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.

Munoz-Marin School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	3300 N. 3Rd St.	Enrollment	647
	Philadelphia, Pa 19140	Grade Range	'00-08'
Phone/Fax	215-291-8825 / 215-291-8845	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Marin	Turnaround Model	Turnaround

Building/System FCI Tiers

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

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**19.73%**	**$12,105,450**	**$61,367,415**
Building	19.82 %	$11,869,775	$59,874,292
Grounds	15.78 %	$235,675	$1,493,123

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.44 %	$1,951,604	$2,182,131
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.00 %	$0	$4,401,518
Windows (Shows functionality of exterior windows)	00.00 %	$0	$2,147,693
Exterior Doors (Shows condition of exterior doors)	136.71 %	$236,397	$172,913
Interior Doors (Classroom doors)	00.00 %	$0	$418,568
Interior Walls (Paint and Finishes)	00.00 %	$0	$2,004,594
Plumbing Fixtures	04.70 %	$75,792	$1,612,260
Boilers	10.64 %	$236,958	$2,226,398
Chillers/Cooling Towers	21.22 %	$619,332	$2,919,240
Radiators/Unit Ventilators/HVAC	35.69 %	$1,829,914	$5,126,558
Heating/Cooling Controls	132.68 %	$2,135,935	$1,609,875
Electrical Service and Distribution	00.00 %	$0	$1,156,725
Lighting	26.76 %	$1,106,729	$4,135,590
Communications and Security (Cameras, Pa System and Fire Alarm)	39.54 %	$612,456	$1,549,058

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

S568001;Munoz Marin

Final

Site Assessment Report

February 1, 2017

PARSONS

Table of Contents

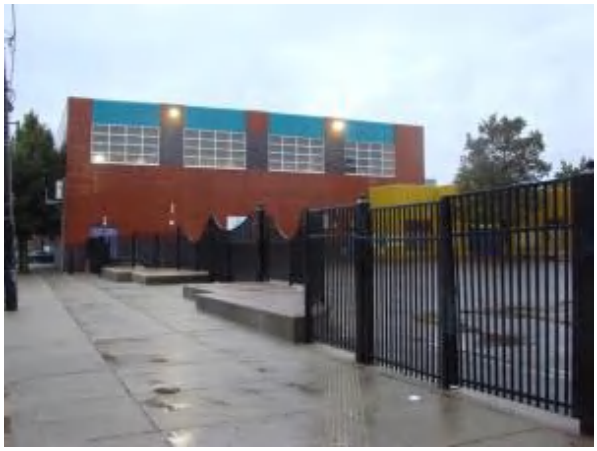
Site Executive Summary

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

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

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

Gross Area (SF):	119,250
Year Built:	1997
Last Renovation:	
Replacement Value:	$61,367,415
Repair Cost:	$12,105,449.85
Total FCI:	19.73 %
Total RSLI:	75.64 %



Description:

Facility Assessment
October, 2015

School District of Philadelphia
Munoz Marin Elementary School
3300 N. 3rd Street
Philadelphia, PA 19142

119,250 SF / 934 Students / LN 05

The Munoz Marin Elementary School building is located at 3300 N. 3rd Street in Philadelphia, PA. The 3 story, 131,500 square foot building was constructed in 1997. The building has a small partial basement.

Mr. Scott Ovington, Facility Area Coordinator provided input to the Parsons assessment team on current problems and planned renovation projects. Mr. Tim Conway, building engineer, accompanied us on our tour of the school and provided us with detailed information on the building systems and recent maintenance history.

STRUCTURAL/ EXTERIOR CLOSURE:

The building typically rests on concrete spread and strip footings and foundation walls that are not showing signs of settlement or damage. The main structure is typically steel frame, columns and girders; floors are typically precast concrete panels supported by steel framing. The superstructure is generally in very good condition.

The building envelope is typically comprised of face brick, glazed CMU, ground face CMU, and metal panels over CMU; walls are insulated cavity type in very good condition.

The roof structure is a metal deck supported by bar joists and wide flange framing and is typically flat with slopes to roof drains.

Exterior walls are typically a combination of glazed CMU, face brick and metal panels over insulated CMU backup (cavity wall), in very good condition.

Exterior windows are typically anodized aluminum curtain wall, single acrylic glazed units with tilt-in operating sections; all in very good condition.

Exterior doors are typically hollow metal, glazed; service doors are typically hollow metal in hollow metal frames, in poor condition. Loading dock and storage room have insulated roll-up doors in poor condition.

Roofing is typically built-up system over rigid insulation; several large soft spot areas have been observed, leaks over second floor roof have been reported.

INTERIORS:

Partition wall types include painted CMU, glazed CMU, face brick, and glazed hollow metal front and drywall, in very good condition. Portions of Auditorium walls are acoustic CMU. The interior wall finishes are generally painted drywall and CMU.

Most ceilings are 2x4 suspended acoustical panels; ceiling in gym and portions of hallways are exposed metal deck, painted. Ceiling in the auditorium theatre is curved plaster covered with acoustic texture. All ceilings are in very good condition.

Flooring in most areas is generally vinyl composition tile, in very good condition. Flooring in library and principal's office is carpet in very poor condition. Gym has resilient sheet flooring in very good condition. Flooring in toilets and kitchen area is typically ceramic tiles and quarry tiles, respectively; in good condition.

Interior doors are generally solid core wood doors in hollow metal frames, in good condition. Some doors are in store front partitions which are typically hollow metal, glazed.

Stairs are generally painted steel with concrete filled metal pan treads.

Interior identifying devices are of modular type directly affixed to wall surfaces.

Toilet partitions are mostly phenolic resin panels, ADA compliant, in very good condition, Accessories are in very good condition. Modular signage is generally in good condition, however, several signs have been painted over.

Institutional equipment includes library equipment; stage equipment; A/V equipment; and laboratory equipment; gym equipment – basketball backstops, scoreboards, etc. Other equipment includes kitchen equipment. All equipment is in very good condition.

Built-in furniture comprises of storage and filing cabinets in typically in good condition. Ficex seating in auditorium is in good condition.

CONVEYING EQUIPMENT:

The building does have a 3000 lb hydraulic elevator, serving 3 floors; in good condition.

ACCESSIBILITY:

The building does have accessible entrance and accessible routes, including walkways not exceeding 5% slope, per requirement. Toilets are generally in compliance with ADA. All doors have ADA compliant handles.

GROUNDS (SITE):

There is a staff parking lot at the site, in good condition. Parking for 34 vehicles has 2 spaces designated as accessible. Striping is faded. Compliant accessible signage is in good condition.

There are two playground areas, one on east side of the building and in an enclosed courtyard, generally in good condition. Original perimeter picket fences are generally in good condition. Chain link fence along the west property line is damaged and rusting. The portions of playgrounds and parking are landscaped with several trees. The trees are fully mature, in good condition.

PLUMBING:

Plumbing Fixtures - The original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of wall mounted push button flush valve water closets, wall hung urinals and lavatories with both wheel handle and lever faucets. The principal reported that there are frequently multiple plumbing fixtures out of service due to maintenance requirements. The units appear to be in good condition and should provide reliable service for the next 15-20 years.

Drinking fountains in the corridors and at the restrooms consist of wall hung fixtures with integral refrigerated coolers; they are accessible type. The principal reported that many of the drinking fountains do not work. The drinking fountains in the corridors should be replaced as many of the units have failed.

A mop basin is available in a janitor closet in the corridor on each floor for use by the janitorial staff.

The Kitchen has two sinks; one three compartment stainless steel sink with lever operated faucets and integral grease trap and one two compartment stainless steel sink with lever operated faucets. Chemicals are injected manually into the sanitizing basins.

Domestic Water Distribution - A 4” city water service enters the basement mechanical room from N. Third Street. The 4” meter and valves are located in the mechanical room and a reduced pressure backflow preventer is installed. Duplex skid mounted 7.5HP Goulds Pumps domestic pressure booster pumps with expansion tank are installed on the domestic water line to ensure adequate pressure throughout the building. One of the pumps has been removed, leaving only one (1) pressure booster pump. The domestic hot and cold water distribution piping is copper piping and sweat fittings. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures.

Two (2) Bradford White gas fired vertical domestic hot water heaters with circulating pump are installed. One (1) heater is original to the building and is defunct. The second heater was installed in 2010, has a 75 gallon capacity, and is within its service life. Both units are located in the basement mechanical room. The hot water heaters are equipped with T&P relief valves. A water softener was located in the basement mechanical room.

Sanitary Waste - The sanitary sewer piping is cast iron with no-hub fittings and is within its service life. The majority of sanitary piping was not accessible as it is located under the building slab and within mechanical chases. The maintenance staff reported no problems with the sanitary waste piping systems. The sanitary piping should be inspected by a qualified contractor to ensure that there are no unseen issues with the piping.

A sewage ejector pit located in the basement mechanical room receives water from the basement area. The pit has submerged pumps that are original to the building. The system appeared to be in good condition, the pit is sealed, and the Building Engineer reported no issues with the pumps.

Rain Water Drainage - Rain water drains from the roof are routed through a combination of internal and external rain leaders. The internal roof drains are routed through cast iron piping in mechanical chases in the building. Other drains lead to external rain leaders with aluminum downspouts that run down the side of the building. The system is original to the building and is within its service life. No issues were reported with the roof drains or rain leaders.

MECHANICAL:

Energy Supply - A 4” city gas service enters the building from the parking lot adjacent to N. Third Street. The gas meter is 3” and located in the basement mechanical room.

Heat Generating Systems - Building heating hot water is generated by two (2) 58HP Weil McLain model 88 cast iron sectional boilers with gross output of 1,904MBH. Each boiler is equipped with a Power Flame burner designed to operate on natural gas. Combustion air makeup is supplied by louvers equipped with motorized dampers. The gas train serving the boilers appears to have code required

venting of the regulators and dual solenoid valves with venting of the chamber between. No major issues with the boilers were reported by the Building Engineer. Cast iron boilers have an anticipated service life of 35 years or more; these units have been in service 18 years. The District should provide reliable service for the next 15 to 20years.

Cooling Generating Systems - Chilled glycol is generated by one (1) Dunham-Bush air-cooled screw chiller located on the roof at the South end of the building. The chiller is a nominal 190 tons, has three (3) compressors, and utilizes R22 refrigerant which is being phased out of use in the United States. The chiller is original to the building, installed in 1997, according to the Building Engineer. Screw chillers have an anticipated service life of 20 years; this unit has been in service 18 years and is approaching the end of its service life. This chiller should be replaced within the next 1-3 years to ensure continuous operation of the chilled water system.

An ice thermal storage system is installed in the basement mechanical room. Six (6) thermal storage tanks are meant to be frozen at night and used to provide chilled water during the day without the use of the chiller during peak load conditions. According to the Building Engineer the system has never functioned properly and it is not used.

Distribution Systems - A two pipe, dual temperature distribution system supplies building heating or cooling water to the unit ventilators in classrooms. Two (2) 15HP and two (2) 3HP in-line Bell and Gossett dual temperature supply pumps, P-11, P-12, P-13, and P-14, circulate building heating or cooling water to the unit ventilators. The piping is a mixture of black steel and copper; all piping is covered in insulation.

