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.

Southwark School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	1835 S. 9Th St.	Enrollment	746
	Philadelphia, Pa 19148	Grade Range	'00-08'
Phone/Fax	215-952-8606 / 215-952-8670	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Southwark/	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	**18.56%**	**$12,771,900**	**$68,826,466**
Building	18.76 %	$12,700,626	$67,684,642
Grounds	06.24 %	$71,274	$1,141,824

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.00 %	$0	$976,484
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.21 %	$10,560	$5,093,580
Windows (Shows functionality of exterior windows)	71.06 %	$1,766,150	$2,485,380
Exterior Doors (Shows condition of exterior doors)	03.49 %	$6,987	$200,100
Interior Doors (Classroom doors)	08.04 %	$38,960	$484,380
Interior Walls (Paint and Finishes)	10.27 %	$224,457	$2,185,920
Plumbing Fixtures	05.89 %	$109,808	$1,865,760
Boilers	00.00 %	$0	$2,576,460
Chillers/Cooling Towers	51.69 %	$1,746,308	$3,378,240
Radiators/Unit Ventilators/HVAC	09.85 %	$584,078	$5,932,620
Heating/Cooling Controls	132.68 %	$2,471,773	$1,863,000
Electrical Service and Distribution	28.17 %	$377,126	$1,338,600
Lighting	29.16 %	$1,395,729	$4,785,840
Communications and Security (Cameras, Pa System and Fire Alarm)	34.97 %	$626,888	$1,792,620

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

S264001;Southwark

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):	80,000
Year Built:	1909
Last Renovation:	
Replacement Value:	$68,826,466
Repair Cost:	$12,771,899.78
Total FCI:	18.56 %
Total RSLI:	64.44 %

Description:

Facility Assessment

July 22th, 2015

School District of Philadelphia

Southwark Elementary School

1835 S 9 St Street

Philadelphia, PA 19148

138,000 SF / 815 Students / LN 01

GENERAL

Building Engineer, accompanied us on our tour of the school and provided us with detailed information on the building systems and maintenance

history.

The 4 story, 138,000 square foot building was originally constructed in 1909. The building has a one level basement. Currently ongoing asbestos abatement, roof replacement, and boiler/mechanical equipment replacement limited the assessment team's access to a few areas of the building.

ARCHITECHURAL/STRUCTURAL SYSTEMS

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

Partition wall types include plastered ceramic hollow blocks with some CMU added at a later date. Interior doors are generally wood frame with solid core wood doors with lites and transoms in good condition. Doors leading to exit stairways are hollow metal doors and frames in good condition. Interior doors do not have lever type handles. Fittings include: toilet accessories in good condition; composite plastic toilet partitions, generally in good condition; handrails and ornamental metals, generally in fair condition. Toilet partitions and accessories are not ADA accessible. Interior identifying signage is typically directly painted on wall or door surfaces generally in fair condition. Stair construction is generally concrete fair condition. Stair railings are wall mounted wood handrail in fair condition.

The interior wall finishes include painted plaster, brick, or CMU with glazed brick wainscot in fire towers, basement corridor, and cafeteria in good condition; and tile wainscot in toilets areas in good condition. Generally, paint is in good condition with some deterioration due to water intrusion in areas in need of repair. Flooring includes: patterned or bare concrete in corridors, cafeteria, stairways, and fire towers in good condition; hardwood in most classrooms, auditorium, stage, IMC, and gym in fair condition; vinyl tile in a few classrooms, and office areas; and ceramic tile in toilets in fair condition with some damaged areas. Wood base is typically in fair-good condition. Ceiling finishes include: suspended acoustic tile system in stairways, corridors, classrooms, IMC, and offices in good condition; painted plaster or structural concrete in toilets, auditorium, gym, cafeteria, and basement areas in good condition.

The building has no elevators.

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

Fixed furnishings include: fixed casework in classrooms, corridors and library, generally in fair to good condition; window shades/blinds in fair condition; and fixed auditorium seating in good condition

MECHANICAL SYSTEMS

Building plumbing fixtures are mostly contemporary replacements. Restroom fixtures on each floor consist of wall hung urinals and lavatories, and floor mounted and wall hung water closets. Faucets and flush valves work well. The fixtures should provide reliable service for at least 5 to 10 years.

There is a single basin, rim mounted, stainless steel kitchen sink in the second floor teacher lounge which is in good condition. The basement art room (formerly home economics) has two kitchen sinks which have exceeded their service life and should be replaced. Third floor science classroom has multiple laboratory sinks installed within the past 10 years. These are in very good condition and will not need replacement before 20 years. Another science classroom has a soapstone lab sink with lead drain trap which should be replaced due to age. Service sinks are located in janitor closets on each floor. They include wall hung stainless steel and floor mounted polymer with mixing faucets with vacuum breaker spouts. Floor mounted sinks have exceeded their service life and should be replaced.

Drinking fountains in the corridors are mixture of porcelain and stainless steel, wall hung without coolers. They are not accessible and have exceeded their service life and should be replaced.

City water service enters the building in the boiler room from 9th St. The water heater is a 50 gallon Bradford White installed in 2014. It should be serviceable until 2024. Building drain pipes were in the process of being replaced in the basement boiler room.

Drain pipes were originally threaded galvanized steel and have been repaired with hubless cast iron pipe with banded couplings. New drain pipes being installed under the boiler room are hub and spigot iron pipe. They should last 20 years or more. There is no sewage ejector.

The building was originally constructed with central forced air and steam radiator heating. The radiators were replaced with finned tube steam convectors, and the air supply ducts were largely blocked off in the classrooms since then.

The heat generation system was being replaced at the time of the assessment. A workman stated that 2 Weil-McLain dual fuel boilers were going to be installed. Gas service vent lines had already been installed. Fuel oil is stored in a 10,000 gallon underground tank in the yard.

The building has no cooling generating system. A 350 ton air conditioning system should be installed.

The original air handler in the basement mechanical room is inoperable and obsolete. The outside air intake louver has been removed and the resulting open space in the wall was filled in with concrete masonry units. The original masonry ducts connecting the air handler to the classrooms and then to the attic plenum are blocked in most of the rooms by plywood, cardboard, cabinets, etc. At the basement level, the brick and mortar return air duct from the attic is still open to the fan room. The existing air handler should be removed and replaced with a modern unit including cooling section and digital controls and the duct work renovated to restore classroom ventilation. Steam pipes were being partially replaced with the new boilers, and the remaining steam pipes should be serviceable for at least 10 more years.

All building areas are heated with finned tube steam convectors with the exception of a few radiators remaining in the basement level. While they are still functional, all units have exceeded their service life and should be replaced. A few rooms were cooled by window unit air conditioners. These are beyond their service live and should be removed when central cooling is installed.

Pneumatic controls were added to the build some time ago. They include wall mounted thermostats in the classrooms and remote control steam valves on the finned tube units. They are past their service life, obsolete, damaged, and most likely inoperable. They should be replaced with digital controls when other HVAC system components replaced.

The school does not have stand pipes or sprinkler system. A sprinkler system should be added including fire pump if needed.

ELECTRICAL SYSTEMS

A pad mounted transformer located on the SE (south-east) corner of the building, provides the electrical service to the school. The utility meter PECO 02 017000604 is located next to the pad mounted transformer. The General Electric service entrance switchboard is located at the basement electrical room and is rated 2500A 120/208V. The service entrance switchboard is composed of main circuit breaker section and two distribution sections and was installed in around 2006 and is expected to provide 21 more years of useful service life. The proposed mechanical load will exceed the capacity of existing service. Provide 1200 Amperes 480/277V new electrical service.

There are 120/208V panel-boards in each floor for lighting and receptacles. These panel-boards were installed in 2006 and are expected to provide 21 more years of useful life. Per panel-board directories appear that all the branch circuits wiring are new.

There number of receptacles in classrooms varies, approximate 15% of the classrooms have been remodeled and provided with the proper amount of receptacles but 85% of them the quantity of receptacles are inadequate. Teachers use extension cords. Provide approximate 39 classrooms with the teacher's whiteboard wall and the opposite of it with double compartment surface raceways, the other two walls with minimum two duplex outlets each, when feasible.

The school is illuminated with surface mounted fluorescent fixtures except some remodeled rooms that are illuminated with modern, recessed mounted fluorescent fixtures. Approximate 85% of the lighting fixtures are provided with T-12 lamps. Provide lighting fixtures with T-8 lamps.

The fire alarm control panel (FACP) is fed by the school emergency system. The FACP system is approximately 30 years old and has exceeded its useful service life. The present Fire Alarm system does not meet current code. Fire alarm system is tested every day in the morning. Provide a new fire alarm system.

The present telephone system is adequate.

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

The present clocks is old and manufactured by Simplex and does not work. A new clock system should be provided with battery operated and wireless.

There is not television system.

The security system consists of CCTV cameras at stairways and corridors and motion sensors at the remodeled classrooms. The location of the video surveillance monitor most probable is in the main office. We did not have access to the main office.

The emergency power system consists of a gas powered generator, manufactured by Onan rated 15KW, 120/240V. The present emergency power system serves the corridor, exit signs, cafeteria, stair ways, fire alarm control panel and fire tower. The gas powered generator looks that has already exceeded its useful service life. Provide 150KW, outdoor, diesel powered generator.

There is adequate UPS in the IT room.

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

The school is not provided with lightning protection system. Prepare a study to determine if lightning protection system is required.

The auditorium is not provided with theatrical lighting nor dimming control system. Provide theatrical lighting and dimming control system

The auditorium is provided with local sound system. Provide a more complete sound system

GROUNDS SYSTEMS

The site surrounds the building on all four sides which is set back from the street. Yard area on north and east sides is asphalt paving with parking for staff vehicles on easternmost side separated by metal fence and accessible via Mifflin St. Paving, including driveway and access to entrances is in fair condition with some cracks. Metal and chain link fence surrounding the site is in good condition.

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

The school perimeter is illuminated from wall mounted fixtures, as a safety issue provide additional 6 wall mounted lighting fixtures to provide total coverage of the parking area and playground.

There are (3) CCTV cameras on the building exterior that provides a good coverage of the building perimeter.

There are not exterior speakers for site paging. Provide two loud speakers in front of the parking lot and playground.

