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.

Rowen School

Governance	DISTRICT	Report Type	Elementary
Address	6841 N. 19Th St.	Enrollment	497
	Philadelphia, Pa 19126	Grade Range	'00-05'
Phone/Fax	215-276-5251 / 215-276-5806	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Rowen	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	**35.82%**	**$12,950,326**	**$36,150,757**
Building	37.30 %	$12,803,357	$34,321,171
Grounds	08.03 %	$146,969	$1,829,586

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	86.30 %	$866,905	$1,004,479
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.00 %	$0	$1,760,808
Windows (Shows functionality of exterior windows)	00.00 %	$0	$768,732
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$94,188
Interior Doors (Classroom doors)	17.06 %	$36,177	$212,064
Interior Walls (Paint and Finishes)	00.00 %	$0	$1,109,952
Plumbing Fixtures	26.21 %	$466,848	$1,781,112
Boilers	115.62 %	$1,217,415	$1,052,988
Chillers/Cooling Towers	67.49 %	$931,773	$1,380,672
Radiators/Unit Ventilators/HVAC	133.83 %	$3,244,980	$2,424,636
Heating/Cooling Controls	158.90 %	$1,209,898	$761,400
Electrical Service and Distribution	117.92 %	$645,135	$547,080
Lighting	32.57 %	$637,017	$1,955,952
Communications and Security (Cameras, Pa System and Fire Alarm)	48.57 %	$355,830	$732,636

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

S753001;Rowen

Final

Site Assessment Report

January 31, 2017

PARSONS

Table of Contents

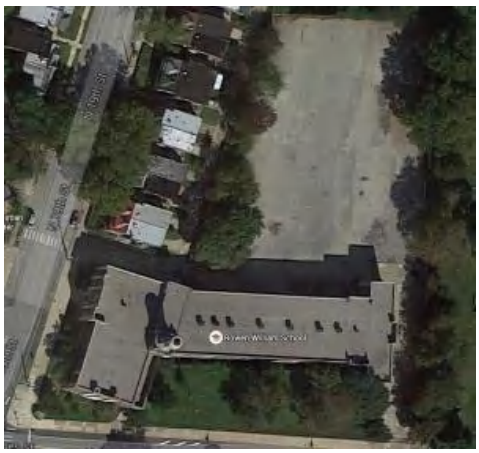
Site Executive Summary

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):	56,400
Year Built:	1938
Last Renovation:	
Replacement Value:	$36,150,757
Repair Cost:	$12,950,326.00
Total FCI:	35.82 %
Total RSLI:	62.71 %



Description:

Facility assessment, December 2015

School District of Philadelphia

Rowen Elementary School

6841 N. 19th Street

Philadelphia, PA 19126

56,400 SF / 517 Students / LN 06

The Rowen School building is located at 6841 N. 19th Street in Philadelphia, PA. The 3 story, 56,400 square foot building was originally constructed in 1938. The building has a basement partially above ground.

The Facility Area Coordinator was not able to accompany the Parsons assessment team on this site visit. Mr. Ray Negron, the Building Engineer, accompanied us on our tour of the school and provided us with detailed information on the building systems and recent maintenance history.

STRUCTURAL/ EXTERIOR CLOSURE:

The building typically rests on concrete foundations and bearing walls that are not showing signs of settlement or water penetration. Foundation walls do not show signs of deterioration. The basement slab does not show signs of heaving.

The main structure consists typically of cast-in-place concrete columns, beams and one-way concrete slabs. Long slab spans are supported with steel truss girders. The floor slabs and superstructure are generally in good condition.

The roof structure is typically similar to floor construction.

The building envelope is typically masonry with face brick. Main entrance is accentuated with stone columns and a tympanum at the roof level. In general, masonry is in good condition.

The original building windows were retrofitted in 1990's with extruded aluminum double hung windows single glazed with acrylic glazing; original wood frames are left in place. Basement windows are fitted with galvanized steel security screens. All windows are generally in fair condition.

Roofing is typically built-up installed before 1990. No roof access; leaks have been reported.

Exterior doors are typically hollow metal in fair condition, weather-stripping is installed.

INTERIORS:

Partition wall types include plastered ceramic hollow blocks and some CMU. Corridors and stairways have SGFT wainscot.

The interior wall finishes are generally painted plaster or CMU. Generally, paint is in fair condition with some deterioration in auditorium, stairways and other spaces.

Most ceilings are painted plaster in fair condition.

Flooring in classrooms, and auditorium and gym is generally hardwood in fair condition; and terrazzo in most corridors and toilets in good condition. Some offices have VCT installed in mid 1990's in fair condition.

Interior doors are generally rail and stile wood doors, most glazed, in wood frames with transoms and solid core in hollow metal frames. Doors are typically in good condition. Most doors are fitted with door knobs and are not ADA compliant.

Fittings include original chalk boards, generally in poor condition. Toilet partitions and accessories in are in fair condition and generally not accessible. Handrails are generally in good condition. Interior identifying signage is typically directly painted on wall or door surfaces generally in fair condition.

Stair construction is generally concrete with terrazzo treads and stringers, in good condition.

Furnishings include fixed casework in classrooms, corridors and library, generally in good condition; window shades/blinds, generally in good condition; fixed auditorium seating is original, generally in fair condition.

CONVEYING SYSTEMS:

The building has no elevators.

MECHANICAL

Plumbing Fixtures

Many of the original plumbing fixtures were replaced decades ago and are beyond their service lives. Fixtures in the restrooms on each floor consist of wall mounted push button and lever operated flush valve water closets, wall hung urinals, and lavatories with wheel handle faucets. Many of the units appear to be in poor condition, are beyond their useful service lives, and should be replaced.

Drinking fountains in the corridors are wall hung porcelain fixtures. They are beyond their service life and should be replaced; most are NOT

accessible type.