A four pipe distribution system supplies building heating and cooling water to the air handling units (AHU) on all three floors. Heating water is supplied to the heating and ventilation units by the hot water piping. Two (2) 15HP end-suction Bell and Gossett heating water supply pumps, P-1 and P-2 circulate building heating water. These pumps are in poor condition and should be replaced. Four (4) 3HP in-line Bell and Gossett heating water pumps, P-3, P-4, P-5, and P-6, circulate building heating water to air handling units and radiators. Four (4) 5HP in-line Bell and Gossett heating water pumps, P-7, P-8, P-9, and P-10, circulate building heating water to air handling units. An expansion tank, air separator, and chemical treatment are installed on the heating water distribution system. Two (2) 25HP end-suction Bell and Gossett chilled water return pumps, P-17 and P-18, circulate building chilled water between the heat exchanger and distribution pumps. There are six (6) chilled water supply pumps serving the air handling units within the building. The chilled water pumps are all in-line Bell and Gossett pumps; two (2) 3HP pumps, P-14 and P-15, two (2) 5HP pumps, P-16 and P-17, and two (2) 10HP pumps, P-23 and P-24. An expansion tank and air separator are installed on the chilled water side.

A two pipe glycol water loop serves the chiller and heat exchanger. There are two (2) 50HP end-suction Bell and Gossett glycol water supply pumps; P-15 and P-16. One pump is primary and the other is secondary. An Alfa Laval plate and frame heat exchanger converts the chilled glycol to building chilled water. The pumps are in good condition and reliable service should be provided for the next 5-8 years.

All pumps are original to the building, appear to be in good condition with the exception of the hot water supply pumps P-1 and P-1, and are within the anticipated service life of 25 years. All main piping is black steel, covered with insulation, and appears to be in decent condition. Smaller branch piping is copper and covered in insulation. There were a few fittings that are covered in rust, so the distribution piping should be inspected and repaired as necessary.

Eleven (11) Dunham-Bush air handling units provide heating, cooling, and outdoor air intake to specific spaces within the building. Two (2) heating and ventilation units provide heat and fresh air for the Gymnasium and are located in the Gymnasium; these units were not accessible during the site visit. All AHUs are fed by a four pipe system for building hot and chilled water. AHU-1 serves the west kindergarten classrooms, is located in the first floor south side mechanical room, and has a 5HP fan motor. AHU-2 serves the Family Center, is located in the first floor south side mechanical room, and has a 2HP fan motor. AHU-3 serves the east kindergarten classrooms, is located in the first floor east side mechanical room, and has a 5HP fan motor. AHU-4 serves the Administration offices, is located in the first floor north mechanical room, and has a 5HP fan motor. AHU-5 serves the first floor Life Skills room, is located in the second floor north side mechanical room, and has a 3HP fan motor. AHU-6 serves the south side of the first floor, is located in the basement mechanical room, and has a 10HP fan motor. AHU-7 serves the Auditorium, is located in the second floor south side mechanical room, and has a 7.5HP fan motor. AHU-8 serves the Lobby-Bridge area, is located in the second floor south side mechanical room, and has a 5HP fan motor. AHU-9 serves the second floor classrooms and corridor, is located in the third floor west side mechanical room, and has a 10HP fan motor. AHU-10 serves third floor classrooms, is located in the third floor west side mechanical room, and has a 7.5HP fan motor. AHU-11 serves Library, is located in the third floor east side mechanical room, and has a 3HP fan motor. All AHUS were model type VCS except for AHU-7 and AHU-11 which were model type HCL. All units were operational during the site visit, are original to the building, and are within their service life. Reliable service should be provided for the next 5-8 years.

One (1) roof mounted Cambridge gas fired make-up air unit provides make-up air for the Kitchen.

Unit ventilators provide heating and cooling for some of the classrooms and offices. The unit ventilators are original to the building and

are within their service life. Outdoor air for the building is provided by wall openings in the unit ventilators and the air handling units. No major issues were reported with the unit ventilators. Fin tube radiators provide heating for hallways and stairwells. All radiators appeared to be in good condition.

Terminal & Package Units - The building is exhausted by a total of thirteen (13) roof mounted exhaust fans and nine (9) powered roof ventilators on the three (3) distinct building roofs. The upper roof has six (6) exhaust fans and seven (7) power ventilators installed on it. The middle roof has two (2) exhaust fans and one (1) power ventilators. The lower roof has five (5) exhaust fans and one (1) power ventilator. The Building Engineer did not report any problems with the exhaust system. The exhaust fans remove air from the ceiling plenum above the drop ceiling, from restrooms, and from the kitchen. Roof mounted exhaust fans have an anticipated service life of twenty (20) years; these units have been in service 18 years and should be replaced within the next 3-5 years.

Two (2) Avtec kitchen hoods with integral fire suppression and outdoor air make-up systems are installed above the gas fired cooking equipment. An automatic gas shutoff valve is installed with the kitchen hood equipment. The equipment is well within service life and no issues were reported by the Building Engineer.

Controls & Instrumentation - A building management system (BMS) with DDC modules and communications network is installed in this building. The Building Engineer said the BMS, installed when the building was built, is not operational as he did not have the necessary log in information to access the system. He operates all equipment manually and must manually change over the valve settings between heating and cooling season. All major mechanical equipment (chillers, boilers, air handling units, pumps, fans, etc.) should be monitored and controlled by the system. The controls are approaching the end of their service life and should be replaced with new controls system.

A new building automation system (BAS) with modern DDC modules and communications network should be installed to serve the HVAC systems in this building to improve reliability and energy efficiency. An interface should be provided with the preferred system in use throughout the District.

Sprinklers - The building is equipped with a wet type sprinkler system only within the two story lobby in the center of the building. A 4” fire water line enters the building in the basement mechanical room along the same wall as the domestic water. The fire suppression system is the originally installed equipment and should not need replacement within the next 10 years. Installing a sprinkler system with quick response type heads throughout the building should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure. The building does not have any standpipes.

ELECTRICAL:

Site electrical service - The primary power is at 13.2KV from the street power pole which feeds a 1000KVA dry-type indoor transformer (13.2KV – 480V/277V). The electrical service is functioning properly and has not reached its useful life yet (built in1997). The main switchgear is rated at 1600 Amp, 480 V, 3 phase, and is located in main electrical room. The PECO meter (PECO 911 10-31926) is located inside the electrical room as well. The 480 distribution switchboard feeds two MCCs and several panels for lighting and receptacle loads throughout the building. The service entrance and the main building electrical distribution systems are in good condition, and have capacity for the mechanical loads.

Distribution system - The electrical distribution is accomplished with a 480V distribution switchboard, located in the electrical room, feeding several panels throughout the building using step down transformers (480V-120V/208V, 3 phase). These panels are in good condition and do not need replacements.

Receptacles - There are not enough receptacles in classrooms, computer rooms, libraries, and other areas. There should be at least two receptacles on each wall of the classrooms.

Lighting - Interior building is illuminated by various types of fixtures. They include fluorescent lighting, mostly T-8 lamps in majority of the areas, including; classrooms, corridor, offices and Kitchen. Surface or pendent mounted industrial fluorescent used in mechanical and electrical rooms. Gymnasium is illuminated by metal halide enclosed glass fixture. The majority of interior lighting fixtures are in a poor condition and have reached their useful life.

Fire alarm - The present Fire Alarm system is not automatic/addressable, and is not in compliance with safety code. There are some manual pull stations throughout the building; however, there are not sufficient number of horn/strobes installed in the classrooms, corridors, offices and other areas in the school.

Telephone/LAN - The school telephone and data systems are new and working adequately. A main distribution frame (MDF) along

with a telephone PBX system provides the communication system needs of the building. School is also equipped with Wi-Fi system.

Public address - Separate PA system does not exist. School uses the telephone systems for public announcement. This system is working adequately. The present Intercom System is functioning fine. Each class room is provided with intercom telephone service. The system allows paging and intercom communication between main office and classrooms and vice versa between classrooms and main office, as well as, between classrooms to classrooms.

Clock and Program system - Clock and program system are not working adequately. Classrooms are provided with 12-inch wall mounted, round clock, however, the clocks are not controlled properly by central master control panel.

Television System - Television system is not provided in the school. Most classes are provided with smart board having the ability to connect with computers and internet.

Security Systems, access control, and video surveillance - The school is not provided with adequate video surveillance system. Sufficient number of cameras is not installed at exit doors, corridors, exterior, and other critical areas. These cameras should be controlled by a Closed Circuit Television system (CCTV).

Emergency Power System - School is provided with adequate emergency generator to feed elevators, emergency lighting and other emergency loads via a transfer switch.

Emergency lighting system, including exit lighting - there is insufficient number of emergency lighting fixtures in corridors, library and other exit ways. Exit signs and emergency fixtures are also old and beyond useful life.

Lightning Protection System - There is adequate lightning protection system installed in the school. There are lightning rods on the roof that are connected to the ground via stranded aluminum cables.

Grounding - The present grounding system is adequate. All equipment is properly bonded to the ground.

Site Lighting - Campus grounds and building Perimeters are not adequately lighted for safety of the people and security of property.

Site Paging - The present Site paging System is not adequate. There is insufficient number of speakers installed on the building exterior walls.

Auditorium lighting and sound system - The auditorium general lighting is fine as it is and has the proper illumination FC level. The auditorium stage lighting and sound systems are both functioning adequate and without any issues.

RECOMMENDATIONS:

- Replace all exterior doors
- Replace overhead roll-up doors
- Install all new roofing system including insulation; tear-down existing roofing; install flashing, counter flashing and reglets
- Replace carpet in library and office spaces.
- Replace damaged signage
- Restripe parking lot
- Replace chain link fence along west property line
- Replace ten (10) wall hung drinking fountains and integral refrigerated coolers in the corridors; many of these units were not working during the site visit.
- Replace the duplex 7.5HP domestic water booster pumps, expansion tank, and isolation valves on incoming domestic water line with a new skid mounted pressure booster system.
- Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for almost twenty years, and replace any damaged piping.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the existing nominal 190 ton roof mounted air cooled chiller with a unit of similar capacity.
- Replace two (2) 15HP end-suction heating water supply pumps, P-1 and P-2, in the basement which are damaged from rust.
- Hire a qualified contractor to examine the chilled water, hot water and dual temperature distribution piping which is showing signs of rust damage, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace thirteen (13) roof mounted exhaust fans which are approaching the end of their service life.

