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.

Washington, Martha School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	766 N. 44Th St.	Enrollment	408
	Philadelphia, Pa 19104	Grade Range	'00-08'
Phone/Fax	215-823-8203 / 215-823-8292	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Marthawashington	Turnaround Model	N/A

Building/System FCI Tiers

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

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**54.20%**	**$20,453,154**	**$37,738,937**
Building	56.54 %	$20,027,113	$35,421,473
Grounds	18.38 %	$426,041	$2,317,464

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.25 %	$711,522	$797,238
Exterior Walls (Shows condition of the structural condition of the exterior facade)	26.02 %	$684,870	$2,631,683
Windows (Shows functionality of exterior windows)	139.45 %	$1,790,757	$1,284,113
Exterior Doors (Shows condition of exterior doors)	46.99 %	$48,576	$103,385
Interior Doors (Classroom doors)	104.15 %	$260,643	$250,263
Interior Walls (Paint and Finishes)	80.55 %	$965,955	$1,199,266
Plumbing Fixtures	42.66 %	$411,250	$963,976
Boilers	02.46 %	$32,716	$1,331,171
Chillers/Cooling Towers	41.40 %	$722,673	$1,745,424
Radiators/Unit Ventilators/HVAC	78.26 %	$2,398,693	$3,065,187
Heating/Cooling Controls	158.48 %	$1,525,418	$962,550
Electrical Service and Distribution	100.61 %	$695,798	$691,610
Lighting	23.80 %	$588,433	$2,472,684
Communications and Security (Cameras, Pa System and Fire Alarm)	18.52 %	$171,486	$926,187

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

S142001;Washington, Martha

Final

Site Assessment Report

January 30, 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):	71,300
Year Built:	1930
Last Renovation:	
Replacement Value:	$37,738,937
Repair Cost:	$20,453,154.03
Total FCI:	54.20 %
Total RSLI:	59.01 %

Description:

Facility Assessment

December 2015

School District of Philadelphia

Martha Washington Elementary School

766 N. 4th Street

Philadelphia, PA 19104

71,300 SF / 815 Students / LN 02

The Martha Washington Elementary School building is located at 766 N. 44th Street in Philadelphia, PA. The 3 story, 71,300 square foot building was originally constructed in 1930. There have been no additions.

The school capacity is approximately 815 students with 2015/16 enrollment of 443 students serving grades K-8.

The school plan is irregularly shaped on a large lot. There is a 1955 four story addition. There is also an addition of unknown date on the north side the 1955 addition. The basement contains the gymnasium, library and mechanical rooms. The first floor houses kindergarten classrooms, music classrooms, the principals office and auditorium. The second floor houses classrooms and counselor office space. The third floor contains general classrooms and faculty room.

Mr. Richard Toohey FAC, provided input to the assessment team on current problems. Mr. Samir Hamilton Building Engineer accompanied us on our tour of the school and provided us with detailed information on the building systems and maintenance history. Mr. Samir Hamilton has been in the school for less than a month.

ARCHITECTURAL/STRUCTURAL SYSTEMS

The building bears on concrete foundations and basement walls that are not showing signs of significant settlement or damage. The basement floor is slab on grade. The main structure is cast-in place concrete. The roof structure is concrete. Exterior walls are typically brick on CMU with elements of integrally colored concrete structure exposed in the exterior walls. In general, masonry is in fair condition with some pointing and replacement of broken brick required. Windows are single pane wood framed double hung. Some of the windows are in poor condition with failed gaskets, discolored glazing and frames, and some separation in frames. Security grilles are installed on some of the windows at all of the lower levels. Exterior doors are typically partially glazed hollow metal, with sidelites and are in poor condition with weathered metal and hazed glazing. Roofing is low slope built-up with mineral cap sheet. Roofs appear to be in generally serviceable condition, though they are at or near the end of their expected service life. There is some considerable loss of granules on the main roof, and minor bubbling in the cap sheet. Perimeter flashing is modified bitumen torch applied product. It appears to be a well adhered application but is reaching the end of its expected life and is showing its age and some damage. Some breaks in the membrane were noted. Drainage is via interior roof drains with no overflow drains or scuppers. Roof access is via fixed ladder. The building is not accessible per ADA requirements.

Partition walls are typically framed with wainscoat and some are CMU. Some classrooms have wood faced folding partitions in poor condition. Interior classroom and office doors are generally original painted solid core wood with header and slot lights in wood frames. Doors swing in the direction of exit, except at restrooms, and are not typically recessed so as to not decrease exit width in corridors. Doors leading to exit stairways are glazed hollow metal doors and frames without panic hardware in functional condition. Doors do not have ADA hardware and are overall in fair condition. The doors swing into the hallways and should be recessed for safety.

Fittings include: toilet accessories in poor condition; toilet partitions are a mixture of baked enamel and plastic in fair to poor condition; obsolete chalk boards; tack boards; lockers in vandalized condition in locker rooms; locker room benches; and interior signage is typically mounted on door surfaces and is inadequate.

Stair construction is concrete. Treads and landings have raised disk resilient floor covering in exit stairwells and quarry tile at the main entry. Handrails and guardrails at exit stairs are aluminum tubular steel. Handrails do not meet modern codes for configuration with no extensions at landings.

Interior wall finishes are primarily paint in fair to good condition with some wainscoting in the corridors that is in poor condition. Flooring is mostly concrete in the hallways and vinyl flooring in the classrooms. Toilet rooms have mostly concrete flooring in fair to poor condition. Some areas of ceilings are stained, presumably from roof and other leaks. Classrooms have 2x4 suspended acoustical panels in aluminum grid in fair to poor condition with many stained areas. The entrance and auditorium have plaster ceilings in good condition. The restrooms and locker rooms have painted floors and drywall ceilings in generally poor condition.

Institutional equipment includes: library shelving and related equipment in fair to good condition; fixed backboards and climbing ropes in the gym; and stage lighting that is obsolete.

Furnishings include fixed casework in classrooms, generally in fair to poor condition. Obsolete auditorium seating is wood laminate seating. Blinds at exterior windows are either missing or in poor condition.

MECHANICAL SYSTEMS

Toilet room plumbing fixtures are a mixture of various ages and styles, including some original fixtures still in service and also modern low flow pieces as well. The basement boys' toilet still has floor level urinals. Fixtures are cracked, clogged, stained, out of service, etc. The district should budget to replace 50% of toilet room fixtures. The cafeteria kitchen area has a service sink for food service personnel use. There is an original all-in-one kitchenette with sink, range, and icebox in the 1955 addition. It has surpassed its useful

life and the stainless steel is rusting. It should be removed. Classrooms in the 1955 addition had cabinet mounted stainless steel sinks, but many have been removed. Water supply pipes were leaking where one had been removed. The third floor science room has 3 lab sinks and 1 has a clogged drain. (This should be repaired with the sanitary drain pipe inspection.) Service sinks are enameled cast iron with stainless rims and vacuum breaker faucets. There is a laundry sink and supply and drain connections for a clothes washer in the basement. The washer and dryer installed there appear to be 1970s vintage. Both basement toilet rooms had showers in the past but the plumbing has been removed. Drinking fountains are cast iron and porcelain wall mounted fixtures and should be replaced with accessible fountains. The IMC has a pair of accessible fountains.

Domestic water service enters the building in the boiler room through a 4 inch line with a compound water meter, strainer, and back flow preventer. The bypass line for the water meter also bypasses the backflow preventer and this must be eliminated. There is a backflow preventer for the boiler make up water connection. There are two Paloma model PH-24M-DN tankless water heaters in the boiler room installed in 2006. They are equipped with Taco model 007-SF5 circulation pumps. The right heater is inoperative and should be replaced. The hot water piping has a recirculation pump for the building. The addition has an electric Bradford White model MI30R5DS13 water heater with 30 gallon tank manufactured in 1995. It has exceeded its service life by 10 years and should be replaced.

Sanitary drain pipes are a mix of hub and spigot cast iron and threaded galvanized steel. Numerous fixtures have drainage problems. During rains drains back up. Sanitary drain pipes should be replaced for these reasons. The building does not have a sewage ejector.

Rain water drain pipes are threaded galvanized steel. Joints are rusty and surfaces are corroding. Roof drains are cast iron and some strainers are broken. Rain water causes the building to flood; the sewer system backs up into fixtures on lower levels during heavy rains. There is a ground water sump (in the boiler room beside the feedwater tank) with two end suction pumps as replacements for the original vertical turbine pumps. The entire rain water drain system should be replaced and the connection to the city sewer cleaned as well.

The original building was heated and ventilated by a basement air handler which has been replaced recently. The 1955 addition has unit ventilators, and the IMC addition has a rooftop combination unit with air conditioning.

Steam is generated by 2 Smith model 4500A-S/W-15 cast iron section boilers installed in 2004 with 3,893 MBH (116 HP) capacity. Boilers are equipped with Power Flame model LNIC4-G-30 burners manufactured in 2003 burning natural gas only. Boiler #2 leaks from the steam drum nipples and should be repaired. Gas service enters the old basement coal storage room through a 6 inch line from Aspen street. There is no gas booster. Condensate collects in a sump in the boiler room. There are two transfer pumps to send condensate to the feedwater tank. The sump is very rusty and the pump motor control float is bad. The feedwater tank has a pump for each boiler and a third spare pump. Each boiler has its own feedwater supply line. The make-up water control for the feed tank is also bad. These should be repaired. There is a water softener for the make-up water and a chemical injection system for the steam system.

Cooling is only provided for the IMC addition via a Johnson Control brand combination rooftop unit with approximately 25 ton capacity. Access to the roof top was not available during the inspection so age, capacity, and condition are estimated. The unit was probably installed in the past 10 years. A chiller system for the rest of the building should be added with 150 ton capacity.

The building was originally heated and ventilated by a basement air handler which was replaced in 2003 with an all new unit including fresh air intake louvers, disposable air filters, finned tube steam heating coils, and a 30 HP fan. The steam coils were operating at the time of the inspection and the interior of the unit was incredibly hot, but the fan was not running and there were cleaning supplies stacked in front of the filter section partially blocking the air flow. Consequently, the only heat for the original part of the building comes from radiators and convectors. The AHU supplies the building's original ductwork. The metal portions of the ductwork in the basement should be insulated when air condition is added to the building. The building engineer did not say why the AHU was not being used. The 1955 addition has unit ventilators and they are original and in bad condition and lack cooling coils. They should be replaced. The IMC addition is heated, cooled, and ventilated by a rooftop combination unit. It works well and will not need replacement for at least 5 years. Classroom exhaust air in the original building is ducted individually up to the attic plenum and out roof top gravity vents. In the addition classroom exhaust air transfers to the corridors and up a central duct chase to roof exhaust. Toilet rooms have exhaust fans located in duct chases, but many are not sufficient to remove odors. These should be replaced with roof top fans at the terminations of toilet exhaust ducts. The steam and condensate pipes are steel and in very poor condition. There were steam leaks and condensate leaks in multiple locations. There is a condensate collection tank at the north east corner of the basement and it was venting steam badly. The entire steam and condensate system should be replaced due to multiple failings and the steam traps should be surveyed and repaired.

The original building is currently steam heated with a variety of ages and styles of radiators and convectors. There are broken radiator sections discarded in the auditorium stage wings. There are several one pipe radiators still installed in the building even

though the steam system has been converted to a two pipe system. These radiators have thermostatic control valves on their steam and condensate connections, and that will never work in a one pipe system. One pipe radiators should be converted to two pipe when replaced by convection units. Finned tube convection units date to the construction of the 1955 addition and many of them have badly bent fins. All the radiators and convectors should be replaced. The IMC has electric convectors in good condition. There is a 2 ton ductless split system air condition for the computer network equipment room, and window unit air conditioners are installed for the computer classroom, offices, and others.

There is an air compressor in the basement with refrigerated filter dryer. The IMC addition has multiple electronic thermostats for its units. Many radiators have manually adjustable thermostatic steam control valves, some places installed on one pipe units where they are useless or in place of air vents. Angle globe valves are installed as well on convectors and radiators. Unit vents have pneumatic controls and pneumatic thermostats are installed in the 1955 addition. Overall the control system is obsolete and nonfuctional. Even the IMC faculty complained that it was too hot in the winter and too cold in the summer. The multiple control systems should be replaced with a single DDC for all equipment.

The building does not have sprinklers or stand pipes. A fire protection sprinkler system should be installed with fire pump if needed.

ELECTRICAL SYSTEMS

Most probably an underground lateral service from a pole mounted transformer on N. 44th Street serves this school. The electrical equipment is located in the basement. The basement houses the utility main disconnect switch, utility metering PECO 01019252247 and 600A 120/240V distribution section. At the basement there are several disconnect switches indicating that electrical loads have been removed/relocated from the 600A, 120/240V original distribution section, a phase converter is used to serve recently installed mechanical loads. The existing service has no extra capacity for expansion or new Heating, Ventilation, Air Conditioning (HVAC) system. The electrical service needs to be upgraded. The new service will be 277/480V, 3 phase power 1000A and will be located in the vicinity of the existing electrical service. The new electrical service would feed a 480V Motor Control Center (MCC) and HVAC (Heating, Ventilation and Air Conditioning) equipment, and a 480V 3 phase to 120/208V 3 phase, 300KVA step-down transformer to feed receptacles, lighting and other smaller loads.

