

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.

Patterson School

Governance	DISTRICT	Report Type	Elementary
Address	7000 Buist Ave. Philadelphia, Pa 19142	Enrollment	644
Phone/Fax	215-492-6453 / 215-492-6827	Grade Range	'00-04'
Website	Www.Philasd.Org/Schools/Patterson	Admissions Category	Neighborhood
		Turnaround Model	N/A

Building/System FCI Tiers

Facility Condition Index (FCI) = $\frac{\text{Cost of Assessed Deficiencies}}{\text{Replacement Value}}$				
< 15%	15 to 25%	25 to 45%	45 to 60%	> 60%
Buildings				
Minimal Current Capital Funding Required	Refurbish Systems in building	Replace Systems in building.	Building should be considered for major renovation.	Building should be considered for closing/replacement.
Systems				
Perform routine maintenance on system	System requires minor repairs	System should be studied to determine repair vs. replacement.	System is nearing end of its life expectancy and should be considered for replacement	System should be replaced as part of the Capital Program

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	38.51%	\$14,638,885	\$38,014,426
Building	38.61 %	\$14,212,410	\$36,814,798
Grounds	35.55 %	\$426,474	\$1,199,628

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.00 %	\$0	\$792,078
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.08 %	\$2,219	\$2,686,531
Windows (Shows functionality of exterior windows)	76.99 %	\$1,009,229	\$1,310,876
Exterior Doors (Shows condition of exterior doors)	00.00 %	\$0	\$105,540
Interior Doors (Classroom doors)	101.98 %	\$260,545	\$255,479
Interior Walls (Paint and Finishes)	25.97 %	\$317,787	\$1,223,533
Plumbing Fixtures	06.16 %	\$60,634	\$984,067
Boilers	00.00 %	\$0	\$1,358,915
Chillers/Cooling Towers	65.68 %	\$1,170,354	\$1,781,801
Radiators/Unit Ventilators/HVAC	134.08 %	\$4,195,312	\$3,129,070
Heating/Cooling Controls	132.84 %	\$1,305,310	\$982,611
Electrical Service and Distribution	111.98 %	\$790,578	\$706,024
Lighting	12.59 %	\$317,900	\$2,524,218
Communications and Security (Cameras, Pa System and Fire Alarm)	41.79 %	\$395,161	\$945,490

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

S140001;Patterson

Final

Site Assessment Report

January 30, 2017



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Site Executive Summary

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

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

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

Gross Area (SF):	72,876
Year Built:	1920
Last Renovation:	
Replacement Value:	\$38,014,426
Repair Cost:	\$14,638,884.80
Total FCI:	38.51 %
Total RSLI:	65.53 %



Description:

Facility Assessment

July 13th, 2015

School District of Philadelphia

Patterson Elementary School

7001 Buist Avenue

Philadelphia, PA 19142

72,876 SF / 696 Students / LN 01

GENERAL

Mr. David Loftus, Facility Area Coordinator, and Mr. Anthony DiCaprio, Building Engineer, accompanied us on our tour of the school

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and provided us with detailed information on the building systems and maintenance history.

The Patterson Elementary School building is located at 7001 Buist Avenue in Philadelphia, PA. The 4 story, 72,876 square foot building was originally constructed in 1920. The building has a one level basement.

ARCHITECTURAL/STRUCTURAL SYSTEMS

The main building rests on concrete foundations and bearing walls that are not showing signs of settlement or damage. The main structure consists typically of cast-in-place concrete columns, beams and concrete, one way ribbed slab with some brick slab sections in basement. The main roof structure consists of concrete one-way slab supported by main structural frame. Roofing is built up application in fair condition. The building envelope is masonry with face brick. Elevations are enhanced minimally with stonework around entrances and windows. In general, masonry is in good condition. All elevations are face brick. The original windows were replaced in early 1990s with extruded aluminum, double hung windows, Lexan Plexiglas with insect/security screens. All windows are generally in poor condition with heavy hazing. Exterior doors are hollow metal in fair condition. Public access doors have granite stoops with granite stairs; service doors have concrete stoops and stairs. Generally, the building is not accessible per ADA requirements due to first floor- grade separation with no ramps or lifts.

Main building partition wall types include plastered ceramic hollow blocks. Interior doors are a mix of rail and stile wood doors and solid core doors with lites; some glazed with matching wood frame transom and lites, some metal frame ranging from good to poor condition. Doors leading to exit stairways are hollow metal doors and frames in fair condition. Fittings include: toilet accessories in good condition; composite plastic and hollow metal toilet partitions, generally in good condition; handrails and ornamental metals, generally in fair condition. Interior identifying signage is typically directly painted on wall or door surfaces generally in fair condition. Stair construction is generally concrete with cast iron nosing in fair condition. Stair railings are cast iron balusters with wood handrail in fair condition, not code compliant.

The interior wall finishes are generally painted plaster or brick with glazed brick wainscot in stairways and corridors, ceramic tile and base in toilets and wood panel wainscot in auditorium. Generally, paint is in fair to poor condition with some plaster deterioration in stairways, auditorium, classrooms and storage areas. Flooring in classrooms, and auditorium is generally hardwood in fair condition needing refinishing in classrooms; vinyl tile in some classrooms, gym and office areas in good condition; ceramic tile in toilets in very good condition; and patterned and bare concrete in basement level, corridors and stairways. Wood base is typically in fair-good condition. Ceilings are generally suspended acoustic tile in poor condition and nearing the end of useful life. Ceilings in basement, gym, auditorium, toilets, and maintenance areas are painted plaster with some exposed, painted structure; generally in good condition.

The building has no elevators.

Institutional and Commercial equipment includes: stage equipment, generally in fair condition. Other equipment includes kitchen equipment (heat and serve only), generally in good condition.

Fixed furnishings include: fixed casework in classrooms, corridors and library, generally in fair to good condition; window shades/blinds, generally in poor condition; fixed auditorium seating is original, generally in fair condition with some damaged seats.

The building does not have accessible entrance, and accessible routes. None of the toilets are equipped with accessible fixtures, partitions and accessories, such as grab bars and accessible partitions. None of the doors in the building have ADA required door handles.

MECHANICAL SYSTEMS

Most plumbing fixtures are replacements for original equipment. Fixtures in the restrooms on each floor consist of wall hung water closets, urinals and lavatories. A few faucets drip and need repair. The fixtures should provide reliable service for the next 5-10 years. However, the older units should be replaced as part of any renovation of the spaces.

Drinking fountains in the corridors are wall hung, most with integral refrigerated coolers. They are well beyond their service life and should be replaced with accessible type.

A service sink is available in the corridor on each floor for use by the janitorial staff. The Cafeteria has a three compartment, stainless steel sink with lever operated faucets. Chemicals are injected manually into the sanitizing basin.

A 3" city water service enters the building from Buist Avenue. The 3" meter and valves are located in the cafeteria room on the

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basement level near the kitchen. The domestic hot and cold water distribution piping is copper piping and soldered connections. The maintenance staff reports no significant problems with domestic piping and the supply is adequate to the fixtures. However, the domestic water piping is well beyond its service life and should be replaced to eliminate joints made with lead solder.

A 48 gallon vertical tank type, gas-fired water heater of unknown age supplies hot water for domestic use. The unit is located near the south corner of the boiler room. It is equipped with a T&P relief valve and circulator pump. The water heater is within its service life and should provide reliable service for the next 5-10 years. A water softener located in this room supplies conditioned water to the boilers. There is a backflow preventer on the potable water line supplying the boiler make-up system.

The sanitary sewer piping is cast iron pipe with hubless fittings joined with banded couplings and soldered copper in sections. There is no sewage ejector. The engineer did not report problems with the sanitary waste piping systems. However, the sewer piping age is unknown and will require more frequent attention from the maintenance staff as time passes. . The District should hire a qualified contractor to examine the sanitary waste using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Rain water discharge pipes are threaded steel and soldered copper and run inside the building. The roof does not have overflow drains. The District should hire a qualified contractor to examine the rain water discharge piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Low pressure steam is generated at 15 lbs/sq. in. or less by two 4,061 mbh (121 HP) Weil-McLain cast iron sectional boilers. One unit can heat the building in all weather conditions. Each boiler is equipped with a Power Flame burner installed in 2004 operating fuel oil only. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner controls provide electronic ignition, digital flame sensing and pressure atomization but they do not modulate. Burner oil pumps are loose and not driven by the fan motor. The oil supply to the burner is equipped with dual solenoid valves and strainer/disposable media filter. The district will not need to replace these boilers in the next 5-10 years. Burners should be repaired to allow for flame modulation.

The oil supply is stored in an 8,000 gallon underground storage tank (UST) installed before 2000. The tank is located in the playground area outside the room and is equipped with automatic leak detection and monitoring. Duplex pumps located in the boiler room circulate oil through the system and were running at the time of inspection. Oil is the only heating fuel. USTs have an anticipated service life of 20 years. The District should budget for replacing this tank with a smaller aboveground concrete-encased tank in the next 5-10 years.

The condensate and boiler feed system are in the boiler room next to the water softener. No problems were reported with steam traps.

No packing leaks were observed at the bonnets of the OS&Y gate valves at the steam header above the boilers. The discharge pipe and pan of the boiler pressure relief valves were replaced in 2012.

Steam piping is black steel with welded and threaded fittings. The condensate piping is black steel with threaded fittings. Steam and condensate piping mains from the basement level run up through the building to the terminal units on all three floors. The annex building receives steam from the main building and the engineer stated the underground steam pipes need repair. The District should hire a qualified contractor to examine the steam and condensate piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing all steam and condensate piping over the next 10 to 15 years.

Cast iron and steel radiators supply heat for the entire building. They are original to the building and have pneumatic controlled steam valves. The radiators are well beyond their service life and should be replaced with finned tube unit heaters with electronic controls. Conditioned air was originally supplied to classrooms, auditorium, gym, and cafeteria through metal and built-in clay block ducts from the air handler in the basement fan room adjacent to the boiler room and exhausted to the attic plenum. Fresh air entered the building in the fan room and stale air exited through roof top vents. The air handler is also original to the building and obsolete and needs replacement. The replacement air handler should include heating, cooling, humidification, and dehumidification.

Some of the classrooms and offices in the school building have window air conditioning units that have an anticipated service life of only 10 years. Installing a 180 ton air-cooled chiller on the roof with pumps located in the fan room on the basement level and chilled water would supply more reliable and more efficient air conditioning for the building with a much longer service life. The annex building has two rooftop condensing units serving direct expansion coils in attic mounted air handlers.

Roof mounted fans exhaust air from the restrooms. These fans are manually controlled from an electrical panel. They are capable of providing adequate exhaust for the restrooms and should not need replacement within 10 years at least.

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The kitchen has a gas burning stove with exhaust hood and fire extinguishing system.

The original pneumatic systems still provide basic control functions. Pneumatic room thermostats control steam flow valves on the radiators. Central duct dampers are manually adjustable only. The pneumatic systems are beyond their service life. These controls should be converted to DDC and automatically controllable dampers installed when metal ducts are replaced.

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

The school building is NOT covered by an automatic sprinkler system. Installing a sprinkler system with quick response type heads should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure.