- Replace nine (9) roof mounted power ventilators which are approaching the end of their service life.
- Install a new control system for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure
- Install minimum two receptacles on each wall of the classrooms and other areas within the building using surface-mounted receptacles.
- Install new lighting system for the entire building
- Install new automated and addressable FA system
- Install new Clock System
- Install new emergency exit signs & emergency lights

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 3 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S568001		

Site Condition Summary

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

Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	82.00 %	0.00 %	$0.00
A20 - Basement Construction	82.00 %	0.00 %	$0.00
B10 - Superstructure	82.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	71.98 %	3.52 %	$236,397.29
B30 - Roofing	110.00 %	89.44 %	$1,951,603.83
C10 - Interior Construction	74.71 %	0.14 %	$4,063.69
C20 - Stairs	82.00 %	0.00 %	$0.00
C30 - Interior Finishes	50.88 %	0.84 %	$49,239.35
D10 - Conveying	48.57 %	0.00 %	$0.00
D20 - Plumbing	60.93 %	46.39 %	$1,129,644.77
D30 - HVAC	71.02 %	36.35 %	$4,822,138.13
D40 - Fire Protection	105.71 %	177.49 %	$1,705,924.49
D50 - Electrical	99.11 %	28.12 %	$1,970,763.34
E10 - Equipment	48.57 %	0.00 %	$0.00
E20 - Furnishings	55.00 %	0.00 %	$0.00
G20 - Site Improvements	51.62 %	5.87 %	$64,197.30
G40 - Site Electrical Utilities	40.00 %	42.85 %	$171,477.66
Totals:	**75.64 %**	**19.73 %**	**$12,105,449.85**

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)
B568001;Munoz Marin	119,250	19.82	$1,705,924.49	$4,216,237.48	$4,860,458.95	$592,615.94	$494,538.03
G568001;Grounds	92,000	15.78	$0.00	$0.00	$162,233.78	$73,441.18	$0.00
Total:		**19.73**	**$1,705,924.49**	**$4,216,237.48**	**$5,022,692.73**	**$666,057.12**	**$494,538.03**

Deficiencies By Priority

- 1 - Response Time (< 2 yr) - $1,705,924.49
- 2 - Response Time (2-3 yrs) - $4,216,237.48
- 3 - Response Time (3-4 yrs) - $5,022,692.73
- 4 - Response Time (4-5 yrs) - $666,057.12
- 5 - Response Time (> 5 yrs) - $494,538.03

Budget Estimate Total: $12,105,449.85

Executive Summary

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

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

Function:	Elementary School
Gross Area (SF):	119,250
Year Built:	1997
Last Renovation:	
Replacement Value:	$59,874,292
Repair Cost:	$11,869,774.89
Total FCI:	19.82 %
Total RSLI:	76.32 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B568001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S568001		

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	82.00 %	0.00 %	$0.00
A20 - Basement Construction	82.00 %	0.00 %	$0.00
B10 - Superstructure	82.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	71.98 %	3.52 %	$236,397.29
B30 - Roofing	110.00 %	89.44 %	$1,951,603.83
C10 - Interior Construction	74.71 %	0.14 %	$4,063.69
C20 - Stairs	82.00 %	0.00 %	$0.00
C30 - Interior Finishes	50.88 %	0.84 %	$49,239.35
D10 - Conveying	48.57 %	0.00 %	$0.00
D20 - Plumbing	60.93 %	46.39 %	$1,129,644.77
D30 - HVAC	71.02 %	36.35 %	$4,822,138.13
D40 - Fire Protection	105.71 %	177.49 %	$1,705,924.49
D50 - Electrical	99.11 %	28.12 %	$1,970,763.34
E10 - Equipment	48.57 %	0.00 %	$0.00
E20 - Furnishings	55.00 %	0.00 %	$0.00
Totals:	**76.32 %**	**19.82 %**	**$11,869,774.89**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	119,250	100	1997	2097		82.00 %	0.00 %	82			$2,194,200
A1030	Slab on Grade	$7.73	S.F.	119,250	100	1997	2097		82.00 %	0.00 %	82			$921,803
A2010	Basement Excavation	$6.55	S.F.	119,250	100	1997	2097		82.00 %	0.00 %	82			$781,088
A2020	Basement Walls	$12.70	S.F.	119,250	100	1997	2097		82.00 %	0.00 %	82			$1,514,475
B1010	Floor Construction	$75.10	S.F.	119,250	100	1997	2097		82.00 %	0.00 %	82			$8,955,675
B1020	Roof Construction	$13.88	S.F.	119,250	100	1997	2097		82.00 %	0.00 %	82			$1,655,190
B2010	Exterior Walls	$36.91	S.F.	119,250	100	1997	2097		82.00 %	0.00 %	82			$4,401,518
B2020	Exterior Windows	$18.01	S.F.	119,250	40	1997	2037		55.00 %	0.00 %	22			$2,147,693
B2030	Exterior Doors	$1.45	S.F.	119,250	25	1997	2022		28.00 %	136.71 %	7		$236,397.29	$172,913
B3010105	Built-Up	$37.76	S.F.	57,600	20	1997	2017	2037	110.00 %	89.73 %	22		$1,951,603.83	$2,174,976
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	119,250	20	1997	2017	2037	110.00 %	0.00 %	22			$7,155
C1010	Partitions	$17.91	S.F.	119,250	100	1997	2097		82.00 %	0.00 %	82			$2,135,768
C1020	Interior Doors	$3.51	S.F.	119,250	40	1997	2037		55.00 %	0.00 %	22			$418,568
C1030	Fittings	$3.12	S.F.	119,250	40	1997	2037		55.00 %	1.09 %	22		$4,063.69	$372,060
C2010	Stair Construction	$1.41	S.F.	119,250	100	1997	2097		82.00 %	0.00 %	82			$168,143

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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 $
C3010230	Paint & Covering	$13.21	S.F.	119,250	10	1997	2007	2020	50.00 %	0.00 %	5			$1,575,293
C3010231	Vinyl Wall Covering	$0.97	S.F.	119,250	15	1997	2012	2028	86.67 %	0.00 %	13			$115,673
C3010232	Wall Tile	$2.63	S.F.	119,250	30	1997	2027	2030	50.00 %	0.00 %	15			$313,628
C3020411	Carpet	$7.30	S.F.	4,400	10	1997	2007	2028	130.00 %	153.30 %	13		$49,239.35	$32,120
C3020412	Terrazzo & Tile	$75.52	S.F.	7,200	50	1997	2047		64.00 %	0.00 %	32			$543,744
C3020413	Vinyl Flooring	$9.68	S.F.	78,600	20	1997	2017	2037	110.00 %	0.00 %	22			$760,848
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	5,200	50	1997	2047		64.00 %	0.00 %	32			$5,044
C3030	Ceiling Finishes	$20.97	S.F.	119,250	25	1997	2022		28.00 %	0.00 %	7			$2,500,673
D1010	Elevators and Lifts	$1.53	S.F.	119,250	35	1997	2032		48.57 %	0.00 %	17			$182,453
D2010	Plumbing Fixtures	$13.52	S.F.	119,250	35	1997	2032	2032	48.57 %	4.70 %	17		$75,791.90	$1,612,260
D2020	Domestic Water Distribution	$1.68	S.F.	119,250	25	1997	2022	2042	108.00 %	273.26 %	27		$547,445.07	$200,340
D2030	Sanitary Waste	$2.90	S.F.	119,250	25	1997	2022	2042	108.00 %	146.43 %	27		$506,407.80	$345,825
D2040	Rain Water Drainage	$2.32	S.F.	119,250	30	1997	2027		40.00 %	0.00 %	12			$276,660
D3020	Heat Generating Systems	$18.67	S.F.	119,250	35	1997	2032		48.57 %	10.64 %	17		$236,958.20	$2,226,398
D3030	Cooling Generating Systems	$24.48	S.F.	119,250	20	1997	2017	2037	110.00 %	21.22 %	22		$619,331.53	$2,919,240
D3040	Distribution Systems	$42.99	S.F.	119,250	25	1997	2022	2028	52.00 %	35.69 %	13		$1,829,913.69	$5,126,558
D3050	Terminal & Package Units	$11.60	S.F.	119,250	20	1997	2017	2025	50.00 %	0.00 %	10			$1,383,300
D3060	Controls & Instrumentation	$13.50	S.F.	119,250	20	1997	2017	2037	110.00 %	132.68 %	22		$2,135,934.71	$1,609,875
D4010	Sprinklers	$7.05	S.F.	119,250	35	1997	2032	2052	105.71 %	202.91 %	37		$1,705,924.49	$840,713
D4020	Standpipes	$1.01	S.F.	119,250	35			2052	105.71 %	0.00 %	37			$120,443
D5010	Electrical Service/Distribution	$9.70	S.F.	119,250	30	1997	2027		40.00 %	0.00 %	12			$1,156,725
D5020	Lighting and Branch Wiring	$34.68	S.F.	119,250	20	1997	2017	2037	110.00 %	26.76 %	22		$1,106,729.12	$4,135,590
D5030	Communications and Security	$12.99	S.F.	119,250	15	1997	2012	2032	113.33 %	39.54 %	17		$612,456.15	$1,549,058
D5090	Other Electrical Systems	$1.41	S.F.	119,250	30	1997	2027	2047	106.67 %	149.62 %	32		$251,578.07	$168,143
E1020	Institutional Equipment	$4.82	S.F.	119,250	35	1997	2032		48.57 %	0.00 %	17			$574,785
E1090	Other Equipment	$11.10	S.F.	119,250	35	1997	2032		48.57 %	0.00 %	17			$1,323,675
E2010	Fixed Furnishings	$2.13	S.F.	119,250	40	1997	2037		55.00 %	0.00 %	22			$254,003
								Total	**76.32 %**	**19.82 %**			**$11,869,774.89**	**$59,874,292**

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: Paint 75%
Glazed CMU 20%
Face brick 5%

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

Note: VCT 82%
Carpet 5%
Ceramic/ quarry tile 8%
Concrete 5%

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:	**$11,869,775**	**$0**	**$0**	**$0**	**$0**	**$2,008,816**	**$0**	**$3,616,990**	**$0**	**$0**	**$2,044,943**	**$19,540,524**
*** 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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2030 - Exterior Doors	$236,397	$0	$0	$0	$0	$0	$0	$233,927	$0	$0	$0	**$470,324**
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	$1,951,604	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,951,604**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