There are 120/240V panel-boards in each floor for lighting and receptacles, most of panelboards have already exceeded their useful service life. Since the electrical service is going to be upgraded and the voltage system will change. Replace existing panelboards.

The number of receptacles in 60% of the classrooms are inadequate. Teachers use extension cords. The teacher's whiteboard wall and the opposite of it need to be provided with double compartment surface raceways, the other two walls with minimum two duplex outlets each, when feasible.

Most of the classrooms, first and second floor corridors are illuminated with 2'x4' recessed mounted, fluorescent fixtures, the basement corridor, gymnasium and the stairways are illuminated with surface mounted fluorescent fixtures, the auditorium is illuminated with pendant, up/down light, white acrylic lens, architectural lighting fixture, mechanical rooms are illuminated with industrial/strip fluorescent fixtures. Fluorescent fixtures in the corridors and stairways have been retrofitted with T-8 fluorescent lamps all other areas the fluorescent fixtures are with T-12 lamps. T-12 lamps are becoming more expensive, difficult to find and consume more energy. Therefore replace fluorescent fixtures with T-12 lamps with fluorescent fixtures with T-8 lamps.

The Fire Alarm system is manufactured by SIEMENS. The Fire alarm system consists of audio/visual devices in public areas and corridors and smoke detectors in the corridors. Fire alarm system was installed in 2009 and is expecting to provide 6 more years of useful service life. The present Fire Alarm system does not provide audio/visual devices in the classrooms. Add audio/visual devices in the classrooms. Fire alarm system is tested every day in the morning.

The present telephone system is adequate. During the assessment, randomly, we verified that each wall mounted handset is provided with dial tone.

An independent and separate PA system does not exist, or is not working. School uses the telephone systems for public announcement. System is working adequately for most part.

The present clocks and control panel are manufactured by National. Clock system is old and clocks do not work, most of the classrooms are provided with stand-alone clocks. Replace clock system with wireless, synchronized, battery operated system.

There is not television system.

The security system consists of (3) surveillance CCTV cameras at the basement, (6) surveillance CCTV cameras at the first floor, no

surveillance CCTV cameras in the second floor and (2) surveillance CCTV cameras at the third floor. To have the complete coverage of the interior of the school building additional surveillance CCTV cameras are required.

The emergency power system consists of a gas powered generator, manufactured by Generac, rated 15KW, 120/240V. The present emergency power system serves the corridor, exit signs, stair ways, gymnasium, auditorium, battery charger and fire alarm system. The gas powered generator was installed in 2009 and is expected to provide 20 more years of useful service life. Present emergency system does not have the capacity to carry future emergency loads. Provide new outdoor, diesel powered generator

During the assessment, we did not have access to the IT room. School district standard is to provide adequate UPS in the IT room.

The emergency lighting is obtained with dedicated fixtures connected to the emergency generator. Exit signs are located at each exit door and corridors and are connected to the school emergency system.

The lightning protection is obtained with air terminals at the school chimney. A study should be conducted to determine if the existing lightning system provide the proper protection to the school building.

The stage theatrical lighting is composed of one row of upstage floodlight fixtures. Theatrical lighting fixtures are controlled by a local panelboard. Modern school auditorium requires front, upstage, high side, back, theatrical lighting and to create different scenes theatrical lighting fixtures are controlled by a dimming system. Provide theatrical lighting and dimming control system.

The sound system is by Dukane Sound System. The Sound system rack is composed of a radio, cassette player and CD player and is approximately 20 years old. System has already exceeded its useful service life. Most probably the stage sound system is provided by a portable system. Provide a permanent installed modern sound system.

There are outdoor wall mounted lighting fixtures illuminating the playground area. The façades facing the streets are illuminated from the public street lights. For a safer environment additional lighting fixtures are required.

There are two outdoor surveillance CCTV cameras. Add more outdoor surveillance CCTV cameras to provide a complete coverage of the building perimeter.

Facing the playground area there are two loud speakers. No additional outdoor loud speakers are required.

GROUNDS SYSTEMS

Pedestrian paving is asphalt at playgrounds fair to poor condition with potholes, ponding, and alligatoring. The play ground is at grade with the first floor. The parking lot is in fair to poor condition. City sidewalks surrounding the site are in fair condition. Concrete steps have damaged nosings and improper or missing handrails. There is no accessible ramp to the main entrance.

Steel picket fence is located at the perimeter of the site is in reasonably good condition. Other site features include bollards, bicycle racks and a flagpole. Site signage is inadequate.

Landscaping consists of: two landscaped areas that are fairly intricate.

RECOMMENDATIONS:

- Repair exterior walls – re-caulk control joints, repair broken brick and repoint mortar joints. Based on about 20% of the area.
- Add an interior elevator for ADA access
- Replace failing ladder access
- Replace exterior windows, some windows are more in need of replacement than others. This work could be spread out over a few years.
- Replace exterior doors
- Replace built-up roofing - the minerals are worn off the cap sheet. Repair or replace flashing where it connects to masonry parapet
- Remove and replace the failing steel lintels in brick wall construction above the windows.
- Repair the rebar and epoxy grout exposed rebar on the underside of floors and floor beams
- Reconfigure toilet rooms on each floor for accessibility; provide new toilet partitions and toilet accessories including grab bars.
- Provide unisex accessible toilets on each floor for faculty/staff and in the nurse office (5) total.
- Repair or replace floor construction that is failing and is currently being propped up
- Replace window coverings

- Replace interior doors - reconfigure where possible to prevent doors from swinging into hallway
- Replace interior signage
- Replace handrails in exit stairwells and at the main entry
- Repaint interior walls
- Replace acoustical tile ceilings.
- Repaint ceilings
- Replace wood flooring
- Replace VCT flooring
- Replace auditorium seating
- Replace/install window coverings

MECHANICAL

- Replace lavatories due to age, 20
- Replace water closets due to age, 26
- Replace urinals due to age, 12
- Replace drinking fountains with accessible units, 5 pairs
- Replace tankless water heater in boiler room due to failure
- Replace electric water heater in addition due to age, 30 gal.
- Replace domestic water distribution pipe due to age including replumbing water meter bypass line to not bypass backflow preventer, 71,000 s.f.
- Replace sanitary drain pipe due to age and flooding, 71,000 s.f.
- Replace rain water drain piping, 71,000 s.f.
- Repair steam leak on boiler steam drum
- Repair condensate pump float switch and feed tank make-up water controller
- Install chiller system for building (except IMC) with 150 ton capacity, 45,000 s.f.
- Replace steam and condensate pipe due to leaks, 71,000 s.f.
- Survey and repair steam traps due to excess steam passing, 71,000 s.f.
- Insulate metal ductwork in basement when air conditioning is added to building, 7,500 s.f.
- Replace classroom unit ventilators, 15
- Replace radiators and convectors due to age and damage, 800 l.f.
- Replace toilet room exhaust fans, 5
- Replace all controls with DDC, 71,000 s.f.
- Install fire protection sprinkler system with fire pump if needed

ELECTRICAL

- Provide a new electrical service 277/480V, 3 phase power, 1000 Amperes and 300KVA step-down transformer.
- Replace the entire distribution system with new panels and new wiring/conduits. Approximate (13) 208/120V panel boards.
- Provide (2)25FT of surface raceways with receptacles spaced 24” on center/classroom and 4 wall mount receptacles/classroom. Approximate 288 receptacles.
- Replace fluorescent fixtures with T-12 lamps with fluorescent fixtures with T-8 lamps. Approximate 560 fixtures.
- Add fire alarm audio/visual devices in the classrooms. Approximate 40.
- Replace clock system with wireless, synchronized, battery operated, clock system. Approximate 50 clocks.
- Provide indoor surveillance CCTV cameras for complete coverage of the school building interior. Approximate 15
- Provide 70KW, outdoor, diesel powered generator.
- Prepare a study to determine if the air terminals mounted on the chimney provide the proper protection to the school building.
- Provide theatrical lighting and dimming control system.
- Provide a permanent installed modern sound system.
- Provide outdoor wall mounted lighting fixtures for a safer environment. Approximate 5
- Provide outdoor surveillance CCTV cameras to the building exterior for full coverage of the perimeter. Approximate 6 CCTV cameras.

GROUNDS

- Resurface playground
- Resurface parking lot
- Replace damaged and failing stairway
- Install handicap ramp at entrance from street level.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S142001		

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.

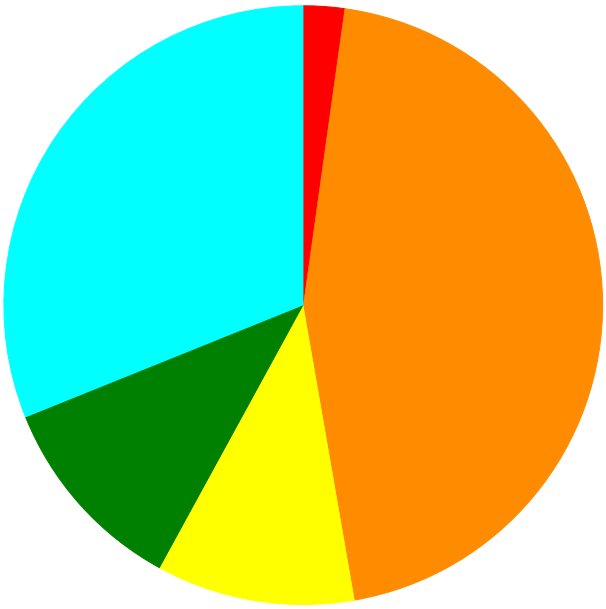
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	15.00 %	7.76 %	$144,532.46
A20 - Basement Construction	15.00 %	0.00 %	$0.00
B10 - Superstructure	15.00 %	12.13 %	$769,830.19
B20 - Exterior Enclosure	46.15 %	62.80 %	$2,524,203.23
B30 - Roofing	110.00 %	89.25 %	$711,522.23
C10 - Interior Construction	30.42 %	132.22 %	$2,313,475.96
C20 - Stairs	15.00 %	229.60 %	$230,820.14
C30 - Interior Finishes	109.78 %	82.03 %	$2,762,509.01
D10 - Conveying	105.71 %	264.09 %	$670,322.07
D20 - Plumbing	93.09 %	100.45 %	$1,462,558.16
D30 - HVAC	71.10 %	59.00 %	$4,679,500.09
D40 - Fire Protection	105.71 %	176.74 %	$1,015,685.26
D50 - Electrical	96.16 %	38.73 %	$1,623,102.57
E10 - Equipment	61.89 %	25.87 %	$293,594.70
E20 - Furnishings	105.00 %	311.22 %	$825,457.33
G20 - Site Improvements	40.87 %	16.19 %	$289,671.10
G40 - Site Electrical Utilities	46.31 %	25.80 %	$136,369.53
Totals:	**59.01 %**	**54.20 %**	**$20,453,154.03**

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)
B142001;Washington, Martha	71,300	56.54	$452,621.63	$9,213,376.31	$1,789,051.06	$2,210,393.11	$6,361,671.29
G142001;Grounds	118,800	18.38	$0.00	$0.00	$400,297.57	$25,743.06	$0.00
Total:		**54.20**	**$452,621.63**	**$9,213,376.31**	**$2,189,348.63**	**$2,236,136.17**	**$6,361,671.29**

Deficiencies By Priority



- 1 - Response Time (< 2 yr) - $452,621.63
- 2 - Response Time (2-3 yrs) - $9,213,376.31
- 3 - Response Time (3-4 yrs) - $2,189,348.63
- 4 - Response Time (4-5 yrs) - $2,236,136.17
- 5 - Response Time (> 5 yrs) - $6,361,671.29

Budget Estimate Total: $20,453,154.03

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):	71,300
Year Built:	1930
Last Renovation:	
Replacement Value:	$35,421,473
Repair Cost:	$20,027,113.40
Total FCI:	56.54 %
Total RSLI:	60.12 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B142001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S142001		

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	15.00 %	7.76 %	$144,532.46
A20 - Basement Construction	15.00 %	0.00 %	$0.00
B10 - Superstructure	15.00 %	12.13 %	$769,830.19
B20 - Exterior Enclosure	46.15 %	62.80 %	$2,524,203.23
B30 - Roofing	110.00 %	89.25 %	$711,522.23
C10 - Interior Construction	30.42 %	132.22 %	$2,313,475.96
C20 - Stairs	15.00 %	229.60 %	$230,820.14
C30 - Interior Finishes	109.78 %	82.03 %	$2,762,509.01
D10 - Conveying	105.71 %	264.09 %	$670,322.07
D20 - Plumbing	93.09 %	100.45 %	$1,462,558.16
D30 - HVAC	71.10 %	59.00 %	$4,679,500.09
D40 - Fire Protection	105.71 %	176.74 %	$1,015,685.26
D50 - Electrical	96.16 %	38.73 %	$1,623,102.57
E10 - Equipment	61.89 %	25.87 %	$293,594.70
E20 - Furnishings	105.00 %	311.22 %	$825,457.33
Totals:	**60.12 %**	**56.54 %**	**$20,027,113.40**

