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.

Furness High School

Governance	DISTRICT	Report Type	High
Address	1900 S. 3Rd St.	Enrollment	694
	Philadelphia, Pa 19148	Grade Range	'09-12'
Phone/Fax	215-952-6226 / 215-952-8635	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Furness	Turnaround Model	N/A

Building/System FCI Tiers

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

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**41.57%**	**$32,521,349**	**$78,240,064**
Building	41.75 %	$32,344,644	$77,470,217
Grounds	22.95 %	$176,705	$769,847

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.00 %	$0	$2,112,658
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.13 %	$8,072	$6,264,000
Windows (Shows functionality of exterior windows)	49.95 %	$1,993,227	$3,990,400
Exterior Doors (Shows condition of exterior doors)	43.32 %	$72,859	$168,200
Interior Doors (Classroom doors)	00.00 %	$0	$545,200
Interior Walls (Paint and Finishes)	12.98 %	$298,134	$2,296,800
Plumbing Fixtures	12.52 %	$245,533	$1,960,400
Boilers	56.09 %	$1,518,308	$2,707,150
Chillers/Cooling Towers	54.29 %	$1,927,127	$3,549,600
Radiators/Unit Ventilators/HVAC	97.91 %	$6,103,520	$6,233,550
Heating/Cooling Controls	164.70 %	$3,224,052	$1,957,500
Electrical Service and Distribution	67.18 %	$944,952	$1,406,500
Lighting	35.53 %	$1,786,428	$5,028,600
Communications and Security (Cameras, Pa System and Fire Alarm)	39.01 %	$734,689	$1,883,550

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

S216001;Furness

Final

Site Assessment Report

January 31, 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):	100,000
Year Built:	1912
Last Renovation:	
Replacement Value:	$78,240,064
Repair Cost:	$32,521,349.13
Total FCI:	41.57 %
Total RSLI:	64.47 %

Description:

Facility Assessment

August 18th, 2015

School District of Philadelphia

Horace Howard Furness Elementary School

1900 S. 3rd Street

Philadelphia, PA 19148

145,000 SF / 1,240 Students / LN 01

GENERAL

Mr. Dave Loftus FAC, provided input to the assessment team on current problems. Mr. Al Pizzo Building Engineer accompanied us on our tour of the school and provided us with detailed information on the building systems and maintenance history. Mr. Pizzo has been in the school for the last 6 years.

The 5 story, 145,000 square foot building was originally constructed in 1912. The building has a multi-level basement.

ARCHITECHURAL/STRUCTURAL SYSTEMS

The building typically rests on concrete foundations and bearing walls that are showing signs of settlement damage with cracked concrete and exposed steel reinforcement. The main structure typically consists of cast-in-place concrete columns, beams, and concrete, one way ribbed slab. The main roof structures consist of concrete one-way slab and steel truss supported by main structural frame. Roof structure in basement service area is failing with one major collapse reported. Main roofing is single ply application and metal roof both in poor condition with complete replacement project underway. The building envelope is typically masonry and concrete with face brick in fair condition with structural cracks in need of repair. Elevations are greatly enhanced with decorative stonework around entrances with multiple failing points currently undergoing repair. The windows were replaced in the early 1990s with extruded aluminum, double hung sliding 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 and nearing the end of service life. The building is accessible from the public sidewalk via access ramp at southeast entrance.

Partition walls are plastered ceramic hollow blocks in good condition. Interior doors are generally wood frame and solid core wood doors with transoms in good condition. Doors leading to exit stairways are hollow metal frame and doors in good condition. Some interior doors have lever type handles. Fittings include: toilet accessories in good condition; composite plastic toilet partitions in good condition; and handrails and ornamental metals, generally in fair condition. Toilet partitions in 4^{th} floor toilets are damaged due to neglect and need replaced with modern components. Some toilet partitions and accessories are ADA accessible. Interior identifying signage is typically directly painted on wall or door surfaces in good condition. Main stair construction is generally concrete in good condition with marble stairs at main entrances on first and second floors. Stair railings are cast iron balusters and wood railing in fair condition.

The interior wall finishes include: painted plaster or brick with marble wainscot in first and second floor main stairs in good condition; wood panel wainscot in auditorium in good condition; and tile or glazed brick wainscot in toilets, cafeteria, kitchen, gyms, locker rooms, basement corridor, and 4^{th} floor in good condition. Paint is generally in good condition in areas not affected by water damage however large areas of plaster damage exist throughout the building due to roof leaks that include the majority of the 4^{th} floor and large portions of the 3^{rd} floor. Flooring includes patterned or bare concrete in stairways, corridors, locker rooms, storage, and basement service areas in good condition; hardwood in most classrooms, auditorium, stage, balcony, gyms and gym balconies in varying conditions with some areas in need of complete replacement; and vinyl flooring in office areas, some classrooms, and cafeteria in varying conditions with some new and some damaged in need of replacement; ceramic tile in kitchen and toilets in good condition; terrazzo tile in 1^{st} and 2^{nd} floor stair landings in good conditions; and carpet in one classroom and one office in poor condition. Ceiling finishes include: suspended acoustic tile system in most classrooms, corridors, and office areas in fair to poor condition with the majority beyond service life and in need of replacement; direct mounted acoustic tiles in cafeteria in good condition; painted gypsum board in 5 classrooms in good condition; and painted plaster or structural concrete in toilets, stairways, gyms, gym balconies, locker rooms, auditorium, stage, balcony and basement service areas in fair condition.

The building has no elevator for accessibility.

Commercial and Institutional equipment includes: security equipment, theatre and stage equipment, and exercise equipment in good condition, and gym equipment in poor condition. Other equipment includes: food service equipment in good condition.

Fixed furnishings include: fixed casework in classrooms, corridors and library, blinds and window shades, fixed table desks, and fixed locker room bench seats all generally in fair to good condition. Fixed auditorium seating for 675 is in fair condition and balcony seating for 230 is in poor condition and failing.

MECHANICAL SYSTEMS

Toilet room plumbing fixtures have all been replaced with modern low flow fixtures, including wall hung water closets, urinals, and lavatories. Flush valves are installed in pipe chases with push button operation. Faucet valves are non-mixing, momentary action, hot and cold knobs. Toilet room fixtures and valves will not need replacement for at least 5 years.

The cafeteria kitchen includes a commercial, floor standing, stainless steel, four basin wash sink with grease trap and chemical sanitation system. One of its faucets leaks steadily. The sink is rusted and should be replaced. The kitchen also has a single basin, enameled cast iron, cook sink. It has exceeded its service life and the enamel is worn through in multiple areas, so the sink should be replaced. There is an enameled cast iron lavatory and the enamel is crazed and wearing through in areas, so it should be replaced as well.

Life skills room has a stainless steel, rim mounted residential kitchen sink. It has a single lever controlled mixing faucet, and it is functional with at least 5 years useful life remaining. There is also a clothes washing machine and dryer. The washer has hot and cold water supply lines with a duplex shut off valve. The valve is severely rusted and failing with moisture present on the exterior. The valve needs replacement.

Third floor science classrooms have a variety of laboratory sinks with water faucets at instructor stations, in student's tables, along the side of the room, or in an open front fume hood. They are generally in fair condition, mostly unused, and will not need replacement within 10 years. The rooms with air and natural gas supply plumbing have the gas turned off. If gas service is to be restored, then the plumbing should be inspected for leaks at that time.

Service sinks in hallway alcoves are enameled cast iron with integral backsplash and trap. They have non-mixing faucets. Mop closet sinks are floor level plastic sinks with long neck mixing faucets with vacuum breakers. Sinks are heavily worn with crazed enamel and rust or stained plastic. They should all be replaced due to age and accumulated wear and tear.

The basement gymnasium locker rooms do not have shower facilities. The 3rd floor science room at the west corner of the building has a safety shower and eyewash without a floor drain. The safety shower looks newer than 10 years old and will be serviceable for 15-20 years more.

Drinking fountains are painted sheet metal and stainless steel located in hallways on each floor. They are beyond their service life and not ADA compliant. Fountains throughout the building should be replaced with accessible fountains with integral coolers.

Domestic water distribution piping is soldered copper. Visible area of pie show it in fair condition, and some section have been replaced recently. There were no complaints about water supply. Consequently, the system is estimated to have at 10 years minimum before replacement is needed. A 4" water service enters the building along South 3rd Street at the northeast corner of the building in the basement. There is a domestic water pressure booster system with two 7.5 HP pumps. There is no hydro-pneumatic storage tank for the pressure booster, and one should be added to eliminate short cycling the pump motors.

Hot water is provided by a Bradford White, 75 gallon, vertical tank, gas fired water heater manufactured in 2006. There is a pipe mounted 1/5 HP circulation pump. They are visually in good condition, and hot water was available at toilet room faucets in 10 seconds. Heater and pump will not need replacement within the next 5 years.

Sanitary waste piping is hub and spigot cast iron for drain pipes, threaded galvanized steel pipe for vent pipes, and hubless cast iron with banded connections for extensive recent repairs to both. There were no reported problems with the sanitary drains from either the engineer or the principal, and they should perform reliably for at least 5 more years before needing additional repairs. The building does not have a sewage ejector.

Rain water drainage runs externally in sheet metal drain pipes and internally in galvanized threaded pipe. Visible areas of the internal pipe show rust, peeling paint, and extensive repairs with cast iron hubless pipe with banded connections. There is extensive water damage to interior finishes. The rain water drainage system should be more thoroughly examined and repaired as needed. There are no ground water sumps.

The building was originally heated by coal burning boilers supplying steam to radiators everywhere and ventilated with large house fans. It was converted to oil burning boilers and unit vents circa 1964.

The building has 3 Smith brand, model 650, 22 section, 5,287 MBH (158 HP), cast iron boilers. They were installed in 1964, and have surpassed their expected service life. There was a fourth boiler which has been demolished, but its cast iron sections are still stored in the building basement. The boilers are equipped with Power Flame burners for oil or natural gas. They were manufactured in 1998. They also have surpassed their expected service life. All three boilers should be replaced due to age related reliability problems as well as improved fuel efficiency. Oil is supplied from a 12,000 gallon tank by two circulation pumps, and both of them run. Low pressure gas service enters the building from South 3rd St. in an 8 inch line, and the gas booster sends high pressure gas to the boilers through a 6 inch line. There is a water softener and chemical injectors for the steam system. The make-up water line does not have proper backflow prevention, and a double check valve should be installed. There is a condensate collection tank in a sump in the boiler room with two pumps lifting condensate to the feed water tank. The feed water tank is equipped with 5 pumps, one for each of the boilers (including the removed 4th boiler) and one spare. The engineer stated there are large amounts of steam in the condensate return and lots of makeup water is required. The building needs to have steam traps surveyed and repaired.

The building does not have any central cooling generation. There are 58 window unit air-conditioners for offices, IMC, and some classrooms. Two mini-split systems provide cooling for the computer network equipment rooms. In total, the building currently has approximately 120 tons cooling capacity. A chiller system should be installed with 400 ton capacity for the entire building.

The original ventilation system in the building has been blocked off where the supply ducts entered the classrooms. In 1964 the building was converted from central forced air to individual unit ventilators in the classrooms. The original air handlers, including primary heating coils, air washers, fans, and secondary heating coils, are located below the auditorium stage at the back of the building. Heating coils are cast iron, approximately 9 feet tall and 11 feet wide. Fans are belt drive with 15 HP, 8 pole, 3 phase electric motors. They are all entirely obsolete and should be replaced with new HVAC systems supplying the auditorium and both gymnasiums. Classroom exhaust ducts are plaster over clay tile block construction and lead from floor level up to the attic where sheet metal ducts connect them to roof top gravity vents. The attic was asbestos abated in 2013. There are pneumatic controlled dampers to adjust duct flow in the attic. Attic plenums have return ducts to the basement AHU intakes, but all room exhaust air exits the building through ducts to gravity vents in the roof. Gravity vents are damaged and allow water infiltration, and should be replaced.

