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.

Cramp School

Governance	DISTRICT	Report Type	Elementary
Address	3449 N. Mascher St.	Enrollment	523
	Philadelphia, Pa 19140	Grade Range	'00-05'
Phone/Fax	215-291-4704 / 215-291-5694	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Cramp	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	**65.73%**	**$27,132,992**	**$41,277,370**
Building	64.60 %	$25,678,231	$39,750,240
Grounds	95.26 %	$1,454,761	$1,527,130

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.43 %	$1,306,829	$1,461,208
Exterior Walls (Shows condition of the structural condition of the exterior facade)	06.84 %	$202,171	$2,956,048
Windows (Shows functionality of exterior windows)	79.06 %	$1,140,387	$1,442,385
Exterior Doors (Shows condition of exterior doors)	329.38 %	$382,507	$116,128
Interior Doors (Classroom doors)	216.77 %	$609,358	$281,109
Interior Walls (Paint and Finishes)	140.86 %	$1,490,253	$1,057,962
Plumbing Fixtures	10.09 %	$109,213	$1,082,790
Boilers	151.03 %	$2,258,226	$1,495,243
Chillers/Cooling Towers	61.93 %	$1,214,158	$1,960,554
Radiators/Unit Ventilators/HVAC	190.73 %	$6,566,754	$3,442,983
Heating/Cooling Controls	158.90 %	$1,718,053	$1,081,188
Electrical Service and Distribution	301.74 %	$2,344,063	$776,854
Lighting	51.89 %	$1,441,184	$2,777,452
Communications and Security (Cameras, Pa System and Fire Alarm)	46.05 %	$479,102	$1,040,343

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

S547001;Cramp

Final

Site Assessment Report

January 30, 2017

PARSONS

Table of Contents

Site Executive Summary

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

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

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

Gross Area (SF):	80,088
Year Built:	1969
Last Renovation:	
Replacement Value:	$41,277,370
Repair Cost:	$27,132,991.85
Total FCI:	65.73 %
Total RSLI:	79.88 %

Description:

Facility Assessment, July 2015

School District of Philadelphia

Cramp Elementary School

3449 N. Mascher St.

Philadelphia, PA 19140

80,088 SF / 755 Students / LN 05

The Cramp Elementary school building is located at 3449 N. Mascher Street in Philadelphia, PA. The 3 story with partial basement, approximately 80,088 square foot building was originally constructed in 1969. About half of the building footprint is one story and covered with sloping roofs.

Mr. Tom Sharer, Facility Area Coordinator provided input to the Parsons assessment team on current problems and planned renovation

projects. Mr. Alfonso Alford, building engineer, accompanied us on our tour of the school and provided limited information on the building systems and recent maintenance history. The school principal, Ms. Deana Logan provided additional information.

STRUCTURAL/ EXTERIOR CLOSURE:

The original building typically rests on concrete foundations and concrete bearing walls that are not showing signs of settlement. There are no signs of moisture penetration through basement walls

The main structure consists typically of combination of cast-in-place concrete columns, beams and concrete 2-way slabs; and structural steel framing, columns and bar joists supporting concrete slabs. The roof structure consists of bar joists supporting precast concrete roof panels. The superstructure is in good condition.

The building envelope is typically face brick masonry with CMU backup. In general, masonry is in fair to good condition with some minor cracks and missing mortar. Water penetration through walls has not been reported. First floor walls are covered with deteriorated anti-graffiti coating of differing colors.

The building windows are extruded aluminum double hung windows single acrylic glazed. All windows are generally beyond their service life and in poor condition with some of the windows inoperable; most of the windows have security screens in fair to poor condition. Clerestory windows above the Library are curtain wall type, single glazed in poor condition. The leaks around the windows perimeters have not been reported.

The exterior doors are typically hollow metal doors and frames, painted. The doors are generally in poor condition; no weather-stripping is installed; some doors have vision glazing with security screens.

Roofing system is a built-up system approximately 15 to 20 years old and in fair condition; all roofing and flashing is typically in fair condition with some deterioration of the built-up system and flashing sealant; leaks have not been reported. Roofing system is approaching the end of its service life.

INTERIORS:

The building partition wall types include painted CMU and hollow metal, glazed borrowed light partitions. Some classrooms have drywall partitions. Partitions are generally in good condition.

Interior doors are generally solid core wood or hollow metal doors, some glazed, with hollow metal frames in fair condition. The doors leading to exit stairways are hollow metal doors and frames in good condition.

Fittings include toilet accessories and toilet partitions, generally in fair to poor condition, some original and some installed approximately in 2000, no accessible compartments; chalkboards are old but in good condition. Handrails and ornamental metals are generally in good condition. Built-in cabinets are steel in poor condition. Interior identifying signage is typically directly painted on wall or door surfaces generally in poor condition.

The interior wall finishes in the building are generally painted CMU or drywall. Paint is old and in poor condition throughout the building.

Most ceilings in the building are 2x4 suspended acoustical panels. The suspension system and tile are in poor condition and beyond their service life. Auditorium/ Cafeteria have acoustic baffles in fair condition.

Flooring in classrooms and auditorium/ cafeteria and gymnasium is VCT or VCT (approximately 70% of floor area); and epoxy coated ceramic tiles in toilets. Flooring in the kitchen is quarry tile in good condition. Most flooring is in fair to good condition. Library has carpet in poor condition.

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

Institutional and Commercial equipment includes: stage equipment, generally in fair condition; A/V equipment in very good condition; gym equipment – basketball backstops, scoreboards, etc.; generally in fair condition. Other equipment includes kitchen equipment, generally in good condition.

Furnishings include fixed casework in classrooms, corridors and library, generally in fair to poor condition; window shades/blinds, generally in good condition; there is no fixed seating in auditorium/cafeteria.

CONVEYING SYSTEMS:

The building has a 2,500 lb hydraulic elevator serving all floors; generally in fair condition.

PLUMBING:

Plumbing Fixtures - Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. Several of the water closets were out of service and should be replaced. Many of the units appear to be in good condition and should be provide reliable service for the next 5-10 years.

Drinking fountains, located only in the Cafeteria and Gymnasium, consist of wall hung fixtures with integral refrigerated coolers. They are beyond their service life, several are damaged, 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.

The Kitchen has two sinks; one three compartment stainless steel sink with lever operated faucets and one two compartment stainless steel sink with lever operated faucets. There are no grease traps, as it is not a full service kitchen. Chemicals are injected manually into the sanitizing basins.

Domestic Water Distribution - A 4" city water service enters the mechanical room and the 3" meter and valves are located in the same room. A reduced pressure backflow preventer is installed. The original domestic hot and cold water distribution piping with copper piping and sweat fittings is still in service. 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 is over 45 years old and should be inspected and replaced by a qualified contractor.

One Bradford White gas fired, 75 gallon, vertical hot water heater with two circulating pumps, installed recently, supplies hot water for domestic use. The unit is located in the mechanical room on the basement level. The hot water heater is equipped with a T&P relief valve, and expansion tank. The domestic hot water heater is within its service life and should provide reliable service for the next 5-7 years.

Sanitary Waste - The original sanitary sewer piping is a mixture of galvanized piping with threaded fittings and heavy weight cast iron piping with hub and spigot fittings. The maintenance staff reported mostly minor problems with the sanitary waste piping systems. However, the sewer piping has been in service over 45 years 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 - The rain water drains from the roof are routed through mechanical chases in the building and appear to be original. The drain piping should be inspected by a qualified contractor and repaired as necessary.

MECHANICAL:

Energy Supply - A 4" city gas service enters the building in the basement mechanical room. The gas meter is 1" and is located in the mechanical room. Gas is used only by cooking equipment in the Kitchen.

Heat Generating Systems - Building heating is provided by electric heating coils in the air handling units and unit ventilators. The District should install two duel fuel 100HP hot water boilers with associated piping, valves, and pumps for more efficient heating.

Cooling Generating Systems - Chilled water is generated by one temporarily installed Carrier air cooled chiller, with two screw compressors, located in the courtyard outside the main entrance. Screw compressor chillers have an anticipated service life of 20 years; this unit has been in service approximately 9 years and is intended to be temporary. The original chiller was located on the roof and has been removed. A new, permanent, 200 ton packaged air cooled chiller fitted with modern controls should be installed. All associated chilled water piping and pumping systems should also be replaced.

Distribution Systems - Building water distribution piping is black steel with threaded fittings. The distribution piping in the basement has been damaged by condensation and has significant rust damage. The piping has been in use 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 distribution 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 5 years.

A two pipe distribution system supplies building cooling water to the unit ventilators and air handling units (AHU). There is one distribution loop water pump which serves the chiller. The pump appears to be original to the building, well beyond its anticipated service life of 25 years, and should be replaced. Much of the distribution piping is damaged from rust and is beyond its service life. All distribution piping and insulation should be replaced.

Unit ventilators provide heating and cooling for the majority of classrooms, offices, and indirectly to the hallways. The units have electric heat and chilled water coils. The unit ventilators are original to the building, beyond their service life, and have rust on their interiors. The existing unit ventilators should be removed and new units installed.

Conditioned air is provided to several spaces in the building by air handling units, all units have electric heat. Heating and ventilation unit HV-1, located in the Gymnasium, serves the Gymnasium. Air handling unit AHU-1, located in the basement mechanical room, serves the Administration offices and room 13A. AHU-2, located in the basement mechanical room, serves the Library. AHU-3, located in the Cafetorium, serves the Cafetorium. Each air handling unit has a chilled water connection and electric heating. These units are beyond their service life, show signs of damage from rust on AHU-1 and AHU-2, and should be replaced. The chilled water connections to AHU-1 and AHU-2 are leaking, causing significant amounts of water to pool on the floor by the units.

A large exhaust fan on the lowest roof serves the kitchen hood. Three additional fans on that roof serve the boys and girls restrooms on the east side of the first floor and the Cafetorium. Two exhaust fans on the middle roof serve the boys and girls restrooms on the south side of the first floor. Six (6) exhaust fans on the upper roof serve the first through third floor restrooms on the north side of the building. The Building Engineer reports that most exhaust fans are operational. The fans appear to be approaching the end of their service life and should be replaced.

Terminal & Package Units - Two kitchen hoods, one with an integral Range Guard fire suppression system, are installed above the gas fired cooking equipment. There were no fire suppression spray nozzles visible for one of the hoods, but nozzles were present for the other hood. The equipment looks to be within its service life. No make-up air unit is installed in the Kitchen for when the exhaust hood is in operation. A gas fired make-up air unit should be installed.

Controls & Instrumentation - The original pneumatic systems still provide basic control functions. Pneumatic room thermostats are intended to control the dual system unit ventilator control valve and heating coil. In reality only some thermostats are functional and many ventilator control valves are wide open and heating and cooling control is achieved via manual control or the chiller. Pneumatic control air is supplied from two Johnson System air compressors and one air dryer located in the mechanical room. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff. 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

ELECTRICAL:

Site electrical service – The primary power is at 13.2KV from the street power poles which goes underground and feeds a 750KVA pad mounted outdoor transformer (13.2KV – 120V/208V). The electrical service is old and beyond useful service. The main switchgear is rated at 2000 Amp, 120V/208V, 3 phase, and is located in main electrical room for 120V loads. The PECO meter (PECO 01 413612361) 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 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 fixtures. The majority of interior lighting fixtures is in a poor condition and has 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 correctly. Each class room is provided with intercom telephone service. The system permits paging and intercom communication between main office to classrooms, and vise 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, video surveillance - The school is not provided with adequate video surveillance system. There are 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 light 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.