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.	71,300	100	1930	2030		15.00 %	0.00 %	15			$1,311,920
A1030	Slab on Grade	$7.73	S.F.	71,300	100	1930	2030		15.00 %	26.22 %	15		$144,532.46	$551,149
A2010	Basement Excavation	$6.55	S.F.	71,300	100	1930	2030		15.00 %	0.00 %	15			$467,015
A2020	Basement Walls	$12.70	S.F.	71,300	100	1930	2030		15.00 %	0.00 %	15			$905,510
B1010	Floor Construction	$75.10	S.F.	71,300	100	1930	2030		15.00 %	14.38 %	15		$769,830.19	$5,354,630
B1020	Roof Construction	$13.88	S.F.	71,300	100	1930	2030		15.00 %	0.00 %	15			$989,644
B2010	Exterior Walls	$36.91	S.F.	71,300	100	1930	2030		15.00 %	26.02 %	15		$684,870.16	$2,631,683
B2020	Exterior Windows	$18.01	S.F.	71,300	40	1930	1970	2057	105.00 %	139.45 %	42		$1,790,756.59	$1,284,113
B2030	Exterior Doors	$1.45	S.F.	71,300	25	1930	1955	2042	108.00 %	46.99 %	27		$48,576.48	$103,385
B3010105	Built-Up	$37.76	S.F.	21,000	20	1930	1950	2037	110.00 %	89.73 %	22		$711,522.23	$792,960
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.	71,300	20	1930	1950	2037	110.00 %	0.00 %	22			$4,278
C1010	Partitions	$17.91	S.F.	71,300	100	1930	2030		15.00 %	159.57 %	15		$2,037,661.87	$1,276,983
C1020	Interior Doors	$3.51	S.F.	71,300	40	1930	1970	2057	105.00 %	104.15 %	42		$260,642.99	$250,263
C1030	Fittings	$3.12	S.F.	71,300	40	1930	1970	2029	35.00 %	6.82 %	14		$15,171.10	$222,456
C2010	Stair Construction	$1.41	S.F.	71,300	100	1930	2030		15.00 %	229.60 %	15		$230,820.14	$100,533

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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	$15.14	S.F.	71,300	10	1930	1940	2027	120.00 %	89.48 %	12		$965,954.86	$1,079,482
C3010231	Vinyl Wall Covering	$0.00	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$1.68	S.F.	71,300	30	1930	1960	2028	43.33 %	0.00 %	13			$119,784
C3020411	Carpet	$7.30	S.F.	1,000	10	1930	1940	2027	120.00 %	0.00 %	12			$7,300
C3020412	Terrazzo & Tile	$75.52	S.F.		50				0.00 %	0.00 %				$0
C3020413	Vinyl Flooring	$9.68	S.F.	61,300	20	1930	1950	2037	110.00 %	124.15 %	22		$736,674.69	$593,384
C3020414	Wood Flooring	$22.27	S.F.	3,000	25	1930	1955	2042	108.00 %	130.90 %	27		$87,456.21	$66,810
C3020415	Concrete Floor Finishes	$0.97	S.F.	6,000	50	1930	1980	2028	26.00 %	0.00 %	13			$5,820
C3030	Ceiling Finishes	$20.97	S.F.	71,300	25	1930	1955	2042	108.00 %	65.04 %	27		$972,423.25	$1,495,161
D1010	Elevators and Lifts	$3.56	S.F.	71,300	35			2052	105.71 %	264.09 %	37		$670,322.07	$253,828
D2010	Plumbing Fixtures	$13.52	S.F.	71,300	35	1930	1965	2045	85.71 %	42.66 %	30		$411,249.60	$963,976
D2020	Domestic Water Distribution	$1.68	S.F.	71,300	25	1930	1955	2042	108.00 %	324.05 %	27		$388,155.76	$119,784
D2030	Sanitary Waste	$2.90	S.F.	71,300	25	1930	1955	2042	108.00 %	168.45 %	27		$348,308.26	$206,770
D2040	Rain Water Drainage	$2.32	S.F.	71,300	30	1930	1960	2047	106.67 %	190.33 %	32		$314,844.54	$165,416
D3020	Heat Generating Systems	$18.67	S.F.	71,300	35	2004	2039		68.57 %	2.46 %	24		$32,716.45	$1,331,171
D3030	Cooling Generating Systems	$24.48	S.F.	71,300	30	2005	2035		66.67 %	41.40 %	20		$722,672.71	$1,745,424
D3040	Distribution Systems	$42.99	S.F.	71,300	25	2003	2028		52.00 %	78.26 %	13		$2,398,693.33	$3,065,187
D3050	Terminal & Package Units	$11.60	S.F.	71,300	20	1930	1950	2037	110.00 %	0.00 %	22			$827,080
D3060	Controls & Instrumentation	$13.50	S.F.	71,300	20	1930	1950	2037	110.00 %	158.48 %	22		$1,525,417.60	$962,550
D4010	Sprinklers	$7.05	S.F.	71,300	35			2052	105.71 %	202.06 %	37		$1,015,685.26	$502,665
D4020	Standpipes	$1.01	S.F.	71,300	35			2052	105.71 %	0.00 %	37			$72,013
D5010	Electrical Service/Distribution	$9.70	S.F.	71,300	30	1930	1960	2047	106.67 %	100.61 %	32		$695,797.79	$691,610
D5020	Lighting and Branch Wiring	$34.68	S.F.	71,300	20	1930	1950	2037	110.00 %	23.80 %	22		$588,432.87	$2,472,684
D5030	Communications and Security	$12.99	S.F.	71,300	15	2009	2024		60.00 %	18.52 %	9		$171,486.49	$926,187
D5090	Other Electrical Systems	$1.41	S.F.	71,300	30	1930	1960	2020	16.67 %	166.50 %	5		$167,385.42	$100,533
E1020	Institutional Equipment	$4.82	S.F.	71,300	35	1930	1965	2052	105.71 %	85.43 %	37		$293,594.70	$343,666
E1090	Other Equipment	$11.10	S.F.	71,300	35	1930	1965	2030	42.86 %	0.00 %	15			$791,430
E2010	Fixed Furnishings	$3.72	S.F.	71,300	40	1930	1970	2057	105.00 %	311.22 %	42		$825,457.33	$265,236
								Total	**60.12 %**	**56.54 %**			**$20,027,113.40**	**$35,421,473**

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 & Covering 90%
Wall tile 10%

System: D5010 - Electrical Service/Distribution

Note: Phase converter 100KVA, manufactured by OLSUN

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:	**$20,027,113**	**$0**	**$0**	**$0**	**$0**	**$128,199**	**$0**	**$0**	**$0**	**$1,329,311**	**$0**	**$21,484,624**
*** 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	$144,532	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$144,532**
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	$769,830	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$769,830**
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	$684,870	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$684,870**
B2020 - Exterior Windows	$1,790,757	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,790,757**
B2030 - Exterior Doors	$48,576	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$48,576**
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	$711,522	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$711,522**
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	$2,037,662	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,037,662**

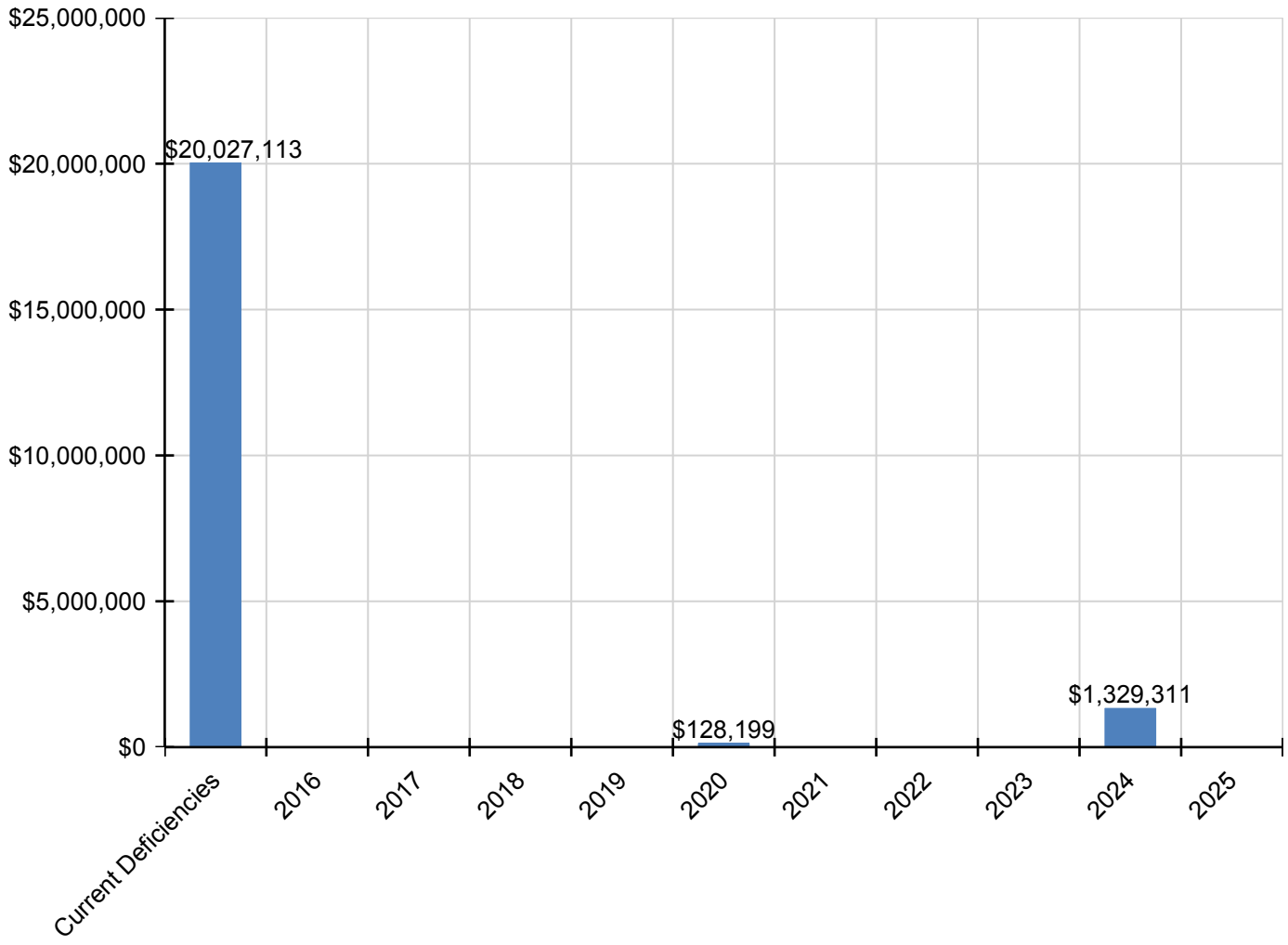
C1020 - Interior Doors	$260,643	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$260,643**
C1030 - Fittings	$15,171	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$15,171**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$230,820	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$230,820**
C30 - Interior Finishes	$0	$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	$965,955	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$965,955**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$736,675	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$736,675**
C3020414 - Wood Flooring	$87,456	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$87,456**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$972,423	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$972,423**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$670,322	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$670,322**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$411,250	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$411,250**
D2020 - Domestic Water Distribution	$388,156	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$388,156**
D2030 - Sanitary Waste	$348,308	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$348,308**
D2040 - Rain Water Drainage	$314,845	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$314,845**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$32,716	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$32,716**
D3030 - Cooling Generating Systems	$722,673	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$722,673**
D3040 - Distribution Systems	$2,398,693	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,398,693**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,525,418	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,525,418**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,015,685	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,015,685**
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	$695,798	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$695,798**
D5020 - Lighting and Branch Wiring	$588,433	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$588,433**
D5030 - Communications and Security	$171,486	$0	$0	$0	$0	$0	$0	$0	$0	$1,329,311	$0	**$1,500,797**
D5090 - Other Electrical Systems	$167,385	$0	$0	$0	$0	$128,199	$0	$0	$0	$0	$0	**$295,585**
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	$293,595	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$293,595**
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	$825,457	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$825,457**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