A service sink is available in a janitor closet in the corridor on each floor for use by the janitorial staff. The sinks are original to the building, in poor condition, and should be replaced.

The Kitchen does not have any sinks installed.

Domestic Water Distribution

A 3" city water service enters the basement boiler room on the Northwest side of the building from North 19th Street. The 3" meter and valves are located in the same room. Areduced pressure backflow preventer is not installed but should be. A water softener is installed. The original domestic hot and cold water distribution piping was replaced with copper piping and sweat fittings. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures, but the piping has been in use for an unknown amount of time and should be inspected and repaired as necessary by a qualified contractor.

One (1) Bradford White natural gas, 50 gallon, vertical hot water heater with circulating pump supplies hot water for domestic use. The unit is located in the boiler room on the basement level and has an installation date of 2014. The hot water heater is equipped with a T&P relief valve. The domestic hot water heater is well within its service life and should provide reliable service for the next 8-12 years.

Sanitary Waste

The original sanitary sewer piping is galvanized piping with threaded fittings and is still in use. Cast iron piping with hub and spigot fittings is present in the basement.

A sewage ejector pit located, in the basement boiler room, receives sewage from the basement area. The system has been in use for an unknown amount of time and appears to be in poor condition. The pit is sealed. One (1) Gorman Rupp pump is located outside the pit and appeared to be in poor condition. The sewage ejector should be replaced to ensure sewage doesn't back up into the basement.

The maintenance staff reported mostly minor problems with the sanitary waste piping systems. However, the sewer piping has been in service for almost 80 years and will require more frequent attention from the maintenance staff as time passes. The District should hire a qualified contractor to examine the sanitary waste piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Rain Water Drainage

Rain water drains from the roof are routed through mechanical chases in the building and appear to be original. The piping is threaded galvanized and has been in use well beyond its service life. The District should hire a qualified contractor to examine the rain water drainage piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Energy Supply

An 8" city gas service enters the building from North 19th Street. The gas meter is 4" and is located in the basement boiler room. A gas booster pump is installed to ensure adequate pressure to the boilers. At the time of the site visit the boilers were run on oil only.

The oil supply is stored in a 10,000 gallon underground storage tank (UST) located in the grass area on the South side of the building adjacent to Haines Street. Duplex pumps located in the former coal/ash room circulate oil through the system. Oil is used as the primary fuel for the boilers. The storage tank should be inspected on a regular basis. The actual condition of the fuel side is unknown.

Heat Generating Systems

Low pressure steam is generated at a maximum of 15 lbs. /sq. in., typically 3-6 lbs. /sq. in., by three (3) 84HP Burnham model E80 fire tube boilers, installation date unknown. Each boiler is equipped with an Industrial Combustion burner designed to operate on natural gas or fuel oil. One (1) boiler was out of commission for cleaning during the site visit. The boilers are currently only run off of fuel oil. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner controls provide full modulation and pressure atomization on oil. Burner oil pumps are loose and not driven by the fan motor. The gas train serving the boilers appears to have code required venting of the regulators and dual solenoid valves with venting of the chamber between. The oil supply to the burner is equipped with dual solenoid valves and a strainer. Gas/oil burners have an anticipated service life of 18 years; these burners have been in service an estimated 20 years and should be replaced with new units that have direct spark oil ignition and solid state flame sensing. The Building Engineer reports the system loses condensate due to failed traps, which is made

up with chemically treated city water. Fire tube boilers have an anticipated service life of 25 years or more; these units have been in service an estimated 20 years. The boilers appear to be in poor condition, with rust forming on their exterior, due to the steam that has leaked into the boiler room. The District should replace these boilers in the next 2 to 4 years.

A Shipco vacuum condensate receiver tank and boiler feed pump assembly are installed in the boiler room. The receiver tank provides treated make-up water to the boilers. The unit has four (4) 3/4HP pumps headered together and mounted on the tank. The unit appears to be in good condition. A chemical treatment system is connected to the condensate receiver tank.

Distribution Systems

Steam piping mains are black steel with flanged fittings and smaller distribution piping is black steel with welded fittings. The condensate piping is black steel with threaded fittings. Steam and condensate piping mains run up through the building to the unit ventilators and fin tube radiators on both floors. The distribution piping has been in use well beyond its service life and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. The District should hire a qualified contractor to examine the steam and condensate piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years.

Unit ventilators and fin tube radiators provide heating for classrooms, offices, and to the corridors. The unit ventilators and fin tube radiators are well beyond their service lives and in poor condition. Outdoor air for the building is provided by wall openings in the unit ventilators. The existing unit ventilators should be removed and new units installed with hot and chilled water coils and integral heat exchangers to introduce sufficient outdoor air to the building. Heating is supplied to the Gymnasium/Cafeteria and Auditorium by fin tube radiators. No ventilation is provided to the Gymnasium/Cafeteria. Ventilation is meant to be provided to the Auditorium by a house fan, located in the basement mechanical room, but the fan is defunct. This does not meet current code required ventilation requirements. Ventilation should be provided for the Gymnasium/Cafeteria by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in the window openings. Similar units should be installed for the administration offices. Ventilation should be provided for the Auditorium by installing a constant volume air handling unit with distribution ductwork and registers. These units would be equipped with hot water heating coils and chilled water cooling coils.

Exhaust fans are NOT installed for the restrooms and janitor closets. Through wall exhaust fans should be installed for each restroom. The roof was not accessible during the site visit, but according to satellite images seven (7) roof mounted gravity ventilators provide relief air from the corridors. The condition of the ventilators could not be verified, but it is assumed that all gravity ventilators are beyond their service lives and should be replaced.

Terminal & Package Units

Several of the classrooms in the school building have window air conditioning units that have an anticipated service life of only 10 years. Installing a 160 ton air-cooled chiller, with pumps located in a mechanical room, and chilled water distribution piping would supply more reliable air conditioning for the building with a much longer service life.

