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.

Comegys School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	5100 Greenway Ave. Philadelphia, Pa 19143	Enrollment	517
		Grade Range	'00-08'
Phone/Fax	215-727-2162 / 215-727-2329	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Comegys	Turnaround Model	N/A

Building/System FCI Tiers

$$\text{Facility Condition Index (FCI)} = \frac{\text{Cost of Assessed Deficiencies}}{\text{Replacement Value}}$$

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**30.68%**	**$11,233,739**	**$36,618,896**
Building	31.68 %	$11,196,778	$35,348,662
Grounds	02.91 %	$36,961	$1,270,234

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.00 %	$0	$1,388,709
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.00 %	$0	$2,607,470
Windows (Shows functionality of exterior windows)	79.32 %	$1,009,229	$1,272,298
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$102,434
Interior Doors (Classroom doors)	13.47 %	$33,394	$247,960
Interior Walls (Paint and Finishes)	00.00 %	$0	$1,119,001
Plumbing Fixtures	07.94 %	$75,792	$955,107
Boilers	87.95 %	$1,160,055	$1,318,923
Chillers/Cooling Towers	49.22 %	$851,162	$1,729,365
Radiators/Unit Ventilators/HVAC	82.81 %	$2,515,049	$3,036,986
Heating/Cooling Controls	158.90 %	$1,515,461	$953,694
Electrical Service and Distribution	143.31 %	$982,045	$685,247
Lighting	21.33 %	$522,572	$2,449,934
Communications and Security (Cameras, Pa System and Fire Alarm)	34.79 %	$319,229	$917,666

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

S126001;Comegys

Final

Site Assessment Report

January 30, 2017

PARSONS

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Site Executive Summary

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

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

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) is an industry-standard measurement calculated as the ratio of the repair costs to correct a facility's deficiencies to the facility's Current Replacement Value. Condition Index (CI) for a system is calculated as the sum of 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):	70,644
Year Built:	1909
Last Renovation:	1966
Replacement Value:	$36,618,896
Repair Cost:	$11,233,738.65
Total FCI:	30.68 %
Total RSLI:	71.86 %

Description:

Facility Assessment

July 23th, 2015

School District of Philadelphia

Comegys Elementary School

5001 Greenway Avenue

Philadelphia, PA 19143

70,644 SF / 596 Students / LN 01

GENERAL

Dave Loftus Facility Area Coordinator, and the custodial assistant 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 with a large addition built in 1966. The original building has a one level basement.

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 and steel structure in gym. Roofing is built up application with complete replacement this year. The building envelope is typically masonry with face brick textured concrete. Elevations are enhanced with 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. There is a large vertical crack in the chimney that should be addressed along with the exterior brickwork. 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 accessible per ADA requirements from public sidewalks.

Partition wall types include plastered ceramic hollow blocks in original building and CMU in additions. Some horizontal cracks in CMU are present in office areas and may require further investigation. Interior doors are generally metal frame with solid core wood doors with lites in good condition. Doors leading to exit stairways are hollow metal doors and frames with lites 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 steel and concrete with cast iron nosing in good condition. Stair railings are mounted metal handrail and cast iron balusters and wood railing in good condition.

The interior wall finishes include painted plaster, brick, or CMU throughout in good condition with glazed brick wainscot in basement corridors and basement toilets in good condition. Flooring includes: patterned or bare concrete in corridors of original building, stairways, toilets, basement and service areas in good condition; hardwood in classrooms of original building, and library in good condition with a few areas or severe water damage in need of replacement; and vinyl tile throughout building additions in good condition with a few areas of damaged or missing tiles. Wood base is typically in fair-good condition. Ceiling finishes include: suspended acoustic tile system throughout in fair condition and painted plaster, structural concrete, or structural steel basement service areas and gym in fair condition.

The building has one elevator serving 4 floors with controls that are not accessible.

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 a mix of vintage and contemporary replacements. Restroom fixtures on each floor consist of wall hung water closets, urinals and lavatories. Faucets and flush valves work well. The cafeteria kitchen sink is stainless steel, 3 basins, without sanitization chemical injection. Classrooms have a variety of lavatories and sinks including porcelain, stainless steel, and plastic. The fixtures should provide reliable service for the next 5 to 10 years.

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

A 3” city water service enters the building from Upland St. on the ground level in the boiler room. There is no backflow preventer and one should be installed. The domestic hot and cold water distribution piping is copper with soldered, threaded, and flanged connections. There is no pressure booster. The engineer reported no significant problems with domestic piping and the supply is adequate to the fixtures. Water heater is located in the basement and can be expected to last 5 years or longer.

The sanitary sewer piping is hub and spigot cast iron pipe with lead and oakum connections. Visible areas of sanitary piping showed no problems. The entire sanitary drain piping system should be inspected due to age. The building does not have a sewage ejector.

Rain water drain pipes are cast iron. The custodial assistant stated the first floor drains flood during heavy rains. The system should be replaced.

The original building was heated with forced air and steam radiators. It has been converted to hydronic unit vents, most likely at the time of the addition, circa 1966.

Hot water is supplied by 2 American Standard, 4,640 MBH (139 HP) capacity, series 2B gas boilers installed in 1966. They have integral burners. Both boilers are operational, but they have exceeded their lifespan and should be replaced. Combustion air is supplied by louvers equipped with automatic control. There are 2 hydronic circulation pumps which should be replaced as well due to age.

The school has no central cooling equipment. A 175 ton chiller system should be installed to provide cooling to the entire building.

The auditorium and gym are ventilated by 4 fan coil units located in those spaces. These units do not have cooling coils. They appear original to the building addition, have pneumatic controls, and have exceeded their lifespan. They should be replaced with new units including cooling coils. Hydronic piping is threaded steel. It should be examined at the time of system upgrades and repaired as needed.

Classroom heating and ventilation is unit ventilators and natural draft finned tube hydronic heaters. The unit vents have exceeded their lifespan, some are physically damaged, and their controls are obsolete, so they should be replaced. Hallways, bathrooms, and other areas are heated by natural draft hydronic finned tube convectors, which should also be replaced due to age. Classroom cooling is provided by window unit air conditioners. Some classrooms do not have air conditioners, some units are inoperable, and all of them are beyond their expected service life. These should be removed and replaced by hydronic cooling using the unit vents.

Unit vents and fan coils have pneumatic controls. Pneumatic thermostats are in all building areas and many are damaged. The entire system is obsolete. The building control system should be upgraded to modern digital controls, when other components are upgraded.

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

ELECTRICAL SYSTEMS

A 150KVA, 13.2KV -120/208V utility transformer provides the electrical service to the school. The transformer is located in a transformer pit on Upland Street. The service entrance is located at the basement electrical room and is rated 1200A 120/208V.The service entrance is composed of the utility meter PECO 02 016999302, main disconnect switch and a Westinghouse distribution section. The service entrance was installed on 1966 and has already exceeded its useful service life. A new electrical service will feed Motor Control Centers (MCC), HVAC (Heating, Ventilation and Air Conditioning) equipment and lighting and receptacle loads. Provide a new service entrance switchboard rated 2500A, 120/208V

There are 120/208V panel-boards in each floor for lighting and receptacles. These panel-boards and associated wiring were installed in 1996 and have already exceeded their useful service life. The entire distribution system needs to be replaced. Provide new panel-boards.

There number of receptacles in classrooms varies, approximate 30% of the classrooms have been remodeled and provided with the proper amount of receptacles but 70% of them the quantity of receptacles are inadequate. Teachers use extension cords. Provide 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 recessed mounted fluorescent fixtures except some remodeled rooms that are illuminated with modern, recessed mounted fluorescent fixtures. Approximate 60% of the lighting fixtures are provided with T-12 lamps. Provide lighting fixtures with T-8 lamps.

Fire Alarm 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. Replace fire alarm system.

The present telephone system is adequate.

Public Address/Intercom/Paging- 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. The location of the video surveillance monitor is in the main office.

There is not an emergency power system in the school. Provide a 75KW, outdoor, diesel powered generator.

There is adequate UPS in the IT room.

Emergency Lighting System / Exit Lighting- The emergency lighting is obtained with wall mounted battery backup lighting fixtures located in corridors and stairways. Exit signs are feed from normal power and are located at each exit door and corridors. Since the school does not have emergency power system replace exit signs with battery backup type.

Lightning Protection System- The chimney is provided with air terminals. Prepare a study to determine if the air terminals provide the proper protection to the school building. The installation of the new roof has affected the continuity of the down conductors. Before completion of the work, the District must advise the contractor, to re-establish the continuity of the down conductors.

The school is provided with a hydraulic elevator. An overload circuit breaker create a fire. Provide a new elevator motor and controller and connect them to the school emergency system

The auditorium is provided with theatrical lighting ON/OFF from local panel-board. Provide theatrical lighting 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 northeast corner separated by metal fence and accessible via Greenway Ave. 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 with lockable gates. Play structure, playground fall protection surface, and turf area are all in good condition. Landscaping covers 2% of the site and is mature and in good condition.

Accessibility: the building does have accessible entrances, 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, around the building perimeter.

There are (2) CCTV cameras on the building exterior. Provide (3) CCTV cameras around the building perimeter to have a complete coverage of the building perimeter.

There is one loud speaker at the playground area.

RECOMMENDATIONS

- Replace Plexiglas windows – hazed
- 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
- Replace wood flooring – severe water damage in library
- Replace VCT tile flooring – damaged and missing
- Update elevator controls for accessibility
- Replace aged, non-accessible drinking fountains.
- Install backflow prevention device on city water supply connection.
- Inspect sanitary drain piping due to age.
- Replace rain water drainage piping due to reported flooding of first floor fixtures during storms.
- Replace hydronic boilers due to age.
- Replace hydronic circulation pumps due to age.
- Install 175 ton chiller system for entire building.
- Replace 4 fan coil units due to age and lack of cooling coils.
- Replace unit vents and finned tube convectors due to age and lack of cooling capability.
- Upgrade damaged and obsolete pneumatic building controls to modern digital controls.
- Install fire sprinkler system including fire pump if needed
- Provide a new service entrance switchboard rated 2500A, 120/208V
- Provide new panel-boards, approximate 12.