RECOMMENDATIONS

- Repair brickwork on fire tower and replace metal grating – rusted and failing
- Replace Plexiglas windows – hazed
- Provide ADA compliant exterior door hardware at one entrance
- Provide ADA lever handle lock/latchsets on interior doors
- Provide new toilet partitions and toilet accessories including grab bars for accessibility
- Install new ID signage
- Repair and paint interior walls – damaged (10% of painted wall area)
- Repair ceramic tile flooring – failing
- Install elevator for accessibility (location TBD)
- Provide ADA compliant ramp at one entrance (location TBD)

- Replace multiple aged laboratory, service, and kitchen sinks.
- Replace aged, non-accessible drinking fountains.
- Install 350 ton central cooling system for entire building.
- Replace obsolete air handler and radiators with modern equipment including cooling coils and digital controls and restore ductwork.
- Upgrade obsolete pneumatic control system to digital.
- Install fire sprinkler system including fire pump if needed.
- Provide a 1200 Amperes 480/277V new electrical service
- Provide (2)25FT of surface raceways with 24” receptacles on center and two-duplex wall mount receptacles. Approximate 39

classrooms
- Approximate 90% of the lighting fixtures are provided with T-12 lamps. Replace lighting fixtures with T-8 lamps. Approximate 1500 fixtures.
- Provide a new fire alarm system Replace old fire alarm system with addressable type with audio/visual devices in the entire school. Approximate 184 devices
- Provide a new clock system, wireless battery operated. Approximate 80 clocks
- Provide 150KW, outdoor, diesel powered generator.
- Prepare a study to determine if lightning protection system is required.
- The auditorium is not provided with theatrical lighting nor dimming control system. Provide theatrical lighting and dimming control system
- Provide a more complete sound system
- The school perimeter is illuminated from wall mounted fixtures, as a safety issue provide 6 wall mounted lighting fixtures in the parking and playground area.
- There are not exterior speakers for site paging. Provide two loud speakers in front of the parking lot and playground.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S264001		

Site Condition Summary

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

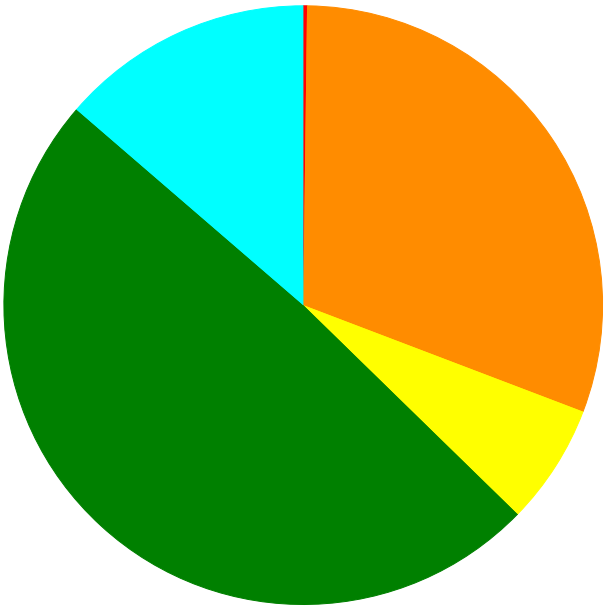
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	37.83 %	22.93 %	$1,783,698.06
B30 - Roofing	100.00 %	0.00 %	$0.00
C10 - Interior Construction	47.27 %	2.13 %	$72,204.72
C20 - Stairs	37.00 %	0.00 %	$0.00
C30 - Interior Finishes	45.66 %	4.08 %	$273,963.04
D10 - Conveying	0.00 %	317.48 %	$670,322.07
D20 - Plumbing	31.35 %	3.90 %	$109,808.27
D30 - HVAC	106.82 %	31.28 %	$4,802,159.54
D40 - Fire Protection	92.47 %	177.49 %	$1,974,151.60
D50 - Electrical	104.06 %	33.18 %	$2,691,263.59
E10 - Equipment	55.41 %	14.70 %	$323,055.06
E20 - Furnishings	25.00 %	0.00 %	$0.00
G20 - Site Improvements	56.16 %	3.12 %	$25,981.81
G40 - Site Electrical Utilities	106.67 %	14.65 %	$45,292.02
Totals:	**64.44 %**	**18.56 %**	**$12,771,899.78**

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)
B264001;Southwark	138,000	18.76	$0.00	$3,861,065.93	$832,001.77	$6,261,250.24	$1,746,308.01
G264001;Grounds	53,200	6.24	$25,981.81	$45,292.02	$0.00	$0.00	$0.00
Total:		**18.56**	**$25,981.81**	**$3,906,357.95**	**$832,001.77**	**$6,261,250.24**	**$1,746,308.01**

Deficiencies By Priority



Budget Estimate Total: $12,771,899.78

Executive Summary

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

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

Function:	Elementary School
Gross Area (SF):	138,000
Year Built:	1909
Last Renovation:	
Replacement Value:	$67,684,642
Repair Cost:	$12,700,625.95
Total FCI:	18.76 %
Total RSLI:	64.35 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B264001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S264001		

Condition Summary

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

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	0.00 %	$0.00
B10 - Superstructure	37.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	37.83 %	22.93 %	$1,783,698.06
B30 - Roofing	100.00 %	0.00 %	$0.00
C10 - Interior Construction	47.27 %	2.13 %	$72,204.72
C20 - Stairs	37.00 %	0.00 %	$0.00
C30 - Interior Finishes	45.66 %	4.08 %	$273,963.04
D10 - Conveying	0.00 %	317.48 %	$670,322.07
D20 - Plumbing	31.35 %	3.90 %	$109,808.27
D30 - HVAC	106.82 %	31.28 %	$4,802,159.54
D40 - Fire Protection	92.47 %	177.49 %	$1,974,151.60
D50 - Electrical	104.06 %	33.18 %	$2,691,263.59
E10 - Equipment	55.41 %	14.70 %	$323,055.06
E20 - Furnishings	25.00 %	0.00 %	$0.00
Totals:	**64.35 %**	**18.76 %**	**$12,700,625.95**

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.	138,000	100	1909	2009	2052	37.00 %	0.00 %	37			$2,539,200
A1030	Slab on Grade	$7.73	S.F.	138,000	100	1909	2009	2052	37.00 %	0.00 %	37			$1,066,740
A2010	Basement Excavation	$6.55	S.F.	138,000	100	1909	2009	2052	37.00 %	0.00 %	37			$903,900
A2020	Basement Walls	$12.70	S.F.	138,000	100	1909	2009	2052	37.00 %	0.00 %	37			$1,752,600
B1010	Floor Construction	$75.10	S.F.	138,000	100	1909	2009	2052	37.00 %	0.00 %	37			$10,363,800
B1020	Roof Construction	$13.88	S.F.	138,000	100	1909	2009	2052	37.00 %	0.00 %	37			$1,915,440
B2010	Exterior Walls	$36.91	S.F.	138,000	100	1909	2009	2052	37.00 %	0.21 %	37		$10,560.35	$5,093,580
B2020	Exterior Windows	$18.01	S.F.	138,000	40	1991	2031		40.00 %	71.06 %	16		$1,766,150.43	$2,485,380
B2030	Exterior Doors	$1.45	S.F.	138,000	25	1998	2023		32.00 %	3.49 %	8		$6,987.28	$200,100
B3010105	Built-Up	$37.76	S.F.	25,641	20	2015	2035		100.00 %	0.00 %	20			$968,204
B3020	Roof Openings	$0.06	S.F.	138,000	20	2015	2035		100.00 %	0.00 %	20			$8,280
C1010	Partitions	$17.91	S.F.	138,000	100	1909	2009	2052	37.00 %	0.00 %	37			$2,471,580
C1020	Interior Doors	$3.51	S.F.	138,000	40	2005	2045		75.00 %	8.04 %	30		$38,959.86	$484,380
C1030	Fittings	$3.12	S.F.	138,000	40	2005	2045		75.00 %	7.72 %	30		$33,244.86	$430,560
C2010	Stair Construction	$1.41	S.F.	138,000	100	1909	2009	2052	37.00 %	0.00 %	37			$194,580
C3010230	Paint & Covering	$15.05	S.F.	138,000	10	2012	2022		70.00 %	10.81 %	7		$224,457.39	$2,076,900
C3010232	Wall Tile	$0.79	S.F.	138,000	30	1998	2028		43.33 %	0.00 %	13			$109,020
C3020412	Terrazzo & Tile	$75.52	S.F.	2,706	50	1998	2048		66.00 %	24.23 %	33		$49,505.65	$204,357