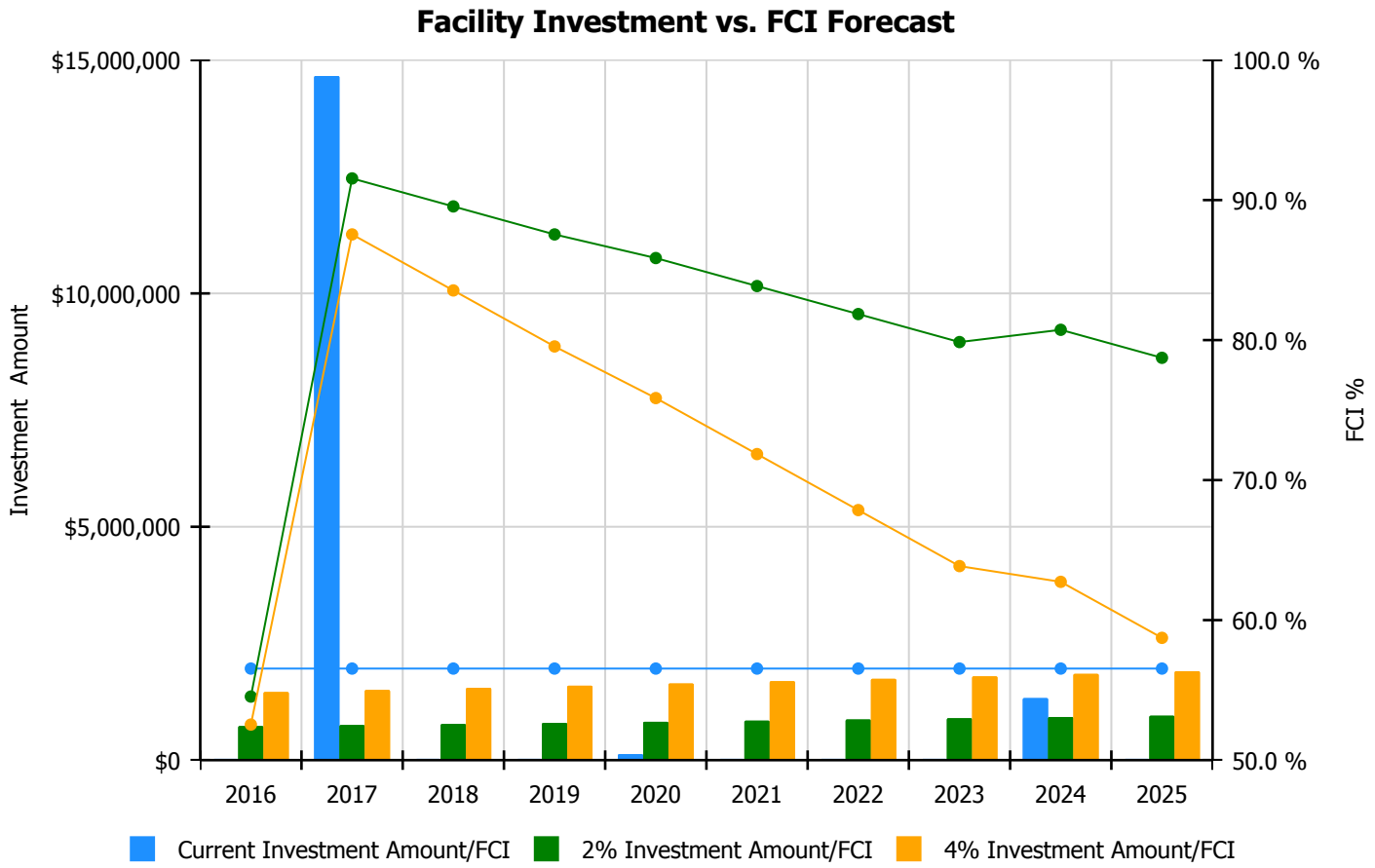
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

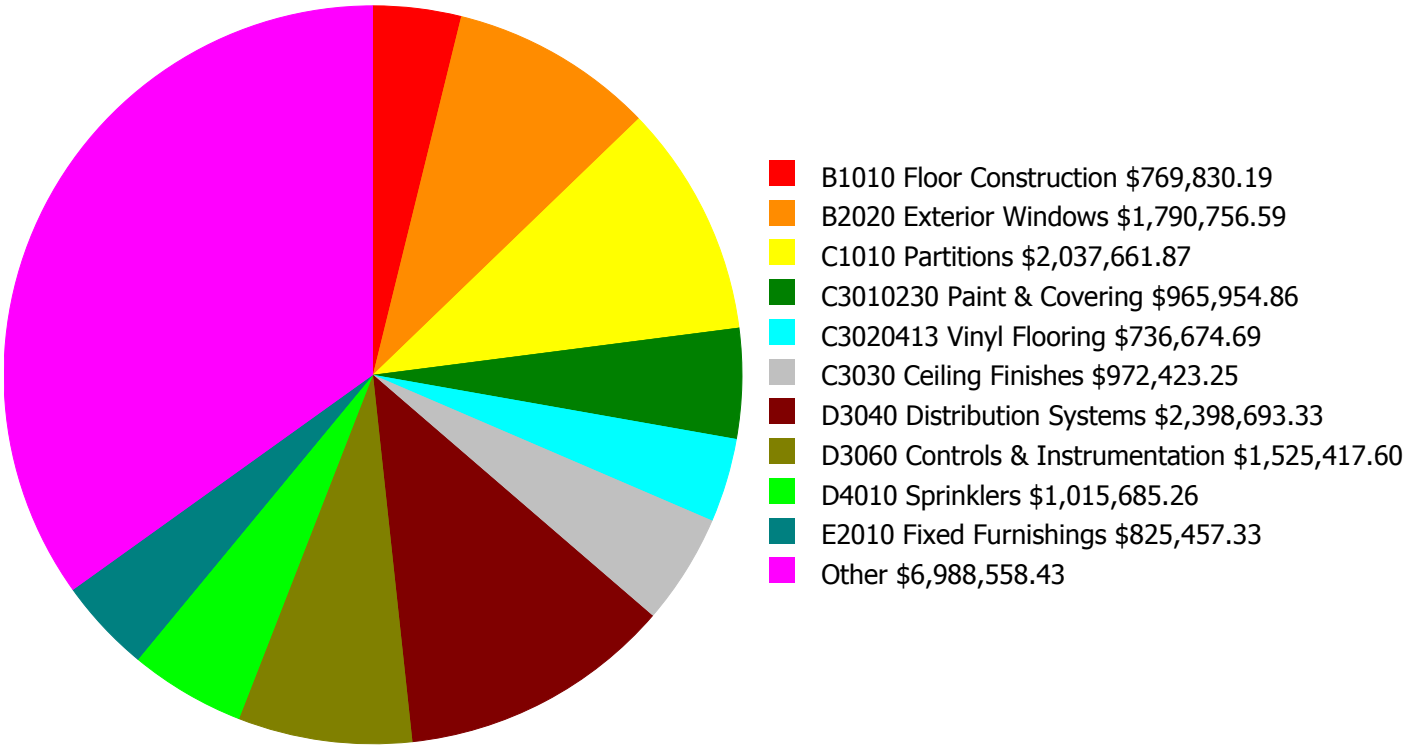
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 56.54%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$729,682.00	54.54 %	$1,459,365.00	52.54 %
2017	$14,657,906	$751,573.00	91.55 %	$1,503,146.00	87.55 %
2018	$0	$774,120.00	89.55 %	$1,548,240.00	83.55 %
2019	$0	$797,344.00	87.55 %	$1,594,687.00	79.55 %
2020	$128,199	$821,264.00	85.86 %	$1,642,528.00	75.86 %
2021	$0	$845,902.00	83.86 %	$1,691,804.00	71.86 %
2022	$0	$871,279.00	81.86 %	$1,742,558.00	67.86 %
2023	$0	$897,417.00	79.86 %	$1,794,834.00	63.86 %
2024	$1,329,311	$924,340.00	80.73 %	$1,848,680.00	62.73 %
2025	$0	$952,070.00	78.73 %	$1,904,140.00	58.73 %
Total:	**$16,115,416**	**$8,364,991.00**		**$16,729,982.00**	

Deficiency Summary by System

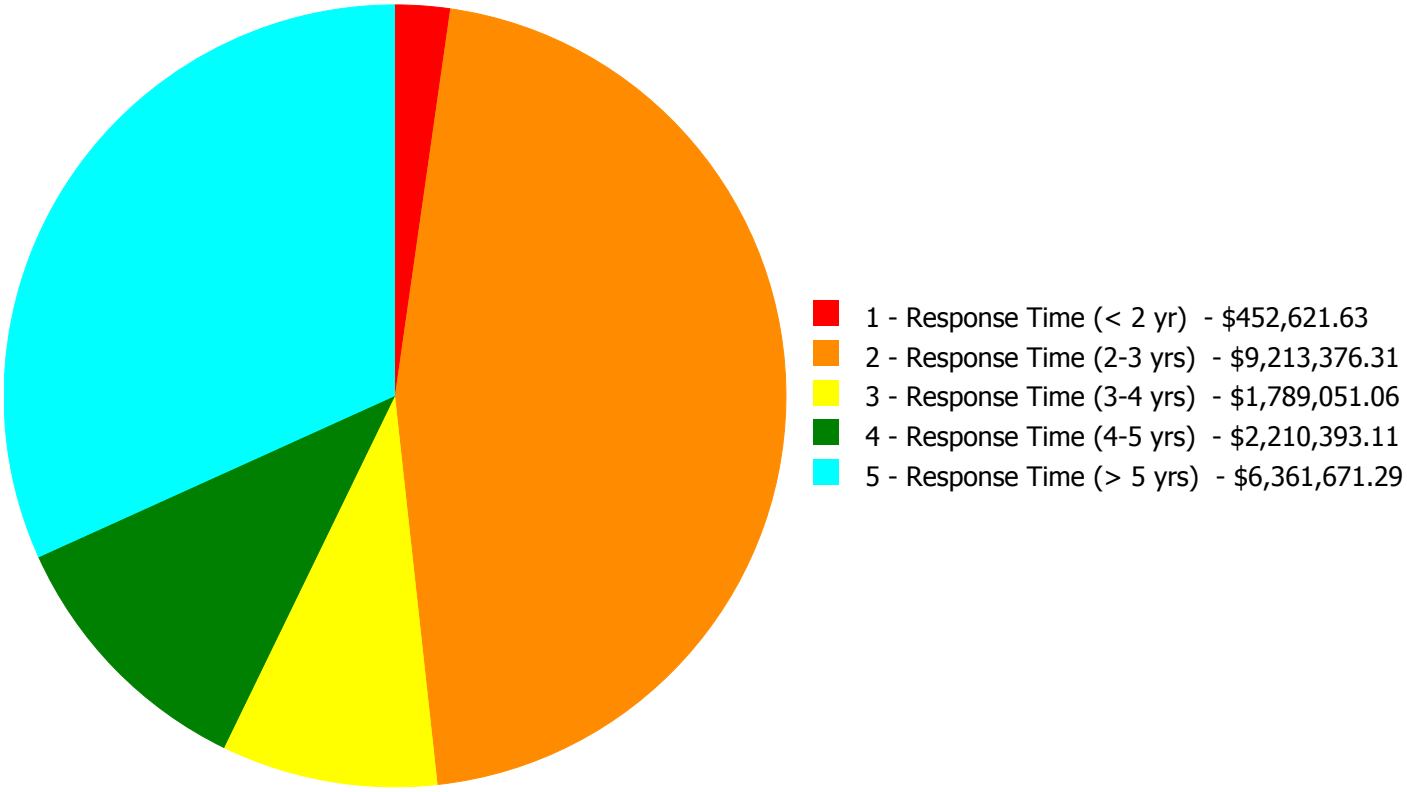
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $20,027,113.40