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

Site Lighting - Campus 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 numbers of speakers on building's exterior walls.

GROUNDS (SITE):

There is parking lot at the site, generally in poor condition; no marked stalls or accessibility signage are present. Playground pavement north of the building is in poor condition, paving is cracked and deteriorated; there is no playground equipment. Playground to the south of the building is currently under construction. Perimeter picket fence separating the playground from the street on the north side is generally in poor condition. There is minimal landscaping at the main entrance court and along east side of the building, generally in fair condition.

ACCESSIBILITY:

Generally, the building has no accessible route per ADA requirements. Toilets are not equipped with accessible fixtures, and accessories, such as grab bars, and accessible partitions. None of the doors in the building have ADA required door handles.

RECOMMENDATIONS:

- Install all new roofing system including insulation within next 5 to 10 years; tear-down existing roofing; install flashing, and counter flashing

- Provide new anti-graffiti coating first floor ext. walls (remove old coating)
- Replace all windows within next 4 to 5 years
- Replace clerestory windows (curtain wall) above Library
- Replace security screens on 1st and 2nd floor windows
- Replace all exterior doors
- Replace interior doors including hardware for ADA accessibility
- Replace non-ADA compliant toilet partitions; reconfigure remaining toilet partitions
- Replace all ceramic tile in all toilets
- Replace identifying signage throughout the building
- Repaint all walls in the building
- Replace all VAT tile in the building
- Replace all suspended acoustical ceiling in the building
- Replace fixed book cases in classrooms
- Provide ADA compliant ramp at the main entrance
- Provide wheelchair lift at stairway leading to south side playground
- Replace playground paving (north side of the building)
- Replace parking paving, stripe stalls and provide accessibility signage
- Replace picket fence at north side playground perimeter
- Replace ten (10) water closets in the restrooms with new code compliant fixtures.
- Replace six (6) wall hung drinking fountains and integral refrigerated coolers the Cafeteria and Gymnasium. 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 over 45 years, and replace any damaged piping.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- 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.
- Install two 100HP hot water boilers with associated piping, valves, and pumps.
- Install a natural gas service to the building to serve the new boilers.
- Replace the existing screw chiller with a new 200 ton packaged air cooled chiller fitted with modern controls. All associated piping and pumping systems should also be replaced.
- Hire a qualified contractor to examine the distribution piping, in service for 46 years and damaged, and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the existing unit ventilators with two pipe units that have integral heat exchangers to introduce outdoor air to the building.
- Replace heating and ventilation unit HV-1, located in the Gymnasium, which serves 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.
- Replace AHU-1, located in the basement mechanical room, which serves the Administration are and room 13A by installing a fan coil air handling unit in the basement with outdoor air ducted to the unit from louvers in the wall openings.
- Replace AHU-2, located in the basement mechanical room, which serves the Library by installing a fan coil air handling unit in the basement with outdoor air ducted to the unit from louvers in the wall openings.
- Replace AHU-3, located in the Cafeteria, which serves the Cafeteria by installing a constant volume air handling unit with distribution ductwork and registers.
- Replace the twelve (12) existing roof mounted exhaust fans serving the restrooms, cafeteria, and kitchen and utilize the existing ductwork.
- Install a gas fired make-up air unit serving the Kitchen for when the exhaust hood is in operation.
- 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.

Site Assessment Report - S547001;Cramp

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S547001		

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	54.00 %	0.00 %	$0.00
A20 - Basement Construction	54.00 %	0.00 %	$0.00
B10 - Superstructure	54.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	71.68 %	38.21 %	$1,725,065.50
B30 - Roofing	110.00 %	89.43 %	$1,306,829.15
C10 - Interior Construction	57.85 %	39.43 %	$775,025.42
C20 - Stairs	54.00 %	0.00 %	$0.00
C30 - Interior Finishes	114.37 %	80.68 %	$2,799,401.36
D10 - Conveying	105.71 %	80.31 %	$98,410.01
D20 - Plumbing	37.47 %	57.01 %	$932,262.74
D30 - HVAC	93.91 %	131.97 %	$11,757,190.52
D40 - Fire Protection	105.71 %	177.49 %	$1,145,694.59
D50 - Electrical	110.11 %	100.49 %	$4,730,866.83
E10 - Equipment	31.17 %	0.00 %	$0.00
E20 - Furnishings	92.50 %	238.87 %	$407,484.53
G20 - Site Improvements	106.17 %	114.42 %	$1,275,308.65
G40 - Site Electrical Utilities	106.67 %	43.50 %	$179,452.55
Totals:	**79.88 %**	**65.73 %**	**$27,132,991.85**

Condition Deficiency Priority

Facility Name	Gross Area (S.F.)	FCI %	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)
B547001;Cramp	80,088	64.60	$1,347,865.19	$5,000,930.97	$6,663,844.16	$4,303,851.76	$8,361,738.57
G547001;Grounds	71,000	95.26	$0.00	$0.00	$1,095,747.11	$359,014.09	$0.00
Total:		**65.73**	**$1,347,865.19**	**$5,000,930.97**	**$7,759,591.27**	**$4,662,865.85**	**$8,361,738.57**

Deficiencies By Priority

1 - Response Time (< 2 yr) - $1,347,865.19
2 - Response Time (2-3 yrs) - $5,000,930.97
3 - Response Time (3-4 yrs) - $7,759,591.27
4 - Response Time (4-5 yrs) - $4,662,865.85
5 - Response Time (> 5 yrs) - $8,361,738.57

Budget Estimate Total: $27,132,991.85

Executive Summary

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

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

Function:	
Gross Area (SF):	80,088
Year Built:	1969
Last Renovation:	
Replacement Value:	$39,750,240
Repair Cost:	$25,678,230.65
Total FCI:	64.60 %
Total RSLI:	78.87 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B547001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S547001		

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	54.00 %	0.00 %	$0.00
A20 - Basement Construction	54.00 %	0.00 %	$0.00
B10 - Superstructure	54.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	71.68 %	38.21 %	$1,725,065.50
B30 - Roofing	110.00 %	89.43 %	$1,306,829.15
C10 - Interior Construction	57.85 %	39.43 %	$775,025.42
C20 - Stairs	54.00 %	0.00 %	$0.00
C30 - Interior Finishes	114.37 %	80.68 %	$2,799,401.36
D10 - Conveying	105.71 %	80.31 %	$98,410.01
D20 - Plumbing	37.47 %	57.01 %	$932,262.74
D30 - HVAC	93.91 %	131.97 %	$11,757,190.52
D40 - Fire Protection	105.71 %	177.49 %	$1,145,694.59
D50 - Electrical	110.11 %	100.49 %	$4,730,866.83
E10 - Equipment	31.17 %	0.00 %	$0.00
E20 - Furnishings	92.50 %	238.87 %	$407,484.53
Totals:	**78.87 %**	**64.60 %**	**$25,678,230.65**

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.	80,088	100	1969	2069		54.00 %	0.00 %	54			$1,473,619
A1030	Slab on Grade	$7.73	S.F.	80,088	100	1969	2069		54.00 %	0.00 %	54			$619,080
A2010	Basement Excavation	$6.55	S.F.	80,088	100	1969	2069		54.00 %	0.00 %	54			$524,576
A2020	Basement Walls	$12.70	S.F.	80,088	100	1969	2069		54.00 %	0.00 %	54			$1,017,118
B1010	Floor Construction	$75.10	S.F.	80,088	100	1969	2069		54.00 %	0.00 %	54			$6,014,609
B1020	Roof Construction	$13.88	S.F.	80,088	100	1969	2069		54.00 %	0.00 %	54			$1,111,621
B2010	Exterior Walls	$36.91	S.F.	80,088	100	1969	2069		54.00 %	6.84 %	54		$202,170.60	$2,956,048
B2020	Exterior Windows	$18.01	S.F.	80,088	40	1969	2009	2057	105.00 %	79.06 %	42		$1,140,387.43	$1,442,385
B2030	Exterior Doors	$1.45	S.F.	80,088	25	1969	1994	2042	108.00 %	329.38 %	27		$382,507.47	$116,128
B3010105	Built-Up	$37.76	S.F.	38,570	20	1990	2010	2037	110.00 %	89.73 %	22		$1,306,829.15	$1,456,403
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.	80,088	20	1990	2010	2037	110.00 %	0.00 %	22			$4,805
C1010	Partitions	$17.91	S.F.	80,088	100	1969	2069		54.00 %	0.00 %	54			$1,434,376
C1020	Interior Doors	$3.51	S.F.	80,088	40	1969	2009	2047	80.00 %	216.77 %	32		$609,358.46	$281,109
C1030	Fittings	$3.12	S.F.	80,088	40	1969	2009	2037	55.00 %	66.30 %	22		$165,666.96	$249,875
C2010	Stair Construction	$1.41	S.F.	80,088	100	1969	2069		54.00 %	0.00 %	54			$112,924