Site Assessment Report - B264001;Southwark

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3020413	Vinyl Flooring	$9.68	S.F.	13,800	20	2005	2025		50.00 %	0.00 %	10			$133,584
C3020414	Wood Flooring	$22.27	S.F.	55,200	25	1998	2023		32.00 %	0.00 %	8			$1,229,304
C3020415	Concrete Floor Finishes	$0.97	S.F.	66,240	50	1998	2048		66.00 %	0.00 %	33			$64,253
C3030	Ceiling Finishes	$20.97	S.F.	138,000	25	1998	2023		32.00 %	0.00 %	8			$2,893,860
D1010	Elevators and Lifts	$1.53	S.F.	138,000	35				0.00 %	317.48 %			$670,322.07	$211,140
D2010	Plumbing Fixtures	$13.52	S.F.	138,000	35	1905	1940	2025	28.57 %	5.89 %	10		$109,808.27	$1,865,760
D2020	Domestic Water Distribution	$1.68	S.F.	138,000	25	1905	1930	2024	36.00 %	0.00 %	9			$231,840
D2030	Sanitary Waste	$2.90	S.F.	138,000	25	1905	1930	2025	40.00 %	0.00 %	10			$400,200
D2040	Rain Water Drainage	$2.32	S.F.	138,000	30	1905	1935	2025	33.33 %	0.00 %	10			$320,160
D3020	Heat Generating Systems	$18.67	S.F.	138,000	35	2015	2050		100.00 %	0.00 %	35			$2,576,460
D3030	Cooling Generating Systems	$24.48	S.F.	138,000	30			2047	106.67 %	51.69 %	32		$1,746,308.01	$3,378,240
D3040	Distribution Systems	$42.99	S.F.	138,000	25	1905	1930	2042	108.00 %	9.85 %	27		$584,078.07	$5,932,620
D3050	Terminal & Package Units	$11.60	S.F.	138,000	20	1960	1980	2037	110.00 %	0.00 %	22			$1,600,800
D3060	Controls & Instrumentation	$13.50	S.F.	138,000	20	1960	1980	2037	110.00 %	132.68 %	22		$2,471,773.46	$1,863,000
D4010	Sprinklers	$7.05	S.F.	138,000	35			2052	105.71 %	202.91 %	37		$1,974,151.60	$972,900
D4020	Standpipes	$1.01	S.F.	138,000	35				0.00 %	0.00 %				$139,380
D5010	Electrical Service/Distribution	$9.70	S.F.	138,000	30	1905	1935	2036	70.00 %	28.17 %	21		$377,125.63	$1,338,600
D5020	Lighting and Branch Wiring	$34.68	S.F.	138,000	20	1905	1925	2037	110.00 %	29.16 %	22		$1,395,729.01	$4,785,840
D5030	Communications and Security	$12.99	S.F.	138,000	15	1905	1920	2032	113.33 %	34.97 %	17		$626,888.45	$1,792,620
D5090	Other Electrical Systems	$1.41	S.F.	138,000	30	1905	1935	2047	106.67 %	149.82 %	32		$291,520.50	$194,580
E1020	Institutional Equipment	$4.82	S.F.	138,000	35	1998	2033		51.43 %	48.57 %	18		$323,055.06	$665,160
E1090	Other Equipment	$11.10	S.F.	138,000	35	2000	2035		57.14 %	0.00 %	20			$1,531,800
E2010	Fixed Furnishings	$2.13	S.F.	138,000	40	1985	2025		25.00 %	0.00 %	10			$293,940
								Total	**64.35 %**	**18.76 %**			**$12,700,625.95**	**$67,684,642**

System Notes

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

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

Note:
95% - Paint & Covering
5% - Wall Tile (3% glazed brick, 2% ceramic)

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

Note:
2% - Terrazzo & Tile (ceramic)
10% - Vinyl Flooring (VCT & VAT)
40% - Wood Flooring
48% - Concrete Floor Finishes

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:	**$12,700,626**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,809,758**	**$6,024,239**	**$332,748**	**$4,455,094**	**$26,322,465**
*** 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	$10,560	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$10,560**
B2020 - Exterior Windows	$1,766,150	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,766,150**
B2030 - Exterior Doors	$6,987	$0	$0	$0	$0	$0	$0	$0	$278,829	$0	$0	**$285,816**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$0	$0	$0	$0	$0	$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	$38,960	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$38,960**
C1030 - Fittings	$33,245	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$33,245**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

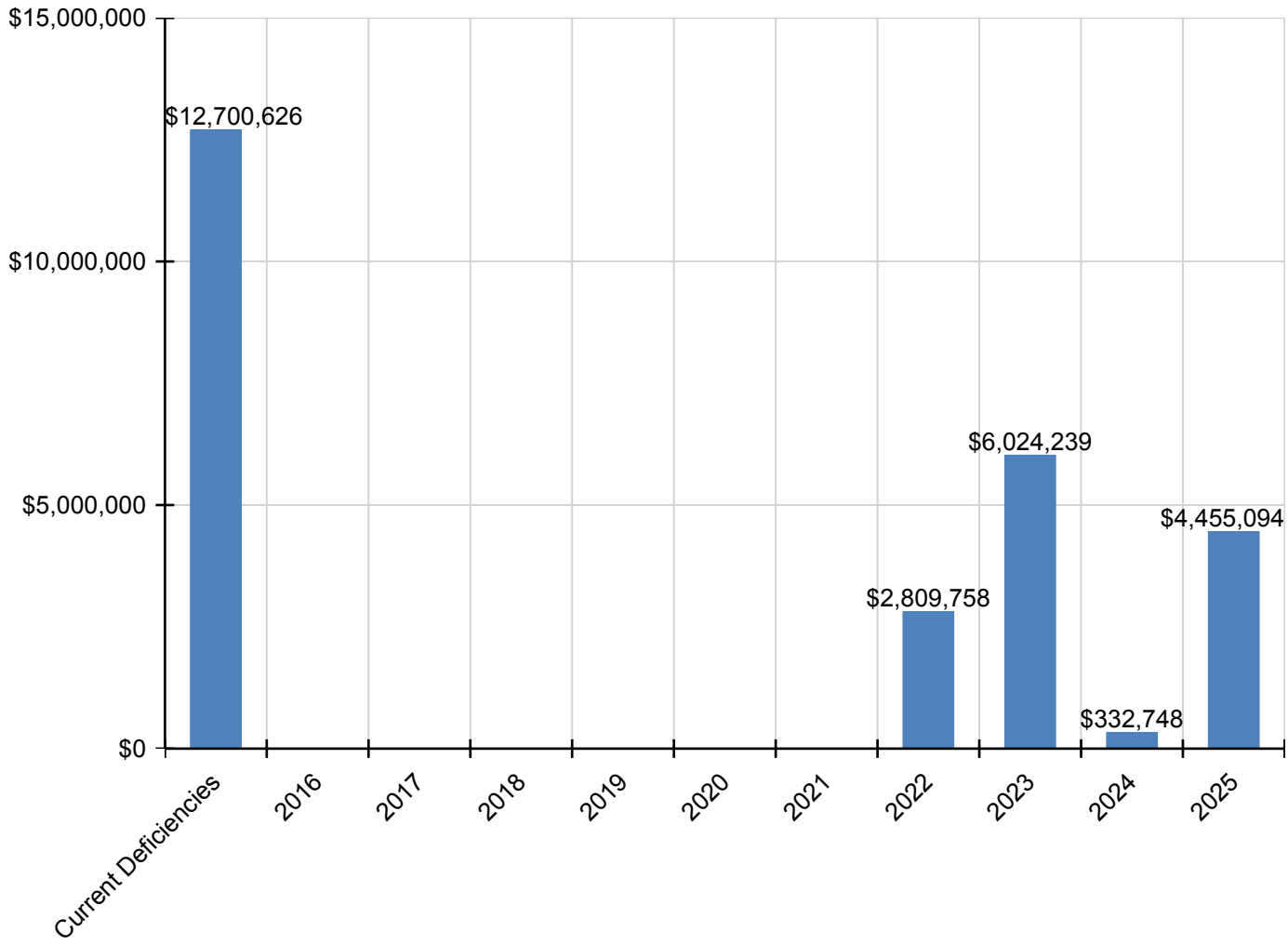
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$224,457	$0	$0	$0	$0	$0	$0	$2,809,758	$0	$0	$0	**$3,034,215**
C3010232 - Wall Tile	$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**
C3020412 - Terrazzo & Tile	$49,506	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$49,506**
C3020413 - Vinyl Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$197,478	**$197,478**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$1,712,970	$0	$0	**$1,712,970**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$4,032,441	$0	$0	**$4,032,441**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$670,322	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$670,322**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$109,808	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,758,168	**$2,867,976**
D2020 - Domestic Water Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$332,748	$0	**$332,748**
D2030 - Sanitary Waste	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$591,619	**$591,619**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$473,295	**$473,295**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3030 - Cooling Generating Systems	$1,746,308	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,746,308**
D3040 - Distribution Systems	$584,078	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$584,078**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$2,471,773	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,471,773**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,974,152	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,974,152**
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	$377,126	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$377,126**
D5020 - Lighting and Branch Wiring	$1,395,729	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,395,729**
D5030 - Communications and Security	$626,888	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$626,888**
D5090 - Other Electrical Systems	$291,521	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$291,521**

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	$323,055	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$323,055**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$434,534	**$434,534**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

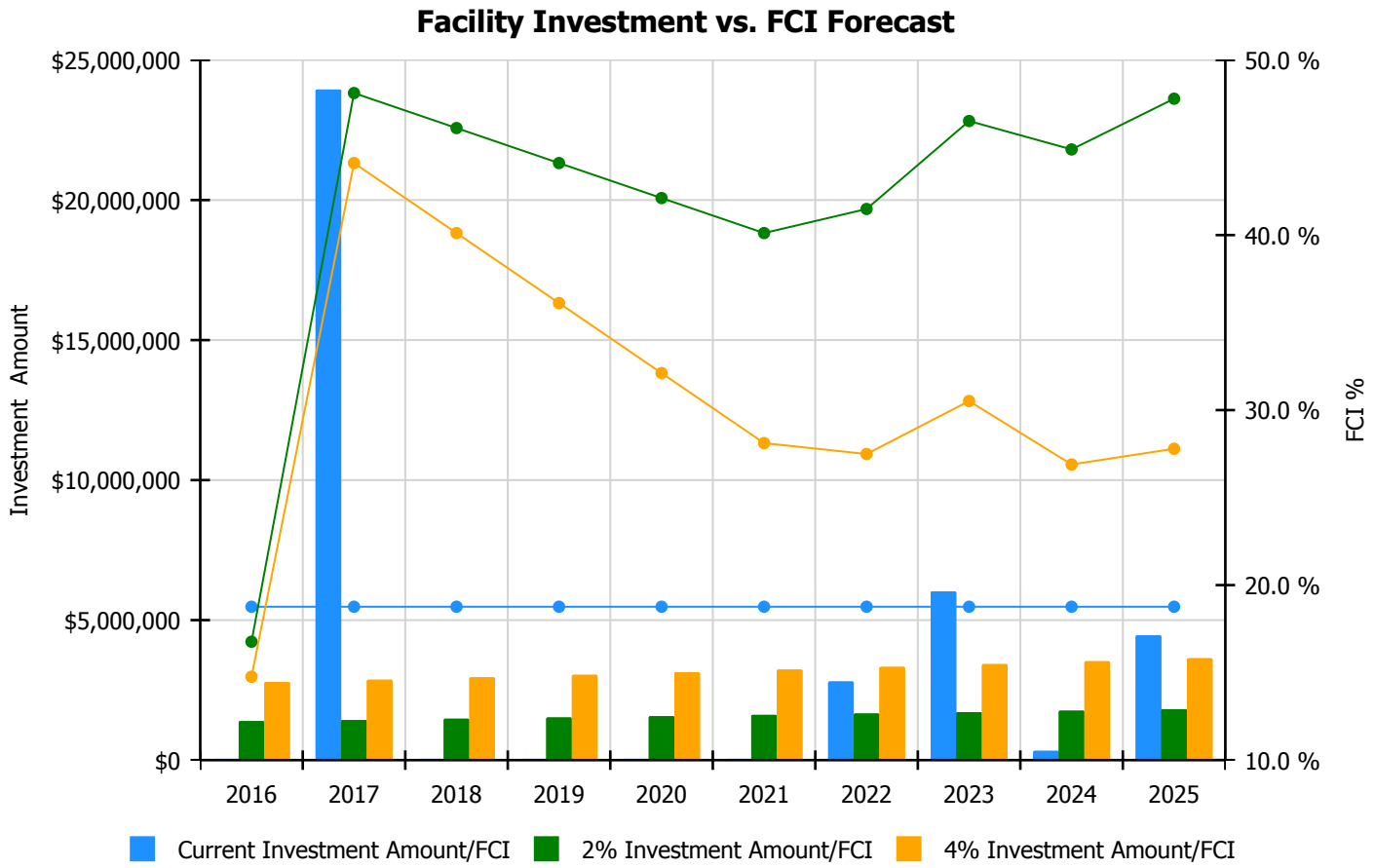
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

