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.

Building 21 (Ferguson) School

Governance	DISTRICT	Report Type	High
Address	2000 N. 7Th St.	Enrollment	345
	Philadelphia, Pa 19122	Grade Range	'09-11'
Phone/Fax	215-684-2030 / 215-684-2172	Admissions Category	Citywide
Website	Www.Philasd.Org/Schools/Building21	Turnaround Model	N/A

Building/System FCI Tiers

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

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**47.14%**	**$23,729,597**	**$50,341,001**
Building	46.47 %	$22,956,071	$49,397,261
Grounds	81.96 %	$773,526	$943,740

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.73 %	$718,299	$800,512
Exterior Walls (Shows condition of the structural condition of the exterior facade)	38.89 %	$1,433,653	$3,685,980
Windows (Shows functionality of exterior windows)	00.00 %	$0	$1,798,551
Exterior Doors (Shows condition of exterior doors)	125.79 %	$182,146	$144,803
Interior Doors (Classroom doors)	109.22 %	$382,840	$350,523
Interior Walls (Paint and Finishes)	00.00 %	$0	$1,678,713
Plumbing Fixtures	06.74 %	$90,950	$1,350,161
Boilers	85.75 %	$1,598,800	$1,864,461
Chillers/Cooling Towers	60.71 %	$1,484,223	$2,444,671
Radiators/Unit Ventilators/HVAC	133.72 %	$5,740,635	$4,293,153
Heating/Cooling Controls	158.55 %	$2,137,484	$1,348,164
Electrical Service and Distribution	159.22 %	$1,542,323	$968,681
Lighting	55.22 %	$1,912,522	$3,463,284
Communications and Security (Cameras, Pa System and Fire Alarm)	49.10 %	$636,973	$1,297,233

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

S529001;Ferguson

Final

Site Assessment Report

February 2, 2017

PARSONS

Table of Contents

Site Executive Summary

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

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

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

Gross Area (SF):	99,864
Year Built:	1922
Last Renovation:	2007
Replacement Value:	$50,341,001
Repair Cost:	$23,729,597.09
Total FCI:	47.14 %
Total RSLI:	68.91 %

Description:

Facility assessment, August 2015

School District of Philadelphia

Ferguson Elementary School

2000 N. 7th Street

Philadelphia, PA 19122

99,864 SF / 994 Students / LN 05

The Ferguson Elementary school building is located at 2000 N. 7th Street in Philadelphia, PA. The 3 story with basement, 99,864 square foot building was originally constructed in 1922. The original building has C-shape footprint. One of the wings on east side was extended approximately in the 1950's with a 3 story addition. Floors in the addition are not on the same level as original building. The building has a basement partially above ground and an access penthouse on the roof.

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

STRUCTURAL/ EXTERIOR CLOSURE:

The building typically rests on concrete foundations and bearing walls that are not showing signs of settlement. There is minor water seepage through basement walls during rain, especially in the unused coal and ash bunkers located directly below exposed first floor terrace on east side of the building. Foundation walls do not show signs of deterioration. The mold build-up is not evident in bunkers and other parts of mechanical spaces. The basement slab does not show signs of heaving.

The main structure consists typically of cast-in-place concrete columns, beams and one-way concrete slabs with hollow ceramic filler blocks. Long slab spans are supported with steel truss girders. Above ground floor slabs are generally in good condition, however floor slab above the basement (coal/ash bin and general storage) shows some structural deterioration including spalled concrete and exposed, and rusting reinforcement. This slab was reconstructed (date unknown) with concrete slab over metal deck supported by steel framing with fireproofing applied to both.

The roof structure is typically similar to floor construction.

The building envelope is typically masonry with face brick with decorative stone friezes above windows over second and third floor on elevations facing streets. In general, masonry is in poor condition with deteriorated and missing mortar from joints; the chimney shows cracks below steel banding reinforcing its top portion.

The original windows were replaced in 1995 with extruded aluminum double hung windows, double glazed. Basement and first floor windows are fitted with integral security screens. All windows are generally in good condition. The windows in stairways and corridor ends are typically glass block.

Roofing is typically built-up over the original building and modified bitumen over added wing. All roofing and flashing is typically in poor condition with deterioration of the built-up system including water ponding and soft spots; no leaks have been reported.

Exterior doors are typically hollow metal in fair to poor condition; they are beyond their service life. Generally, the building is not accessible per ADA requirements due to first floor-grade separation and elevation difference between floors of the original building and added wing, with no ramps or lifts.

INTERIORS:

Partition wall types include plastered ceramic hollow blocks and painted CMU. Corridors, basement spaces and fire towers have glazed brick wainscot in the original building. The interior wall finishes are generally painted plaster or CMU and some painted brick. Walls in toilets are covered with ceramic tile installed in 2007. Generally, paint is in fair condition with some deterioration in stairways and auditorium. Most ceilings are exposed, plastered and painted. 2x4 suspended acoustical panels are installed in library in 2014.

Flooring in classrooms, and auditorium is generally hardwood; and patterned concrete in most corridors in the original building. Added wing has mostly VAT in classrooms and corridors. Some classrooms and gym have VCT installed in mid 2000's. Floor in toilets is typically ceramic tile installed in 2007.

Interior doors are generally rail and stile wood doors, some glazed, in wood frames (original building); and solid core in hollow metal frames in added wing. Doors in original building are typically beyond their service life. Most doors are fitted with door knobs and are not ADA compliant.

Fittings include original chalk boards, generally in poor condition. Toilet partitions and accessories in are in very good condition, installed in 2007; handrails, generally in good condition. Interior identifying signage is typically directly painted on wall or door surfaces generally in poor condition.

Stair construction is generally concrete with cast iron non-slip treads in good condition.

Furnishings include fixed casework in classrooms, corridors and library, generally in good condition; window shades/blinds, generally in good condition; fixed auditorium seating is original, generally in fair condition with some damaged and missing seats; it is beyond the service life.

CONVEYING SYSTEMS:

The building has no elevators.

PLUMBING:

Plumbing Fixtures - Many of the original plumbing fixtures were replaced approximately 10 years ago according to the Custodial Assistant. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. Many of the restrooms are handicap accessible. These fixtures are in good condition and should provide reliable service for the next 15-20 years.

Drinking fountains in the corridors and at the restrooms are wall hung with integral refrigerated coolers. They are well beyond their service life and should be replaced; most are NOT accessible type.

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

Domestic Water Distribution - A 3" city water service enters the building from N. 7th Street near the intersection with W. Norris Street. The 3" meter and valves are located in the basement near the stairs in the southeast corner of the building. A reduced pressure backflow preventer is installed. The original domestic hot and cold water distribution piping was replaced with copper piping and sweat fittings. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures, but the piping old and should be inspected and replaced as necessary by a qualified contractor.

Two Paloma instant hot water heaters with circulating pump, installation dates unknown, supply hot water for domestic use. The units are located in the basement boiler room. These two units should be replaced with two new instantaneous hot water heaters in the next 3-5 years. A water softener located in the boiler room supplies conditioned water to the boilers.

Sanitary Waste - The storm and sanitary sewer piping appears to be threaded galvanized pipe, which was probably installed in the 1950s.

A small sewage ejector pit located in basement receives water from the basement area. It has a single pump that appears to be within its service life.

The maintenance staff reported mostly minor problems with the sanitary waste piping systems. However, the sewer piping has been in service for decades 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 piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Rain Water Drainage - Rain water drains from the roof are routed through mechanical chases in the building and appear to be original. Some of the original galvanized piping has been repaired with HDPE piping and no-hub fittings. The drain piping should be inspected by a qualified contractor and repaired as necessary.

MECHANICAL:

Heat Generating Systems - Low pressure steam is generated at a maximum of 15 lbs/sq. in., typically 5-7 lbs/sq. in., by three (3) HB Smith cast iron sectional boilers. Boiler 1 is an HB Smith 450 Mills 117HP boiler. Boiler 2 is an HB Smith 4500 Mills 190HP boiler. Boiler 3 is an HB Smith 4500A Mills 196HP boiler. The building engineer did not know the installation years but they are estimated to be from the 1970s. One boiler can handle the load in normal winter weather conditions; two units are required on very cold days. Each boiler is equipped with a Power Flame burner designed to operate on natural gas or fuel oil; currently fuel oil is the only fuel source. Burner oil pumps are loose and not driven by the fan motor. The gas train serving each burner does appear to have code required venting of the regulators and dual solenoid valves with venting of the chamber between, but the gas line terminates within the basement and is not connected to the gas main from the street. The Building Engineer reports the system loses a significant amount of condensate due to failed traps, which is made up with chemically treated city water. Cast iron sectional boilers have an anticipated service life of 35 years or more; these units have been in service approximately 45 years and should be replaced. The boilers are operational but should be replaced within the next 3-5 years.

The condensate receiver and boiler feed tank are installed in the basement boiler room. The receiver pumps were recently replaced, but are covered in rust. A serious problem was reported with failed steam traps. Live steam passes into the condensate piping system from the failed traps and then vents from the condensate handling equipment. The boiler feed tank piping and pumps show significant rust damage. The District replaced steam traps in 2014 according to the Building Engineer, but the problem persists.

Distribution Systems - Steam piping is black steel with welded 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 radiators and unit ventilators on all three floors. The distribution piping has been in use well beyond its service life and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. 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 this piping over the next 10 years.

Two pipe cast iron radiators provide heating for the majority of classrooms, offices, and hallways in the original school. Unit ventilators and fin tube radiators provide heating and fresh air in the north addition to the building. These radiators and unit ventilators are original to the building and addition, are well beyond their service life and should be replaced. Ventilation for most of the original building is provided by gravity ventilators and opening windows, which does not meet current codes for outdoor air ventilation. A new heating system should be installed to meet ventilation requirements and achieve more efficient operation. The new units should be designed for quiet operation and equipped with hot water coils, chilled water coils, and integral heat exchangers, where applicable, to introduce outdoor air to the building.

There is no kitchen in this building, as it only serves premade meals. The basement Gymnasium doubles as a cafeteria.

The school has limited mechanical ventilation, only in the restrooms and the north addition via unit ventilators. The existing house fan provided ventilation system is inoperable as the house fan is decommissioned. Ventilation should be provided for the Gymnasium by a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in the window openings. Similar units could be installed for the administration offices. Ventilation should be provided for the Auditorium by installing a constant volume air handling unit with distribution ductwork and registers. These units would be equipped with hot water heating coils and chilled water cooling coils. Steam converters would be installed in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.

Eight (8) roof mounted exhaust fans, installed between 1999 and 20006, provide ventilation to the restrooms. All fans are operational according to the Building Engineer. The three (3) fans installed in 1999 are approaching the end of their service life and should be replaced while utilizing the existing ductwork.

Terminal & Package Units - Several of the classrooms in the school building have window air conditioning units that have an anticipated service life of only 10 years. Installing a 250 ton air-cooled chiller with pumps located in a mechanical room and chilled water distribution piping would supply more reliable air conditioning for the building with a much longer service life.

A Mitsubishi split system air conditioning system provides cooling to the LAN room located on the second floor. The installation date of this unit is unknown; the anticipated service life of a split system air conditioner is 15 years. The district should budget to replace this unit within the next 7-10 years.

Controls & Instrumentation - The original pneumatic systems no longer provide any control functions. Pneumatic room thermostats are intended to control the steam radiator control valves. In reality the radiator control valves are wide open and heating control is achieved via the boilers. Pneumatic control air is no longer supplied and the compressor has been removed. The pneumatic systems are beyond their service life. The original control valves and pneumatic actuators are beyond their service life and should be rebuilt or replaced. These controls should be converted to DDC.

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

Sprinklers - The 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. The building does have standpipe in the stairwells.