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: $20,027,113.40

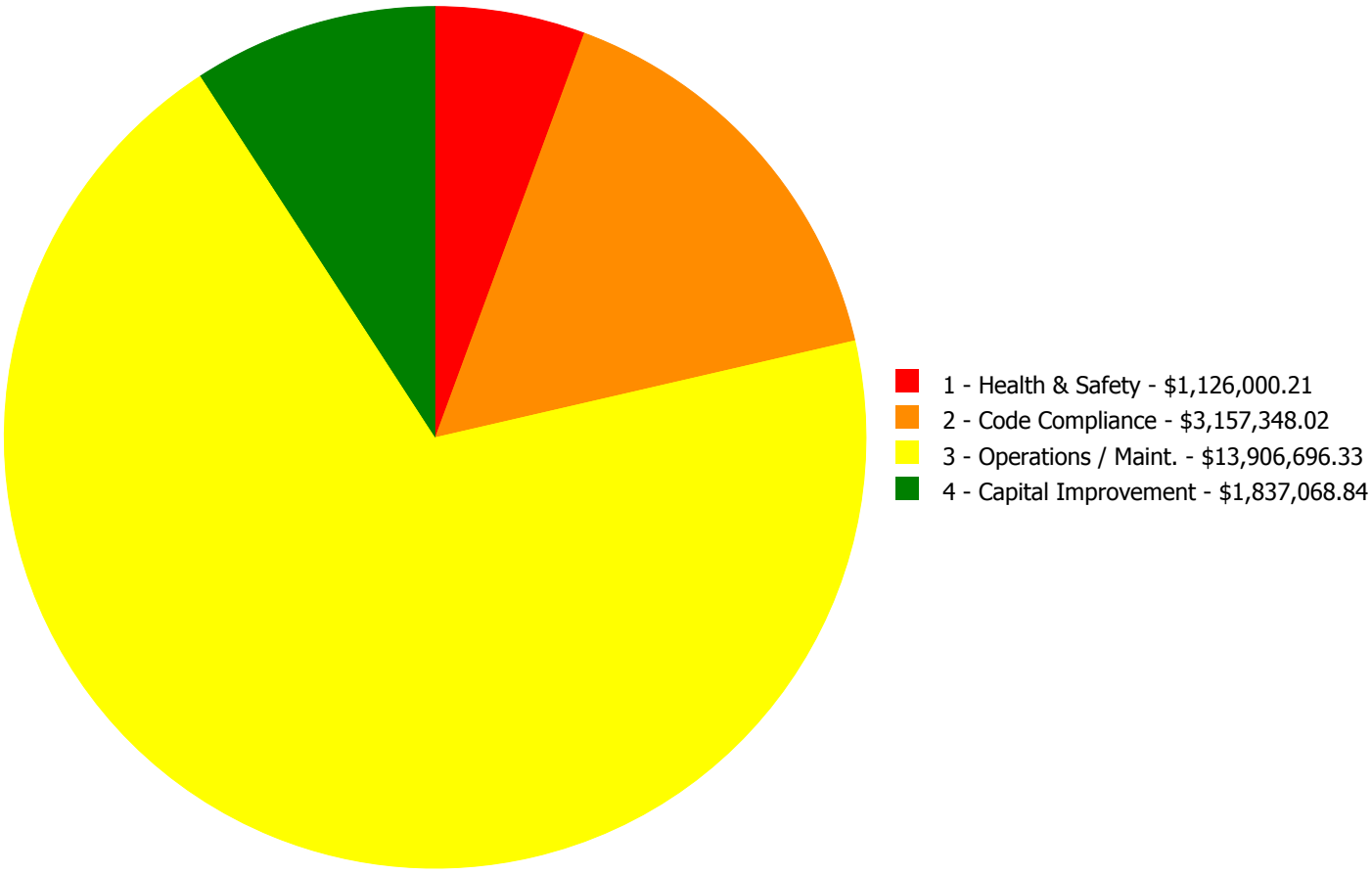
Deficiency By Priority Investment Table

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
A1030	Slab on Grade	$0.00	$0.00	$144,532.46	$0.00	$0.00	$144,532.46
B1010	Floor Construction	$0.00	$769,830.19	$0.00	$0.00	$0.00	$769,830.19
B2010	Exterior Walls	$0.00	$684,870.16	$0.00	$0.00	$0.00	$684,870.16
B2020	Exterior Windows	$0.00	$0.00	$0.00	$0.00	$1,790,756.59	$1,790,756.59
B2030	Exterior Doors	$0.00	$48,576.48	$0.00	$0.00	$0.00	$48,576.48
B3010105	Built-Up	$0.00	$711,522.23	$0.00	$0.00	$0.00	$711,522.23
C1010	Partitions	$0.00	$2,037,661.87	$0.00	$0.00	$0.00	$2,037,661.87
C1020	Interior Doors	$0.00	$260,642.99	$0.00	$0.00	$0.00	$260,642.99
C1030	Fittings	$0.00	$15,171.10	$0.00	$0.00	$0.00	$15,171.10
C2010	Stair Construction	$186,946.22	$43,873.92	$0.00	$0.00	$0.00	$230,820.14
C3010230	Paint & Covering	$0.00	$0.00	$0.00	$965,954.86	$0.00	$965,954.86
C3020413	Vinyl Flooring	$0.00	$736,674.69	$0.00	$0.00	$0.00	$736,674.69
C3020414	Wood Flooring	$0.00	$87,456.21	$0.00	$0.00	$0.00	$87,456.21
C3030	Ceiling Finishes	$0.00	$924,552.97	$47,870.28	$0.00	$0.00	$972,423.25
D1010	Elevators and Lifts	$0.00	$670,322.07	$0.00	$0.00	$0.00	$670,322.07
D2010	Plumbing Fixtures	$0.00	$411,249.60	$0.00	$0.00	$0.00	$411,249.60
D2020	Domestic Water Distribution	$0.00	$0.00	$3,899.39	$24,473.55	$359,782.82	$388,155.76
D2030	Sanitary Waste	$0.00	$348,308.26	$0.00	$0.00	$0.00	$348,308.26
D2040	Rain Water Drainage	$0.00	$314,844.54	$0.00	$0.00	$0.00	$314,844.54
D3020	Heat Generating Systems	$32,716.45	$0.00	$0.00	$0.00	$0.00	$32,716.45
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$722,672.71	$722,672.71
D3040	Distribution Systems	$232,958.96	$671,686.35	$221,541.95	$322,833.14	$949,672.93	$2,398,693.33
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$2,316.62	$1,523,100.98	$1,525,417.60
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$1,015,685.26	$1,015,685.26
D5010	Electrical Service/Distribution	$0.00	$0.00	$695,797.79	$0.00	$0.00	$695,797.79
D5020	Lighting and Branch Wiring	$0.00	$0.00	$105,802.85	$482,630.02	$0.00	$588,432.87
D5030	Communications and Security	$0.00	$0.00	$52,896.27	$118,590.22	$0.00	$171,486.49
D5090	Other Electrical Systems	$0.00	$0.00	$167,385.42	$0.00	$0.00	$167,385.42
E1020	Institutional Equipment	$0.00	$0.00	$0.00	$293,594.70	$0.00	$293,594.70
E2010	Fixed Furnishings	$0.00	$476,132.68	$349,324.65	$0.00	$0.00	$825,457.33
	Total:	$452,621.63	$9,213,376.31	$1,789,051.06	$2,210,393.11	$6,361,671.29	$20,027,113.40

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: $20,027,113.40

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: C2010 - Stair Construction

Location: Stairways

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

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

Qty: 330.00

Unit of Measure: L.F.

Estimate: $186,946.22

Assessor Name: System

Date Created: 02/29/2016

Notes: Replace handrails in exit stairwells and at the main entry

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System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Maintenance Required

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Repair boiler

Qty: 1.00

Unit of Measure: Ea.

Estimate: $32,716.45

Assessor Name: System

Date Created: 02/22/2016

Notes: Repair steam leak on boiler steam drum

System: D3040 - Distribution Systems

Location: Entire building

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Conduct a steam trap survey and replace failed units.

Qty: 71,000.00

Unit of Measure: S.F.

Estimate: $232,958.96

Assessor Name: System

Date Created: 02/22/2016

Notes: Survey and repair steam traps due to excess steam passing

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

System: B1010 - Floor Construction

Location: Basement mech rooms

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair rebar and epoxy grout exposed rebar on the underside of floors and floor beams

Qty: 4,920.00

Unit of Measure: S.F.

Estimate: $398,939.97

Assessor Name: System

Date Created: 02/29/2016

Notes: Repair the rebar and epoxy grout exposed rebar on the underside of floors and floor beams

System: B1010 - Floor Construction

Location: Elevated floor

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace elevated concrete deck with one way concrete beams and slab

Qty: 1,380.00

Unit of Measure: S.F.

Estimate: $370,890.22

Assessor Name: System

Date Created: 02/29/2016

Notes: Repair or replace floor construction that is failing and is currently being propped up

System: B2010 - Exterior Walls

Location: Exterior windows

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replacing failing steel lintels in brick wall construction

Qty: 995.00

Unit of Measure: L.F.

Estimate: $551,551.51

Assessor Name: System

Date Created: 03/01/2016

Notes: Remove and replace the failing steel lintels in brick wall construction above the windows.

System: B2010 - Exterior Walls

Location: Exterior walls

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 4,000.00

Unit of Measure: S.F.

Estimate: $129,157.89

Assessor Name: System

Date Created: 03/01/2016

Notes: Repair exterior walls – re-caulk control joints, repair broken brick and repoint mortar joints. Based on about 20% of the area.

System: B2010 - Exterior Walls

Location: Ladder access
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Add fixed ladders to wall
Qty: 15.00
Unit of Measure: V.L.F.
Estimate: $4,160.76
Assessor Name: System
Date Created: 02/29/2016

Notes: Replace failing ladder access

System: B2030 - Exterior Doors

Location: Exterior doors
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and replace exterior doors - per leaf
Qty: 6.00
Unit of Measure: Ea.
Estimate: $48,576.48
Assessor Name: System
Date Created: 03/01/2016

Notes: Replace exterior doors

System: B3010105 - Built-Up

Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 21,000.00

Unit of Measure: S.F.

Estimate: $711,522.23

Assessor Name: System

Date Created: 02/29/2016

Notes: Replace built-up roofing - the minerals are worn off the cap sheet. Repair or replace flashing where it connects to masonry parapet

System: C1010 - Partitions

Location: Througout the building

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Build new gang restroom to meet code or occupant needs - select type and number of fixtures and toilet partitions for mens or womens

Qty: 8.00

Unit of Measure: Ea.

Estimate: $1,686,032.01

Assessor Name: System

Date Created: 02/29/2016

Notes: Reconfigure toilet rooms on each floor for accessibility; provide new toilet partitions and toilet accessories including grab bars.

System: C1010 - Partitions

Location: Througout the building

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Build new single restroom to meet code requirements

Qty: 5.00

Unit of Measure: Ea.

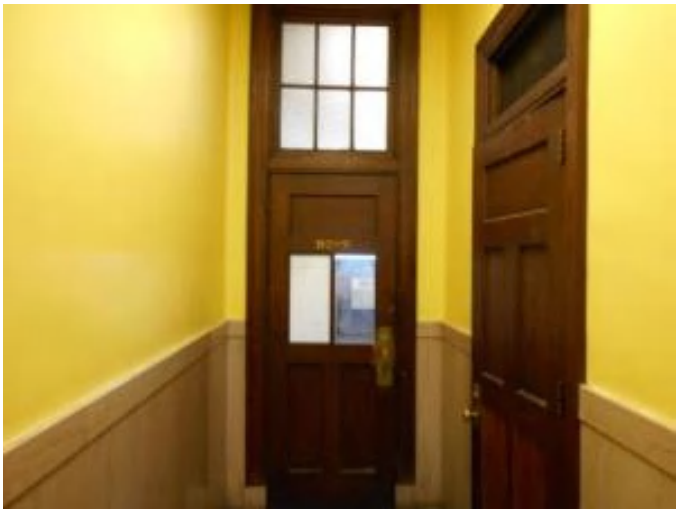
Estimate: $351,629.86

Assessor Name: System

Date Created: 02/29/2016

Notes: Provide unisex accessible toilets on each floor for faculty/staff and in the nurse office (5) total.

System: C1020 - Interior Doors



Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace interior doors - wood doors with wood frame - per leaf

Qty: 56.00

Unit of Measure: Ea.

Estimate: $260,642.99

Assessor Name: System

Date Created: 03/01/2016

Notes: Replace interior doors - reconfigure where possible to prevent doors from swinging into hallway

System: C1030 - Fittings

Location: Throughout the building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 56.00

Unit of Measure: Ea.

Estimate: $15,171.10

Assessor Name: System

Date Created: 03/01/2016

Notes: Replace interior signage

System: C2010 - Stair Construction

Location: Stairway

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace damaged interior stairway

Qty: 1.00

Unit of Measure: Flight

Estimate: $43,873.92

Assessor Name: System

Date Created: 03/01/2016

Notes: Replace damaged and failing stairway

System: C3020413 - Vinyl Flooring

Location: Throughout the building
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and replace VCT
Qty: 61,300.00
Unit of Measure: S.F.
Estimate: $736,674.69
Assessor Name: System
Date Created: 03/01/2016

Notes: Replace VCT flooring

System: C3020414 - Wood Flooring

Location: Throughout the building
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and replace wood flooring
Qty: 3,000.00
Unit of Measure: S.F.
Estimate: $87,456.21
Assessor Name: System
Date Created: 03/01/2016

Notes: Replace wood flooring

System: C3030 - Ceiling Finishes

Location: Throughout the building

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 61,300.00

Unit of Measure: S.F.

Estimate: $924,552.97

Assessor Name: System

Date Created: 03/01/2016

Notes: Replace acoustical tile ceilings.

System: D1010 - Elevators and Lifts

Location: In the building

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 1.00

Unit of Measure: Ea.

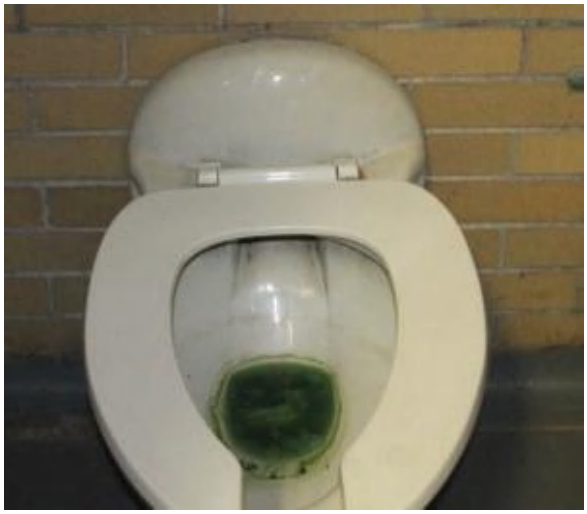
Estimate: $670,322.07

Assessor Name: System

Date Created: 02/29/2016

Notes: Add an interior elevator for ADA access

System: D2010 - Plumbing Fixtures



Location: Toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 26.00

Unit of Measure: Ea.

