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.

West Philadelphia High School

Governance	DISTRICT	Report Type	High
Address	4901 Chestnut St.	Enrollment	482
	Philadelphia, Pa 19139	Grade Range	'09-12'
Phone/Fax	215-471-2902 / 215-471-6402	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Westphila	Turnaround Model	Turnaround

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	**00.47%**	**$435,672**	**$93,451,195**
Building	00.47 %	$432,371	$91,742,524
Grounds	00.19 %	$3,301	$1,708,671

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.00 %	$0	$3,745,307
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.00 %	$0	$7,344,562
Windows (Shows functionality of exterior windows)	00.00 %	$0	$4,678,758
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$197,215
Interior Doors (Classroom doors)	01.70 %	$10,885	$639,249
Interior Walls (Paint and Finishes)	00.00 %	$0	$2,861,320
Plumbing Fixtures	00.86 %	$19,802	$2,298,576
Boilers	07.27 %	$230,830	$3,174,143
Chillers/Cooling Towers	00.00 %	$0	$4,161,918
Radiators/Unit Ventilators/HVAC	01.23 %	$90,223	$7,308,859
Heating/Cooling Controls	00.02 %	$361	$2,295,176
Electrical Service and Distribution	00.00 %	$0	$1,649,126
Lighting	00.00 %	$0	$5,896,051
Communications and Security (Cameras, Pa System and Fire Alarm)	00.00 %	$0	$2,208,469

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

S102002;West Philadelphia

Final

Site Assessment Report

February 1, 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):	170,013
Year Built:	2011
Last Renovation:	
Replacement Value:	$93,457,998
Repair Cost:	$435,671.88
Total FCI:	0.47 %
Total RSLI:	89.67 %

Description:

Facility Assessment
October 8th, 2015

School District of Philadelphia
West Philadelphia High School
4901 Chestnut Street
Philadelphia, PA 19139

170,013 SF / 965 Students / LN 02

Mr. Richard Toohey FAC, provided input to the assessment team on current problems, Principal Mary Dean provided input about the building as well. Mr. Everett Tyson Building Engineer accompanied us on our tour of the school and provided us with detailed information on the building systems and maintenance history. The school Building suffers from construction deficiencies and lack of maintenance under the prior building engineer.

The 4 story, 170,013 square foot building was constructed in 2011. The 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 damage. The main structure consists of CMU and cast-in-place concrete columns, beams, and one way ribbed slab. The main roof structure is concrete one-way slab supported by the main structural frame with steel truss supported by main structural frame in both gymnasia. Main roofing is built up application in very good condition with glazed sky-lights. The building envelope is masonry with face brick and metal insulated panels in good condition. Windows are single hung, dual pain windows with insect/security screens on lower level. All windows are in very good condition. Exterior doors are hollow metal doors and frames in good condition with glazing on entrance doors. The building is accessible via ramps and grade level entrances.

Partition walls are standard and acoustic CMU with some metal stud and gypsum, and sections of glazed curtain walls in good condition. Interior doors are hollow metal frame with solid core wood doors with glazing in very good condition. Sound proof doors in music classroom and practice rooms have failed door hardware. Doors leading to exit stairways are hollow metal frame with solid core wood doors in very good condition. Interior doors have lever type handles. Fittings include: toilet accessories in very good condition; composite plastic toilet partitions in very good condition; fixed metal wall lockers, handrails and ornamental metals, generally in very good condition. Auditorium also has sound deflection panels hanging from ceiling. Toilet partitions and accessories are ADA accessible. Interior identifying signage is plastic plaques with brail in very good condition.

The interior wall finishes include: ceramic tile wainscot in main entrance, 1st floor corridor, cafeteria, and prep/service area in very good condition; FRP in kitchen in good condition, and painted CMU or gypsum in all other areas in very good condition. Flooring finishes include: bare concrete in storage and service areas; hardwood in dance studio, stage, and both gymnasia; ceramic tile in toilet and showers area; rubber protection tiles in workout room; carpet in IMC and offices, and vinyl tile in classrooms, corridors and other common use spaces. All flooring is in good to very good condition. Ceiling finishes include: suspended acoustic tile system in classrooms, corridors, cafeteria, offices, and kitchen; painted gypsum or structural steel or concrete in toilets, stairways, auditorium, stage, main entryway, locker rooms, both gymnasia, storage, and service areas all in good condition.

The building has two elevators serving 4 floors.

Institutional & commercial equipment includes theater and stage equipment, audio-visual equipment, security equipment, and laboratory equipment all in very good condition. Other equipment includes food service equipment and unit kitchens in good condition.

Fixed furnishings include: window shades and blinds, and fixed casework in classrooms, IMC, lounges, life skills classes and offices; fixed auditorium seating for 480; and foldable bleacher seating for 809 all in very good condition.

MECHANICAL SYSTEMS

Toilet room plumbing fixtures consist of wall hung vitreous china water closets and urinals and lavatories. All fixtures are contemporary low flow models. Flush valves are installed in pipe chases. Lavatories have separate hot and cold spouts with momentary action valves, except for accessible faucets. Several urinals are out of order. Many faucets either leak, do not flow, or both. Life skill classroom kitchenette has a single basin stainless steel sinks with accessible lever handle faucets. The cafeteria kitchen has all stainless steel commercial grade equipment including 4 wall hung lavatories, a 3 basin wash sink with disposal and chemical injection, a 2 basin cook sink with disposal, and 3 single basin cook sinks. Neither disposal works. The disposals should be repaired or replaced. There is a grease trap. Science classroom sinks have cold water faucets with swan neck vacuum breaker spout and many of them have loose mountings or broken vacuum breakers. The safety showers or eye washes are not operable. Many of their valves are missing the handles. They lack floor drains. Safety showers should be repaired and have floor drains installed. Service sinks are floor level plastic basins located in cleaning closets on each floor. They have hot and cold faucets with vacuum breakers. Service sinks are in fair condition. There are 3 locker rooms with showers for men, women, and visitors. Shower nozzles are encrusted with hard water deposits. Drinking fountains are stainless steel, accessible, with integral chillers installed in high and low pairs. They work well and should have 10 more years of service life remaining.

Domestic water distribution pipe is PVC and should be serviceable for 45 more years. Water service enters the building in the boiler room through a 4" line. There is a 4 inch compound water meter with 4 inch bypass line, then a 4 inch reduced pressure backflow preventer with a 2 ½ inch backflow preventer in parallel. The water entry valves and fittings are all in good condition. There is a domestic water pressure booster system with two 5 HP pumps. Even with the booster providing 80 psi pressure in the boiler room, many faucets have insufficient flow. This is probably a construction defect that should have been addressed during commissioning. Domestic water is heated in four 100 gallon Bradford White natural gas water heaters. Next to the water heaters is a thermal expansion tank. There is a circulation pump for the hot water and it was running during the inspection, however many faucets did not have hot water including the principal's office toilet room lavatory. This is likely a construction defect also. The building has a gray water system, but it is completely inoperable. The water tank is cracked and the pumps "trip out" according to the building engineer. The most economical solution is probably to abandon the system and use potable water instead which is the current operation. The hardness of the domestic water is probably causing the faucet leaks and the district should consider installing a water softener for the entire building.

Sanitary waste drain pipe is hubless cast iron with banded couplings. No problems were reported or observed with sanitary drains, and they should last 30 more years. There is no sewage ejector.

Roof drain pipes are hubless cast iron with banded couplings. They run inside the building. Roof top strainers are plastic. There are no overflow drains. In the gym, they cause water damage because they are uninsulated and the cold rain water inside them causes condensate to form on the outside which drips on the floor near the walls. The portions of the rain water drain pipe in the middle of the gym are insulated. The uninsulated pipes near the walls should be insulated. Aside from this, the rain water drain pipes have 30 or more years of lifespan remaining. There are no groundwater sumps.

The building is heated and cooled by forced air from unit ventilators and 10 roof top air handlers.

Hot water is generated by 3 Buderus cast iron boilers, model GE515/11, 1,376 MBH (41 HP) capacity, with Power Flame dual fuel burners. They were installed in 2011 and have 30 years life remaining. The engineer said that the transition to oil is 25°F outside air temperature, and the boilers do not have enough power to heat the building when that happens and the boiler output temperature drops from its normal set point of 165°F to 135°F. The cause for this is probably the outside temperature and not the fuel source. These boilers are really too small for the building, providing only 24 BTU/s.f. at full capacity, and there is no spare equipment. The district should consider either replacing them all with more powerful units or adding a fourth boiler. There are two oil pumps in the boiler room with an 8,000 gallon oil tank buried below the boiler room. Natural gas enters the property through a 6 inch line outside the boiler room and splits into a 6 inch supply for the boilers, a 4 inch supply for the water heaters and kitchen, and a 2 inch supply for the science rooms which is shut off. Combustion make-up air enters the boiler room through automatically controlled louvers. There are 4 base mounted, horizontal end suction, hydronic circulation pumps, 10 HP each. They are in good condition and do not leak. All the circulation pumps should have 25 years life remaining.

Cooling for the building is provided by 2 Carrier model 30 HX water cooled screw chillers with 456 and 246 ton nominal capacities. They are located in the boiler room along with three 25 HP chilled water circulation pumps and three 20 HP cooling tower pumps. The cooling tower is an Evapco stainless steel tower with two 10 HP belt drive fans. Water treatment equipment for the cooling tower is located in the boiler room. All the cooling equipment is in good condition with 20 - 25 years life remaining.

Classrooms are conditioned and ventilated by either vertical, under window, ductless unit ventilators and also horizontal above ceiling ducted unit vents. Ten roof top air handlers supply the rest of the building, including offices, gyms, auditorium, and cafeteria. Supply grilles around the building show excessive amounts of dust build up on ceiling and the grille slats. The principal said her doctor told her the building was making her sick because her respiratory symptoms went away when she was not at work. The office secretary experiences problems as well. The building engineer said he installed the construction spare air filters the previous year. This indicates another problem with building commissioning, that the air filters were never changed upon completion of construction. The entire duct system should be cleaned to remove dust, dirt, and any other respiratory system irritants. The science rooms have their own exhaust system for open front cabinets with roof top fans. The cafeteria kitchen has an exhaust hood for the stove with fire suppression system. There are 24 rooftop exhaust fans and 32 exhaust hoods also with fans. Hydronic distribution pipe is steel. Chilled water system contains ethylene glycol antifreeze. There are two hot water expansion tanks and one chilled water expansion tank, approximately 120 gallons each.