ELECTRICAL:

Site electrical service - The primary power is at 13.2KV from the street power pole which goes underground and feeds a 750KVA pad-mounted outdoor transformer (13.2KV – 120V/208V). The electrical service is old and has reached the end of its useful service. The main switchgear is rated at 2000A, 120V/208V, 3 phase, and is located in main electrical room. The PECO meter is also located inside the electrical room. The service entrance and the main building electrical distribution systems are old, in very poor condition, and do not have ample capacity for future growth.

Distribution system - The electrical distribution is accomplished with a 120V/208V, 3 phase distribution switchboards. Switchboard feeds the 120V panels throughout the building (two in each floor). These panels are in poor condition and have reached the end of their useful service.

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

Lighting - Interior building is illuminated by various types of fixtures. They include fluorescent lighting (with T-12 & T-8 lamp) in majority of the areas, including; classrooms, corridor, offices and Kitchen. Surface or pendant mounted industrial fluorescent fixtures are used in mechanical and electrical rooms. Gymnasium is illuminated by metal halide enclosed glass fixture. The majorities of interior lighting fixtures is in a poor condition and have reached the end of their useful service.

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

Telephone/LAN - The school telephone and data systems are new and working adequately. A main distribution frame (MDF) along with a telephone PBX system is providing the necessary communication function of the building. School is also equipped with Wi-Fi system.

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

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

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

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

Emergency Power System - School is not provided with an emergency generator to feed elevators, emergency lighting and other emergency loads.

Emergency lighting system, including exit lighting - there are insufficient emergency lighting fixtures in corridors, library and other exit ways. Exit signs and emergency fixtures are old and have reached the end of their useful service.

Lightning Protection System - There is adequate lightning protection system installed in the school. The roof has lightning rods that are connected to the ground via stranded copper cables all the way to the ground level.

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

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

Site Paging - The present Site paging System is not adequate. There are insufficient number of speaker on building’s exterior walls.

GROUNDS (SITE):

There is no parking lot at the site.

Playground adjacent to the building is in poor condition, paving is cracked and deteriorated; playground equipment is new. Original perimeter wrought iron picket fences are generally in poor condition and rusting. There is no landscaping, except two very small patches of grass at southwest and southeast corners of the original building.

ACCESSIBILITY:

The building does not have accessible entrance, and accessible routes. 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.

RECOMMENDATIONS:

- Repair deteriorated slab sections above basement (coal and ash bunkers area); epoxy seal joints at terrace above
- Repair cracks in masonry including chimney, tuck-point all walls
- Install all new roofing system including insulation within next 4 to 5 years; tear-down existing roofing; install flashing, counter flashing and reglets
- Replace exterior doors
- Repair and refinish folding partitions
- Repair (10%) & refinish hardwood flooring
- Replace all VAT tile
- Repair and repaint all ceilings
- Install new signage throughout
- Install 4000 lb traction elevator serving all floors and basement
- Provide wheelchair lifts on 3 floors between original building and added wing
- Provide ADA compliant ramp at one entrance (location TBD)
- Replace interior doors in original building
- Provide ADA compliant hardware on interior doors (added wing)
- Replace signage throughout
- Replace auditorium seating
- Resurface playground
- Replace picket fence
- Replace twelve (12) 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.
- Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for an indeterminate time, and replace any damaged piping.
- Replace existing Paloma gas fired instant hot water heaters with new gas fired instant hot water heaters.
- 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 rain water drainage piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the existing duplex fuel oil pumping system and associated controls.
- Replace the three existing cast iron boilers with three new 150HP boilers, which should be sufficient to heat the building. All burners and exhaust ductwork should be replaced as well.
- Hire a qualified contractor to examine the steam and condensate piping, in service for decades, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Remove the existing cast iron steam radiators and install units with hot and chilled water coils and integral heat exchangers to introduce outdoor air to the building.
- Replace the twenty four (24) existing unit ventilators with two pipe units that have integral heat exchangers to introduce outdoor air to the building.
- Remove the window air conditioning units and install a 250 ton air-cooled chiller with chilled water distribution piping and pumps to supply more reliable air conditioning for the building with a much longer service life.
- Provide ventilation for the Gymnasium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in the window openings.
- Provide ventilation for the administration offices by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.
- Provide ventilation for the Auditorium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.
- Replace three (3) existing roof mounted exhaust fans serving the restrooms and utilize the existing ductwork.
- 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 fire pump may be required depending on the available city water pressure.
- Install new Site electrical service 2000KVA, 480V, 3 Phase to feed the existing loads plus new HVAC additional loads.
- Install new 480V, 3 phase switchgear.
- Install a new MCC for the new HVAC loads.

- Install new 120V panelboards throughout the building for lighting, and receptacles loads.
- Install new receptacles in all classrooms and other areas (minimum two receptacles on each wall).
- Install new a lighting system for the entire building.
- Install a new automated/addressable FA system.
- Install a new clock System.
- Install a new 100 KW emergency generator.
- Install new emergency exit signs & emergency lights.
- Install new site lighting for safety of the people and security of property.
- Install new site paging on building exterior walls.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S529001		

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.

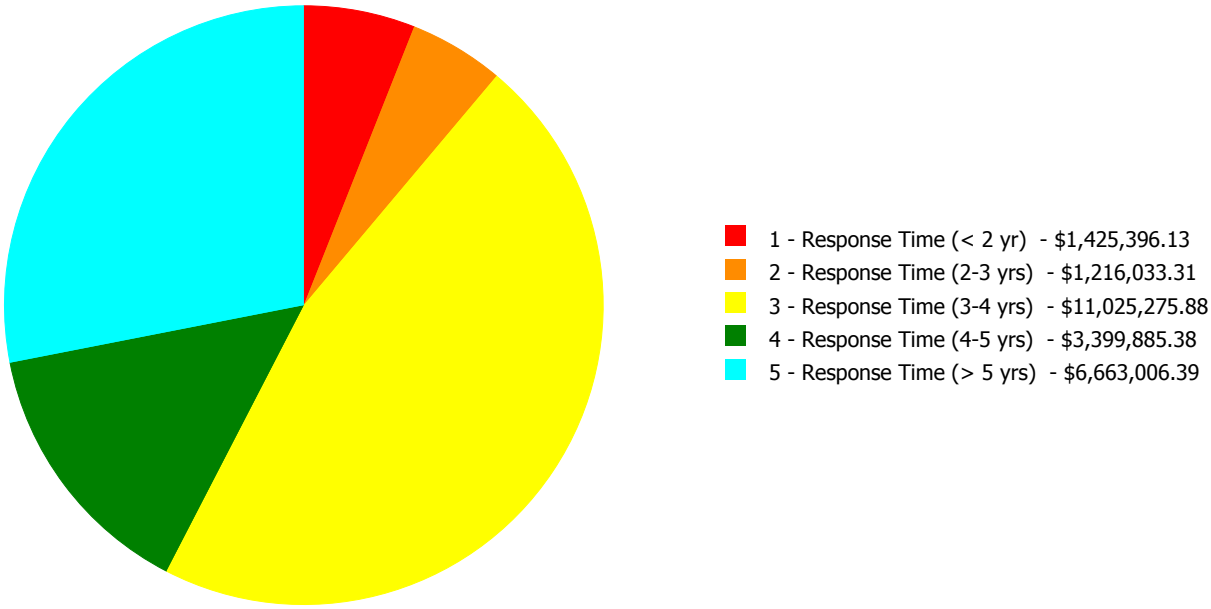
Current Investment Requirement and Condition by Uniformat Classification

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 %	1.37 %	$121,628.04
B20 - Exterior Enclosure	40.72 %	28.70 %	$1,615,798.99
B30 - Roofing	110.00 %	89.73 %	$718,298.63
C10 - Interior Construction	52.19 %	28.45 %	$697,278.27
C20 - Stairs	37.00 %	0.00 %	$0.00
C30 - Interior Finishes	70.29 %	16.37 %	$814,579.52
D10 - Conveying	105.71 %	247.69 %	$880,576.30
D20 - Plumbing	75.30 %	56.25 %	$1,147,140.83
D30 - HVAC	99.78 %	98.67 %	$10,961,142.26
D40 - Fire Protection	92.47 %	177.09 %	$1,425,396.13
D50 - Electrical	110.11 %	72.38 %	$4,248,995.03
E10 - Equipment	23.36 %	0.00 %	$0.00
E20 - Furnishings	105.00 %	152.90 %	$325,237.25
G20 - Site Improvements	95.32 %	73.32 %	$513,031.00
G40 - Site Electrical Utilities	106.67 %	106.75 %	$260,494.84
Totals:	**68.91 %**	**47.14 %**	**$23,729,597.09**

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)
B529001;Ferguson	99,864	46.47	$1,425,396.13	$1,216,033.31	$10,816,322.30	$3,348,344.12	$6,149,975.39
G529001;Grounds	42,000	81.96	$0.00	$0.00	$208,953.58	$51,541.26	$513,031.00
Total:		**47.14**	**$1,425,396.13**	**$1,216,033.31**	**$11,025,275.88**	**$3,399,885.38**	**$6,663,006.39**

Deficiencies By Priority



Budget Estimate Total: $23,729,597.09

Executive Summary

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

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Function:	
Gross Area (SF):	99,864
Year Built:	1922
Last Renovation:	
Replacement Value:	$49,397,261
Repair Cost:	$22,956,071.25
Total FCI:	46.47 %
Total RSLI:	68.35 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B529001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S529001		

Condition Summary

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

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	1.37 %	$121,628.04
B20 - Exterior Enclosure	40.72 %	28.70 %	$1,615,798.99
B30 - Roofing	110.00 %	89.73 %	$718,298.63
C10 - Interior Construction	52.19 %	28.45 %	$697,278.27
C20 - Stairs	37.00 %	0.00 %	$0.00
C30 - Interior Finishes	70.29 %	16.37 %	$814,579.52
D10 - Conveying	105.71 %	247.69 %	$880,576.30
D20 - Plumbing	75.30 %	56.25 %	$1,147,140.83
D30 - HVAC	99.78 %	98.67 %	$10,961,142.26
D40 - Fire Protection	92.47 %	177.09 %	$1,425,396.13
D50 - Electrical	110.11 %	72.38 %	$4,248,995.03
E10 - Equipment	23.36 %	0.00 %	$0.00
E20 - Furnishings	105.00 %	152.90 %	$325,237.25
Totals:	**68.35 %**	**46.47 %**	**$22,956,071.25**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	99,864	100	1922	2022	2052	37.00 %	0.00 %	37			$1,837,498
A1030	Slab on Grade	$7.73	S.F.	99,864	100	1922	2022	2052	37.00 %	0.00 %	37			$771,949
A2010	Basement Excavation	$6.55	S.F.	99,864	100	1922	2022	2052	37.00 %	0.00 %	37			$654,109
A2020	Basement Walls	$12.70	S.F.	99,864	100	1922	2022	2052	37.00 %	0.00 %	37			$1,268,273
B1010	Floor Construction	$75.10	S.F.	99,864	100	1922	2022	2052	37.00 %	1.62 %	37		$121,628.04	$7,499,786
B1020	Roof Construction	$13.88	S.F.	99,864	100	1922	2022	2052	37.00 %	0.00 %	37			$1,386,112
B2010	Exterior Walls	$36.91	S.F.	99,864	100	1922	2022	2052	37.00 %	38.89 %	37		$1,433,652.57	$3,685,980
B2020	Exterior Windows	$18.01	S.F.	99,864	40	1995	2035		50.00 %	0.00 %	20			$1,798,551
B2030	Exterior Doors	$1.45	S.F.	99,864	25	1995	2020		20.00 %	125.79 %	5		$182,146.42	$144,803
B3010105	Built-Up	$37.76	S.F.	21,200	20	1995	2015	2037	110.00 %	89.73 %	22		$718,298.63	$800,512
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.		20				0.00 %	0.00 %				$0
C1010	Partitions	$17.91	S.F.	99,864	100	1922	2022	2052	37.00 %	15.31 %	37		$273,801.74	$1,788,564
C1020	Interior Doors	$3.51	S.F.	99,864	40	1955	1995	2057	105.00 %	109.22 %	42		$382,839.66	$350,523
C1030	Fittings	$3.12	S.F.	99,864	40	2007	2047		80.00 %	13.04 %	32		$40,636.87	$311,576
C2010	Stair Construction	$1.41	S.F.	99,864	100	1922	2022	2052	37.00 %	0.00 %	37			$140,808