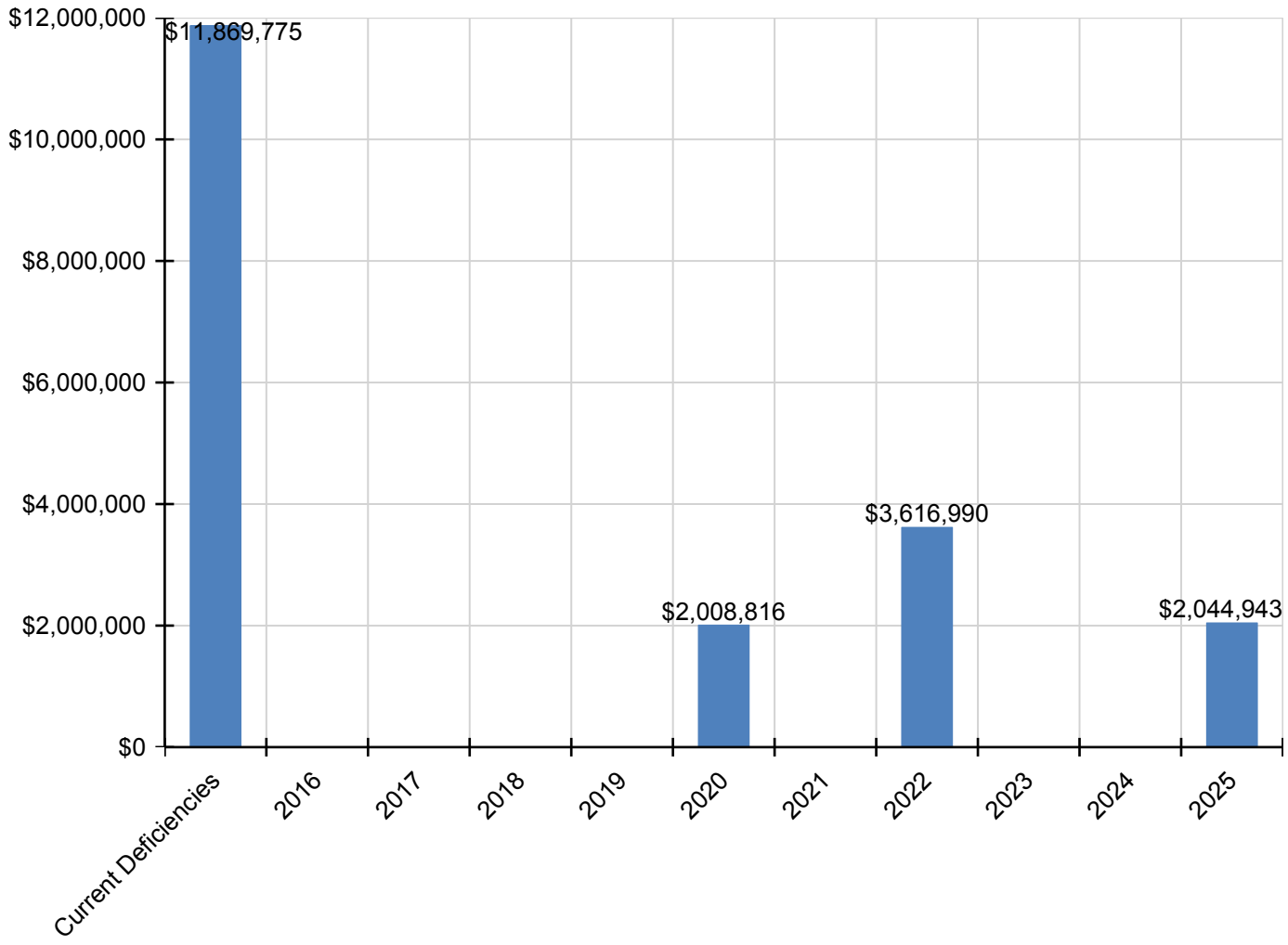
C1020 - Interior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1030 - Fittings	$4,064	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,064**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$2,008,816	$0	$0	$0	$0	$0	**$2,008,816**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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**
C3020411 - Carpet	$49,239	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$49,239**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$0	$0	$0	$0	$0	$0	$0	$3,383,063	$0	$0	$0	**$3,383,063**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$75,792	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$75,792**
D2020 - Domestic Water Distribution	$547,445	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$547,445**
D2030 - Sanitary Waste	$506,408	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$506,408**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$236,958	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$236,958**
D3030 - Cooling Generating Systems	$619,332	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$619,332**
D3040 - Distribution Systems	$1,829,914	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,829,914**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,044,943	**$2,044,943**
D3060 - Controls & Instrumentation	$2,135,935	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,135,935**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,705,924	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,705,924**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5020 - Lighting and Branch Wiring	$1,106,729	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,106,729**
D5030 - Communications and Security	$612,456	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$612,456**
D5090 - Other Electrical Systems	$251,578	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$251,578**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

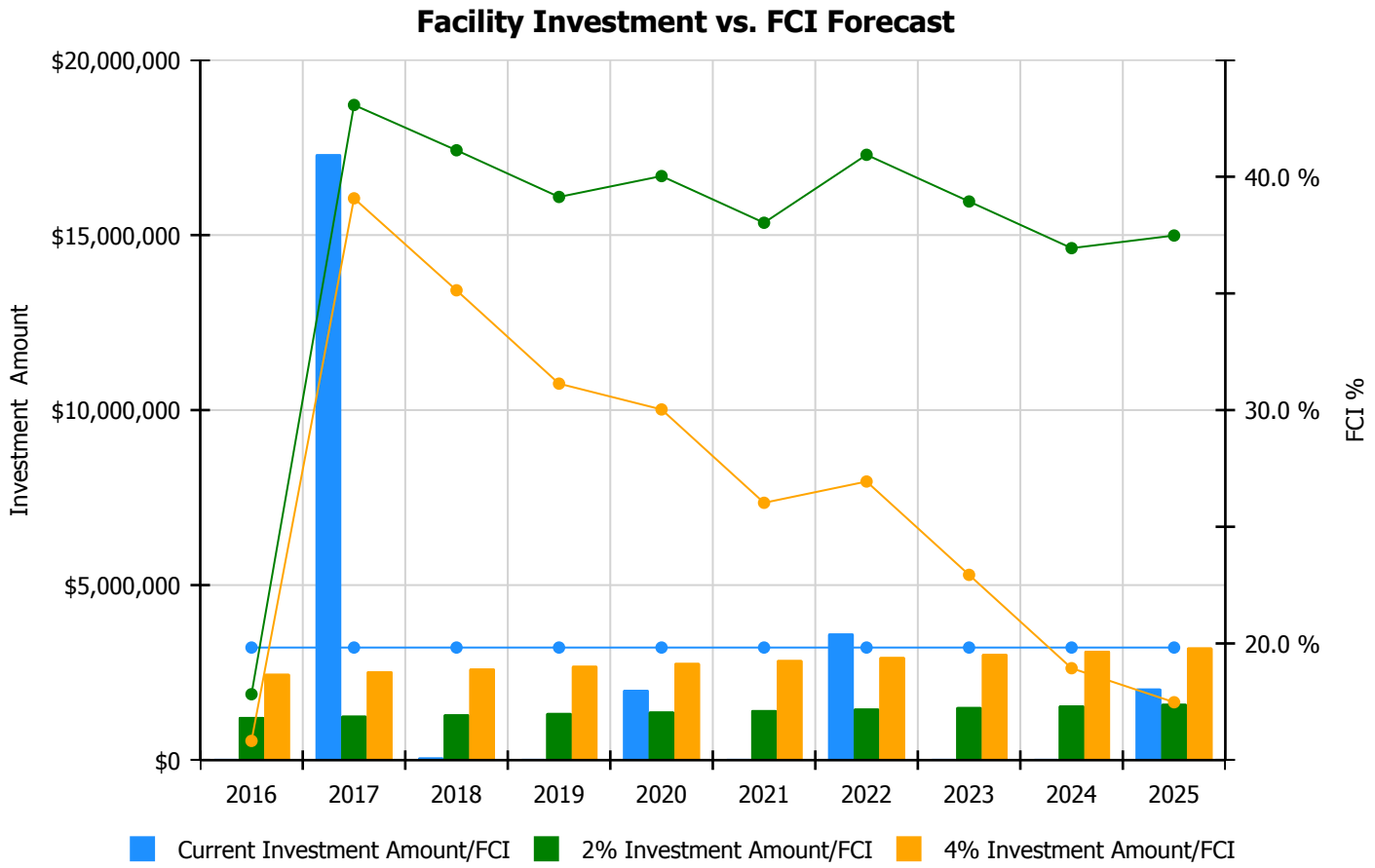
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

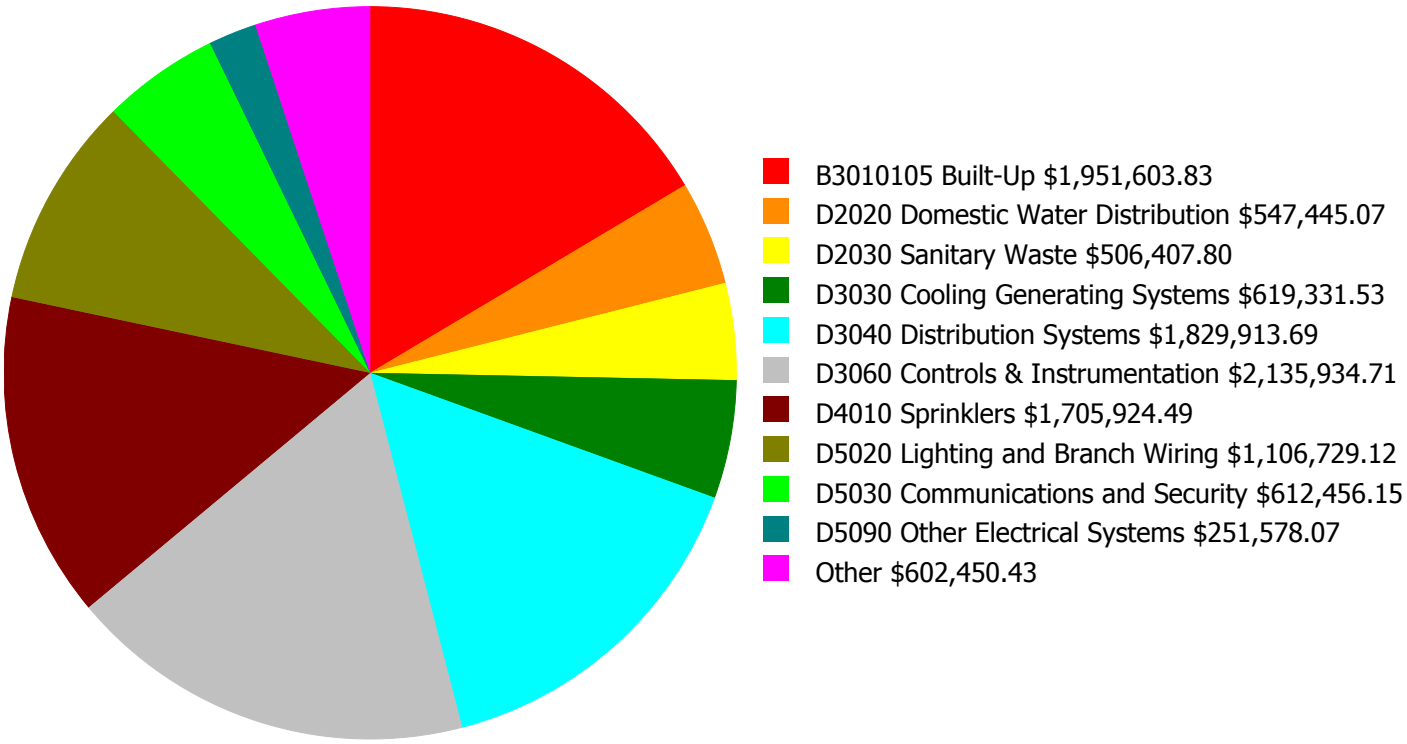
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 19.82%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$1,233,410.00	17.82 %	$2,466,821.00	15.82 %
2017	$17,309,037	$1,270,413.00	43.07 %	$2,540,825.00	39.07 %
2018	$38,608	$1,308,525.00	41.13 %	$2,617,050.00	35.13 %
2019	$0	$1,347,781.00	39.13 %	$2,695,562.00	31.13 %
2020	$2,008,816	$1,388,214.00	40.03 %	$2,776,429.00	30.03 %
2021	$0	$1,429,861.00	38.03 %	$2,859,721.00	26.03 %
2022	$3,616,990	$1,472,757.00	40.94 %	$2,945,513.00	26.94 %
2023	$0	$1,516,939.00	38.94 %	$3,033,878.00	22.94 %
2024	$0	$1,562,447.00	36.94 %	$3,124,895.00	18.94 %
2025	$2,044,943	$1,609,321.00	37.48 %	$3,218,642.00	17.48 %
Total:	**$25,018,394**	**$14,139,668.00**		**$28,279,336.00**	