There are 15 minisplit system air conditioners providing cooling for computer equipment rooms with 29.5 ton total capacity. They are in good condition and should operate reliably for at least 5 more years.

HVAC controls are digital and were working well during the inspection. They should provide reliable service for 20 years. There is an air compressor with dryer for the science classroom, but it is not in operation. There is a broken pressure gauge on the domestic booster system and a missing thermometer in the cooling water piping. These instruments should be replaced.

The building has stand pipes and sprinklers. The sprinkler system has a diesel engine driven fire pump and electric jockey pump. All the equipment was installed new in 2011, is in good condition, and should be serviceable for 30 more years.

ELECTRICAL SYSTEMS

A 2000/2667KVA, 13.2KV-277/480V, General Electric unit substation serves this facility. The unit substation is composed of 15KV load interrupter switch, 2000/2667KVA dry type transformer, 3000A main circuit breaker, and 3000A overhead bus bar and 3000A distribution sections. The utility metering PECO 01 412500221 is located next to the unit substation. The unit substation feed the chillers, cooling tower, dimmer rack, power panelboards, step-down transformers and MCCs. Unit substation was installed in 2011 and is expected to provide 30 more years of useful service life.

The electrical distribution is accomplished with three electrical rooms in the first floor, one electrical room in the second and one electrical room in the third floor. The electrical rooms houses a 480/277V and 120/208V panelboards and step-down transformers. The panelboards and transformers were installed in 2011 and are expected to provide 30 more years of useful service life.

The number of receptacles in the classrooms are adequate. There is an average of two receptacles per wall.

The classrooms are illuminated with recessed acrylic fluorescent fixtures, the corridors are illuminated with recessed up/down fluorescent fixtures, the auditorium is illuminated with recessed downlight compact fluorescent fixtures, the cafeteria is illuminated with pendant up/down fluorescent fixtures and the gymnasium is illuminated with pendant mounted HID fixtures. All fluorescent fixtures are provided with T-8 lamps. Fixtures were installed in 2011 and are expected to provide 15 more years of useful service life.

The Fire Alarm system is manufactured by General Electric EST3 and is composed of pull station at each exit door, audio/visual devices at public areas and classrooms, smoke detector at elevator machine room and flow switch at the sprinkler riser. The fire alarm system was installed in 2011 and is expected to provide 10 more years of useful service life.

The present telephone system is adequate. During the assessment, randomly we verified that each wall mounted handset is provided with a dial tone.

An independent and separate PA system does not exist. School uses the telephone systems for public announcement. System is working adequately for most part.

The present clock control system is manufactured by Sapling, wireless, synchronized, battery operated clock system. The clock system was installed in 2011 and is expected to provide 10 more years of useful service life.

There is not television system.

The security system consists of door contacts at exterior doors, motion sensors at exterior windows and surveillance CCTV cameras in corridors and stairways. The security system was installed in 2011 and is expected to provide 10 more years of useful service life.

The emergency power system consists of a diesel powered generator, subbase tank, manufactured by MTU ONSITE ENERGY 600KW/750KVA and two isolation type transfer switches. One transfer switch is dedicated to life safety systems and the other for mechanical equipment. Emergency power system was installed in 2011 and is expected to provide 30 more years of useful service life.

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.

This facility is provided with lightning protection system.

The school is provided with two KONE hydraulic elevator rated 30HP at 480V. Elevator machine rooms are located in the basement level. Elevators and controllers were installed in 2011 and are expected to provide 30 more years of useful service life.

The auditorium is provided with STRAND LIGHTING dimmable theatrical lighting which is composed of spot lights, flood lights and downlights. Building Engineer indicated that the lamps do not last when the dimming system is used. Obtain the service of STRAND LIGHTING to determine the cause of the early failure of the lamps.

The stage sound system is provided by YAMAHA. The system is composed of speakers in the stage and in the auditorium. The volume control is obtained from the stage and the projector room. System works properly.

GROUNDS SYSTEMS

The site surrounds the building on all four sides and is set back from the street. Front entry along Chestnut St. has concrete stairs and stoop in fair condition with spalling and failing rails needing repair. Parking on southwest side is asphalt paving in very good condition and accessible via Chestnut and 50th St. Entry courtyard on west side is concrete and brick paving in very good condition. Metal fencing and gates are in good condition and provide good site security. Landscaping is new and mature trees along streets, parking and in courtyard and grass on west side in good condition.

Accessibility: the building is accessible at all entrances and has accessible routes. Toilets are equipped with accessible fixtures, partitions and accessories, such as grab bars and accessible partitions. Doors in the addition building have lever type door handles.

The school perimeter is illuminated with wall mounted HID fixtures and pole mounted fixtures providing complete coverage.

There are outdoor surveillance CCTV cameras around the building perimeter providing a complete coverage.

There is not wall mounted loud speaker. Since there is not a playground area, loud speaker is not required.

RECOMMENDATIONS

ARCHITECTURAL

- Replace door hardware on soundproof doors
- Repair exterior steps and railing on front entrance

MECHANICAL

- Replace 20% of faucets due to leaks, low flow, or damage, 26
- Repair or replace 2 kitchen disposals
- Install floor drains for safety showers and repair safety shower and eyewash supply valves, 7
- Insulate rain water drain pipes in gym to prevent water damage from condensation, 300 feet
- Add additional boiler to meet building heat demand during cold weather
- Clean ducts to remove dust, dirt, and other respiratory irritants
- Replace broken and missing gauges in boiler room, 1 pressure, 1 thermometer

ELECTRICAL

- Obtain the service of STRAND LIGHTING to determine the cause of the early failure of the theatrical lighting lamps.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 4 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S102002		

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.

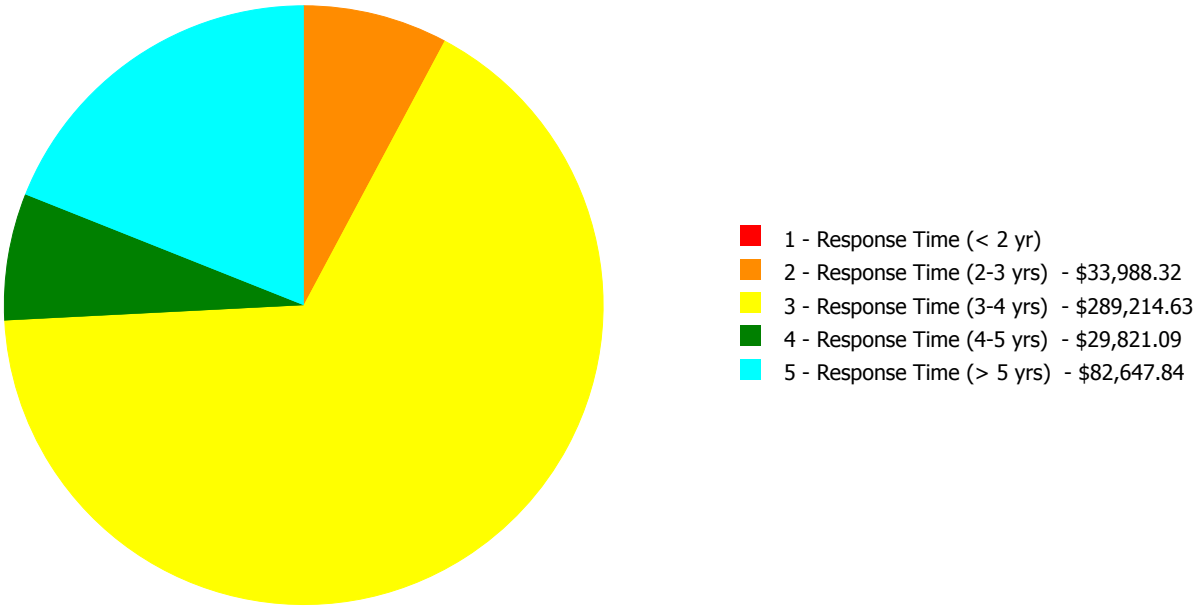
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	96.00 %	0.00 %	$0.00
A20 - Basement Construction	96.00 %	0.00 %	$0.00
B10 - Superstructure	96.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	93.51 %	0.00 %	$0.00
B30 - Roofing	80.02 %	0.00 %	$0.00
C10 - Interior Construction	94.56 %	0.23 %	$10,885.14
C20 - Stairs	93.68 %	0.00 %	$0.00
C30 - Interior Finishes	76.79 %	0.00 %	$0.00
D10 - Conveying	88.57 %	0.00 %	$0.00
D20 - Plumbing	90.82 %	2.14 %	$70,611.41
D30 - HVAC	88.34 %	1.70 %	$321,413.66
D40 - Fire Protection	91.43 %	0.00 %	$0.00
D50 - Electrical	84.84 %	0.00 %	$0.00
E10 - Equipment	88.57 %	1.09 %	$29,460.36
E20 - Furnishings	90.00 %	0.00 %	$0.00
G20 - Site Improvements	84.95 %	0.27 %	$3,301.31
G40 - Site Electrical Utilities	90.00 %	0.00 %	$0.00
Totals:	**89.67 %**	**0.47 %**	**$435,671.88**

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)
B102002;West Philadelphia	170,013	0.47	$0.00	$30,687.01	$289,214.63	$29,821.09	$82,647.84
G102002;Grounds	106,500	0.19	$0.00	$3,301.31	$0.00	$0.00	$0.00
Total:		**0.47**	**$0.00**	**$33,988.32**	**$289,214.63**	**$29,821.09**	**$82,647.84**

Deficiencies By Priority



Budget Estimate Total: $435,671.88

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:	High School
Gross Area (SF):	170,013
Year Built:	2011
Last Renovation:	
Replacement Value:	$91,749,327
Repair Cost:	$432,370.57
Total FCI:	0.47 %
Total RSLI:	89.73 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B102002
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S102002		