Estimate: $194,015.84

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace water closets due to age

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace water fountains to meet ADA - includes high and low fountains and new recessed alcove

Qty: 5.00

Unit of Measure: Ea.

Estimate: $78,464.48

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace drinking fountains with accessible units

System: D2010 - Plumbing Fixtures

Location: Toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 20.00

Unit of Measure: Ea.

Estimate: $76,220.25

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace lavatories due to age

System: D2010 - Plumbing Fixtures

Location: Toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace stall or floor type urinal

Qty: 12.00

Unit of Measure: Ea.

Estimate: $62,549.03

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace urinals due to age

System: D2030 - Sanitary Waste

Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 71,000.00

Unit of Measure: S.F.

Estimate: $348,308.26

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace sanitary drain pipe due to age and flooding

System: D2040 - Rain Water Drainage

Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Inspect internal rain water drainage piping and replace pipe - based on SF of multi-story building - insert SF of building

Qty: 71,000.00

Unit of Measure: S.F.

Estimate: $314,844.54

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace rain water drain piping

System: D3040 - Distribution Systems

Location: Entire building

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 71,000.00

Unit of Measure: S.F.

Estimate: $671,686.35

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace steam and condensate pipe due to leaks

System: E2010 - Fixed Furnishings

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 540.00

Unit of Measure: Ea.

Estimate: $476,132.68

Assessor Name: System

Date Created: 03/01/2016

Notes: Replace auditorium seating

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

System: A1030 - Slab on Grade

Location: Entrance

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Install interior handicap ramp - per LF 5' wide - insert the LF in the quantity

Qty: 72.00

Unit of Measure: L.F.

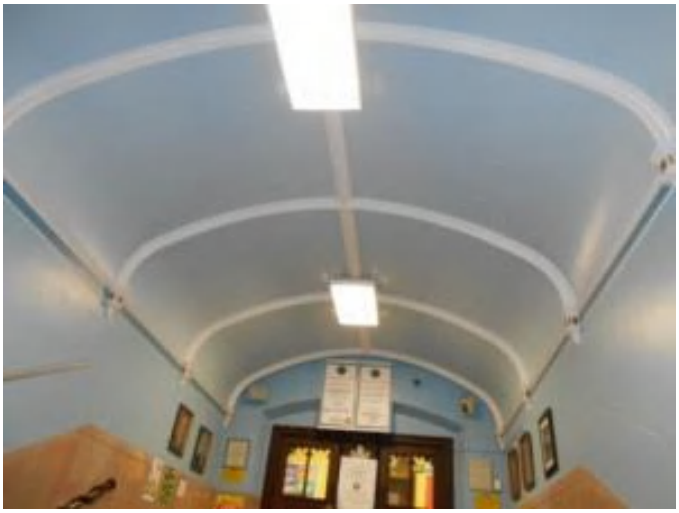
Estimate: $144,532.46

Assessor Name: System

Date Created: 03/01/2016

Notes: Install handicap ramp at entrance from street level.

System: C3030 - Ceiling Finishes



Location: Ceilings

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Re-paint ceilings - SF of ceilings

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $47,870.28

Assessor Name: System

Date Created: 03/01/2016

Notes: Repaint ceilings

System: D2020 - Domestic Water Distribution

Location: Addition

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace vertical tank type gas-fired water heater (75 gal)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $3,899.39

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace electric water heater in addition due to age, 30 gal.

System: D3040 - Distribution Systems

Location: Toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 5.00

Unit of Measure: Ea.

Estimate: $221,541.95

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace toilet room exhaust fans

System: D5010 - Electrical Service/Distribution

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $352,234.05

Assessor Name: System

Date Created: 02/09/2016

Notes: Replace the entire distribution system with new panels and new wiring/conduits. Approximate (13) 208/120V panel boards.

System: D5010 - Electrical Service/Distribution

Location: Basement

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace Switchboard

Qty: 1.00

Unit of Measure: Ea.

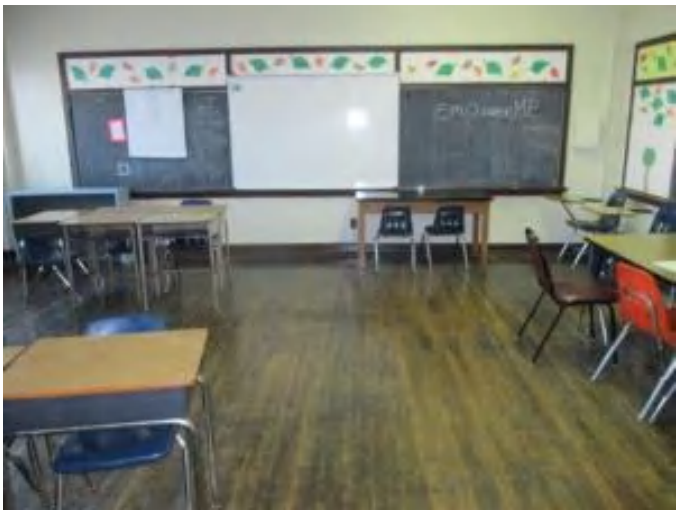
Estimate: $343,563.74

Assessor Name: System

Date Created: 02/09/2016

Notes: Provide a new electrical service 277/480V, 3 phase power, 1000 Amperes and 300KVA step-down transformer.

System: D5020 - Lighting and Branch Wiring



Location: Entire Building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add wiring device

Qty: 288.00

Unit of Measure: Ea.

Estimate: $105,802.85

Assessor Name: System

Date Created: 02/09/2016

Notes: Provide (2)25FT of surface raceways with receptacles spaced 24” on center/classroom and 4 wall mount receptacles/classroom. Approximate 288 receptacles.

System: D5030 - Communications and Security

Location: Entire Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Add fire alarm device

Qty: 40.00

Unit of Measure: Ea.

Estimate: $52,896.27

Assessor Name: System

Date Created: 02/09/2016

Notes: Add fire alarm audio/visual devices in the classrooms. Approximate 40.

System: D5090 - Other Electrical Systems

Location: Outdoor

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

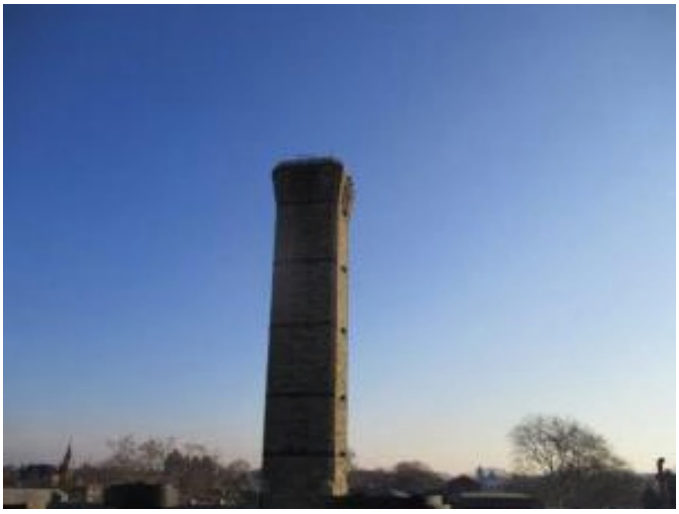
Estimate: $143,135.60

Assessor Name: System

Date Created: 02/09/2016

Notes: Provide 70KW, outdoor, diesel powered generator.

System: D5090 - Other Electrical Systems



Location: Roof

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Repair Lightning Protection System

Qty: 1.00

Unit of Measure: Job

Estimate: $24,249.82

Assessor Name: System

Date Created: 02/09/2016

Notes: Prepare a study to determine if the air terminals mounted on the chimney provide the proper protection to the school building.

System: E2010 - Fixed Furnishings

Location: Windows

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Remove and replace window blinds

Qty: 10,650.00

Unit of Measure: S.F.

Estimate: $349,324.65

Assessor Name: System

Date Created: 03/01/2016

Notes: Replace window coverings

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

System: C3010230 - Paint & Covering

Location: Interior walls

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 142,600.00

Unit of Measure: S.F.

Estimate: $965,954.86

Assessor Name: System

Date Created: 03/01/2016

Notes: Repaint interior walls

System: D2020 - Domestic Water Distribution

Location: Boiler room

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace instantaneous water heater

Qty: 1.00

Unit of Measure: Ea.

Estimate: $24,473.55

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace tankless water heater in boiler room due to failure

System: D3040 - Distribution Systems

Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace finned tube radiation terminals (per 100 LF)

Qty: 800.00

Unit of Measure: L.F.

Estimate: $322,833.14

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace radiators and convectors due to age and damage

System: D3060 - Controls & Instrumentation

Location: Boiler room

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Replace temperature, pressure gauges (enter estimate)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $2,316.62

Assessor Name: System

Date Created: 02/22/2016

Notes: Repair condensate pump float switch and feed tank make-up controller

System: D5020 - Lighting and Branch Wiring

Location: Entire Building
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Add Lighting Fixtures
Qty: 560.00
Unit of Measure: Ea.
Estimate: $482,630.02
Assessor Name: System
Date Created: 02/09/2016

Notes: Replace fluorescent fixtures with T-12 lamps with fluorescent fixtures with T-8 lamps. Approximate 560 fixtures.

System: D5030 - Communications and Security

Location: Entire Building
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Video Surveillance System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $57,418.68
Assessor Name: System
Date Created: 02/09/2016

Notes: Provide indoor surveillance CCTV cameras for complete coverage of the school building interior. Approximate 15

System: D5030 - Communications and Security

Location: Entire Building
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Provide wireless GPS clock system
Qty: 1.00
Unit of Measure: LS
Estimate: $34,365.13
Assessor Name: System
Date Created: 02/09/2016

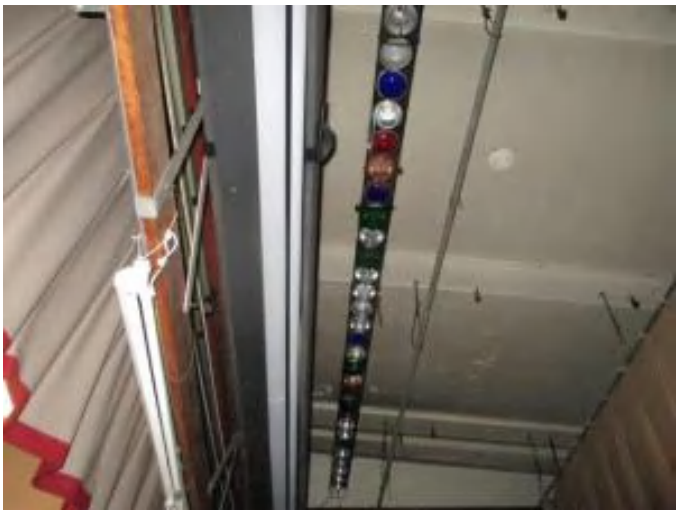
Notes: Replace clock system with wireless, synchronized, battery operated, clock system. Approximate 50 clocks.

System: D5030 - Communications and Security

Location: Auditorium
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Sound System
Qty: 1.00
Unit of Measure: LS
Estimate: $26,806.41
Assessor Name: System
Date Created: 02/09/2016

Notes: Provide a permanent installed modern sound system.

System: E1020 - Institutional Equipment



Location: Auditorium

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $293,594.70

Assessor Name: System

Date Created: 02/09/2016

Notes: Provide theatrical lighting and dimming control system.

Priority 5 - Response Time (> 5 yrs):

System: B2020 - Exterior Windows

Location: Exterior windows

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 325.00

Unit of Measure: Ea.

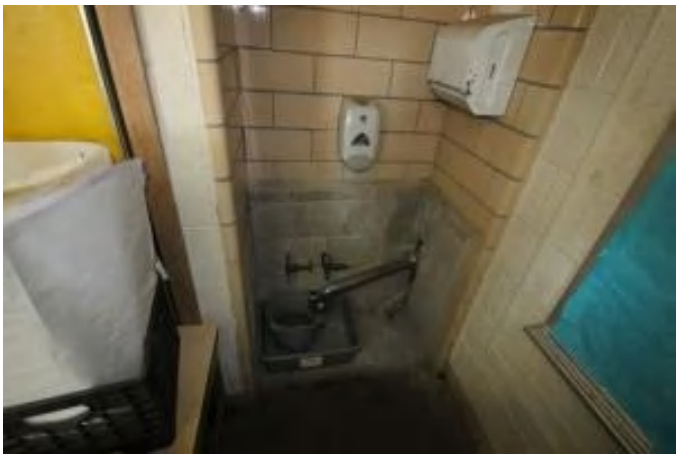
Estimate: $1,790,756.59

Assessor Name: System

Date Created: 03/01/2016

Notes: Replace exterior windows, some windows are more in need of replacement than others. This work could be spread out over a few years.

System: D2020 - Domestic Water Distribution



Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace domestic water piping (75 KSF)

Qty: 71,000.00

Unit of Measure: S.F.