- Provide (2)25FT of surface raceways with 24” receptacles on center and two-duplex wall mount receptacles. Approximate 21 classrooms
- Approximate 60% of the lighting fixtures are provided with T-12 lamps. Provide lighting fixtures with T-8 lamps. Approximate 550 fixtures.
- Replace old fire alarm system with addressable type with audio/visual devices in the entire school. Approximate 95 devices
- Provide a new clock system, wireless battery operated. Approximate 53 clocks
- Provide 75KW, outdoor, diesel powered generator.
- Replace exit signs with battery back-up type.
- Prepare a study to determine if air terminals provide the proper protection to the building.
- Provide a new elevator motor and controller.
- Provide theatrical lighting dimming control system
- Provide a more complete sound system
- Provide (3) CCTV cameras around the building perimeter to have a complete coverage of the building perimeter.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S126001		

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	51.00 %	0.00 %	$0.00
A20 - Basement Construction	51.00 %	0.00 %	$0.00
B10 - Superstructure	51.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	47.72 %	25.34 %	$1,009,228.82
B30 - Roofing	100.00 %	0.00 %	$0.00
C10 - Interior Construction	45.33 %	3.31 %	$57,351.42
C20 - Stairs	51.00 %	0.00 %	$0.00
C30 - Interior Finishes	48.61 %	0.64 %	$20,621.48
D10 - Conveying	105.71 %	82.12 %	$88,756.26
D20 - Plumbing	44.27 %	49.00 %	$706,830.89
D30 - HVAC	107.77 %	76.88 %	$6,041,726.28
D40 - Fire Protection	92.47 %	177.49 %	$1,010,593.95
D50 - Electrical	110.11 %	47.40 %	$1,968,074.11
E10 - Equipment	55.41 %	26.11 %	$293,594.70
E20 - Furnishings	57.50 %	0.00 %	$0.00
G20 - Site Improvements	69.15 %	0.00 %	$0.00
G40 - Site Electrical Utilities	19.62 %	13.03 %	$36,960.74
Totals:	**71.86 %**	**30.68 %**	**$11,233,738.65**

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)
B126001;Comegys	70,644	31.68	$1,996,117.69	$2,667,432.99	$92,006.75	$5,590,058.86	$851,161.62
G126001;Grounds	65,200	2.91	$0.00	$36,960.74	$0.00	$0.00	$0.00
Total:		**30.68**	**$1,996,117.69**	**$2,704,393.73**	**$92,006.75**	**$5,590,058.86**	**$851,161.62**

Deficiencies By Priority

1 - Response Time (< 2 yr) - $1,996,117.69
2 - Response Time (2-3 yrs) - $2,704,393.73
3 - Response Time (3-4 yrs) - $92,006.75
4 - Response Time (4-5 yrs) - $5,590,058.86
5 - Response Time (> 5 yrs) - $851,161.62

Budget Estimate Total: $11,233,738.65

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:	Elementary School
Gross Area (SF):	70,644
Year Built:	1909
Last Renovation:	1966
Replacement Value:	$35,348,662
Repair Cost:	$11,196,777.91
Total FCI:	31.68 %
Total RSLI:	72.35 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B126001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S126001		

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	51.00 %	0.00 %	$0.00
A20 - Basement Construction	51.00 %	0.00 %	$0.00
B10 - Superstructure	51.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	47.72 %	25.34 %	$1,009,228.82
B30 - Roofing	100.00 %	0.00 %	$0.00
C10 - Interior Construction	45.33 %	3.31 %	$57,351.42
C20 - Stairs	51.00 %	0.00 %	$0.00
C30 - Interior Finishes	48.61 %	0.64 %	$20,621.48
D10 - Conveying	105.71 %	82.12 %	$88,756.26
D20 - Plumbing	44.27 %	49.00 %	$706,830.89
D30 - HVAC	107.77 %	76.88 %	$6,041,726.28
D40 - Fire Protection	92.47 %	177.49 %	$1,010,593.95
D50 - Electrical	110.11 %	47.40 %	$1,968,074.11
E10 - Equipment	55.41 %	26.11 %	$293,594.70
E20 - Furnishings	57.50 %	0.00 %	$0.00
Totals:	**72.35 %**	**31.68 %**	**$11,196,777.91**

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.

Site Assessment Report - B126001;Comegys

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.	70,644	100	1966	2066		51.00 %	0.00 %	51			$1,299,850
A1030	Slab on Grade	$7.73	S.F.	70,644	100	1966	2066		51.00 %	0.00 %	51			$546,078
A2010	Basement Excavation	$6.55	S.F.	70,644	100	1966	2066		51.00 %	0.00 %	51			$462,718
A2020	Basement Walls	$12.70	S.F.	70,644	100	1966	2066		51.00 %	0.00 %	51			$897,179
B1010	Floor Construction	$75.10	S.F.	70,644	100	1966	2066		51.00 %	0.00 %	51			$5,305,364
B1020	Roof Construction	$13.88	S.F.	70,644	100	1966	2066		51.00 %	0.00 %	51			$980,539
B2010	Exterior Walls	$36.91	S.F.	70,644	100	1966	2066		51.00 %	0.00 %	51			$2,607,470
B2020	Exterior Windows	$18.01	S.F.	70,644	40	1991	2031		40.00 %	79.32 %	16		$1,009,228.82	$1,272,298
B2030	Exterior Doors	$1.45	S.F.	70,644	25	2005	2030		60.00 %	0.00 %	15			$102,434
B3010105	Built-Up	$37.76	S.F.	36,665	20	2015	2035		100.00 %	0.00 %	20			$1,384,470
B3020	Roof Openings	$0.06	S.F.	70,644	20	2015	2035		100.00 %	0.00 %	20			$4,239
C1010	Partitions	$17.91	S.F.	70,644	100	1966	2066		51.00 %	0.00 %	51			$1,265,234
C1020	Interior Doors	$3.51	S.F.	70,644	40	1987	2027		30.00 %	13.47 %	12		$33,394.17	$247,960
C1030	Fittings	$3.12	S.F.	70,644	40	1987	2027		30.00 %	10.87 %	12		$23,957.25	$220,409
C2010	Stair Construction	$1.41	S.F.	70,644	100	1966	2066		51.00 %	0.00 %	51			$99,608
C3010230	Paint & Covering	$15.05	S.F.	70,644	10	2012	2022		70.00 %	0.00 %	7			$1,063,192
C3010232	Wall Tile	$0.79	S.F.	70,644	30	1911	1941	2037	73.33 %	0.00 %	22			$55,809
C3020413	Vinyl Flooring	$9.68	S.F.	31,790	20	1998	2018	2028	65.00 %	2.34 %	13		$7,210.52	$307,727
C3020414	Wood Flooring	$22.27	S.F.	14,129	25	1998	2023		32.00 %	4.26 %	8		$13,410.96	$314,653
C3020415	Concrete Floor Finishes	$0.97	S.F.	24,725	50	2003	2053		76.00 %	0.00 %	38			$23,983
C3030	Ceiling Finishes	$20.97	S.F.	70,644	25	1998	2023		32.00 %	0.00 %	8			$1,481,405
D1010	Elevators and Lifts	$1.53	S.F.	70,644	35	1911	1946	2052	105.71 %	82.12 %	37		$88,756.26	$108,085
D2010	Plumbing Fixtures	$13.52	S.F.	70,644	35	1911	1946	2027	34.29 %	7.94 %	12		$75,791.90	$955,107
D2020	Domestic Water Distribution	$1.68	S.F.	70,644	25	1911	1936	2023	32.00 %	14.98 %	8		$17,775.89	$118,682
D2030	Sanitary Waste	$2.90	S.F.	70,644	25	1911	1936	2027	48.00 %	146.43 %	12		$299,997.22	$204,868
D2040	Rain Water Drainage	$2.32	S.F.	70,644	30	1911	1941	2047	106.67 %	191.14 %	32		$313,265.88	$163,894
D3020	Heat Generating Systems	$18.67	S.F.	70,644	35	1966	2001	2052	105.71 %	87.95 %	37		$1,160,054.98	$1,318,923
D3030	Cooling Generating Systems	$24.48	S.F.	70,644	30			2047	106.67 %	49.22 %	32		$851,161.62	$1,729,365
D3040	Distribution Systems	$42.99	S.F.	70,644	25	1966	1991	2042	108.00 %	82.81 %	27		$2,515,048.72	$3,036,986
D3050	Terminal & Package Units	$11.60	S.F.	70,644	20	1966	1986	2037	110.00 %	0.00 %	22			$819,470
D3060	Controls & Instrumentation	$13.50	S.F.	70,644	20	1966	1986	2037	110.00 %	158.90 %	22		$1,515,460.96	$953,694
D4010	Sprinklers	$7.05	S.F.	70,644	35			2052	105.71 %	202.91 %	37		$1,010,593.95	$498,040
D4020	Standpipes	$1.01	S.F.	70,644	35				0.00 %	0.00 %				$71,350
D5010	Electrical Service/Distribution	$9.70	S.F.	70,644	30	1966	1996	2047	106.67 %	143.31 %	32		$982,044.93	$685,247
D5020	Lighting and Branch Wiring	$34.68	S.F.	70,644	20	1911	1931	2037	110.00 %	21.33 %	22		$522,571.57	$2,449,934
D5030	Communications and Security	$12.99	S.F.	70,644	15	1911	1926	2032	113.33 %	34.79 %	17		$319,229.47	$917,666
D5090	Other Electrical Systems	$1.41	S.F.	70,644	30	1911	1941	2047	106.67 %	144.80 %	32		$144,228.14	$99,608
E1020	Institutional Equipment	$4.82	S.F.	70,644	35	1998	2033		51.43 %	86.22 %	18		$293,594.70	$340,504
E1090	Other Equipment	$11.10	S.F.	70,644	35	2000	2035		57.14 %	0.00 %	20			$784,148
E2010	Fixed Furnishings	$2.13	S.F.	70,644	40	1998	2038		57.50 %	0.00 %	23			$150,472
								Total	**72.35 %**	**31.68 %**			**$11,196,777.91**	**$35,348,662**