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	96.00 %	0.00 %	$0.00
A20 - Basement Construction	96.00 %	0.00 %	$0.00
B10 - Superstructure	96.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	93.51 %	0.00 %	$0.00
B30 - Roofing	80.02 %	0.00 %	$0.00
C10 - Interior Construction	94.56 %	0.23 %	$10,885.14
C20 - Stairs	93.68 %	0.00 %	$0.00
C30 - Interior Finishes	76.79 %	0.00 %	$0.00
D10 - Conveying	88.57 %	0.00 %	$0.00
D20 - Plumbing	90.82 %	2.14 %	$70,611.41
D30 - HVAC	88.34 %	1.70 %	$321,413.66
D40 - Fire Protection	91.43 %	0.00 %	$0.00
D50 - Electrical	84.84 %	0.00 %	$0.00
E10 - Equipment	88.57 %	1.09 %	$29,460.36
E20 - Furnishings	90.00 %	0.00 %	$0.00
Totals:	**89.73 %**	**0.47 %**	**$432,370.57**

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	$27.30	S.F.	170,013	100	2011	2111		96.00 %	0.00 %	96			$4,641,355
A1030	Slab on Grade	$5.17	S.F.	170,013	100	2011	2111		96.00 %	0.00 %	96			$878,967
A2010	Basement Excavation	$4.36	S.F.	170,013	100	2011	2111		96.00 %	0.00 %	96			$741,257
A2020	Basement Walls	$9.91	S.F.	170,013	100	2011	2111		96.00 %	0.00 %	96			$1,684,829
B1010	Floor Construction	$85.34	S.F.	170,013	100	2011	2111		96.00 %	0.00 %	96			$14,508,909
B1020	Roof Construction	$14.39	S.F.	170,013	100	2011	2111		96.00 %	0.00 %	96			$2,446,487
B2010	Exterior Walls	$43.20	S.F.	170,013	100	2011	2111		96.00 %	0.00 %	96			$7,344,562
B2020	Exterior Windows	$27.52	S.F.	170,013	40	2011	2051		90.00 %	0.00 %	36			$4,678,758
B2030	Exterior Doors	$1.16	S.F.	170,013	25	2011	2036		84.00 %	0.00 %	21			$197,215
B3010105	Built-Up	$37.76	S.F.	98,917	20	2011	2031		80.00 %	0.00 %	16			$3,735,106
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	170,013	30	2011	2041		86.67 %	0.00 %	26			$10,201
C1010	Partitions	$21.05	S.F.	170,013	100	2011	2111		96.00 %	0.00 %	96			$3,578,774
C1020	Interior Doors	$3.76	S.F.	170,013	40	2011	2051		90.00 %	1.70 %	36		$10,885.14	$639,249
C1030	Fittings	$2.90	S.F.	170,013	40	2011	2051		90.00 %	0.00 %	36			$493,038
C2010	Stair Construction	$1.18	S.F.	170,013	100	2011	2111		96.00 %	0.00 %	96			$200,615

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System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C2020	Stair Finishes	$0.39	S.F.	170,013	30	2011	2041		86.67 %	0.00 %	26			$66,305
C3010230	Paint & Covering	$16.13	S.F.	170,013	10	2011	2021		60.00 %	0.00 %	6			$2,742,310
C3010231	Vinyl Wall Covering	$0.35	S.F.	170,013	15	2011	2026		73.33 %	0.00 %	11			$59,505
C3010232	Wall Tile	$0.35	S.F.	170,013	30	2011	2041		86.67 %	0.00 %	26			$59,505
C3020411	Carpet	$7.30	S.F.	8,501	10	2011	2021		60.00 %	0.00 %	6			$62,057
C3020412	Terrazzo & Tile	$75.52	S.F.	11,901	50	2011	2061		92.00 %	0.00 %	46			$898,764
C3020413	Vinyl Flooring	$9.68	S.F.	119,009	20	2011	2031		80.00 %	0.00 %	16			$1,152,007
C3020414	Wood Flooring	$22.27	S.F.	22,102	25	2011	2036		84.00 %	0.00 %	21			$492,212
C3020415	Concrete Floor Finishes	$0.97	S.F.	8,501	50	2011	2061		92.00 %	0.00 %	46			$8,246
C3030	Ceiling Finishes	$20.97	S.F.	170,013	25	2011	2036		84.00 %	0.00 %	21			$3,565,173
D1010	Elevators and Lifts	$1.28	S.F.	170,013	35	2011	2046		88.57 %	0.00 %	31			$217,617
D2010	Plumbing Fixtures	$13.52	S.F.	170,013	35	2012	2047		91.43 %	0.86 %	32		$19,801.87	$2,298,576
D2020	Domestic Water Distribution	$1.68	S.F.	170,013	25	2012	2037		88.00 %	0.00 %	22			$285,622
D2030	Sanitary Waste	$2.32	S.F.	170,013	30	2012	2042		90.00 %	12.88 %	27		$50,809.54	$394,430
D2040	Rain Water Drainage	$1.90	S.F.	170,013	30	2012	2042		90.00 %	0.00 %	27			$323,025
D3020	Heat Generating Systems	$18.67	S.F.	170,013	35	2012	2047		91.43 %	7.27 %	32		$230,829.50	$3,174,143
D3030	Cooling Generating Systems	$24.48	S.F.	170,013	30	2012	2042		90.00 %	0.00 %	27			$4,161,918
D3040	Distribution Systems	$42.99	S.F.	170,013	25	2012	2037		88.00 %	1.23 %	22		$90,223.43	$7,308,859
D3050	Terminal & Package Units	$11.60	S.F.	170,013	20	2012	2032		85.00 %	0.00 %	17			$1,972,151
D3060	Controls & Instrumentation	$13.50	S.F.	170,013	20	2012	2032		85.00 %	0.02 %	17		$360.73	$2,295,176
D4010	Sprinklers	$7.05	S.F.	170,013	35	2012	2047		91.43 %	0.00 %	32			$1,198,592
D4020	Standpipes	$1.01	S.F.	170,013	35	2012	2047		91.43 %	0.00 %	32			$171,713
D5010	Electrical Service/Distribution	$9.70	S.F.	170,013	30	2012	2042		90.00 %	0.00 %	27			$1,649,126
D5020	Lighting and Branch Wiring	$34.68	S.F.	170,013	20	2012	2032		85.00 %	0.00 %	17			$5,896,051
D5030	Communications and Security	$12.99	S.F.	170,013	15	2012	2027		80.00 %	0.00 %	12			$2,208,469
D5090	Other Electrical Systems	$1.41	S.F.	170,013	30	2012	2042		90.00 %	0.00 %	27			$239,718
E1020	Institutional Equipment	$4.82	S.F.	170,013	35	2011	2046		88.57 %	3.60 %	31		$29,460.36	$819,463
E1090	Other Equipment	$11.10	S.F.	170,013	35	2011	2046		88.57 %	0.00 %	31			$1,887,144
E2010	Fixed Furnishings	$2.13	S.F.	170,013	40	2011	2051		90.00 %	0.00 %	36			$362,128
								Total	**89.73 %**	**0.47 %**			**$432,370.57**	**$91,749,327**

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.

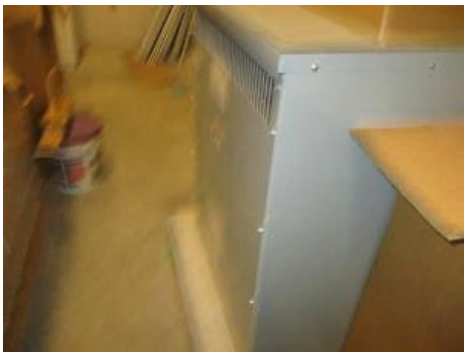
System: C3010 - Wall Finishes — This system contains no images

Note: 96% - Paint & Covering
2% - Vinyl Wall Covering
2% - Wall Tile

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

Note: 5% - Carpet
7% - Terrazzo & Tile (ceramic)
70% - Vinyl Flooring
13% - Wood Flooring
5% - Concrete Floor Finishes

System: D5010 - Electrical Service/Distribution

Note: 225KVA, 112.5KVA and 75KVA step-down transformers 480V-120/208V

Renewal Schedule

eCOMET forecasts future Capital Renewal funding needed to address expiring systems based on the Next Renewal year found in the Cost Models. A 3% annual inflation factor is applied to the costs for systems expiring in future years. The table below reflects recommended Capital Renewal funding needs over the next 10 years. Note: Cells with a zero value indicate systems for which renewal is not scheduled in that year.

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$432,371**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,683,417**	**$0**	**$0**	**$0**	**$0**	**$4,115,788**
*** 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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