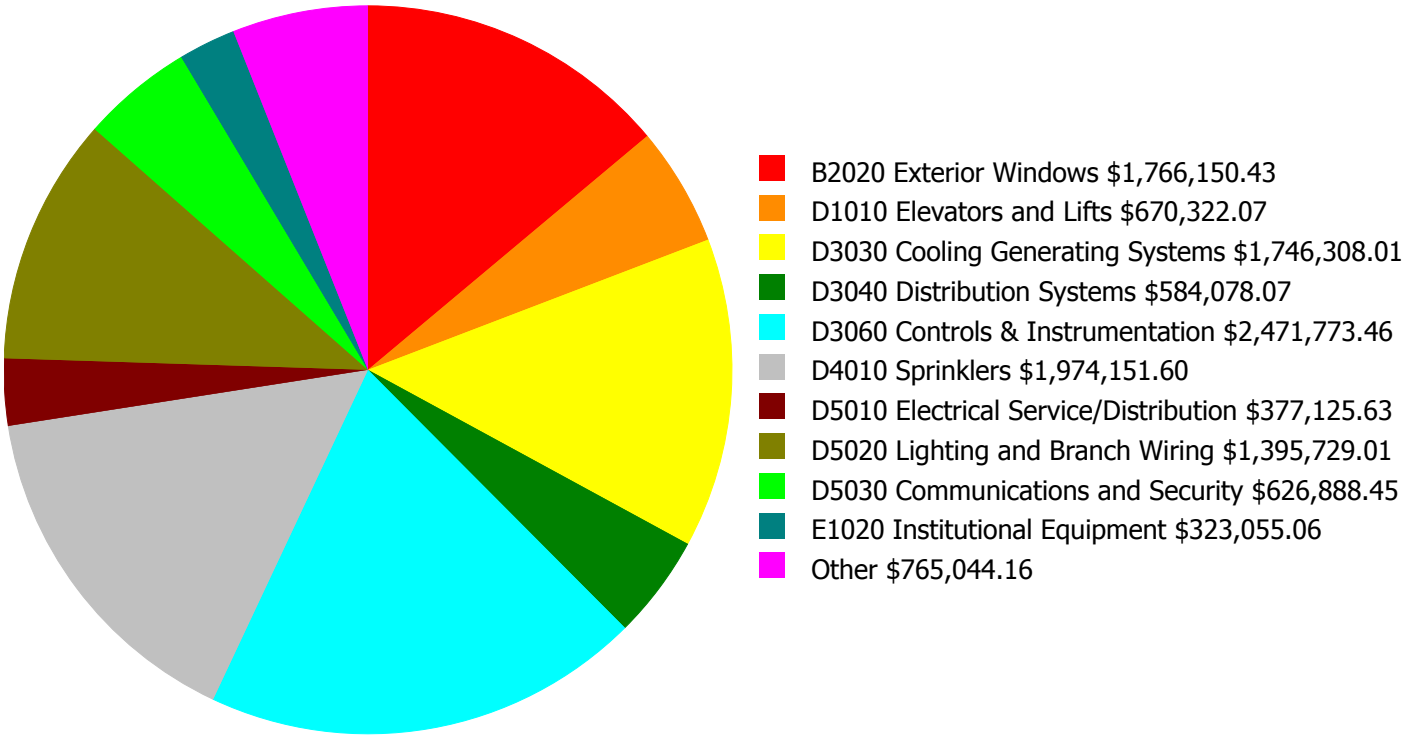
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 18.76%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$1,394,304.00	16.76 %	$2,788,607.00	14.76 %
2017	$23,947,335	$1,436,133.00	48.11 %	$2,872,265.00	44.11 %
2018	$0	$1,479,217.00	46.11 %	$2,958,433.00	40.11 %
2019	$0	$1,523,593.00	44.11 %	$3,047,186.00	36.11 %
2020	$0	$1,569,301.00	42.11 %	$3,138,602.00	32.11 %
2021	$0	$1,616,380.00	40.11 %	$3,232,760.00	28.11 %
2022	$2,809,758	$1,664,871.00	41.49 %	$3,329,743.00	27.49 %
2023	$6,024,239	$1,714,818.00	46.52 %	$3,429,635.00	30.52 %
2024	$332,748	$1,766,262.00	44.89 %	$3,532,524.00	26.89 %
2025	$4,455,094	$1,819,250.00	47.79 %	$3,638,500.00	27.79 %
Total:	**$37,569,174**	**$15,984,129.00**		**$31,968,255.00**	

Deficiency Summary by System

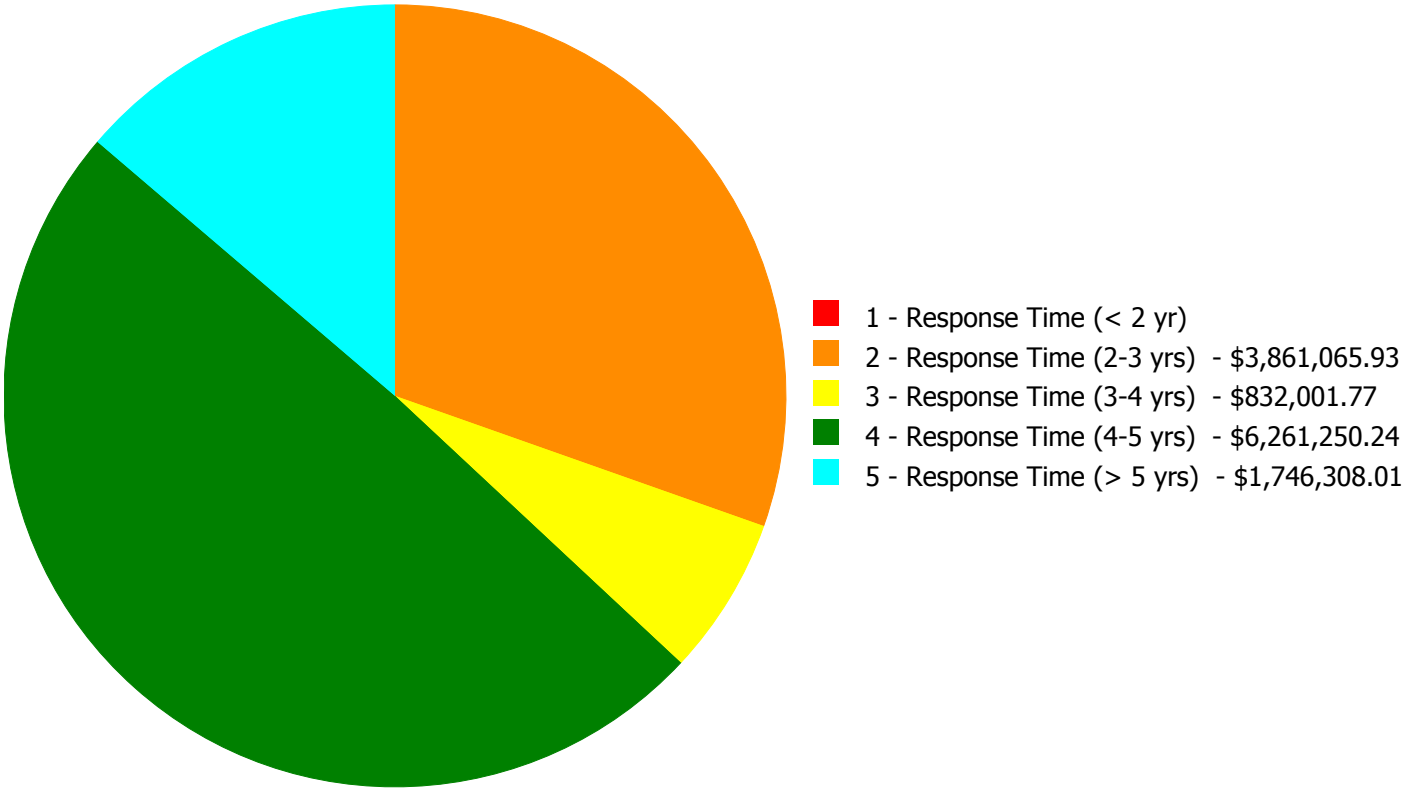
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $12,700,625.95