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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.	80,088	10	2005	2015	2028	130.00 %	140.86 %	13		$1,490,252.94	$1,057,962
C3010231	Vinyl Wall Covering	$0.97	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$2.63	S.F.		30				0.00 %	0.00 %				$0
C3020411	Carpet	$7.30	S.F.		10				0.00 %	0.00 %				$0
C3020412	Terrazzo & Tile	$75.52	S.F.	3,400	50	1969	2019	2067	104.00 %	76.89 %	52		$197,418.04	$256,768
C3020413	Vinyl Flooring	$9.68	S.F.	47,870	20	1969	1989	2037	110.00 %	93.94 %	22		$435,283.37	$463,382
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	12,800	50	1969	2019	2026	22.00 %	0.00 %	11			$12,416
C3030	Ceiling Finishes	$20.97	S.F.	80,088	25	1990	2015	2042	108.00 %	40.28 %	27		$676,447.01	$1,679,445
D1010	Elevators and Lifts	$1.53	S.F.	80,088	35	1969	2004	2052	105.71 %	80.31 %	37		$98,410.01	$122,535
D2010	Plumbing Fixtures	$13.52	S.F.	80,088	35	1969	2004	2020	14.29 %	10.09 %	5		$109,212.91	$1,082,790
D2020	Domestic Water Distribution	$1.68	S.F.	80,088	25	1969	1994	2042	108.00 %	301.63 %	27		$405,834.14	$134,548
D2030	Sanitary Waste	$2.90	S.F.	80,088	25	1969	1994	2042	108.00 %	146.43 %	27		$340,102.21	$232,255
D2040	Rain Water Drainage	$2.32	S.F.	80,088	30	1969	1999	2025	33.33 %	41.50 %	10		$77,113.48	$185,804
D3020	Heat Generating Systems	$18.67	S.F.	80,088	35	1969	2004	2052	105.71 %	151.03 %	37		$2,258,225.69	$1,495,243
D3030	Cooling Generating Systems	$24.48	S.F.	80,088	20	2006	2026	2028	65.00 %	61.93 %	13		$1,214,157.63	$1,960,554
D3040	Distribution Systems	$42.99	S.F.	80,088	25	1969	1994	2042	108.00 %	190.73 %	27		$6,566,754.01	$3,442,983
D3050	Terminal & Package Units	$11.60	S.F.	80,088	20	2005	2025	2028	65.00 %	0.00 %	13			$929,021
D3060	Controls & Instrumentation	$13.50	S.F.	80,088	20	1969	1989	2037	110.00 %	158.90 %	22		$1,718,053.19	$1,081,188
D4010	Sprinklers	$7.05	S.F.	80,088	35			2052	105.71 %	202.91 %	37		$1,145,694.59	$564,620
D4020	Standpipes	$1.01	S.F.	80,088	35			2052	105.71 %	0.00 %	37			$80,889
D5010	Electrical Service/Distribution	$9.70	S.F.	80,088	30	1969	1999	2047	106.67 %	301.74 %	32		$2,344,063.20	$776,854
D5020	Lighting and Branch Wiring	$34.68	S.F.	80,088	20	1969	1989	2037	110.00 %	51.89 %	22		$1,441,183.58	$2,777,452
D5030	Communications and Security	$12.99	S.F.	80,088	15	1969	1984	2032	113.33 %	46.05 %	17		$479,102.49	$1,040,343
D5090	Other Electrical Systems	$1.41	S.F.	80,088	30	1969	1999	2047	106.67 %	413.13 %	32		$466,517.56	$112,924
E1020	Institutional Equipment	$4.82	S.F.	80,088	35	1990	2025	2028	37.14 %	0.00 %	13			$386,024
E1090	Other Equipment	$11.10	S.F.	80,088	35	1990	2025		28.57 %	0.00 %	10			$888,977
E2010	Fixed Furnishings	$2.13	S.F.	80,088	40	1969	2009	2052	92.50 %	238.87 %	37		$407,484.53	$170,587
								Total	**78.87 %**	**64.60 %**			**$25,678,230.65**	**$39,750,240**

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:	**$25,678,231**	**$0**	**$0**	**$0**	**$0**	**$1,380,775**	**$0**	**$0**	**$0**	**$0**	**$1,588,857**	**$28,647,863**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$202,171	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$202,171**
B2020 - Exterior Windows	$1,140,387	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,140,387**
B2030 - Exterior Doors	$382,507	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$382,507**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$1,306,829	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,306,829**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

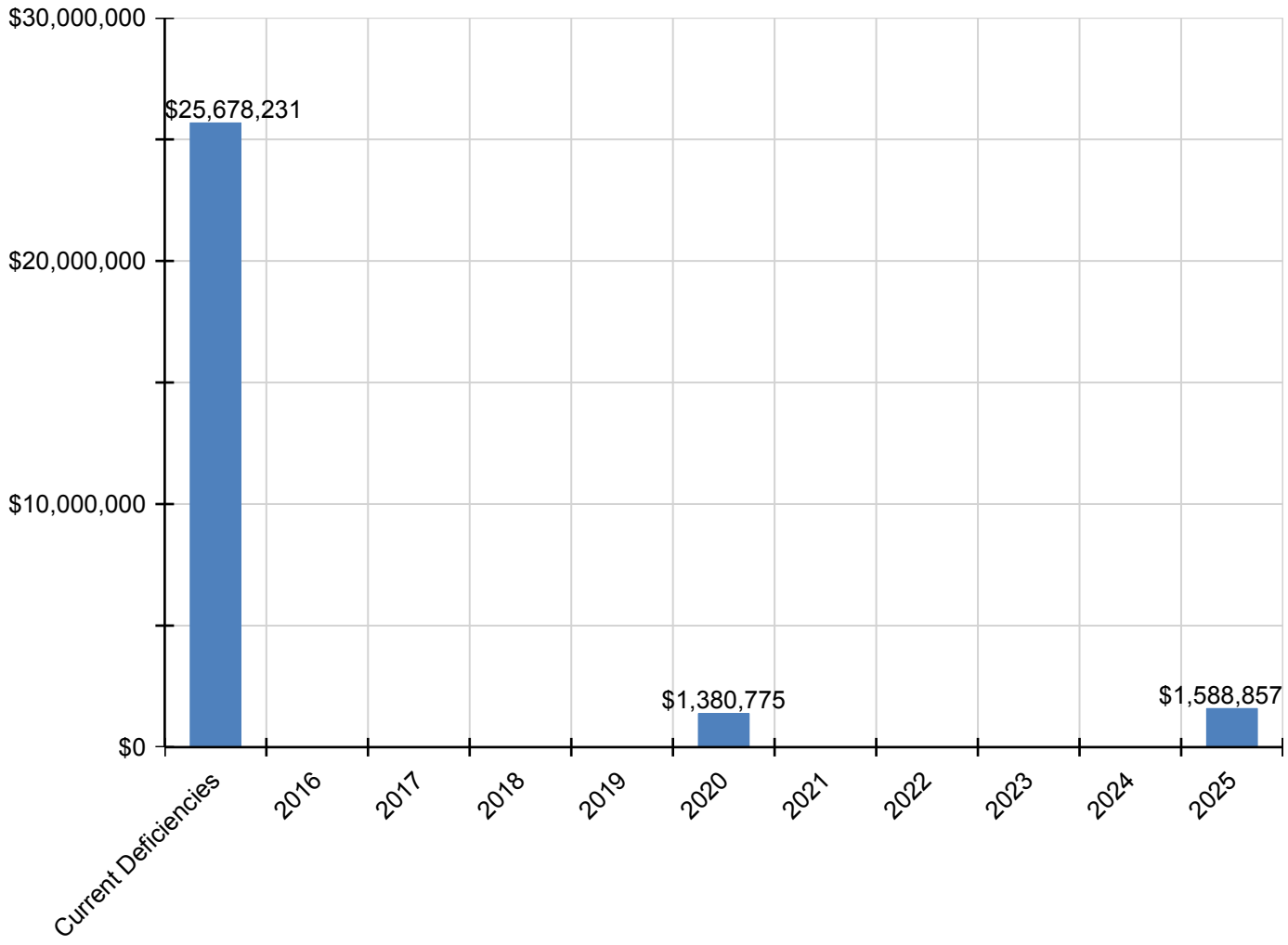
C1020 - Interior Doors	$609,358	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$609,358**
C1030 - Fittings	$165,667	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$165,667**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$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	$1,490,253	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,490,253**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$197,418	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$197,418**
C3020413 - Vinyl Flooring	$435,283	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$435,283**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$676,447	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$676,447**
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	$98,410	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$98,410**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$109,213	$0	$0	$0	$0	$1,380,775	$0	$0	$0	$0	$0	**$1,489,988**
D2020 - Domestic Water Distribution	$405,834	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$405,834**
D2030 - Sanitary Waste	$340,102	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$340,102**
D2040 - Rain Water Drainage	$77,113	$0	$0	$0	$0	$0	$0	$0	$0	$0	$274,676	**$351,790**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$2,258,226	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,258,226**
D3030 - Cooling Generating Systems	$1,214,158	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,214,158**
D3040 - Distribution Systems	$6,566,754	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$6,566,754**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,718,053	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,718,053**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,145,695	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,145,695**
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	$2,344,063	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,344,063**
D5020 - Lighting and Branch Wiring	$1,441,184	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,441,184**
D5030 - Communications and Security	$479,102	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$479,102**
D5090 - Other Electrical Systems	$466,518	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$466,518**
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	$1,314,181	**$1,314,181**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$407,485	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$407,485**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

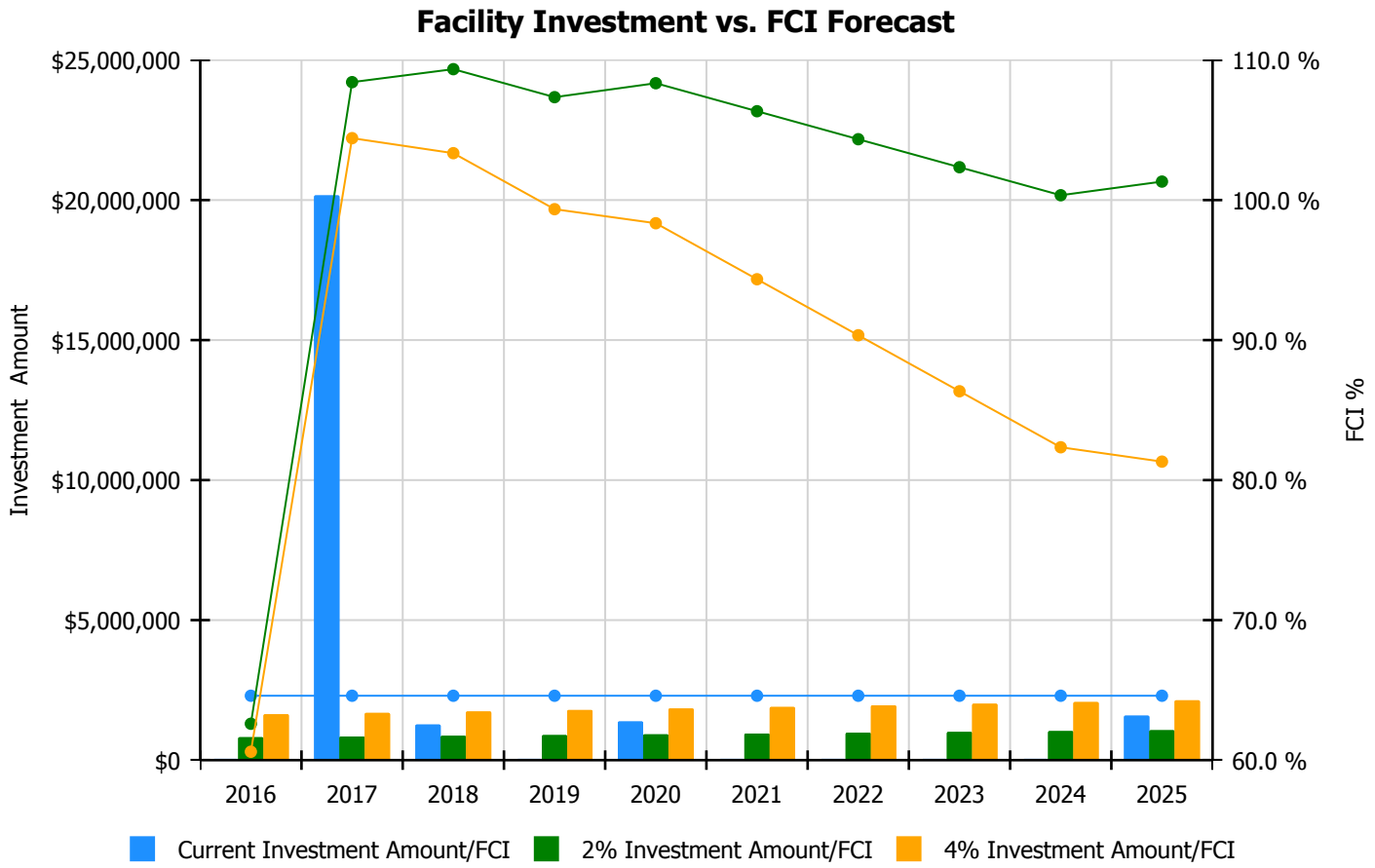
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