ELECTRICAL SYSTEMS

A service drop to a transformer pit from a Medium voltage overhead line on a wooden poles along Buist Avenue serves this school. The transformer pit houses a transformer with secondary voltage of 120/240V, transformer nameplate was not readable. The electrical service entrance is located in the basement at the boiler room. The boiler room houses the utility main disconnect switch, and 600A (estimated) 120/240V distribution section. The main service back-feed a learning education center via a 100 amperes underground feeder. The existing service has no extra capacity for expansion or new Heating, Ventilation, Air Conditioning (HVAC) system and already exceeded its useful service life. The electrical service entrance should be upgraded, using the present utility pole, and a larger transformer pit. The new service will be 480V/277V, 3 phase power, approximate 1000 Amperes 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 120V/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. These panel-boards and associated wiring have exceeded the end of their useful life and are undersized to absorb additional loads. The entire distribution system needs to be replaced with new 208/120 volt, 3 phase panelboards and new wiring. The raceway is mainly conduits run above the ceiling. There is a 75KVA phase converter from 240V to 120/208V which normally feeds newest mechanical equipment. Panel-board's doors at corridors are not locked and represent a potential hazard for students. As a safety issue all panel-boards at corridor or in areas where students are present must be provided with lockable devices.

The number of receptacles in 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 tow wall with minimum two duplex outlets each, when feasible. The quantity of receptacles outlets in the learning education center building is adequate.

Most of the classrooms and corridors are illuminated with recessed mounted fluorescent fixtures, with T-8 lamps. The auditorium is illuminated with pendant mount architectural fixture with most probably incandescent lamps. The boys and girls rooms are illuminated with surface mounted fixtures with T-8 lamps. The gym/lunch room is illuminated with surface mounted fluorescent fixtures with T-8 lamps. The learning education center building is illuminated with recessed fluorescent lighting fixtures.

A tap ahead of the main disconnect switch serves the fire alarm control panel (FACP).The Fire Alarm system is manufactured by S.H. COUCH INC The system is approximately 30 years old. The present Fire Alarm system does not meet current code. Fire alarm system is tested every day in the morning. The learning education center building is provided with local bell and pull station

The present telephone system is adequate.

An independent and separate PA system does not exist, or is not working. School uses the telephone systems for public announcement. This system is working adequately for most part. The obsolete, non-functional devices should be removed from all rooms.

The present clocks is old and manufactured by Simplex, Time Control Center. Parts for this system are not available or are very expensive. A new clock system should be provided with battery operated and wireless. The present bell system is working.

There is not television system.

The security system consists of CCTV cameras at corridors and building exterior and motion sensors at first floor. The location of the

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video surveillance monitor was not determined. There were no indication that additional CCTV cameras are required.

The emergency power system consists of a gas powered generator, manufactured by Generac. The present emergency power system serves the corridor, exit signs, auditorium, stair ways, fire tower and dedicated receptacles. The gas powered generator looks approximately 20 years old and has already reached its useful service life. It is tested once a week. Provide 75KW, outdoor, diesel powered generator.

There is 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 learning education center building is provided with battery backup lighting fixtures.

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

The stage lighting controller is old and has exceeded its service life. Theatrical lighting system is ON/OFF from local panel-board. The entire system should be replaced.

The system is portable with an amplifier under the wood podium. Provide a permanent installed sound system

GROUPS SYSTEMS

The site surrounds the building on all four sides which is set back from the street. Yard area on South and West sides are concrete paving with no parking for staff vehicles. All paving, including driveway and access to entrances is in fair condition with some cracks and spalling developed. Cast iron fence surrounding most of the site is in fair condition. Landscaping covers about 1% of the site and is mature and in good condition.

Site Lighting- The school parking lot is poorly illuminated at least 4 pole mounted fixtures are required for security.

Site Video Surveillance- CCTV cameras around the building perimeter and parking lot are provided.

Site Paging- There are wall mounted loud speaker facing the parking lot/playground area

RECOMMENDATIONS

- [Install stair or ladder access to roof – none installed](#)
- Replace Plexiglas windows – hazed
- Provide ADA compliant exterior door hardware at one entrance
- Provide ADA lever handle lock/latchsets on interior doors
- Repair or replace rusted, dented, scratched doors and frames
- Provide new toilet partitions and toilet accessories including grab bars for accessibility
- Install new ID signage
- Replace railing in stairways with code compliant
- Repair and repaint interior walls (30% of wall surface)
- Repair & refinish hardwood flooring (40% incl. auditorium and stage)
- Replace VCT - damaged and mismatched VCT and VAT floor tiles
- Replace suspended ceiling grids – failing and past useful life
- Install elevator for accessibility (location TBD)
- Replace window shades/blinds - failing
- Replace auditorium seats – failing
- Provide ADA compliant ramp at one entrance (location TBD)
- Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These

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units are well beyond their service life and most are NOT accessible type.

- Replace the original copper domestic water piping to eliminate joints made with lead solder.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Hire a qualified contractor to perform a detailed examination of the roof drain piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the 8,000 gallon underground storage tank (UST) installed before 2000 with an above ground concrete-encased tank in the next 5-10 years.
- Repair underground steam piping to annex building.
- Hire a qualified contractor to examine the steam and condensate piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the existing radiators with finned coil units.
- Replace existing air handler including heating, cooling, humidification, and dehumidification.
- Remove the window air conditioning units and install a 180 ton air-cooled chiller on the roof with chilled water pumps located in fan room on the basement level to supply more reliable air conditioning for the building with a much longer service life.
- Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A packaged, outdoor, engine driven fire pump may be required depending on the available city water pressure.
- The electrical service entrance should be upgraded, using the present utility pole, and a larger transformer pit. The new service will be 480V/277V, 3 phase power, approximate 1000 Amperes and will be located in the vicinity of the existing electrical service.
- Replace the entire distribution system with new panels and new wiring/conduits. Approximate (14) 208/120V.
- Provide (2) 25FT of surface raceways with 24" receptacles on center and two-duplex wall mount receptacles. Approximate 560 receptacles.
- Replace old fire alarm system with addressable type with audio/visual devices at corridors and classrooms. Approximate 98 devices.
- Provide a new clock system, wireless battery operated. Approximate 60 clocks.
- Provide 75KW, outdoor, diesel powered generator.
- Prepare a study to determine if existing lightning protection system provide the proper coverage to the school building.
- Provide a dimming and theatrical lighting.
- Provide a sound system to the auditorium.
- Provide 4 pole mounted lighting fixtures since the parking lot is poorly illuminated.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S140001		

Site Condition Summary

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

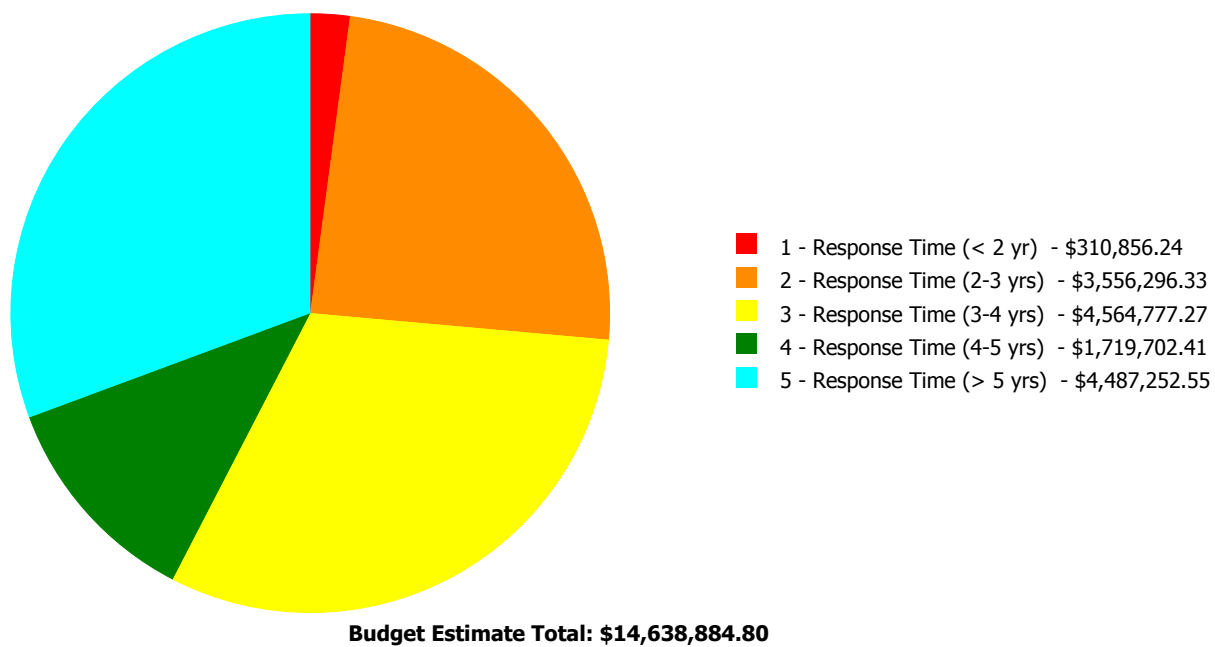
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	37.00 %	0.00 %	\$0.00
A20 - Basement Construction	37.00 %	0.00 %	\$0.00
B10 - Superstructure	37.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	36.72 %	24.65 %	\$1,011,447.89
B30 - Roofing	25.00 %	0.00 %	\$0.00
C10 - Interior Construction	37.14 %	15.51 %	\$277,096.69
C20 - Stairs	37.00 %	18.92 %	\$19,419.22
C30 - Interior Finishes	84.21 %	26.22 %	\$1,071,088.32
D10 - Conveying	0.00 %	225.70 %	\$585,557.03
D20 - Plumbing	37.27 %	50.69 %	\$753,452.35
D30 - HVAC	101.54 %	82.39 %	\$6,670,976.12
D40 - Fire Protection	92.47 %	177.71 %	\$1,042,523.72
D50 - Electrical	110.11 %	38.39 %	\$1,642,407.88
E10 - Equipment	48.49 %	25.34 %	\$293,594.70
E20 - Furnishings	110.00 %	281.73 %	\$844,846.54
G20 - Site Improvements	32.58 %	4.53 %	\$35,509.12
G30 - Site Mechanical Utilities	106.67 %	158.24 %	\$310,856.24
G40 - Site Electrical Utilities	27.43 %	36.47 %	\$80,108.98
Totals:	65.53 %	38.51 %	\$14,638,884.80

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)
B140001;Patterson	72,876	38.61	\$0.00	\$3,440,678.23	\$4,564,777.27	\$1,719,702.41	\$4,487,252.55
G140001;Grounds	50,500	35.55	\$310,856.24	\$115,618.10	\$0.00	\$0.00	\$0.00
Total:		38.51	\$310,856.24	\$3,556,296.33	\$4,564,777.27	\$1,719,702.41	\$4,487,252.55

Deficiencies By Priority



Executive Summary

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

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):	72,876
Year Built:	1920
Last Renovation:	
Replacement Value:	\$36,814,798
Repair Cost:	\$14,212,410.46
Total FCI:	38.61 %
Total RSLI:	66.24 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B140001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S140001		

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	RSI %	FCI %	Current Repair Cost
A10 - Foundations	37.00 %	0.00 %	\$0.00
A20 - Basement Construction	37.00 %	0.00 %	\$0.00
B10 - Superstructure	37.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	36.72 %	24.65 %	\$1,011,447.89
B30 - Roofing	25.00 %	0.00 %	\$0.00
C10 - Interior Construction	37.14 %	15.51 %	\$277,096.69
C20 - Stairs	37.00 %	18.92 %	\$19,419.22
C30 - Interior Finishes	84.21 %	26.22 %	\$1,071,088.32
D10 - Conveying	0.00 %	225.70 %	\$585,557.03
D20 - Plumbing	37.27 %	50.69 %	\$753,452.35
D30 - HVAC	101.54 %	82.39 %	\$6,670,976.12
D40 - Fire Protection	92.47 %	177.71 %	\$1,042,523.72
D50 - Electrical	110.11 %	38.39 %	\$1,642,407.88
E10 - Equipment	48.49 %	25.34 %	\$293,594.70
E20 - Furnishings	110.00 %	281.73 %	\$844,846.54
Totals:	66.24 %	38.61 %	\$14,212,410.46