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: $12,700,625.95

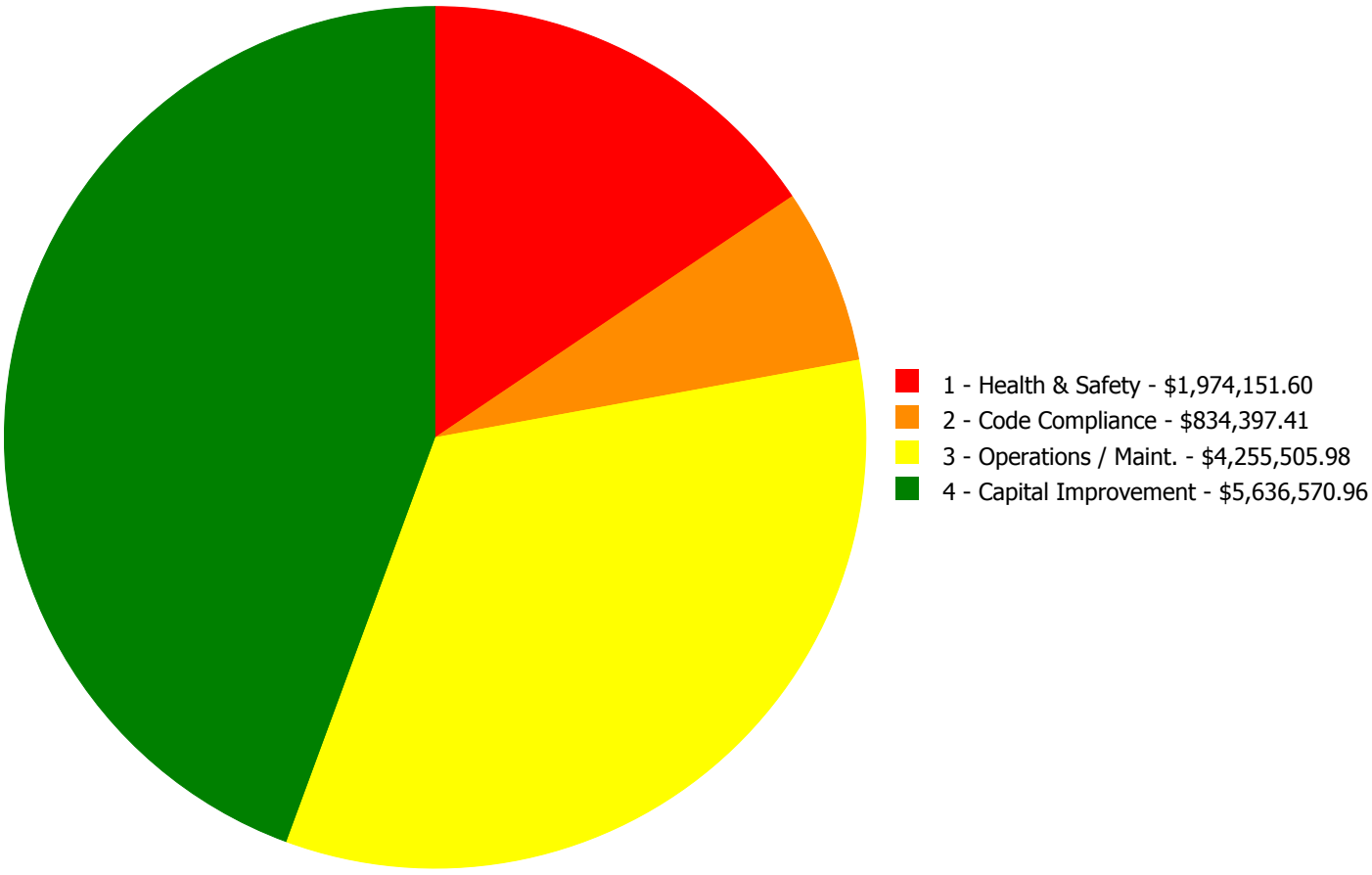
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	$0.00	$10,560.35	$0.00	$0.00	$0.00	$10,560.35
B2020	Exterior Windows	$0.00	$0.00	$0.00	$1,766,150.43	$0.00	$1,766,150.43
B2030	Exterior Doors	$0.00	$6,987.28	$0.00	$0.00	$0.00	$6,987.28
C1020	Interior Doors	$0.00	$38,959.86	$0.00	$0.00	$0.00	$38,959.86
C1030	Fittings	$0.00	$9,778.55	$23,466.31	$0.00	$0.00	$33,244.86
C3010230	Paint & Covering	$0.00	$0.00	$224,457.39	$0.00	$0.00	$224,457.39
C3020412	Terrazzo & Tile	$0.00	$49,505.65	$0.00	$0.00	$0.00	$49,505.65
D1010	Elevators and Lifts	$0.00	$670,322.07	$0.00	$0.00	$0.00	$670,322.07
D2010	Plumbing Fixtures	$0.00	$60,633.52	$0.00	$49,174.75	$0.00	$109,808.27
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,746,308.01	$1,746,308.01
D3040	Distribution Systems	$0.00	$0.00	$584,078.07	$0.00	$0.00	$584,078.07
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$2,471,773.46	$0.00	$2,471,773.46
D4010	Sprinklers	$0.00	$0.00	$0.00	$1,974,151.60	$0.00	$1,974,151.60
D5010	Electrical Service/Distribution	$0.00	$377,125.63	$0.00	$0.00	$0.00	$377,125.63
D5020	Lighting and Branch Wiring	$0.00	$1,395,729.01	$0.00	$0.00	$0.00	$1,395,729.01
D5030	Communications and Security	$0.00	$626,888.45	$0.00	$0.00	$0.00	$626,888.45
D5090	Other Electrical Systems	$0.00	$291,520.50	$0.00	$0.00	$0.00	$291,520.50
E1020	Institutional Equipment	$0.00	$323,055.06	$0.00	$0.00	$0.00	$323,055.06
	Total:	$0.00	$3,861,065.93	$832,001.77	$6,261,250.24	$1,746,308.01	$12,700,625.95

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:



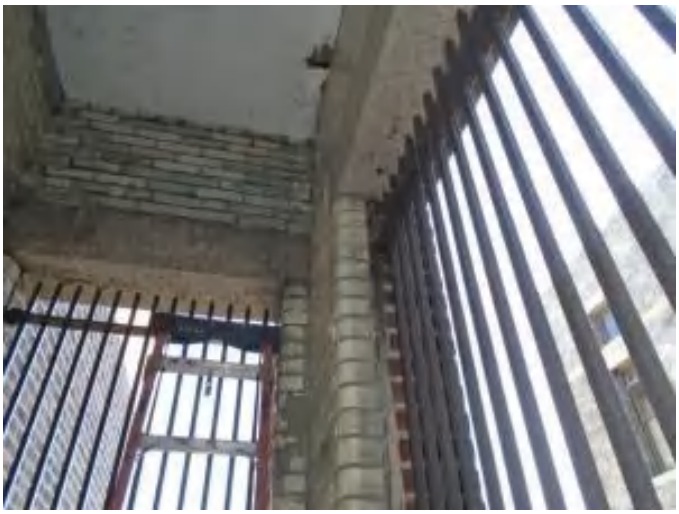
Budget Estimate Total: $12,700,625.95

Deficiency Details by Priority

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

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

System: B2010 - Exterior Walls



Location: Fire towers

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repoint masonry at masonry to steel picket connection, refinish steel picket and repoint masonry - insert LF of masonry pointing and SF of picket

Qty: 36.00

Unit of Measure: L.F.

Estimate: $10,560.35

Assessor Name: System

Date Created: 09/02/2015

Notes: Repair brickwork on fire tower and replace metal grating – rusted and failing

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System: B2030 - Exterior Doors

Location: Entrance

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace hardware with compliant hardware, paint and weatherstrip - per leaf

Qty: 2.00

Unit of Measure: Ea.

Estimate: $6,987.28

Assessor Name: System

Date Created: 09/02/2015

Notes: Provide ADA compliant exterior door hardware at one entrance

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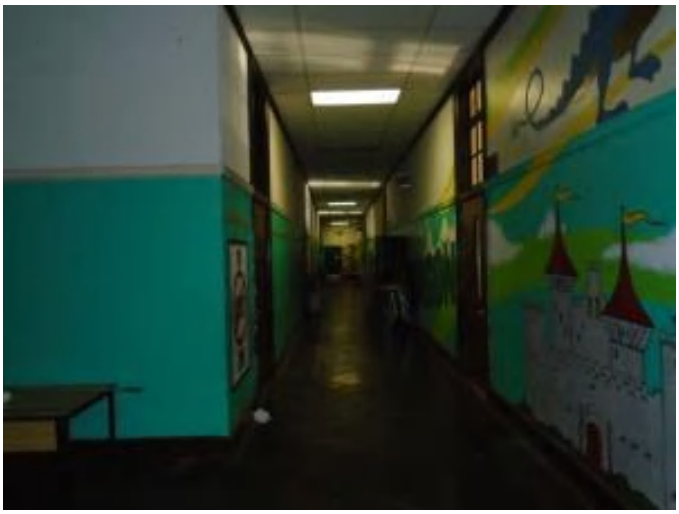
System: C1020 - Interior Doors



Location: Int. Doors

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace door knobs with compliant lever type

Qty: 70.00

Unit of Measure: Ea.

Estimate: $38,959.86

Assessor Name: System

Date Created: 09/02/2015

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

System: C1030 - Fittings

Location: Toilets

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 10.00

Unit of Measure: Ea.

Estimate: $9,778.55

Assessor Name: System

Date Created: 09/02/2015

Notes: Provide new toilet partitions and toilet accessories including grab bars for accessibility

System: C3020412 - Terrazzo & Tile

Location: Toilets

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace and re-grout floor tile

Qty: 1,380.00

Unit of Measure: S.F.

Estimate: $49,505.65

Assessor Name: System

Date Created: 09/02/2015

Notes: Repair ceramic tile flooring – failing

System: D1010 - Elevators and Lifts

Location: TBD

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $670,322.07

Assessor Name: System

Date Created: 09/02/2015

Notes: Install elevator for accessibility (location TBD)

System: D2010 - Plumbing Fixtures

Location: Entire building

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 8.00

Unit of Measure: Ea.

Estimate: $60,633.52

Assessor Name: System

Date Created: 09/04/2015

Notes: Replace aged, non-accessible drinking fountains.