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 & Coverings
5% - Wall Tile (glazed brick)

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

Note: 45% - Vinyl Flooring
20% - Wood Flooring
35% - 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:	$11,196,778	$0	$0	$0	$0	$0	$0	$1,438,351	$2,668,088	$0	$0	$15,303,217
* 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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
B2020 - Exterior Windows	$1,009,229	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,009,229
B2030 - Exterior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
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	$33,394	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$33,394
C1030 - Fittings	$23,957	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$23,957
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

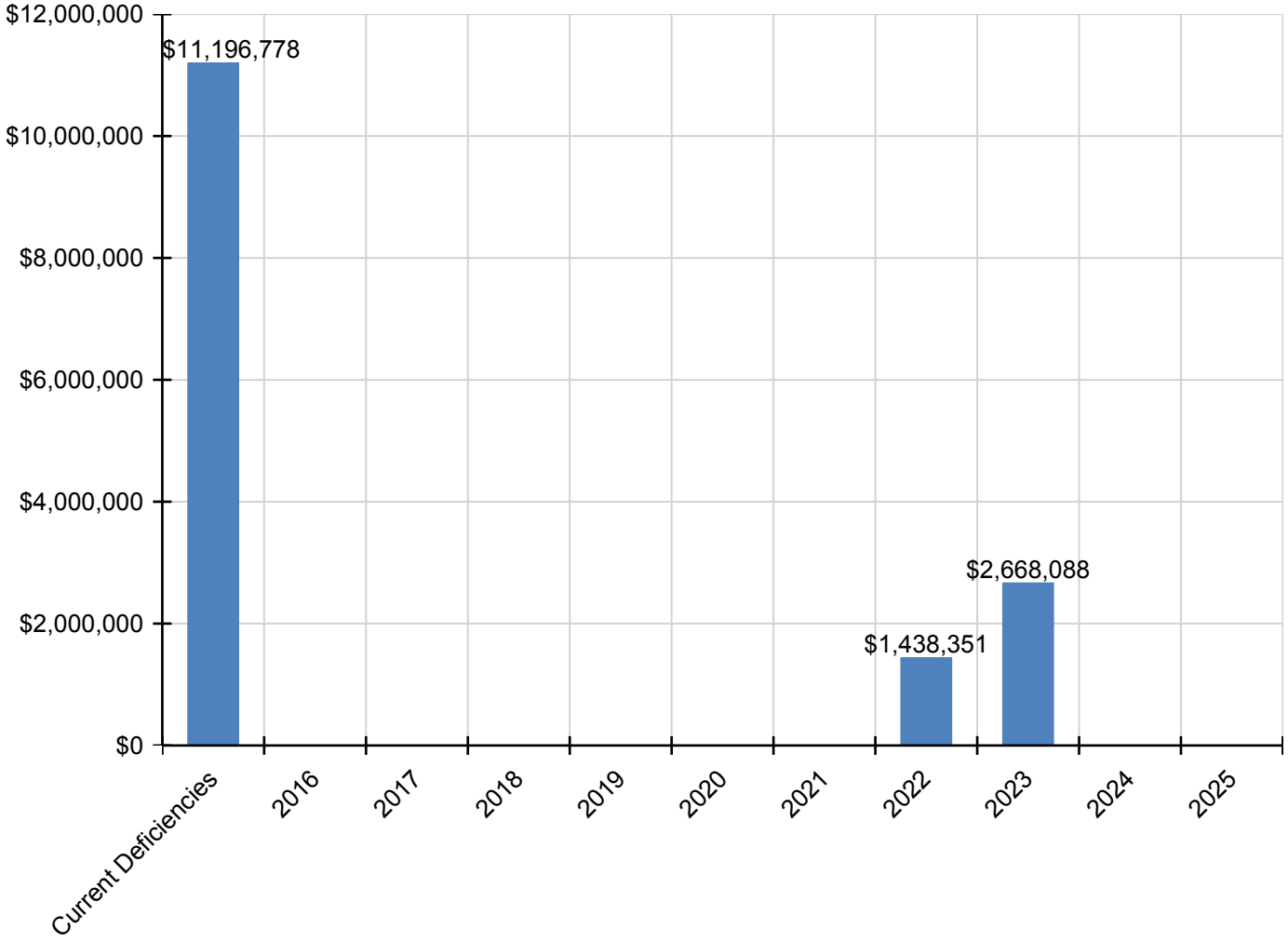
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$0	$0	$1,438,351	$0	$0	$0	**$1,438,351**
C3010232 - Wall Tile	$0	$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**
C3020413 - Vinyl Flooring	$7,211	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$7,211**
C3020414 - Wood Flooring	$13,411	$0	$0	$0	$0	$0	$0	$0	$438,452	$0	$0	**$451,863**
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	$2,064,259	$0	$0	**$2,064,259**
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	$88,756	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$88,756**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$75,792	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$75,792**
D2020 - Domestic Water Distribution	$17,776	$0	$0	$0	$0	$0	$0	$0	$165,377	$0	$0	**$183,153**
D2030 - Sanitary Waste	$299,997	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$299,997**
D2040 - Rain Water Drainage	$313,266	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$313,266**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,160,055	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,160,055**
D3030 - Cooling Generating Systems	$851,162	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$851,162**
D3040 - Distribution Systems	$2,515,049	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,515,049**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,515,461	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,515,461**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,010,594	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,010,594**
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	$982,045	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$982,045**
D5020 - Lighting and Branch Wiring	$522,572	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$522,572**
D5030 - Communications and Security	$319,229	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$319,229**
D5090 - Other Electrical Systems	$144,228	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$144,228**
E - Equipment & Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$293,595	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$293,595**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

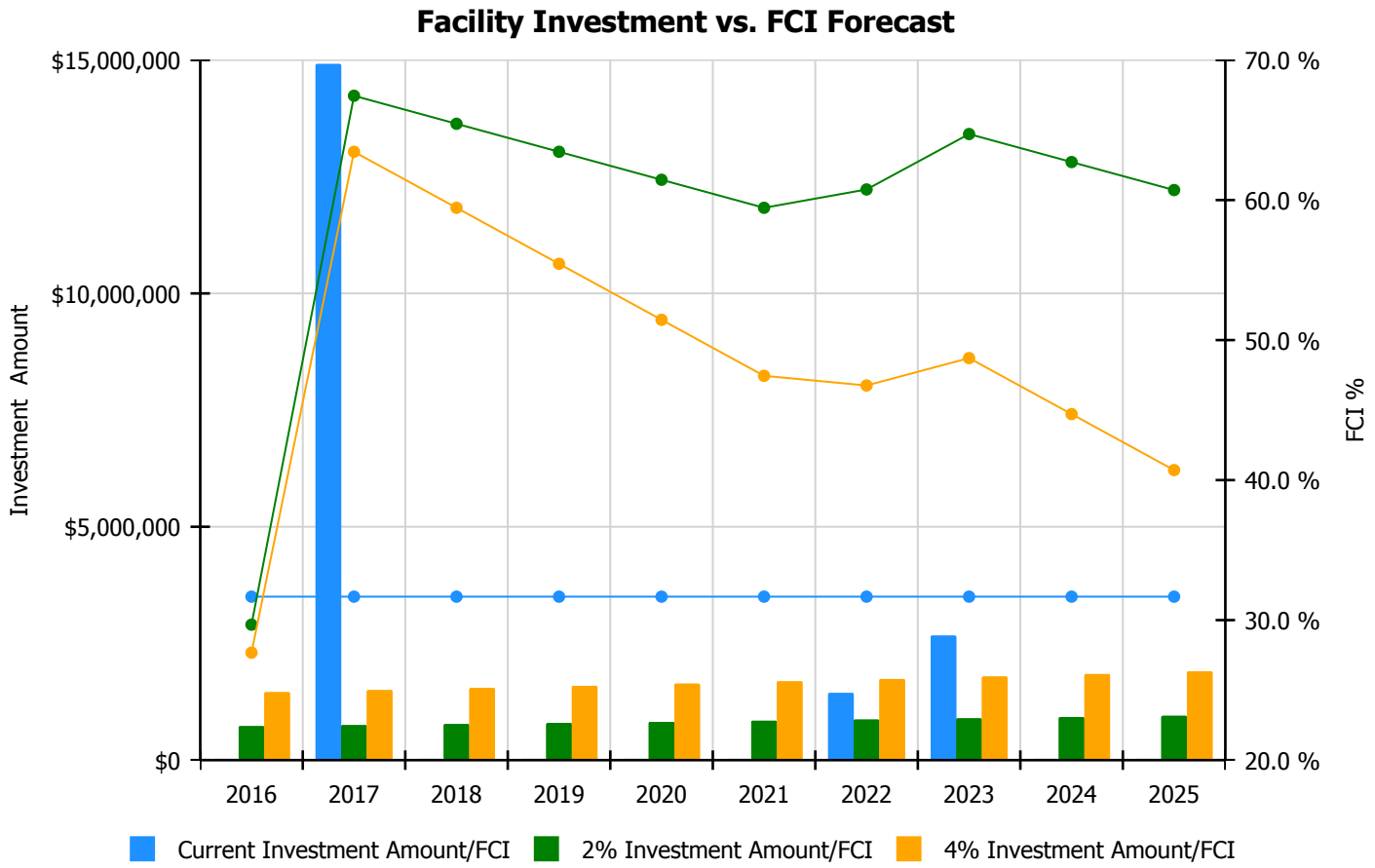
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