The cafeteria kitchen has a fume hood exhaust fan system, including fire suppression, for the stove and other fuel burning appliances. The serving line in the dining room has a fan coil unit with 5' x 4' filter section. It supplies approximately 10,000 CFM of outside air. There is an exhaust duct at the opposite end of the dining room. These are visually in fair condition and no problems were mentioned. They are expected to last at least 5 more years.

Steam and condensate piping is threaded steel throughout the building. Its age is unknown, but likely dates to the 1964 renovation. The building engineer stated there is a massive underground condensate leak. The basement hallway shows signs of subsidence, likely due to scouring. The steam and condensate system piping should be replaced.

All hallways and small rooms in the building are heated by radiators. Most radiators are a mix of cast iron, threaded steel pipe, or finned tube units. They are equipped with pneumatic controlled steam valves and thermostatic steam traps. Radiators are beyond their expected service life and many are missing guards. They should all be replaced with modern units.

The 1964 unit vents are still installed. Maintenance labels inside them are dated 1985, so they are at least 30 years old. They include pneumatic controls and actuators which are obsolete. They have no cooling coils and have exceeded their lifespan, so they should be replaced.

The building is equipped with pneumatic controls throughout, including wall thermostats, radiators, unit ventilators, attic exhaust ducts, and basement air handlers. The principal stated some rooms are too cold in winter. The pneumatic system is damaged and obsolete. A building automation system should be installed as part of overall system upgrades to integrate all new components.

There is a single air pump with refrigerated filter dryer in the boiler room. It was installed in 2009 and has 6 years life expectancy remaining.

The building does not have a fire protection sprinkler system. There are dry standpipes with multiple fire department connections. A sprinkler system with quick response type heads should be installed. A fire pump may be required depending on the available city water pressure.

ELECTRICAL SYSTEMS

A 1000KVA, indoor unit substation serves this school. The unit substation is composed of high voltage load interrupter switch, 1000KVA, 13.2KV-120/208V dry type stepdown transformer, 3000 Amperes main circuit breaker and 3000 Amperes distribution section. The unit substation is located in the basement electrical room and is manufactured by Square D. The utility meter No is PECO 9-806498. The unit substation was installed in 2000 and is expected to provide 20 more years of useful service life. The existing electrical service will not be able to carries the future HVAC loads. A new service for HVAC load is required.

The electrical distribution is obtained using, original and new 120/208V panel-boards located at each corridor floor. The original panel boards are for lighting and receptacles and the new panel-boards are for window type AC units. The penal boards are manufactured by Penn Panel & Box Co. The original panel-boards and associated wiring have exceeded their useful service life. Replace original panel boards.

There number of receptacles in classrooms varies, approximate 20% of the classrooms have been remodeled and provided with the proper amount of receptacles but 80% of them the quantity of receptacles are inadequate. The 80% of the classrooms need to be provided with the teacher's whiteboard wall and the opposite of it with double compartment surface raceways, the other two walls with minimum two duplex outlets each, when feasible.

Almost 90% of the classrooms, offices and corridors are illuminated with surface mounted fluorescent fixtures with T-12 lamps. Provide lighting fixtures with T-8 lamps.

The Fire Alarm system is manufactured by S.H. Couch. The system is approximately 30 years old. The present Fire Alarm system does not meet current code and needs to be replaced. Fire alarm system is tested every day in the morning.

The present telephone system is adequate.

An independent and separate PA system does not exist. School uses the telephone systems for public announcement. This system is working adequately for most part. There is an inoperative PA rack manufactured by Rauland MCX300

The school is provided with an inoperative central clock system. Replace clock system with wireless, battery operated, type system.

There is not television system.

The security system consists of CCTV cameras at first and second floor corridors and student dining. To provide a total interior coverage CCTV cameras are required at the third floor, gymnasium, auditorium, stairways.

The emergency power system consists of an indoor, diesel powered generator, manufactured by ONAN estimated 25KW, 120/240V. The present emergency power system serves the corridor, exit signs, generator louver, stair ways, boiler and fire tower. The generator has already exceeded its useful service life. Provide a 150KW outdoor diesel generator.

There is adequate UPS in the IT room.

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

The lightning protection is obtained with air terminals mounted on the school chimney. A study should be conducted to determine if the existing lightning system provide the proper protection to the school building.

The stage theatrical lighting is composed of ceiling mounted one single row of downlights that are ON/OFF from local panel-board. Provide a dimming panel and additional theatrical lighting.

The auditorium stage is not provided with a sound system. Provide a sound system.

GROUNDS SYSTEMS

The site surrounds the building on all four sides which is set back from the street. Yard area surrounding building is concrete paving in good condition. Yard on north end and south end is used for staff parking and is accessible via Mifflin St. and 3 rd St. Public access doors have granite stoops and stairs with metal fire exit stairs at gym balconies in poor condition in need or replacement. Metal and chain link fence surrounding site is in fair condition, however lacking vehicle security gates. Landscaping includes mature trees along public sidewalks in good condition.

Accessibility: the building has an accessible ramp at the southeast main entrance and accessible routes to the 1st floor only. Some toilets are equipped with accessible fixtures, partitions and accessories, such as grab bars and accessible partitions. Some of the doors in the building have lever type door handles.

The school perimeter is illuminated via wall mounted lighting fixtures. Fixtures provide total coverage

CCTV cameras are installed around the building perimeter. Provide 2 more CCTV cameras for complete building perimeter coverage.

There are wall mounted loud speakers facing the playground area

RECOMMENDATIONS

- Repair damaged structural columns and foundation walls in basement
- Repair or replace all systems on 4th floor for rehabilitation
- Repair failing structural roof in basement
- Repair exterior wall cracks
- Replace Plexiglas window – hazed
- Replace exterior entrance doors – beyond service life
- Repair and paint interior plaster walls – damaged (15% of plaster area)
- Replace wood floor – 10% of wood floor area
- Replace carpet – beyond service life and worn
- Replace plaster ceilings – damaged (gym balconies)

- Repair and paint interior plaster walls – damaged (10% of plaster area)
- Replace suspended acoustic tile ceiling system – beyond service life (80% of suspended ceiling)
- Install elevator for accessibility
- Replace gym equipment – damaged and failing
- Replace auditorium seats in balcony – beyond service life and failing
- Replace metal stairs at gym balcony fire exits – failing and hazardous to safety
- Install vehicle access gates for security

- Replace rusting and aged sinks and lavatory.

- Replace duplex shut-off valve on water supply to clothes washer.

- Replace 9 service sinks due to age, wear, and rust.

- Replace drinking fountains with ADA compliant fountains including integral coolers, 9 pairs.

- Install hydro-pneumatic storage tank for domestic water pressure booster system.

- Inspect rain water drain pipe and repair as needed.

- Replace all three boilers due to age including burners.

- Install code compliant double back flow prevention valve on steam system makeup water line.

- Survey and repair steam traps.

- Install 400 ton capacity chiller system for classrooms and offices.

- Replace HVAC for 900 seat auditorium.

- Replace HVAC for 2 gymnasiums, 12,000 square feet total.

- Replace roof top gravity vents to prevent water infiltration.

- Replace steam and condensate pipe due to leaks and age.
- Replace radiators throughout building due to age.
- Replace unit ventilators throughout building.
- Replace pneumatic control with digital and provide a new building automation system (BAS).
- Install a fire protection sprinkler system. A fire pump may be required depending on the available city water pressure.
- Provide a new electrical service to carries the HVAC load. Approximate 1500KVA Unit Substation
- Replace original panelboards and associated wiring. Approximate 12.
- Provide receptacles outlets to 80% of the classrooms. Provide to the teacher's whiteboard wall and the opposite of it with double compartment surface raceways, the other two walls with minimum two duplex outlets each. Approximate 640 receptacles.
- Provide to the 90% of the school with lighting fixtures with T-8 lamps. Approximate 1800
- Provide new fire alarm system. Approximate 200 devices
- Provide a new clock system, wireless battery operated. Approximate 50 clocks
- Provide CCTV cameras to provide complete interior coverage. Approximate 30 cameras
- Provide an outdoor diesel generator. Estimated 150KW
- Prepare a study to determine if the existing lightning system provide the proper protection to the school building.

- Provide a dimming panel and additional theatrical lighting.

- Provide the auditorium with a sound system.

- Provide two CCTV cameras for complete building perimeter coverage.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S216001		

Site Condition Summary

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

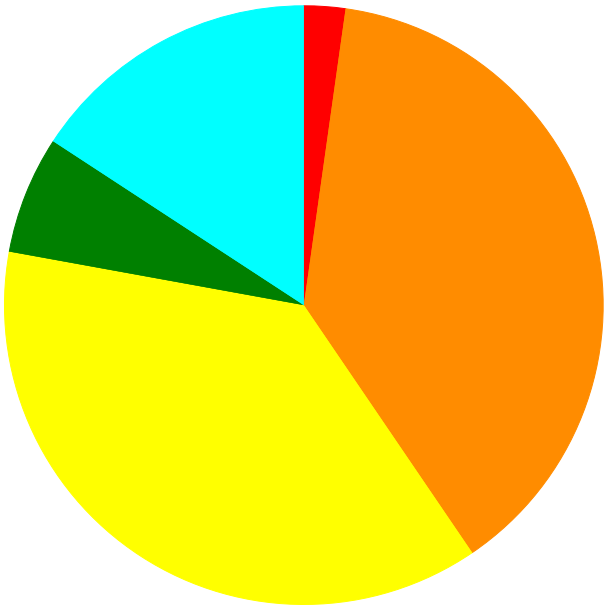
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	3.87 %	$80,177.82
B10 - Superstructure	37.00 %	48.78 %	$7,053,656.63
B20 - Exterior Enclosure	38.83 %	19.90 %	$2,074,157.89
B30 - Roofing	100.00 %	0.00 %	$0.00
C10 - Interior Construction	38.32 %	0.00 %	$0.00
C20 - Stairs	33.61 %	0.00 %	$0.00
C30 - Interior Finishes	54.17 %	18.56 %	$1,431,894.29
D10 - Conveying	0.00 %	210.98 %	$1,012,601.25
D20 - Plumbing	41.67 %	33.13 %	$932,947.08
D30 - HVAC	107.77 %	79.19 %	$12,773,007.59
D40 - Fire Protection	94.97 %	221.55 %	$2,589,287.22
D50 - Electrical	110.11 %	44.92 %	$3,828,588.67
E10 - Equipment	56.20 %	16.50 %	$380,845.60
E20 - Furnishings	42.50 %	60.70 %	$187,480.12
G20 - Site Improvements	0.00 %	27.20 %	$149,176.34
G40 - Site Electrical Utilities	66.67 %	12.44 %	$27,528.63
Totals:	**64.47 %**	**41.57 %**	**$32,521,349.13**

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)
B216001;Furness	145,000	41.75	$725,146.10	$12,307,555.51	$12,112,840.51	$2,066,085.49	$5,133,016.55
G216001;Grounds	38,100	22.95	$0.00	$135,928.82	$40,776.15	$0.00	$0.00
Total:		**41.57**	**$725,146.10**	**$12,443,484.33**	**$12,153,616.66**	**$2,066,085.49**	**$5,133,016.55**

Deficiencies By Priority



Budget Estimate Total: $32,521,349.13

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):	145,000
Year Built:	1912
Last Renovation:	
Replacement Value:	$77,470,217
Repair Cost:	$32,344,644.16
Total FCI:	41.75 %
Total RSLI:	64.92 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B216001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S216001		

Condition Summary

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

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	37.00 %	0.00 %	$0.00
A20 - Basement Construction	37.00 %	3.87 %	$80,177.82
B10 - Superstructure	37.00 %	48.78 %	$7,053,656.63
B20 - Exterior Enclosure	38.83 %	19.90 %	$2,074,157.89
B30 - Roofing	100.00 %	0.00 %	$0.00
C10 - Interior Construction	38.32 %	0.00 %	$0.00
C20 - Stairs	33.61 %	0.00 %	$0.00
C30 - Interior Finishes	54.17 %	18.56 %	$1,431,894.29
D10 - Conveying	0.00 %	210.98 %	$1,012,601.25
D20 - Plumbing	41.67 %	33.13 %	$932,947.08
D30 - HVAC	107.77 %	79.19 %	$12,773,007.59
D40 - Fire Protection	94.97 %	221.55 %	$2,589,287.22
D50 - Electrical	110.11 %	44.92 %	$3,828,588.67
E10 - Equipment	56.20 %	16.50 %	$380,845.60
E20 - Furnishings	42.50 %	60.70 %	$187,480.12
Totals:	**64.92 %**	**41.75 %**	**$32,344,644.16**