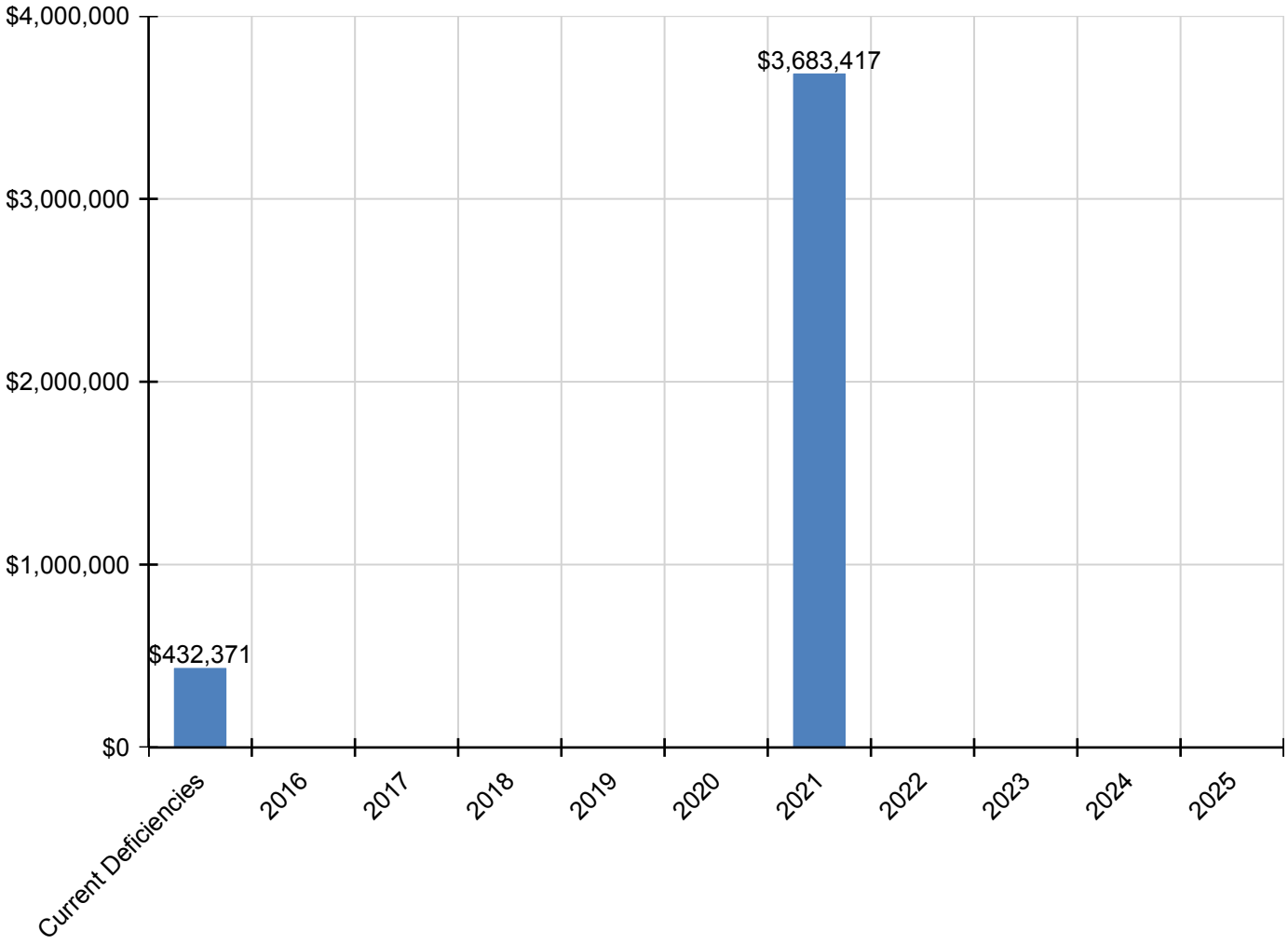
C1020 - Interior Doors	$10,885	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$10,885**
C1030 - Fittings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2020 - Stair Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$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	$3,601,908	$0	$0	$0	$0	**$3,601,908**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$81,510	$0	$0	$0	$0	**$81,510**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$19,802	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$19,802**
D2020 - Domestic Water Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2030 - Sanitary Waste	$50,810	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$50,810**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$230,830	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$230,830**
D3030 - Cooling Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3040 - Distribution Systems	$90,223	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$90,223**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$361	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$361**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5020 - Lighting and Branch Wiring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5030 - Communications and Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5090 - Other Electrical Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$29,460	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$29,460**
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

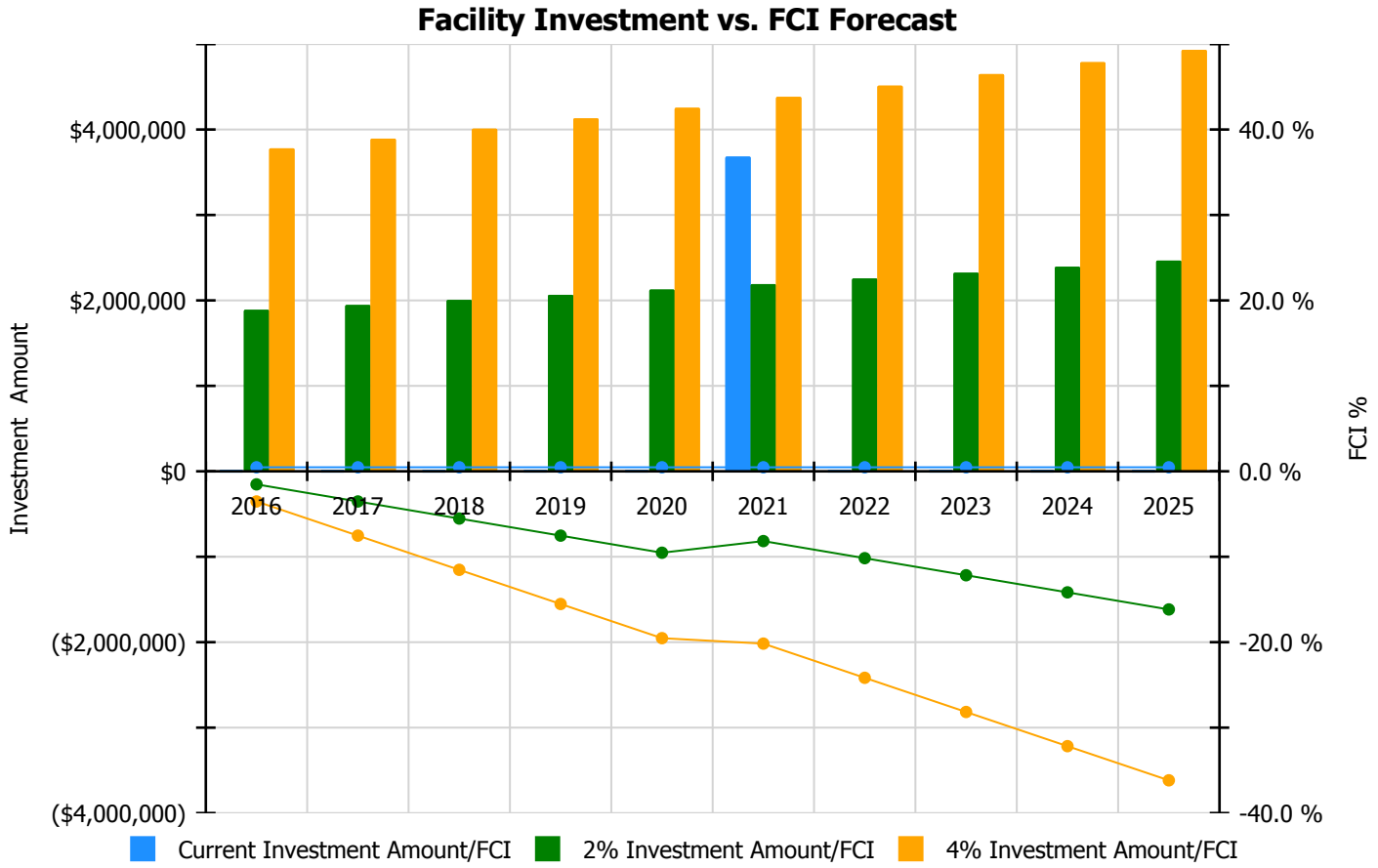
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

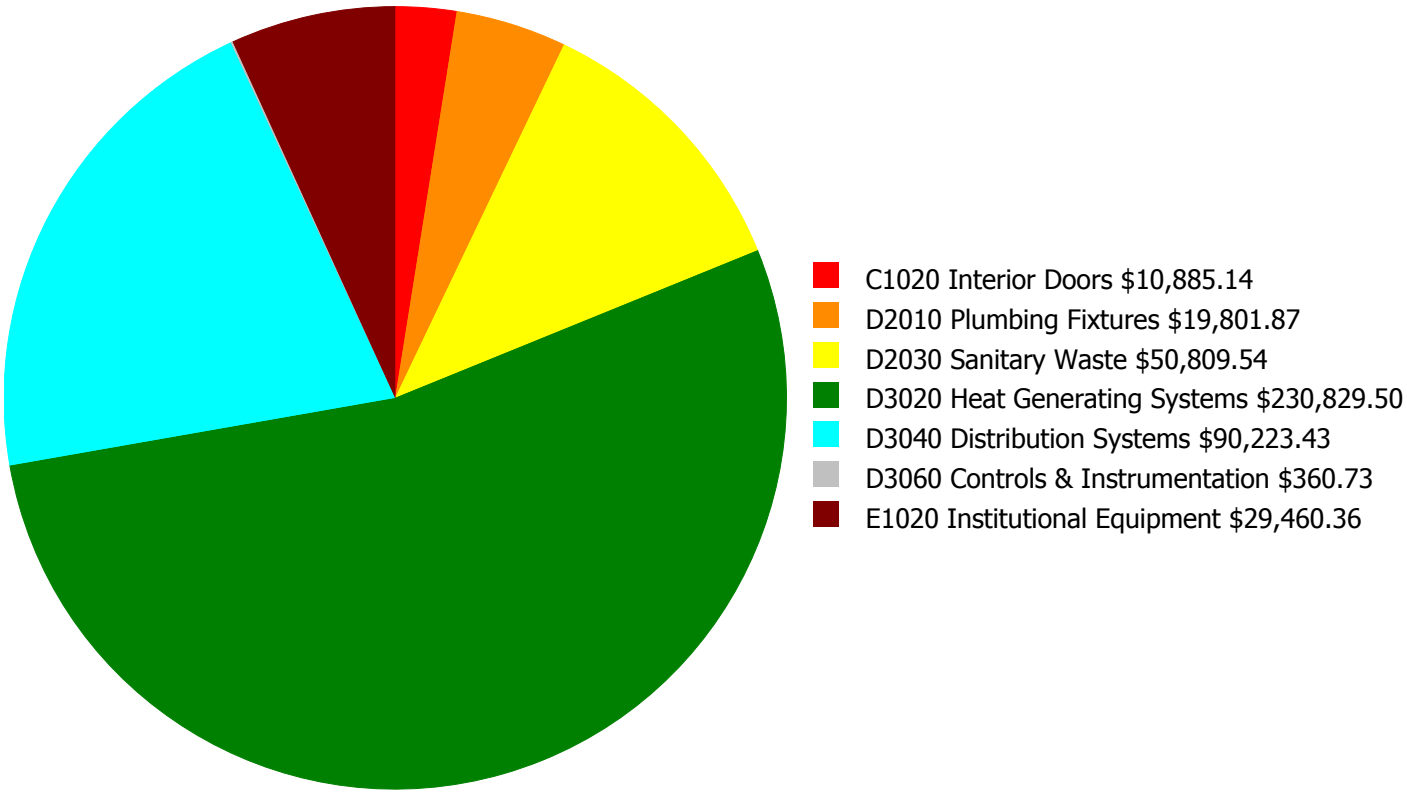
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 0.47%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$1,890,036.00	-1.53 %	$3,780,072.00	-3.53 %
2017	$0	$1,946,737.00	-3.53 %	$3,893,474.00	-7.53 %
2018	$0	$2,005,139.00	-5.53 %	$4,010,279.00	-11.53 %
2019	$0	$2,065,294.00	-7.53 %	$4,130,587.00	-15.53 %
2020	$0	$2,127,252.00	-9.53 %	$4,254,505.00	-19.53 %
2021	$3,683,417	$2,191,070.00	-8.17 %	$4,382,140.00	-20.17 %
2022	$0	$2,256,802.00	-10.17 %	$4,513,604.00	-24.17 %
2023	$0	$2,324,506.00	-12.17 %	$4,649,012.00	-28.17 %
2024	$0	$2,394,241.00	-14.17 %	$4,788,482.00	-32.17 %
2025	$0	$2,466,068.00	-16.17 %	$4,932,137.00	-36.17 %
Total:	**$3,683,417**	**$21,667,145.00**		**$43,334,292.00**	