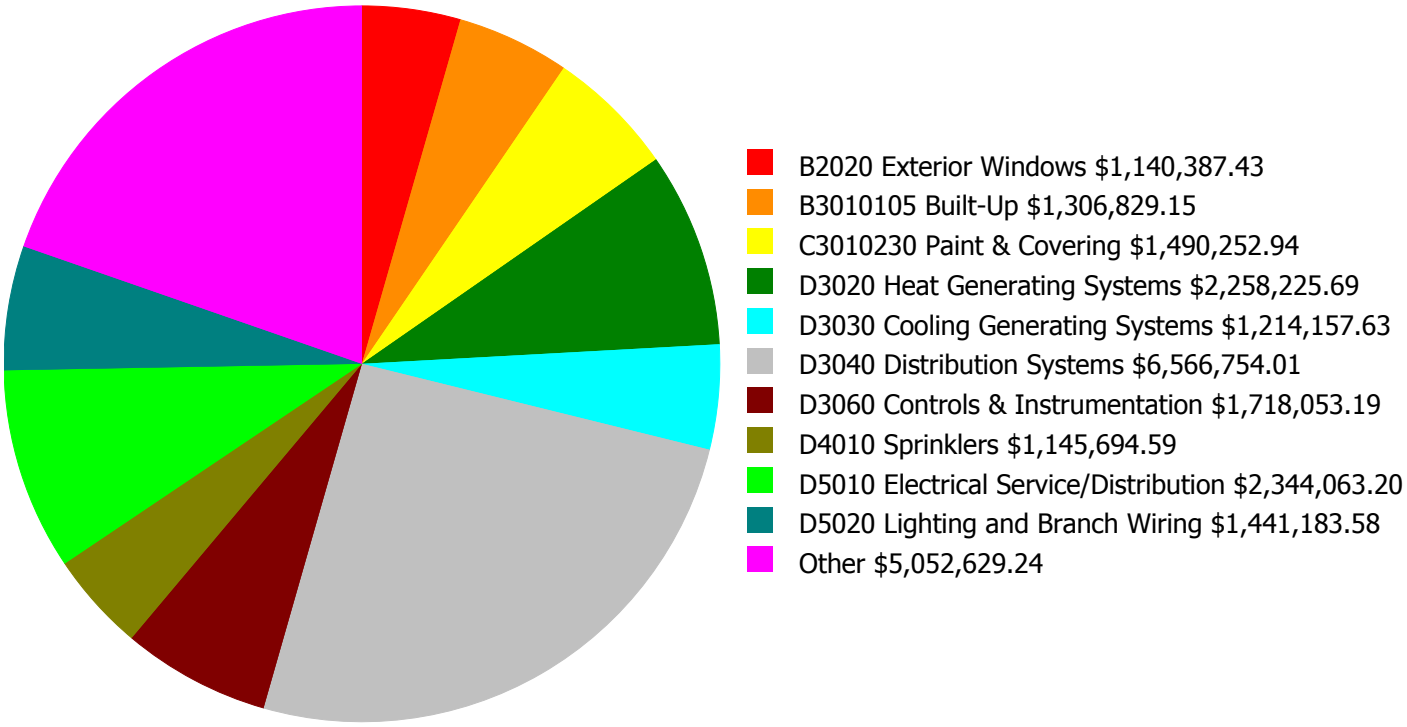
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 64.6%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$818,855.00	62.60 %	$1,637,710.00	60.60 %
2017	$20,166,928	$843,421.00	108.42 %	$1,686,841.00	104.42 %
2018	$1,271,671	$868,723.00	109.35 %	$1,737,446.00	103.35 %
2019	$0	$894,785.00	107.35 %	$1,789,570.00	99.35 %
2020	$1,380,775	$921,628.00	108.34 %	$1,843,257.00	98.34 %
2021	$0	$949,277.00	106.34 %	$1,898,555.00	94.34 %
2022	$0	$977,756.00	104.34 %	$1,955,511.00	90.34 %
2023	$0	$1,007,088.00	102.34 %	$2,014,177.00	86.34 %
2024	$0	$1,037,301.00	100.34 %	$2,074,602.00	82.34 %
2025	$1,588,857	$1,068,420.00	101.32 %	$2,136,840.00	81.32 %
Total:	**$24,408,232**	**$9,387,254.00**		**$18,774,509.00**	

Deficiency Summary by System

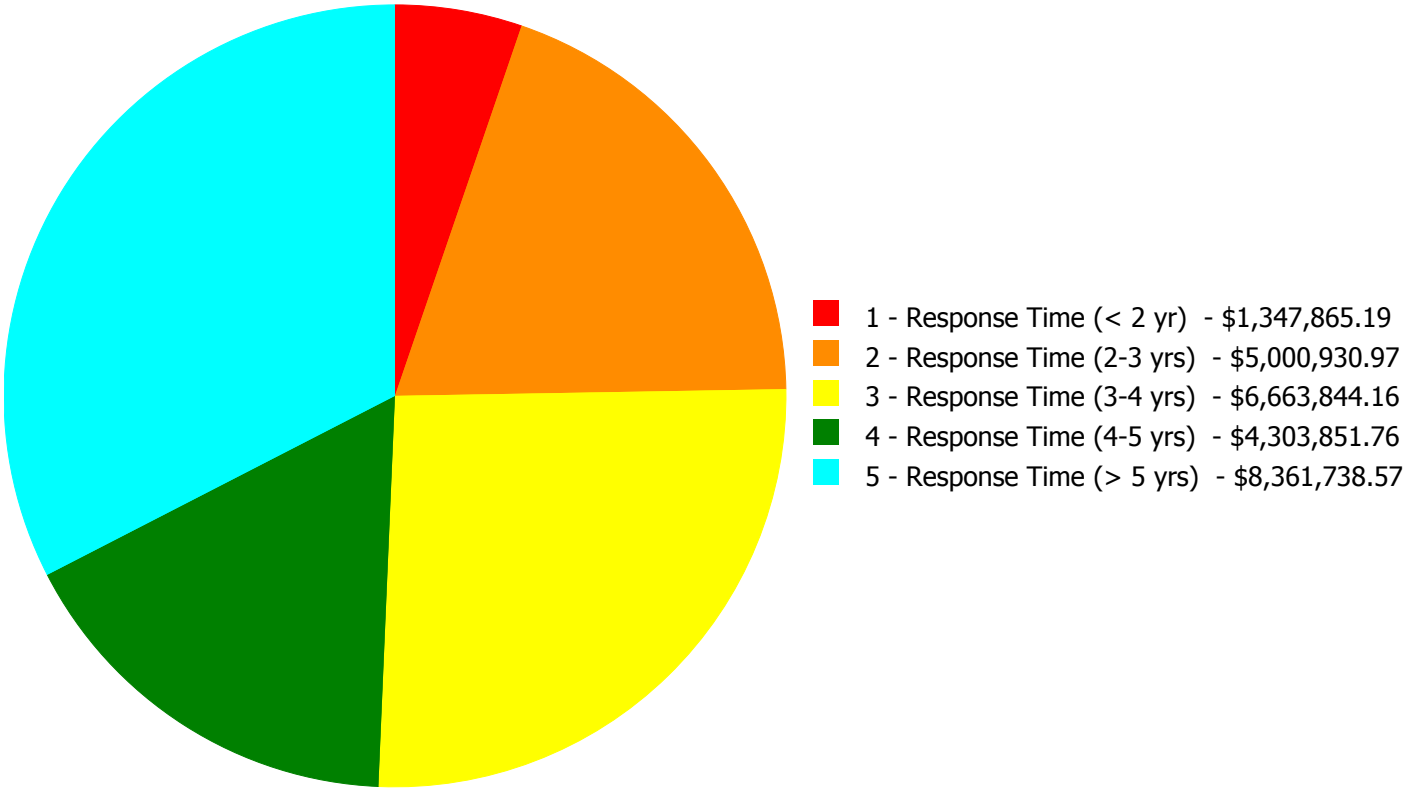
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $25,678,230.65