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.	145,000	100	1912	2012	2052	37.00 %	0.00 %	37			$3,958,500
A1030	Slab on Grade	$5.17	S.F.	145,000	100	1912	2012	2052	37.00 %	0.00 %	37			$749,650
A2010	Basement Excavation	$4.36	S.F.	145,000	100	1912	2012	2052	37.00 %	0.00 %	37			$632,200
A2020	Basement Walls	$9.91	S.F.	145,000	100	1912	2012	2052	37.00 %	5.58 %	37		$80,177.82	$1,436,950
B1010	Floor Construction	$85.34	S.F.	145,000	100	1912	2012	2052	37.00 %	51.76 %	37		$6,404,973.75	$12,374,300
B1020	Roof Construction	$14.39	S.F.	145,000	100	1912	2012	2052	37.00 %	31.09 %	37		$648,682.88	$2,086,550
B2010	Exterior Walls	$43.20	S.F.	145,000	100	1912	2012	2052	37.00 %	0.13 %	37		$8,072.40	$6,264,000
B2020	Exterior Windows	$27.52	S.F.	145,000	40	1992	2032		42.50 %	49.95 %	17		$1,993,226.92	$3,990,400
B2030	Exterior Doors	$1.16	S.F.	145,000	25	1992	2017	2020	20.00 %	43.32 %	5		$72,858.57	$168,200
B3010120	Single Ply Membrane	$38.73	S.F.	30,974	20	2015	2035		100.00 %	0.00 %	20			$1,199,623
B3010130	Preformed Metal Roofing	$54.22	S.F.	16,679	30	2015	2045		100.00 %	0.00 %	30			$904,335
B3020	Roof Openings	$0.06	S.F.	145,000	30	2015	2045		100.00 %	0.00 %	30			$8,700
C1010	Partitions	$21.05	S.F.	145,000	100	1912	2012	2052	37.00 %	0.00 %	37			$3,052,250
C1020	Interior Doors	$3.76	S.F.	145,000	40	1992	2032		42.50 %	0.00 %	17			$545,200
C1030	Fittings	$2.90	S.F.	145,000	40	1992	2032		42.50 %	0.00 %	17			$420,500
C2010	Stair Construction	$1.18	S.F.	145,000	100	1912	2012	2052	37.00 %	0.00 %	37			$171,100
C2020	Stair Finishes	$0.39	S.F.	145,000	30	1992	2022		23.33 %	0.00 %	7			$56,550
C3010230	Paint & Covering	$14.25	S.F.	145,000	10	2012	2022		70.00 %	14.43 %	7		$298,134.24	$2,066,250

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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 $
C3010232	Wall Tile	$1.59	S.F.	145,000	30	1992	2022		23.33 %	0.00 %	7			$230,550
C3020411	Carpet	$7.30	S.F.	1,450	10	1992	2002	2027	120.00 %	153.30 %	12		$16,226.61	$10,585
C3020412	Terrazzo & Tile	$75.52	S.F.	5,800	50	1992	2042		54.00 %	0.00 %	27			$438,016
C3020413	Vinyl Flooring	$9.68	S.F.	29,000	20	2003	2023		40.00 %	0.00 %	8			$280,720
C3020414	Wood Flooring	$22.27	S.F.	72,500	25	2003	2028		52.00 %	13.09 %	13		$211,352.51	$1,614,575
C3020415	Concrete Floor Finishes	$0.97	S.F.	36,250	50	1992	2042		54.00 %	0.00 %	27			$35,163
C3030	Ceiling Finishes	$20.97	S.F.	145,000	25	1992	2017	2027	48.00 %	29.80 %	12		$906,180.93	$3,040,650
D1010	Elevators and Lifts	$3.31	S.F.	145,000	35				0.00 %	210.98 %			$1,012,601.25	$479,950
D2010	Plumbing Fixtures	$13.52	S.F.	145,000	35	1994	2029		40.00 %	12.52 %	14		$245,533.08	$1,960,400
D2020	Domestic Water Distribution	$1.68	S.F.	145,000	25	1964	1989	2025	40.00 %	6.39 %	10		$15,556.07	$243,600
D2030	Sanitary Waste	$2.32	S.F.	145,000	30	1964	1994	2023	26.67 %	0.00 %	8			$336,400
D2040	Rain Water Drainage	$1.90	S.F.	145,000	30	1912	1942	2037	73.33 %	243.87 %	22		$671,857.93	$275,500
D3020	Heat Generating Systems	$18.67	S.F.	145,000	35	1964	1999	2052	105.71 %	56.09 %	37		$1,518,307.89	$2,707,150
D3030	Cooling Generating Systems	$24.48	S.F.	145,000	30			2047	106.67 %	54.29 %	32		$1,927,127.24	$3,549,600
D3040	Distribution Systems	$42.99	S.F.	145,000	25	1912	1937	2042	108.00 %	97.91 %	27		$6,103,520.06	$6,233,550
D3050	Terminal & Package Units	$11.60	S.F.	145,000	20	1964	1984	2037	110.00 %	0.00 %	22			$1,682,000
D3060	Controls & Instrumentation	$13.50	S.F.	145,000	20	1964	1984	2037	110.00 %	164.70 %	22		$3,224,052.40	$1,957,500
D4010	Sprinklers	$7.05	S.F.	145,000	35			2052	105.71 %	253.29 %	37		$2,589,287.22	$1,022,250
D4020	Standpipes	$1.01	S.F.	145,000	35	1964	1999	2022	20.00 %	0.00 %	7			$146,450
D5010	Electrical Service/Distribution	$9.70	S.F.	145,000	30	2000	2030	2047	106.67 %	67.18 %	32		$944,951.74	$1,406,500
D5020	Lighting and Branch Wiring	$34.68	S.F.	145,000	20	1912	1932	2037	110.00 %	35.53 %	22		$1,786,428.23	$5,028,600
D5030	Communications and Security	$12.99	S.F.	145,000	15	1912	1927	2032	113.33 %	39.01 %	17		$734,688.75	$1,883,550
D5090	Other Electrical Systems	$1.41	S.F.	145,000	30	1912	1942	2047	106.67 %	177.31 %	32		$362,519.95	$204,450
E1020	Institutional Equipment	$4.82	S.F.	145,000	35	1992	2027		34.29 %	54.49 %	12		$380,845.60	$698,900
E1090	Other Equipment	$11.10	S.F.	145,000	35	2003	2038		65.71 %	0.00 %	23			$1,609,500
E2010	Fixed Furnishings	$2.13	S.F.	145,000	40	1992	2032		42.50 %	60.70 %	17		$187,480.12	$308,850
								Total	**64.92 %**	**41.75 %**			**$32,344,644.16**	**$77,470,217**

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: 90% - Paint & covering
10% - Wall tile

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

Note: 1% - Carpet
4% - Terrazzo & Tile
20% - Vinyl Flooring
50% - Wood Flooring
25% - Concrete Floor Finishes

System: D5010 - Electrical Service/Distribution

Note: (1) 150 KVA phase converter

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:	**$32,344,644**	**$0**	**$0**	**$0**	**$0**	**$214,489**	**$0**	**$3,381,883**	**$859,924**	**$0**	**$360,116**	**$37,161,056**
*** 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	$80,178	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$80,178**
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	$6,404,974	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$6,404,974**
B1020 - Roof Construction	$648,683	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$648,683**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$8,072	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$8,072**
B2020 - Exterior Windows	$1,993,227	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,993,227**
B2030 - Exterior Doors	$72,859	$0	$0	$0	$0	$214,489	$0	$0	$0	$0	$0	**$287,347**
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**
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**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1030 - Fittings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

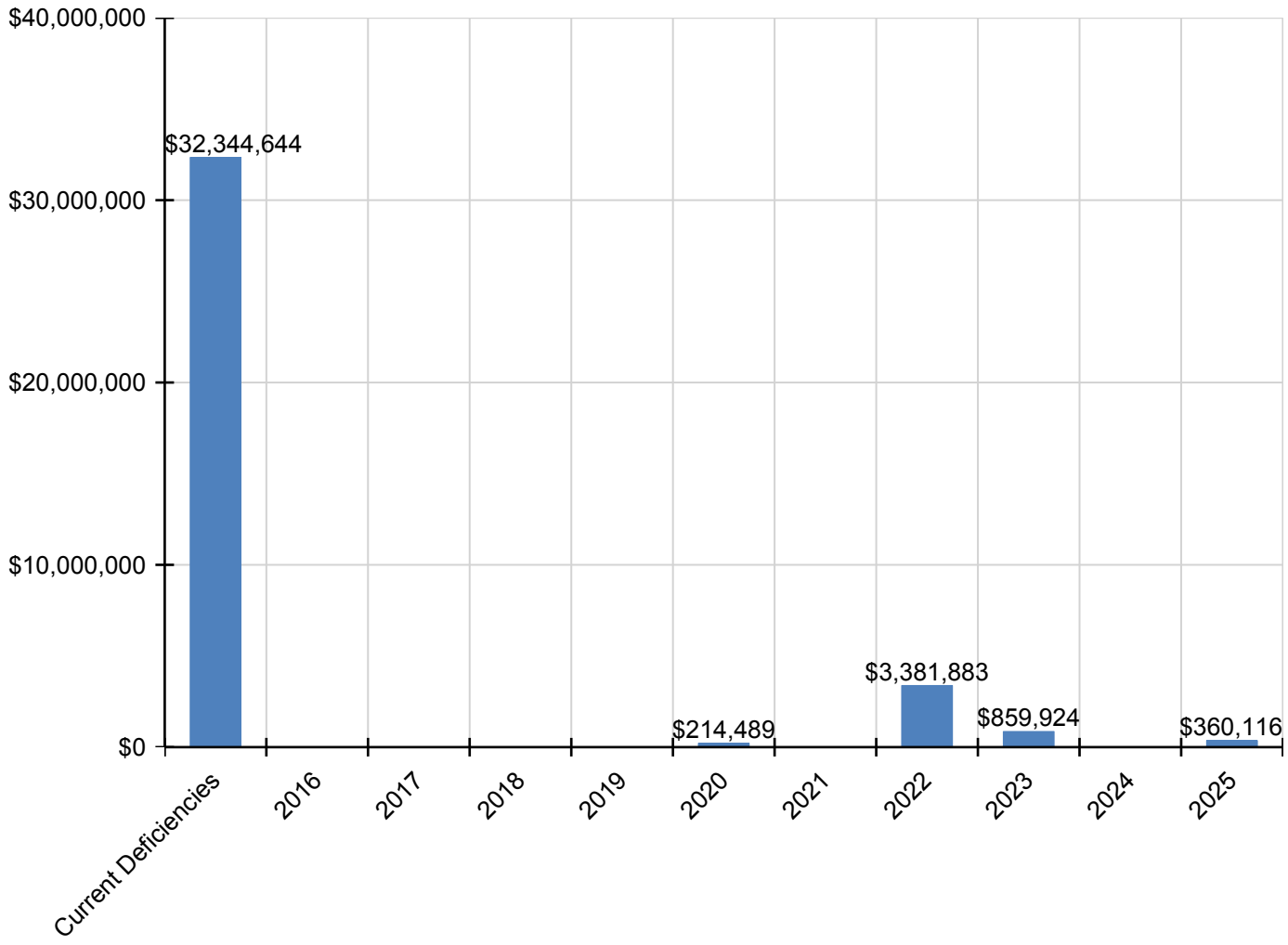
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2020 - Stair Finishes	$0	$0	$0	$0	$0	$0	$0	$76,504	$0	$0	$0	**$76,504**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$298,134	$0	$0	$0	$0	$0	$0	$2,795,350	$0	$0	$0	**$3,093,484**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$311,902	$0	$0	$0	**$311,902**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$16,227	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$16,227**
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	$391,168	$0	$0	**$391,168**
C3020414 - Wood Flooring	$211,353	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$211,353**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$906,181	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$906,181**
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	$1,012,601	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,012,601**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$245,533	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$245,533**
D2020 - Domestic Water Distribution	$15,556	$0	$0	$0	$0	$0	$0	$0	$0	$0	$360,116	**$375,672**
D2030 - Sanitary Waste	$0	$0	$0	$0	$0	$0	$0	$0	$468,756	$0	$0	**$468,756**
D2040 - Rain Water Drainage	$671,858	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$671,858**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,518,308	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,518,308**
D3030 - Cooling Generating Systems	$1,927,127	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,927,127**
D3040 - Distribution Systems	$6,103,520	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$6,103,520**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$3,224,052	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,224,052**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$2,589,287	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,589,287**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$198,127	$0	$0	$0	**$198,127**
D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$944,952	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$944,952**