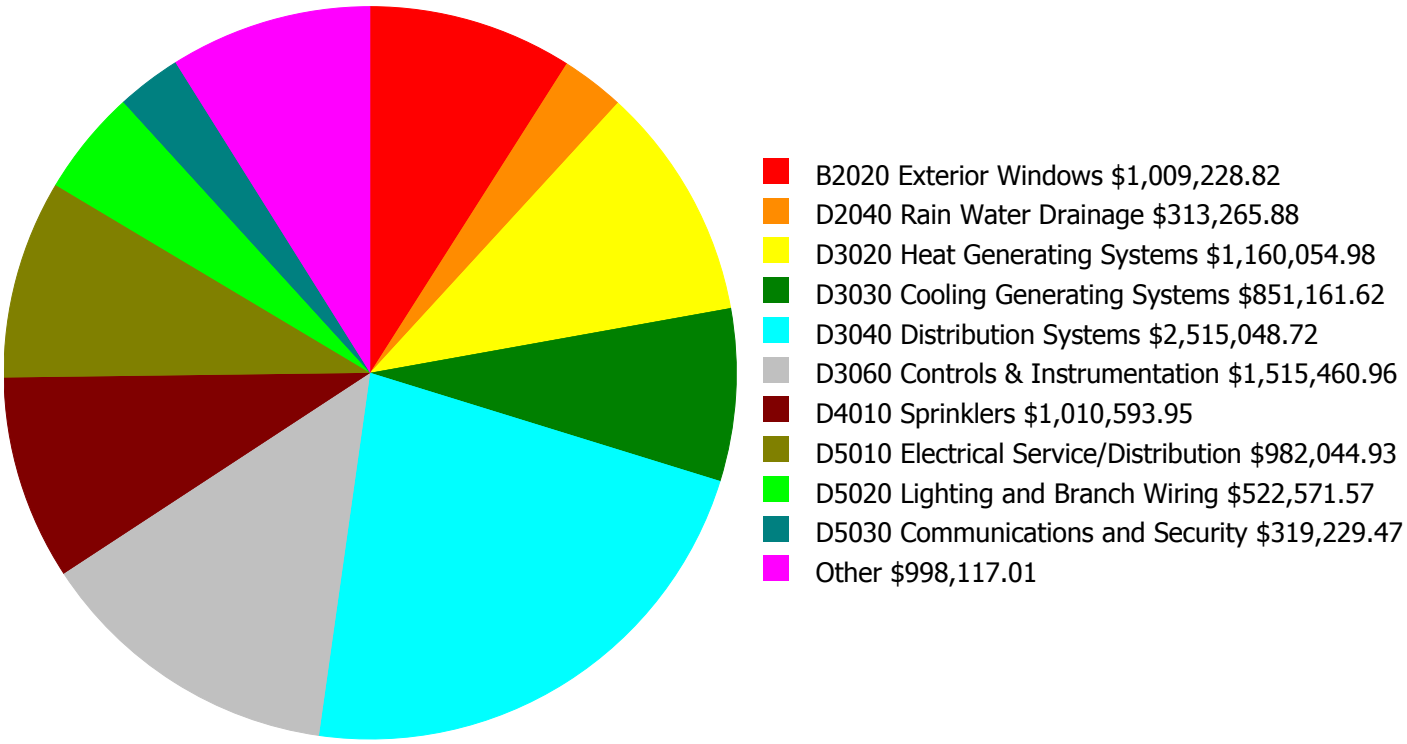
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 31.68%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$728,182.00	29.68 %	$1,456,365.00	27.68 %
2017	$14,915,195	$750,028.00	67.45 %	$1,500,056.00	63.45 %
2018	$0	$772,529.00	65.45 %	$1,545,057.00	59.45 %
2019	$0	$795,705.00	63.45 %	$1,591,409.00	55.45 %
2020	$0	$819,576.00	61.45 %	$1,639,151.00	51.45 %
2021	$0	$844,163.00	59.45 %	$1,688,326.00	47.45 %
2022	$1,438,351	$869,488.00	60.76 %	$1,738,976.00	46.76 %
2023	$2,668,088	$895,573.00	64.71 %	$1,791,145.00	48.71 %
2024	$0	$922,440.00	62.71 %	$1,844,879.00	44.71 %
2025	$0	$950,113.00	60.71 %	$1,900,226.00	40.71 %
Total:	**$19,021,634**	**$8,347,797.00**		**$16,695,590.00**	

Deficiency Summary by System

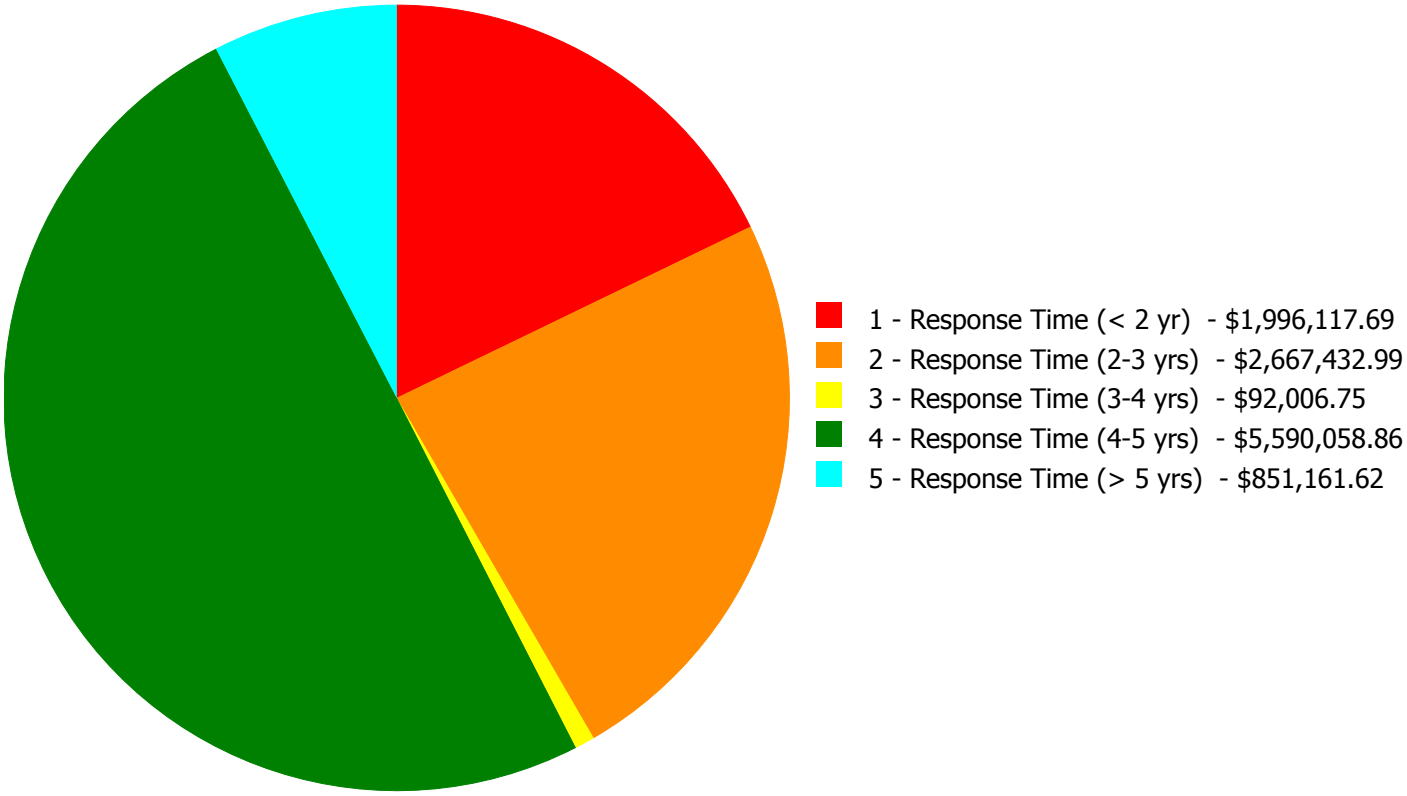
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $11,196,777.91