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: $25,678,230.65

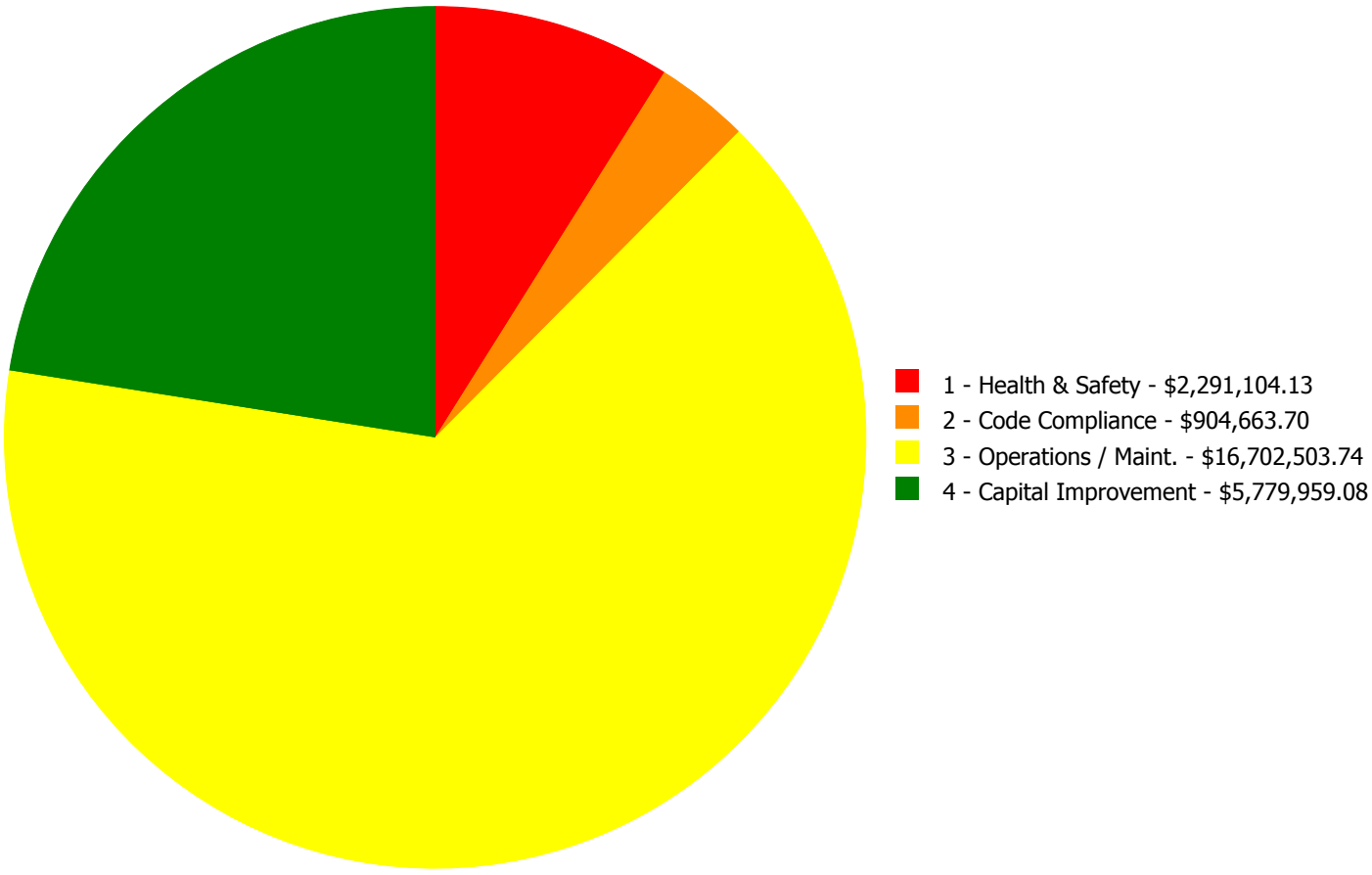
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	$202,170.60	$0.00	$0.00	$0.00	$0.00	$202,170.60
B2020	Exterior Windows	$0.00	$0.00	$1,140,387.43	$0.00	$0.00	$1,140,387.43
B2030	Exterior Doors	$0.00	$0.00	$0.00	$382,507.47	$0.00	$382,507.47
B3010105	Built-Up	$0.00	$0.00	$0.00	$0.00	$1,306,829.15	$1,306,829.15
C1020	Interior Doors	$0.00	$0.00	$0.00	$0.00	$609,358.46	$609,358.46
C1030	Fittings	$0.00	$0.00	$133,157.46	$0.00	$32,509.50	$165,666.96
C3010230	Paint & Covering	$0.00	$0.00	$1,490,252.94	$0.00	$0.00	$1,490,252.94
C3020412	Terrazzo & Tile	$0.00	$0.00	$0.00	$0.00	$197,418.04	$197,418.04
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$435,283.37	$0.00	$435,283.37
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$676,447.01	$0.00	$676,447.01
D1010	Elevators and Lifts	$0.00	$98,410.01	$0.00	$0.00	$0.00	$98,410.01
D2010	Plumbing Fixtures	$0.00	$45,475.14	$63,737.77	$0.00	$0.00	$109,212.91
D2020	Domestic Water Distribution	$0.00	$0.00	$405,834.14	$0.00	$0.00	$405,834.14
D2030	Sanitary Waste	$0.00	$340,102.21	$0.00	$0.00	$0.00	$340,102.21
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	$0.00	$0.00	$2,258,225.69	$2,258,225.69
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,214,157.63	$1,214,157.63
D3040	Distribution Systems	$0.00	$4,516,943.61	$1,079,117.53	$352,990.49	$617,702.38	$6,566,754.01
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$0.00	$1,718,053.19	$1,718,053.19
D4010	Sprinklers	$1,145,694.59	$0.00	$0.00	$0.00	$0.00	$1,145,694.59
D5010	Electrical Service/Distribution	$0.00	$0.00	$0.00	$2,344,063.20	$0.00	$2,344,063.20
D5020	Lighting and Branch Wiring	$0.00	$0.00	$1,441,183.58	$0.00	$0.00	$1,441,183.58
D5030	Communications and Security	$0.00	$0.00	$366,542.27	$112,560.22	$0.00	$479,102.49
D5090	Other Electrical Systems	$0.00	$0.00	$466,517.56	$0.00	$0.00	$466,517.56
E2010	Fixed Furnishings	$0.00	$0.00	$0.00	$0.00	$407,484.53	$407,484.53
	Total:	$1,347,865.19	$5,000,930.97	$6,663,844.16	$4,303,851.76	$8,361,738.57	$25,678,230.65

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: $25,678,230.65

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: B2010 - Exterior Walls

Location: Exterior
Distress: Appearance
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Remove graffiti - power wash and paint
Qty: 30,000.00
Unit of Measure: S.F.
Estimate: $202,170.60
Assessor Name: System
Date Created: 11/12/2015

Notes: Provide new anti-graffiti coating on first floor exterior walls (remove old coating)

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: 80,088.00
Unit of Measure: S.F.
Estimate: $1,145,694.59
Assessor Name: System
Date Created: 09/09/2015

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $98,410.01

Assessor Name: System

Date Created: 11/12/2015

Notes: Provide wheelchair lift at stairway leading to south side playground

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System: D2010 - Plumbing Fixtures

Location: Cafeteria and Gymnasium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 6.00

Unit of Measure: Ea.

Estimate: $45,475.14

Assessor Name: System

Date Created: 09/09/2015

Notes: Replace six (6) wall hung drinking fountains and integral refrigerated coolers the Cafeteria and Gymnasium. These units are well beyond their service life and most are NOT accessible type.

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: 80,088.00

Unit of Measure: S.F.

Estimate: $340,102.21

Assessor Name: System

Date Created: 09/09/2015

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

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 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: 80,088.00

Unit of Measure: S.F.

Estimate: $3,863,379.89

Assessor Name: System

Date Created: 09/09/2015

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

System: D3040 - Distribution Systems

Location: Basement

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 755.00

Unit of Measure: Pr.

Estimate: $326,781.86

Assessor Name: System

Date Created: 09/09/2015

Notes: Replace AHU-1, located in the basement mechanical room, which serves the Administration are and room 13A by installing a fan coil air handling unit in the basement with outdoor air ducted to the unit from louvers in the wall openings.

System: D3040 - Distribution Systems

Location: Basement

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 755.00

Unit of Measure: Pr.

Estimate: $326,781.86

Assessor Name: System

Date Created: 09/09/2015

Notes: Replace AHU-2, located in the basement mechanical room, which serves the Library by installing a fan coil air handling unit in the basement with outdoor air ducted to the unit from louvers in the wall openings.

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

System: B2020 - Exterior Windows

Location: Exterior

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Replace security screens

Qty: 3,200.00

Unit of Measure: S.F.

Estimate: $491,220.34

Assessor Name: System

Date Created: 11/12/2015

Notes: Replace security screens on 1st and 2nd floor windows

System: B2020 - Exterior Windows

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 70.00

Unit of Measure: Ea.

Estimate: $485,332.99

Assessor Name: System

Date Created: 11/12/2015

Notes: Replace all windows within next 4 to 5 years

System: B2020 - Exterior Windows

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace curtain wall systems - SF of curtain wall area

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $163,834.10

Assessor Name: System

Date Created: 11/12/2015

Notes: Replace clerestory windows (curtain wall) above Library

System: C1030 - Fittings

Location: Interior

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 50.00

Unit of Measure: Ea.

Estimate: $133,157.46

Assessor Name: System

Date Created: 11/12/2015

Notes: Replace non-ADA compliant toilet partitions; reconfigure remaining toilet partitions

System: C3010230 - Paint & Covering

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 220,000.00

Unit of Measure: S.F.

Estimate: $1,490,252.94

Assessor Name: System

Date Created: 11/12/2015

Notes: Repaint all walls in the building

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $63,737.77

Assessor Name: System

Date Created: 09/09/2015

Notes: Replace ten (10) water closets in the restrooms with new code compliant fixtures.

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: 80,088.00

Unit of Measure: S.F.

Estimate: $405,834.14

Assessor Name: System

Date Created: 09/09/2015

Notes: Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for over 45 years, and replace any damaged piping.

System: D2040 - Rain Water Drainage

Location: Throughout building

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: 09/09/2015

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: 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: 80,088.00

Unit of Measure: S.F.

Estimate: $757,662.33

Assessor Name: System

Date Created: 09/09/2015

Notes: Hire a qualified contractor to examine the distribution piping, in service for 46 years and damaged, 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: 12.00

Unit of Measure: Ea.

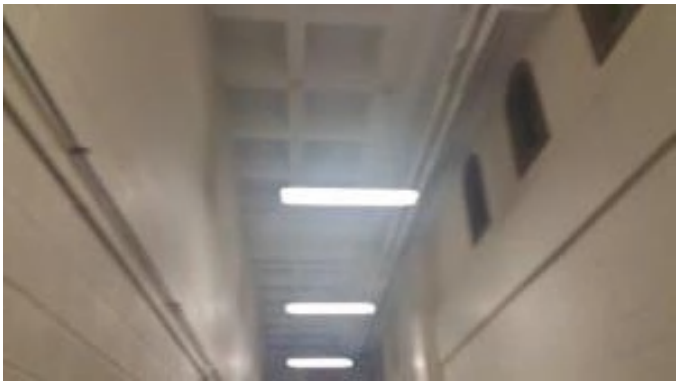
Estimate: $321,455.20

Assessor Name: System

Date Created: 09/09/2015

Notes: Replace the twelve (12) existing roof mounted exhaust fans serving the restrooms, cafeteria, and kitchen and utilize the existing ductwork.

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: $972,819.21

Assessor Name: System

Date Created: 09/25/2015

Notes: Install new lighting system in 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: $468,364.37

Assessor Name: System

Date Created: 09/25/2015

Notes: Install new receptacles in all classrooms and other areas

System: D5030 - Communications and Security

Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

Estimate: $366,542.27

Assessor Name: System

Date Created: 09/25/2015

Notes: Install new automated FA system

System: D5090 - Other Electrical Systems

Location: Electrical room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

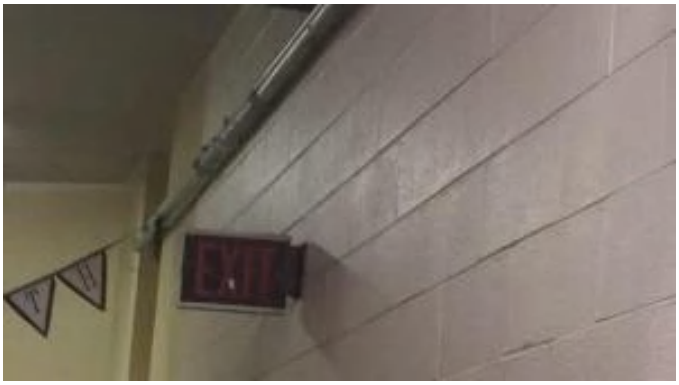
Estimate: $247,611.73

Assessor Name: System

Date Created: 09/25/2015

Notes: Install new 100 KW emergency generator

System: D5090 - Other Electrical Systems



Location:	throughout the building
Distress:	Life Safety / NFPA / PFD
Category:	1 - Health & Safety
Priority:	3 - Response Time (3-4 yrs)
Correction:	Add Emergency/Exit Lighting
Qty:	100.00
Unit of Measure:	Ea.
Estimate:	$218,905.83
Assessor Name:	System
Date Created:	09/25/2015