D5020 - Lighting and Branch Wiring	$1,786,428	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,786,428**
D5030 - Communications and Security	$734,689	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$734,689**
D5090 - Other Electrical Systems	$362,520	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$362,520**
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	$380,846	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$380,846**
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	$187,480	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$187,480**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

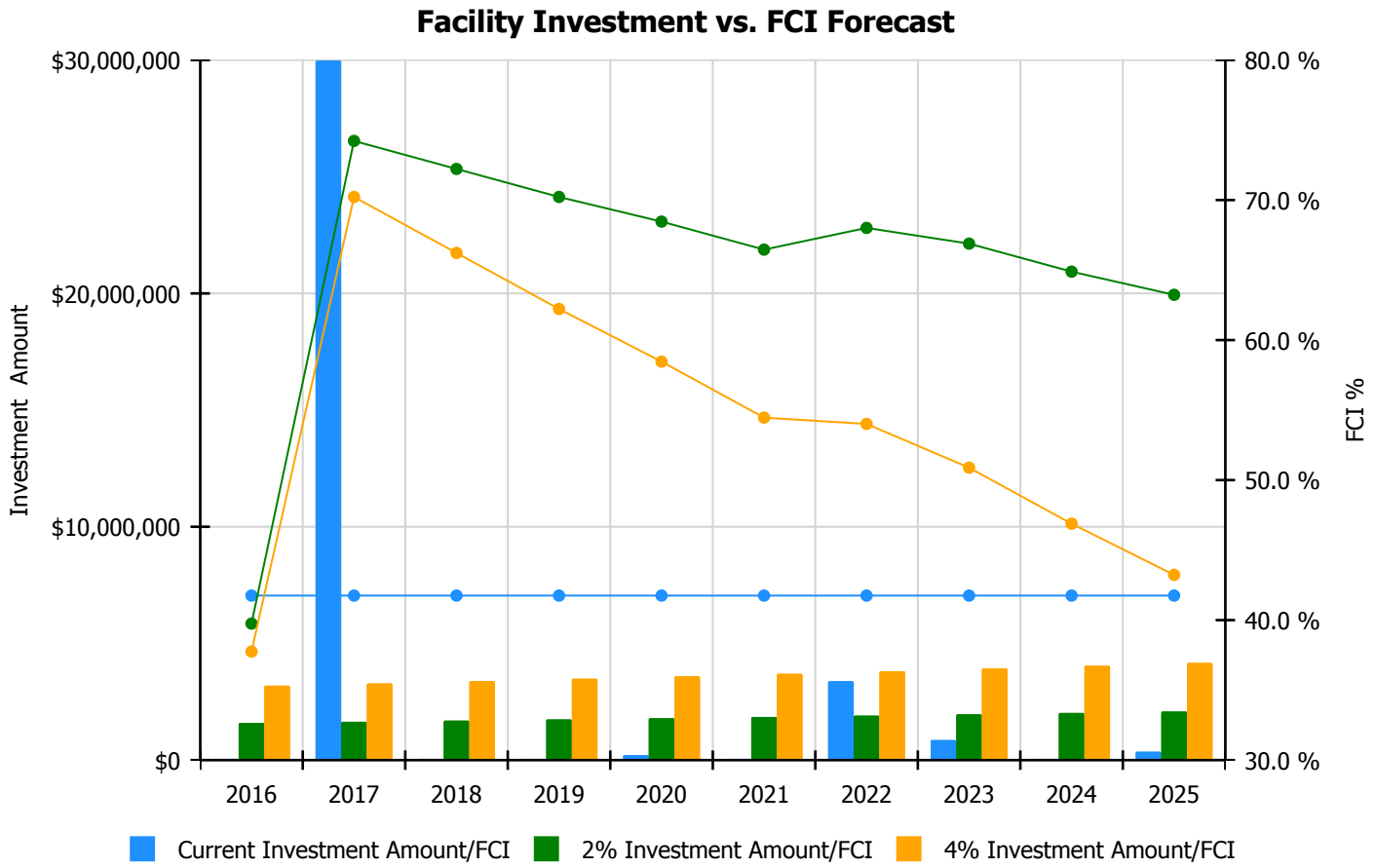
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

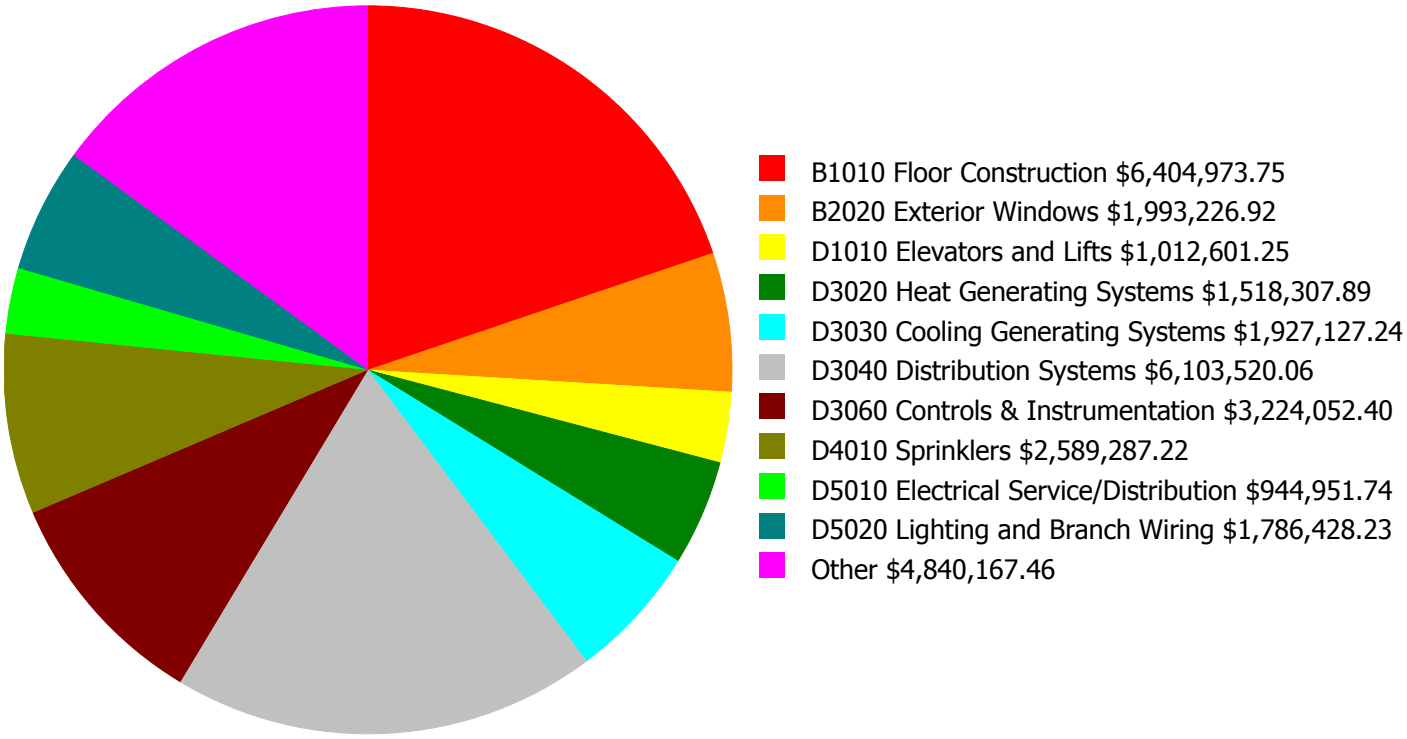
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 41.75%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$1,595,886.00	39.75 %	$3,191,773.00	37.75 %
2017	$29,974,996	$1,643,763.00	74.22 %	$3,287,526.00	70.22 %
2018	$0	$1,693,076.00	72.22 %	$3,386,152.00	66.22 %
2019	$0	$1,743,868.00	70.22 %	$3,487,736.00	62.22 %
2020	$214,489	$1,796,184.00	68.46 %	$3,592,369.00	58.46 %
2021	$0	$1,850,070.00	66.46 %	$3,700,140.00	54.46 %
2022	$3,381,883	$1,905,572.00	68.01 %	$3,811,144.00	54.01 %
2023	$859,924	$1,962,739.00	66.89 %	$3,925,478.00	50.89 %
2024	$0	$2,021,621.00	64.89 %	$4,043,242.00	46.89 %
2025	$360,116	$2,082,270.00	63.23 %	$4,164,540.00	43.23 %
Total:	**$34,791,408**	**$18,295,049.00**		**$36,590,100.00**	

Deficiency Summary by System

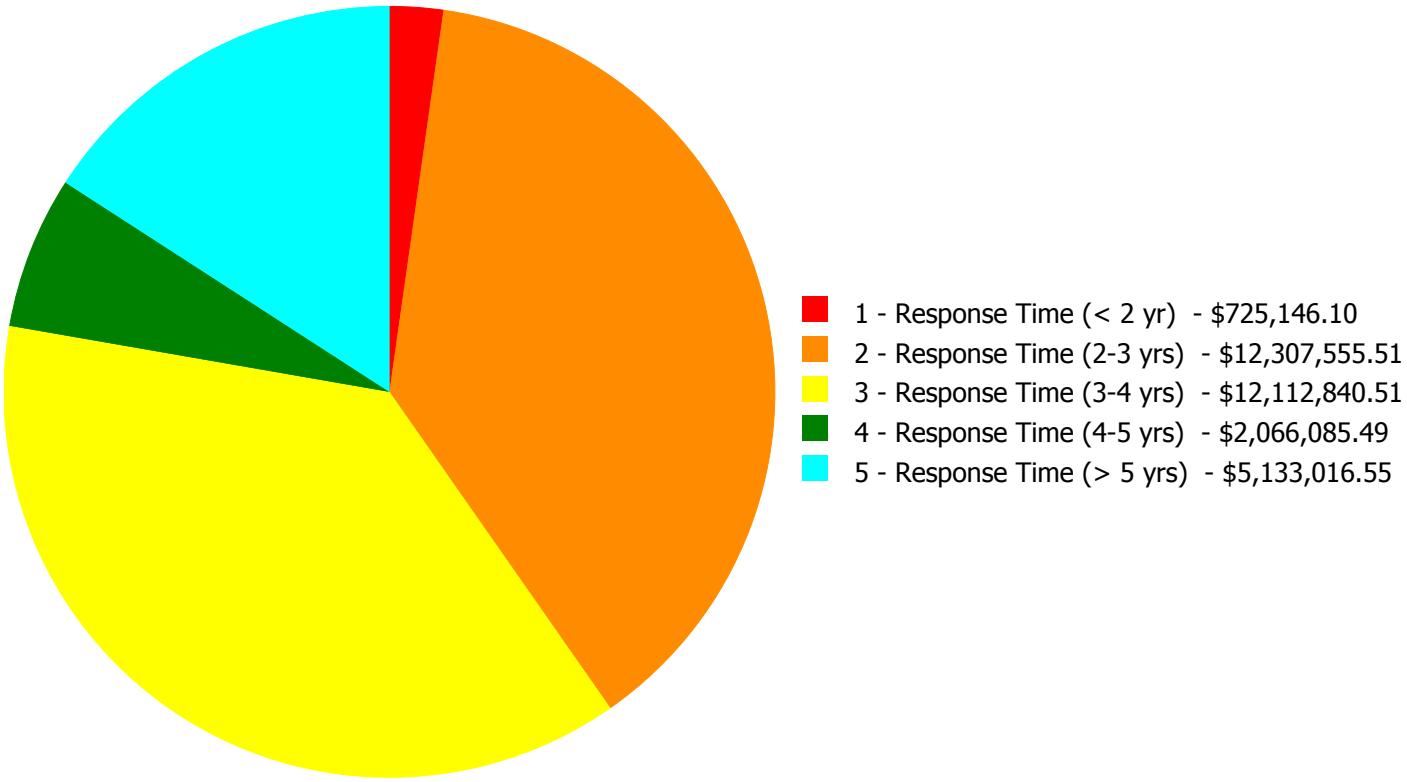
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $32,344,644.16