A Mitsubishi split system air conditioning system provides cooling to the LAN room located on the second floor on the West side of the building. The installation date of this unit is unknown; the anticipated service life of a split system air conditioner is 15 years. The district should budget to replace this unit within the next 7-10 years.

The building does not have a Kitchen or any cooking equipment as only premade meals are served.

Controls & Instrumentation

The original pneumatic systems no longer provide basic control functions. Pneumatic room thermostats are intended to control the unit ventilator control valves. In reality the unit ventilator control valves are wide open and heating is controlled via the boilers. Pneumatic control air is no longer supplied by the Quincy air compressor and Hankison air dryer. The pneumatic systems are beyond their service life, no longer functional, and require too much attention from the maintenance staff. The original control valves and pneumatic actuators are beyond their service life and should be rebuilt or replaced. These controls should be converted to DDC.

A new building automation system (BAS) with modern DDC modules and communications network should be installed to serve the HVAC systems in this building to improve reliability and energy efficiency. An interface should be provided with the preferred system in use throughout the District.

Sprinklers

The school building is NOT covered by an automatic sprinkler system. Installing a sprinkler system with quick response type heads should reduce

insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure.

The building is equipped with dry type fire stand pipe in the stairwell on the west side of the building.

ELECTRICAL:

Site electrical service - The primary power is at 13.2KV from the power poles. The primary power is brought into the school underground and to the electrical vault outside, feeding two vault mounted transformers. The secondary power feeds an old 400A, 120V/240V, 2 phase switchboard. The PECO meter (PECO 01 019252481) is also located inside the new electrical room (basement). The switchboard is old and not functioning properly. The site electrical service has reached the end of its useful service life.

Distribution system - The electrical distribution is accomplished by using the main 120V/240V switchboard (located in the electrical room) and feeding several 120V lighting and receptacle panels (total of 10) throughout the building. These panels are old, and they have reached the end of their useful service life.

Receptacles - The receptacles in classrooms, computer rooms, libraries, and other areas are not adequate. The walls in classrooms and the computer rooms have insufficient number of receptacles (minimum of 2 on each wall is required). Only about 20% of school has been upgraded with more receptacles, however the majority of the school (80%) lacks enough receptacles.

Lighting - Interior building is illuminated by various types of fixtures. They include fluorescent lighting (mostly T-12 lamps) in majority of the areas, including; classrooms, corridors, offices, Library, cafeteria, Kitchen, etc. Surface or pendant mounted industrial fluorescent fixtures are used in mechanical and electrical rooms. About 20% of the school lighting has been upgraded, however the majority of the building (80%) lacks adequate illumination level. The majority of interior lighting fixtures (80%) are in poor condition and have reached the end of their useful service life.

Fire alarm - The present Fire Alarm system is old, not automatic/addressable, and is not in compliance with safety codes. There are some manual pulls stations throughout the building. There are also some horn/strobes in the classrooms, corridors, offices and other areas in the school. Overall, the FA system is old and has reached the end of its useful service life.

Telephone/LAN - The school telephone and data systems are working properly. A main distribution frame (MDF) along with a telephone PBX system are providing the communication system function for the building. School is also equipped with Wi-Fi system.

Public address - A separate PA system does not exist. School uses the telephone systems for public announcement. The present System is functioning properly. Each class room is provided with an intercom telephone service. This system allows paging and intercom communication between main office to each classroom, and vice versa between each classroom and main office. Also, the system allows communications between classrooms to other classrooms.

Clock and Program system – There are clocks in each classroom (12-inch round clocks), however the clocks are not controlled properly by the master clock control.

Television System - Television system is not provided for the school. There are smart boards in most of the classrooms capable of connecting to computers and internet.

Security Systems, access control, and video surveillance - The school has a video surveillance system. There are insufficient cameras installed at exit doors, corridors, exterior, and other critical areas. However school would like to have more cameras to cover critical areas. The new cameras should be controlled by a Closed Circuit Television system (CCTV).

Emergency Power System – There is an old emergency generator in this building. This generator has reached the end of its useful life service. A new emergency generator will feed all the critical loads and possible future elevator loads.

Emergency lighting and exit lights - there are insufficient number of emergency lights/exit lights in the corridors and other exit ways. The exit/emergency lights are old and they have reached the end of their useful service life.

Lightning Protection System - There are several lightning protection rods installed on the roof. The rods are connected to the ground by using stranded aluminum cables from the roof top all the way to the ground floor.

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

Auditorium – The auditorium general lighting uses decorative light fixtures with adequate lumens. The stage lighting has old fixtures without a

proper controller. Also, the auditorium has an old sound system.

The auditorium stage lighting and sound systems are old and they have reached the end of their useful service life.

Elevators – This school has no elevator.

GROUNDS/SITE

Parking for staff vehicles is on west side of play yard, asphalt paving in fair condition with some cracks, no stripping or accessible stalls. Play yard is on north side of site, asphalt paving in fair condition. There is no playground equipment. Metal picket fencing is aging but in fair condition. Landscaping on site is mature trees and shrubs with some grass areas and well maintained.

Site Lighting - The school has some exterior lighting. However, a few pole-mounted lights are needed to provide adequate lighting for the grounds security and safety of people at night.

Site Paging – The school has some exterior speakers, however a few additional speakers are needed for proper communication with students playing outside.