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System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3010230	Paint & Covering	$13.21	S.F.	99,864	10	2010	2020		50.00 %	0.00 %	5			$1,319,203
C3010231	Vinyl Wall Covering	$0.97	S.F.	99,864	15				0.00 %	0.00 %				$96,868
C3010232	Wall Tile	$2.63	S.F.	99,864	30	2007	2037		73.33 %	0.00 %	22			$262,642
C3020411	Carpet	$7.30	S.F.	2,114	10	2014	2024		90.00 %	0.00 %	9			$15,432
C3020412	Terrazzo & Tile	$75.52	S.F.	4,500	50	2007	2057		84.00 %	0.00 %	42			$339,840
C3020413	Vinyl Flooring	$9.68	S.F.	30,910	20	1955	1975	2037	110.00 %	91.75 %	22		$274,516.69	$299,209
C3020414	Wood Flooring	$22.27	S.F.	24,352	25	1922	1947	2042	108.00 %	41.86 %	27		$226,991.20	$542,319
C3020415	Concrete Floor Finishes	$0.97	S.F.	7,724	50	1950	2000	2067	104.00 %	0.00 %	52			$7,492
C3030	Ceiling Finishes	$20.97	S.F.	99,864	25	1990	2015	2032	68.00 %	14.95 %	17		$313,071.63	$2,094,148
D1010	Elevators and Lifts	$3.56	S.F.	99,864	35			2052	105.71 %	247.69 %	37		$880,576.30	$355,516
D2010	Plumbing Fixtures	$13.52	S.F.	99,864	35	2005	2040		71.43 %	6.74 %	25		$90,950.28	$1,350,161
D2020	Domestic Water Distribution	$1.68	S.F.	99,864	25	1922	1947	2042	108.00 %	330.80 %	27		$554,993.87	$167,772
D2030	Sanitary Waste	$2.90	S.F.	99,864	25	1922	1947	2042	108.00 %	146.43 %	27		$424,083.20	$289,606
D2040	Rain Water Drainage	$2.32	S.F.	99,864	30	1922	1952	2025	33.33 %	33.28 %	10		$77,113.48	$231,684
D3020	Heat Generating Systems	$18.67	S.F.	99,864	35	1970	2005	2052	105.71 %	85.75 %	37		$1,598,799.73	$1,864,461
D3030	Cooling Generating Systems	$24.48	S.F.	99,864	30			2047	106.67 %	60.71 %	32		$1,484,223.22	$2,444,671
D3040	Distribution Systems	$42.99	S.F.	99,864	25	1922	1947	2042	108.00 %	133.72 %	27		$5,740,635.47	$4,293,153
D3050	Terminal & Package Units	$11.60	S.F.	99,864	15	2005	2020		33.33 %	0.00 %	5			$1,158,422
D3060	Controls & Instrumentation	$13.50	S.F.	99,864	20	1922	1942	2037	110.00 %	158.55 %	22		$2,137,483.84	$1,348,164
D4010	Sprinklers	$7.05	S.F.	99,864	35			2052	105.71 %	202.46 %	37		$1,425,396.13	$704,041
D4020	Standpipes	$1.01	S.F.	99,864	35				0.00 %	0.00 %				$100,863
D5010	Electrical Service/Distribution	$9.70	S.F.	99,864	30	1922	1952	2047	106.67 %	159.22 %	32		$1,542,322.58	$968,681
D5020	Lighting and Branch Wiring	$34.68	S.F.	99,864	20	1922	1942	2037	110.00 %	55.22 %	22		$1,912,522.45	$3,463,284
D5030	Communications and Security	$12.99	S.F.	99,864	15	1922	1937	2032	113.33 %	49.10 %	17		$636,972.82	$1,297,233
D5090	Other Electrical Systems	$1.41	S.F.	99,864	30	1922	1952	2047	106.67 %	111.63 %	32		$157,177.18	$140,808
E1020	Institutional Equipment	$4.82	S.F.	99,864	35	2007	2042		77.14 %	0.00 %	27			$481,344
E1090	Other Equipment	$11.10	S.F.	99,864	35				0.00 %	0.00 %				$1,108,490
E2010	Fixed Furnishings	$2.13	S.F.	99,864	40	1922	1962	2057	105.00 %	152.90 %	42		$325,237.25	$212,710
								Total	**68.35 %**	**46.47 %**			**$22,956,071.25**	**$49,397,261**

System Notes

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

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

Note: Paint 95%
Ceramic tile 5%

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

Note: Hardwood 35%
VCT 18%
VAT 26%
Ceramic tile 6%
Carpet 3%
Concrete 12%

System: C3030 - Ceiling Finishes — This system contains no images

Note: ACT 6%
Plaster/ exposed 94%

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:	**$22,956,071**	**$0**	**$0**	**$0**	**$0**	**$3,344,125**	**$0**	**$0**	**$0**	**$22,149**	**$342,501**	**$26,664,846**
*** 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	$121,628	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$121,628**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$1,433,653	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,433,653**
B2020 - Exterior Windows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2030 - Exterior Doors	$182,146	$0	$0	$0	$0	$184,653	$0	$0	$0	$0	$0	**$366,799**
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	$718,299	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$718,299**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$273,802	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$273,802**

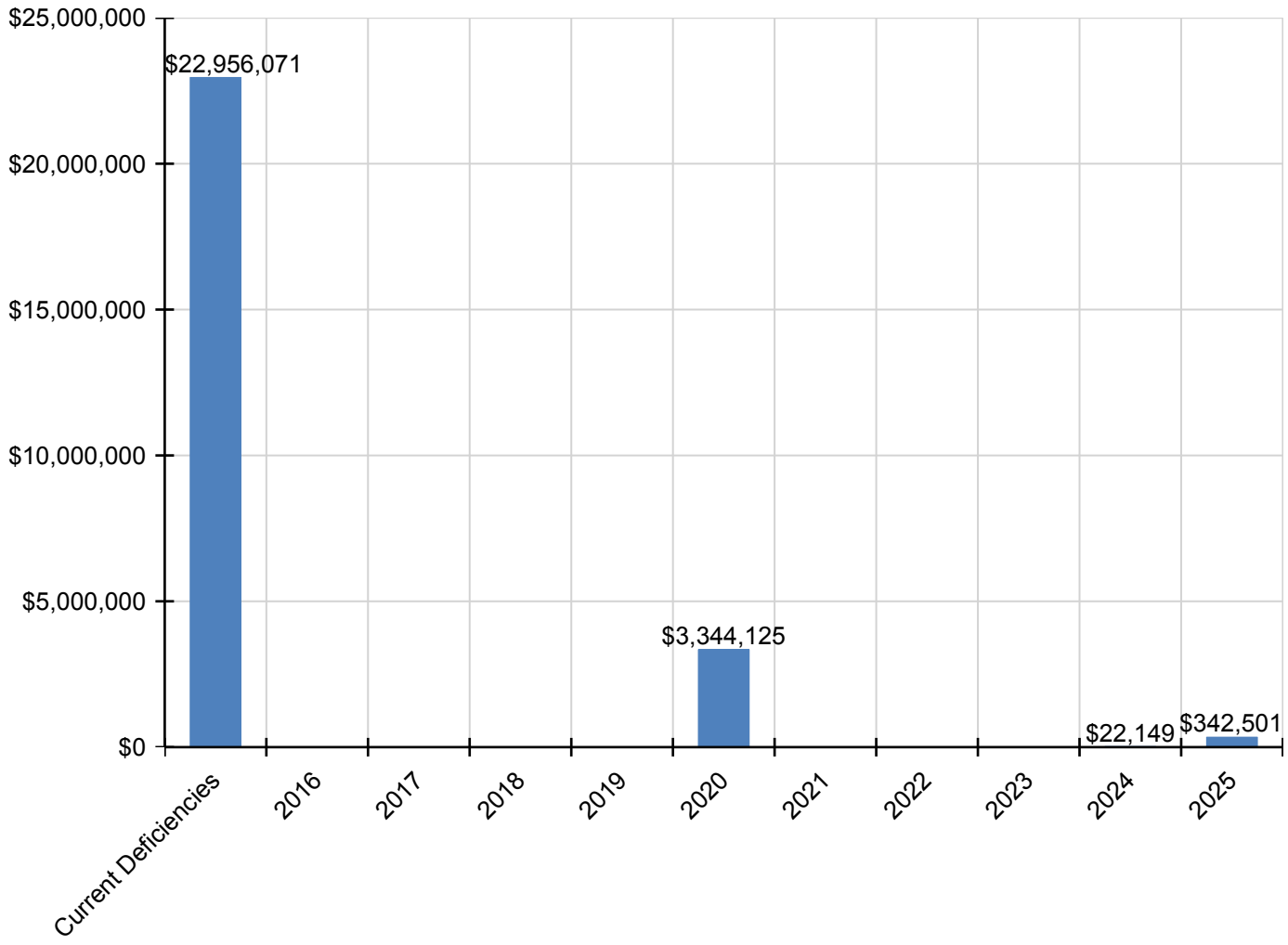
C1020 - Interior Doors	$382,840	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$382,840**
C1030 - Fittings	$40,637	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$40,637**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$1,682,250	$0	$0	$0	$0	$0	**$1,682,250**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$0	$0	$0	$22,149	$0	**$22,149**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$274,517	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$274,517**
C3020414 - Wood Flooring	$226,991	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$226,991**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$313,072	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$313,072**
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	$880,576	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$880,576**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$90,950	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$90,950**
D2020 - Domestic Water Distribution	$554,994	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$554,994**
D2030 - Sanitary Waste	$424,083	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$424,083**
D2040 - Rain Water Drainage	$77,113	$0	$0	$0	$0	$0	$0	$0	$0	$0	$342,501	**$419,615**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,598,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,598,800**
D3030 - Cooling Generating Systems	$1,484,223	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,484,223**
D3040 - Distribution Systems	$5,740,635	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$5,740,635**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$1,477,222	$0	$0	$0	$0	$0	**$1,477,222**
D3060 - Controls & Instrumentation	$2,137,484	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,137,484**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,425,396	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,425,396**
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	$1,542,323	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,542,323**
D5020 - Lighting and Branch Wiring	$1,912,522	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,912,522**
D5030 - Communications and Security	$636,973	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$636,973**
D5090 - Other Electrical Systems	$157,177	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$157,177**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$325,237	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$325,237**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