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: $32,344,644.16

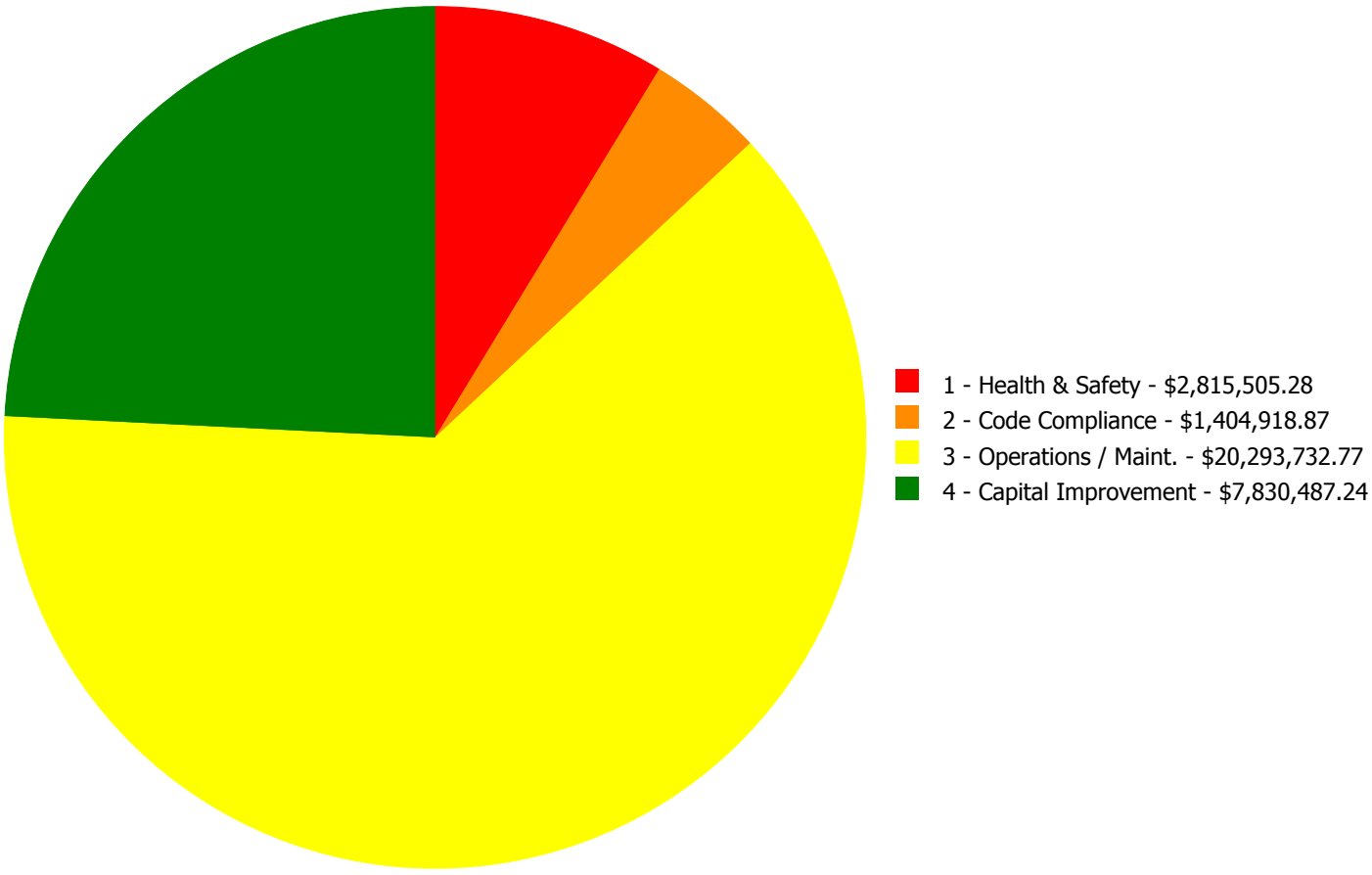
Deficiency By Priority Investment Table

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
A2020	Basement Walls	$0.00	$80,177.82	$0.00	$0.00	$0.00	$80,177.82
B1010	Floor Construction	$0.00	$0.00	$6,404,973.75	$0.00	$0.00	$6,404,973.75
B1020	Roof Construction	$0.00	$648,682.88	$0.00	$0.00	$0.00	$648,682.88
B2010	Exterior Walls	$0.00	$8,072.40	$0.00	$0.00	$0.00	$8,072.40
B2020	Exterior Windows	$0.00	$0.00	$0.00	$1,993,226.92	$0.00	$1,993,226.92
B2030	Exterior Doors	$0.00	$0.00	$0.00	$72,858.57	$0.00	$72,858.57
C3010230	Paint & Covering	$0.00	$298,134.24	$0.00	$0.00	$0.00	$298,134.24
C3020411	Carpet	$0.00	$0.00	$16,226.61	$0.00	$0.00	$16,226.61
C3020414	Wood Flooring	$0.00	$211,352.51	$0.00	$0.00	$0.00	$211,352.51
C3030	Ceiling Finishes	$0.00	$92,176.66	$814,004.27	$0.00	$0.00	$906,180.93
D1010	Elevators and Lifts	$0.00	$1,012,601.25	$0.00	$0.00	$0.00	$1,012,601.25
D2010	Plumbing Fixtures	$0.00	$245,533.08	$0.00	$0.00	$0.00	$245,533.08
D2020	Domestic Water Distribution	$12,418.40	$3,137.67	$0.00	$0.00	$0.00	$15,556.07
D2040	Rain Water Drainage	$0.00	$671,857.93	$0.00	$0.00	$0.00	$671,857.93
D3020	Heat Generating Systems	$0.00	$0.00	$1,518,307.89	$0.00	$0.00	$1,518,307.89
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,927,127.24	$1,927,127.24
D3040	Distribution Systems	$712,727.70	$2,565,177.23	$2,209,013.04	$0.00	$616,602.09	$6,103,520.06
D3060	Controls & Instrumentation	$0.00	$3,224,052.40	$0.00	$0.00	$0.00	$3,224,052.40
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$2,589,287.22	$2,589,287.22
D5010	Electrical Service/Distribution	$0.00	$647,755.07	$297,196.67	$0.00	$0.00	$944,951.74
D5020	Lighting and Branch Wiring	$0.00	$1,551,310.79	$235,117.44	$0.00	$0.00	$1,786,428.23
D5030	Communications and Security	$0.00	$706,485.93	$28,202.82	$0.00	$0.00	$734,688.75
D5090	Other Electrical Systems	$0.00	$341,047.65	$21,472.30	$0.00	$0.00	$362,519.95
E1020	Institutional Equipment	$0.00	$0.00	$380,845.60	$0.00	$0.00	$380,845.60
E2010	Fixed Furnishings	$0.00	$0.00	$187,480.12	$0.00	$0.00	$187,480.12
	Total:	$725,146.10	$12,307,555.51	$12,112,840.51	$2,066,085.49	$5,133,016.55	$32,344,644.16

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: $32,344,644.16

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: D2020 - Domestic Water Distribution

Location: Basement
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 1 - Response Time (< 2 yr)
Correction: Provide expansion tank for water heater.
Qty: 1.00
Unit of Measure: Ea.
Estimate: $12,154.05
Assessor Name: System
Date Created: 11/23/2015

Notes: Install hydro-pneumatic storage tank for domestic water pressure booster system.

System: D2020 - Domestic Water Distribution

Location: Life skills classroom
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Replace valves
Qty: 1.00
Unit of Measure: Ea.
Estimate: $264.35
Assessor Name: System
Date Created: 11/23/2015

Notes: Replace duplex shut-off valve on water supply to clothes washer.

System: D3040 - Distribution Systems

Location: Entire building

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Conduct a steam trap survey and replace failed units.

Qty: 181,000.00

Unit of Measure: S.F.

Estimate: $712,727.70

Assessor Name: System

Date Created: 11/23/2015

Notes: Survey and repair steam traps and replace radiators due to age.

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

System: A2020 - Basement Walls

Location: Basement

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair concrete wall in poor condition including rebar dowelling - insert the SF of wall area

Qty: 350.00

Unit of Measure: S.F.

Estimate: $80,177.82

Assessor Name: System

Date Created: 09/25/2015

Notes: Repair damaged structural columns and foundation walls in basement

System: B1020 - Roof Construction

Location: Boiler/Mechanical

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair and epoxy grout exposed rebar on the underside of roof structure and roof beams

Qty: 8,000.00

Unit of Measure: S.F.

Estimate: $648,682.88

Assessor Name: System

Date Created: 09/25/2015

Notes: Repair failing structural roof in basement

System: B2010 - Exterior Walls

Location: Various exterior

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 250.00

Unit of Measure: S.F.

Estimate: $8,072.40

Assessor Name: System

Date Created: 09/25/2015

Notes: Repair exterior wall cracks

System: C3010230 - Paint & Covering

Location: Throughout

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 34,800.00

Unit of Measure: S.F.

Estimate: $298,134.24

Assessor Name: System

Date Created: 09/25/2015

Notes: Repair and paint interior plaster walls – damaged (15% of plaster area)

System: C3020414 - Wood Flooring

Location: Various

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace wood flooring

Qty: 7,250.00

Unit of Measure: S.F.

Estimate: $211,352.51

Assessor Name: System

Date Created: 09/25/2015

Notes: Replace wood floor – 10% of wood floor area

System: C3030 - Ceiling Finishes

Location: Gym balconies

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace plaster ceilings

Qty: 4,000.00

Unit of Measure: S.F.

Estimate: $92,176.66

Assessor Name: System

Date Created: 09/25/2015

Notes: Replace plaster ceilings – damaged (gym balconies)

System: D1010 - Elevators and Lifts

Location: TBD

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Add external 4 stop elevator - adjust the electrical run lengths to hook up the elevator

Qty: 1.00

Unit of Measure: Ea.

Estimate: $1,012,601.25

Assessor Name: System

Date Created: 09/25/2015

Notes: Install elevator for accessibility

System: D2010 - Plumbing Fixtures

Location: Hallways

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace water fountains to meet ADA - includes high and low fountains and new recessed alcove

Qty: 9.00

Unit of Measure: Ea.

Estimate: $141,236.07

Assessor Name: System

Date Created: 11/23/2015

Notes: Replace drinking fountains with ADA compliant fountains including integral coolers, 9 pairs.

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace wall janitor or mop sink - insert the quantity

Qty: 9.00

Unit of Measure: Ea.

Estimate: $70,782.37

Assessor Name: System

Date Created: 11/23/2015

Notes: Replace 9 service sinks due to age, wear, and rust.

System: D2010 - Plumbing Fixtures

Location: Kitchen

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace lavatory - quantify accessible if required

Qty: 1.00

Unit of Measure: Ea.