RECOMMENDATIONS:

- Replace built-up roofing, including insulation
- Provide ADA compliant hardware on interior doors
- Replace toilet partitions for accessibility
- Install elevator for accessibility
- Replace thirteen (13) urinals, in use beyond their service life, with new low flow fixtures.
- Replace thirty-five (35) water closets, in use beyond their service life, with new code compliant fixtures.
- Replace three (3) lavatories, in use beyond their service life, with new code compliant fixtures.
- Replace eight (8) drinking fountains in the corridors. These units are beyond their service life and most are NOT accessible type.
- Replace two (2) service sinks, located in janitor closets on each floor, which are beyond their service lives.
- Install a 4" reduced pressure backflow preventer on the incoming domestic water line.
- Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for an unknown amount of time, and replace any damaged piping.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the sewage ejector in the basement which is showing signs of rust damage.
- Hire a qualified contractor to perform a detailed examination of the rain water drainage piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system.
- Replace the three (3) existing 2,821MBH fire tube boilers, which are approaching the end of their service lives, with new cast iron boiler within the next 2-4 years.
- Replace the three (3) dual fuel boiler burners, which are beyond their service lives, with new more efficient burners within the next 0-2 years.
- Hire a qualified contractor to examine the steam and condensate piping, in service for almost 80 years, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Remove the existing unit ventilators and install units with hot and chilled water coils and integral heat exchangers to introduce outdoor air to the building.
- Provide ventilation for the Gymnasium/Cafeteria by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in the window openings.
- Provide ventilation for the Auditorium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.
- Provide ventilation for the administration offices by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.
- Remove the window air conditioning units and install a 160 ton air-cooled chiller with chilled water distribution piping and pumps located in a mechanical room to supply more reliable air conditioning for the building with a much longer service life.
- Install seven (7) through wall exhaust fans to serve the restrooms, which currently do not have ventilation.
- Replace seven (7) roof mounted gravity ventilators which are beyond their service lives.
- Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.

- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.
- Install a new and upgraded electrical service for this school to handle existing loads plus any additional mechanical loads.
- Install new 120V lighting and receptacle panels throughout the building (total of 10)
- Install new lighting system for 80% of the building.
- Install new receptacles for 80% of the building
- Install new clock system
- Install additional video surveillance system for indoor and outdoor.
- Install new automated/addressable FA system.
- Install a new Emergency generator.
- Install new exit lights and emergency lights.
- Install an upgraded auditorium stage lighting, lighting control and sound system.
- Stripe parking lot and add accessible stalls
- Install additional pole-mounted lights for the grounds
- Install additional exterior speakers for the grounds

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S753001		

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	23.00 %	0.00 %	$0.00
A20 - Basement Construction	23.00 %	0.00 %	$0.00
B10 - Superstructure	23.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	29.77 %	0.00 %	$0.00
B30 - Roofing	110.00 %	86.30 %	$866,905.15
C10 - Interior Construction	27.15 %	3.72 %	$47,911.28
C20 - Stairs	23.00 %	0.00 %	$0.00
C30 - Interior Finishes	51.81 %	0.00 %	$0.00
D10 - Conveying	105.71 %	110.01 %	$1,012,601.25
D20 - Plumbing	106.12 %	59.34 %	$1,361,230.96
D30 - HVAC	109.64 %	105.26 %	$6,604,065.69
D40 - Fire Protection	97.24 %	158.77 %	$806,827.19
D50 - Electrical	110.11 %	60.51 %	$2,005,900.50
E10 - Equipment	31.43 %	10.91 %	$97,915.35
E20 - Furnishings	40.00 %	0.00 %	$0.00
G20 - Site Improvements	40.17 %	0.17 %	$2,402.75
G40 - Site Electrical Utilities	106.67 %	35.39 %	$144,565.88
Totals:	**62.71 %**	**35.82 %**	**$12,950,326.00**

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)
B753001;Rowen	56,400	37.30	$2,092,506.39	$2,961,009.28	$4,660,734.66	$972,919.68	$2,116,187.36
G753001;Grounds	93,900	8.03	$0.00	$2,402.75	$82,487.73	$62,078.15	$0.00
Total:		**35.82**	**$2,092,506.39**	**$2,963,412.03**	**$4,743,222.39**	**$1,034,997.83**	**$2,116,187.36**

Deficiencies By Priority

1 - Response Time (< 2 yr) - $2,092,506.39
2 - Response Time (2-3 yrs) - $2,963,412.03
3 - Response Time (3-4 yrs) - $4,743,222.39
4 - Response Time (4-5 yrs) - $1,034,997.83
5 - Response Time (> 5 yrs) - $2,116,187.36

Budget Estimate Total: $12,950,326.00

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.

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Function:	Elementary School
Gross Area (SF):	56,400
Year Built:	1938
Last Renovation:	
Replacement Value:	$34,321,171
Repair Cost:	$12,803,357.37
Total FCI:	37.30 %
Total RSLI:	63.12 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B753001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S753001		

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	23.00 %	0.00 %	$0.00
A20 - Basement Construction	23.00 %	0.00 %	$0.00
B10 - Superstructure	23.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	29.77 %	0.00 %	$0.00
B30 - Roofing	110.00 %	86.30 %	$866,905.15
C10 - Interior Construction	27.15 %	3.72 %	$47,911.28
C20 - Stairs	23.00 %	0.00 %	$0.00
C30 - Interior Finishes	51.81 %	0.00 %	$0.00
D10 - Conveying	105.71 %	110.01 %	$1,012,601.25
D20 - Plumbing	106.12 %	59.34 %	$1,361,230.96
D30 - HVAC	109.64 %	105.26 %	$6,604,065.69
D40 - Fire Protection	97.24 %	158.77 %	$806,827.19
D50 - Electrical	110.11 %	60.51 %	$2,005,900.50
E10 - Equipment	31.43 %	10.91 %	$97,915.35
E20 - Furnishings	40.00 %	0.00 %	$0.00
Totals:	**63.12 %**	**37.30 %**	**$12,803,357.37**