Estimate: $359,782.82

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace domestic water distribution pipe due to age including replumbing water meter bypass line to not bypass backflow preventer

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System: D3030 - Cooling Generating Systems

Location: Entire building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 45,000.00

Unit of Measure: S.F.

Estimate: $722,672.71

Assessor Name: System

Date Created: 02/22/2016

Notes: Install chiller system for building (excluding IMC) with 150 ton capacity

System: D3040 - Distribution Systems

Location: Classroom addition

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace classroom unit ventilator (htg/clg coils, 5 tons, 2,000 CFM)

Qty: 15.00

Unit of Measure: Ea.

Estimate: $748,180.10

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace classroom unit ventilators

System: D3040 - Distribution Systems

Location: Basement

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace thermal duct insulation - per 100 SF

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $201,492.83

Assessor Name: System

Date Created: 02/22/2016

Notes: Insulate metal ductwork in basement when air conditioning is added to building

System: D3060 - Controls & Instrumentation

Location: Entire building

Distress: Obsolete

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 71,000.00

Unit of Measure: S.F.

Estimate: $1,523,100.98

Assessor Name: System

Date Created: 02/22/2016

Notes: Replace all controls with DDC

System: D4010 - Sprinklers

Location: Entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 71,000.00

Unit of Measure: S.F.

Estimate: $1,015,685.26

Assessor Name: System

Date Created: 02/22/2016

Notes: Install fire protection sprinkler system with fire pump if needed

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, steam, gross output, 4207 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	Boiler room					35	2004	2039	$67,578.50	$148,672.70
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, constant volume, single zone, 30,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Basement					25	2003	2028	$174,421.50	$191,863.65
D3040 Distribution Systems	Central station air handling unit, packaged indoor, constant volume, 10,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	IMC Roof					25	2008	2033	$33,042.90	$36,347.19
D5010 Electrical Service/Distribution	Load centers, 1 phase, 3 wire, main lugs, rainproof, 120/240 V, 400 amp, 42 circuits, incl 20 A 1 pole plug-in breakers	1.00	Ea.	Basement-electrical room					30	1930	2047	$3,663.90	$4,030.29
												Total:	**$380,913.83**

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):	118,800
Year Built:	1930
Last Renovation:	
Replacement Value:	$2,317,464
Repair Cost:	$426,040.63
Total FCI:	18.38 %
Total RSLI:	42.11 %

Description:

Attributes:

General Attributes:

Bldg ID:	S142001	Site ID:	S142001

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	40.87 %	16.19 %	$289,671.10
G40 - Site Electrical Utilities	46.31 %	25.80 %	$136,369.53
Totals:	**42.11 %**	**18.38 %**	**$426,040.63**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30				0.00 %	0.00 %				$0
G2020	Parking Lots	$7.65	S.F.	6,700	30	1930	1960	2032	56.67 %	49.80 %	17		$25,524.08	$51,255
G2030	Pedestrian Paving	$11.52	S.F.	100,000	40	1930	1970	2028	32.50 %	22.93 %	13		$264,147.02	$1,152,000
G2040	Site Development	$4.36	S.F.	121,500	25	1930	1955	2028	52.00 %	0.00 %	13			$529,740
G2050	Landscaping & Irrigation	$3.78	S.F.	14,800	15	1930	1945	2029	93.33 %	0.00 %	14			$55,944
G4020	Site Lighting	$3.58	S.F.	121,500	30	1930	1960	2025	33.33 %	5.92 %	10		$25,743.06	$434,970
G4030	Site Communications & Security	$0.77	S.F.	121,500	30	1930	1960	2047	106.67 %	118.25 %	32		$110,626.47	$93,555
								Total	**42.11 %**	**18.38 %**			**$426,040.63**	**$2,317,464**

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.

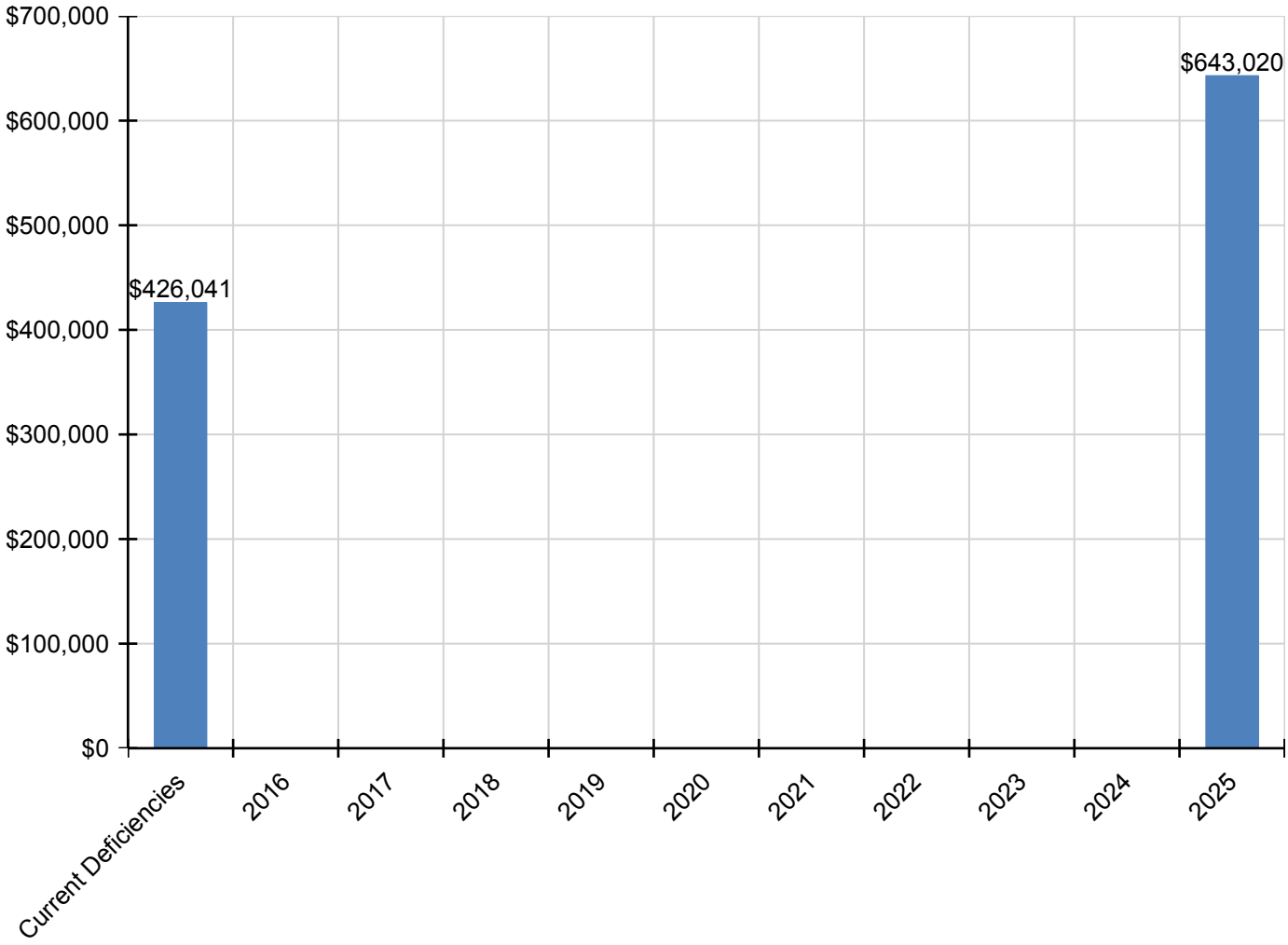
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$426,041**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$643,020**	**$1,069,060**
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	$25,524	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$25,524**
G2030 - Pedestrian Paving	$264,147	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$264,147**
G2040 - Site Development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$25,743	$0	$0	$0	$0	$0	$0	$0	$0	$0	$643,020	**$668,763**
G4030 - Site Communications & Security	$110,626	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$110,626**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