Notes: Install new emergency exit signs emergency lights

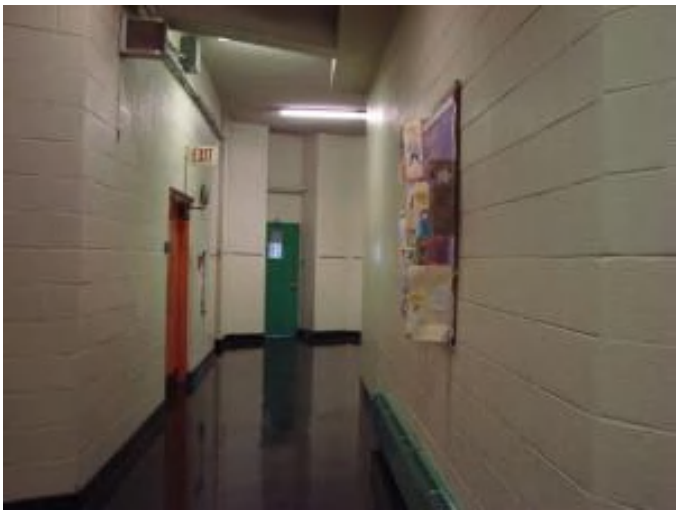
Priority 4 - Response Time (4-5 yrs):

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: 42.00
Unit of Measure: Ea.
Estimate: $382,507.47
Assessor Name: System
Date Created: 11/12/2015

Notes: Replace all exterior doors

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: 28,700.00
Unit of Measure: S.F.
Estimate: $435,283.37
Assessor Name: System
Date Created: 11/12/2015

Notes: Replace all VAT tile in the building

System: C3030 - Ceiling Finishes

Location: Interior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 44,850.00

Unit of Measure: S.F.

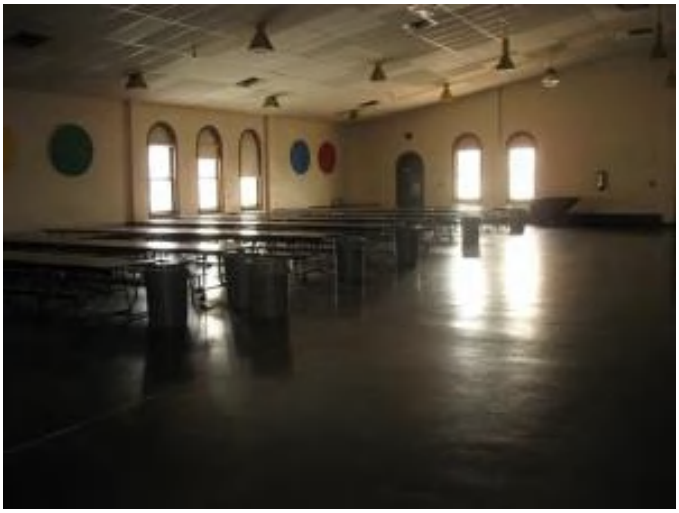
Estimate: $676,447.01

Assessor Name: System

Date Created: 11/12/2015

Notes: Replace all suspended acoustical ceiling in the building

System: D3040 - Distribution Systems



Location: Cafetorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Install HVAC unit for Cafeteria (850 students).

Qty: 755.00

Unit of Measure: Pr.

Estimate: $352,990.49

Assessor Name: System

Date Created: 09/09/2015

Notes: Replace AHU-3, located in the Cafetorium, which serves the Cafetorium by installing a constant volume air handling unit with distribution ductwork and registers.

System: D5010 - Electrical Service/Distribution

Location: electrical room

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: $939,528.22

Assessor Name: System

Date Created: 09/25/2015

Notes: Install new main 480 switchgear for the new HVAC loads. Also, a new 120V/208V, 3 phase switchboard to replace existing.

System: D5010 - Electrical Service/Distribution

Location: Electrical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Service Transformer, Add Switchboard

Qty: 0.00

Unit of Measure: Ea.

Estimate: $733,302.41

Assessor Name: System

Date Created: 09/25/2015

Notes: Install new Site electrical service 2000KVA, 480V, 3 Phase to feed the existing loads plus new additional loads for new HVAC System. New main 480 switchgear for the new HVAC loads. Also, a new 120V/208V, 3 phase switchboard to replace existing.

System: D5010 - Electrical Service/Distribution

Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Panelboard - 225A

Qty: 0.00

Unit of Measure: Ea.

Estimate: $671,232.57

Assessor Name: System

Date Created: 09/25/2015

Notes: Install new 120V distribution system (panel-boards) throughout the building for lighting, receptacles. Also new MCC for the new 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: $112,560.22

Assessor Name: System

Date Created: 09/25/2015

Notes: Install new Clock System

Priority 5 - Response Time (> 5 yrs):

System: B3010105 - Built-Up

Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and Replace Built Up Roof

Qty: 38,570.00

Unit of Measure: S.F.

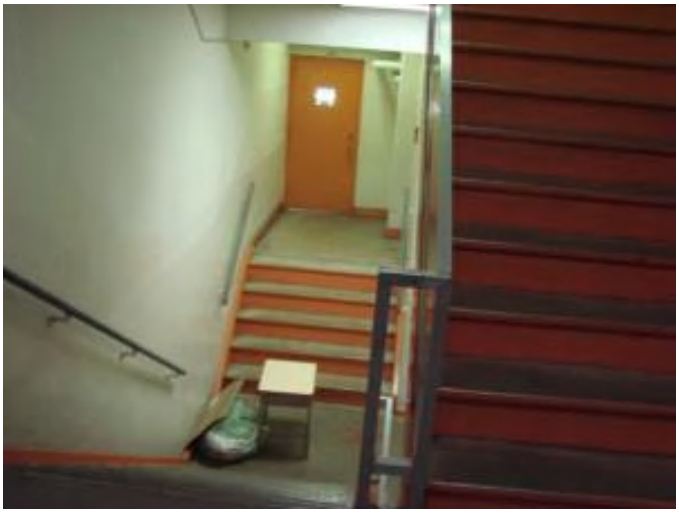
Estimate: $1,306,829.15

Assessor Name: System

Date Created: 11/12/2015

Notes: Install all new roofing system including insulation within next 5 to 10 years; tear-down existing roofing; install flashing, and counter flashing

System: C1020 - Interior Doors



Location: Interior

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace hollow metal frames and doors

Qty: 120.00

Unit of Measure: Ea.

Estimate: $609,358.46

Assessor Name: System

Date Created: 11/12/2015

Notes: Replace interior doors including hardware for ADA accessibility

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: 120.00

Unit of Measure: Ea.

Estimate: $32,509.50

Assessor Name: System

Date Created: 11/12/2015

Notes: Replace identifying signage throughout the building

System: C3020412 - Terrazzo & Tile

Location: Interior

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace terazzo or tile flooring - pick the appropriate material

Qty: 4,400.00

Unit of Measure: S.F.

Estimate: $197,418.04

Assessor Name: System

Date Created: 11/12/2015

Notes: Replace all ceramic tile in all toilets

System: D3020 - Heat Generating Systems

This deficiency has no image.

Location: Mechanical room

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install boiler (100 HP)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,926,483.14

Assessor Name: System

Date Created: 09/09/2015

Notes: Install two 100HP gas-fired hot water boilers to replace electric heat. Also, provide HW pump and piping to supply air handling units throughout the building.

System: D3020 - Heat Generating Systems

This deficiency has no image.

Location: Mechanical room

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Improve service to support burning natural gas as the primary fuel (75KSF)

Qty: 150.00

Unit of Measure: L.F.

Estimate: $331,742.55

Assessor Name: System

Date Created: 02/18/2016

Notes: Install a natural gas service to the building to serve the new boilers.

System: D3030 - Cooling Generating Systems

Location: Roof

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 80,088.00

Unit of Measure: S.F.

Estimate: $1,214,157.63

Assessor Name: System

Date Created: 09/09/2015

Notes: Replace the existing screw chiller with a new 200 ton packaged air cooled chiller fitted with modern controls. All associated piping and pumping systems should also be replaced.

System: D3040 - Distribution Systems

Location: Kitchen

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install GF makeup air unit for kitchen exhaust hood (single 10 ft hood).

Qty: 1.00

Unit of Measure: Ea.

Estimate: $309,401.34

Assessor Name: System

Date Created: 09/09/2015

Notes: Install a gas fired make-up air unit serving the Kitchen for when the exhaust hood is in operation.

System: D3040 - Distribution Systems

Location: Gymnasium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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: 09/09/2015

Notes: Replace heating and ventilation unit HV-1, located in the Gymnasium, which serves 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: 80,088.00

Unit of Measure: S.F.

Estimate: $1,718,053.19

Assessor Name: System

Date Created: 09/09/2015

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 book cases - pick the closest book case size and number

Qty: 80.00

Unit of Measure: Ea.

Estimate: $407,484.53

Assessor Name: System

Date Created: 11/12/2015

Notes: Replace fixed book cases in classrooms

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 2500 lb, 5 floors, 100 FPM	1.00	Ea.	INTERIOR					30	1969	2047	$142,170.00	$156,387.00
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, air cooled, insulated evaporator, 180 ton, includes standard controls	1.00	Ea.	Courtyard	Carrier	30XAA1807F-054-L	1106Q90699		20	2006	2026	$164,191.50	$180,610.65
												Total:	**$336,997.65**

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):	71,000
Year Built:	1959
Last Renovation:	
Replacement Value:	$1,527,130
Repair Cost:	$1,454,761.20
Total FCI:	95.26 %
Total RSLI:	106.31 %

Description:

Attributes:

General Attributes:

Bldg ID:	S547001	Site ID:	S547001

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	106.17 %	114.42 %	$1,275,308.65
G40 - Site Electrical Utilities	106.67 %	43.50 %	$179,452.55
Totals:	**106.31 %**	**95.26 %**	**$1,454,761.20**

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.	13,300	30	1969	1999	2047	106.67 %	166.43 %	32		$188,147.82	$113,050
G2030	Pedestrian Paving	$12.30	S.F.	54,400	40	1969	2009	2057	105.00 %	148.80 %	42		$995,625.61	$669,120
G2040	Site Development	$4.36	S.F.	71,000	25	1969	1994	2042	108.00 %	29.57 %	27		$91,535.22	$309,560
G2050	Landscaping & Irrigation	$4.36	S.F.	5,250	15	1969	1984	2032	113.33 %	0.00 %	17			$22,890
G4020	Site Lighting	$4.84	S.F.	71,000	30	1969	1999	2047	106.67 %	29.14 %	32		$100,121.50	$343,640
G4030	Site Communications & Security	$0.97	S.F.	71,000	30	1969	1999	2047	106.67 %	115.19 %	32		$79,331.05	$68,870
								Total	**106.31 %**	**95.26 %**			**$1,454,761.20**	**$1,527,130**

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.