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	$24.32	S.F.	56,400	100	1938	2038		23.00 %	0.00 %	23			$1,371,648
A1030	Slab on Grade	$15.51	S.F.	56,400	100	1938	2038		23.00 %	0.00 %	23			$874,764
A2010	Basement Excavation	$13.07	S.F.	56,400	100	1938	2038		23.00 %	0.00 %	23			$737,148
A2020	Basement Walls	$23.02	S.F.	56,400	100	1938	2038		23.00 %	0.00 %	23			$1,298,328
B1010	Floor Construction	$92.20	S.F.	56,400	100	1938	2038		23.00 %	0.00 %	23			$5,200,080
B1020	Roof Construction	$24.11	S.F.	56,400	100	1938	2038		23.00 %	0.00 %	23			$1,359,804
B2010	Exterior Walls	$31.22	S.F.	56,400	100	1938	2038		23.00 %	0.00 %	23			$1,760,808
B2020	Exterior Windows	$13.63	S.F.	56,400	40	1993	2033		45.00 %	0.00 %	18			$768,732
B2030	Exterior Doors	$1.67	S.F.	56,400	25	1998	2023		32.00 %	0.00 %	8			$94,188
B3010105	Built-Up	$37.76	S.F.	25,586	20	1990	2010	2037	110.00 %	89.73 %	22		$866,905.15	$966,127
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.68	S.F.	56,400	20			2037	110.00 %	0.00 %	22			$38,352
C1010	Partitions	$14.93	S.F.	56,400	100	1938	2038		23.00 %	0.00 %	23			$842,052
C1020	Interior Doors	$3.76	S.F.	56,400	40	1989	2029		35.00 %	17.06 %	14		$36,177.02	$212,064
C1030	Fittings	$4.12	S.F.	56,400	40	1989	2029		35.00 %	5.05 %	14		$11,734.26	$232,368
C2010	Stair Construction	$1.28	S.F.	56,400	100	1938	2038		23.00 %	0.00 %	23			$72,192

Site Assessment Report - B753001;Rowen

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3010230	Paint & Covering	$17.70	S.F.	56,400	10	2011	2021		60.00 %	0.00 %	6			$998,280
C3010231	Vinyl Wall Covering	$0.00	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$1.98	S.F.	56,400	30	1938	1968	2030	50.00 %	0.00 %	15			$111,672
C3020411	Carpet	$7.30	S.F.		10				0.00 %	0.00 %				$0
C3020412	Terrazzo & Tile	$75.52	S.F.	16,920	50	1938	1988	2038	46.00 %	0.00 %	23			$1,277,798
C3020413	Vinyl Flooring	$9.68	S.F.	8,460	20	2003	2023		40.00 %	0.00 %	8			$81,893
C3020414	Wood Flooring	$22.27	S.F.	22,560	25	2003	2028		52.00 %	0.00 %	13			$502,411
C3020415	Concrete Floor Finishes	$0.97	S.F.	8,460	50	1998	2048		66.00 %	0.00 %	33			$8,206
C3030	Ceiling Finishes	$20.97	S.F.	56,400	25	2003	2028		52.00 %	0.00 %	13			$1,182,708
D1010	Elevators and Lifts	$16.32	S.F.	56,400	35			2052	105.71 %	110.01 %	37		$1,012,601.25	$920,448
D2010	Plumbing Fixtures	$31.58	S.F.	56,400	35	1938	1973	2052	105.71 %	26.21 %	37		$466,847.52	$1,781,112
D2020	Domestic Water Distribution	$2.90	S.F.	56,400	25	1938	1963	2042	108.00 %	205.99 %	27		$336,911.30	$163,560
D2030	Sanitary Waste	$2.90	S.F.	56,400	25	1938	1963	2042	108.00 %	187.93 %	27		$307,370.28	$163,560
D2040	Rain Water Drainage	$3.29	S.F.	56,400	30	1938	1968	2047	106.67 %	134.79 %	32		$250,101.86	$185,556
D3020	Heat Generating Systems	$18.67	S.F.	56,400	25	1995	2020	2052	148.00 %	115.62 %	37		$1,217,414.77	$1,052,988
D3030	Cooling Generating Systems	$24.48	S.F.	56,400	20			2042	135.00 %	67.49 %	27		$931,772.79	$1,380,672
D3040	Distribution Systems	$42.99	S.F.	56,400	25	1938	1963	2042	108.00 %	133.83 %	27		$3,244,980.18	$2,424,636
D3050	Terminal & Package Units	$11.60	S.F.	56,400	20				0.00 %	0.00 %				$654,240
D3060	Controls & Instrumentation	$13.50	S.F.	56,400	20	1938	1958	2037	110.00 %	158.90 %	22		$1,209,897.95	$761,400
D4010	Sprinklers	$8.02	S.F.	56,400	35			2052	105.71 %	178.37 %	37		$806,827.19	$452,328
D4020	Standpipes	$0.99	S.F.	56,400	35	1990	2025		28.57 %	0.00 %	10			$55,836
D5010	Electrical Service/Distribution	$9.70	S.F.	56,400	30	1938	1968	2047	106.67 %	117.92 %	32		$645,134.50	$547,080
D5020	Lighting and Branch Wiring	$34.68	S.F.	56,400	20	1938	1958	2037	110.00 %	32.57 %	22		$637,016.71	$1,955,952
D5030	Communications and Security	$12.99	S.F.	56,400	15	1938	1953	2032	113.33 %	48.57 %	17		$355,829.55	$732,636
D5090	Other Electrical Systems	$1.41	S.F.	56,400	30	1938	1968	2047	106.67 %	462.65 %	32		$367,919.74	$79,524
E1020	Institutional Equipment	$4.82	S.F.	56,400	35	1991	2026		31.43 %	36.02 %	11		$97,915.35	$271,848
E1090	Other Equipment	$11.10	S.F.	56,400	35	1991	2026		31.43 %	0.00 %	11			$626,040
E2010	Fixed Furnishings	$2.13	S.F.	56,400	40	1991	2031		40.00 %	0.00 %	16			$120,132
								Total	**63.12 %**	**37.30 %**			**$12,803,357.37**	**$34,321,171**

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 (glazed block)

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

Note: 30% - Terrazzo & Tile
15% - Vinyl Flooring
40% - Wood Flooring
15% - Concrete Floor Finishes