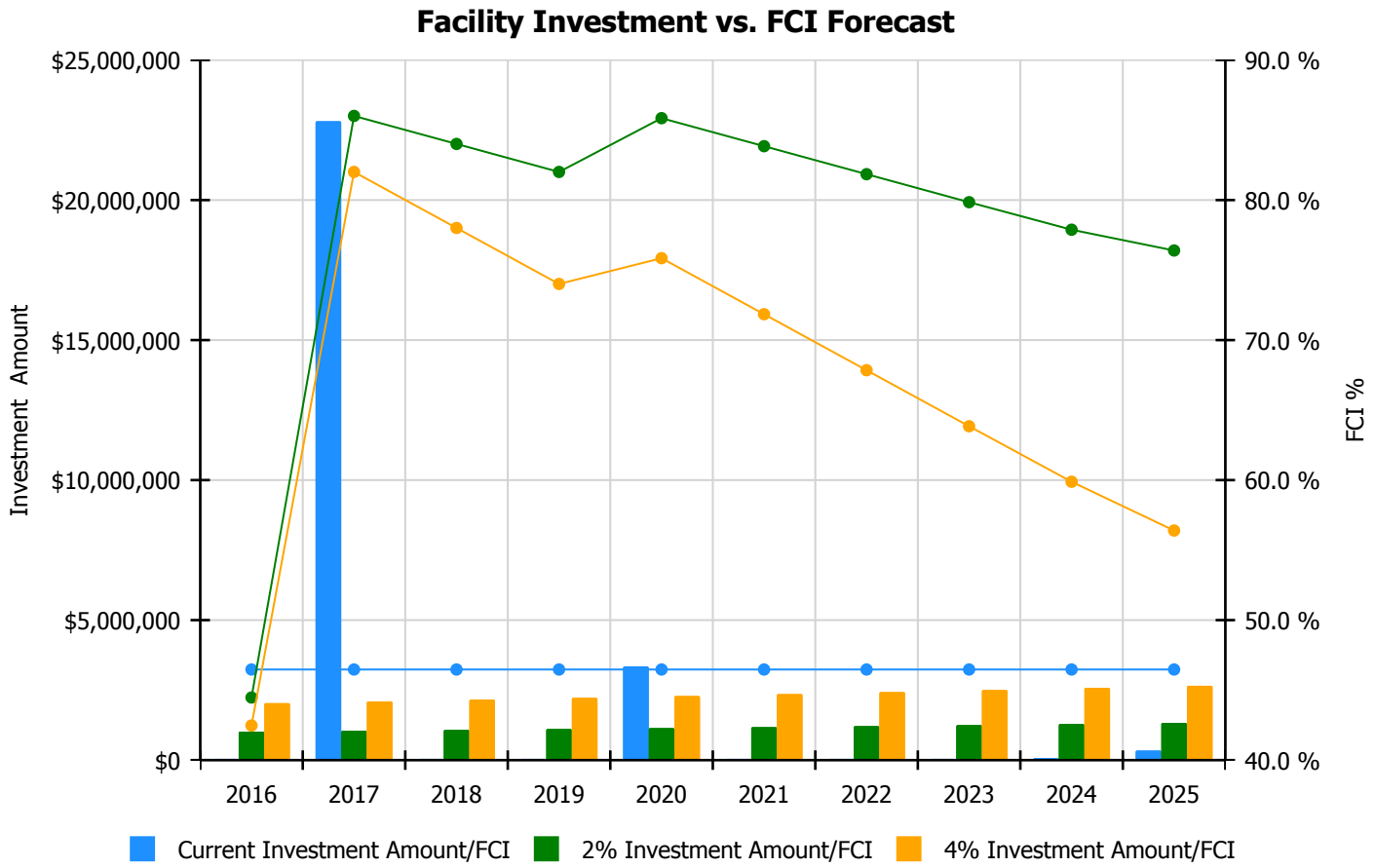
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

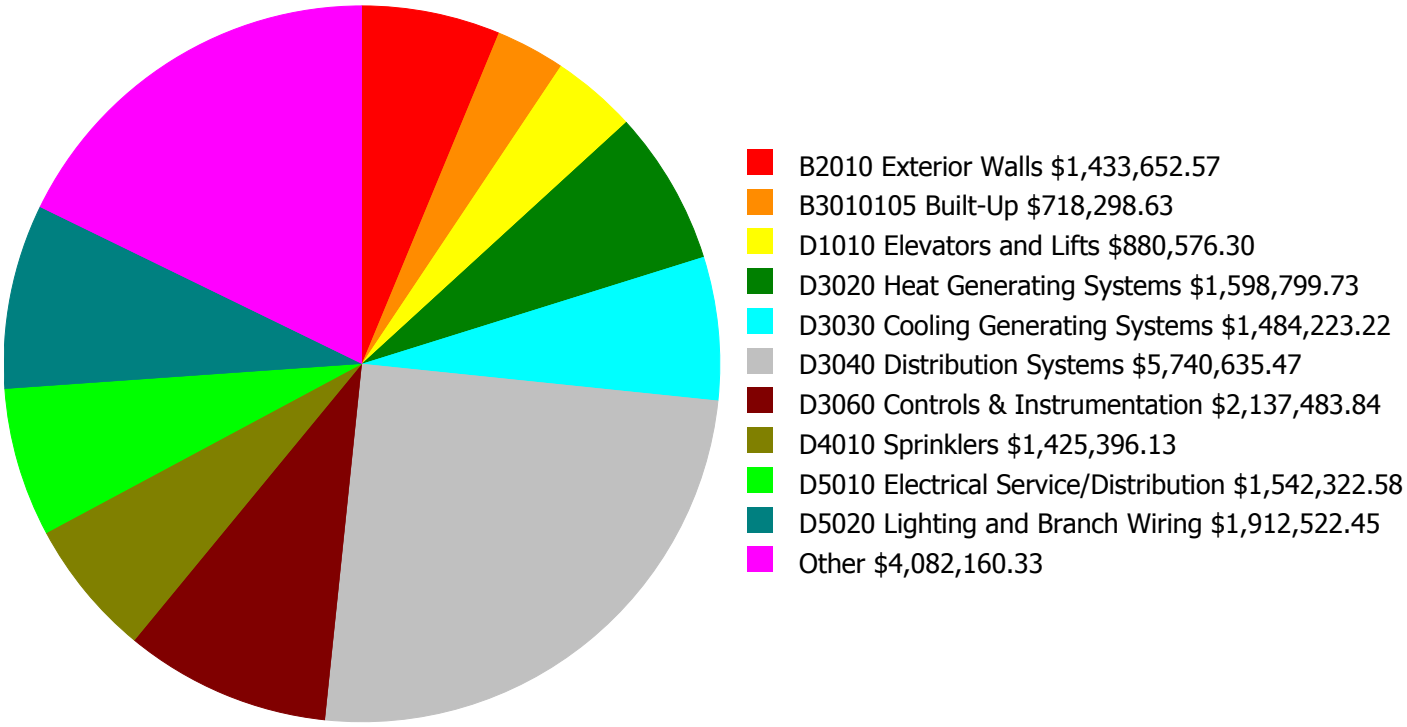
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 46.47%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$1,017,584.00	44.47 %	$2,035,167.00	42.47 %
2017	$22,814,835	$1,048,111.00	86.01 %	$2,096,222.00	82.01 %
2018	$0	$1,079,554.00	84.01 %	$2,159,109.00	78.01 %
2019	$0	$1,111,941.00	82.01 %	$2,223,882.00	74.01 %
2020	$3,344,125	$1,145,299.00	85.85 %	$2,290,599.00	75.85 %
2021	$0	$1,179,658.00	83.85 %	$2,359,317.00	71.85 %
2022	$0	$1,215,048.00	81.85 %	$2,430,096.00	67.85 %
2023	$0	$1,251,499.00	79.85 %	$2,502,999.00	63.85 %
2024	$22,149	$1,289,044.00	77.88 %	$2,578,089.00	59.88 %
2025	$342,501	$1,327,716.00	76.40 %	$2,655,432.00	56.40 %
Total:	**$26,523,610**	**$11,665,454.00**		**$23,330,912.00**	

Deficiency Summary by System

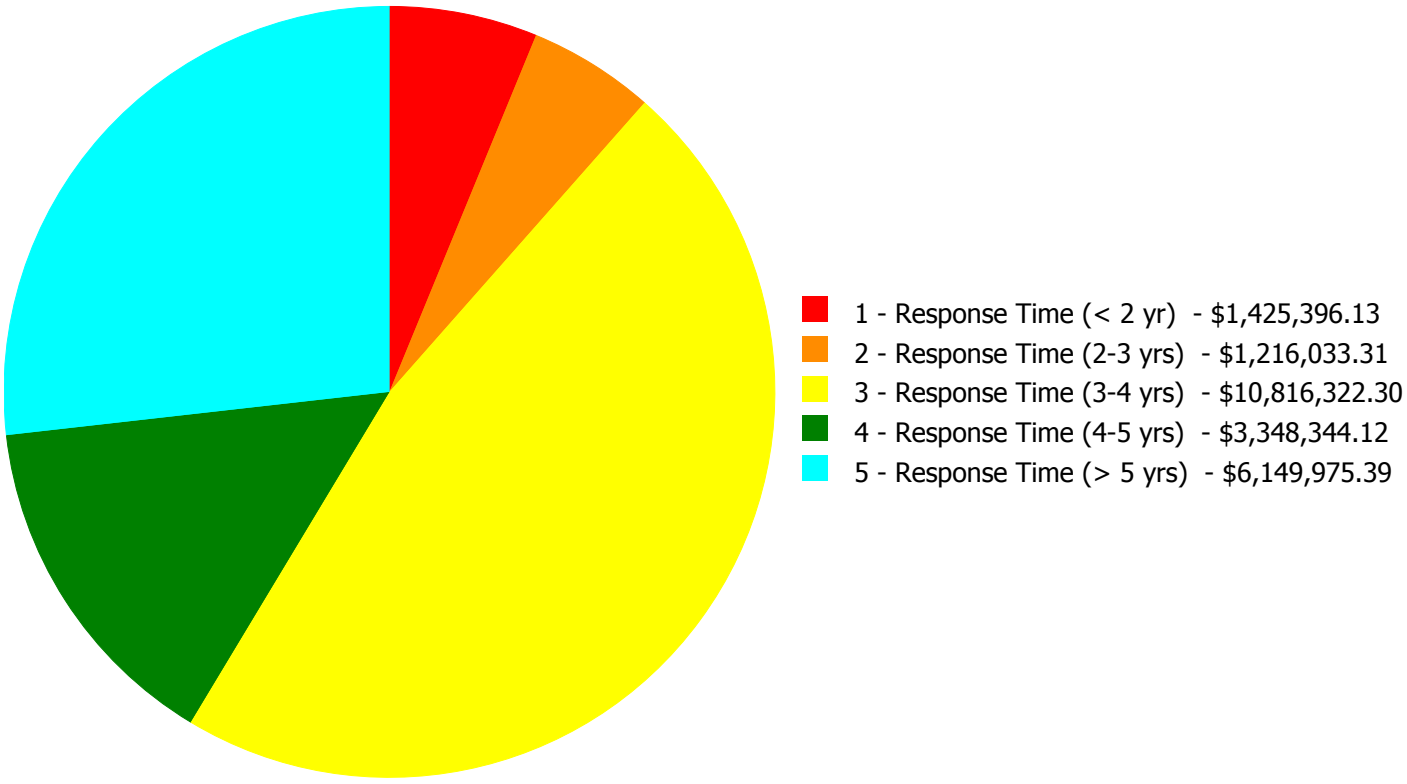
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $22,956,071.25

