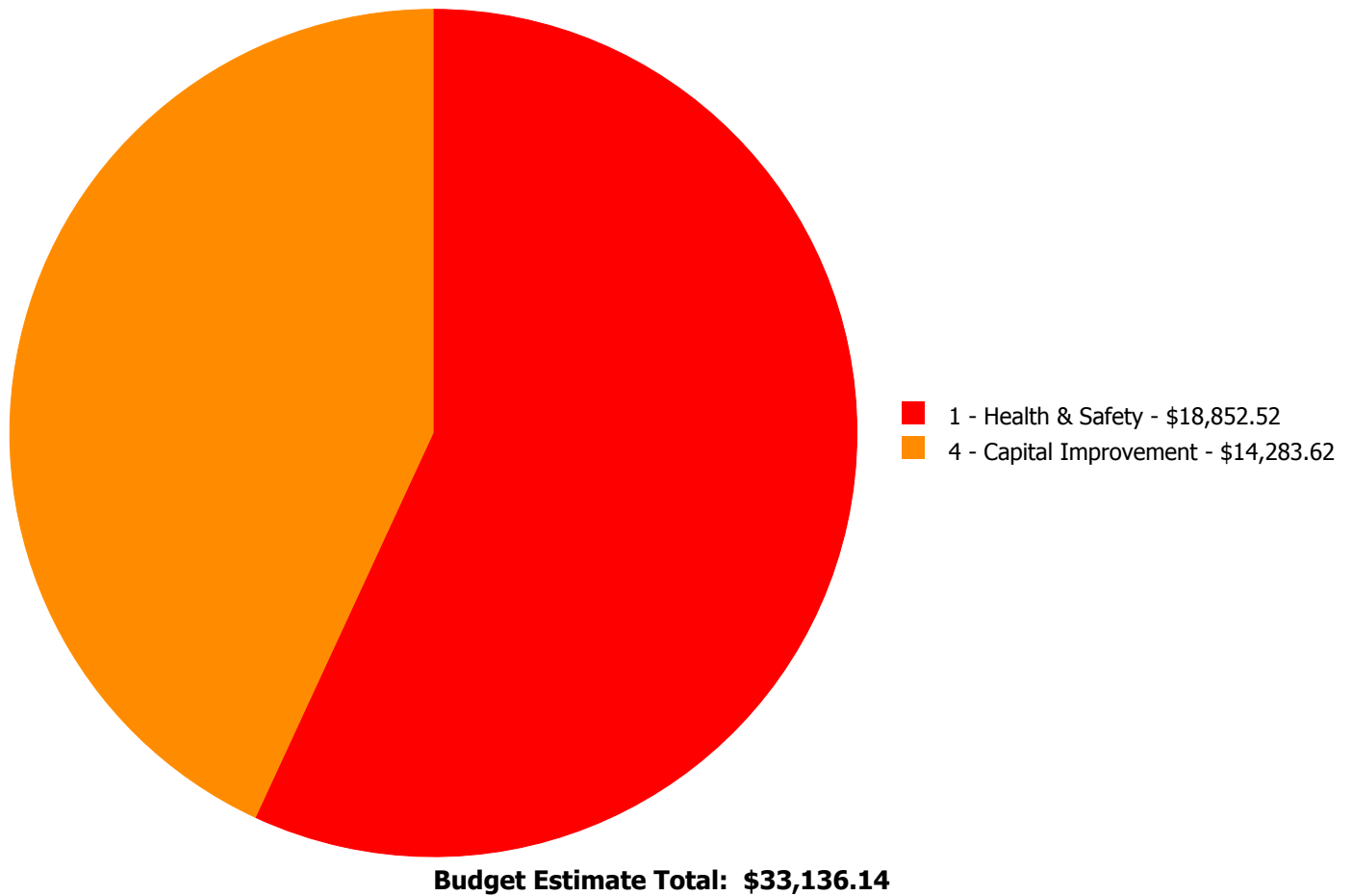
Deficiency By Priority Investment Table

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
G2040	Site Development	\$0.00	\$0.00	\$0.00	\$18,852.52	\$0.00	\$18,852.52
G2050	Landscaping & Irrigation	\$0.00	\$0.00	\$0.00	\$0.00	\$14,283.62	\$14,283.62
	Total:	\$0.00	\$0.00	\$0.00	\$18,852.52	\$14,283.62	\$33,136.14

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:



Deficiency Details by Priority

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

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

System: G2040 - Site Development



Location: Site

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Build secure trash dumpster enclosure

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$18,852.52

Assessor Name: Craig Anding

Date Created: 08/10/2015

Notes:

Priority 5 - Response Time (> 5 yrs):

System: G2050 - Landscaping & Irrigation



Location: Site

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace defective irrigation system
- pop up spray system

Qty: 4,000.00

Unit of Measure: S.F.

Estimate: \$14,283.62

Assessor Name: Craig Anding

Date Created: 08/10/2015

Notes: The landscaping is in good condition and well maintained but with no irrigation system. The landscaping is generally located near the parking / play area of the site with limited turf sections around the general exterior of the school. This deficiency provides a budgetary consideration for the installation of an irrigation system for this site.

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

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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

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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

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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.

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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

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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

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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.

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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	Photovoltaic system

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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

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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 Unifomat 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 Unifomat 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

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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