Deficiency Summary by System

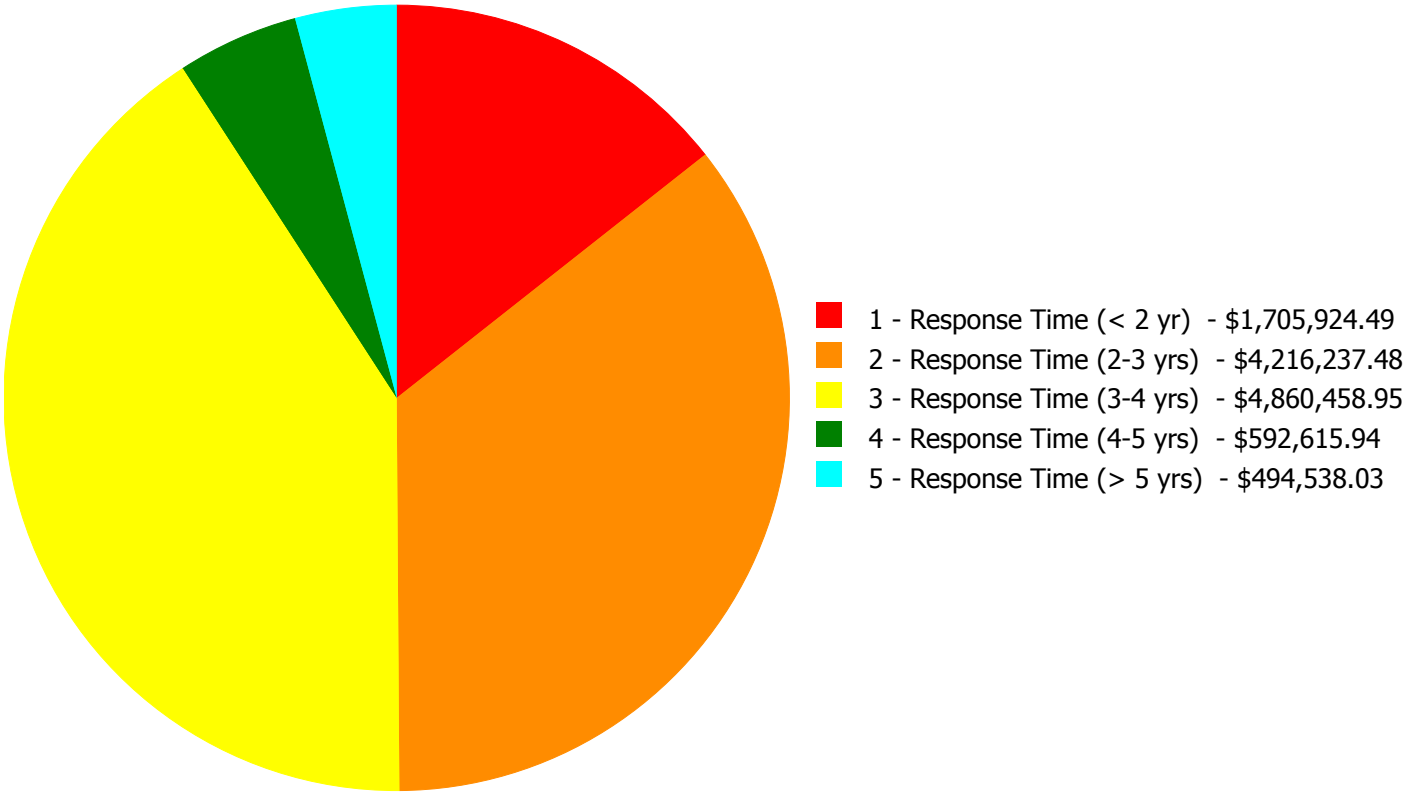
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $11,869,774.89

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: $11,869,774.89

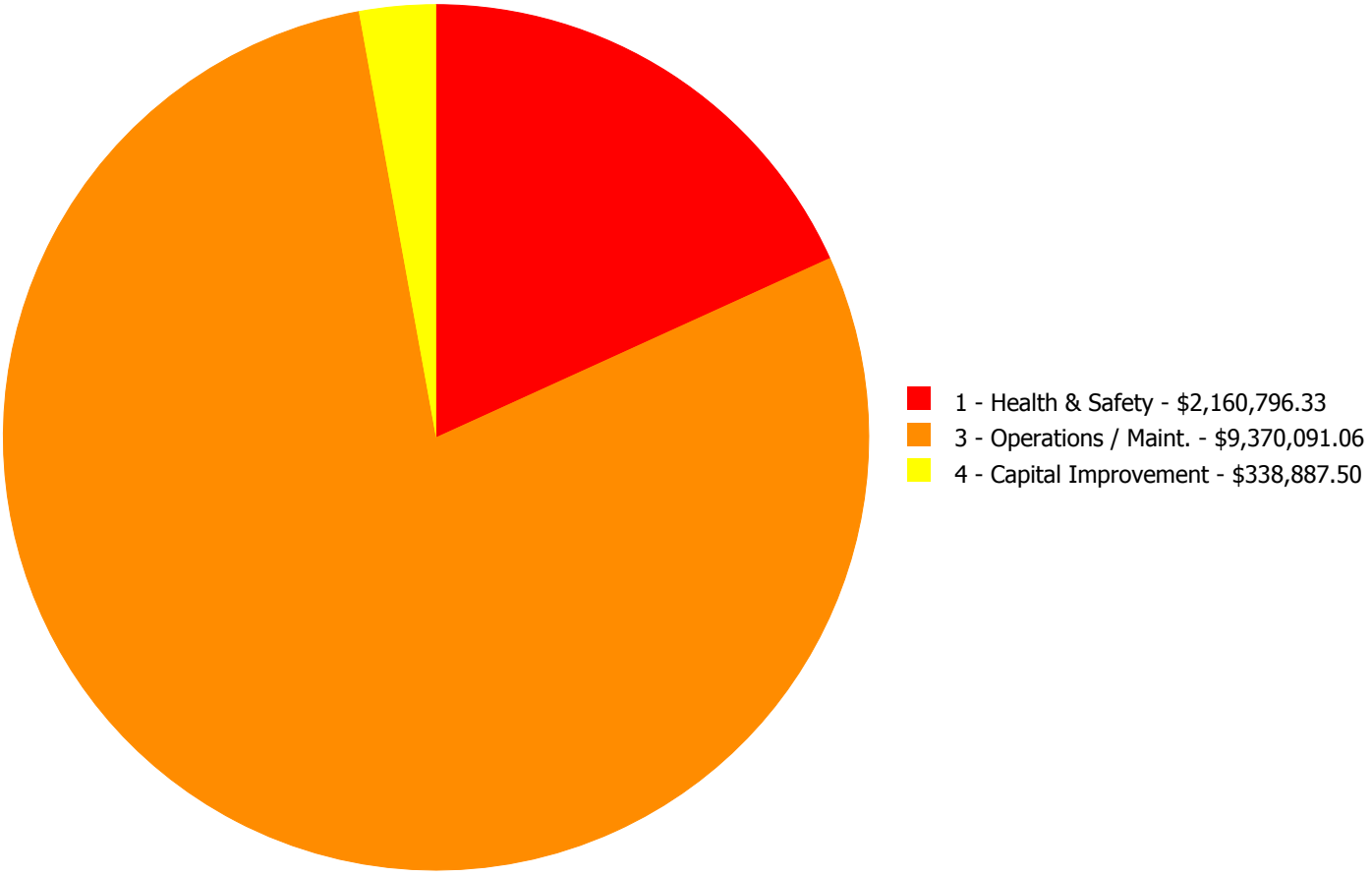
Deficiency By Priority Investment Table

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
B2030	Exterior Doors	$0.00	$0.00	$236,397.29	$0.00	$0.00	$236,397.29
B3010105	Built-Up	$0.00	$1,951,603.83	$0.00	$0.00	$0.00	$1,951,603.83
C1030	Fittings	$0.00	$0.00	$0.00	$4,063.69	$0.00	$4,063.69
C3020411	Carpet	$0.00	$0.00	$49,239.35	$0.00	$0.00	$49,239.35
D2010	Plumbing Fixtures	$0.00	$75,791.90	$0.00	$0.00	$0.00	$75,791.90
D2020	Domestic Water Distribution	$0.00	$52,907.04	$0.00	$0.00	$494,538.03	$547,445.07
D2030	Sanitary Waste	$0.00	$0.00	$506,407.80	$0.00	$0.00	$506,407.80
D3020	Heat Generating Systems	$0.00	$0.00	$236,958.20	$0.00	$0.00	$236,958.20
D3030	Cooling Generating Systems	$0.00	$0.00	$619,331.53	$0.00	$0.00	$619,331.53
D3040	Distribution Systems	$0.00	$0.00	$1,398,945.75	$430,967.94	$0.00	$1,829,913.69
D3060	Controls & Instrumentation	$0.00	$2,135,934.71	$0.00	$0.00	$0.00	$2,135,934.71
D4010	Sprinklers	$1,705,924.49	$0.00	$0.00	$0.00	$0.00	$1,705,924.49
D5020	Lighting and Branch Wiring	$0.00	$0.00	$1,106,729.12	$0.00	$0.00	$1,106,729.12
D5030	Communications and Security	$0.00	$0.00	$454,871.84	$157,584.31	$0.00	$612,456.15
D5090	Other Electrical Systems	$0.00	$0.00	$251,578.07	$0.00	$0.00	$251,578.07
	Total:	$1,705,924.49	$4,216,237.48	$4,860,458.95	$592,615.94	$494,538.03	$11,869,774.89

Deficiency Summary by Category

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



Budget Estimate Total: $11,869,774.89

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: D4010 - Sprinklers

Location: Throughout building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install a fire protection sprinkler system

Qty: 119,250.00

Unit of Measure: S.F.

Estimate: $1,705,924.49

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection throughout the property. A fire pump may be required depending on the available city water pressure.

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

System: B3010105 - Built-Up

Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 57,600.00

Unit of Measure: S.F.

Estimate: $1,951,603.83

Assessor Name: Craig Anding

Date Created: 01/12/2016

Notes: Install all new roofing system including insulation; tear-down existing roofing; install flashing, counter flashing and reglets

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 10.00

Unit of Measure: Ea.

Estimate: $75,791.90

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Replace ten (10) wall hung drinking fountains and integral refrigerated coolers in the corridors; many of these units were not working during the site visit.