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: $11,196,777.91

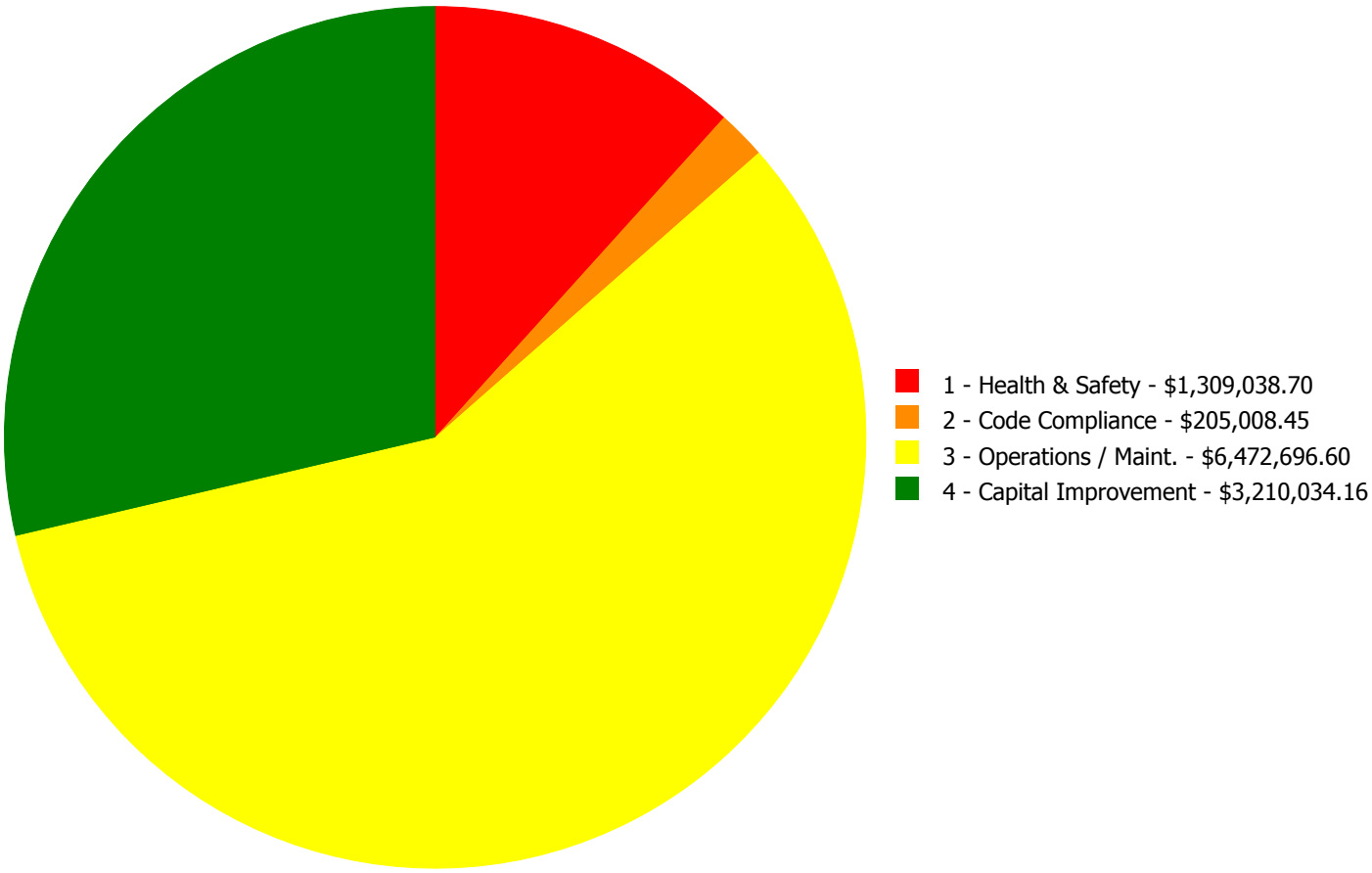
Deficiency By Priority Investment Table

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
B2020	Exterior Windows	$0.00	$0.00	$0.00	$1,009,228.82	$0.00	$1,009,228.82
C1020	Interior Doors	$0.00	$33,394.17	$0.00	$0.00	$0.00	$33,394.17
C1030	Fittings	$0.00	$11,734.26	$12,222.99	$0.00	$0.00	$23,957.25
C3020413	Vinyl Flooring	$0.00	$0.00	$7,210.52	$0.00	$0.00	$7,210.52
C3020414	Wood Flooring	$0.00	$13,410.96	$0.00	$0.00	$0.00	$13,410.96
D1010	Elevators and Lifts	$0.00	$16,183.02	$72,573.24	$0.00	$0.00	$88,756.26
D2010	Plumbing Fixtures	$0.00	$0.00	$0.00	$75,791.90	$0.00	$75,791.90
D2020	Domestic Water Distribution	$0.00	$17,775.89	$0.00	$0.00	$0.00	$17,775.89
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$299,997.22	$0.00	$299,997.22
D2040	Rain Water Drainage	$0.00	$313,265.88	$0.00	$0.00	$0.00	$313,265.88
D3020	Heat Generating Systems	$0.00	$0.00	$0.00	$1,160,054.98	$0.00	$1,160,054.98
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$851,161.62	$851,161.62
D3040	Distribution Systems	$1,996,117.69	$0.00	$0.00	$518,931.03	$0.00	$2,515,048.72
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$1,515,460.96	$0.00	$1,515,460.96
D4010	Sprinklers	$0.00	$0.00	$0.00	$1,010,593.95	$0.00	$1,010,593.95
D5010	Electrical Service/Distribution	$0.00	$982,044.93	$0.00	$0.00	$0.00	$982,044.93
D5020	Lighting and Branch Wiring	$0.00	$522,571.57	$0.00	$0.00	$0.00	$522,571.57
D5030	Communications and Security	$0.00	$319,229.47	$0.00	$0.00	$0.00	$319,229.47
D5090	Other Electrical Systems	$0.00	$144,228.14	$0.00	$0.00	$0.00	$144,228.14
E1020	Institutional Equipment	$0.00	$293,594.70	$0.00	$0.00	$0.00	$293,594.70
	Total:	$1,996,117.69	$2,667,432.99	$92,006.75	$5,590,058.86	$851,161.62	$11,196,777.91

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: $11,196,777.91

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: D3040 - Distribution Systems

Location:	Classrooms
Distress:	Beyond Service Life
Category:	3 - Operations / Maint.
Priority:	1 - Response Time (< 2 yr)
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:	40,000.00
Unit of Measure:	S.F.
Estimate:	$1,996,117.69
Assessor Name:	System
Date Created:	09/04/2015

Notes: Replace unit vents due to age and lack of cooling capability and radiators due to age.

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

System: C1020 - Interior Doors

Location: Entire Building

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace door knobs with compliant lever type

Qty: 60.00

Unit of Measure: Ea.

Estimate: $33,394.17

Assessor Name: System

Date Created: 09/03/2015

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

System: C1030 - Fittings

Location: Throughout

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 12.00

Unit of Measure: Ea.

Estimate: $11,734.26

Assessor Name: System

Date Created: 09/03/2015

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

System: C3020414 - Wood Flooring

Location: Library

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 100.00

Unit of Measure: S.F.

Estimate: $13,410.96

Assessor Name: System

Date Created: 09/03/2015

Notes: Replace wood flooring – severe water damage in library

System: D1010 - Elevators and Lifts

Location: Elevator

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Modernize or upgrade the elevator cab or to comply with ADA - exact scope of work estimate not available - total cost is sufficient

Qty: 1.00

Unit of Measure: Ea.

Estimate: $16,183.02

Assessor Name: System

Date Created: 09/03/2015

Notes: Update elevator controls for accessibility

System: D2020 - Domestic Water Distribution

Location: Boiler room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide 3" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: $17,775.89

Assessor Name: System

Date Created: 09/04/2015

Notes: Install backflow prevention device on city water supply connection.

System: D2040 - Rain Water Drainage

Location: Entire building

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 70,644.00

Unit of Measure: S.F.

Estimate: $313,265.88

Assessor Name: System

Date Created: 09/04/2015

Notes: Replace rain water drainage piping due to reported flooding of first floor fixtures during storms.

System: D5010 - Electrical Service/Distribution

Location: Corridors from the basement to the third floor

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add Panelboard

Qty: 12.00

Unit of Measure: Ea.

Estimate: $621,482.11

Assessor Name: System

Date Created: 08/11/2015

Notes: Provide new panel-boards, approximate 12

System: D5010 - Electrical Service/Distribution

Location: Basement electrical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Switchboard

Qty: 1.00

Unit of Measure: Ea.

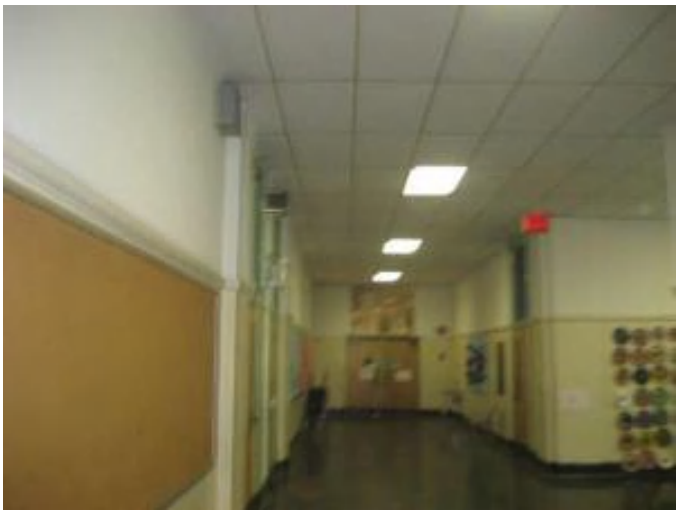
Estimate: $360,562.82

Assessor Name: System

Date Created: 08/11/2015

Notes: Provide a new service entrance switchboard rated 2500A, 120/208V

System: D5020 - Lighting and Branch Wiring



Location: Entire school

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Add Lighting Fixtures

Qty: 550.00

Unit of Measure: Ea.

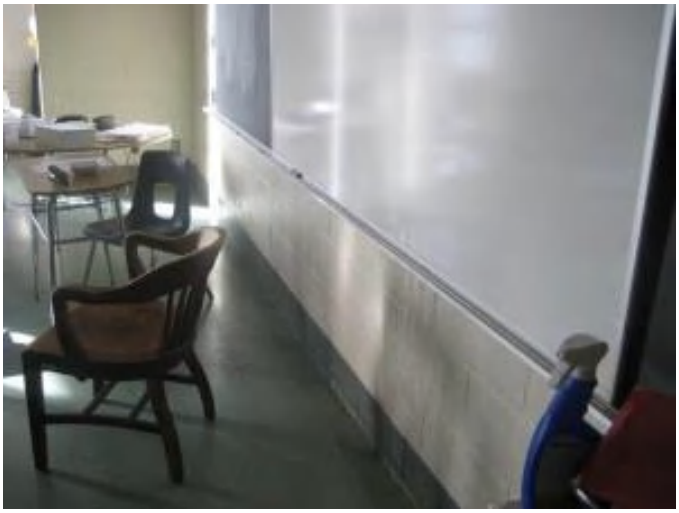
Estimate: $373,255.53

Assessor Name: System

Date Created: 08/11/2015

Notes: Approximate 60% of the lighting fixtures are provided with T-12 lamps. Provide lighting fixtures with T-8 lamps. Approximate 550 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: 336.00

Unit of Measure: Ea.

Estimate: $123,436.65

Assessor Name: System

Date Created: 08/11/2015

Notes: Provide (2)25FT of surface raceways with 24” receptacles on center and two-duplex wall mount receptacles. Approximate 21 classrooms

System: D5020 - Lighting and Branch Wiring

Location: Entire Building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Maintain Lighting Fixtures

Qty: 20.00

Unit of Measure: Ea.