Condition Detail

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

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

System Listing

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

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

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

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.	72,786	100	1920	2020	2052	37.00 %	0.00 %	37			\$1,339,262
A1030	Slab on Grade	\$7.73	S.F.	72,786	100	1920	2020	2052	37.00 %	0.00 %	37			\$562,636
A2010	Basement Excavation	\$6.55	S.F.	72,786	100	1920	2020	2052	37.00 %	0.00 %	37			\$476,748
A2020	Basement Walls	\$12.70	S.F.	72,786	100	1920	2020	2052	37.00 %	0.00 %	37			\$924,382
B1010	Floor Construction	\$75.10	S.F.	72,786	100	1920	2020	2052	37.00 %	0.00 %	37			\$5,466,229
B1020	Roof Construction	\$13.88	S.F.	72,786	100	1920	2020	2052	37.00 %	0.00 %	37			\$1,010,270
B2010	Exterior Walls	\$36.91	S.F.	72,786	100	1920	2020	2052	37.00 %	0.08 %	37		\$2,219.07	\$2,686,531
B2020	Exterior Windows	\$18.01	S.F.	72,786	40	1990	2030		37.50 %	76.99 %	15		\$1,009,228.82	\$1,310,876
B2030	Exterior Doors	\$1.45	S.F.	72,786	25	1990	2015	2020	20.00 %	0.00 %	5			\$105,540
B3010105	Built-Up	\$37.76	S.F.	20,861	20	2000	2020		25.00 %	0.00 %	5			\$787,711
B3020	Roof Openings	\$0.06	S.F.	72,786	20	2000	2020		25.00 %	0.00 %	5			\$4,367
C1010	Partitions	\$17.91	S.F.	72,786	100	1920	2020	2052	37.00 %	0.00 %	37			\$1,303,597
C1020	Interior Doors	\$3.51	S.F.	72,786	40	1990	2030		37.50 %	101.98 %	15		\$260,545.42	\$255,479
C1030	Fittings	\$3.12	S.F.	72,786	40	1990	2030		37.50 %	7.29 %	15		\$16,551.27	\$227,092
C2010	Stair Construction	\$1.41	S.F.	72,786	100	1920	2020	2052	37.00 %	18.92 %	37		\$19,419.22	\$102,628
C3010230	Paint & Covering	\$12.94	S.F.	72,786	10	2010	2020		50.00 %	33.74 %	5		\$317,787.40	\$941,851
C3010232	Wall Tile	\$3.87	S.F.	72,786	30	1990	2020		16.67 %	0.00 %	5			\$281,682
C3020412	Terrazzo & Tile	\$75.52	S.F.	3,639	50	1990	2040		50.00 %	0.00 %	25			\$274,817

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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 \$
C3020413	Vinyl Flooring	\$9.68	S.F.	7,279	20	1990	2010	2037	110.00 %	28.62 %	22		\$20,164.77	\$70,461
C3020414	Wood Flooring	\$22.27	S.F.	43,672	25	1990	2015	2042	108.00 %	19.37 %	27		\$188,421.45	\$972,575
C3020415	Concrete Floor Finishes	\$0.97	S.F.	18,197	50	1990	2040		50.00 %	0.00 %	25			\$17,651
C3030	Ceiling Finishes	\$20.97	S.F.	72,786	25	1990	2015	2042	108.00 %	35.69 %	27		\$544,714.70	\$1,526,322
D1010	Elevators and Lifts	\$3.56	S.F.	72,876	35				0.00 %	225.70 %			\$585,557.03	\$259,439
D2010	Plumbing Fixtures	\$13.52	S.F.	72,786	35	1950	1985	2025	28.57 %	6.16 %	10		\$60,633.52	\$984,067
D2020	Domestic Water Distribution	\$1.68	S.F.	72,786	25	1950	1975	2042	108.00 %	211.35 %	27		\$258,435.38	\$122,280
D2030	Sanitary Waste	\$2.90	S.F.	72,786	25	1950	1975	2025	40.00 %	146.61 %	10		\$309,458.65	\$211,079
D2040	Rain Water Drainage	\$2.32	S.F.	72,786	30	1950	1980	2025	33.33 %	73.98 %	10		\$124,924.80	\$168,864
D3020	Heat Generating Systems	\$18.67	S.F.	72,786	35	2004	2039		68.57 %	0.00 %	24			\$1,358,915
D3030	Cooling Generating Systems	\$24.48	S.F.	72,786	30	1921	1951	2047	106.67 %	65.68 %	32		\$1,170,354.45	\$1,781,801
D3040	Distribution Systems	\$42.99	S.F.	72,786	25	1921	1946	2042	108.00 %	134.08 %	27		\$4,195,311.80	\$3,129,070
D3050	Terminal & Package Units	\$11.60	S.F.	72,786	20	1921	1941	2037	110.00 %	0.00 %	22			\$844,318
D3060	Controls & Instrumentation	\$13.50	S.F.	72,786	20	1921	1941	2037	110.00 %	132.84 %	22		\$1,305,309.87	\$982,611
D4010	Sprinklers	\$7.05	S.F.	72,786	35	1921	1956	2052	105.71 %	203.17 %	37		\$1,042,523.72	\$513,141
D4020	Standpipes	\$1.01	S.F.	72,786	35				0.00 %	0.00 %				\$73,514
D5010	Electrical Service/Distribution	\$9.70	S.F.	72,786	30	1921	1951	2047	106.67 %	111.98 %	32		\$790,578.35	\$706,024
D5020	Lighting and Branch Wiring	\$34.68	S.F.	72,786	20	1921	1941	2037	110.00 %	12.59 %	22		\$317,899.52	\$2,524,218
D5030	Communications and Security	\$12.99	S.F.	72,786	15	1921	1936	2032	113.33 %	41.79 %	17		\$395,160.50	\$945,490
D5090	Other Electrical Systems	\$1.41	S.F.	72,786	30	1921	1951	2047	106.67 %	135.22 %	32		\$138,769.51	\$102,628
E1020	Institutional Equipment	\$4.82	S.F.	72,786	35	1990	2025		28.57 %	83.69 %	10		\$293,594.70	\$350,829
E1090	Other Equipment	\$11.10	S.F.	72,786	35	2000	2035		57.14 %	0.00 %	20			\$807,925
E2010	Fixed Furnishings	\$4.12	S.F.	72,786	20	1990	2010	2037	110.00 %	281.73 %	22		\$844,846.54	\$299,878
Total									66.24 %	38.61 %			\$14,212,410.46	\$36,814,798

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:	77% Paint & Coverings 23% Wall Tile (20% glazed block, 3% tile)	
System:	C3010230 - Paint & Covering	This system contains no images
Note:		
System:	C3020 - Floor Finishes	This system contains no images
Note:	5% - Terrazzo & Tile 10% - Vinyl Flooring 60% - Wood Flooring 25% - Concrete Flooring Finishes	
System:	C3030 - Ceiling Finishes	This system contains no images
Note:	50% Suspended ceiling, 50% painted plaster/ceramic	
System:	D5010 - Electrical Service/Distribution	This system contains no images
Note:	Phase converter (1) 75KVA 240V 120/208V	

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:	\$14,212,410	\$0	\$0	\$0	\$0	\$2,704,895	\$0	\$0	\$0	\$0	\$2,535,058	\$19,452,363
* A - Substructure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
A10 - Foundations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
A1010 - Standard Foundations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
A1030 - Slab on Grade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
A20 - Basement Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
A2010 - Basement Excavation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
A2020 - Basement Walls	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B - Shell	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B10 - Superstructure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B1010 - Floor Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B1020 - Roof Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B20 - Exterior Enclosure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B2010 - Exterior Walls	\$2,219	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,219
B2020 - Exterior Windows	\$1,009,229	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,009,229
B2030 - Exterior Doors	\$0	\$0	\$0	\$0	\$0	\$134,585	\$0	\$0	\$0	\$0	\$0	\$134,585
B30 - Roofing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B3010 - Roof Coverings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B3010105 - Built-Up	\$0	\$0	\$0	\$0	\$0	\$1,004,490	\$0	\$0	\$0	\$0	\$0	\$1,004,490
B3020 - Roof Openings	\$0	\$0	\$0	\$0	\$0	\$5,569	\$0	\$0	\$0	\$0	\$0	\$5,569
C - Interiors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C10 - Interior Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C1010 - Partitions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C1020 - Interior Doors	\$260,545	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$260,545
C1030 - Fittings	\$16,551	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,551
C20 - Stairs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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C2010 - Stair Construction	\$19,419	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,419
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	\$317,787	\$0	\$0	\$0	\$0	\$1,201,050	\$0	\$0	\$0	\$0	\$0	\$1,518,837
C3010232 - Wall Tile	\$0	\$0	\$0	\$0	\$0	\$359,201	\$0	\$0	\$0	\$0	\$0	\$359,201
C3020 - Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020412 - Terrazzo & Tile	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020413 - Vinyl Flooring	\$20,165	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,165
C3020414 - Wood Flooring	\$188,421	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$188,421
C3020415 - Concrete Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3030 - Ceiling Finishes	\$544,715	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$544,715
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	\$585,557	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$585,557
D20 - Plumbing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2010 - Plumbing Fixtures	\$60,634	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,454,753	\$1,515,387
D2020 - Domestic Water Distribution	\$258,435	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$258,435
D2030 - Sanitary Waste	\$309,459	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$312,040	\$621,499
D2040 - Rain Water Drainage	\$124,925	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$249,632	\$374,557
D30 - HVAC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3020 - Heat Generating Systems	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3030 - Cooling Generating Systems	\$1,170,354	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,170,354
D3040 - Distribution Systems	\$4,195,312	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,195,312
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3060 - Controls & Instrumentation	\$1,305,310	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,305,310
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$1,042,524	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,042,524
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	\$790,578	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$790,578
D5020 - Lighting and Branch Wiring	\$317,900	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$317,900
D5030 - Communications and Security	\$395,161	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$395,161
D5090 - Other Electrical Systems	\$138,770	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$138,770