Estimate: $33,514.64

Assessor Name: System

Date Created: 11/23/2015

Notes: Replace rusting and aged sinks and lavatory.

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: $3,137.67

Assessor Name: System

Date Created: 11/23/2015

Notes: Install code compliant double back flow prevention valve on steam system makeup water line.

System: D2040 - Rain Water Drainage

Location: Entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace rain water drainage piping - based on +- 30 KSF roof area on 3-4 story building - insert the SF of roof area to be drained

Qty: 50,000.00

Unit of Measure: S.F.

Estimate: $671,857.93

Assessor Name: System

Date Created: 11/23/2015

Notes: Inspect rain water drain pipe and repair as needed.

System: D3040 - Distribution Systems

Location: Classrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace classroom unit ventilator (htg/clg coils, 5 tons, 2,000 CFM)

Qty: 50.00

Unit of Measure: Ea.

Estimate: $2,493,933.63

Assessor Name: System

Date Created: 11/24/2015

Notes: Replace radiators throughout building due to age.

System: D3040 - Distribution Systems

Location: Roof top

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace rooftop gravity ventilator units - select the proper type and size

Qty: 29.00

Unit of Measure: Ea.

Estimate: $71,243.60

Assessor Name: System

Date Created: 11/24/2015

Notes: Replace roof top gravity vents to prevent water infiltration.

System: D3060 - Controls & Instrumentation

Location: Entire building

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (150KSF)

Qty: 180,000.00

Unit of Measure: S.F.

Estimate: $3,224,052.40

Assessor Name: System

Date Created: 11/24/2015

Notes: Replace pneumatic control with digital and provide a new building automation system (BAS).

System: D5010 - Electrical Service/Distribution

Location: Basement electrical room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace unit substation

Qty: 1.00

Unit of Measure: Ea.

Estimate: $647,755.07

Assessor Name: System

Date Created: 10/22/2015

Notes: Provide a new electrical service to carries the HVAC load. Approximate 1500KVA Unit Substation

System: D5020 - Lighting and Branch Wiring

Location: Entire Building
Distress: Energy Efficiency
Category: 4 - Capital Improvement
Priority: 2 - Response Time (2-3 yrs)
Correction: Add Lighting Fixtures
Qty: 1,800.00
Unit of Measure: Ea.
Estimate: $1,551,310.79
Assessor Name: System
Date Created: 10/22/2015

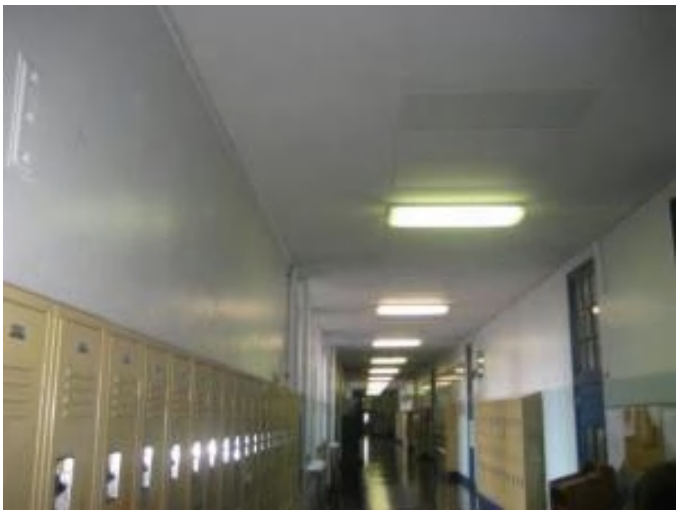
Notes: Provide to the 90% of the school with lighting fixtures with T-8 lamps. Approximate 1800

System: D5030 - Communications and Security

Location: Entire Building
Distress: Building / MEP Codes
Category: 2 - Code Compliance
Priority: 2 - Response Time (2-3 yrs)
Correction: Replace fire alarm system
Qty: 200.00
Unit of Measure: S.F.
Estimate: $367,707.65
Assessor Name: System
Date Created: 10/22/2015

Notes: Provide new fire alarm system. Approximate 200 devices

System: D5030 - Communications and Security



Location: Entire Building
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 2 - Response Time (2-3 yrs)
Correction: Add/Replace Video Surveillance System
Qty: 30.00
Unit of Measure: Ea.
Estimate: $226,218.06
Assessor Name: System
Date Created: 10/22/2015

Notes: Provide CCTV cameras to provide complete interior coverage. Approximate 30 cameras

System: D5030 - Communications and Security

Location: Entire Building
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Add/Replace Clock System or Components
Qty: 50.00
Unit of Measure: Ea.
Estimate: $112,560.22
Assessor Name: System
Date Created: 10/22/2015

Notes: Provide a new clock system, wireless battery operated. Approximate 50 clocks

System: D5090 - Other Electrical Systems

Location: Outdoor

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $341,047.65

Assessor Name: System

Date Created: 10/22/2015

Notes: Provide an outdoor diesel generator. Estimated 150KW

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

System: B1010 - Floor Construction

Location: 4th floor

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Rehabilitate abandoned portion of building - all systems

Qty: 10,500.00

Unit of Measure: S.F.

Estimate: $6,404,973.75

Assessor Name: System

Date Created: 09/25/2015

Notes: Repair or replace all systems on 4th floor for rehabilitaion

System: C3020411 - Carpet

Location: Classroom/office

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 1,450.00

Unit of Measure: S.F.

Estimate: $16,226.61

Assessor Name: System

Date Created: 09/25/2015

Notes: Replace carpet – beyond service life and worn

System: C3030 - Ceiling Finishes

Location: Throughout

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 46,400.00

Unit of Measure: S.F.

Estimate: $699,824.76

Assessor Name: System

Date Created: 09/25/2015

Notes: Replace suspended acoustic tile ceiling system – beyond service life (80% of suspended ceiling)

System: C3030 - Ceiling Finishes

Location: Throughout

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair and resurface plaster ceilings - 2 coats plaster

Qty: 8,700.00

Unit of Measure: S.F.

Estimate: $114,179.51

Assessor Name: System

Date Created: 09/25/2015

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

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 3.00

Unit of Measure: Ea.

Estimate: $1,518,307.89

Assessor Name: System

Date Created: 11/23/2015

Notes: Replace all three boilers due to age including burners.

System: D3040 - Distribution Systems

Location: Entire building

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Perform testing to identify and replace damaged steam and condensate piping.

Qty: 180,000.00

Unit of Measure: S.F.

Estimate: $1,702,867.05

Assessor Name: System

Date Created: 11/24/2015

Notes: Replace steam and condensate pipe due to leaks and age.

System: D3040 - Distribution Systems

Location: Auditorium

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Install / replace HVAC unit for Auditorium (800 seat).

Qty: 905.00

Unit of Measure: Seat

Estimate: $506,145.99

Assessor Name: System

Date Created: 11/24/2015

Notes: Replace HVAC for 900 seat auditorium.

System: D5010 - Electrical Service/Distribution

Location: Entire Building

Distress: Not Reliable

Category: 3 - Operations / Maint.

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

Correction: Replace Panelboard

Qty: 12.00

Unit of Measure: Ea.

Estimate: $297,196.67

Assessor Name: System

Date Created: 10/22/2015

Notes: Replace original panel-boards and associated wiring. Approximate 12.

System: D5020 - Lighting and Branch Wiring

Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add wiring device

Qty: 640.00

Unit of Measure: Ea.

Estimate: $235,117.44

Assessor Name: System

Date Created: 10/22/2015

Notes: Provide receptacles outlets to 80% of the classrooms. Provide to the teacher's whiteboard wall and the opposite of it with double compartment surface raceways, the other two walls with minimum two duplex outlets each. Approximate 640 receptacles.

System: D5030 - Communications and Security

Location: Auditorium

Distress: Obsolete

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Sound System

Qty: 1.00

Unit of Measure: LS

Estimate: $28,202.82

Assessor Name: System

Date Created: 10/22/2015

Notes: Provide the auditorium with a sound system.

System: D5090 - Other Electrical Systems

Location: Roof

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide Lightning Protection System

Qty: 1.00

Unit of Measure: LS

Estimate: $21,472.30

Assessor Name: System

Date Created: 10/22/2015

Notes: Prepare a study to determine if the existing lightning system provide the proper protection to the school building.

System: E1020 - Institutional Equipment

Location: Auditorium

Distress: Obsolete

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $323,055.06

Assessor Name: System

Date Created: 10/22/2015

Notes: Provide a dimming panel and additional theatrical lighting.

System: E1020 - Institutional Equipment

Location: Gym

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or install basketball backstop and hoop - pick the appropriate style of backstop

Qty: 6.00

Unit of Measure: Ea.

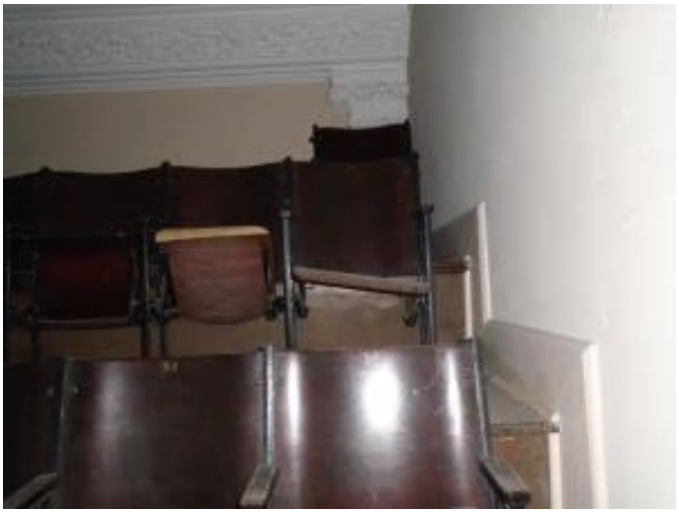
Estimate: $57,790.54

Assessor Name: System

Date Created: 09/25/2015

Notes: Replace gym equipment – damaged and failing

System: E2010 - Fixed Furnishings



Location: Auditorium balcony

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace auditorium seating - add tablet arms if required. Veneer seating is an option.

Qty: 230.00

Unit of Measure: Ea.

Estimate: $187,480.12

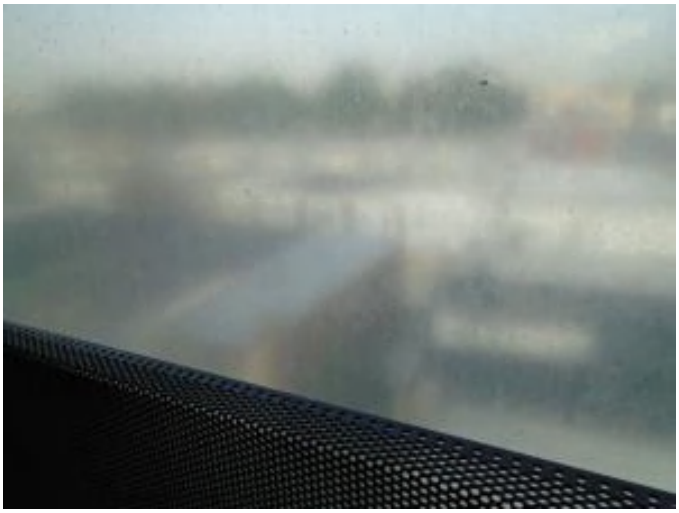
Assessor Name: System

Date Created: 09/25/2015

Notes: Replace auditorium seats in balcony – beyond service life and failing

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

System: B2020 - Exterior Windows



Location: Windows
Distress: Energy Efficiency
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Remove and replace double slider windows
Qty: 395.00
Unit of Measure: Ea.
Estimate: $1,993,226.92
Assessor Name: System
Date Created: 09/25/2015

Notes: Replace Plexiglas window – hazed

System: B2030 - Exterior Doors

Location: Ext. Doors
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Remove and replace exterior doors - per leaf
Qty: 8.00
Unit of Measure: Ea.
Estimate: $72,858.57
Assessor Name: System
Date Created: 09/25/2015

Notes: Replace exterior entrance doors – beyond service life

Priority 5 - Response Time (> 5 yrs):

System: D3030 - Cooling Generating Systems

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: 120,000.00

Unit of Measure: S.F.