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: $22,956,071.25

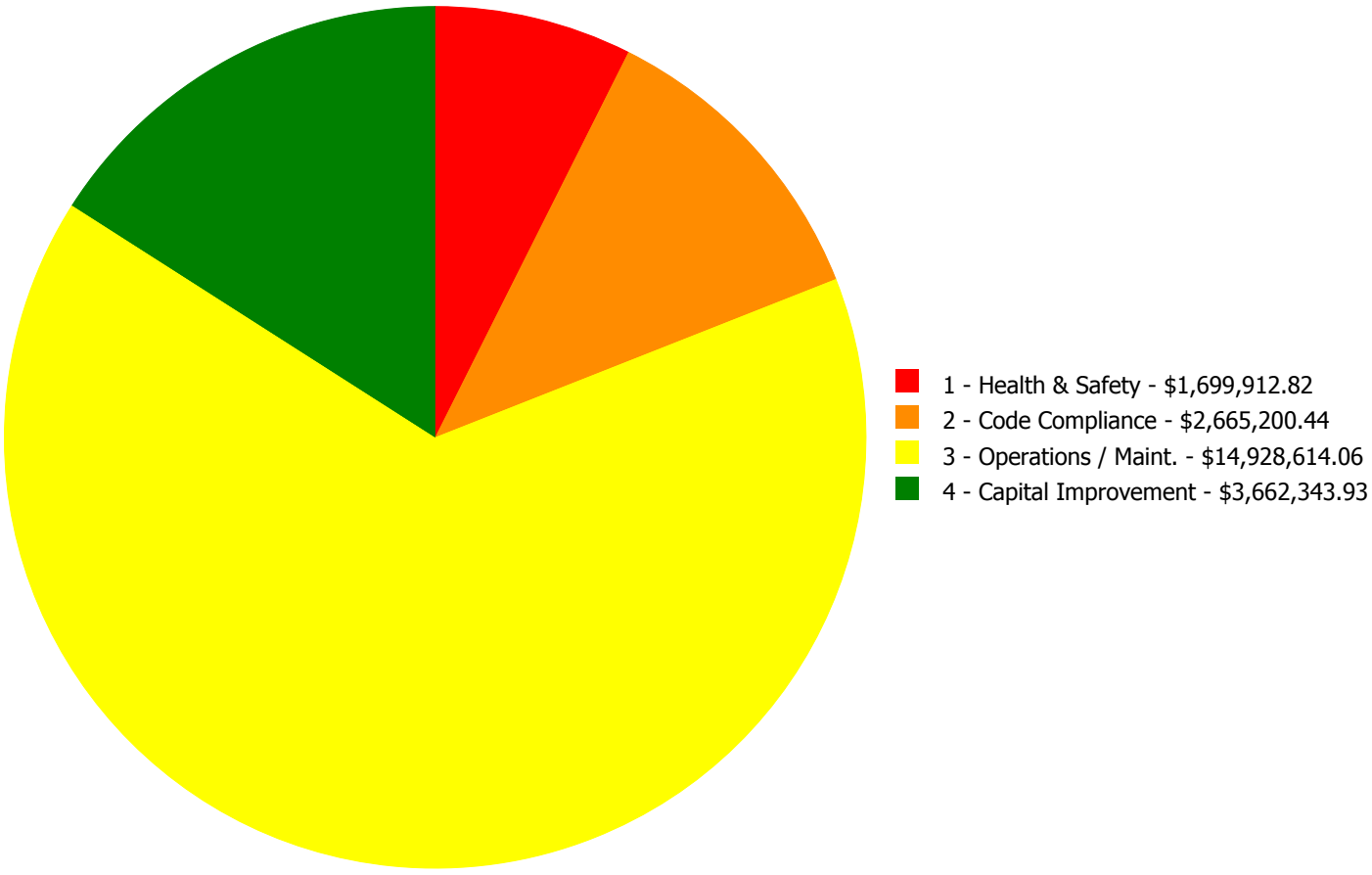
Deficiency By Priority Investment Table

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
B1010	Floor Construction	$0.00	$121,628.04	$0.00	$0.00	$0.00	$121,628.04
B2010	Exterior Walls	$0.00	$0.00	$0.00	$1,433,652.57	$0.00	$1,433,652.57
B2030	Exterior Doors	$0.00	$0.00	$0.00	$182,146.42	$0.00	$182,146.42
B3010105	Built-Up	$0.00	$0.00	$0.00	$718,298.63	$0.00	$718,298.63
C1010	Partitions	$0.00	$0.00	$0.00	$0.00	$273,801.74	$273,801.74
C1020	Interior Doors	$0.00	$0.00	$25,045.63	$0.00	$357,794.03	$382,839.66
C1030	Fittings	$0.00	$0.00	$0.00	$0.00	$40,636.87	$40,636.87
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$274,516.69	$0.00	$274,516.69
C3020414	Wood Flooring	$0.00	$0.00	$0.00	$0.00	$226,991.20	$226,991.20
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$313,071.63	$0.00	$313,071.63
D1010	Elevators and Lifts	$0.00	$670,322.07	$210,254.23	$0.00	$0.00	$880,576.30
D2010	Plumbing Fixtures	$0.00	$0.00	$90,950.28	$0.00	$0.00	$90,950.28
D2020	Domestic Water Distribution	$0.00	$0.00	$554,993.87	$0.00	$0.00	$554,993.87
D2030	Sanitary Waste	$0.00	$424,083.20	$0.00	$0.00	$0.00	$424,083.20
D2040	Rain Water Drainage	$0.00	$0.00	$77,113.48	$0.00	$0.00	$77,113.48
D3020	Heat Generating Systems	$0.00	$0.00	$1,575,182.49	$0.00	$23,617.24	$1,598,799.73
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,484,223.22	$1,484,223.22
D3040	Distribution Systems	$0.00	$0.00	$4,460,445.47	$0.00	$1,280,190.00	$5,740,635.47
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$0.00	$2,137,483.84	$2,137,483.84
D4010	Sprinklers	$1,425,396.13	$0.00	$0.00	$0.00	$0.00	$1,425,396.13
D5010	Electrical Service/Distribution	$0.00	$0.00	$1,273,248.71	$269,073.87	$0.00	$1,542,322.58
D5020	Lighting and Branch Wiring	$0.00	$0.00	$1,912,522.45	$0.00	$0.00	$1,912,522.45
D5030	Communications and Security	$0.00	$0.00	$479,388.51	$157,584.31	$0.00	$636,972.82
D5090	Other Electrical Systems	$0.00	$0.00	$157,177.18	$0.00	$0.00	$157,177.18
E2010	Fixed Furnishings	$0.00	$0.00	$0.00	$0.00	$325,237.25	$325,237.25
	Total:	$1,425,396.13	$1,216,033.31	$10,816,322.30	$3,348,344.12	$6,149,975.39	$22,956,071.25

Deficiency Summary by Category

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



Budget Estimate Total: $22,956,071.25

Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: D4010 - Sprinklers

Location: Throughout building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Install a fire protection sprinkler system

Qty: 99,640.00

Unit of Measure: S.F.

Estimate: $1,425,396.13

Assessor Name: System

Date Created: 09/10/2015

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

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

System: B1010 - Floor Construction

Location: Interior/ Basement

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1,500.00

Unit of Measure: S.F.

Estimate: $121,628.04

Assessor Name: System

Date Created: 11/19/2015

Notes: Repair deteriorated slab sections above basement (coal and ash bunkers area); epoxy seal joints at terrace above

System: D1010 - Elevators and Lifts

This deficiency has no image.

Location: Interior

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $670,322.07

Assessor Name: System

Date Created: 11/19/2015

Notes: Install 4000 lb traction elevator serving all floors and basement

System: D2030 - Sanitary Waste

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 99,864.00

Unit of Measure: S.F.

Estimate: $424,083.20

Assessor Name: System

Date Created: 09/10/2015

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

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

System: C1020 - Interior Doors

Location: Interior

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace door knobs with compliant lever type

Qty: 45.00

Unit of Measure: Ea.

Estimate: $25,045.63

Assessor Name: System

Date Created: 11/19/2015

Notes: Provide ADA compliant hardware on interior doors (added wing)

System: D1010 - Elevators and Lifts

This deficiency has no image.

Location: interior

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Add interior hydraulic elevator - 2 floors - adjust the electrical run lengths to hook up the elevator

Qty: 3.00

Unit of Measure: Ea.

Estimate: $210,254.23

Assessor Name: System

Date Created: 11/19/2015

Notes: Provide wheelchair lifts on 3 floors between original building and added wing

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System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 12.00

Unit of Measure: Ea.

Estimate: $90,950.28

Assessor Name: System

Date Created: 09/10/2015

Notes: Replace twelve (12) 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: D2020 - Domestic Water Distribution

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace domestic water piping (75 KSF)

Qty: 99,864.00

Unit of Measure: S.F.

Estimate: $506,046.78

Assessor Name: System

Date Created: 09/10/2015

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

System: D2020 - Domestic Water Distribution

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace instantaneous water heater

Qty: 2.00

Unit of Measure: Ea.

Estimate: $48,947.09

Assessor Name: System

Date Created: 09/10/2015

Notes: Replace existing Paloma gas fired instant hot water heaters with new gas fired instant hot water heaters.

System: D2040 - Rain Water Drainage

Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace roof drains - per drain including piping

Qty: 3.00

Unit of Measure: Ea.

Estimate: $77,113.48

Assessor Name: System

Date Created: 09/10/2015

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

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace boiler, cast iron sectional (150 HP)

Qty: 3.00

Unit of Measure: Ea.

Estimate: $1,575,182.49

Assessor Name: System

Date Created: 09/10/2015

Notes: Replace the three existing cast iron boilers with three new 150HP boilers, which should be sufficient to heat the building. All burners and exhaust ductwork should be replaced as well.

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 26.00

Unit of Measure: C

Estimate: $2,159,585.75

Assessor Name: System

Date Created: 09/10/2015

Notes: Remove the existing cast iron steam radiators and install units with hot and chilled water coils and integral heat exchangers to introduce outdoor air to the building.

System: D3040 - Distribution Systems

Location: Classrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62 - insert the SF of bldg. in the qty.

Qty: 26,400.00

Unit of Measure: S.F.

Estimate: $1,273,514.48

Assessor Name: System

Date Created: 09/10/2015

Notes: Replace the twenty four (24) existing unit ventilators with two pipe units that have integral heat exchangers to introduce outdoor air to the building.

System: D3040 - Distribution Systems

Location: Throughout 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: 99,864.00

Unit of Measure: S.F.

Estimate: $944,750.65

Assessor Name: System

Date Created: 09/10/2015

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

System: D3040 - Distribution Systems

Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace utility set exhaust fan (5 HP)

Qty: 3.00

Unit of Measure: Ea.

Estimate: $82,594.59

Assessor Name: System

Date Created: 09/10/2015

Notes: Replace three (3) existing roof mounted exhaust fans serving the restrooms and utilize the existing ductwork.

System: D5010 - Electrical Service/Distribution

Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $840,055.40

Assessor Name: System

Date Created: 11/19/2015

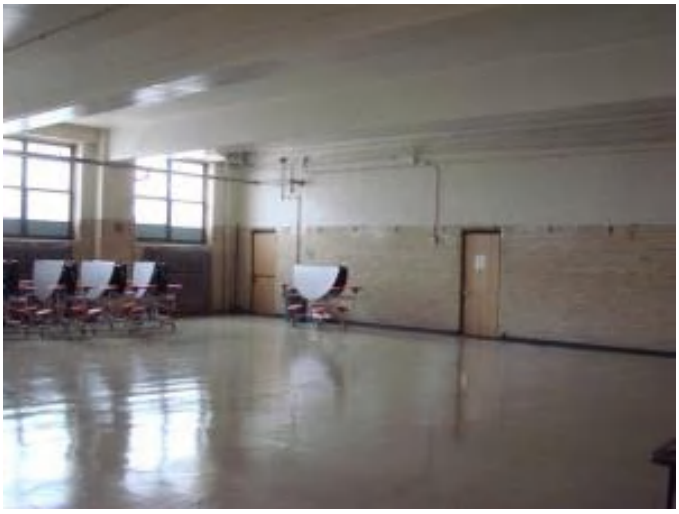
Notes: Install new 480V, 3 phase switchgear.
Install a new MCC for the new HVAC loads.
Install new 120V panel-boards throughout the building for lighting, and receptacles loads.

System: D5010 - Electrical Service/Distribution

Location: electrical room
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace unit substation
Qty: 1.00
Unit of Measure: Ea.
Estimate: $433,193.31
Assessor Name: System
Date Created: 11/19/2015

Notes: Install new Site electrical service 2000KVA, 480V, 3 Phase to feed the existing loads plus new HVAC additional loads.