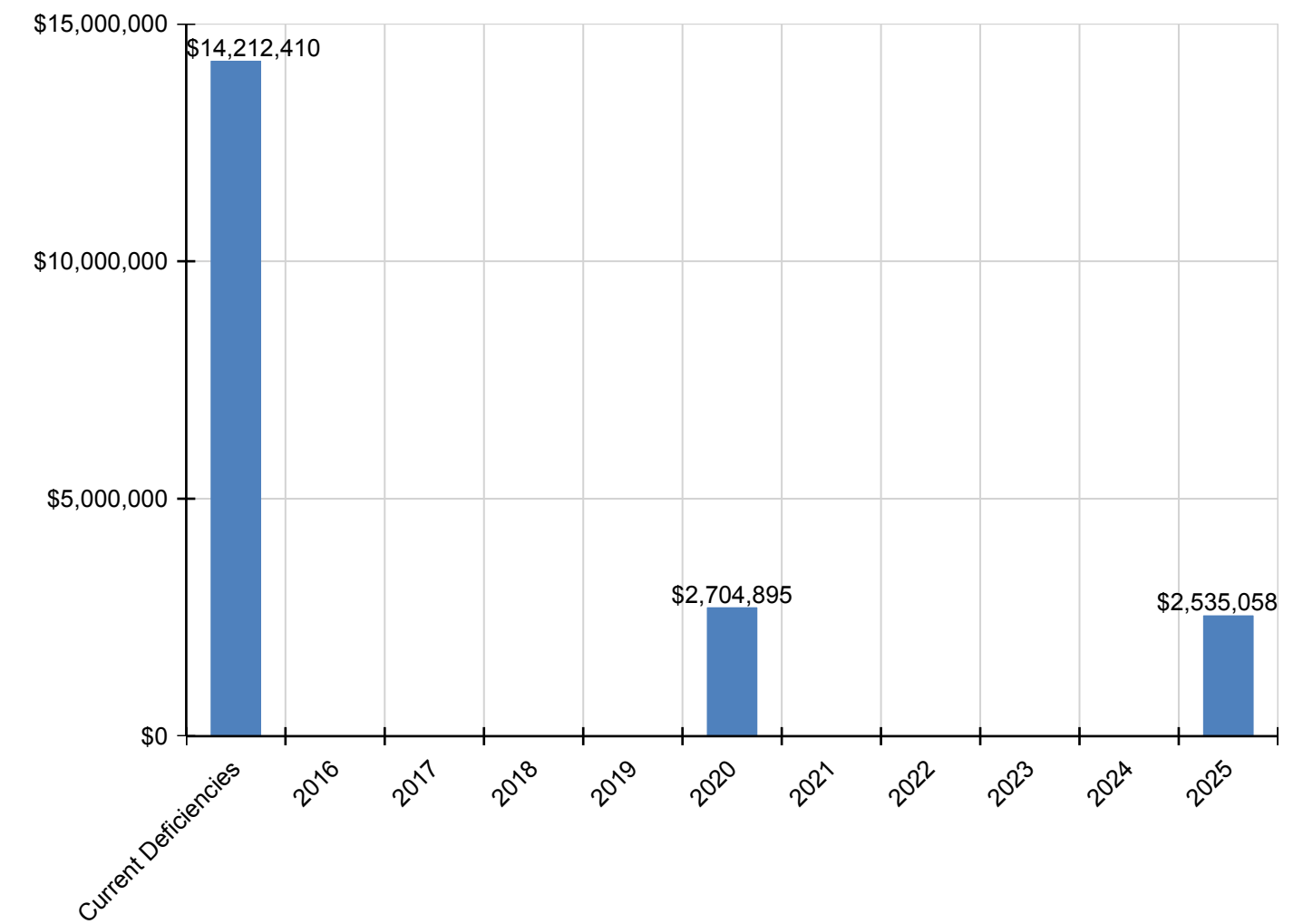
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E - Equipment & Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E10 - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E1020 - Institutional Equipment	\$293,595	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$518,632	\$812,227
E1090 - Other 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	\$844,847	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$844,847

* Indicates non-renewable system

Forecasted Sustainment Requirement

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

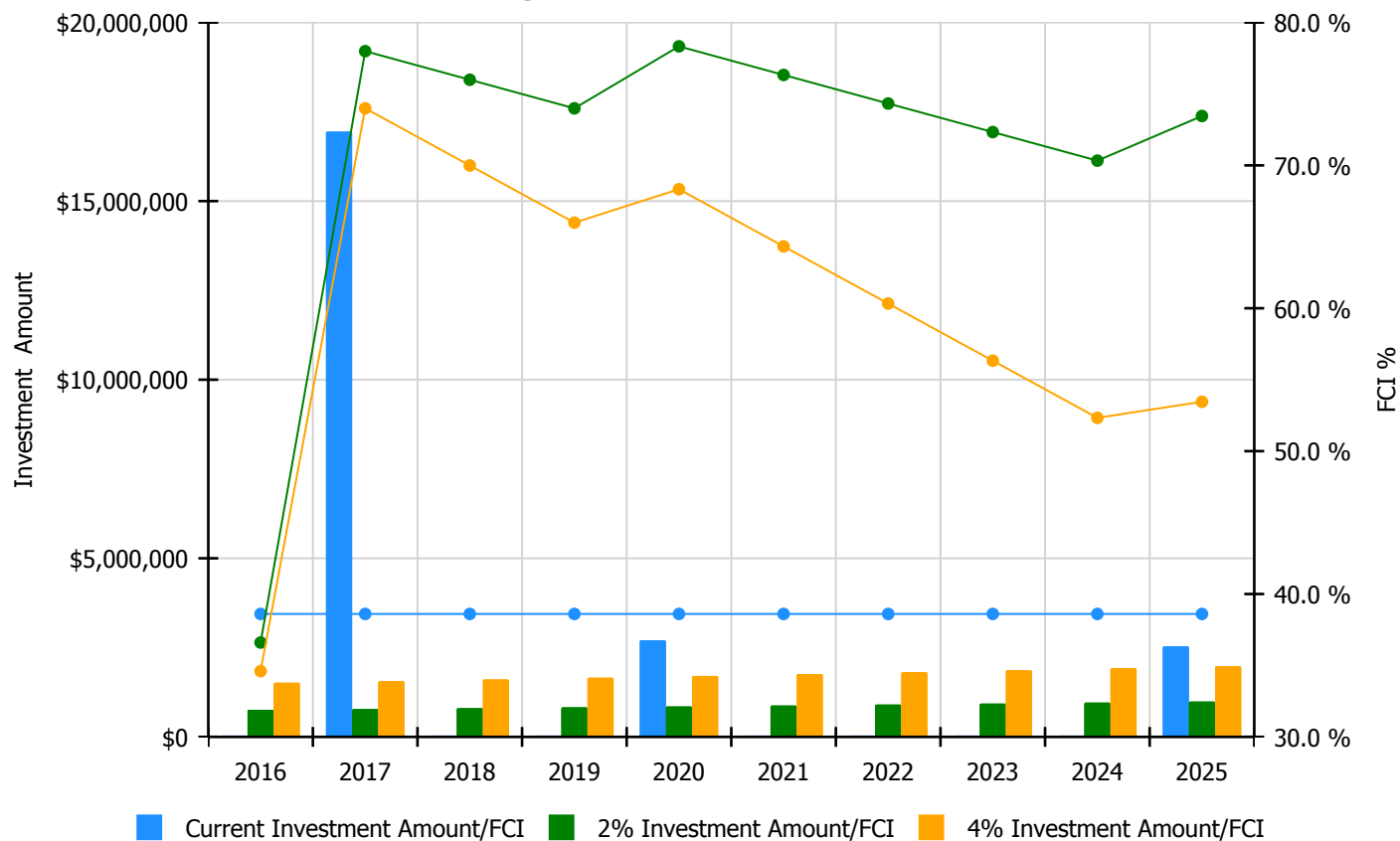


10 Year FCI Forecast by Investment Scenario

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:

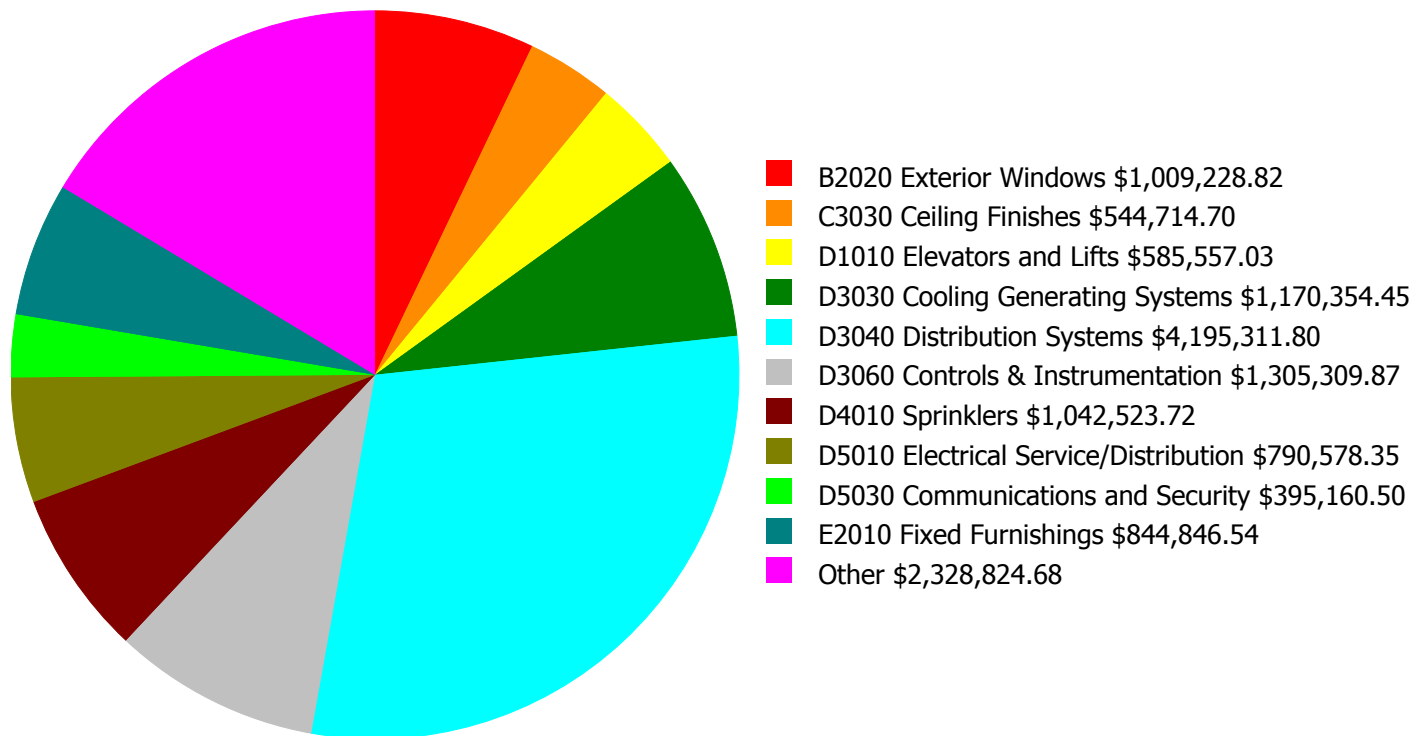
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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

Facility Investment vs. FCI Forecast



Deficiency Summary by System

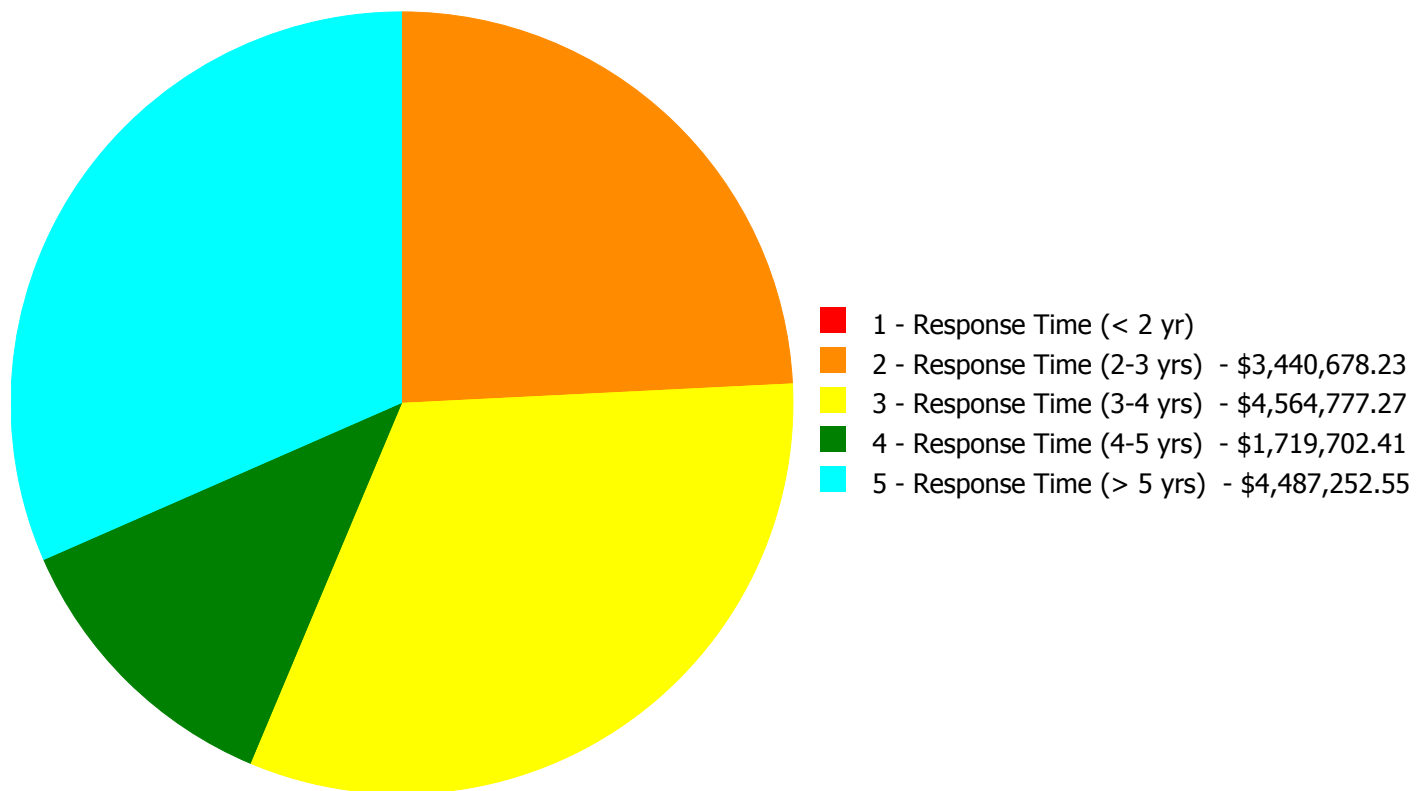
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$14,212,410.46