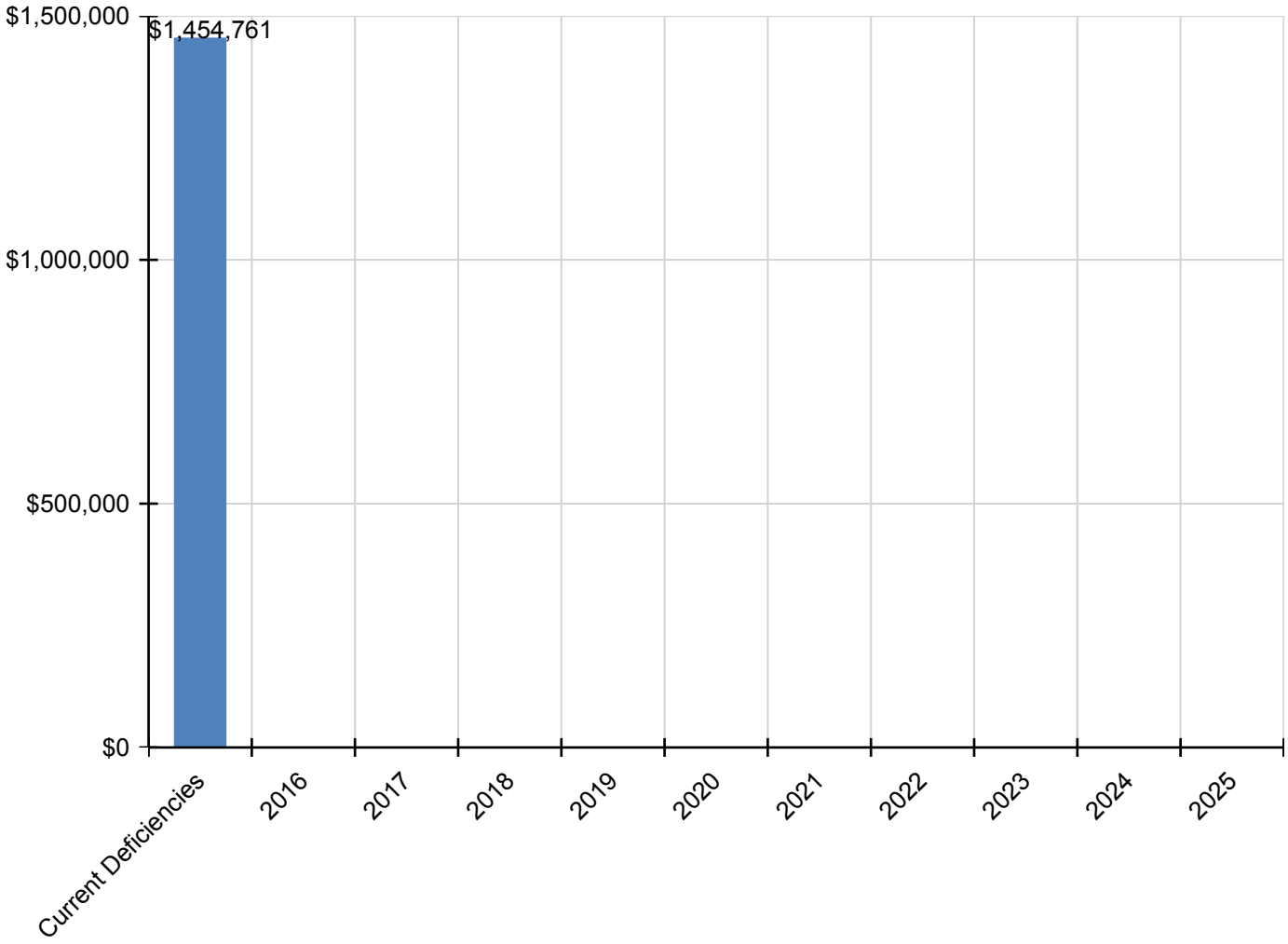
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$1,454,761**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,454,761**
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	$188,148	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$188,148**
G2030 - Pedestrian Paving	$995,626	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$995,626**
G2040 - Site Development	$91,535	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$91,535**
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	$100,122	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$100,122**
G4030 - Site Communications & Security	$79,331	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$79,331**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

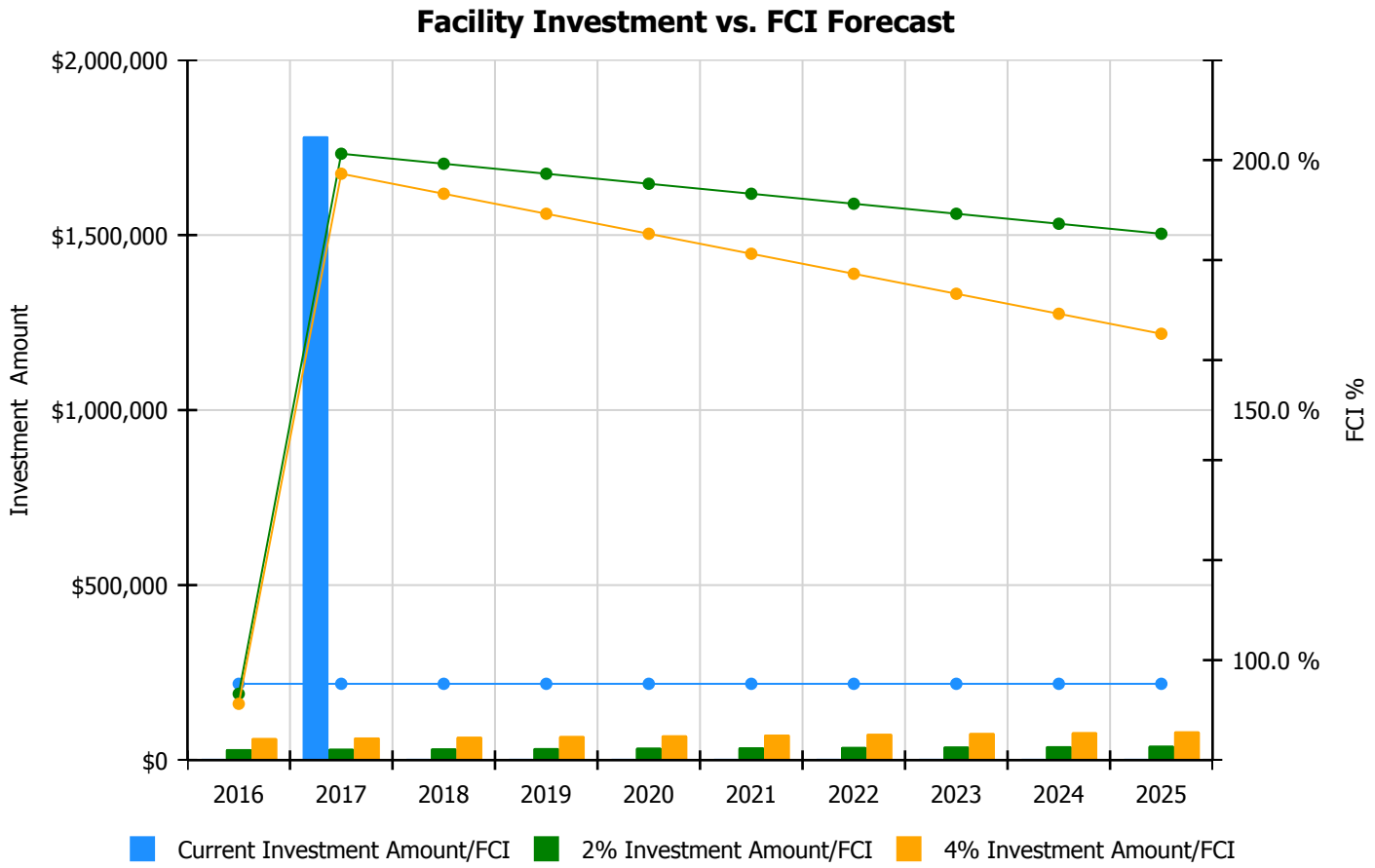
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

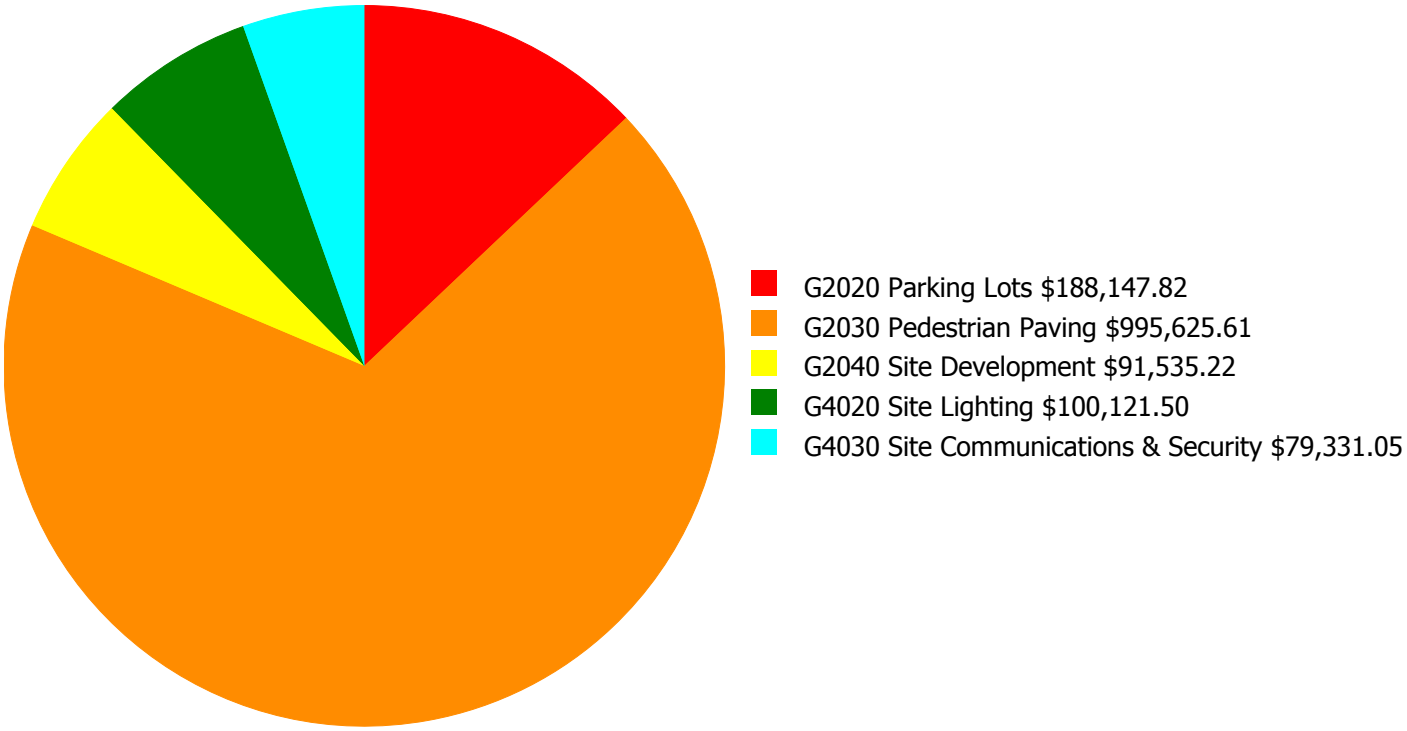
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 95.26%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$31,459.00	93.26 %	$62,918.00	91.26 %
2017	$1,782,145	$32,403.00	201.26 %	$64,805.00	197.26 %
2018	$0	$33,375.00	199.26 %	$66,749.00	193.26 %
2019	$0	$34,376.00	197.26 %	$68,752.00	189.26 %
2020	$0	$35,407.00	195.26 %	$70,814.00	185.26 %
2021	$0	$36,469.00	193.26 %	$72,939.00	181.26 %
2022	$0	$37,564.00	191.26 %	$75,127.00	177.26 %
2023	$0	$38,690.00	189.26 %	$77,381.00	173.26 %
2024	$0	$39,851.00	187.26 %	$79,702.00	169.26 %
2025	$0	$41,047.00	185.26 %	$82,093.00	165.26 %
Total:	**$1,782,145**	**$360,641.00**		**$721,280.00**	