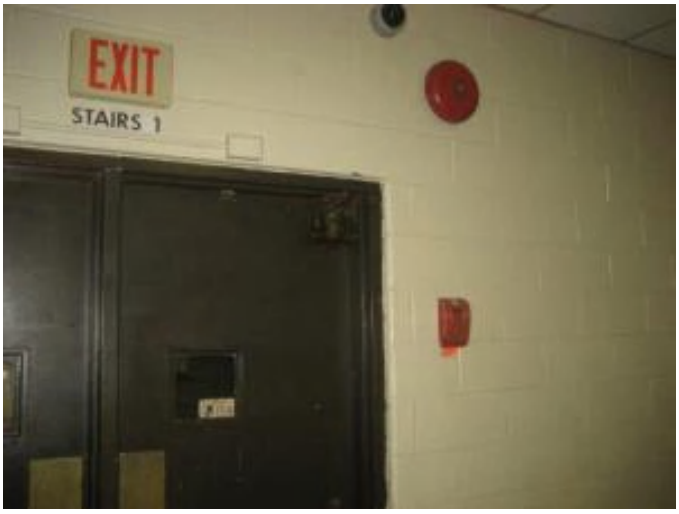
Estimate: $25,879.39

Assessor Name: System

Date Created: 09/09/2015

Notes: Replace exit signs with battery back-up type.

System: D5030 - Communications and Security



Location: Entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Add fire alarm device

Qty: 95.00

Unit of Measure: Ea.

Estimate: $178,466.43

Assessor Name: System

Date Created: 08/11/2015

Notes: Replace old fire alarm system with addressable type with audio/visual devices in the entire school. Approximate 95 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: 53.00

Unit of Measure: Ea.

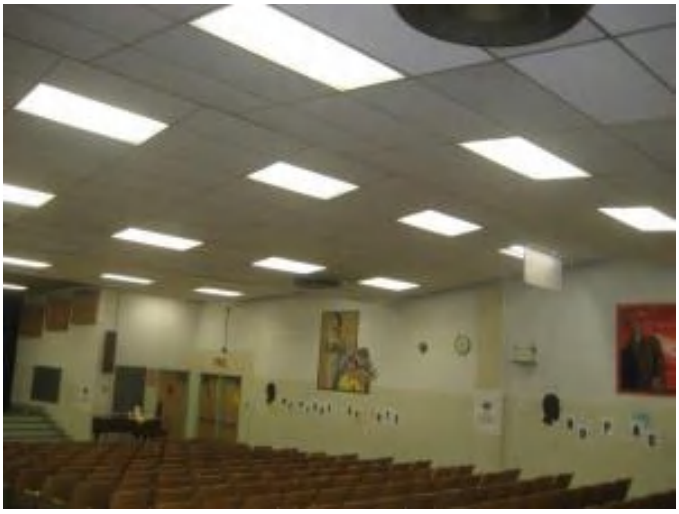
Estimate: $112,560.22

Assessor Name: System

Date Created: 08/11/2015

Notes: Provide a new clock system, wireless battery operated. Approximate 53 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: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $119,978.32

Assessor Name: System

Date Created: 08/11/2015

Notes: Provide 75KW, 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

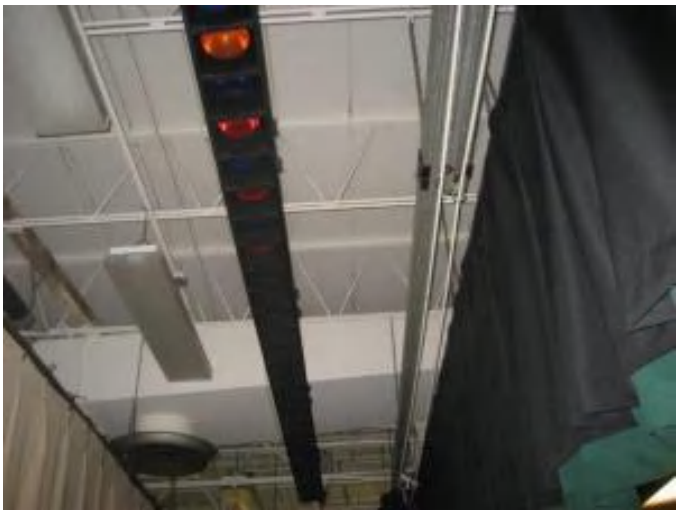
Estimate: $24,249.82

Assessor Name: System

Date Created: 08/12/2015

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

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: $293,594.70

Assessor Name: System

Date Created: 08/12/2015

Notes: Provide theatrical lighting dimming control system

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

System: C1030 - Fittings

Location: Throughout

Distress: Inadequate

Category: 4 - Capital Improvement

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

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

Qty: 80.00

Unit of Measure: Ea.

Estimate: $12,222.99

Assessor Name: System

Date Created: 09/03/2015

Notes: Install new ID signage

System: C3020413 - Vinyl Flooring

Location: Various

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace VCT

Qty: 600.00

Unit of Measure: S.F.

Estimate: $7,210.52

Assessor Name: System

Date Created: 09/03/2015

Notes: Replace VCT tile flooring – damaged and missing

System: D1010 - Elevators and Lifts

Location:	Elevator machine room
Distress:	Damaged
Category:	3 - Operations / Maint.
Priority:	3 - Response Time (3-4 yrs)
Correction:	Replace elevator motor and controller
Qty:	1.00
Unit of Measure:	Ea.
Estimate:	$72,573.24
Assessor Name:	System
Date Created:	08/12/2015

Notes: Provide a new elevator motor and controller.

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

System: B2020 - Exterior Windows

Location: Entire Building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Remove and replace double slider windows

Qty: 200.00

Unit of Measure: Ea.

Estimate: $1,009,228.82

Assessor Name: System

Date Created: 09/03/2015

Notes: Replace Plexiglas windows – hazed

System: D2010 - Plumbing Fixtures

Location: Entire building

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 10.00

Unit of Measure: Ea.

Estimate: $75,791.90

Assessor Name: System

Date Created: 09/04/2015

Notes: Replace aged, non-accessible drinking fountains.

System: D2030 - Sanitary Waste

Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 70,644.00

Unit of Measure: S.F.

Estimate: $299,997.22

Assessor Name: System

Date Created: 09/04/2015

Notes: Inspect sanitary drain piping due to age.

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,012,205.26

Assessor Name: System

Date Created: 09/04/2015

Notes: Replace hydronic boilers due to age.

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace pump, base-mounted, end suction HHW (4" size, 7-1/2 HP, to 350 GPM)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $147,849.72

Assessor Name: System

Date Created: 01/20/2016

Notes: Replace hydronic pumps due to age

System: D3040 - Distribution Systems

Location: Auditorium and gym/cafeteria

Distress: Inadequate

Category: 4 - Capital Improvement

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

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

Qty: 400.00

Unit of Measure: Seat

Estimate: $518,931.03

Assessor Name: System

Date Created: 09/04/2015

Notes: Replace 4 fan coil units due to age and lack of cooling capability.

System: D3060 - Controls & Instrumentation

Location: Entire building

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 70,644.00

Unit of Measure: S.F.

Estimate: $1,515,460.96

Assessor Name: System

Date Created: 09/04/2015

Notes: Upgrade damaged and obsolete pneumatic building controls to modern digital controls.

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: 70,644.00

Unit of Measure: S.F.

Estimate: $1,010,593.95

Assessor Name: System

Date Created: 09/04/2015

Notes: Install fire sprinkler system including fire pump if needed.

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. (+75KSF)
Qty:	53,000.00
Unit of Measure:	S.F.
Estimate:	$851,161.62
Assessor Name:	System
Date Created:	09/04/2015

Notes: Install 175 ton chiller 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
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 4500 lb, 5 floors, 100 FPM	1.00	Ea.	elevator machine room					30	1911	2017	$151,620.00	$166,782.00
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 4488 MBH, includes standard controls and insulated jacket, packaged	1.00	Ea.	Boiler room					35	1966	2050	$68,695.50	$75,565.05
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 1600 A	1.00	Ea.	Basement electrical room	Westinghouse	Switchboard			20	1966	2017	$40,458.15	$44,503.97
												Total:	**$286,851.02**

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):	65,200
Year Built:	1909
Last Renovation:	1966
Replacement Value:	$1,270,234
Repair Cost:	$36,960.74
Total FCI:	2.91 %
Total RSLI:	58.09 %

Description:

Attributes:

General Attributes:

Bldg ID:	S126001	Site ID:	S126001

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	69.15 %	0.00 %	$0.00
G40 - Site Electrical Utilities	19.62 %	13.03 %	$36,960.74
Totals:	**58.09 %**	**2.91 %**	**$36,960.74**

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	$7.65	S.F.	8,600	30	2000	2030		50.00 %	0.00 %	15			$65,790
G2030	Pedestrian Paving	$11.52	S.F.	54,600	40	2000	2040		62.50 %	0.00 %	25			$628,992
G2040	Site Development	$4.36	S.F.	65,200	25	2012	2037		88.00 %	0.00 %	22			$284,272
G2050	Landscaping & Irrigation	$3.78	S.F.	2,000	15	2012	2027		80.00 %	0.00 %	12			$7,560
G4020	Site Lighting	$3.58	S.F.	65,200	30	1911	1941	2020	16.67 %	0.00 %	5			$233,416
G4030	Site Communications & Security	$0.77	S.F.	65,200	30	1911	1941	2025	33.33 %	73.62 %	10		$36,960.74	$50,204
								Total	**58.09 %**	**2.91 %**			**$36,960.74**	**$1,270,234**

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.