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: \$14,212,410.46

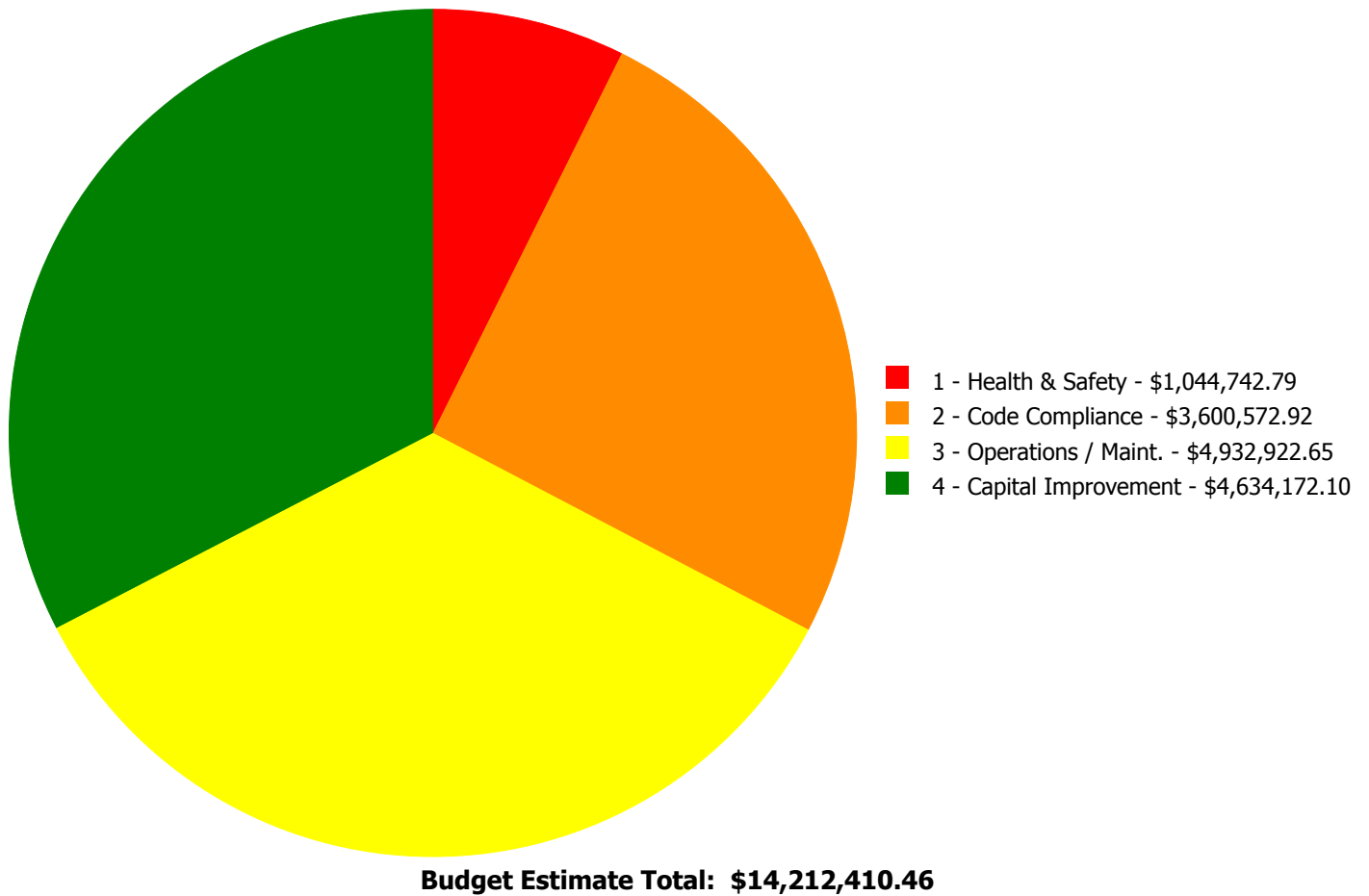
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	\$0.00	\$2,219.07	\$0.00	\$0.00	\$0.00	\$2,219.07
B2020	Exterior Windows	\$0.00	\$1,009,228.82	\$0.00	\$0.00	\$0.00	\$1,009,228.82
C1020	Interior Doors	\$0.00	\$260,545.42	\$0.00	\$0.00	\$0.00	\$260,545.42
C1030	Fittings	\$0.00	\$16,551.27	\$0.00	\$0.00	\$0.00	\$16,551.27
C2010	Stair Construction	\$0.00	\$19,419.22	\$0.00	\$0.00	\$0.00	\$19,419.22
C3010230	Paint & Covering	\$0.00	\$0.00	\$317,787.40	\$0.00	\$0.00	\$317,787.40
C3020413	Vinyl Flooring	\$0.00	\$20,164.77	\$0.00	\$0.00	\$0.00	\$20,164.77
C3020414	Wood Flooring	\$0.00	\$0.00	\$0.00	\$188,421.45	\$0.00	\$188,421.45
C3030	Ceiling Finishes	\$0.00	\$0.00	\$544,714.70	\$0.00	\$0.00	\$544,714.70
D1010	Elevators and Lifts	\$0.00	\$585,557.03	\$0.00	\$0.00	\$0.00	\$585,557.03
D2010	Plumbing Fixtures	\$0.00	\$0.00	\$0.00	\$60,633.52	\$0.00	\$60,633.52
D2020	Domestic Water Distribution	\$0.00	\$0.00	\$0.00	\$0.00	\$258,435.38	\$258,435.38
D2030	Sanitary Waste	\$0.00	\$0.00	\$309,458.65	\$0.00	\$0.00	\$309,458.65
D2040	Rain Water Drainage	\$0.00	\$124,924.80	\$0.00	\$0.00	\$0.00	\$124,924.80
D3030	Cooling Generating Systems	\$0.00	\$0.00	\$0.00	\$0.00	\$1,170,354.45	\$1,170,354.45
D3040	Distribution Systems	\$0.00	\$0.00	\$1,136,849.08	\$0.00	\$3,058,462.72	\$4,195,311.80
D3060	Controls & Instrumentation	\$0.00	\$0.00	\$1,305,309.87	\$0.00	\$0.00	\$1,305,309.87
D4010	Sprinklers	\$0.00	\$0.00	\$0.00	\$1,042,523.72	\$0.00	\$1,042,523.72
D5010	Electrical Service/Distribution	\$0.00	\$362,454.63	\$0.00	\$428,123.72	\$0.00	\$790,578.35
D5020	Lighting and Branch Wiring	\$0.00	\$317,899.52	\$0.00	\$0.00	\$0.00	\$317,899.52
D5030	Communications and Security	\$0.00	\$184,871.42	\$210,289.08	\$0.00	\$0.00	\$395,160.50
D5090	Other Electrical Systems	\$0.00	\$138,769.51	\$0.00	\$0.00	\$0.00	\$138,769.51
E1020	Institutional Equipment	\$0.00	\$0.00	\$293,594.70	\$0.00	\$0.00	\$293,594.70
E2010	Fixed Furnishings	\$0.00	\$398,072.75	\$446,773.79	\$0.00	\$0.00	\$844,846.54
	Total:	\$0.00	\$3,440,678.23	\$4,564,777.27	\$1,719,702.41	\$4,487,252.55	\$14,212,410.46

Deficiency Summary by Category

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



Deficiency Details by Priority

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

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

System: B2010 - Exterior Walls



Location: Roof access

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Add fixed ladders to wall

Qty: 8.00

Unit of Measure: V.L.F.

Estimate: \$2,219.07

Assessor Name: System

Date Created: 07/30/2015

Notes: Install stair or ladder access to roof – none installed

System: B2020 - Exterior Windows



Location: Main building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Remove and replace double slider windows

Qty: 200.00

Unit of Measure: Ea.

Estimate: \$1,009,228.82

Assessor Name: System

Date Created: 07/29/2015

Notes: Replace Plexiglas windows - hazed

System: C1020 - Interior Doors



Location: Throughout

Distress: Damaged

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: 50.00

Unit of Measure: Ea.

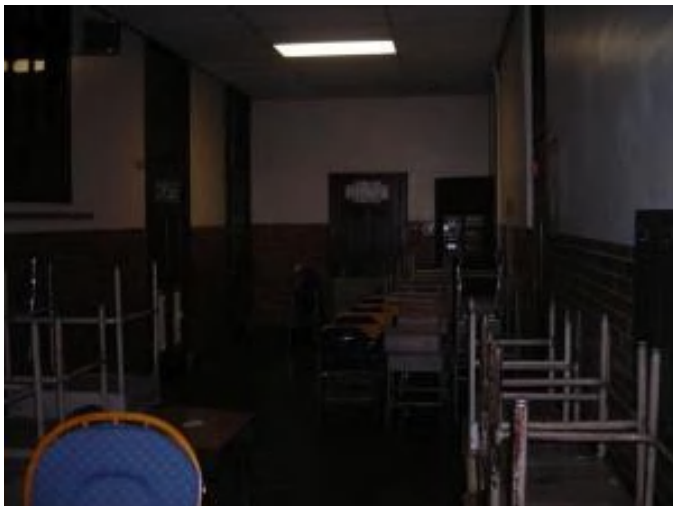
Estimate: \$232,716.95

Assessor Name: System

Date Created: 07/29/2015

Notes: Repair or replace rusted, dented, scratched doors and frames

System: C1020 - Interior Doors



Location: Throughout

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace door knobs with compliant lever type

Qty: 50.00

Unit of Measure: Ea.

Estimate: \$27,828.47

Assessor Name: System

Date Created: 07/29/2015

Notes: Provide ADA lever handle lock/latchsets on interior doors

System: C1030 - Fittings



Location: Throughout

Distress: Inadequate

Category: 4 - Capital Improvement

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

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

Qty: 80.00

Unit of Measure: Ea.

Estimate: \$16,551.27

Assessor Name: System

Date Created: 07/29/2015

Notes: Install new ID signage

System: C2010 - Stair Construction



Location: Stairways

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 115.00

Unit of Measure: L.F.