System: D2020 - Domestic Water Distribution

Location: Basement mechanical room

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace duplex domestic booster pump set (5 HP)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $52,907.04

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Replace the duplex 7.5HP domestic water booster pumps, expansion tank, and isolation valves on incoming domestic water line with a new skid mounted pressure booster system.

System: D3060 - Controls & Instrumentation

Location: Throughout building

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (150KSF)

Qty: 119,250.00

Unit of Measure: S.F.

Estimate: $2,135,934.71

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Install a new control system for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.

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

System: B2030 - Exterior Doors

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 22.00

Unit of Measure: Ea.

Estimate: $200,361.06

Assessor Name: Craig Anding

Date Created: 01/12/2016

Notes: Replace all exterior doors

System: B2030 - Exterior Doors

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace overhead door - pick the closest type and size and add for the operator if required

Qty: 2.00

Unit of Measure: Ea.

Estimate: $36,036.23

Assessor Name: Craig Anding

Date Created: 01/12/2016

Notes: Replace overhead roll-up doors

System: C3020411 - Carpet

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 4,400.00

Unit of Measure: S.F.

Estimate: $49,239.35

Assessor Name: Craig Anding

Date Created: 01/12/2016

Notes: Replace carpet in library and office spaces

System: D2030 - Sanitary Waste

Location: Throughout building

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Inspect sanitary waste piping and replace damaged sections. (+100KSF)

Qty: 119,250.00

Unit of Measure: S.F.

Estimate: $506,407.80

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3020 - Heat Generating Systems

Location: Basement mechanical room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace pump, base-mounted, end suction HHW (5" size, 15 HP, to 1000 GPM)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $236,958.20

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Replace two (2) 15HP end-suction heating water supply pumps, P-1 and P-2, in the basement which are damaged from rust.

System: D3030 - Cooling Generating Systems

Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace chiller, air-cooled (200 tons)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $619,331.53

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Replace the existing nominal 190 ton roof mounted air cooled chiller with a unit of similar capacity.

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Perform testing to identify and replace damaged steam and condensate piping.

Qty: 119,250.00

Unit of Measure: S.F.

Estimate: $1,128,149.46

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Hire a qualified contractor to examine the chilled water, hot water and dual temperature distribution piping which is showing signs of rust damage, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems

Location: Roof

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Replace power roof ventilator (24" dia.)

Qty: 9.00

Unit of Measure: Ea.

Estimate: $270,796.29

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Replace nine (9) roof mounted power ventilators which are approaching the end of their service life.

System: D5020 - Lighting and Branch Wiring

Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 0.00

Unit of Measure: S.F.

Estimate: $767,841.62

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Install new lighting system for the entire building. The existing lighting is inadequate.

System: D5020 - Lighting and Branch Wiring

Location: throughout the building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace Wiring Devices (SF) - surface mounted conduit and boxes

Qty: 0.00

Unit of Measure: S.F.

Estimate: $338,887.50

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Install minimum two receptacles on each wall of the classrooms and other areas within the building using surface-mounted receptacles.

System: D5030 - Communications and Security

Location: throughout the building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

Estimate: $454,871.84

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Install new automated and addressable FA system to meet the life safety codes.

System: D5090 - Other Electrical Systems

Location: throughout the 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: $251,578.07

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Install new emergency exit signs emergency lights

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

System: C1030 - Fittings

Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 15.00

Unit of Measure: Ea.

Estimate: $4,063.69

Assessor Name: Craig Anding

Date Created: 01/12/2016

Notes: Replace damaged signage

System: D3040 - Distribution Systems

Location: Roof

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Replace utility set exhaust fan (5 HP)

Qty: 13.00

Unit of Measure: Ea.

Estimate: $430,967.94

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Replace thirteen (13) roof mounted exhaust fans which are approaching the end of their service life.

System: D5030 - Communications and Security

Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Clock System or Components

Qty: 1.00

Unit of Measure: Ea.

Estimate: $157,584.31

Assessor Name: Craig Anding

Date Created: 12/16/2015

Notes: Install new Clock System.
Note: A multiplier of 1.4 is used (instead of 1.0) to cover the cost of other related construction costs.

Priority 5 - Response Time (> 5 yrs):

System: D2020 - Domestic Water Distribution

Location: Throughout building

Distress: Maintenance Required

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace domestic water piping (150 KSF)

Qty: 119,250.00

Unit of Measure: S.F.

Estimate: $494,538.03

Assessor Name: Craig Anding

Date Created: 11/17/2015

Notes: Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for almost twenty years, and replace any damaged piping.

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
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 3000 lb, 2 floors, 100 FPM	1.00	Ea.	Interior					30	1997	2027	$73,815.00	$81,196.50
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 2000 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	Basement Mechanical Room	Weil McLain	88			35	1997	2032	$38,201.40	$84,043.08
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 2000 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	Basement Mechanical Room	Weil McLain	88			35	1997	2032	$38,201.40	$84,043.08
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, air cooled, insulated evaporator, 210 ton, includes standard controls	1.00	Ea.	Roof	Dunham-Bush	ACDX1858	7263501A96J		20	1997	2017	$179,025.00	$196,927.50
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	2.00	Ea.	Third Floor West Mechanical Room	Dunham Bush	VCS17MF7875710	78757-10A96K		25	1997	2022	$27,007.20	$59,415.84
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 11,500 CFM, with cooling/heating coil section, filters, mixing box	2.00	Ea.	First Floor South Mechanical Room	Dunham Bush	HLC17MF7875707	78757-07A96K		25	1997	2022	$27,007.20	$59,415.84
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 16,500 CFM, with cooling/heating coil section, filters, mixing box	1.00	Ea.	Basement Mechanical Room	Dunham Bush	VCS21MF7875706	78757-06A96J		25	1997	2022	$38,157.90	$41,973.69
D3040 Distribution Systems	Air-handling unit, built-up, horizontal or vertical, blow-thru fan, multizone, 22,000 CFM, with cooling/heating coil section, filters, mixing box	1.00	Ea.	Third Floor West Mechanical Room	Dunham Bush	VCS21MF7875709	78757-09A96K		25	1997	2022	$50,945.40	$56,039.94
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 15 H.P., to 1000 GPM, 5" size	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	1510	2012757		25	1997	2022	$21,432.00	$47,150.40
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 15 H.P., to 1000 GPM, 5" size	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	1510	2612753		25	1997	2022	$21,432.00	$47,150.40
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 25 H.P., to 1550 GPM, 6" size	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	1510	2011376		25	1997	2022	$26,334.00	$57,934.80
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 25 H.P., to 1550 GPM, 6" size	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	1510	C183214-01C41		25	1997	2022	$26,334.00	$57,934.80
D3040 Distribution Systems	Pump, circulating, cast iron, close coupled, end suction, bronze impeller, flanged joints, 10 H.P., to 350 GPM, 3" size	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	Series 80	2026529		25	1997	2022	$7,210.50	$15,863.10

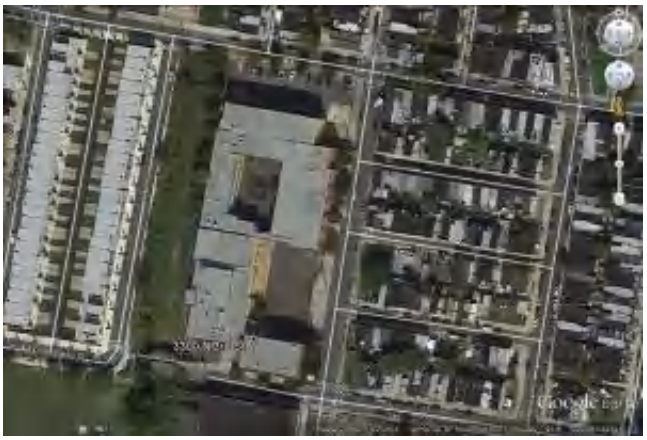
D3040 Distribution Systems	Pump, circulating, cast iron, close coupled, end suction, bronze impeller, flanged joints, 10 H.P., to 350 GPM, 3" size	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	Series 80	2026528		25	1997	2022	$7,210.50	$15,863.10
D3040 Distribution Systems	Pump, circulating, cast iron, close coupled, end suction, bronze impeller, flanged joints, 15 HP, to 1000 GPM, 5" size	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	Series 80	2025248		25	1997	2022	$7,780.50	$17,117.10
D3040 Distribution Systems	Pump, circulating, cast iron, close coupled, end suction, bronze impeller, flanged joints, 15 HP, to 1000 GPM, 5" size	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	Series 80	2025247		25	1997	2022	$7,780.50	$17,117.10
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, horizontal split case, rated @ 100' head, single stage, 1500 GPM, 50 H.P., 6" discharge, includes drip proof motor	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	1510	2011457		25	1997	2022	$22,800.00	$50,160.00
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, horizontal split case, rated @ 100' head, single stage, 1500 GPM, 50 H.P., 6" discharge, includes drip proof motor	2.00	Ea.	Basement Mechanical Room	Bell and Gossett	1510	C183213-01D41		25	1997	2022	$22,800.00	$50,160.00
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	1.00	Ea.	electrical room					30	1997	2027	$42,849.00	$47,133.90
D5010 Electrical Service/Distribution	Panelboards, 1 phase 3 wire, main lugs, 120/240 V, 225 amp, 24 circuits, NQOD, incl 20 A 1 pole plug-in breakers	10.00	Ea.	throughout the building					30	1997	2027	$2,608.20	$28,690.20
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 3000 amp, excl breakers	1.00	Ea.	electrical room					30	1997	2027	$10,743.30	$11,817.63
												Total:	**$1,127,148.00**

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):	92,000
Year Built:	1997
Last Renovation:	
Replacement Value:	$1,493,123
Repair Cost:	$235,674.96
Total FCI:	15.78 %
Total RSLI:	48.50 %



Description:

Attributes:

General Attributes:

Bldg ID:	S568001	Site ID:	S568001

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	51.62 %	5.87 %	$64,197.30
G40 - Site Electrical Utilities	40.00 %	42.85 %	$171,477.66
Totals:	**48.50 %**	**15.78 %**	**$235,674.96**

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	1997	2027		40.00 %	0.00 %	12			$0
G2020	Parking Lots	$7.65	S.F.	14,900	30	1997	2027		40.00 %	6.21 %	12		$7,083.52	$113,985
G2030	Pedestrian Paving	$11.52	S.F.	37,000	40	1997	2037		55.00 %	0.00 %	22			$426,240
G2040	Site Development	$4.36	S.F.	92,000	25	1997	2022		28.00 %	14.24 %	7		$57,113.78	$401,120
G2050	Landscaping & Irrigation	$3.78	S.F.	40,100	15	1997	2012	2032	113.33 %	0.00 %	17			$151,578
G4020	Site Lighting	$3.58	S.F.	92,000	30	1997	2027		40.00 %	31.92 %	12		$105,120.00	$329,360
G4030	Site Communications & Security	$0.77	S.F.	92,000	30	1997	2027		40.00 %	93.67 %	12		$66,357.66	$70,840
								Total	**48.50 %**	**15.78 %**			**$235,674.96**	**$1,493,123**

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.