Deficiency Summary by System

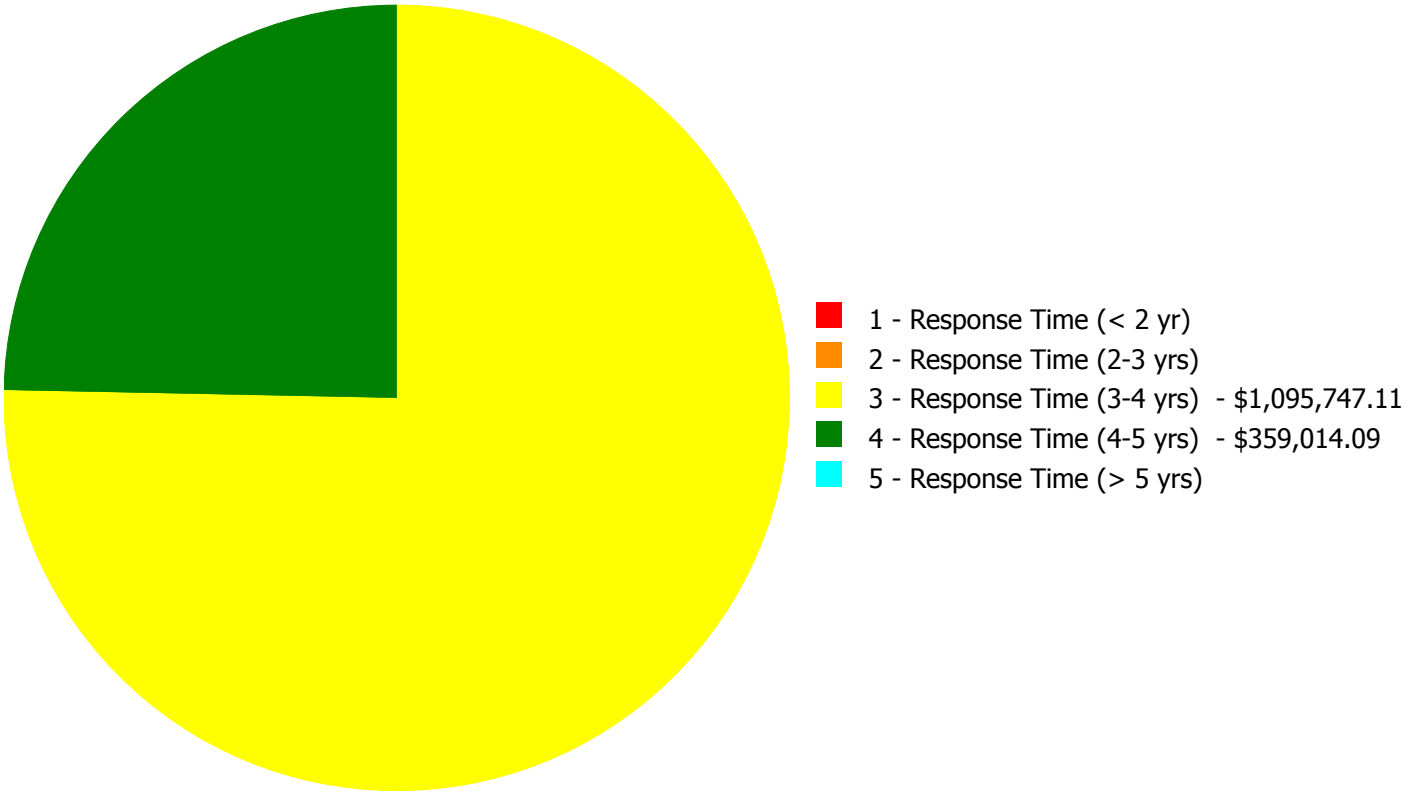
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $1,454,761.20

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: $1,454,761.20

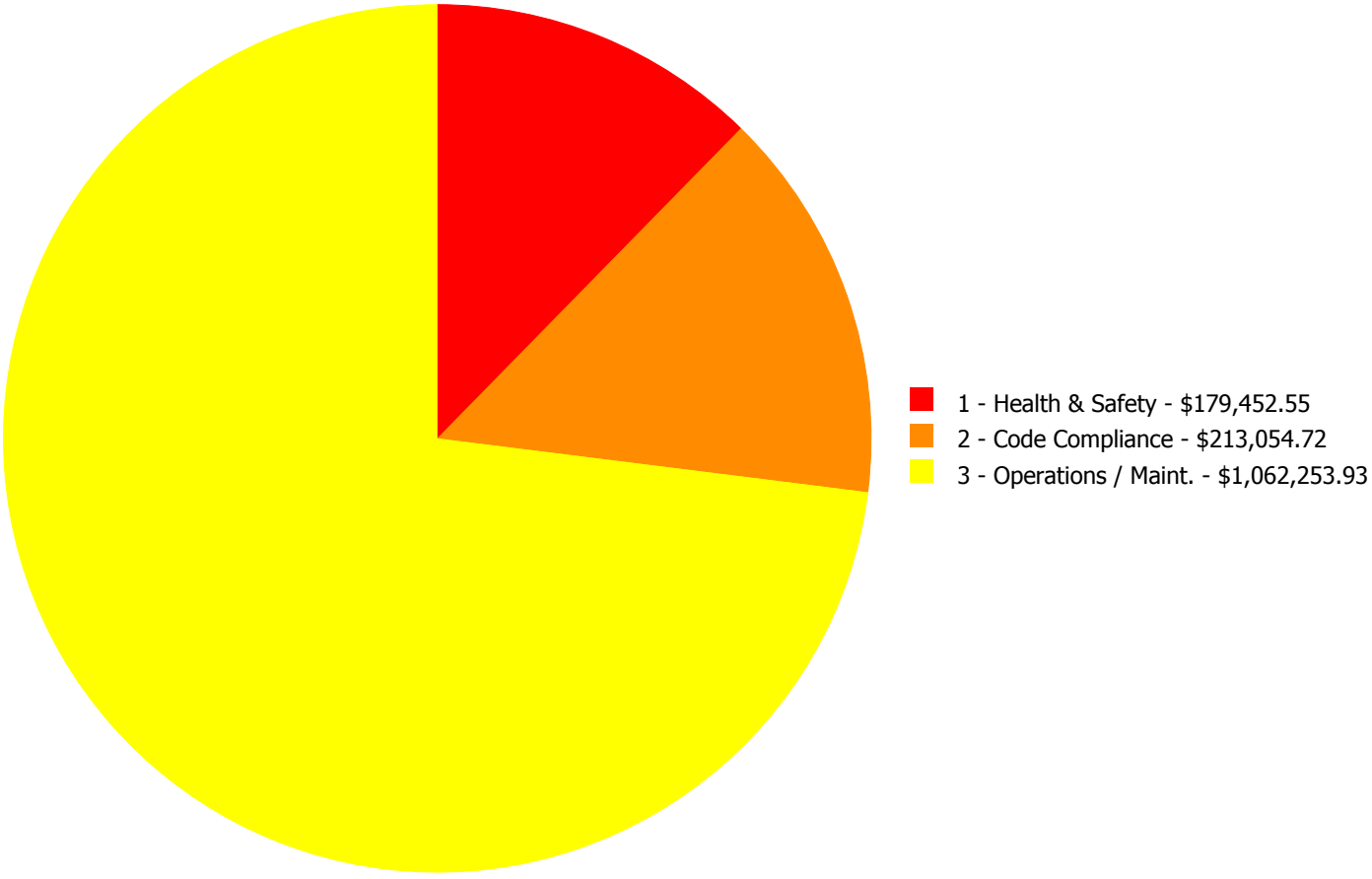
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$0.00	$188,147.82	$0.00	$188,147.82
G2030	Pedestrian Paving	$0.00	$0.00	$995,625.61	$0.00	$0.00	$995,625.61
G2040	Site Development	$0.00	$0.00	$0.00	$91,535.22	$0.00	$91,535.22
G4020	Site Lighting	$0.00	$0.00	$100,121.50	$0.00	$0.00	$100,121.50
G4030	Site Communications & Security	$0.00	$0.00	$0.00	$79,331.05	$0.00	$79,331.05
	Total:	$0.00	$0.00	$1,095,747.11	$359,014.09	$0.00	$1,454,761.20

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: $1,454,761.20

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: G2030 - Pedestrian Paving

Location: Grounds/ site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 54,410.00

Unit of Measure: S.F.

Estimate: $782,570.89

Assessor Name: Tom Moe

Date Created: 11/12/2015

Notes: Replace playground paving (north side of the building)

System: G2030 - Pedestrian Paving

This deficiency has no image.

Location: Grounds/ site

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 90.00

Unit of Measure: L.F.

Estimate: $213,054.72

Assessor Name: Ben Nixon

Date Created: 11/12/2015

Notes: Provide ADA compliant ramp at the main entrance

System: G4020 - Site Lighting

Location: outdoor 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: $100,121.50

Assessor Name: Tom Moe

Date Created: 09/25/2015

Notes: Install new Site Lighting - Campus and parking area and building Perimeters are not adequately lighted for safety of the people and security of property.

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

System: G2020 - Parking Lots

Location: Grounds/ site
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Remove and replace AC paving parking lot
Qty: 13,300.00
Unit of Measure: S.F.
Estimate: $188,147.82
Assessor Name: Tom Moe
Date Created: 11/12/2015

Notes: Replace parking paving, stripe stalls and provide accessibility signage

System: G2040 - Site Development

Location: Grounds/ site
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Remove and replace metal picket fence - input number of gates
Qty: 500.00
Unit of Measure: L.F.
Estimate: $91,535.22
Assessor Name: Tom Moe
Date Created: 11/12/2015

Notes: Replace picket fence at north side playground perimeter

System: G4030 - Site Communications & Security

Location: outdoor grounds

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add Site Paging System

Qty: 0.00

Unit of Measure: Ea.

Estimate: $79,331.05

Assessor Name: Tom Moe

Date Created: 09/25/2015

Notes: Install new Site Paging– The present Site paging System is not adequate. There are insufficient number of speaker are located on building exterior walls. Install the speakers on the new outdoor lighting poles..

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