Estimate: \$19,419.22

Assessor Name: System

Date Created: 07/30/2015

Notes: Replace railing in stairways with code compliant

System: C3020413 - Vinyl Flooring



Location: 1st floor, kitchen

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: \$20,164.77

Assessor Name: System

Date Created: 07/30/2015

Notes: Replace VCT - damaged and mismatched VCT and VAT floor tiles

System: D1010 - Elevators and Lifts



Location: TBD

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: \$585,557.03

Assessor Name: System

Date Created: 07/30/2015

Notes: Install elevator for accessibility (location TBD)

System: D2040 - Rain Water Drainage



Location: Entire building

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace roof drains - per drain including piping

Qty: 18.00

Unit of Measure: Ea.

Estimate: \$124,924.80

Assessor Name: System

Date Created: 08/04/2015

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

System: D5010 - Electrical Service/Distribution



Location: Basement boiler room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace Switchboard

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$362,454.63

Assessor Name: System

Date Created: 07/28/2015

Notes: The electrical service entrance should be upgraded, using the present utility pole, and a larger transformer pit. The new service will be 480V/277V, 3 phase power, approximate 1000 Amperes and will be located in the vicinity of the existing electrical service.

System: D5020 - Lighting and Branch Wiring



Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide surface raceway system and wiring devices

Qty: 560.00

Unit of Measure: L.F.

Estimate: \$317,899.52

Assessor Name: System

Date Created: 07/28/2015

Notes: Provide (2)25FT of surface raceways with 24" receptacles on center and two-duplex wall mount receptacles. Approximate 560 receptacles.

System: D5030 - Communications and Security



Location: Entire school

Distress: Obsolete

Category: 3 - Operations / Maint.

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

Correction: Replace fire alarm system

Qty: 98.00

Unit of Measure: S.F.

Estimate: \$184,871.42

Assessor Name: System

Date Created: 07/28/2015

Notes: Replace old fire alarm system with addressable type with audio/visual devices at corridors and classrooms. Approximate 98 devices.

System: D5090 - Other Electrical Systems



Location: Outdoor

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$114,519.69

Assessor Name: System

Date Created: 08/12/2015

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

System: D5090 - Other Electrical Systems



Location: Roof

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Repair Lightning Protection System

Qty: 1.00

Unit of Measure: Job

Estimate: \$24,249.82

Assessor Name: System

Date Created: 07/28/2015

Notes: Prepare a study to determine if existing lightning protection system provide the proper coverage to the school building.

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: 450.00

Unit of Measure: Ea.

Estimate: \$398,072.75

Assessor Name: System

Date Created: 07/30/2015

Notes: Replace auditorium seats – failing

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

System: C3010230 - Paint & Covering



Location: Main building

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 44,000.00

Unit of Measure: S.F.

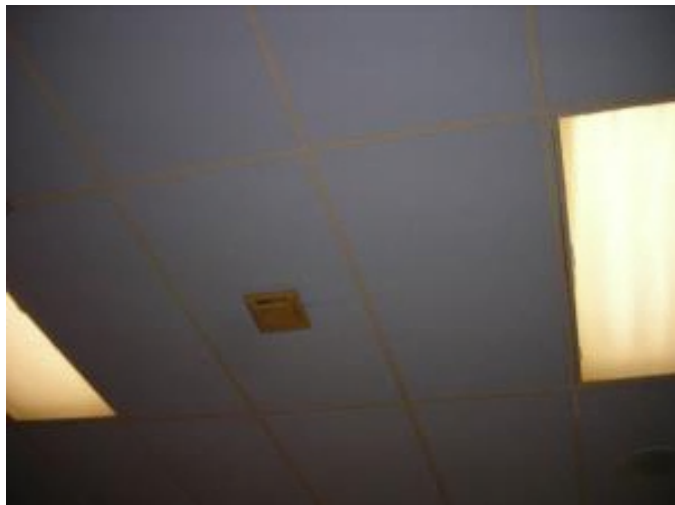
Estimate: \$317,787.40

Assessor Name: System

Date Created: 07/30/2015

Notes: Repair and repaint interior walls (30% of wall surface)

System: C3030 - Ceiling Finishes



Location: Kitchen, floors 1-3

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 45,000.00

Unit of Measure: S.F.

Estimate: \$544,714.70

Assessor Name: System

Date Created: 07/30/2015

Notes: Replace suspended ceiling grids – failing and past useful life

System: D2030 - Sanitary Waste



Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 72,872.00

Unit of Measure: S.F.

Estimate: \$309,458.65

Assessor Name: System

Date Created: 08/03/2015

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

System: D3040 - Distribution Systems



Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 72,876.00

Unit of Measure: S.F.

Estimate: \$689,434.12

Assessor Name: System

Date Created: 08/04/2015

Notes: Hire a qualified contractor to examine the steam and condensate piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems



Location: Fan room

Distress: Obsolete

Category: 3 - Operations / Maint.

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

Correction: Install / replace HVAC unit for Auditorium (800 seat).

Qty: 800.00

Unit of Measure: Seat

Estimate: \$447,414.96

Assessor Name: System

Date Created: 08/04/2015

Notes: Replace existing air handler including heating, cooling, humidification, and dehumidification.

System: D3060 - Controls & Instrumentation



Location: Entire building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (150KSF)

Qty: 72,876.00

Unit of Measure: S.F.

Estimate: \$1,305,309.87

Assessor Name: System

Date Created: 08/04/2015

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

System: D5030 - Communications and Security



Location: Entire school

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Clock System or Components

Qty: 60.00

Unit of Measure: Ea.

Estimate: \$160,422.37

Assessor Name: System

Date Created: 07/28/2015

Notes: Provide a new clock system, wireless battery operated. Approximate 60 clocks.

System: D5030 - Communications and Security



Location: Auditorium

Distress: Obsolete

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Sound System

Qty: 1.00

Unit of Measure: LS

Estimate: \$49,866.71

Assessor Name: System

Date Created: 07/31/2015

Notes: Provide a sound system to the auditorium.

System: E1020 - Institutional Equipment



Location: Auditorium

Distress: Obsolete

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

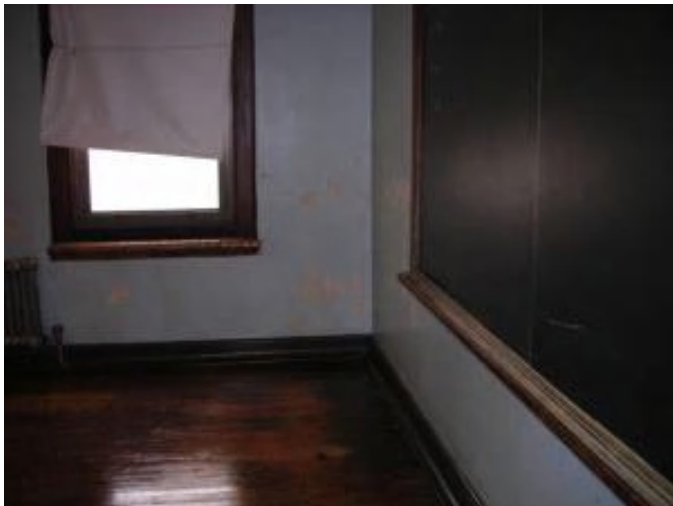
Estimate: \$293,594.70

Assessor Name: System

Date Created: 07/31/2015

Notes: Provide a dimming and theatrical lighting.

System: E2010 - Fixed Furnishings



Location: Classrooms

Distress: Not Reliable

Category: 3 - Operations / Maint.

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

Correction: Replace or add roller shades

Qty: 30,000.00

Unit of Measure: S.F.

Estimate: \$446,773.79

Assessor Name: System

Date Created: 07/30/2015

Notes: Replace window shades/blinds - failing

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

System: C3020414 - Wood Flooring



Location: Classrooms, Auditorium

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Refinish wood floors

Qty: 17,500.00

Unit of Measure: S.F.

Estimate: \$188,421.45

Assessor Name: System

Date Created: 07/30/2015

Notes: Repair and refinish hardwood flooring (40% incl. auditorium and stage)

System: D2010 - Plumbing Fixtures



Location: Corridors

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 8.00

Unit of Measure: Ea.

Estimate: \$60,633.52

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.

System: D4010 - Sprinklers

This deficiency has no image.

Location: Entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Install a fire protection sprinkler system

Qty: 72,876.00

Unit of Measure: S.F.

Estimate: \$1,042,523.72

Assessor Name: System

Date Created: 08/04/2015

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

System: D5010 - Electrical Service/Distribution



Location: Corridors

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace Electrical DIstribution System (U1)

Qty: 14.00

Unit of Measure: Ea.

Estimate: \$428,123.72

Assessor Name: System

Date Created: 07/28/2015

Notes: Replace the entire distribution system with new panels and new wiring/conduits. Approximate (14) 208/120V

Priority 5 - Response Time (> 5 yrs):

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: 51,000.00

Unit of Measure: S.F.

Estimate: \$258,435.38

Assessor Name: System

Date Created: 08/03/2015

Notes: Replace the original copper domestic water piping to eliminate joints made with lead solder.

System: D3030 - Cooling Generating Systems



Location: Entire building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 72,876.00

Unit of Measure: S.F.

Estimate: \$1,170,354.45

Assessor Name: System

Date Created: 08/04/2015

Notes: Remove the window air conditioning units and install a 180 ton air-cooled chiller on the roof with chilled water pumps located in fan room on the basement level to supply more reliable air conditioning for the building with a much longer service life.

System: D3040 - Distribution Systems



Location: classrooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 35.00

Unit of Measure: Room

Estimate: \$2,907,134.68

Assessor Name: System

Date Created: 01/21/2016

Notes: Replace the obsolete ventilation system for the classrooms with fan coil units and a dedicated OA unit.

System: D3040 - Distribution Systems



Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 375.00

Unit of Measure: L.F.

Estimate: \$151,328.04

Assessor Name: System

Date Created: 08/04/2015

Notes: Replace the existing radiators with finned coil units.

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, oil fired, flame retention burner, cast iron, steam, gross output, 3820 MBH, includes standard controls and insulated flush jacket, packaged	2.00	Ea.	Boiler room					35	2004	2039	\$67,020.00	\$147,444.00
D3040 Distribution Systems	AHU, field fabricated, built up, cool/heat coils, filters, constant volume, 75,000 CFM	1.00	Ea.	Basement					25	1921	2042	\$189,333.30	\$208,266.63
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, subfeed lug-rated, 400 amp, excl breakers	1.00	Ea.	Basement					30	1921	2047	\$3,167.10	\$3,483.81
												Total:	\$359,194.44

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): 50,500

Year Built: 1920

Last Renovation:

Replacement Value: \$1,199,628

Repair Cost: \$426,474.34

Total FCI: 35.55 %

Total RSLI: 43.77 %



Description:

Attributes:

General Attributes:

Bldg ID:	S140001	Site ID:	S140001
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Condition Summary

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

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
G20 - Site Improvements	32.58 %	4.53 %	\$35,509.12
G30 - Site Mechanical Utilities	106.67 %	158.24 %	\$310,856.24
G40 - Site Electrical Utilities	27.43 %	36.47 %	\$80,108.98
Totals:	43.77 %	35.55 %	\$426,474.34

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 \$
G2030	Pedestrian Paving	\$11.52	S.F.	48,900	40	1990	2030		37.50 %	6.30 %	15		\$35,509.12	\$563,328
G2040	Site Development	\$4.36	S.F.	50,500	25	1990	2015	2020	20.00 %	0.00 %	5			\$220,180
G3040	Heating Distribution	\$3.89	S.F.	50,500	30			2047	106.67 %	158.24 %	32		\$310,856.24	\$196,445
G4020	Site Lighting	\$3.58	S.F.	50,500	30	1995	2025		33.33 %	44.31 %	10		\$80,108.98	\$180,790
G4030	Site Communications & Security	\$0.77	S.F.	50,500	30				0.00 %	0.00 %				\$38,885
Total									43.77 %	35.55 %			\$426,474.34	\$1,199,628

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.