Deficiency Summary by System

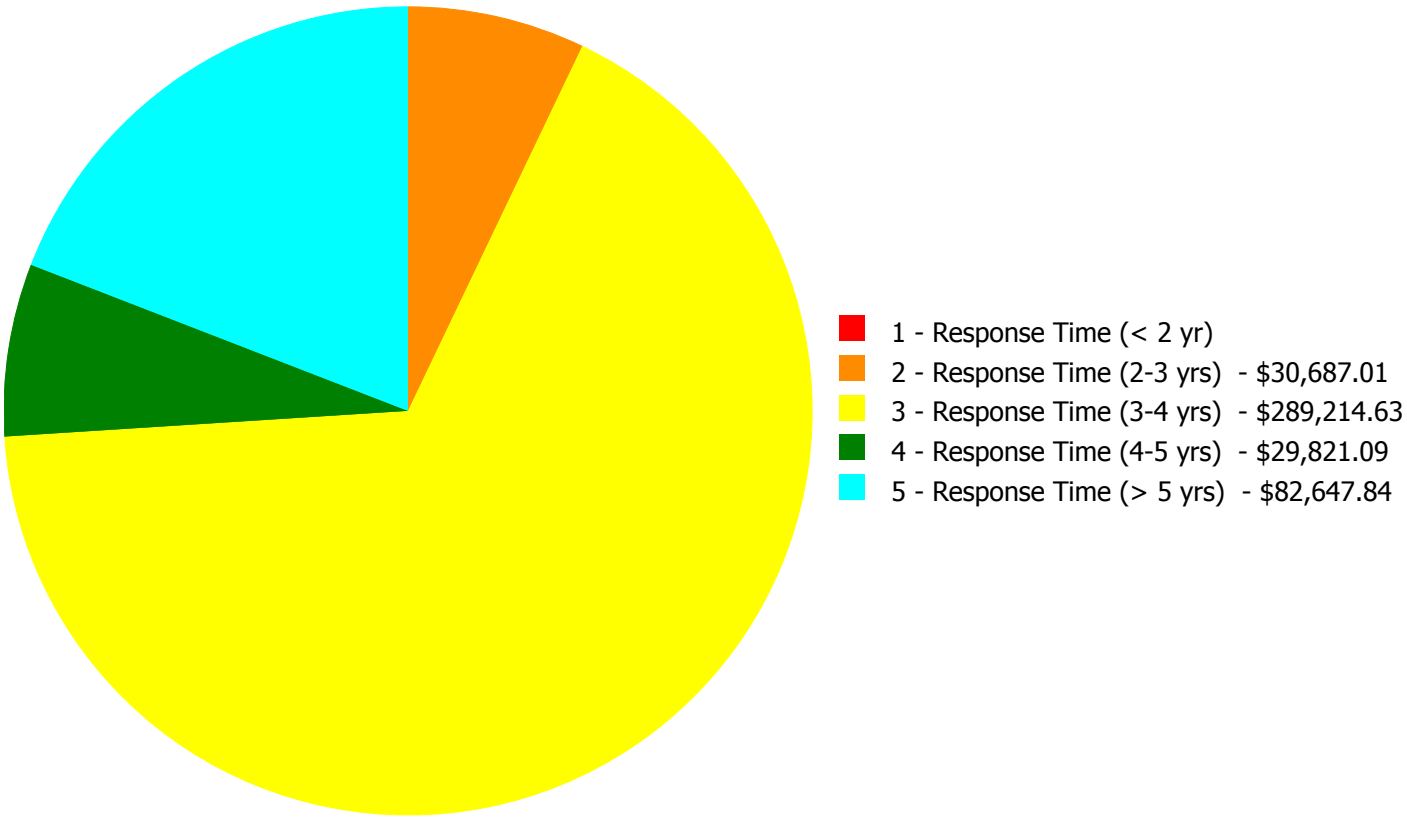
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $432,370.57

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: $432,370.57

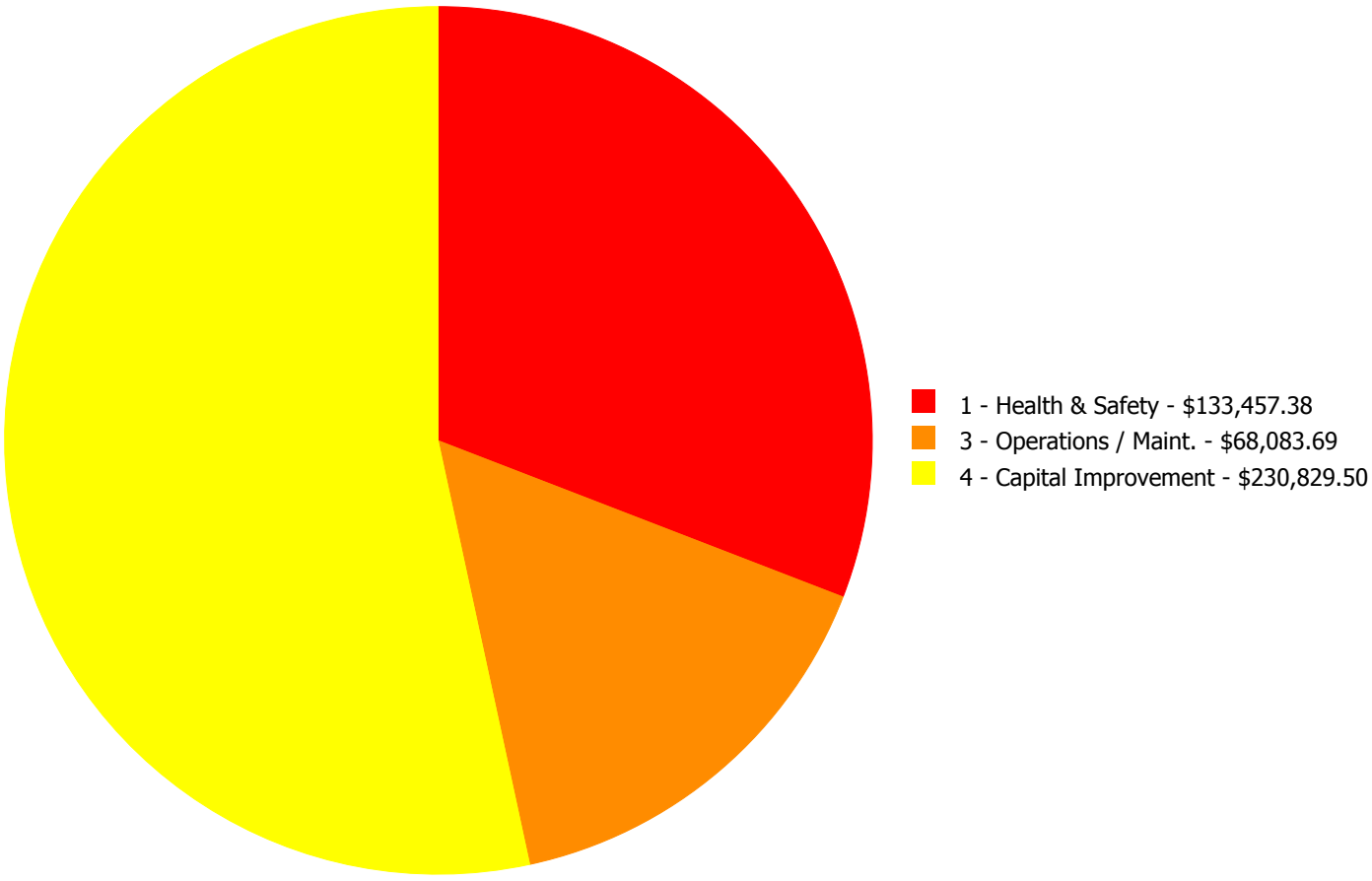
Deficiency By Priority Investment Table

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
C1020	Interior Doors	$0.00	$10,885.14	$0.00	$0.00	$0.00	$10,885.14
D2010	Plumbing Fixtures	$0.00	$19,801.87	$0.00	$0.00	$0.00	$19,801.87
D2030	Sanitary Waste	$0.00	$0.00	$50,809.54	$0.00	$0.00	$50,809.54
D3020	Heat Generating Systems	$0.00	$0.00	$230,829.50	$0.00	$0.00	$230,829.50
D3040	Distribution Systems	$0.00	$0.00	$7,575.59	$0.00	$82,647.84	$90,223.43
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$360.73	$0.00	$360.73
E1020	Institutional Equipment	$0.00	$0.00	$0.00	$29,460.36	$0.00	$29,460.36
	Total:	$0.00	$30,687.01	$289,214.63	$29,821.09	$82,647.84	$432,370.57

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: $432,370.57

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: C1020 - Interior Doors

Location: Music room
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Provide security hardware for classroom and office doors
Qty: 6.00
Unit of Measure: Ea.
Estimate: $10,885.14
Assessor Name: Ben Nixon
Date Created: 11/18/2015

Notes: Replace door hardware on soundproof doors

System: D2010 - Plumbing Fixtures

Location: Kitchen
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Replace lavatory faucet
Qty: 2.00
Unit of Measure: Ea.
Estimate: $12,914.13
Assessor Name: James Sullivan
Date Created: 01/25/2016

Notes: Repair or replace 2 kitchen disposals

System: D2010 - Plumbing Fixtures

Location: Entire building

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace lavatory faucet

Qty: 26.00

Unit of Measure: Ea.