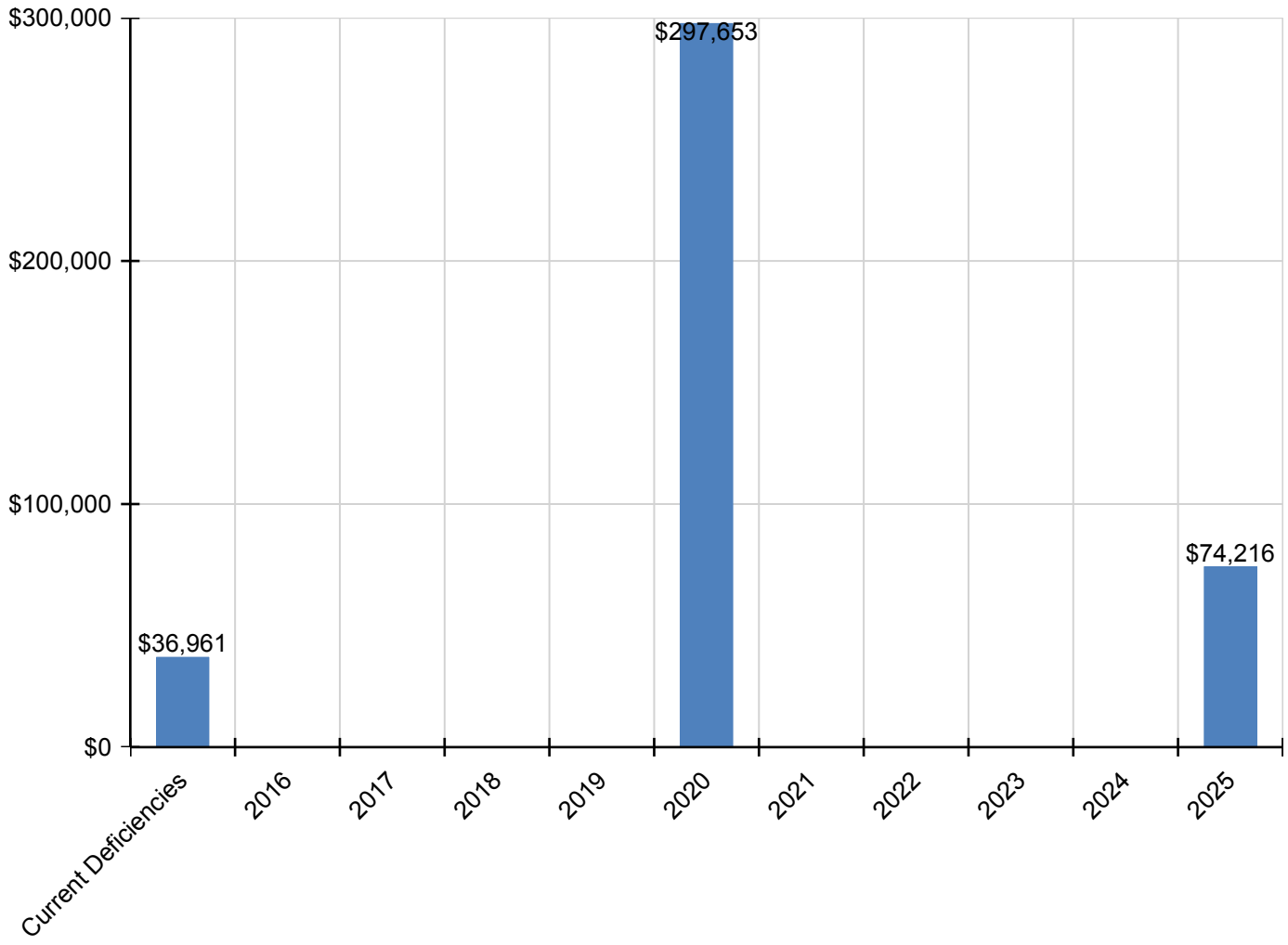
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$36,961**	**$0**	**$0**	**$0**	**$0**	**$297,653**	**$0**	**$0**	**$0**	**$0**	**$74,216**	**$408,830**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$0	$0	$0	$0	$0	$297,653	$0	$0	$0	$0	$0	**$297,653**
G4030 - Site Communications & Security	$36,961	$0	$0	$0	$0	$0	$0	$0	$0	$0	$74,216	**$111,177**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

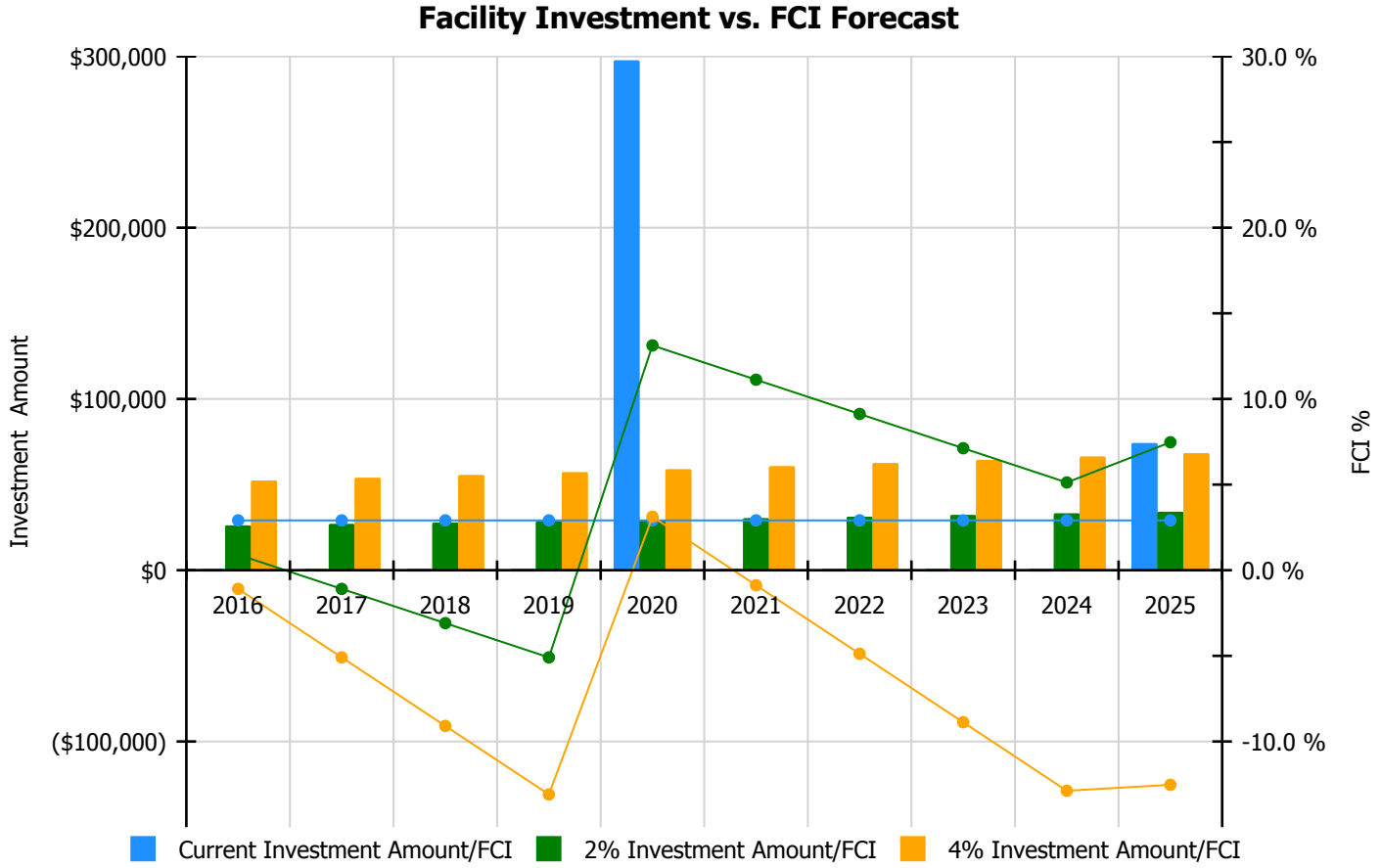
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

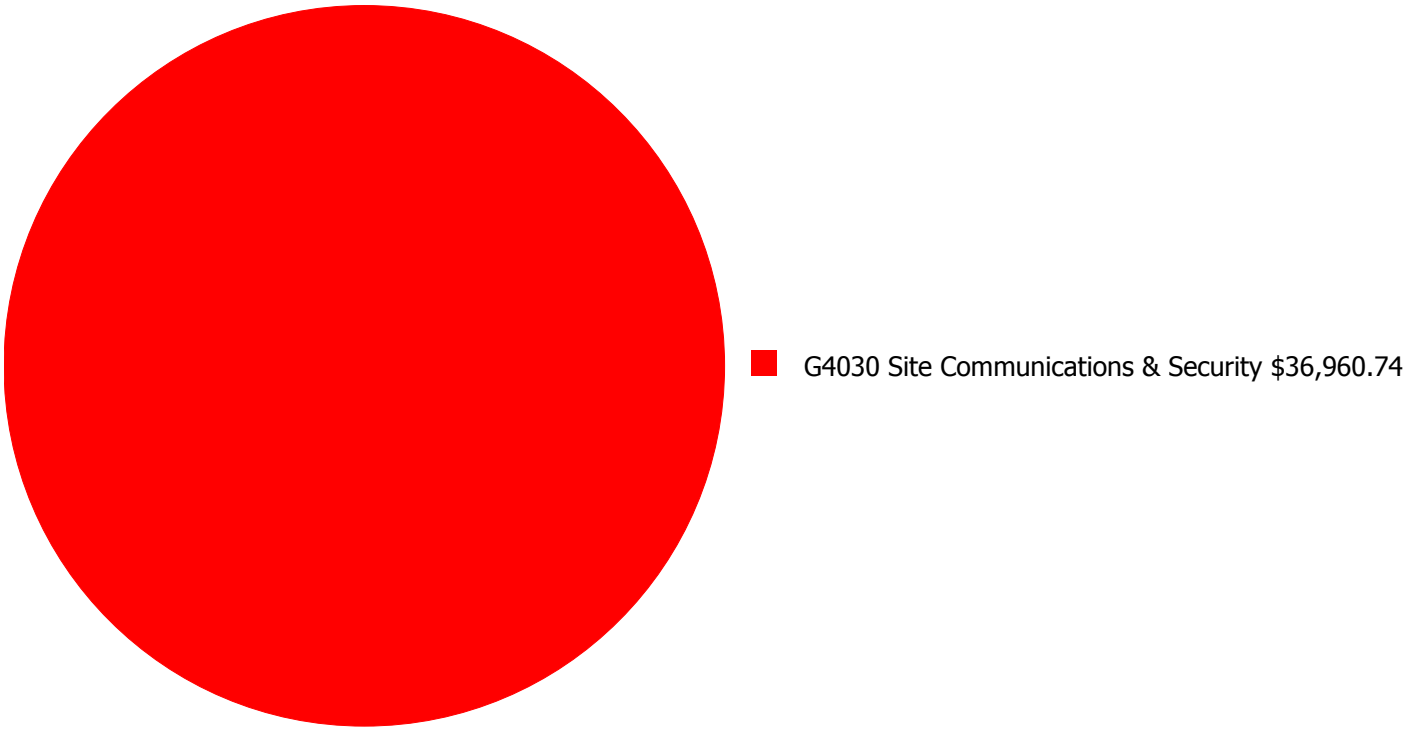
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 2.91%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$26,167.00	0.91 %	$52,334.00	-1.09 %
2017	$0	$26,952.00	-1.09 %	$53,904.00	-5.09 %
2018	$0	$27,760.00	-3.09 %	$55,521.00	-9.09 %
2019	$0	$28,593.00	-5.09 %	$57,186.00	-13.09 %
2020	$297,653	$29,451.00	13.12 %	$58,902.00	3.12 %
2021	$0	$30,335.00	11.12 %	$60,669.00	-0.88 %
2022	$0	$31,245.00	9.12 %	$62,489.00	-4.88 %
2023	$0	$32,182.00	7.12 %	$64,364.00	-8.88 %
2024	$0	$33,147.00	5.12 %	$66,295.00	-12.88 %
2025	$74,216	$34,142.00	7.47 %	$68,284.00	-12.53 %
Total:	**$371,869**	**$299,974.00**		**$599,948.00**	