Renewal Schedule

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

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$12,803,357**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,311,198**	**$0**	**$245,359**	**$0**	**$82,543**	**$14,442,459**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
*** A10 - Foundations**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
*** A20 - Basement Construction**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2020 - Exterior Windows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2030 - Exterior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$131,246	$0	$0	**$131,246**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$866,905	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$866,905**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

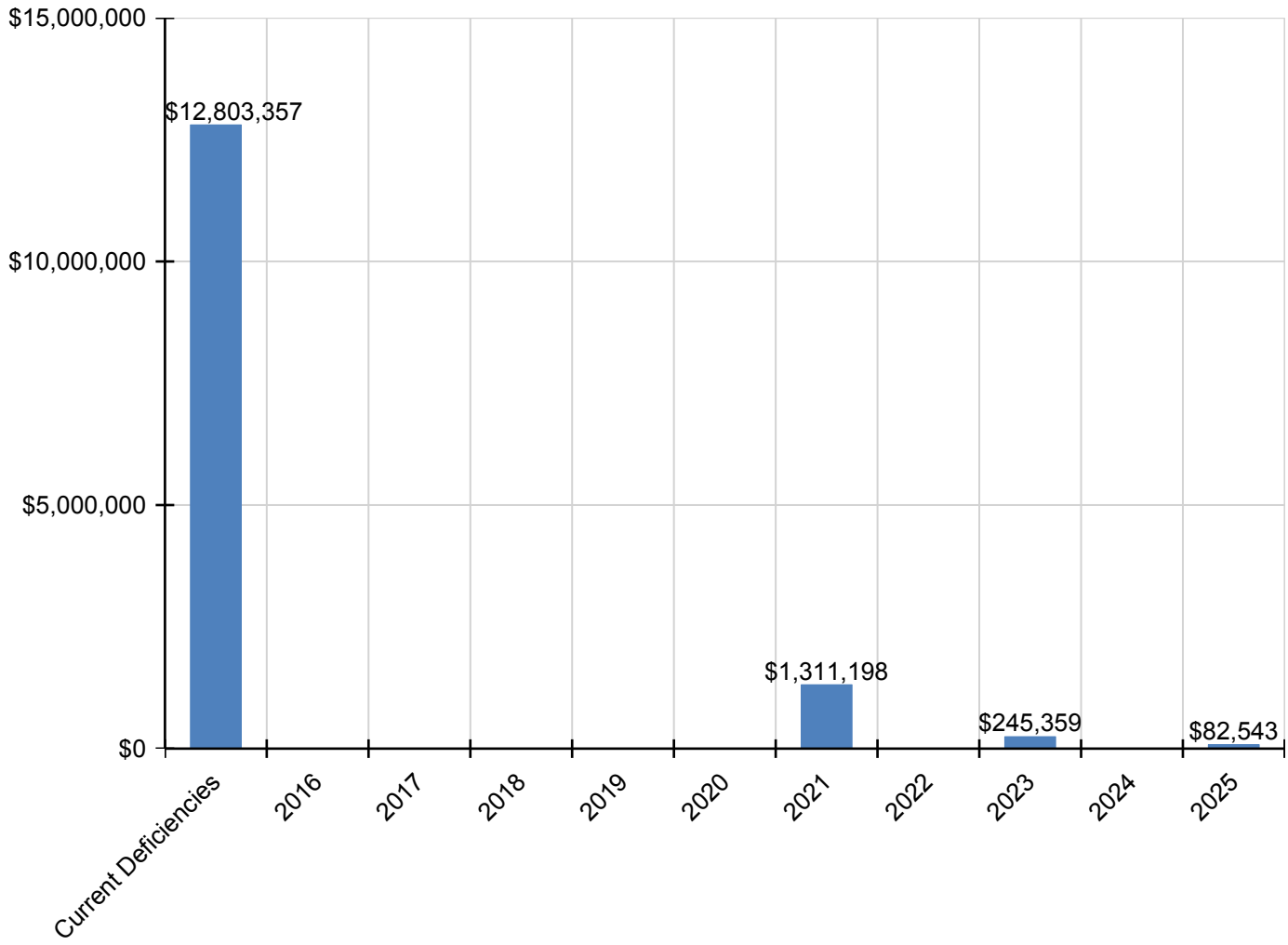
C1020 - Interior Doors	$36,177	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$36,177**
C1030 - Fittings	$11,734	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$11,734**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$0	$1,311,198	$0	$0	$0	$0	**$1,311,198**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$114,113	$0	$0	**$114,113**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$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	$466,848	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$466,848**
D2020 - Domestic Water Distribution	$336,911	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$336,911**
D2030 - Sanitary Waste	$307,370	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$307,370**
D2040 - Rain Water Drainage	$250,102	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$250,102**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,217,415	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,217,415**
D3030 - Cooling Generating Systems	$931,773	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$931,773**
D3040 - Distribution Systems	$3,244,980	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,244,980**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,209,898	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,209,898**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$806,827	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$806,827**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$82,543	**$82,543**

D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$645,135	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$645,135**
D5020 - Lighting and Branch Wiring	$637,017	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$637,017**
D5030 - Communications and Security	$355,830	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$355,830**
D5090 - Other Electrical Systems	$367,920	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$367,920**
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	$97,915	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$97,915**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