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

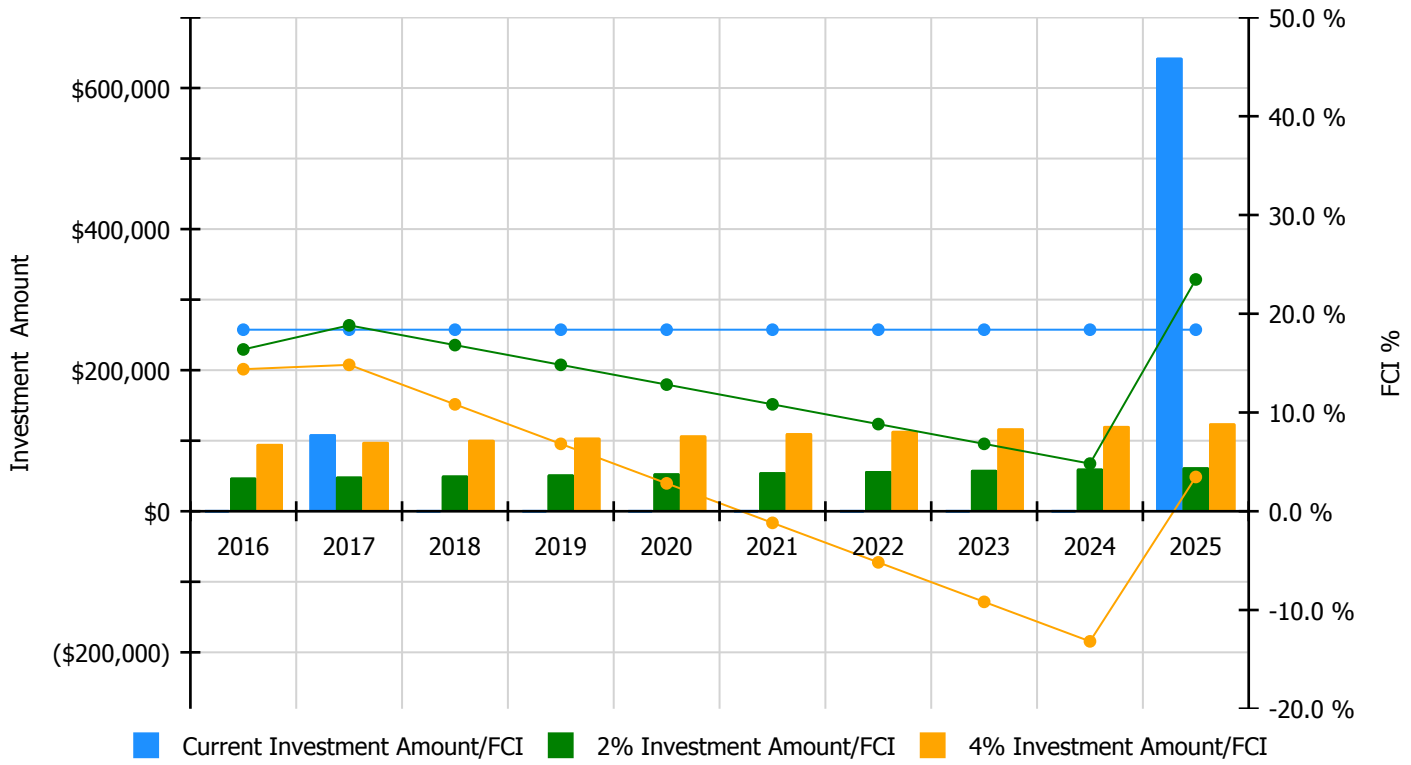


10 Year FCI Forecast by Investment Scenario

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

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

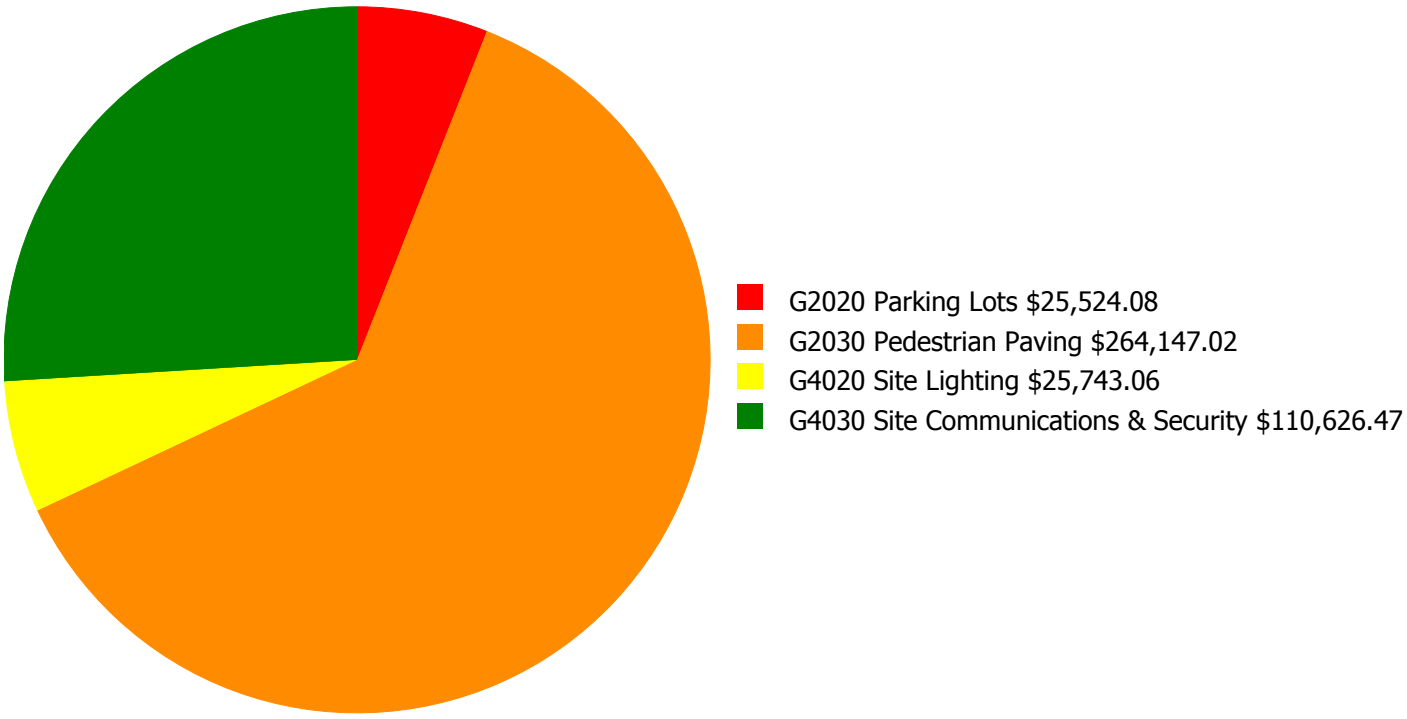
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 18.38%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$47,740.00	16.38 %	$95,480.00	14.38 %
2017	$109,178	$49,172.00	18.82 %	$98,344.00	14.82 %
2018	$0	$50,647.00	16.82 %	$101,294.00	10.82 %
2019	$0	$52,167.00	14.82 %	$104,333.00	6.82 %
2020	$0	$53,732.00	12.82 %	$107,463.00	2.82 %
2021	$0	$55,343.00	10.82 %	$110,687.00	-1.18 %
2022	$0	$57,004.00	8.82 %	$114,008.00	-5.18 %
2023	$0	$58,714.00	6.82 %	$117,428.00	-9.18 %
2024	$0	$60,475.00	4.82 %	$120,951.00	-13.18 %
2025	$643,020	$62,290.00	23.47 %	$124,579.00	3.47 %
Total:	**$752,198**	**$547,284.00**		**$1,094,567.00**	

Deficiency Summary by System

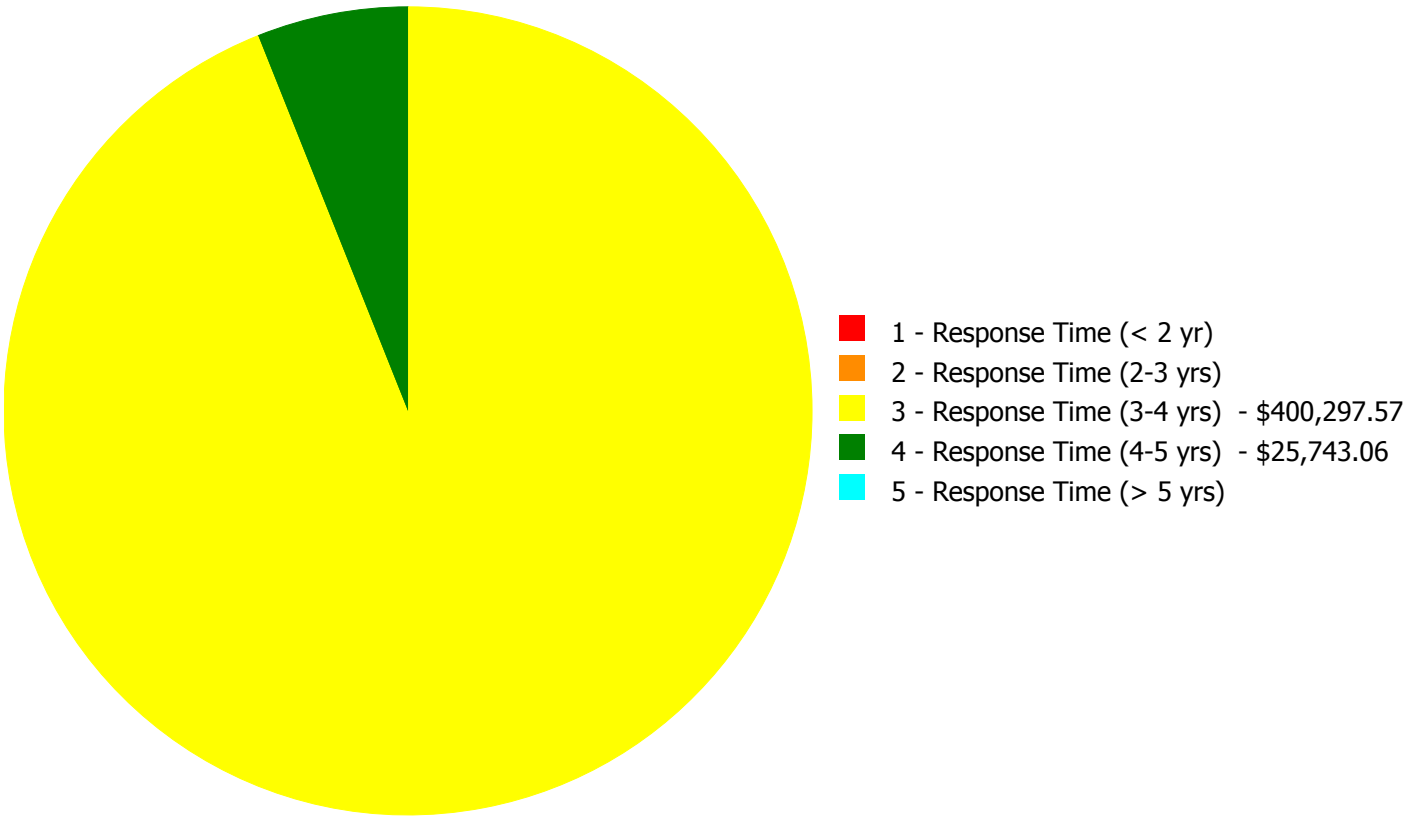
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $426,040.63

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: $426,040.63

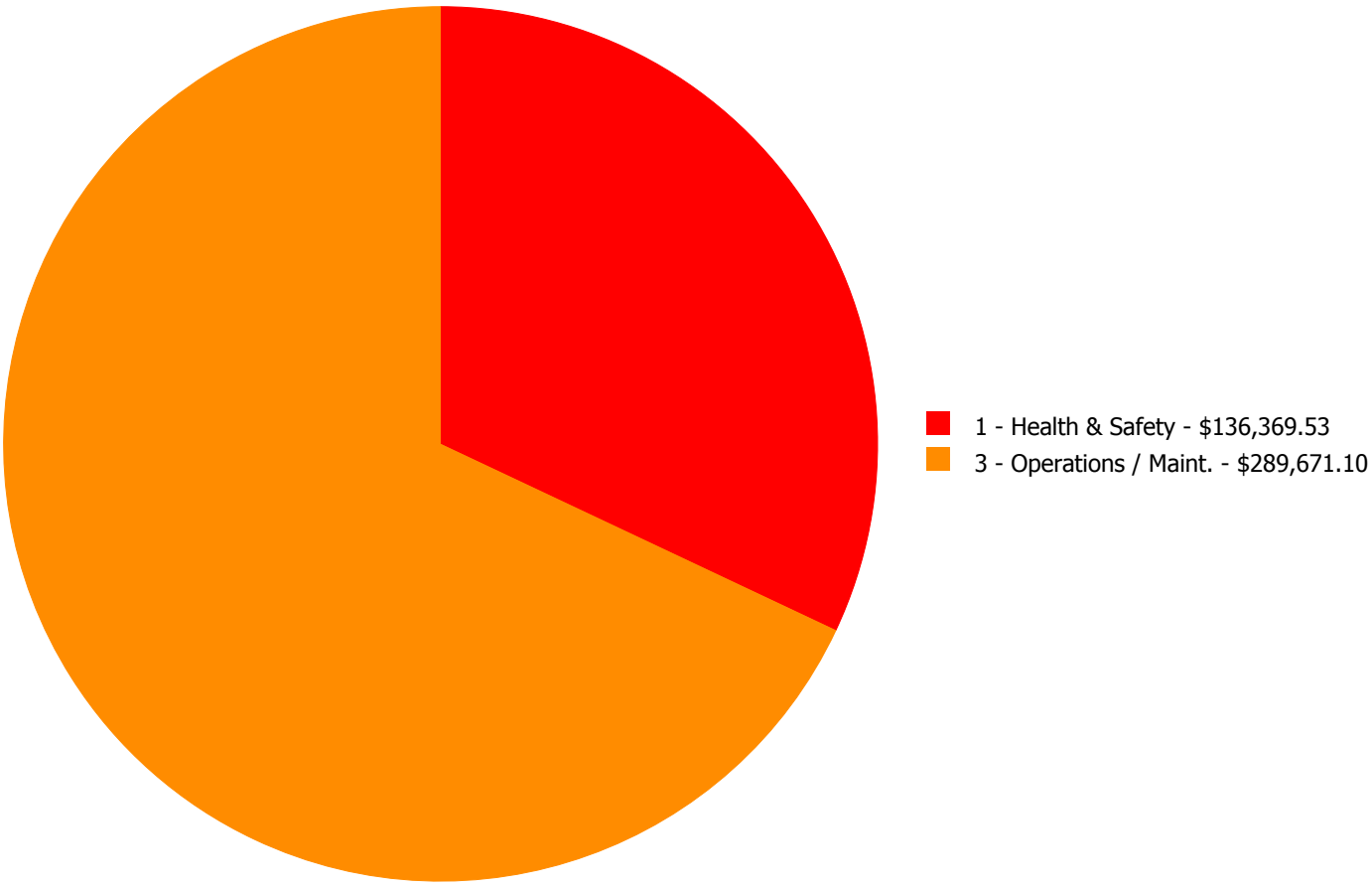
Deficiency By Priority Investment Table

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	$25,524.08	$0.00	$0.00	$25,524.08
G2030	Pedestrian Paving	$0.00	$0.00	$264,147.02	$0.00	$0.00	$264,147.02
G4020	Site Lighting	$0.00	$0.00	$0.00	$25,743.06	$0.00	$25,743.06
G4030	Site Communications & Security	$0.00	$0.00	$110,626.47	$0.00	$0.00	$110,626.47
	Total:	$0.00	$0.00	$400,297.57	$25,743.06	$0.00	$426,040.63

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: $426,040.63

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: G2020 - Parking Lots

Location: Parking lot
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Resurface parking lot - grind and resurface including striping
Qty: 6,700.00
Unit of Measure: S.F.
Estimate: $25,524.08
Assessor Name: Craig Anding
Date Created: 03/01/2016

Notes: Resurface parking lot

System: G2030 - Pedestrian Paving

Location: Playground
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Resurface AC pedestrian paving - grind and resurface
Qty: 74,000.00
Unit of Measure: S.F.
Estimate: $264,147.02
Assessor Name: Craig Anding
Date Created: 03/01/2016

Notes: Resurface playground

System: G4030 - Site Communications & Security

Location: Building Perimeter

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add Video Surveillance System

Qty: 6.00

Unit of Measure: Ea.

Estimate: $110,626.47

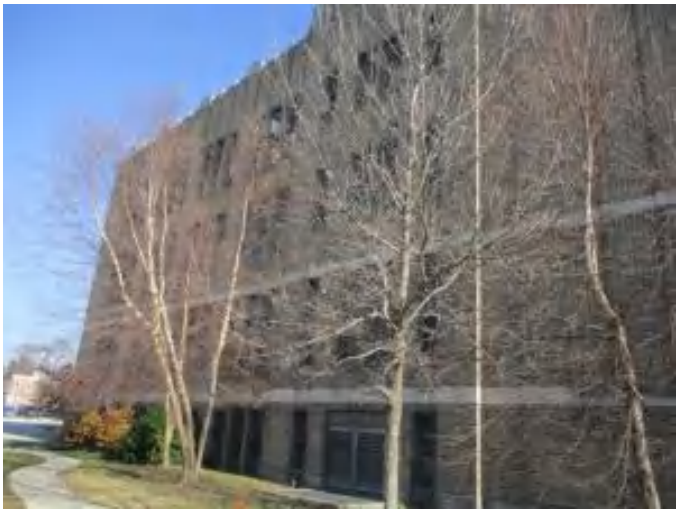
Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Provide outdoor surveillance CCTV cameras to the building exterior for full coverage of the perimeter. Approximate 6 CCTV cameras.

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

System: G4020 - Site Lighting



Location: Building Perimeter

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add site lighting fixtures

Qty: 5.00

Unit of Measure: Ea.

Estimate: $25,743.06

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Provide outdoor wall mounted lighting fixtures for a safer environment. Approximate 5

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