System: D5010 - Electrical Service/Distribution

Location: Basement electrical room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Electrical Switchgear and Distribution System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $377,125.63

Assessor Name: System

Date Created: 09/10/2015

Notes: Provide a 1200 Amperes 480/277V new electrical service

System: D5020 - Lighting and Branch Wiring

Location: Ekntire school
Distress: Energy Efficiency
Category: 4 - Capital Improvement
Priority: 2 - Response Time (2-3 yrs)
Correction: Add Lighting Fixtures
Qty: 1,500.00
Unit of Measure: Ea.
Estimate: $1,166,489.51
Assessor Name: System
Date Created: 08/12/2015

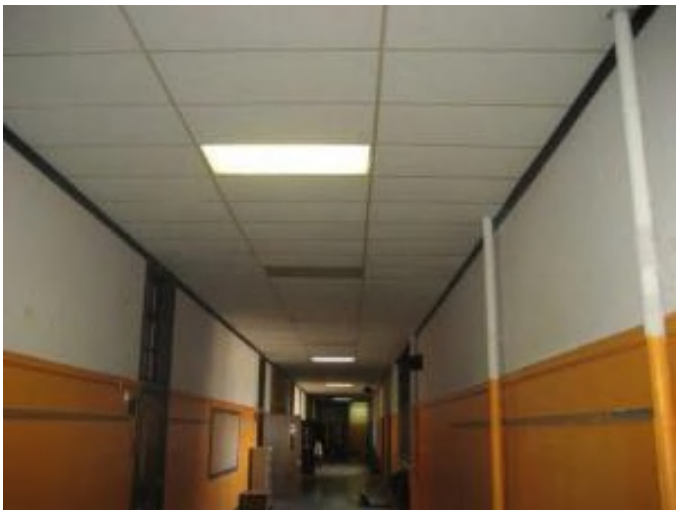
Notes: Approximate 90% of the lighting fixtures are provided with T-12 lamps. Replace lighting fixtures with T-8 lamps. Approximate 1500 fixtures.

System: D5020 - Lighting and Branch Wiring

Location: classrooms
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 2 - Response Time (2-3 yrs)
Correction: Add wiring device
Qty: 624.00
Unit of Measure: Ea.
Estimate: $229,239.50
Assessor Name: System
Date Created: 08/12/2015

Notes: Provide (2)25FT of surface raceways with 24” receptacles on center and two-duplex wall mount receptacles. Approximate 39 classrooms

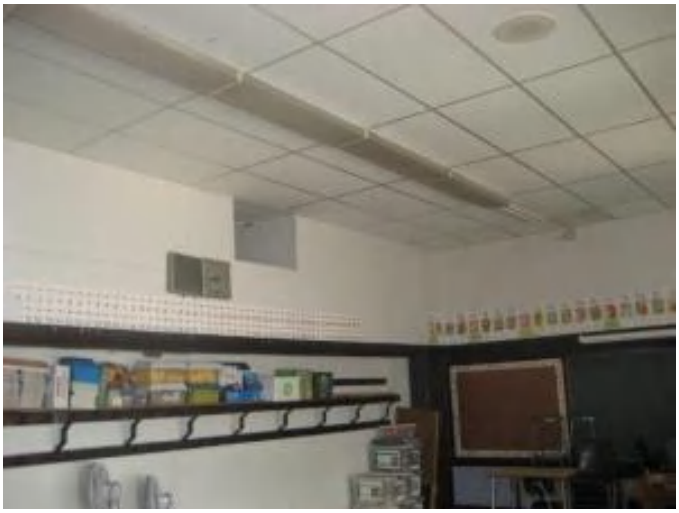
System: D5030 - Communications and Security



Location: Entire school
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Add fire alarm device
Qty: 184.00
Unit of Measure: Ea.
Estimate: $373,565.18
Assessor Name: System
Date Created: 08/12/2015

Notes: Provide a new fire alarm system Replace old fire alarm system with addressable type with audio/visual devices in the entire school. Approximate 184 devices

System: D5030 - Communications and Security



Location: classrooms
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Add/Replace Clock System or Components
Qty: 80.00
Unit of Measure: Ea.
Estimate: $225,120.45
Assessor Name: System
Date Created: 08/12/2015

Notes: Provide a new clock system, wireless battery operated. Approximate 80 clocks

System: D5030 - Communications and Security

Location: Auditorium
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 2 - Response Time (2-3 yrs)
Correction: Add/Replace Sound System
Qty: 1.00
Unit of Measure: LS
Estimate: $28,202.82
Assessor Name: System
Date Created: 08/12/2015

Notes: Provide a more complete sound system

System: D5090 - Other Electrical Systems

Location: outdoor
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Add Standby Generator System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $267,270.68
Assessor Name: System
Date Created: 08/12/2015

Notes: Provide 150KW, outdoor, diesel powered generator.

System: D5090 - Other Electrical Systems

Location: Roof

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Repair Lightning Protection System

Qty: 1.00

Unit of Measure: Job

Estimate: $24,249.82

Assessor Name: System

Date Created: 08/12/2015

Notes: Prepare a study to determine if lightning protection system is required.

System: E1020 - Institutional Equipment

Location: Auditorium

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $323,055.06

Assessor Name: System

Date Created: 08/12/2015

Notes: The auditorium is not provided with theatrical lighting nor dimming control system. Provide theatrical lighting and dimming control system

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

System: C1030 - Fittings

Location: Entire Building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 90.00

Unit of Measure: Ea.

Estimate: $23,466.31

Assessor Name: System

Date Created: 09/02/2015

Notes: Install new ID signage to meet ADA requirements

System: C3010230 - Paint & Covering

Location: Int. walls

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 26,200.00

Unit of Measure: S.F.

Estimate: $224,457.39

Assessor Name: System

Date Created: 09/02/2015

Notes: Repair and paint interior walls – damaged (10% of painted wall area)

System: D3040 - Distribution Systems

Location: Mechanical room

Distress: Obsolete

Category: 3 - Operations / Maint.

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

Correction: Replace HVAC unit for Gymnasium (single station)

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $584,078.07

Assessor Name: System

Date Created: 09/04/2015

Notes: Replace obsolete air handler and radiators with modern equipment including cooling coils and digital controls and restore ductwork.

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

System: B2020 - Exterior Windows

Location: Throughout
Distress: Energy Efficiency
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Remove and replace double slider windows
Qty: 350.00
Unit of Measure: Ea.
Estimate: $1,766,150.43
Assessor Name: System
Date Created: 09/02/2015

Notes: Replace Plexiglas windows – hazed

System: D2010 - Plumbing Fixtures

Location: Classrooms, lounge, service closets
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace lavatory - with finishes
Qty: 6.00
Unit of Measure: Ea.
Estimate: $49,174.75
Assessor Name: System
Date Created: 09/04/2015

Notes: Replace multiple aged laboratory, service, and kitchen sinks.

System: D3060 - Controls & Instrumentation

Location: Entire building
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace pneumatic controls with DDC (150KSF)
Qty: 138,000.00
Unit of Measure: S.F.
Estimate: $2,471,773.46
Assessor Name: System
Date Created: 09/05/2015

Notes: Upgrade obsolete pneumatic control system to digital.

System: D4010 - Sprinklers

This deficiency has no image.

Location: Entire building
Distress: Life Safety / NFPA / PFD
Category: 1 - Health & Safety
Priority: 4 - Response Time (4-5 yrs)
Correction: Install a fire protection sprinkler system
Qty: 138,000.00
Unit of Measure: S.F.
Estimate: $1,974,151.60
Assessor Name: System
Date Created: 09/05/2015

Notes: Install fire sprinkler system including fire pump if needed. Estimate does not include fire pump. Add to cost if required.

Priority 5 - Response Time (> 5 yrs):

System: D3030 - Cooling Generating Systems

This deficiency has no image.

Location:	Entire building
Distress:	Inadequate
Category:	4 - Capital Improvement
Priority:	5 - Response Time (> 5 yrs)
Correction:	Install chilled water system with distribution piping and pumps. (+150KSF)
Qty:	105,000.00
Unit of Measure:	S.F.
Estimate:	$1,746,308.01
Assessor Name:	System
Date Created:	09/04/2015

Notes: Install 350 ton central cooling system for entire building.

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
D5010 Electrical Service/Distribution	Switchboards, no main disconnect, 4 wire, 120/208 V, 3000 amp, incl CT compartment, excl CT's or PT's	1.00	Ea.	Basement electrical room	General Electric	Switchboard	17872634D-1		30	2006	2036	$12,792.60	$14,071.86
												Total:	**$14,071.86**

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):	53,200
Year Built:	1909
Last Renovation:	
Replacement Value:	$1,141,824
Repair Cost:	$71,273.83
Total FCI:	6.24 %
Total RSLI:	69.83 %

Description:

Attributes:

General Attributes:

Bldg ID:	S264001	Site ID:	S264001

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	56.16 %	3.12 %	$25,981.81
G40 - Site Electrical Utilities	106.67 %	14.65 %	$45,292.02
Totals:	**69.83 %**	**6.24 %**	**$71,273.83**

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 $
G2020	Parking Lots	$8.50	S.F.	14,100	30	1998	2028		43.33 %	0.00 %	13			$119,850
G2030	Pedestrian Paving	$12.30	S.F.	39,100	40	1998	2038		57.50 %	5.40 %	23		$25,981.81	$480,930
G2040	Site Development	$4.36	S.F.	53,200	25	2005	2030		60.00 %	0.00 %	15			$231,952
G2050	Landscaping & Irrigation	$4.36	S.F.		15	1998	2013	2025	66.67 %	0.00 %	10			$0
G4020	Site Lighting	$4.84	S.F.	53,200	30			2047	106.67 %	12.48 %	32		$32,140.36	$257,488
G4030	Site Communications & Security	$0.97	S.F.	53,200	30			2047	106.67 %	25.49 %	32		$13,151.66	$51,604
								Total	**69.83 %**	**6.24 %**			**$71,273.83**	**$1,141,824**

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.