Estimate: $6,887.74

Assessor Name: James Sullivan

Date Created: 01/25/2016

Notes: Replace 20% of faucets due to leaks

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

System: D2030 - Sanitary Waste

Location: Science rooms

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Install floor drains in restrooms - upper floors

Qty: 7.00

Unit of Measure: Ea.

Estimate: $50,809.54

Assessor Name: James Sullivan

Date Created: 01/25/2016

Notes: Install floor drains for safety showers and repair safety shower and eyewash supply valves

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace boiler, cast iron sectional (50 HP)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $230,829.50

Assessor Name: James Sullivan

Date Created: 01/25/2016

Notes: Add additional boiler to meet building heat demand during cold weather

System: D3040 - Distribution Systems

Location: Gym

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

Correction: Replace hydronic distribution piping insulation - 100 LF of piping

Qty: 300.00

Unit of Measure: L.F.

Estimate: $7,575.59

Assessor Name: James Sullivan

Date Created: 01/25/2016

Notes: Insulate rain water drain pipes to prevent water damage from condensation

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

System: D3060 - Controls & Instrumentation

Location: Boiler room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace temperature, pressure gauges (enter estimate)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $360.73

Assessor Name: James Sullivan

Date Created: 01/25/2016

Notes: Replace broken and missing gauges in boiler room

System: E1020 - Institutional Equipment

Location: Auditorium

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $29,460.36

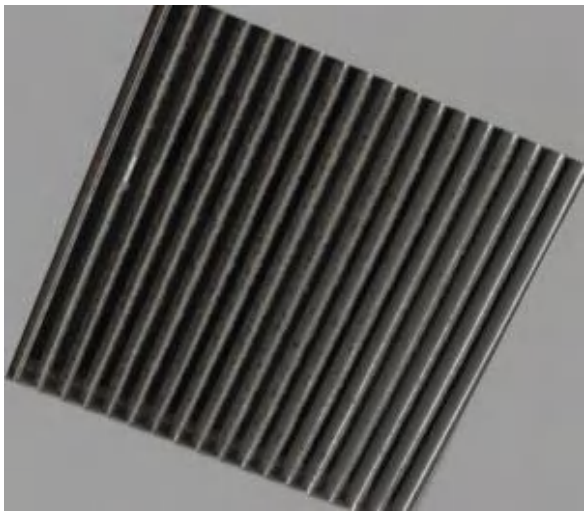
Assessor Name: Eduardo Zambrano

Date Created: 12/30/2015

Notes: Obtain the service of STRAND LIGHTING to determine the cause of the early failure of the theatrical lighting lamps.

Priority 5 - Response Time (> 5 yrs):

System: D3040 - Distribution Systems



Location: Entire building

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

Correction: Clean ductwork (per 1,000 SF Flr)

Qty: 11,367.42

Unit of Measure: SF Flr.

Estimate: $82,647.84

Assessor Name: Craig Anding

Date Created: 01/25/2016

Notes: Clean ducts to remove dust, dirt, and other respiratory irritants

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 elevators, base unit, standard finish, 1500 lb, 100 fpm, 2 stop	1.00	Ea.	Basement elevator machine room					35	2011	2046	$61,999.00	$68,198.90
D2020 Domestic Water Distribution	Pump, pressure booster system, 5 HP pump, includes diaphragm tank, control and pressure switch	1.00	Ea.	Boiler room					25	2012	2037	$10,972.50	$12,069.75
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, hot water, gross output, 1460 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Boiler room	Buderus	GE515/11	2530-005-000021-5086708		35	2012	2047	$55,514.90	$183,199.17
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, hot water, gross output, 1460 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Boiler room	Buderus	GE515/11	2530-005-000020-5086708		35	2012	2047	$55,514.90	$183,199.17
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, hot water, gross output, 1460 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Boiler room	Buderus	GE515/11	2530-005-000022-5086708		35	2012	2047	$55,514.90	$183,199.17
D3030 Cooling Generating Systems	Cooling tower, packaged unit, stainless steel, induced draft, crossflow, horizontal, gear drive, 849 ton, includes standard controls, excludes pumps and piping	1.00	Ea.	Lower roof					30	2012	2042	$161,122.50	$177,234.75
D3030 Cooling Generating Systems	Water chiller, centrifugal liquid chiller, packaged unit, water cooled, 450 ton, includes standard controls, excludes water tower	1.00	Ea.	Boiler room					30	2012	2042	$202,554.00	$222,809.40
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, air cooled, insulated evaporator, 270 ton, includes standard controls	1.00	Ea.	Boiler room					30	2012	2042	$202,554.00	$222,809.40
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, constant volume, single zone, 10,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Lower roof					25	2012	2037	$69,052.50	$75,957.75
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, constant volume, single zone, 10,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Lower roof					25	2012	2037	$69,052.50	$75,957.75
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, constant volume, single zone, 10,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Upper roof					25	2012	2037	$69,052.50	$75,957.75

D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, constant volume, single zone, 10,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Upper roof					25	2012	2037	$69,052.50	$75,957.75
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, constant volume, single zone, 10,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Upper roof					25	2012	2037	$69,052.50	$75,957.75
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, constant volume, single zone, 15,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Lower roof					25	2012	2037	$99,742.50	$109,716.75
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, constant volume, single zone, 15,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Lower roof					25	2012	2037	$99,742.50	$109,716.75
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, constant volume, single zone, 20,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Lower roof					25	2012	2037	$136,570.50	$150,227.55
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, variable air volume, single zone, 30,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Upper roof					25	2012	2037	$184,140.00	$202,554.00
D3040 Distribution Systems	Air handling unit, packaged weatherproof, with cooling/heating coil section, filters, mixing box, variable air volume, single zone, 30,000 CFM, cooling coils may be chilled water or DX, heating coils may be hot water, steam or electric	1.00	Ea.	Lower roof					25	2012	2037	$184,140.00	$202,554.00
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 10 H.P., to 600 GPM, 5" size	4.00	Ea.	Boiler room					25	2012	2037	$19,608.00	$86,275.20
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 20 H.P., to 1350 GPM, 6" size	3.00	Ea.	Boiler room					25	2012	2037	$23,598.00	$77,873.40
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 25 H.P., to 1550 GPM, 6" size	3.00	Ea.	Boiler room					25	2012	2037	$26,334.00	$86,902.20
D4010 Sprinklers	Fire pumps, diesel, 1000 GPM, 200 psi, 280 HP, 5" pump, including controller, fittings and relief valve	1.00	Ea.	Fire pump room					35	2012	2047	$81,288.00	$89,416.80
D5010 Electrical Service/Distribution	Bus duct, aluminum, 3 pole 4 wire, indoor, feeder, 3000 amp	1.00	L.F.	Basement electrical room					30	2012	2042	$763.83	$840.21

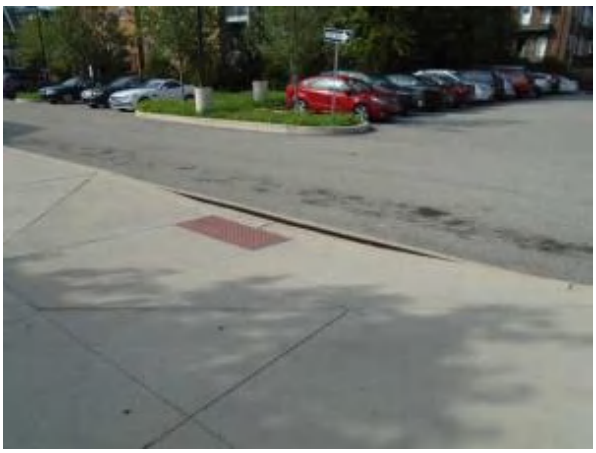
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 300 kVA & below, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	1.00	Ea.	Basement electrical room					30	2012	2042	$42,600.60	$46,860.66
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 3000 amp, excl breakers	1.00	Ea.	Basement electrical room					30	2012	2042	$10,743.30	$11,817.63
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 3000 amp, excl breakers	1.00	Ea.	Basement electrical room					30	2012	2042	$10,743.30	$11,817.63
D5010 Electrical Service/Distribution	Transformer, oil-filled, 15 kV with taps, 480 V secondary 3 phase, 2000 kVA, pad mounted	1.00	Ea.	Basement electrical room					30	2012	2042	$68,931.00	$75,824.10
D5090 Other Electrical Systems	Generator set, diesel, 3 phase 4 wire, 277/480 V, 600 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	Ea.	Basement generator room					30	2012	2042	$167,049.00	$183,753.90
												Total:	**$3,078,659.24**

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):	106,500
Year Built:	2011
Last Renovation:	
Replacement Value:	$1,708,671
Repair Cost:	$3,301.31
Total FCI:	0.19 %
Total RSLI:	86.32 %



Description:

Attributes:

General Attributes:

Bldg ID:	S102002	Site ID:	S102002

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	84.95 %	0.27 %	$3,301.31
G40 - Site Electrical Utilities	90.00 %	0.00 %	$0.00
Totals:	**86.32 %**	**0.19 %**	**$3,301.31**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30	2011	2041		86.67 %	0.00 %	26			$0
G2020	Parking Lots	$7.65	S.F.	20,800	30	2011	2041		86.67 %	0.00 %	26			$159,120
G2030	Pedestrian Paving	$11.52	S.F.	38,500	40	2011	2051		90.00 %	0.74 %	36		$3,301.31	$443,520
G2040	Site Development	$4.36	S.F.	106,500	25	2011	2036		84.00 %	0.00 %	21			$464,340
G2050	Landscaping & Irrigation	$3.78	S.F.	47,200	15	2011	2026		73.33 %	0.00 %	11			$178,416
G4020	Site Lighting	$3.58	S.F.	106,500	30	2012	2042	2042	90.00 %	0.00 %	27			$381,270
G4030	Site Communications & Security	$0.77	S.F.	106,500	30	2012	2042	2042	90.00 %	0.00 %	27			$82,005
								Total	**86.32 %**	**0.19 %**			**$3,301.31**	**$1,708,671**

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.