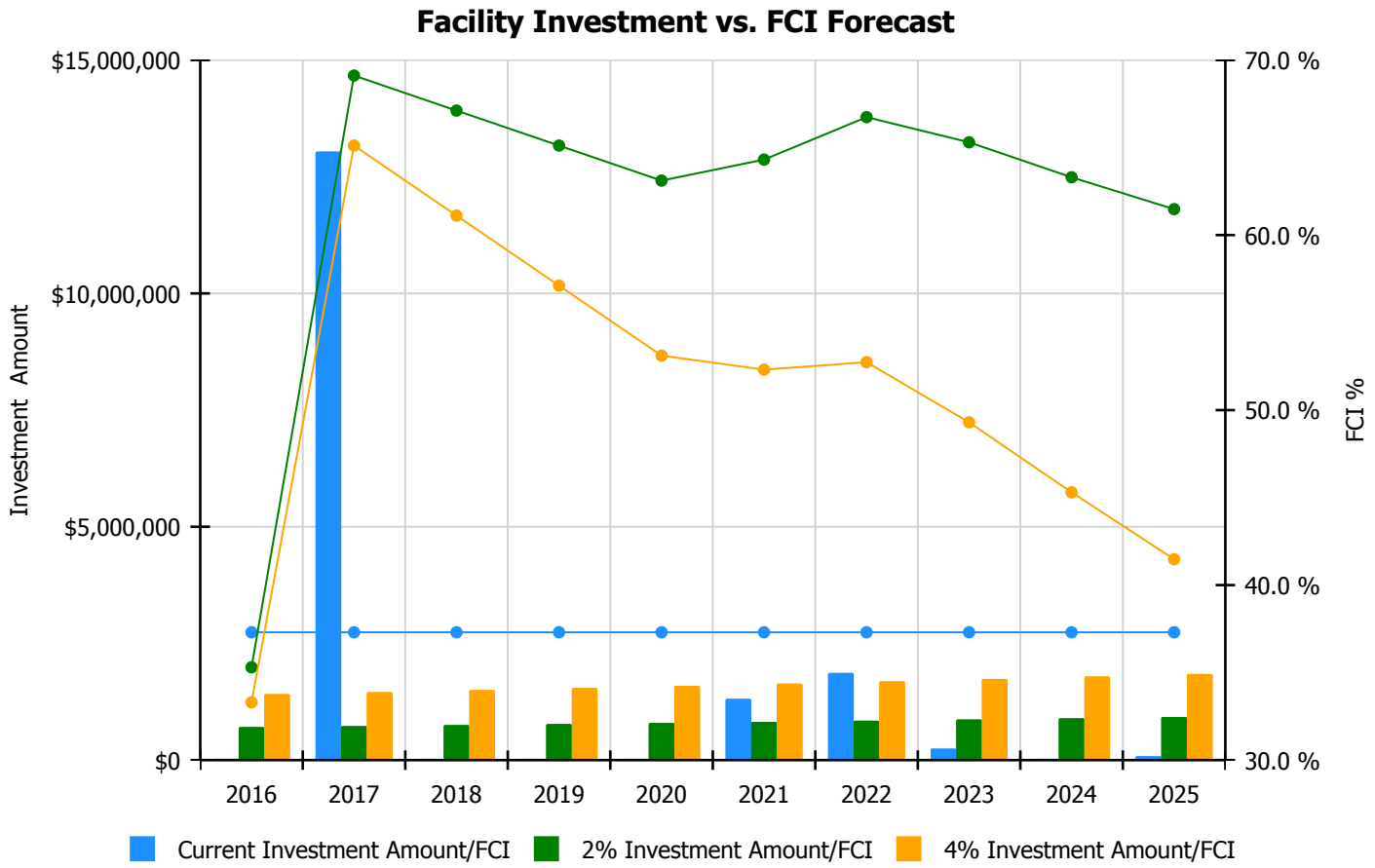
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

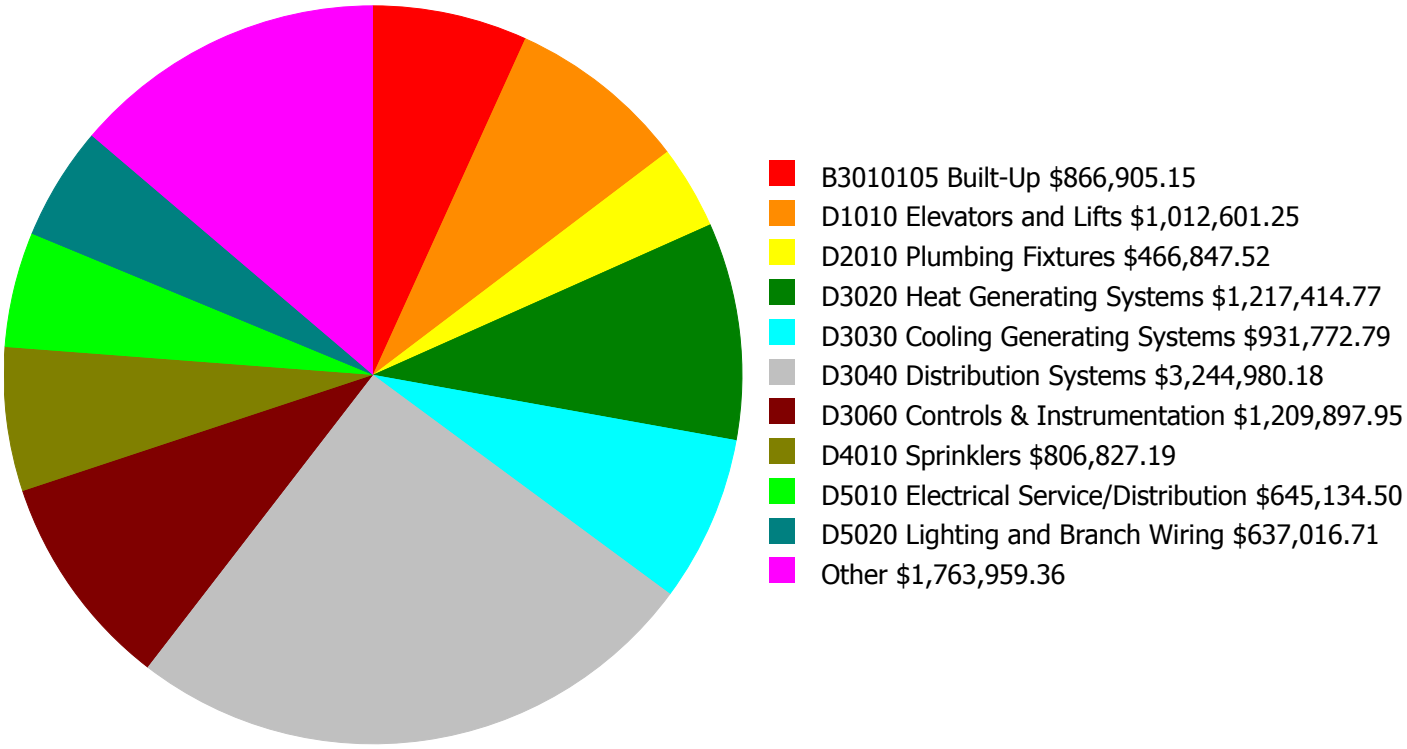
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 37.3%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$707,016.00	35.30 %	$1,414,032.00	33.30 %
2017	$13,037,929	$728,227.00	69.11 %	$1,456,453.00	65.11 %
2018	$0	$750,073.00	67.11 %	$1,500,147.00	61.11 %
2019	$0	$772,576.00	65.11 %	$1,545,151.00	57.11 %
2020	$0	$795,753.00	63.11 %	$1,591,506.00	53.11 %
2021	$1,311,198	$819,625.00	64.31 %	$1,639,251.00	52.31 %
2022	$1,867,857	$844,214.00	66.74 %	$1,688,428.00	52.74 %
2023	$245,359	$869,541.00	65.30 %	$1,739,081.00	49.30 %
2024	$0	$895,627.00	63.30 %	$1,791,254.00	45.30 %
2025	$82,543	$922,496.00	61.48 %	$1,844,991.00	41.48 %
Total:	**$16,544,888**	**$8,105,148.00**		**$16,210,294.00**	