Estimate: $1,927,127.24

Assessor Name: System

Date Created: 11/24/2015

Notes: Install 400 ton capacity chiller system for classrooms and offices.

System: D3040 - Distribution Systems

Location: Gymnasiums

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 12,000.00

Unit of Measure: Ea.

Estimate: $616,602.09

Assessor Name: System

Date Created: 11/24/2015

Notes: Replace HVAC for 2 gymnasiums.

System: D4010 - Sprinklers

Location: Entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 181,000.00

Unit of Measure: S.F.

Estimate: $2,589,287.22

Assessor Name: System

Date Created: 11/24/2015

Notes: Install a fire protection sprinkler system. A fire pump may be required depending on the available city water pressure.

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 5230 MBH, includes burners, controls and insulated jacket, packaged	3.00	Ea.	Boiler room					35	1964	2047	$122,870.00	$405,471.00
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	Sqaure D	HVL Load current interrupter switch			30	2000	2030	$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	2000	2030	$10,743.30	$11,817.63
D5010 Electrical Service/Distribution	Transformer, liquid-filled, 5 kV or 15 kV primary, 277/480 V secondary, 3 phase, 1000 kVA, pad mounted	1.00	Ea.	Basement electrical room	Sqaure D	Power-Dry Insulated dry type transformer			30	2000	2030	$50,425.20	$55,467.72
												Total:	**$519,617.01**

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):	38,100
Year Built:	1912
Last Renovation:	
Replacement Value:	$769,847
Repair Cost:	$176,704.97
Total FCI:	22.95 %
Total RSLI:	19.17 %

Description:

Attributes:

General Attributes:

Bldg ID:	S216001	Site ID:	S216001

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	0.00 %	27.20 %	$149,176.34
G40 - Site Electrical Utilities	66.67 %	12.44 %	$27,528.63
Totals:	**19.17 %**	**22.95 %**	**$176,704.97**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30				0.00 %	0.00 %				$0
G2020	Parking Lots	$8.50	S.F.	22,700	30				0.00 %	0.00 %				$192,950
G2030	Pedestrian Paving	$12.30	S.F.	15,400	40				0.00 %	71.76 %			$135,928.82	$189,420
G2040	Site Development	$4.36	S.F.	38,100	25				0.00 %	7.97 %			$13,247.52	$166,116
G2050	Landscaping & Irrigation	$4.36	S.F.		15				0.00 %	0.00 %				$0
G4020	Site Lighting	$4.84	S.F.	38,100	30	2005	2035		66.67 %	0.00 %	20			$184,404
G4030	Site Communications & Security	$0.97	S.F.	38,100	30	2005	2035		66.67 %	74.49 %	20		$27,528.63	$36,957
								Total	**19.17 %**	**22.95 %**			**$176,704.97**	**$769,847**

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.

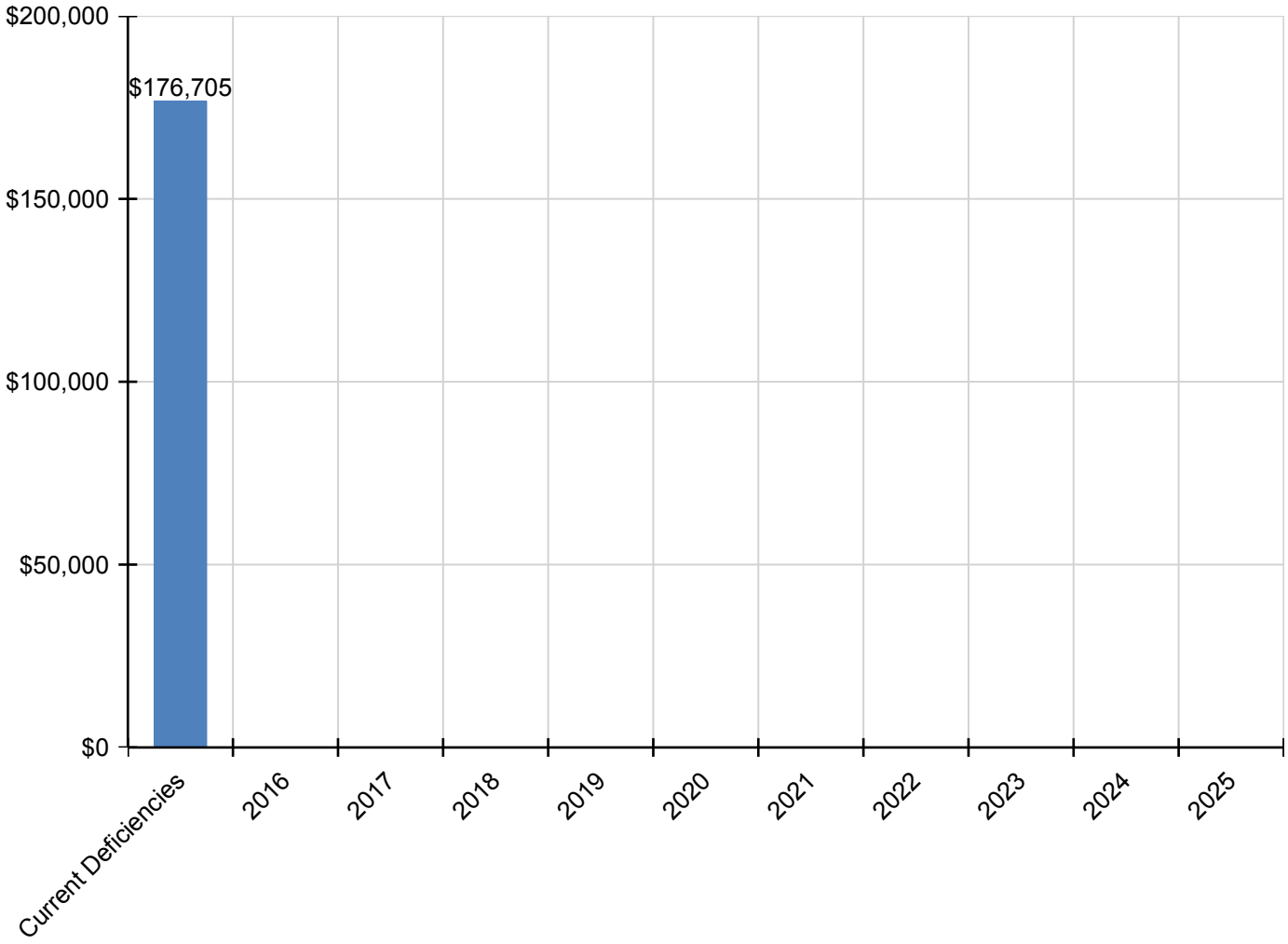
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$176,705**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$176,705**
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	$135,929	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$135,929**
G2040 - Site Development	$13,248	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$13,248**
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	$27,529	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$27,529**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

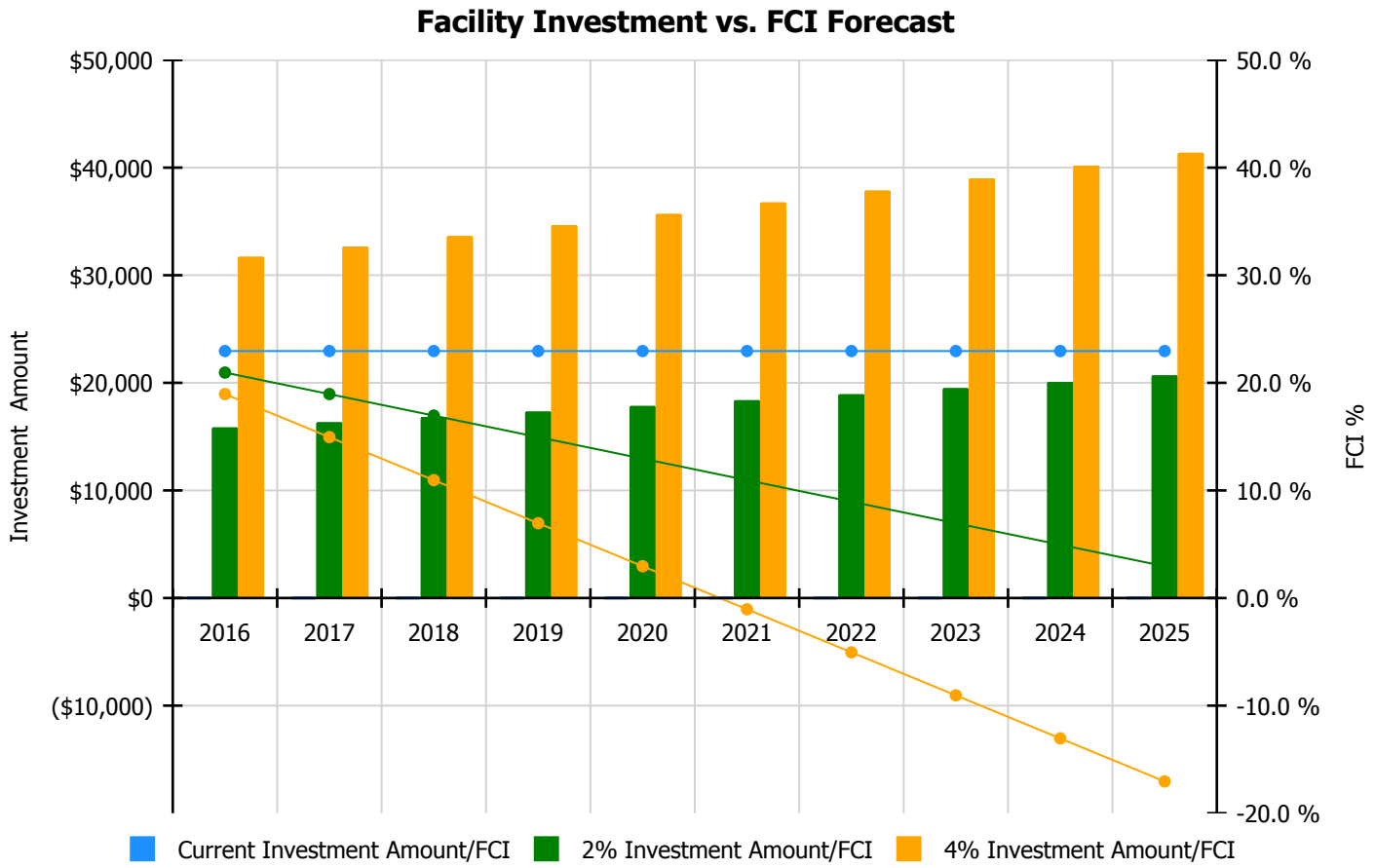
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