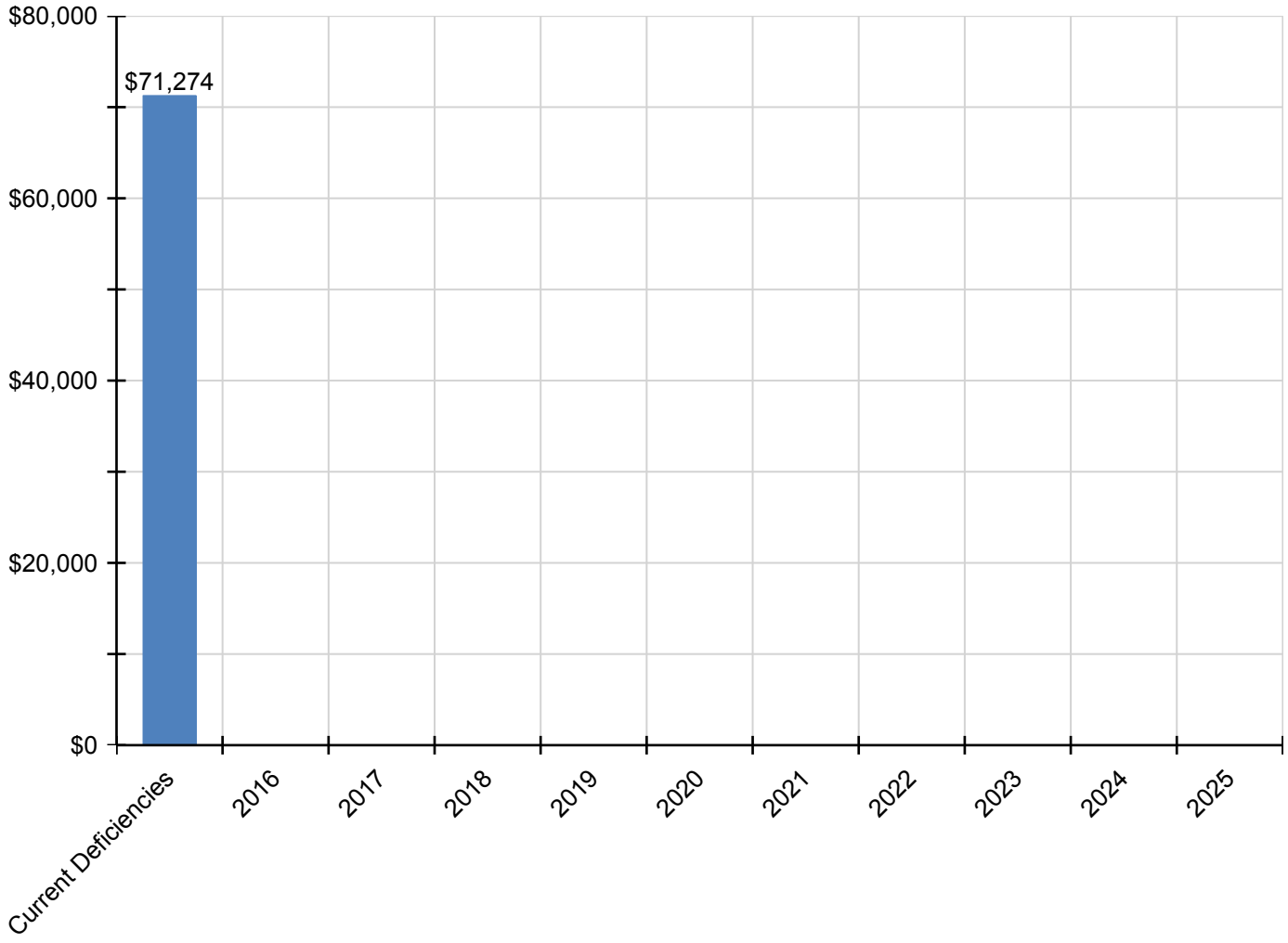
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$71,274**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$71,274**
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**
G2020 - Parking Lots	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2030 - Pedestrian Paving	$25,982	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$25,982**
G2040 - Site Development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$32,140	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$32,140**
G4030 - Site Communications & Security	$13,152	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$13,152**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

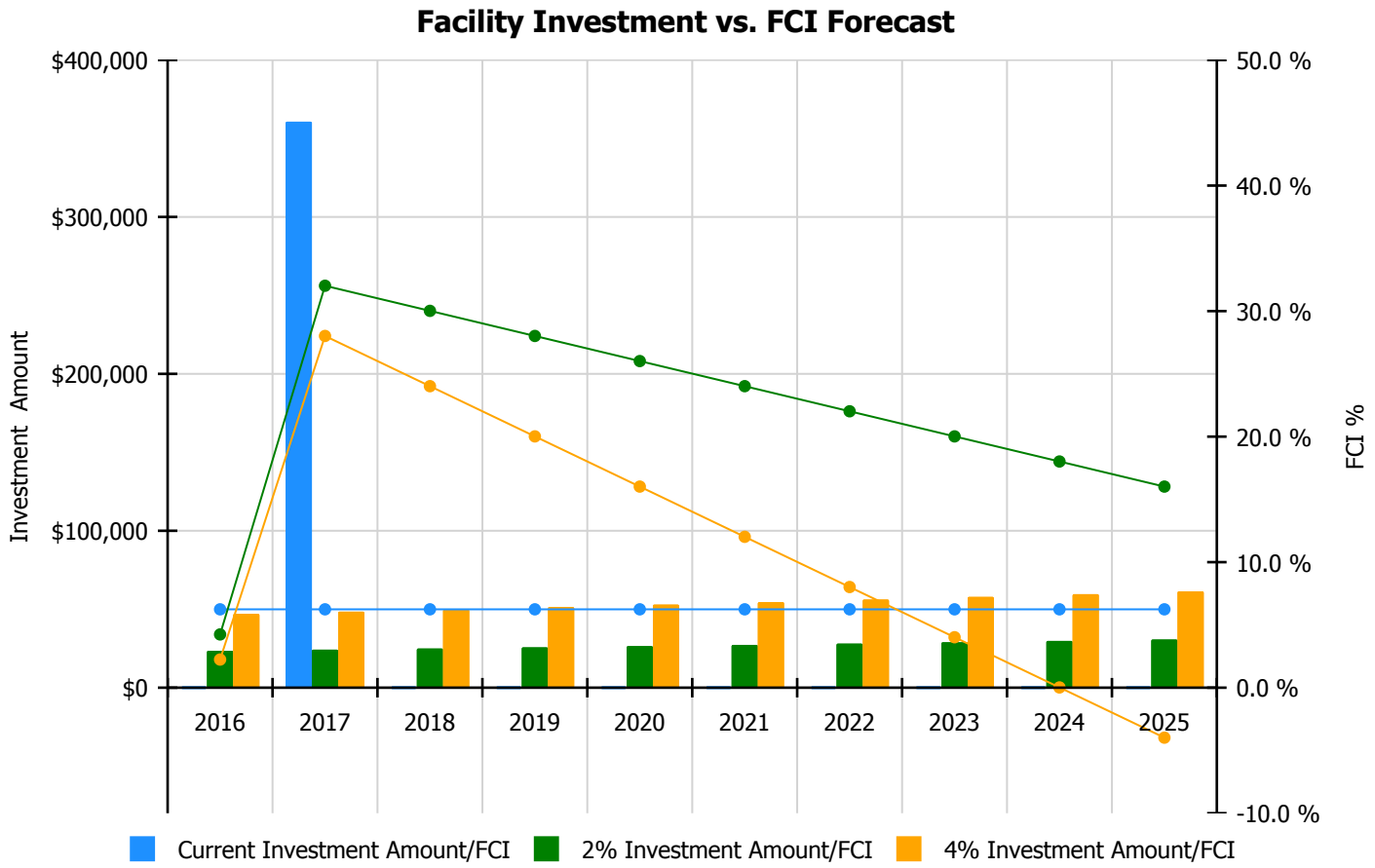
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

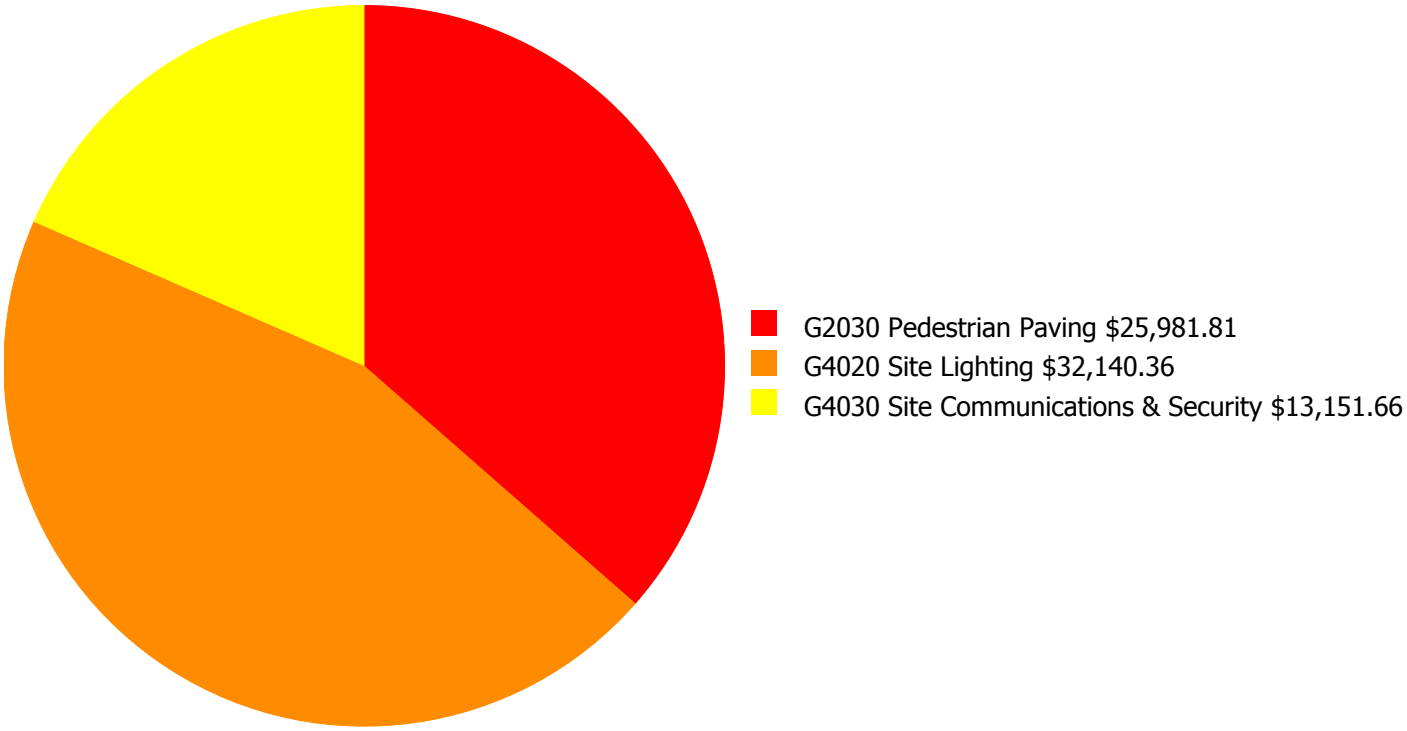
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 6.24%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$23,522.00	4.24 %	$47,043.00	2.24 %
2017	$360,707	$24,227.00	32.02 %	$48,454.00	28.02 %
2018	$0	$24,954.00	30.02 %	$49,908.00	24.02 %
2019	$0	$25,703.00	28.02 %	$51,405.00	20.02 %
2020	$0	$26,474.00	26.02 %	$52,947.00	16.02 %
2021	$0	$27,268.00	24.02 %	$54,536.00	12.02 %
2022	$0	$28,086.00	22.02 %	$56,172.00	8.02 %
2023	$0	$28,929.00	20.02 %	$57,857.00	4.02 %
2024	$0	$29,796.00	18.02 %	$59,593.00	0.02 %
2025	$0	$30,690.00	16.02 %	$61,381.00	-3.98 %
Total:	**$360,707**	**$269,649.00**		**$539,296.00**	