System: D5020 - Lighting and Branch Wiring



Location: throughout the building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Lighting Fixtures (SF)
Qty: 0.00
Unit of Measure: S.F.
Estimate: $1,283,568.63
Assessor Name: System
Date Created: 11/20/2015

Notes: Install new a lighting system for the entire building.

System: D5020 - Lighting and Branch Wiring

Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 0.00

Unit of Measure: S.F.

Estimate: $628,953.82

Assessor Name: System

Date Created: 11/20/2015

Notes: Install new receptacles in all classrooms and other areas (minimum two receptacles on each wall).

System: D5030 - Communications and Security

Location: throughout the building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

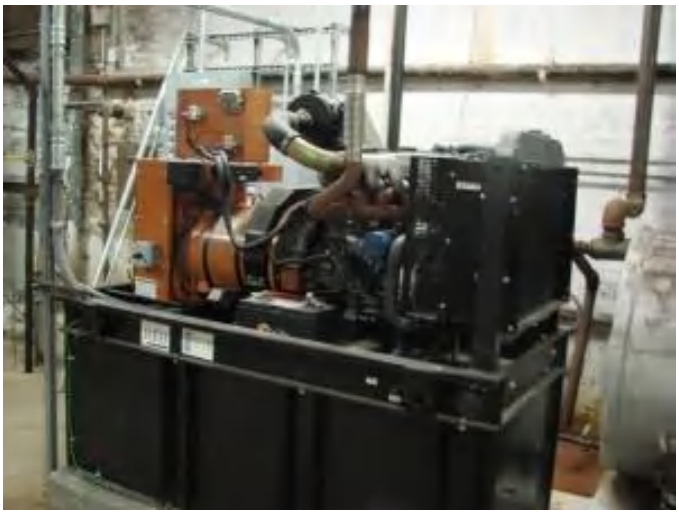
Estimate: $479,388.51

Assessor Name: System

Date Created: 11/20/2015

Notes: Install a new automated/addressable FA system.

System: D5090 - Other Electrical Systems



Location: electrical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $157,177.18

Assessor Name: System

Date Created: 11/20/2015

Notes: Install a new 100 KW emergency generator.

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

System: B2010 - Exterior Walls

Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

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

Qty: 44,400.00

Unit of Measure: S.F.

Estimate: $1,433,652.57

Assessor Name: System

Date Created: 11/19/2015

Notes: Repair cracks in masonry including chimney, tuck-point all walls

System: B2030 - Exterior Doors

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 20.00

Unit of Measure: Ea.

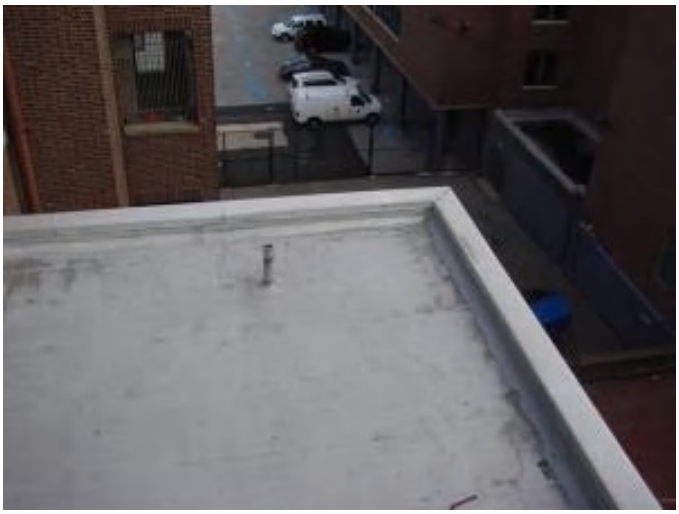
Estimate: $182,146.42

Assessor Name: System

Date Created: 11/19/2015

Notes: Replace exterior doors

System: B3010105 - Built-Up



Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 21,200.00

Unit of Measure: S.F.

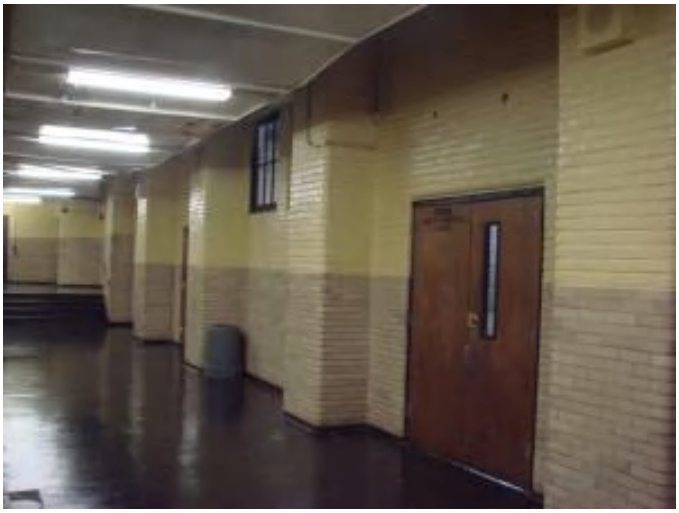
Estimate: $718,298.63

Assessor Name: System

Date Created: 11/19/2015

Notes: Install all new roofing system including insulation within next 4 to 5 years; tear-down existing roofing; install flashing, counter flashing and reglets

System: C3020413 - Vinyl Flooring



Location: Interior

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

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

Qty: 18,100.00

Unit of Measure: S.F.

Estimate: $274,516.69

Assessor Name: System

Date Created: 11/19/2015

Notes: Replace all VAT tile

System: C3030 - Ceiling Finishes

Location: Interior

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Re-paint ceilings - SF of ceilings

Qty: 65,400.00

Unit of Measure: S.F.

Estimate: $313,071.63

Assessor Name: System

Date Created: 11/19/2015

Notes: Repair and repaint all ceilings

System: D5010 - Electrical Service/Distribution

Location: throughout tghe building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add Electrical Switchgear and Distribution System

Qty: 0.00

Unit of Measure: Ea.

Estimate: $269,073.87

Assessor Name: System

Date Created: 11/20/2015

Notes: Install new MCCs for the HVAC Loads

System: D5030 - Communications and Security

Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Clock System or Components

Qty: 0.00

Unit of Measure: Ea.

Estimate: $157,584.31

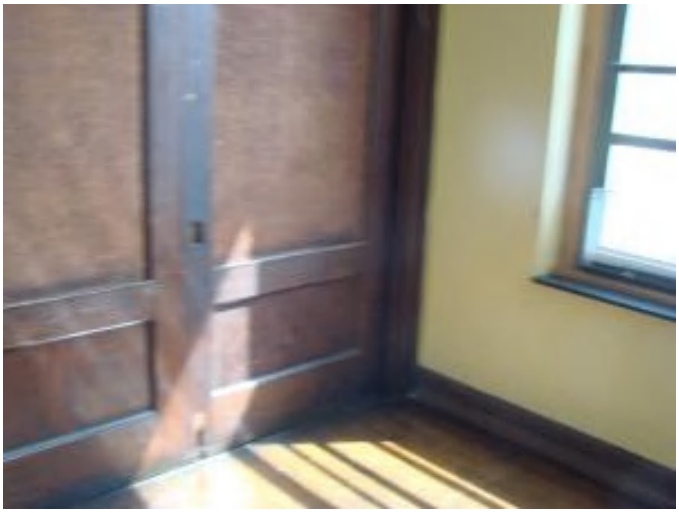
Assessor Name: System

Date Created: 11/20/2015

Notes: Install a new Clock System.
Note: A multiplier of 1.4 instead of 1.0 was used to cover the additional installation costs

Priority 5 - Response Time (> 5 yrs):

System: C1010 - Partitions



Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Folding partition inoperable - remove and replace - select quality

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $273,801.74

Assessor Name: System

Date Created: 11/19/2015

Notes: Repair and refinish folding partitions

System: C1020 - Interior Doors

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 75.00

Unit of Measure: Ea.

Estimate: $357,794.03

Assessor Name: System

Date Created: 11/19/2015

Notes: Replace interior doors in original building

System: C1030 - Fittings

Location: Interior

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 150.00

Unit of Measure: Ea.

Estimate: $40,636.87

Assessor Name: System

Date Created: 11/19/2015

Notes: Install new signage throughout

System: C3020414 - Wood Flooring

Location: Interior

Distress: Appearance

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace partial area of wood flooring and refinish entire floor - set replacement area

Qty: 24,352.00

Unit of Measure: S.F.

Estimate: $226,991.20

Assessor Name: System

Date Created: 11/19/2015

Notes: Repair (10%) refinish hardwood flooring

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace fuel oil pumps

Qty: 1.00

Unit of Measure: Ea.

Estimate: $23,617.24

Assessor Name: System

Date Created: 09/10/2015

Notes: Replace the existing duplex fuel oil pumping system and associated controls.

System: D3030 - Cooling Generating Systems

Location: Throughout building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 99,864.00

Unit of Measure: S.F.

Estimate: $1,484,223.22

Assessor Name: System

Date Created: 09/10/2015

Notes:

System: D3040 - Distribution Systems

Location: Auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 380.00

Unit of Measure: Seat

Estimate: $541,662.27

Assessor Name: System

Date Created: 09/10/2015

Notes: Provide ventilation for the Auditorium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.

System: D3040 - Distribution Systems

Location: Administration

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install HVAC unit for Administration (2000 students).

Qty: 994.00

Unit of Measure: Pr.

Estimate: $430,226.69

Assessor Name: System

Date Created: 09/10/2015

Notes: Provide ventilation for the administration offices by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.

System: D3040 - Distribution Systems

Location: Gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 6,000.00

Unit of Measure: Ea.

Estimate: $308,301.04

Assessor Name: System

Date Created: 09/10/2015

Notes: Provide ventilation for the Gymnasium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in the window openings.

System: D3060 - Controls & Instrumentation

Location: Throughout building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 99,640.00

Unit of Measure: S.F.

Estimate: $2,137,483.84

Assessor Name: System

Date Created: 09/10/2015

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: E2010 - Fixed Furnishings

Location:	Interior
Distress:	Beyond Service Life
Category:	3 - Operations / Maint.
Priority:	5 - Response Time (> 5 yrs)
Correction:	Replace auditorium seating - add tablet arms if required. Veneer seating is an option.
Qty:	399.00
Unit of Measure:	Ea.
Estimate:	$325,237.25
Assessor Name:	System
Date Created:	11/19/2015

Notes: Replace auditorium seating

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 4070 MBH, includes burners, controls and insulated jacket, packaged	1.00	Ea.	Boiler Room	HB Smith	450 Mills			35	1970	2005	$106,115.00	$116,726.50
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 6100 MBH, includes burners, controls and insulated jacket, packaged	1.00	Ea.	Boiler Room	HB Smith	4500 Mills			35	1970	2005	$140,742.00	$154,816.20
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 6680 MBH, includes burners, controls and insulated jacket, packaged	1.00	Ea.	Boiler Room	HB Smith	4500A Mills	MB96-78		35	1996	2031	$153,587.50	$168,946.25
D5010 Electrical Service/Distribution	Circuit breaker, 3 pole, 600 volt, 1200 amp, enclosed (NEMA 1)	1.00	Ea.	electrical room					30	1922	2047	$13,662.00	$15,028.20
D5010 Electrical Service/Distribution	Panelboards, 3 pole 3 wire, main circuit breaker, 240 V, 225 amp	8.00	Ea.	throughout the building					30	1922	2047	$3,105.00	$27,324.00
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 1200 amp, excl breakers	1.00	Ea.	electrical room					30			$6,551.55	$7,206.71
D5090 Other Electrical Systems	Generator set, diesel, 3 phase 4 wire, 277/480 V, 125 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	Ea.	basement					30	2000	2030	$50,797.80	$55,877.58
												Total:	**$545,925.44**

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):	42,000
Year Built:	1922
Last Renovation:	
Replacement Value:	$943,740
Repair Cost:	$773,525.84
Total FCI:	81.96 %
Total RSLI:	98.25 %

Description:

Attributes:

General Attributes:

Bldg ID:	S529001	Site ID:	S529001

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	95.32 %	73.32 %	$513,031.00
G40 - Site Electrical Utilities	106.67 %	106.75 %	$260,494.84
Totals:	**98.25 %**	**81.96 %**	**$773,525.84**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30				0.00 %	0.00 %				$0
G2020	Parking Lots	$8.50	S.F.		30				0.00 %	0.00 %				$0
G2030	Pedestrian Paving	$12.30	S.F.	42,000	40	1950	1990	2057	105.00 %	88.26 %	42		$455,936.36	$516,600
G2040	Site Development	$4.36	S.F.	42,000	25	1922	1947	2032	68.00 %	31.18 %	17		$57,094.64	$183,120
G2050	Landscaping & Irrigation	$4.36	S.F.		15				0.00 %	0.00 %				$0
G4020	Site Lighting	$4.84	S.F.	42,000	30	1950	1980	2047	106.67 %	69.70 %	32		$141,679.76	$203,280
G4030	Site Communications & Security	$0.97	S.F.	42,000	30	1960	1990	2047	106.67 %	291.64 %	32		$118,815.08	$40,740
								Total	**98.25 %**	**81.96 %**			**$773,525.84**	**$943,740**

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.