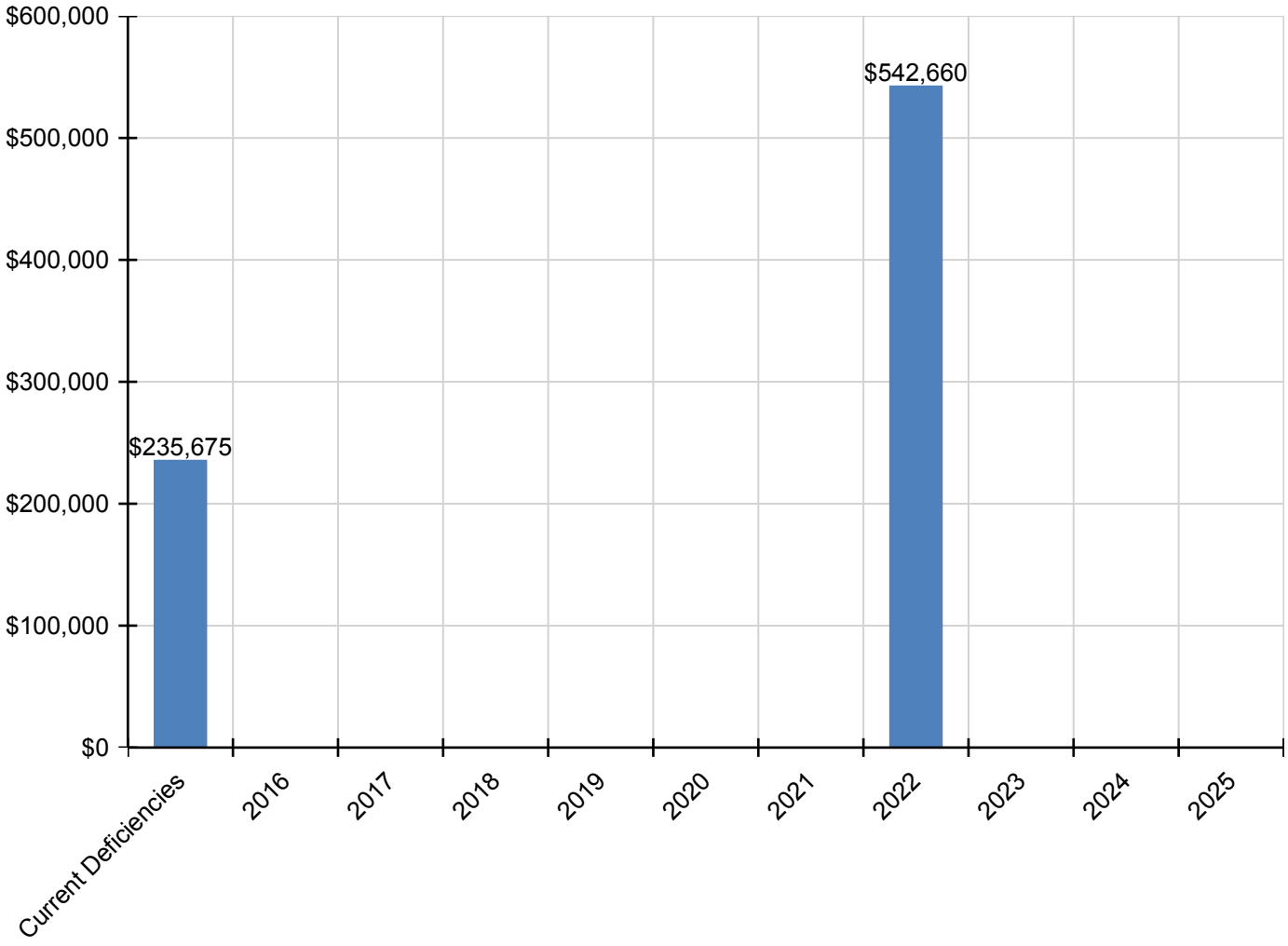
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$235,675**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$542,660**	**$0**	**$0**	**$0**	**$778,335**
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	$7,084	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$7,084**
G2030 - Pedestrian Paving	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2040 - Site Development	$57,114	$0	$0	$0	$0	$0	$0	$542,660	$0	$0	$0	**$599,773**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$105,120	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$105,120**
G4030 - Site Communications & Security	$66,358	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$66,358**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

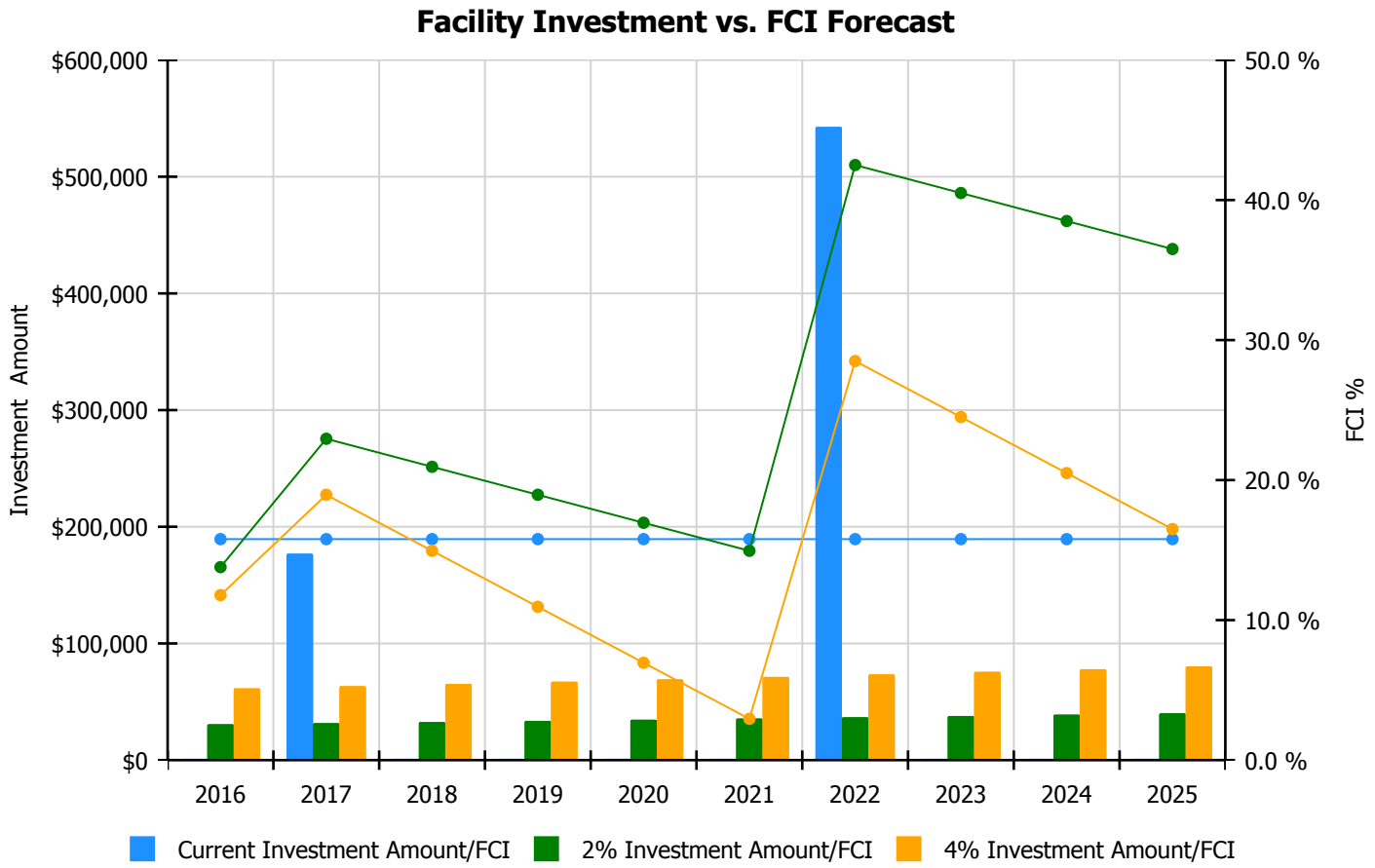
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

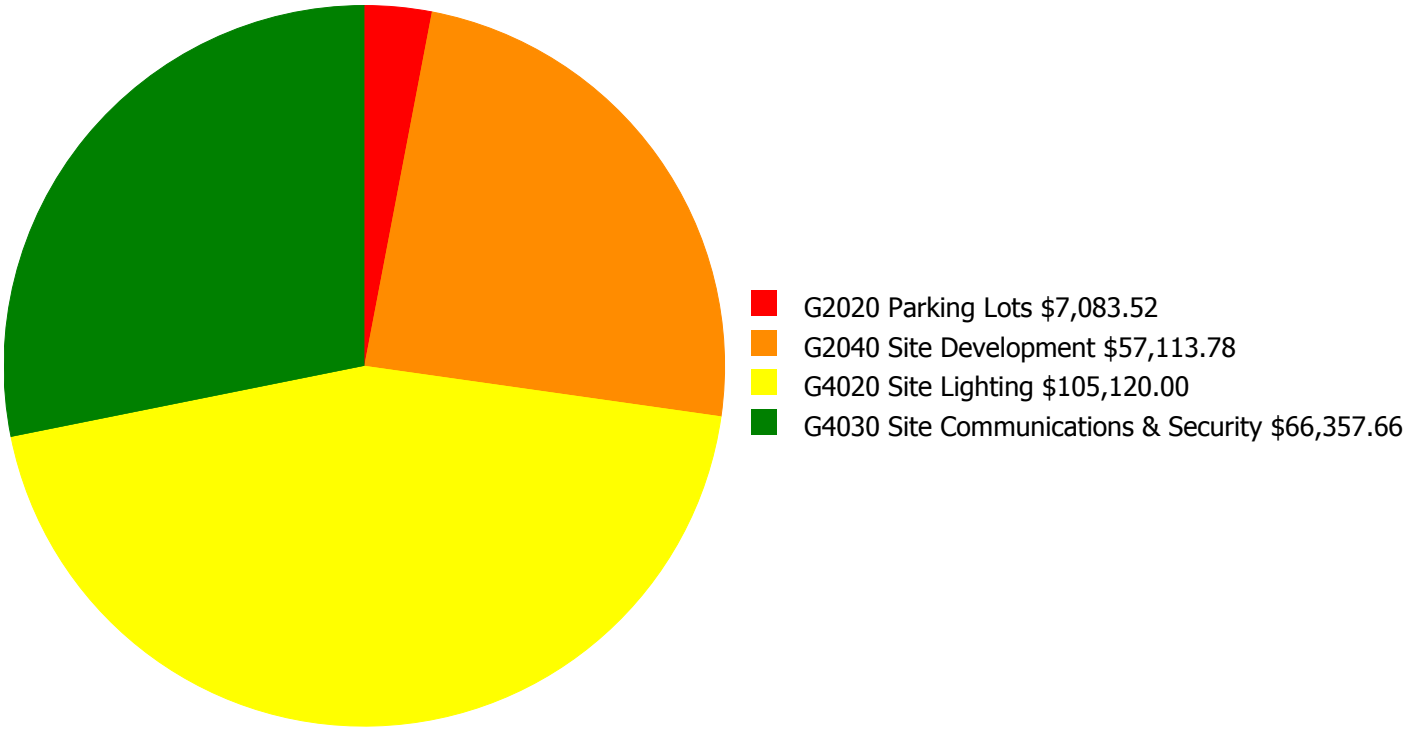
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 15.78%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$30,758.00	13.78 %	$61,517.00	11.78 %
2017	$176,890	$31,681.00	22.95 %	$63,362.00	18.95 %
2018	$0	$32,632.00	20.95 %	$65,263.00	14.95 %
2019	$0	$33,610.00	18.95 %	$67,221.00	10.95 %
2020	$0	$34,619.00	16.95 %	$69,238.00	6.95 %
2021	$0	$35,657.00	14.95 %	$71,315.00	2.95 %
2022	$542,660	$36,727.00	42.50 %	$73,454.00	28.50 %
2023	$0	$37,829.00	40.50 %	$75,658.00	24.50 %
2024	$0	$38,964.00	38.50 %	$77,927.00	20.50 %
2025	$0	$40,133.00	36.50 %	$80,265.00	16.50 %
Total:	**$719,550**	**$352,610.00**		**$705,220.00**	