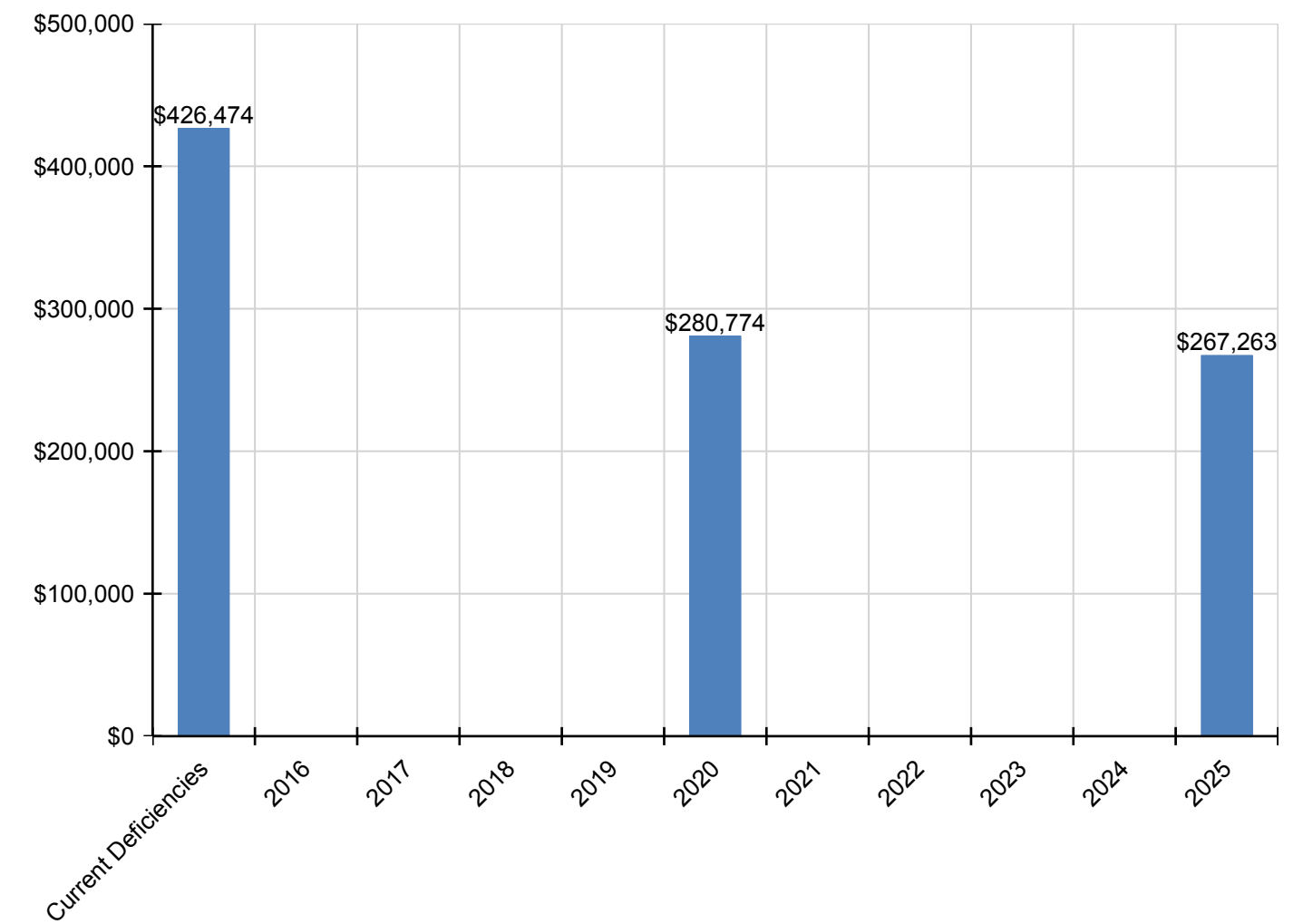
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	\$426,474	\$0	\$0	\$0	\$0	\$280,774	\$0	\$0	\$0	\$0	\$267,263	\$974,512
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
G2030 - Pedestrian Paving	\$35,509	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,509
G2040 - Site Development	\$0	\$0	\$0	\$0	\$0	\$280,774	\$0	\$0	\$0	\$0	\$0	\$280,774
G30 - Site Mechanical Utilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G3040 - Heating Distribution	\$310,856	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$310,856
G40 - Site Electrical Utilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G4020 - Site Lighting	\$80,109	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$267,263	\$347,372
G4030 - Site Communications & Security	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

** Indicates non-renewable system*

Forecasted Sustainment Requirement

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

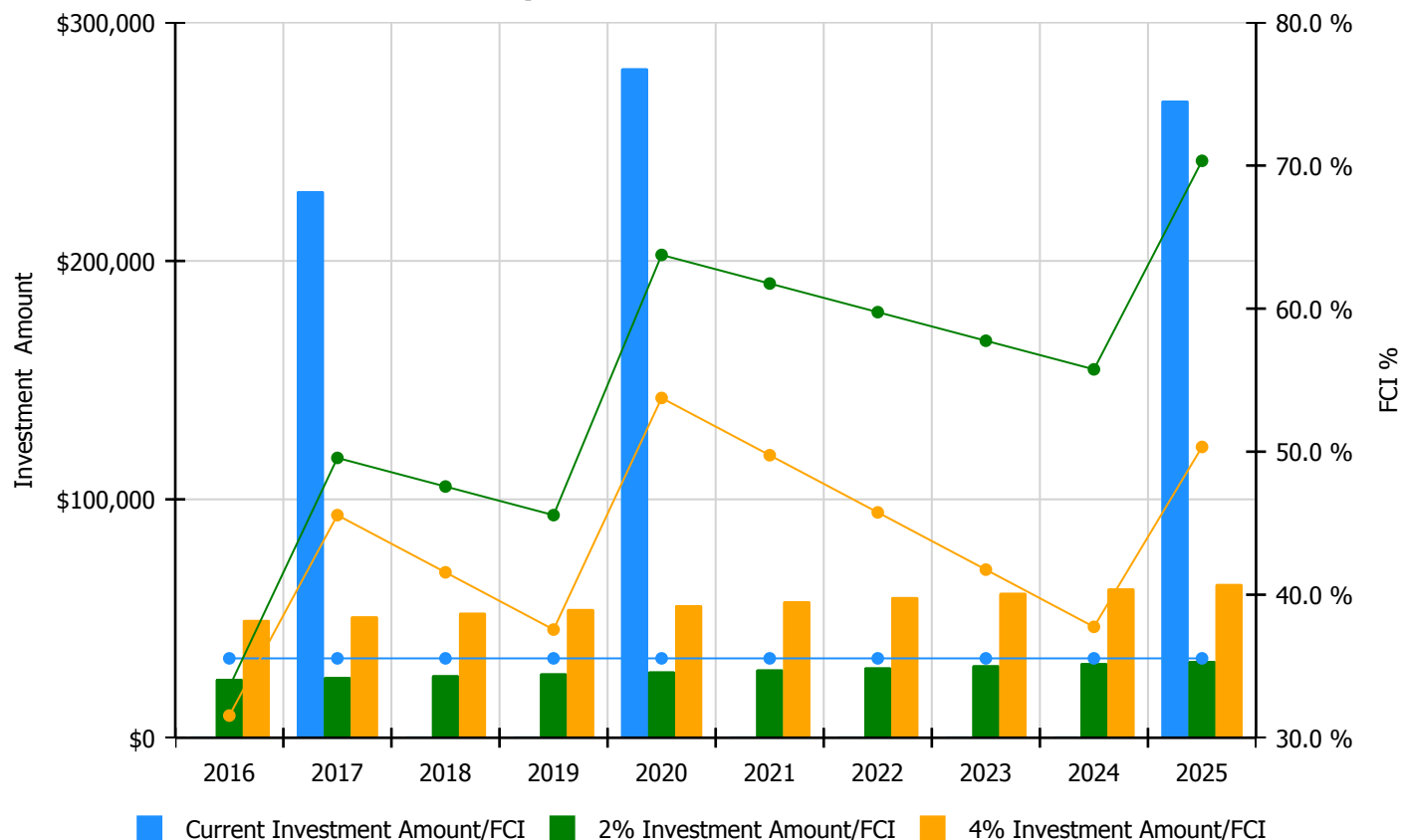


10 Year FCI Forecast by Investment Scenario

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

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

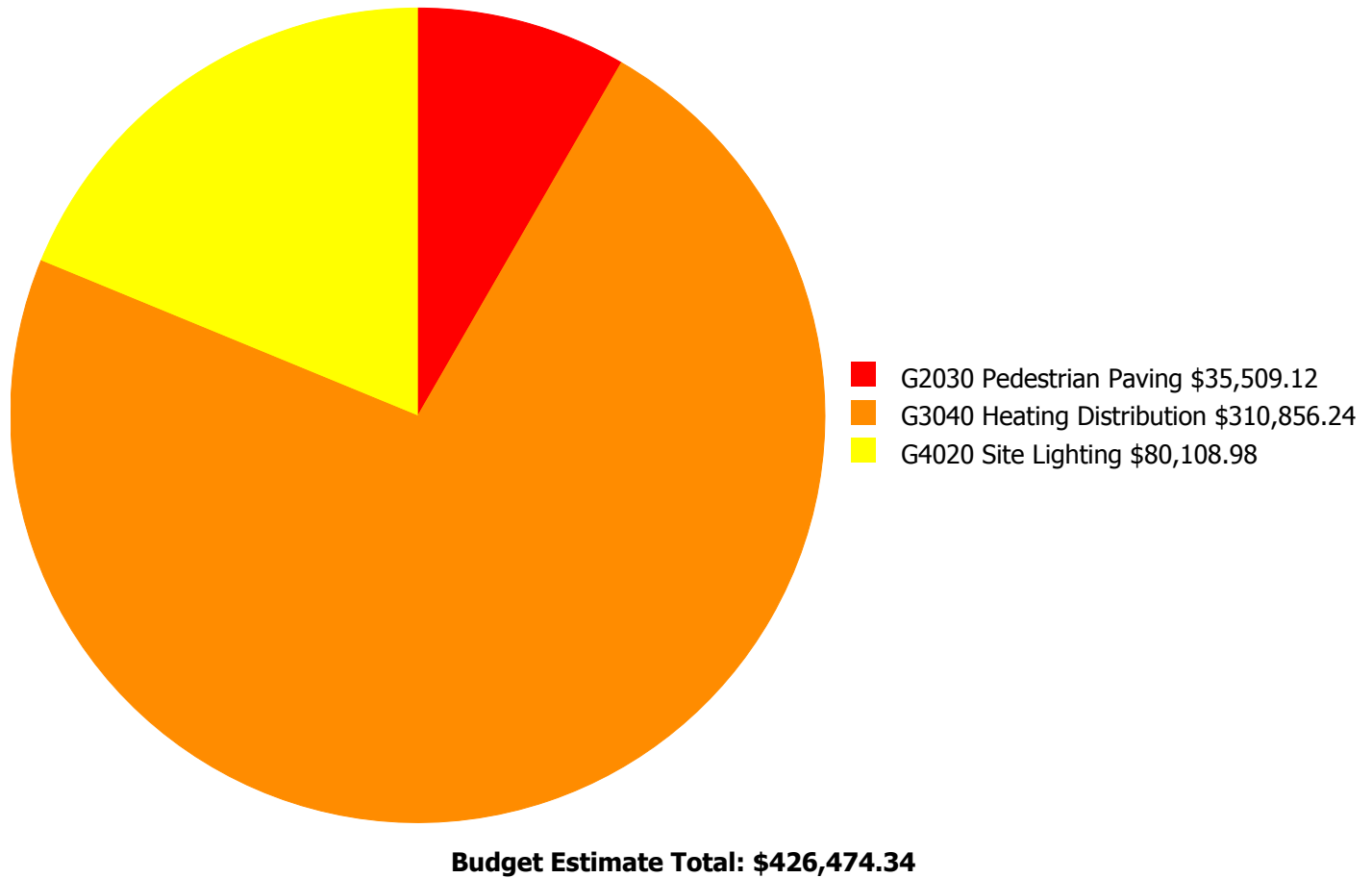
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 35.55%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$24,712.00	33.55 %	\$49,425.00	31.55 %
2017	\$229,250	\$25,454.00	49.56 %	\$50,907.00	45.56 %
2018	\$0	\$26,217.00	47.56 %	\$52,435.00	41.56 %
2019	\$0	\$27,004.00	45.56 %	\$54,008.00	37.56 %
2020	\$280,774	\$27,814.00	63.75 %	\$55,628.00	53.75 %
2021	\$0	\$28,648.00	61.75 %	\$57,297.00	49.75 %
2022	\$0	\$29,508.00	59.75 %	\$59,016.00	45.75 %
2023	\$0	\$30,393.00	57.75 %	\$60,786.00	41.75 %
2024	\$0	\$31,305.00	55.75 %	\$62,610.00	37.75 %
2025	\$267,263	\$32,244.00	70.33 %	\$64,488.00	50.33 %
Total:	\$777,287	\$283,299.00		\$566,600.00	