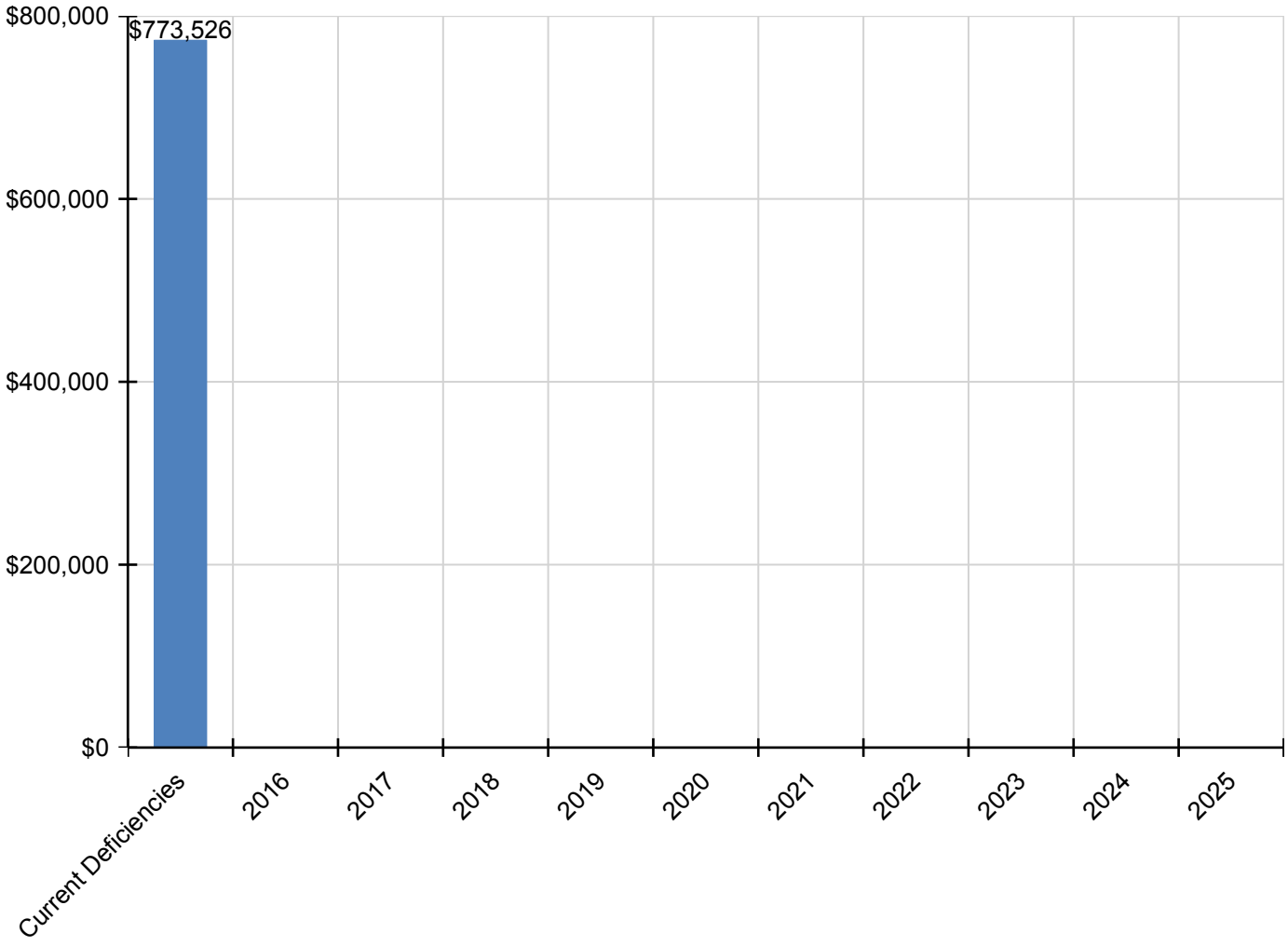
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$773,526**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$773,526**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2010 - Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2030 - Pedestrian Paving	$455,936	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$455,936**
G2040 - Site Development	$57,095	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$57,095**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$141,680	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$141,680**
G4030 - Site Communications & Security	$118,815	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$118,815**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

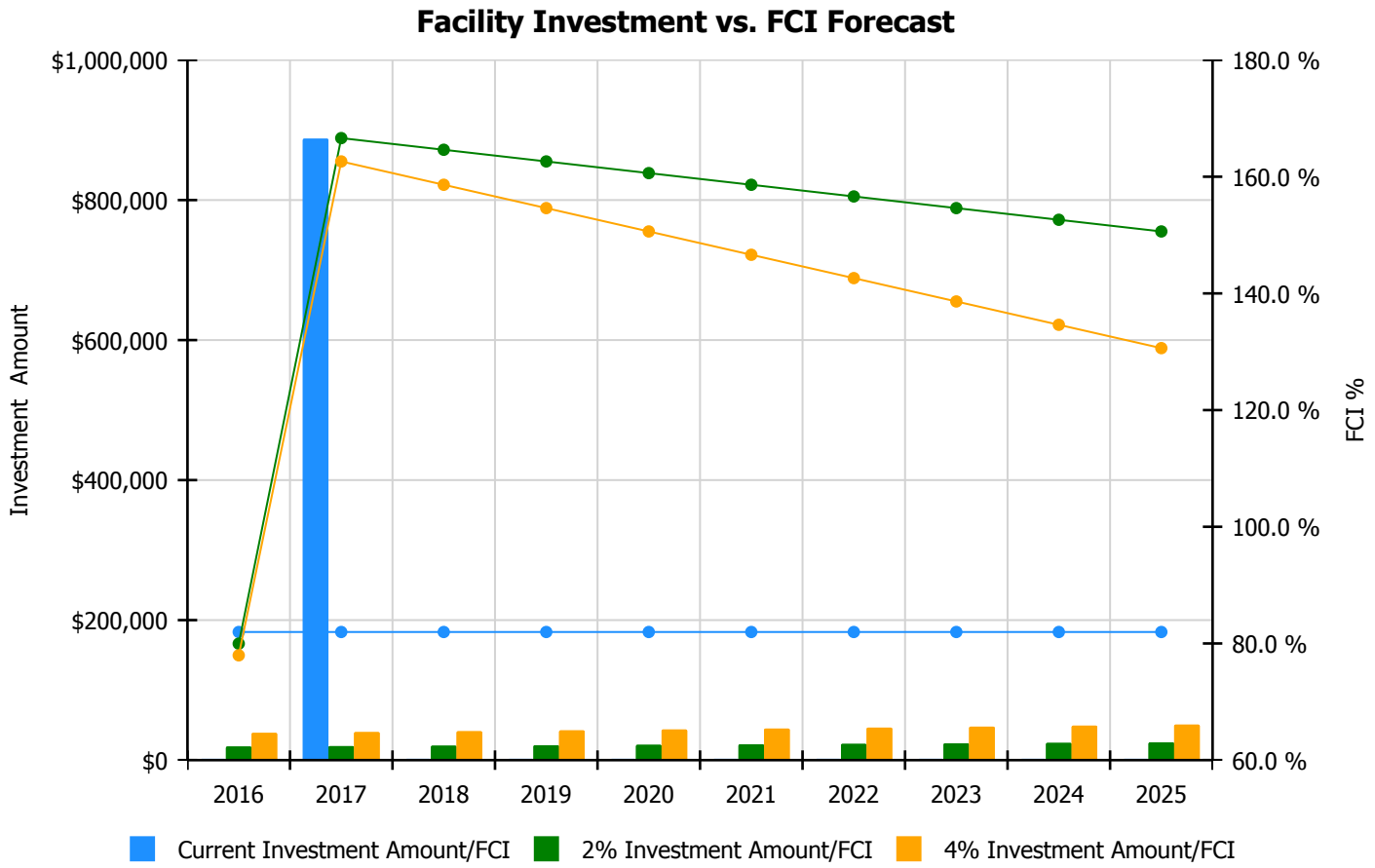
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

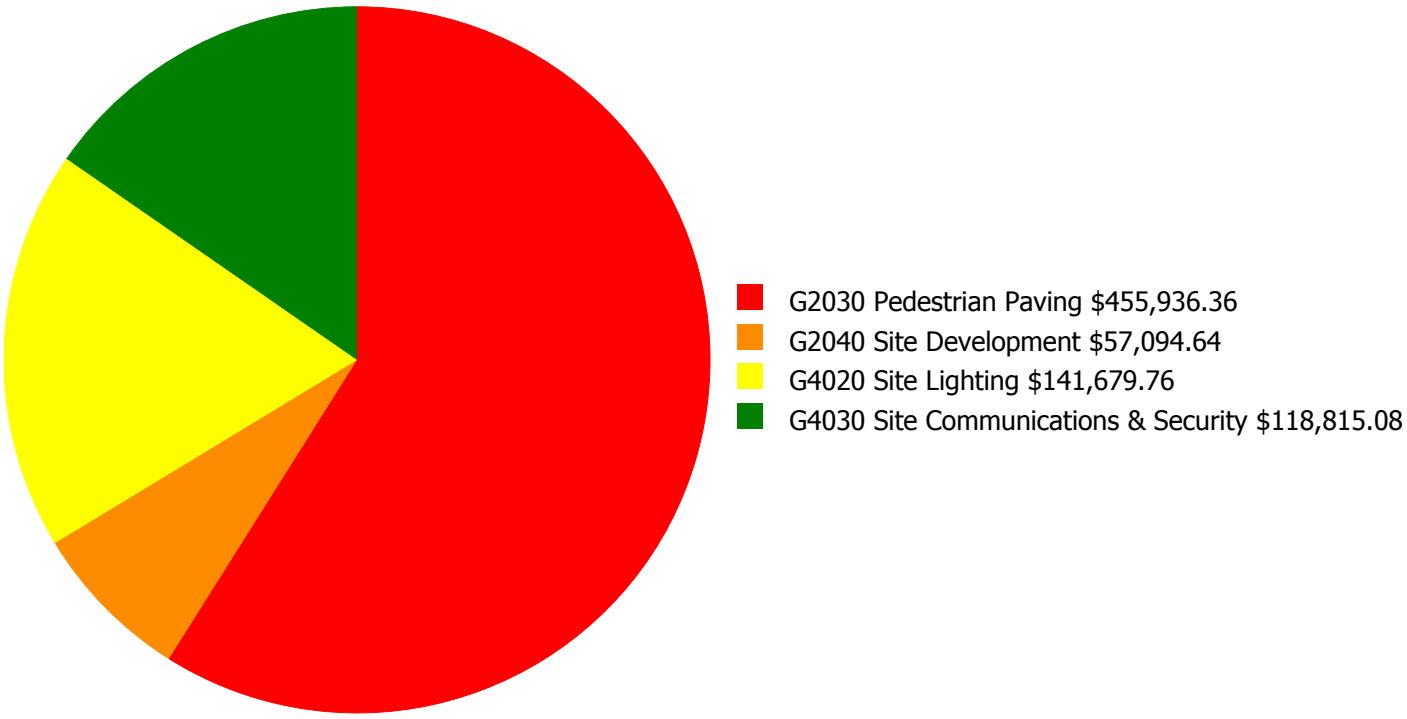
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 81.96%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$19,441.00	79.96 %	$38,882.00	77.96 %
2017	$887,636	$20,024.00	166.62 %	$40,049.00	162.62 %
2018	$0	$20,625.00	164.62 %	$41,250.00	158.62 %
2019	$0	$21,244.00	162.62 %	$42,488.00	154.62 %
2020	$0	$21,881.00	160.62 %	$43,762.00	150.62 %
2021	$0	$22,537.00	158.62 %	$45,075.00	146.62 %
2022	$0	$23,214.00	156.62 %	$46,427.00	142.62 %
2023	$0	$23,910.00	154.62 %	$47,820.00	138.62 %
2024	$0	$24,627.00	152.62 %	$49,255.00	134.62 %
2025	$0	$25,366.00	150.62 %	$50,732.00	130.62 %
Total:	**$887,636**	**$222,869.00**		**$445,740.00**	