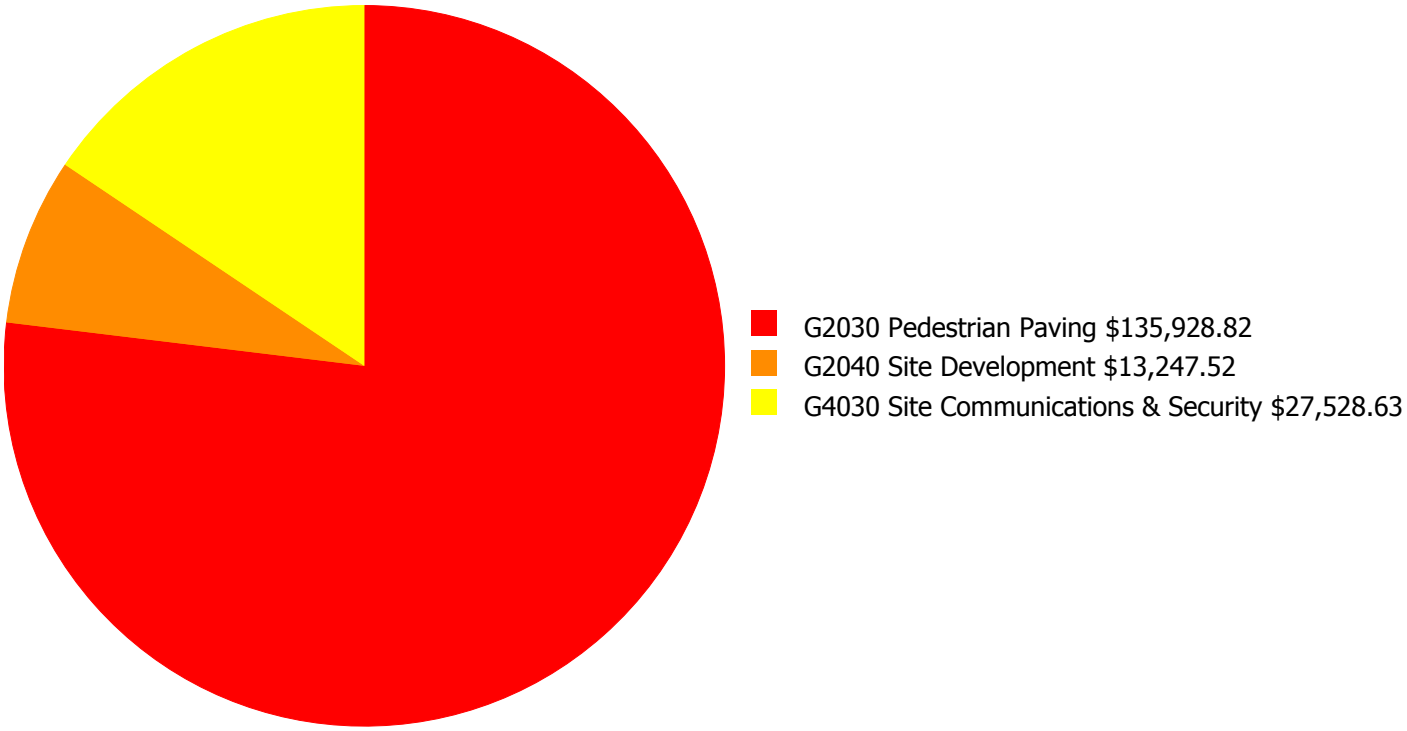
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 22.95%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$15,859.00	20.95 %	$31,718.00	18.95 %
2017	$0	$16,335.00	18.95 %	$32,669.00	14.95 %
2018	$0	$16,825.00	16.95 %	$33,649.00	10.95 %
2019	$0	$17,329.00	14.95 %	$34,659.00	6.95 %
2020	$0	$17,849.00	12.95 %	$35,699.00	2.95 %
2021	$0	$18,385.00	10.95 %	$36,770.00	-1.05 %
2022	$0	$18,936.00	8.95 %	$37,873.00	-5.05 %
2023	$0	$19,504.00	6.95 %	$39,009.00	-9.05 %
2024	$0	$20,090.00	4.95 %	$40,179.00	-13.05 %
2025	$0	$20,692.00	2.95 %	$41,384.00	-17.05 %
Total:	**$0**	**$181,804.00**		**$363,609.00**	

Deficiency Summary by System

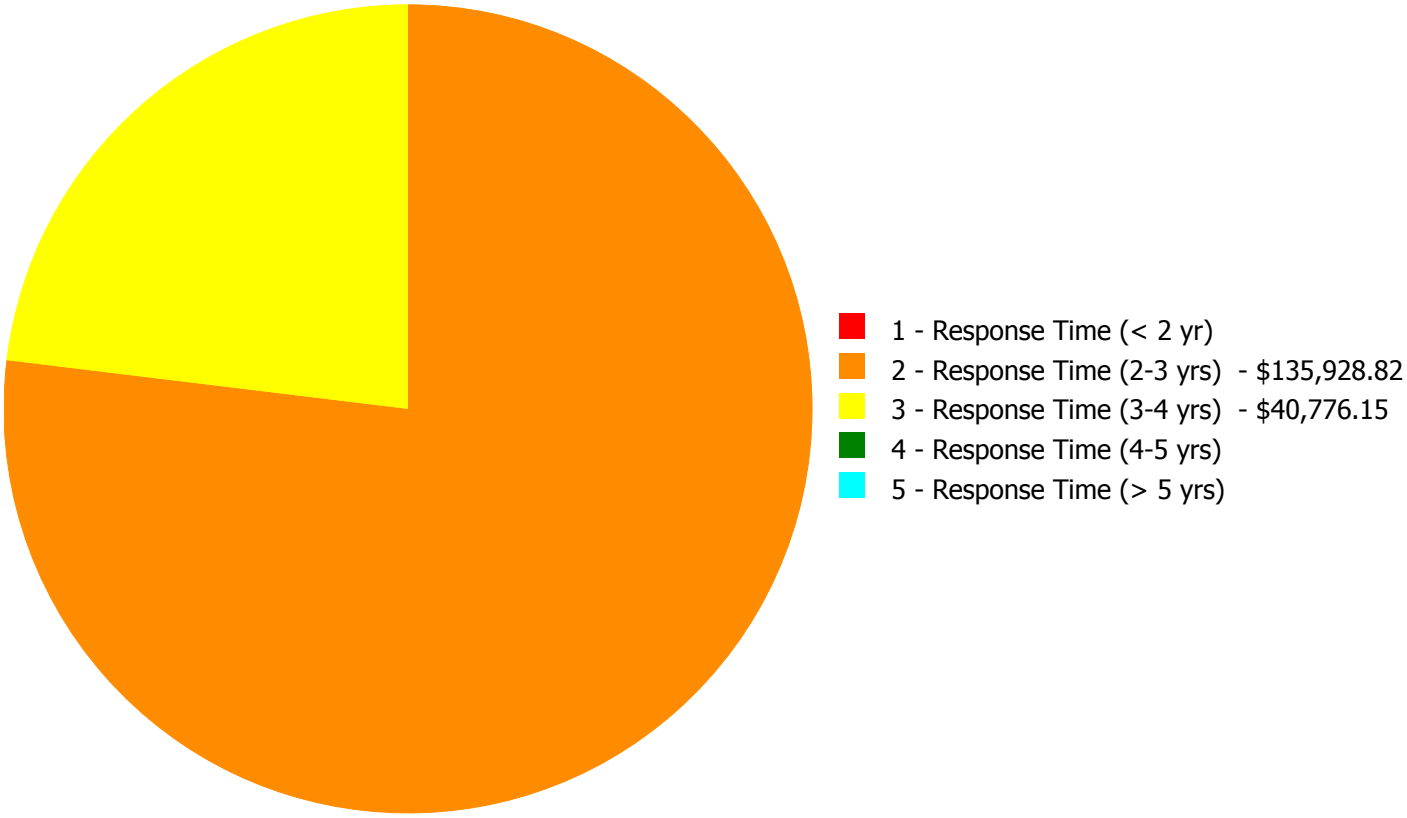
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $176,704.97

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: $176,704.97

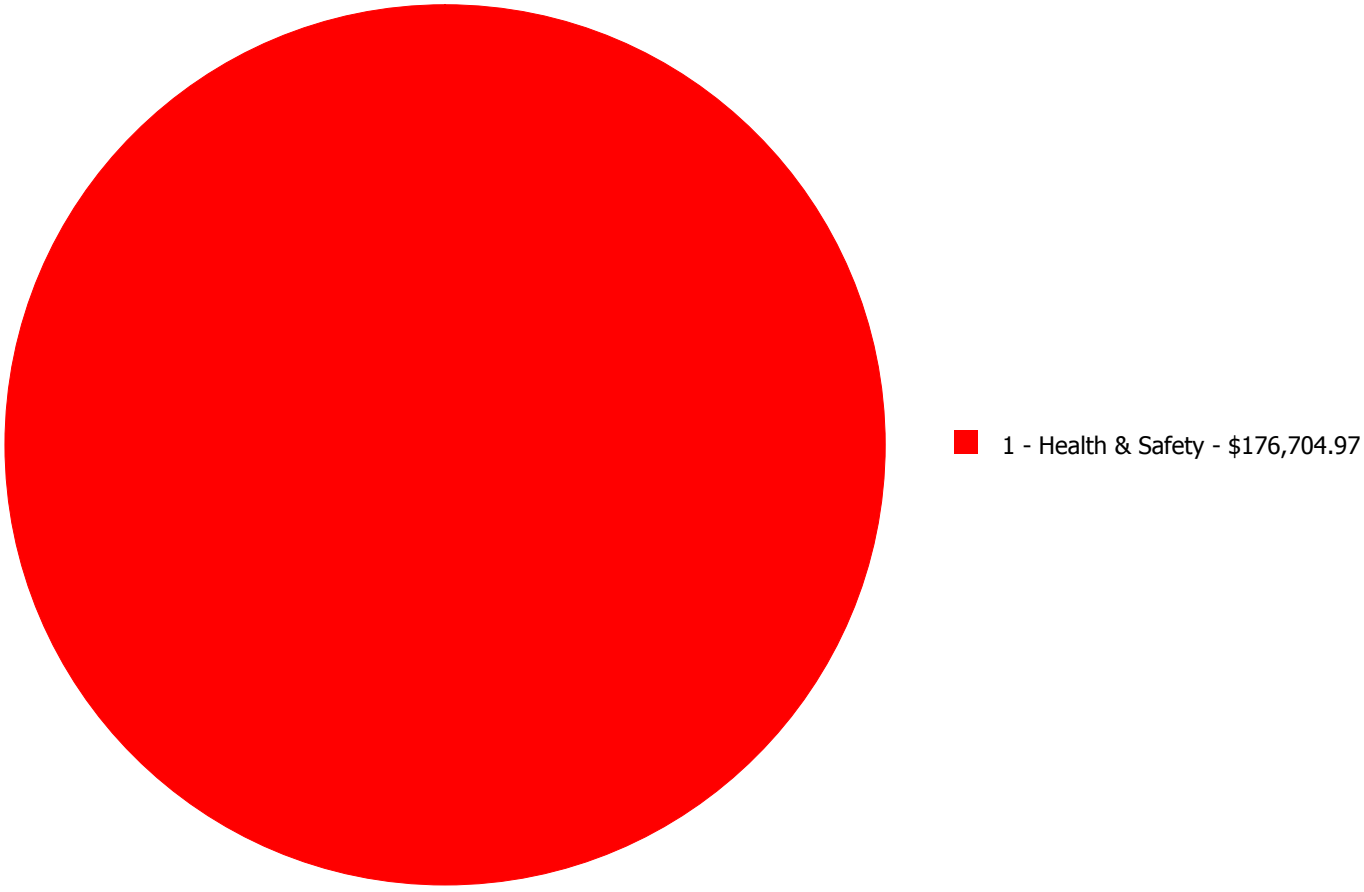
Deficiency By Priority Investment Table

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	$135,928.82	$0.00	$0.00	$0.00	$135,928.82
G2040	Site Development	$0.00	$0.00	$13,247.52	$0.00	$0.00	$13,247.52
G4030	Site Communications & Security	$0.00	$0.00	$27,528.63	$0.00	$0.00	$27,528.63
	Total:	$0.00	$135,928.82	$40,776.15	$0.00	$0.00	$176,704.97

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: $176,704.97

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: Fire exits

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Remove and replace exterior egress stairway - per flight

Qty: 4.00

Unit of Measure: Flight

Estimate: $135,928.82

Assessor Name: Ben Nixon

Date Created: 09/29/2015

Notes: Replace metal stairs at gym balcony fire exits – failing and hazardous to safety

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

System: G2040 - Site Development

Location: Parking
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Remove and replace chain link gate - 6' high
Qty: 4.00
Unit of Measure: Ea.
Estimate: $13,247.52
Assessor Name: Ben Nixon
Date Created: 09/25/2015

Notes: Install vehicle access gates for security

System: G4030 - Site Communications & Security

Location: Outdoor
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Add Video Surveillance System
Qty: 2.00
Unit of Measure: Ea.
Estimate: $27,528.63
Assessor Name: Ben Nixon
Date Created: 10/22/2015

Notes: Provide two CCTV cameras for complete building perimeter coverage.

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