Deficiency Summary by System

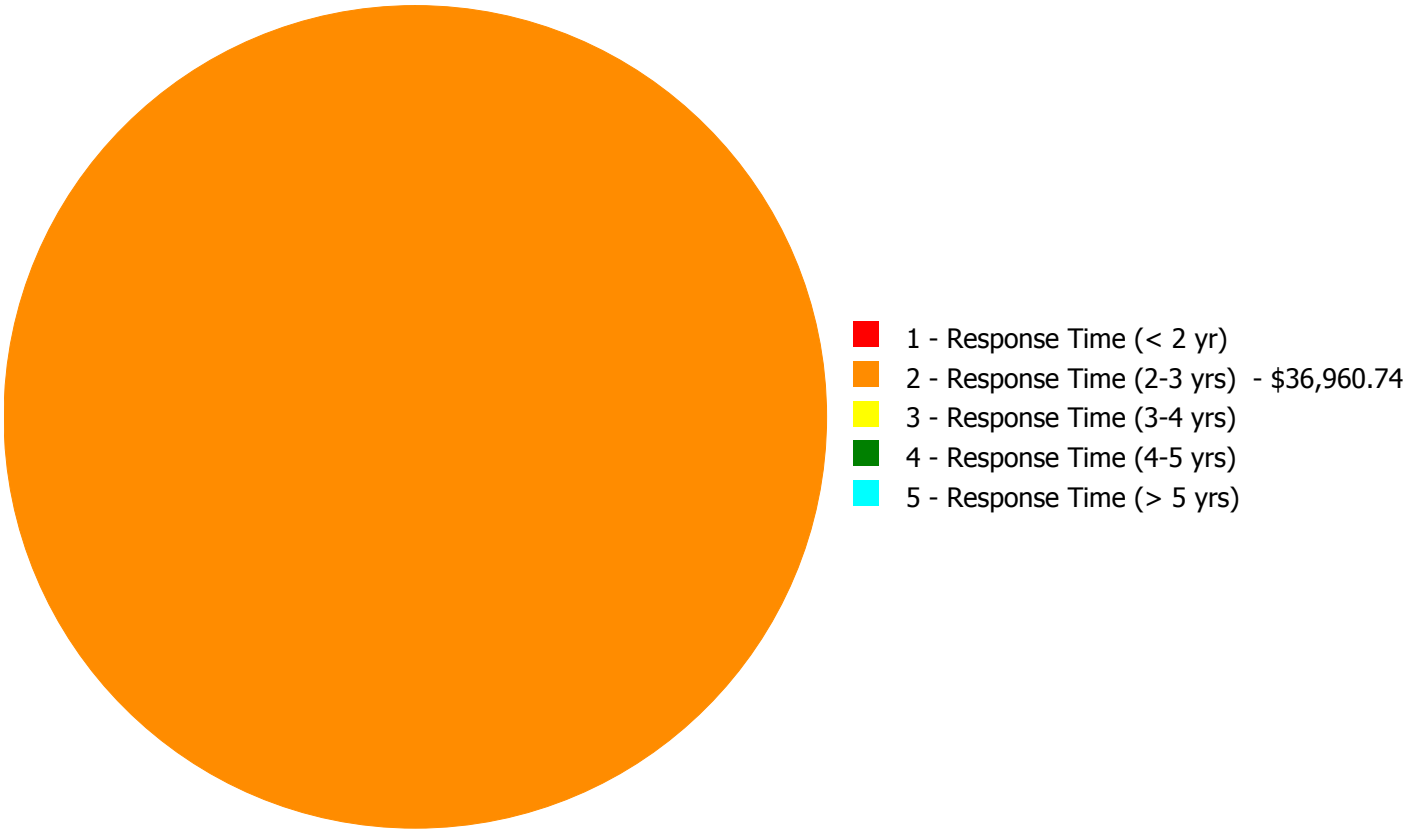
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $36,960.74

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: $36,960.74

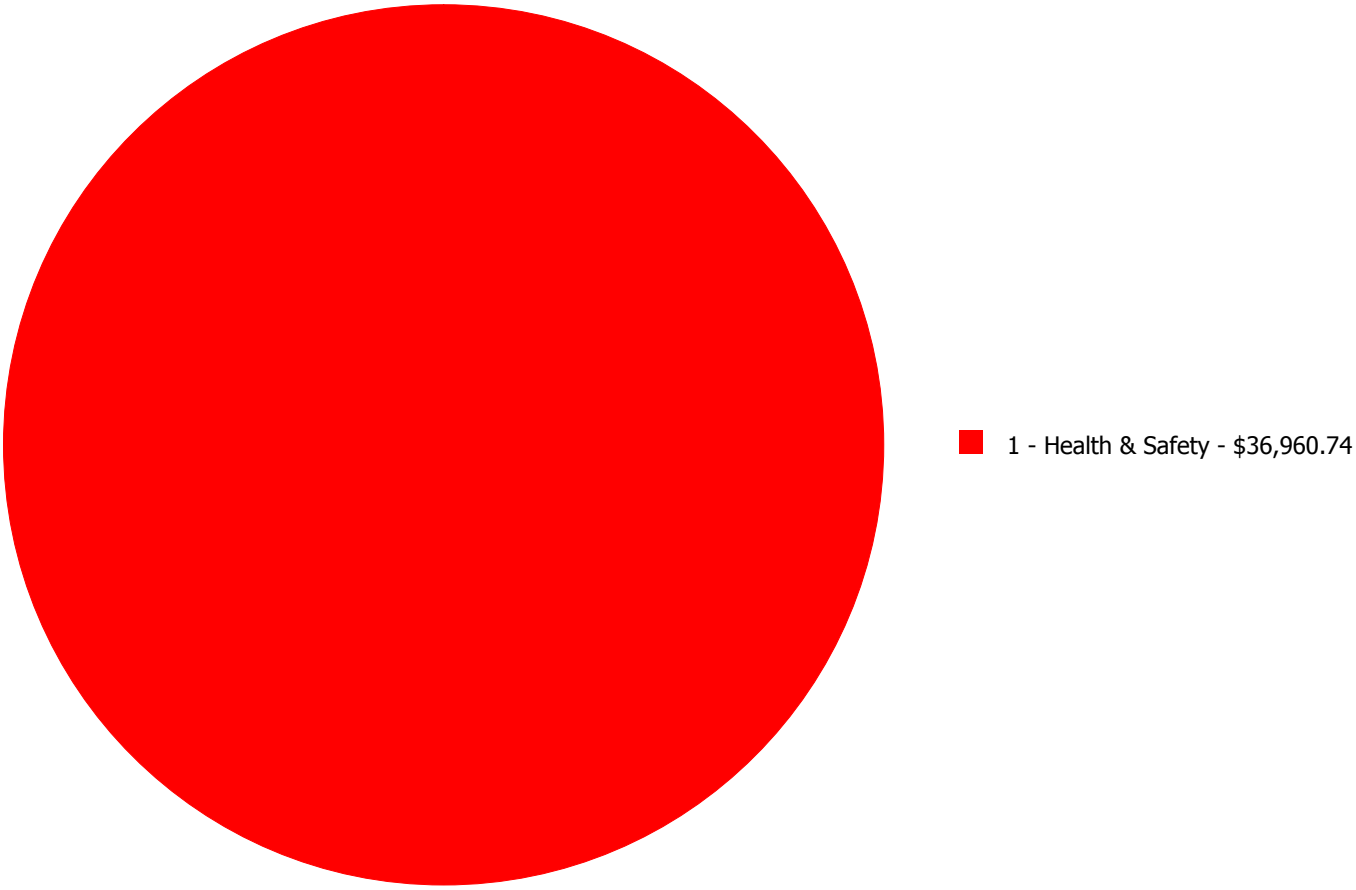
Deficiency By Priority Investment Table

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
G4030	Site Communications & Security	$0.00	$36,960.74	$0.00	$0.00	$0.00	$36,960.74
	Total:	$0.00	$36,960.74	$0.00	$0.00	$0.00	$36,960.74

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: $36,960.74

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: G4030 - Site Communications & Security

Location:	Building perimeter
Distress:	Health Hazard / Risk
Category:	1 - Health & Safety
Priority:	2 - Response Time (2-3 yrs)
Correction:	Add Video Surveillance System
Qty:	3.00
Unit of Measure:	Ea.
Estimate:	$36,960.74
Assessor Name:	Ben Nixon
Date Created:	08/12/2015

Notes: Provide (3) CCTV cameras around the building perimeter to have a complete coverage of the building perimeter.

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