Deficiency Summary by System

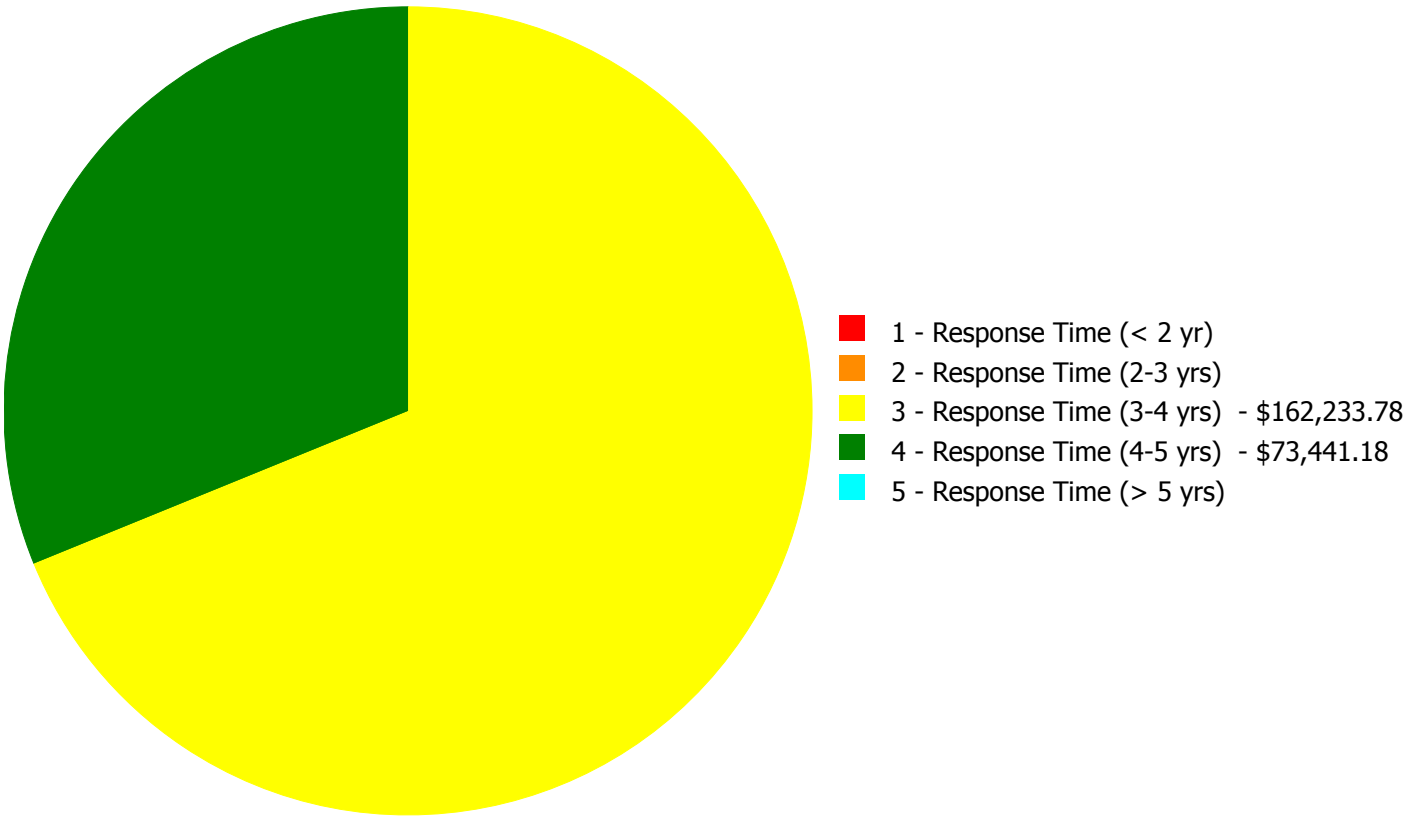
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $235,674.96

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: $235,674.96

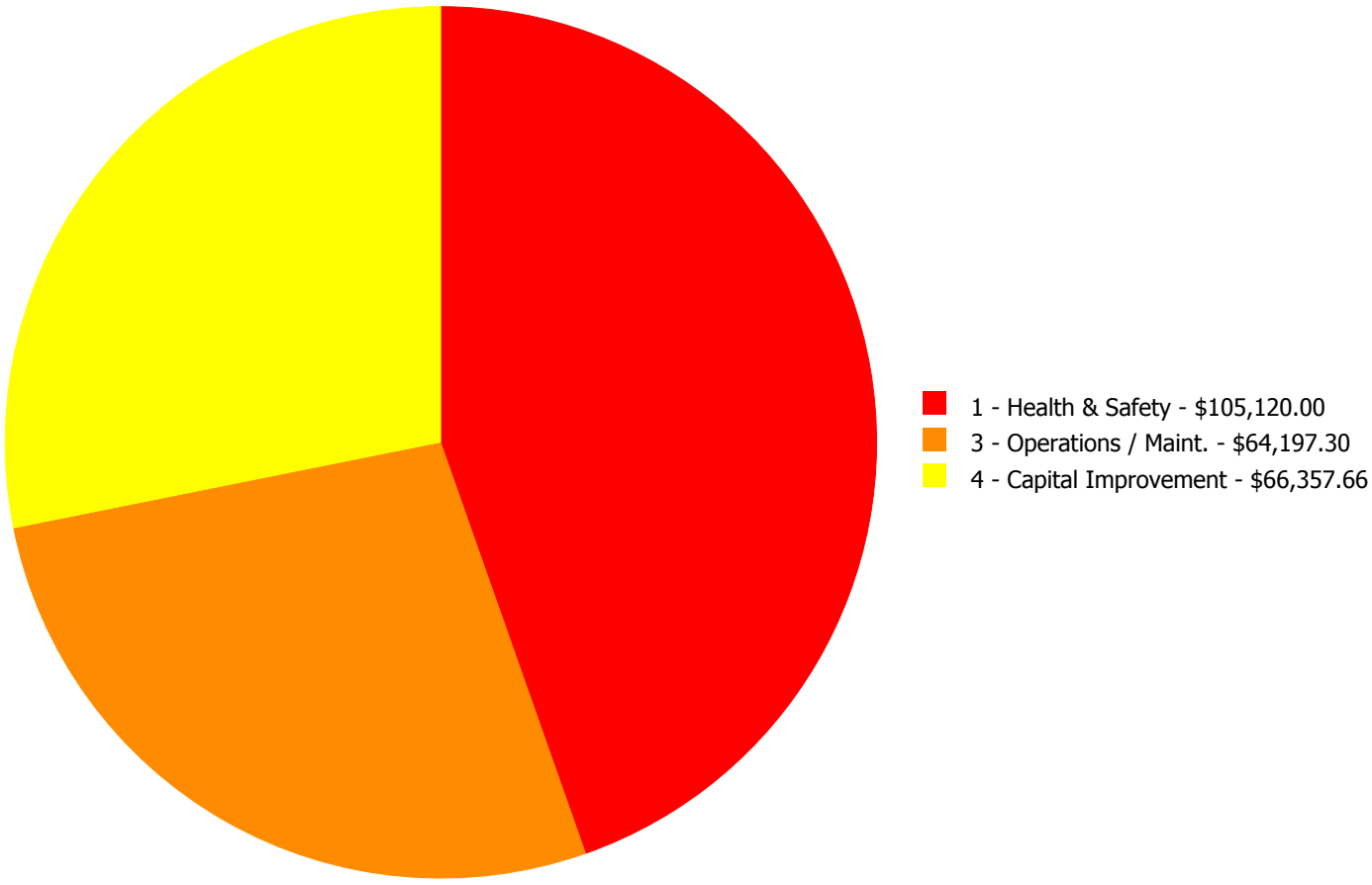
Deficiency By Priority Investment Table

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
G2020	Parking Lots	$0.00	$0.00	$0.00	$7,083.52	$0.00	$7,083.52
G2040	Site Development	$0.00	$0.00	$57,113.78	$0.00	$0.00	$57,113.78
G4020	Site Lighting	$0.00	$0.00	$105,120.00	$0.00	$0.00	$105,120.00
G4030	Site Communications & Security	$0.00	$0.00	$0.00	$66,357.66	$0.00	$66,357.66
	Total:	$0.00	$0.00	$162,233.78	$73,441.18	$0.00	$235,674.96

Deficiency Summary by Category

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



Budget Estimate Total: $235,674.96

Deficiency Details by Priority

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

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

System: G2040 - Site Development

Location: Grounds
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace chain link fence - 8' high
Qty: 510.00
Unit of Measure: L.F.
Estimate: $57,113.78
Assessor Name: Wlodek Pieczonka
Date Created: 01/12/2016

Notes: Replace chain link fence along west property line

System: G4020 - Site Lighting

Location: Grounds
Distress: Health Hazard / Risk
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Add Site Lighting - pole mounted - select the proper light and pole
Qty: 1.00
Unit of Measure: Ea.
Estimate: $105,120.00
Assessor Name: Wlodek Pieczonka
Date Created: 12/16/2015

Notes: Install additional pole-mounted lighting for the school grounds for the safety of the people.

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

System: G2020 - Parking Lots

Location: Grounds

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Stripe parking stalls, install parking bumpers, provide handicap symbol and handicap post mounted sign - insert proper quantities in estimate

Qty: 34.00

Unit of Measure: Ea.

Estimate: $7,083.52

Assessor Name: Wlodek Pieczonka

Date Created: 01/12/2016

Notes: Restripe parking lot

System: G4030 - Site Communications & Security

Location: Grounds

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Site Paging System

Qty: 0.00

Unit of Measure: Ea.

Estimate: $66,357.66

Assessor Name: Wlodek Pieczonka

Date Created: 12/16/2015

Notes: Install additional speakers for site paging on the building exterior walls.

Equipment Inventory

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

No data found for this asset

Glossary

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

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

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

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

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

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

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

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

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

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

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