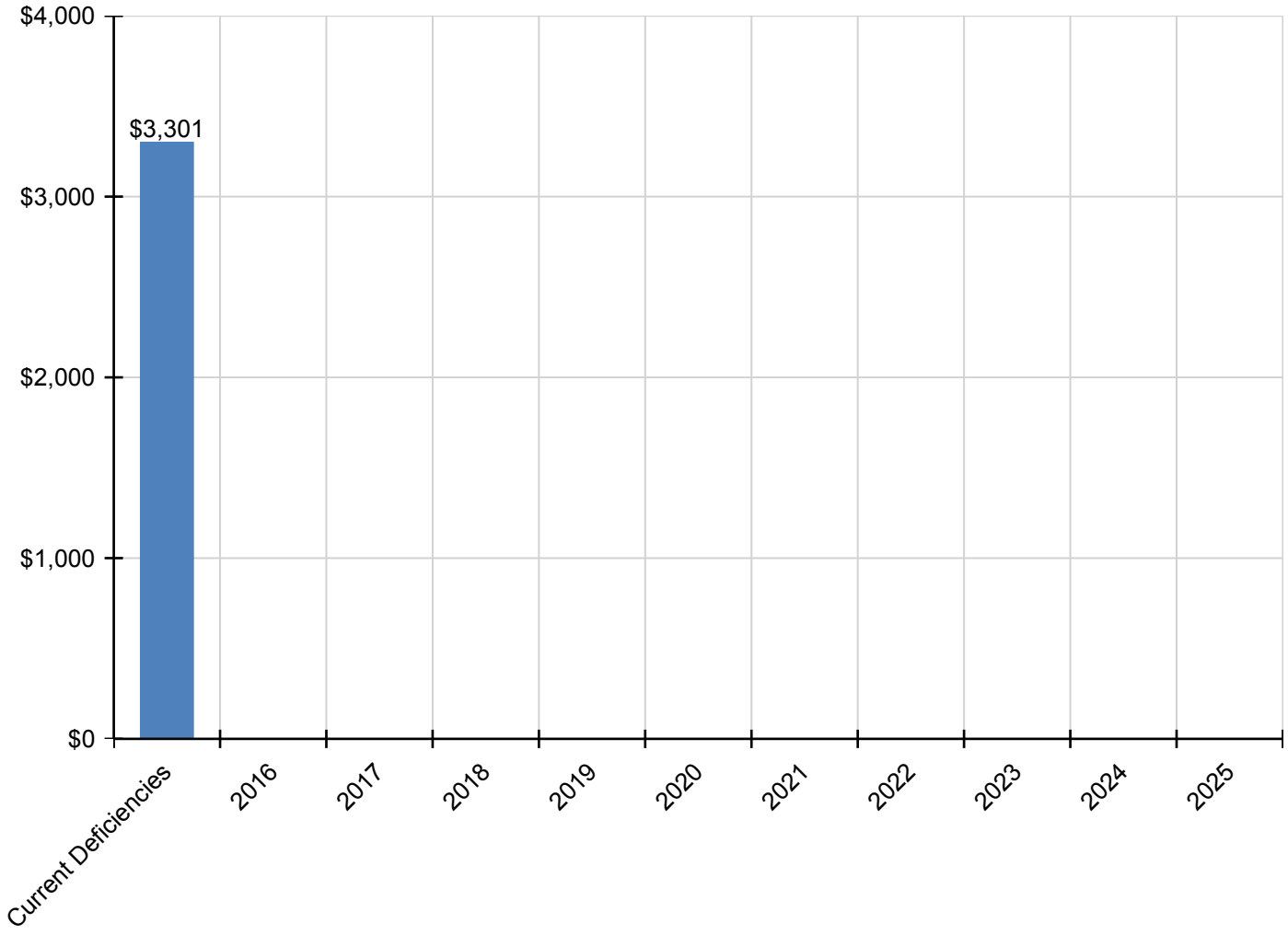
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$3,301**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$3,301**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2010 - Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2030 - Pedestrian Paving	$3,301	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,301**
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	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

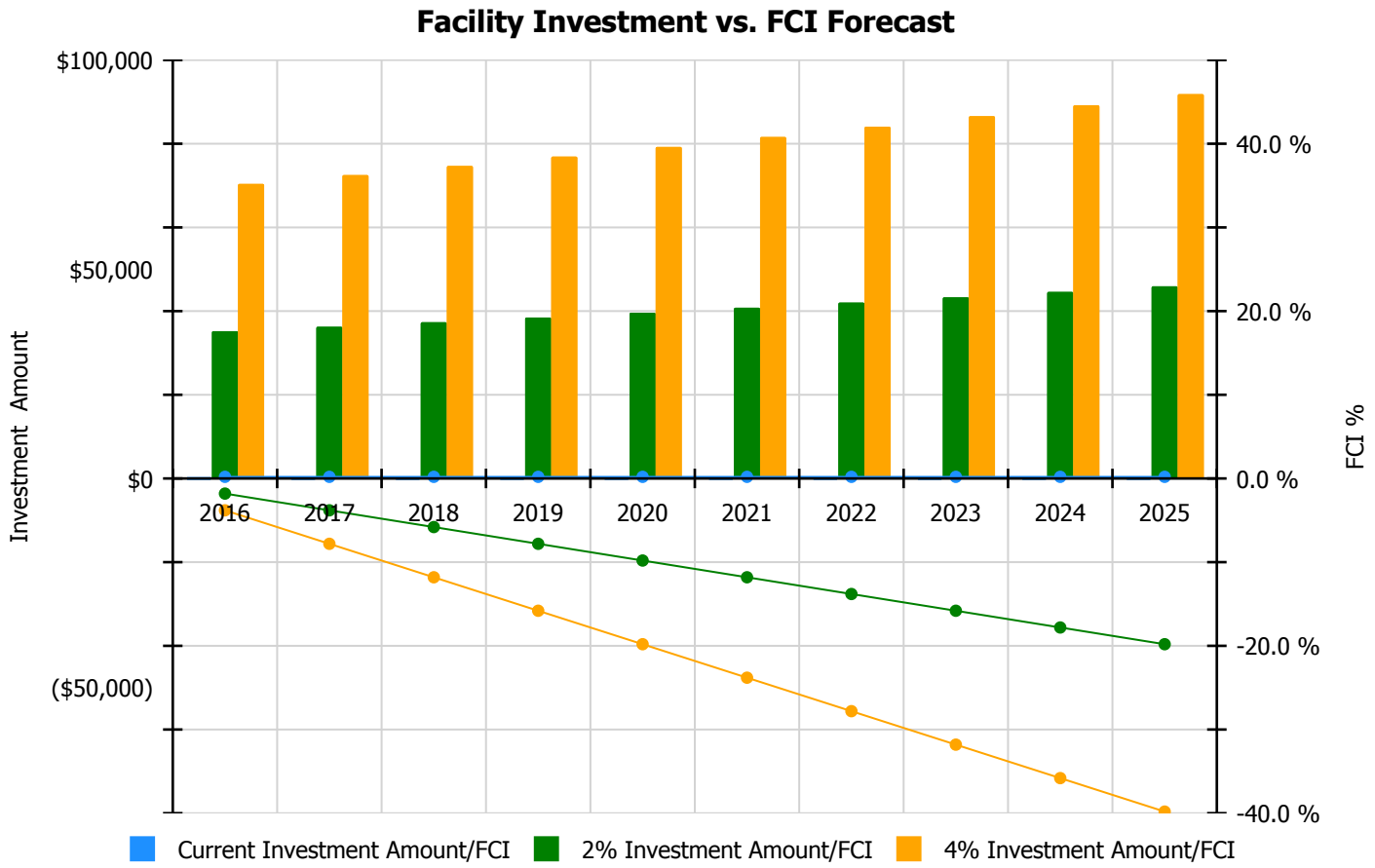
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

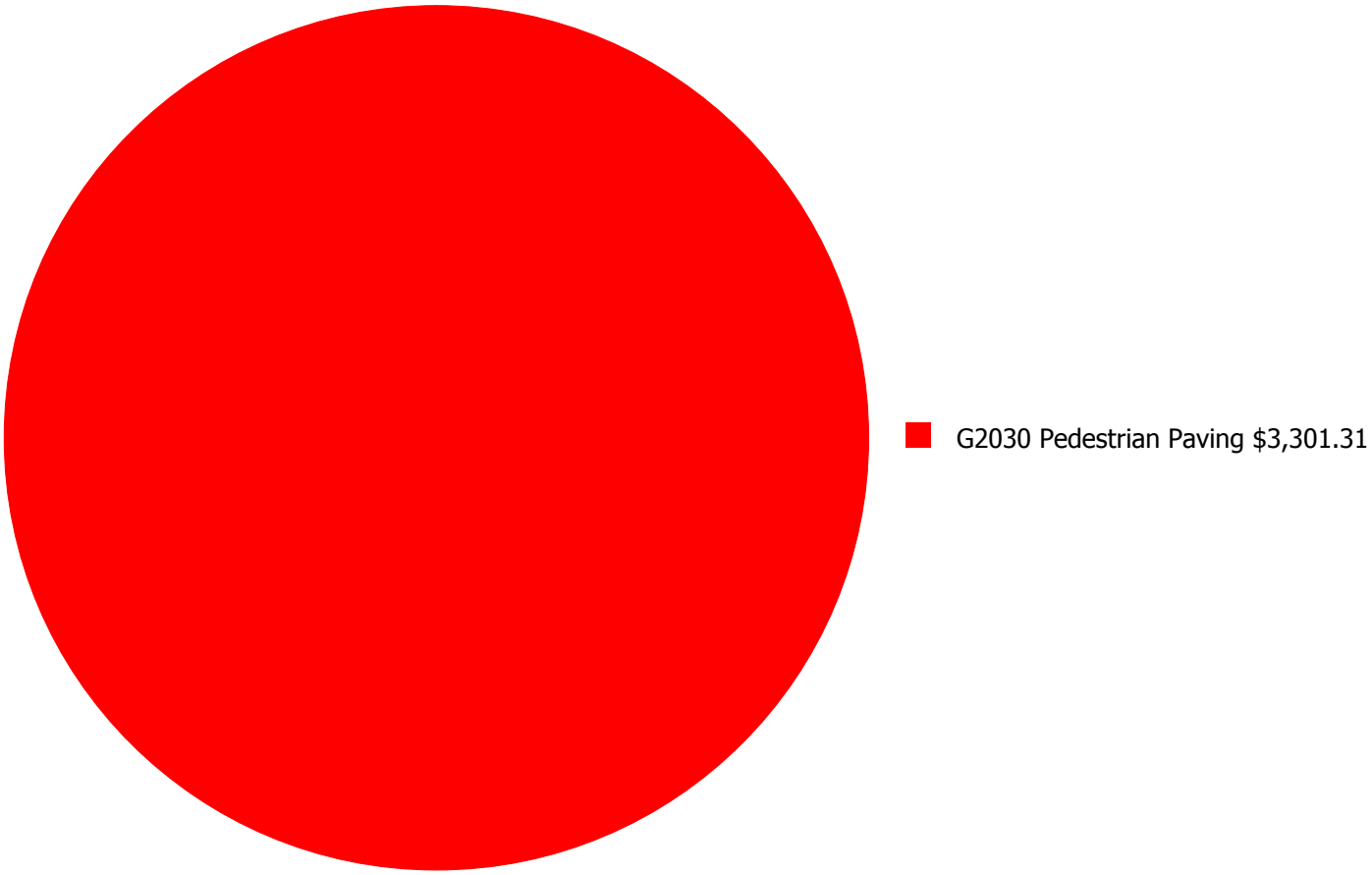
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 0.19%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$35,199.00	-1.81 %	$70,397.00	-3.81 %
2017	$0	$36,255.00	-3.81 %	$72,509.00	-7.81 %
2018	$0	$37,342.00	-5.81 %	$74,684.00	-11.81 %
2019	$0	$38,462.00	-7.81 %	$76,925.00	-15.81 %
2020	$0	$39,616.00	-9.81 %	$79,233.00	-19.81 %
2021	$0	$40,805.00	-11.81 %	$81,610.00	-23.81 %
2022	$0	$42,029.00	-13.81 %	$84,058.00	-27.81 %
2023	$0	$43,290.00	-15.81 %	$86,580.00	-31.81 %
2024	$0	$44,589.00	-17.81 %	$89,177.00	-35.81 %
2025	$0	$45,926.00	-19.81 %	$91,852.00	-39.81 %
Total:	**$0**	**$403,513.00**		**$807,025.00**	