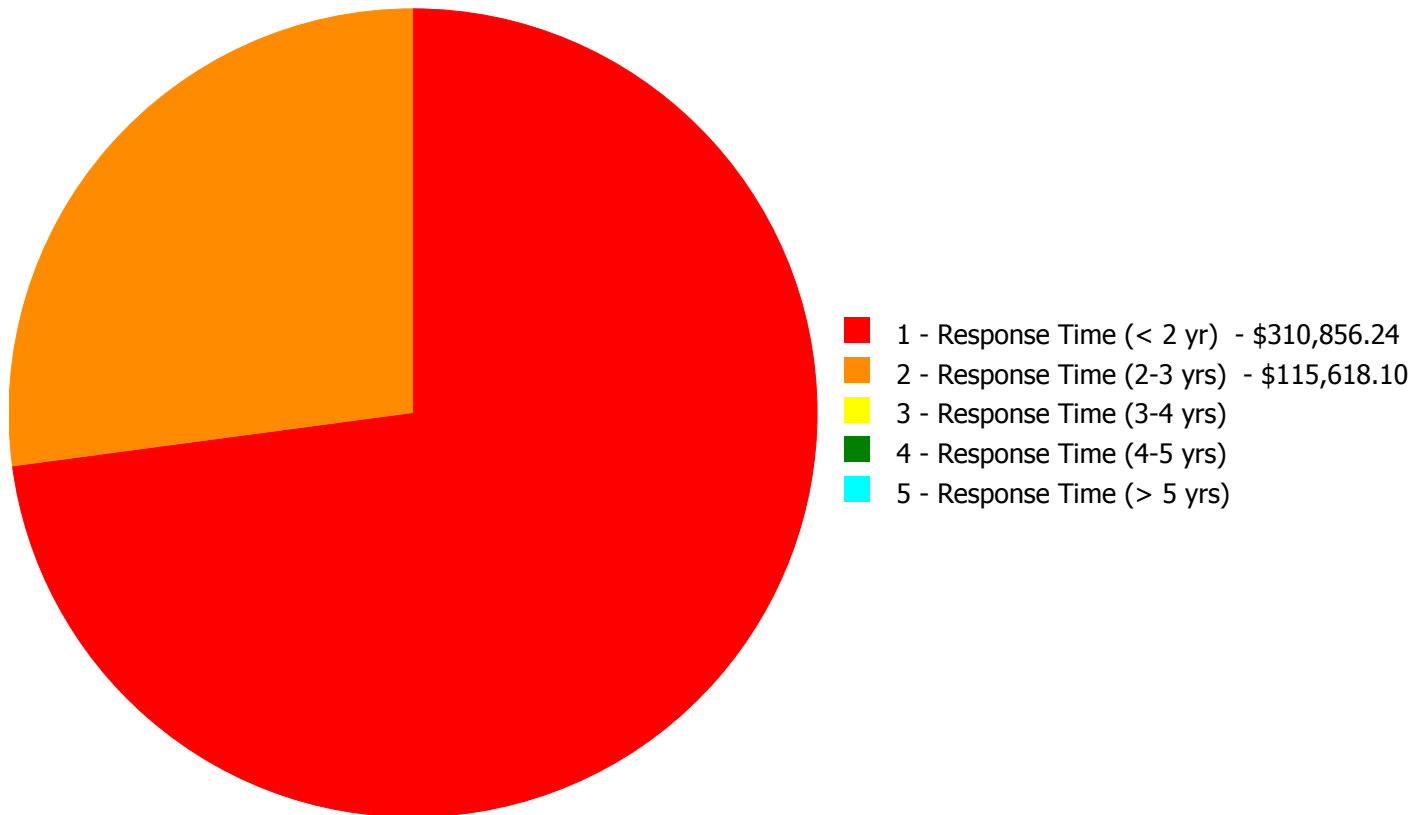
Deficiency Summary by System

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.



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: \$426,474.34

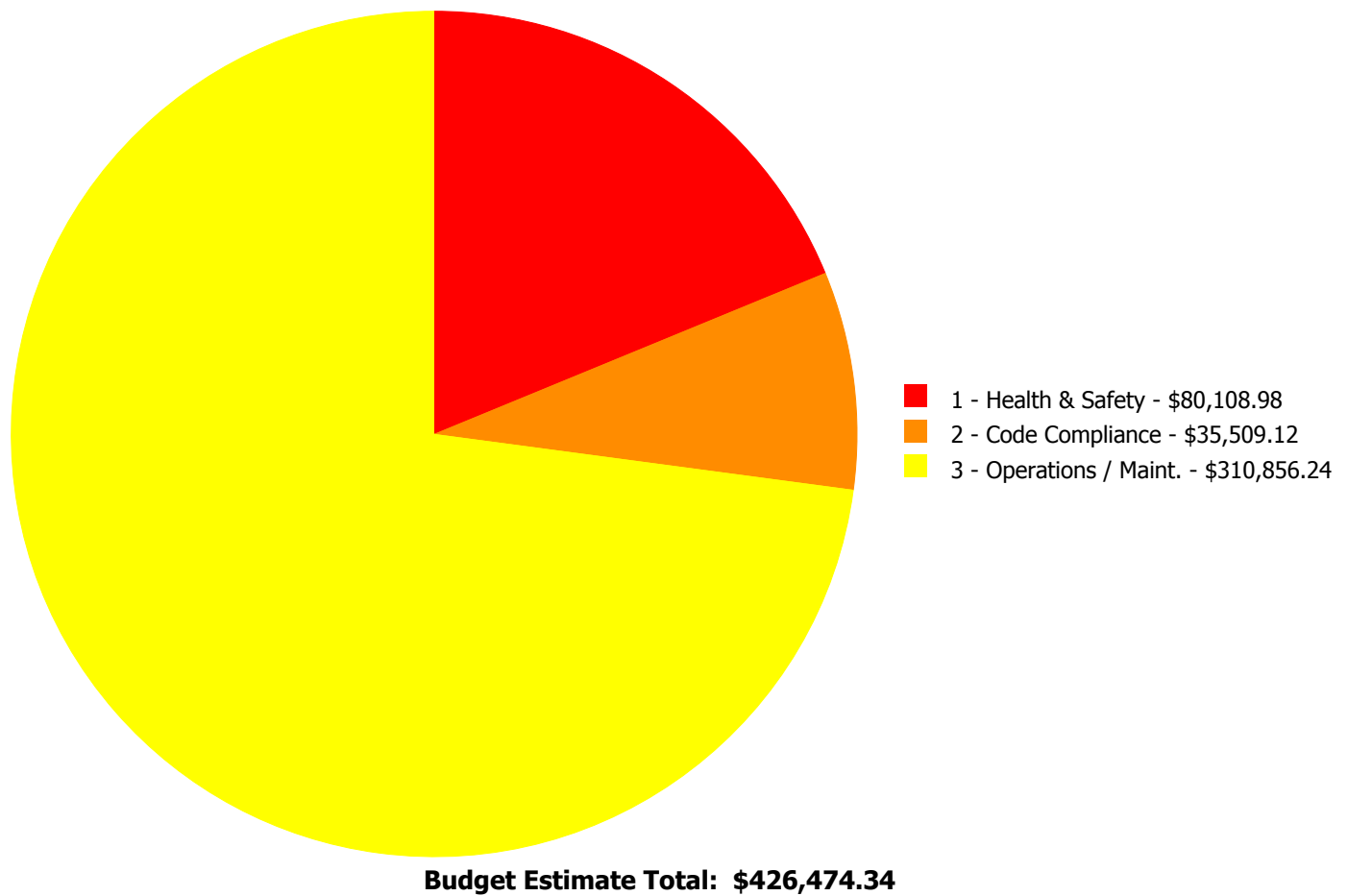
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	\$0.00	\$35,509.12	\$0.00	\$0.00	\$0.00	\$35,509.12
G3040	Heating Distribution	\$310,856.24	\$0.00	\$0.00	\$0.00	\$0.00	\$310,856.24
G4020	Site Lighting	\$0.00	\$80,108.98	\$0.00	\$0.00	\$0.00	\$80,108.98
	Total:	\$310,856.24	\$115,618.10	\$0.00	\$0.00	\$0.00	\$426,474.34

Deficiency Summary by Category

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



Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: G3040 - Heating Distribution

This deficiency has no image.

Location: G140001;Grounds

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace buried steam and condensate piping.

Qty: 160.00

Unit of Measure: L.F.

Estimate: \$310,856.24

Assessor Name: Craig Anding

Date Created: 09/09/2016

Notes: Replace underground steam and condensate pipe to annex building.

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

System: G2030 - Pedestrian Paving



Location: Entrance

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Install an exterior ADA ramp - based on 5' wide by the linear foot - up to 84" rise - per LF of ramp - figure 1 LF of ramp per inch of rise

Qty: 15.00

Unit of Measure: L.F.

Estimate: \$35,509.12

Assessor Name: Craig Anding

Date Created: 07/29/2015

Notes: Provide ADA compliant ramp at one entrance (location TBD)

System: G4020 - Site Lighting



Location: Parking lot

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add Site Lighting - pole mounted - select the proper light and pole

Qty: 4.00

Unit of Measure: Ea.

Estimate: \$80,108.98

Assessor Name: Craig Anding

Date Created: 07/28/2015

Notes: The school parking lot is poorly illuminated at least 4 pole mounted fixtures are required for security.

Equipment Inventory

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

No data found for this asset

Glossary

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

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

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

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

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

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

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

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

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

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SEER	Seasonal Energy Efficiency Ratio
SHR	Sensible Heat Ratio
Site	The grounds and utilities roadways landscaping fencing and other typical land improvements needed to support the facility.
Soft Cost	An expense item that is not considered direct construction cost. Soft cost includes architectural engineering financing legal fees and other pre-and-post construction expenses.
SOx	Sulfur Oxide Compounds
SP	Static Pressure
SP SPB	Simple Payback
SPP	Simple Payback Period
SPP	Small Power Producers
STR	Stack Temperature Rise
SV	Specific Volume
System	System refers to building and related site work elements as described by ASTM 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

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