Deficiency Summary by System

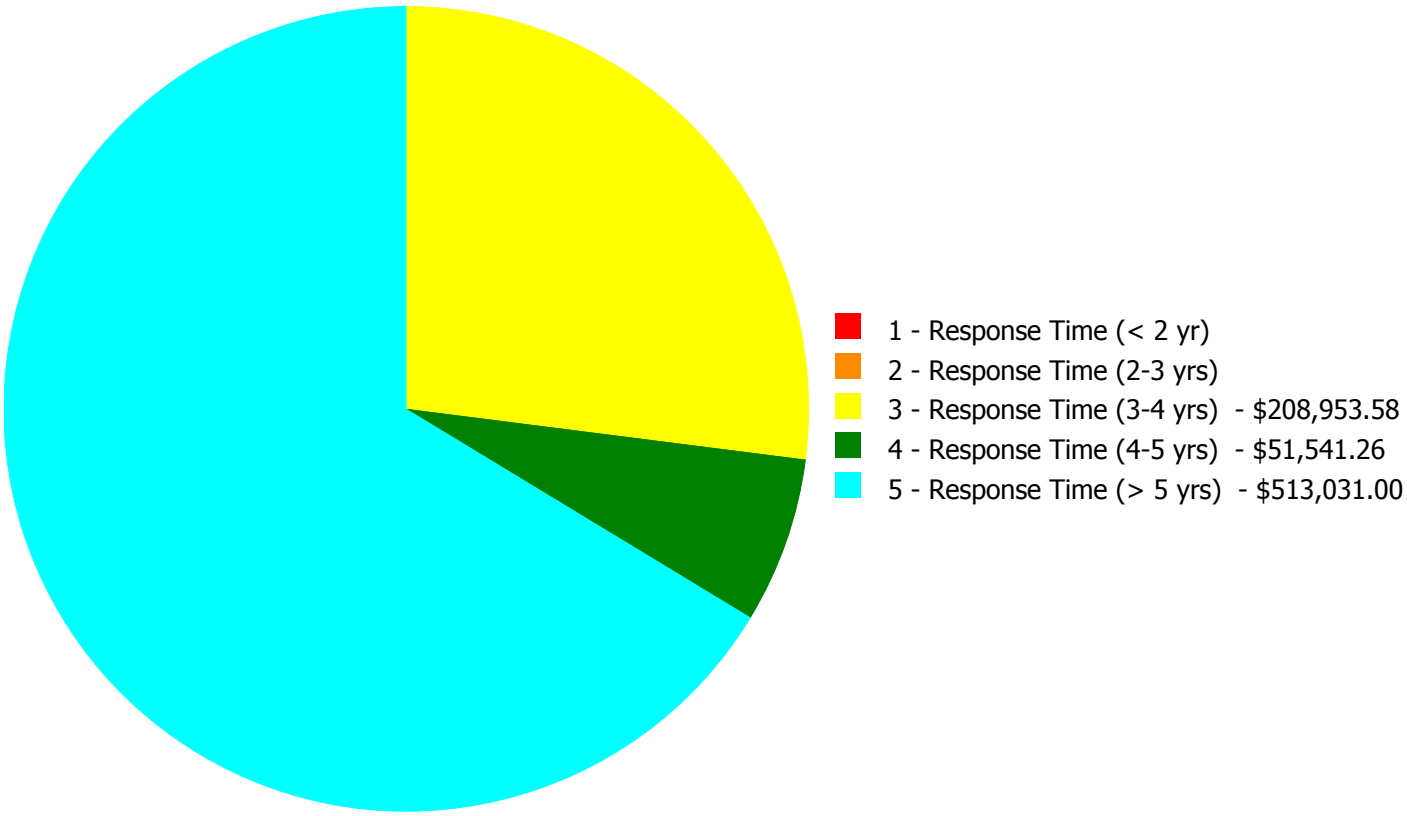
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $773,525.84

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: $773,525.84

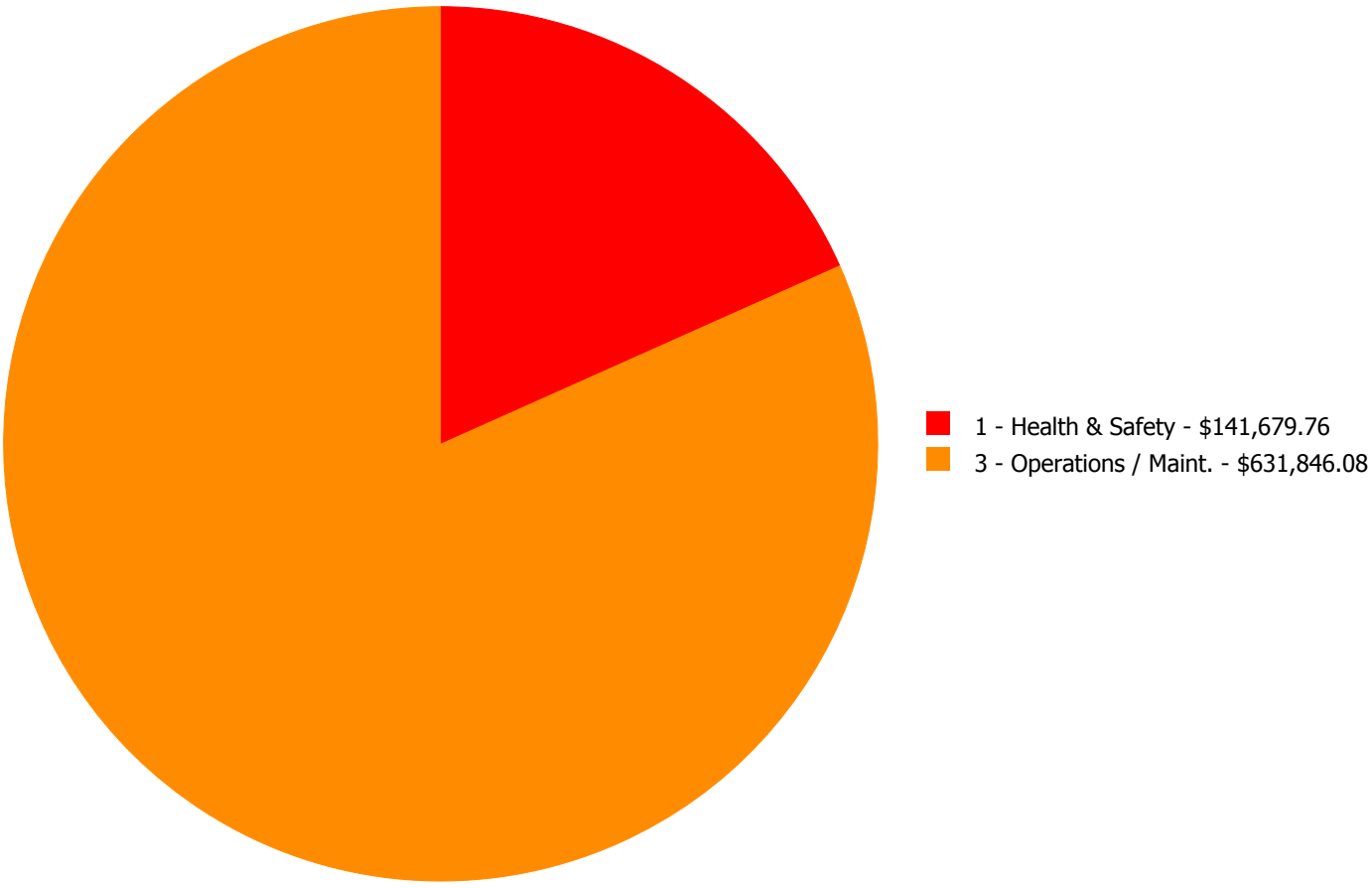
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	$0.00	$0.00	$0.00	$0.00	$455,936.36	$455,936.36
G2040	Site Development	$0.00	$0.00	$0.00	$0.00	$57,094.64	$57,094.64
G4020	Site Lighting	$0.00	$0.00	$141,679.76	$0.00	$0.00	$141,679.76
G4030	Site Communications & Security	$0.00	$0.00	$67,273.82	$51,541.26	$0.00	$118,815.08
	Total:	$0.00	$0.00	$208,953.58	$51,541.26	$513,031.00	$773,525.84

Deficiency Summary by Category

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



Budget Estimate Total: $773,525.84

Deficiency Details by Priority

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

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

System: G4020 - Site Lighting

Location: Grounds

Distress: Security Issue

Category: 1 - Health & Safety

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $141,679.76

Assessor Name: Craig Anding

Date Created: 11/20/2015

Notes:

- Install new emergency exit signs emergency lights.
- Install new site lighting for safety of the people and security of property.

Install new outdoor lighting

System: G4030 - Site Communications & Security

Location: Grounds

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add Video Surveillance System

Qty: 0.00

Unit of Measure: Ea.

Estimate: $67,273.82

Assessor Name: Ben Nixon

Date Created: 11/20/2015

Notes: Install site security camera and surveillance system

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

System: G4030 - Site Communications & Security

Location: grounds

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add Site Paging System

Qty: 0.00

Unit of Measure: Ea.

Estimate: $51,541.26

Assessor Name: Ben Nixon

Date Created: 11/20/2015

Notes: Install site speakers outdoor

Priority 5 - Response Time (> 5 yrs):

System: G2030 - Pedestrian Paving

Location: Grounds/ site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 31,700.00

Unit of Measure: S.F.

Estimate: $455,936.36

Assessor Name: Tom Moe

Date Created: 11/19/2015

Notes: Resurface playground

System: G2040 - Site Development

Location: Grounds/ site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace metal picket fence - input number of gates

Qty: 310.00

Unit of Measure: L.F.

Estimate: $57,094.64

Assessor Name: Tom Moe

Date Created: 11/19/2015

Notes: Replace picket fence

Equipment Inventory

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

No data found for this asset

Glossary

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

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

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

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

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

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

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

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

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

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

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