Deficiency Summary by System

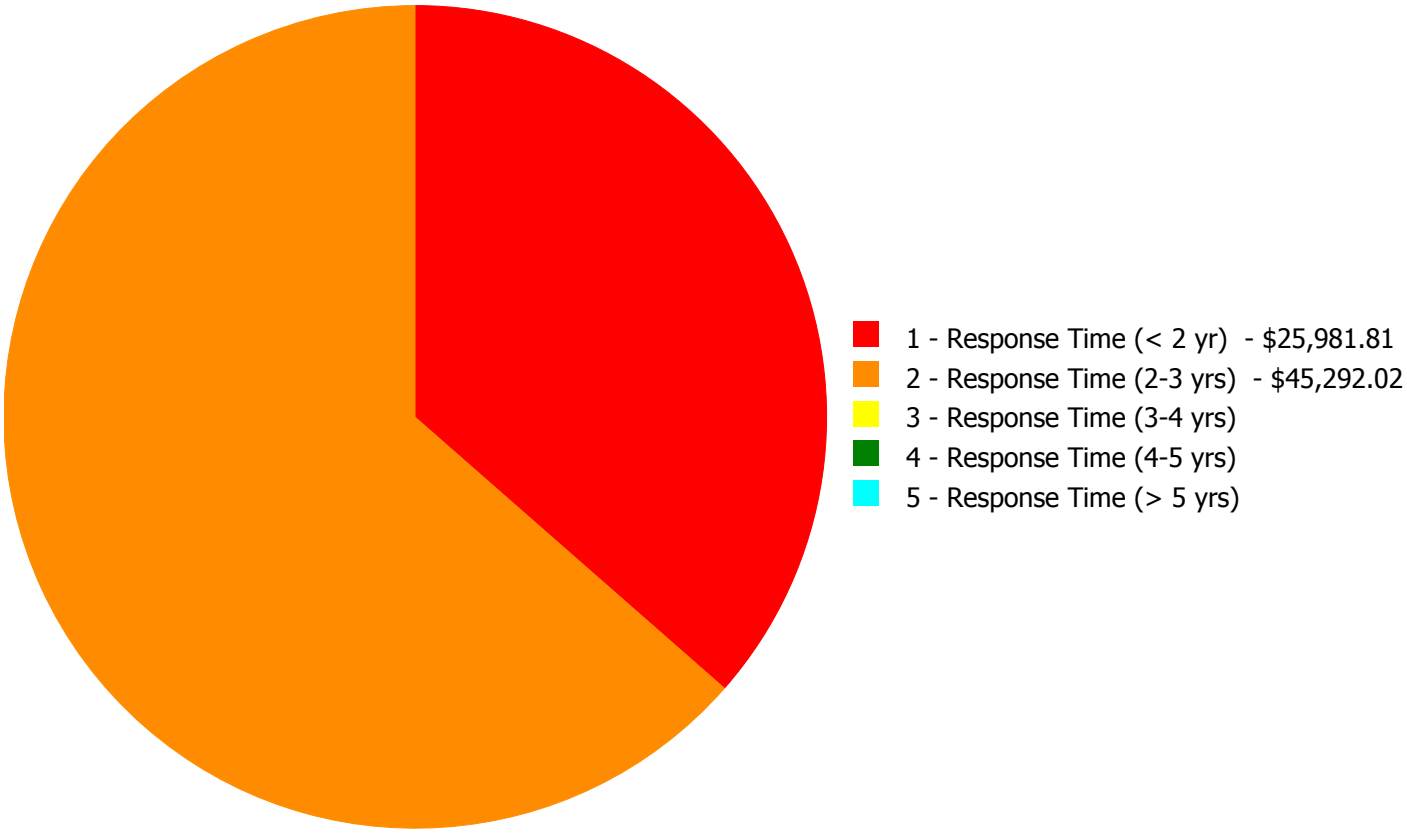
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $71,273.83

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: $71,273.83

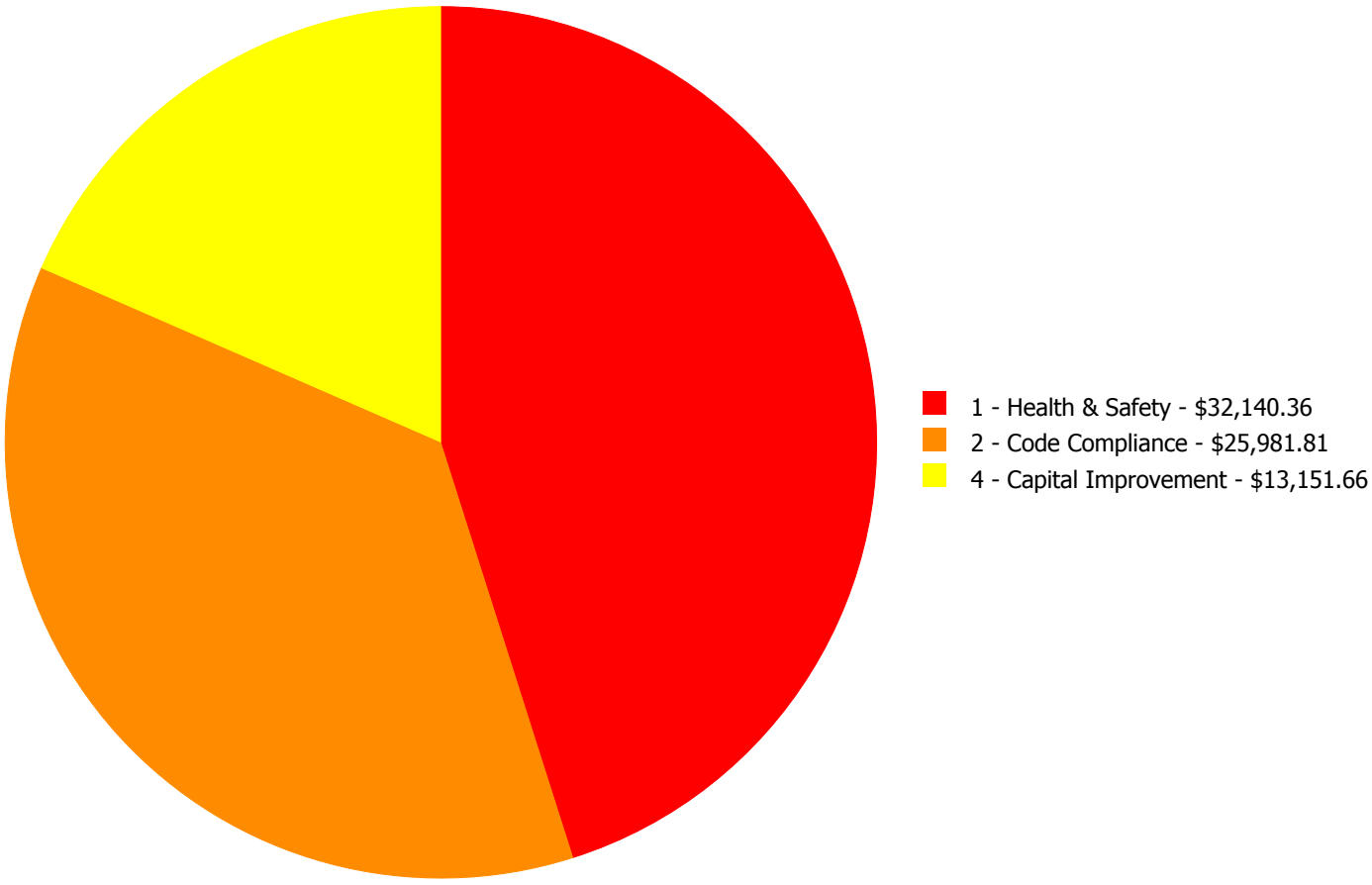
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	$25,981.81	$0.00	$0.00	$0.00	$0.00	$25,981.81
G4020	Site Lighting	$0.00	$32,140.36	$0.00	$0.00	$0.00	$32,140.36
G4030	Site Communications & Security	$0.00	$13,151.66	$0.00	$0.00	$0.00	$13,151.66
	Total:	$25,981.81	$45,292.02	$0.00	$0.00	$0.00	$71,273.83

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: $71,273.83

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: G2030 - Pedestrian Paving

Location: Entrance

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Install an exterior ADA ramp - based on 5' wide by the linear foot - up to a 48" rise - per LF of ramp - figure 1 LF per inch of rise

Qty: 20.00

Unit of Measure: L.F.

Estimate: $25,981.81

Assessor Name: Ben Nixon

Date Created: 09/02/2015

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

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

System: G4020 - Site Lighting

Location: Outdoor
Distress: Health Hazard / Risk
Category: 1 - Health & Safety
Priority: 2 - Response Time (2-3 yrs)
Correction: Add site lighting fixtures
Qty: 6.00
Unit of Measure: Ea.
Estimate: $32,140.36
Assessor Name: Ben Nixon
Date Created: 08/12/2015

Notes: The school perimeter is illuminated from wall mounted fixtures, as a safety issue provide 6 wall mounted lighting fixtures in the parking and playground area.

System: G4030 - Site Communications & Security

Location: Outdoor
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 2 - Response Time (2-3 yrs)
Correction: Add Site Paging System
Qty: 2.00
Unit of Measure: Ea.
Estimate: $13,151.66
Assessor Name: Ben Nixon
Date Created: 08/12/2015

Notes: There are not exterior speakers for site paging. Provide two loud speakers in front of the parking lot and playground.

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