Deficiency Summary by System

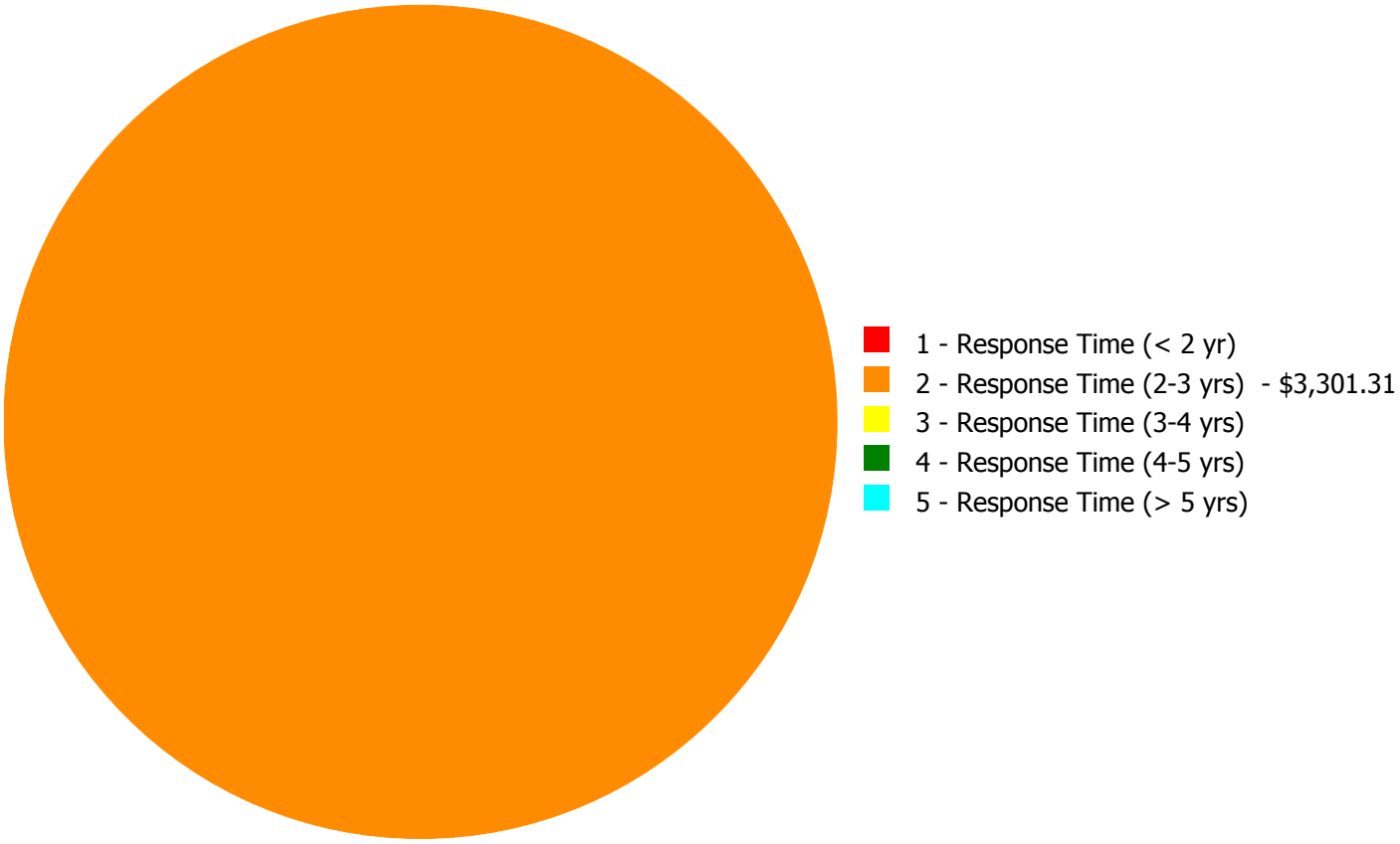
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $3,301.31

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: $3,301.31

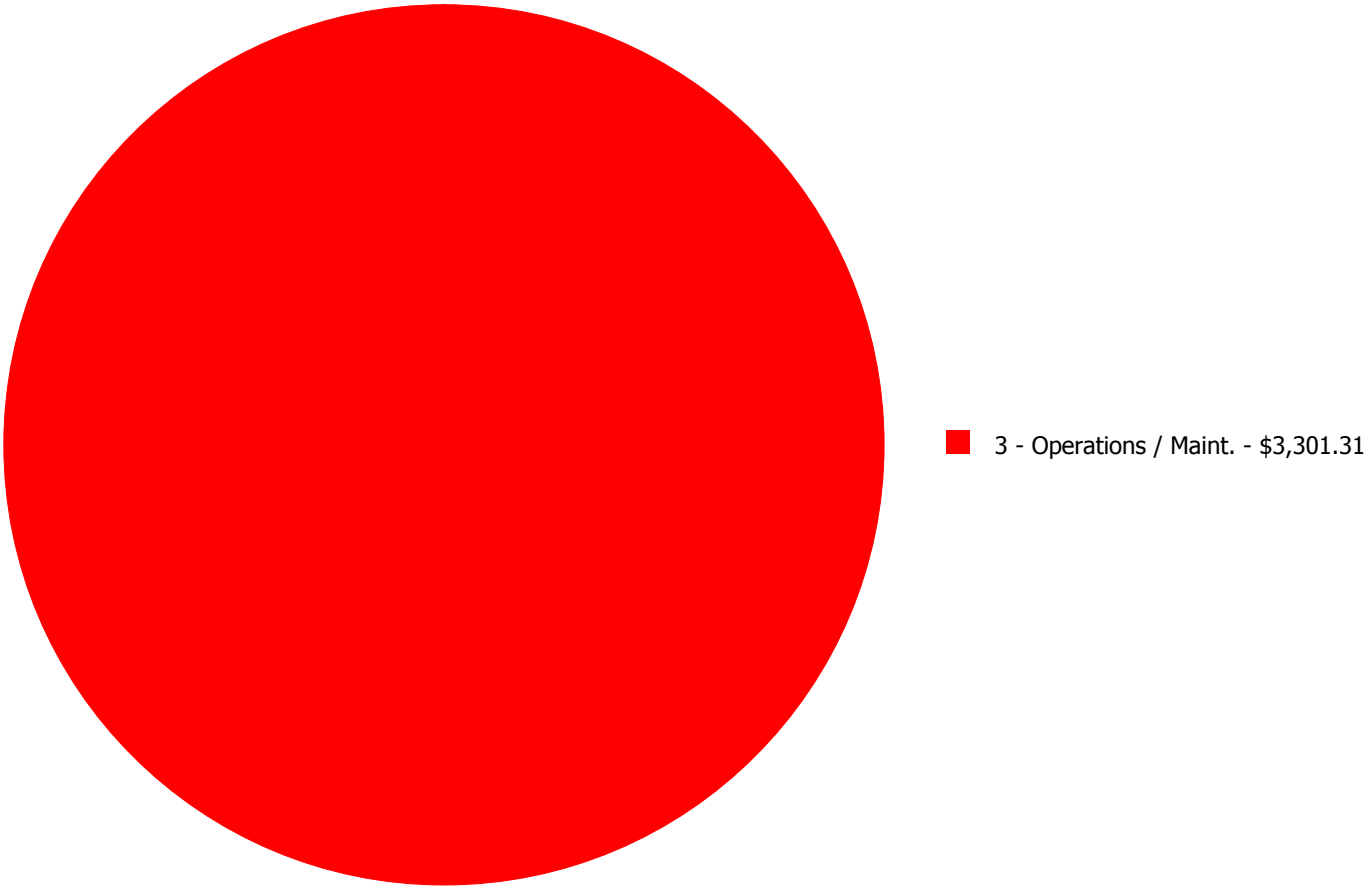
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	$0.00	$3,301.31	$0.00	$0.00	$0.00	$3,301.31
	Total:	$0.00	$3,301.31	$0.00	$0.00	$0.00	$3,301.31

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: $3,301.31

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: G2030 - Pedestrian Paving

Location: Front Entrance

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace concrete paving - pedestrian or parking - 8" concrete thickness

Qty: 50.00

Unit of Measure: S.F.

Estimate: $3,301.31

Assessor Name: Iraj Boroumand

Date Created: 11/18/2015

Notes: Repair exterior steps and railing on front entrance

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