Deficiency Summary by System

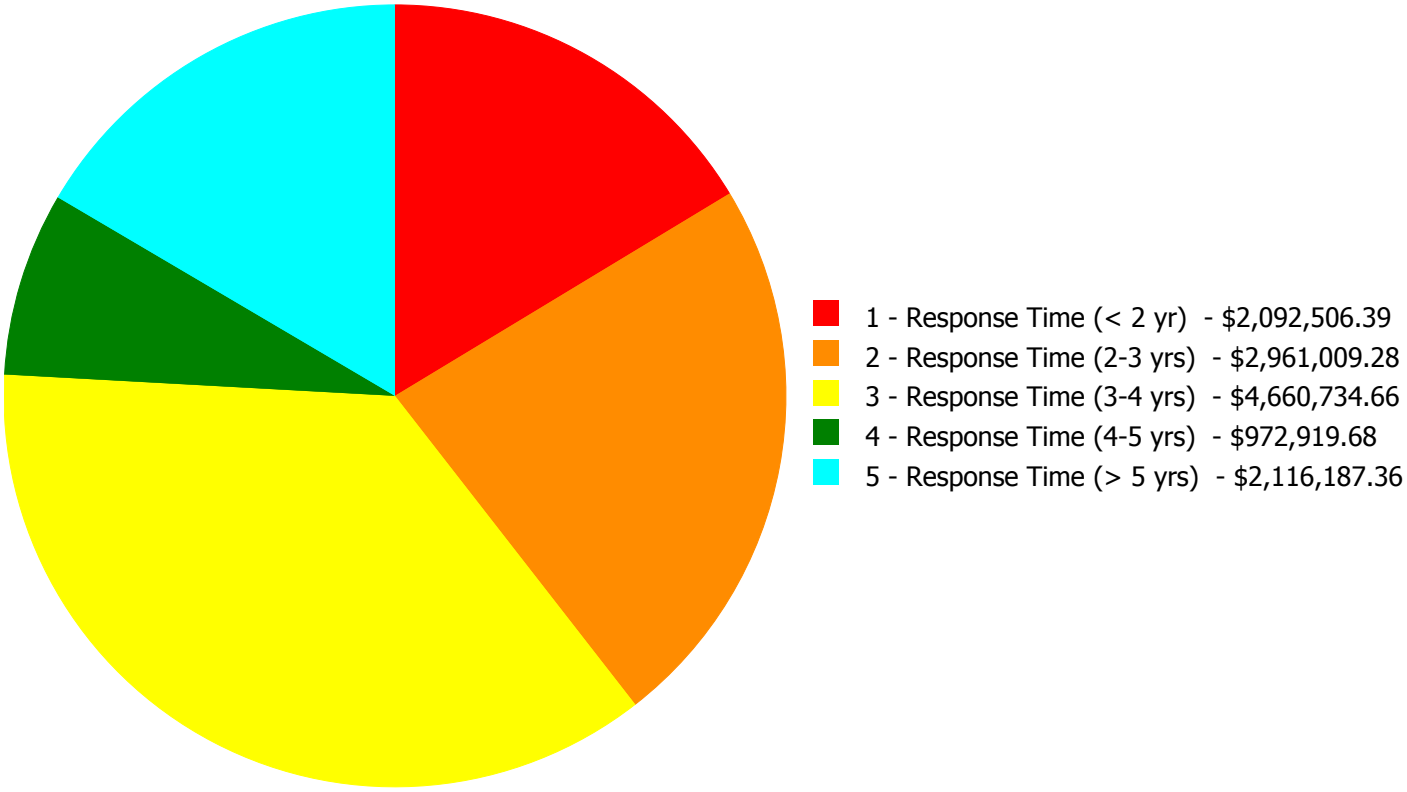
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $12,803,357.37

Deficiency Summary by Priority

The following chart shows the total repair costs broken down by priority. Assessors assigned deficiencies within eCOMET to one of the following priority categories:



Budget Estimate Total: $12,803,357.37

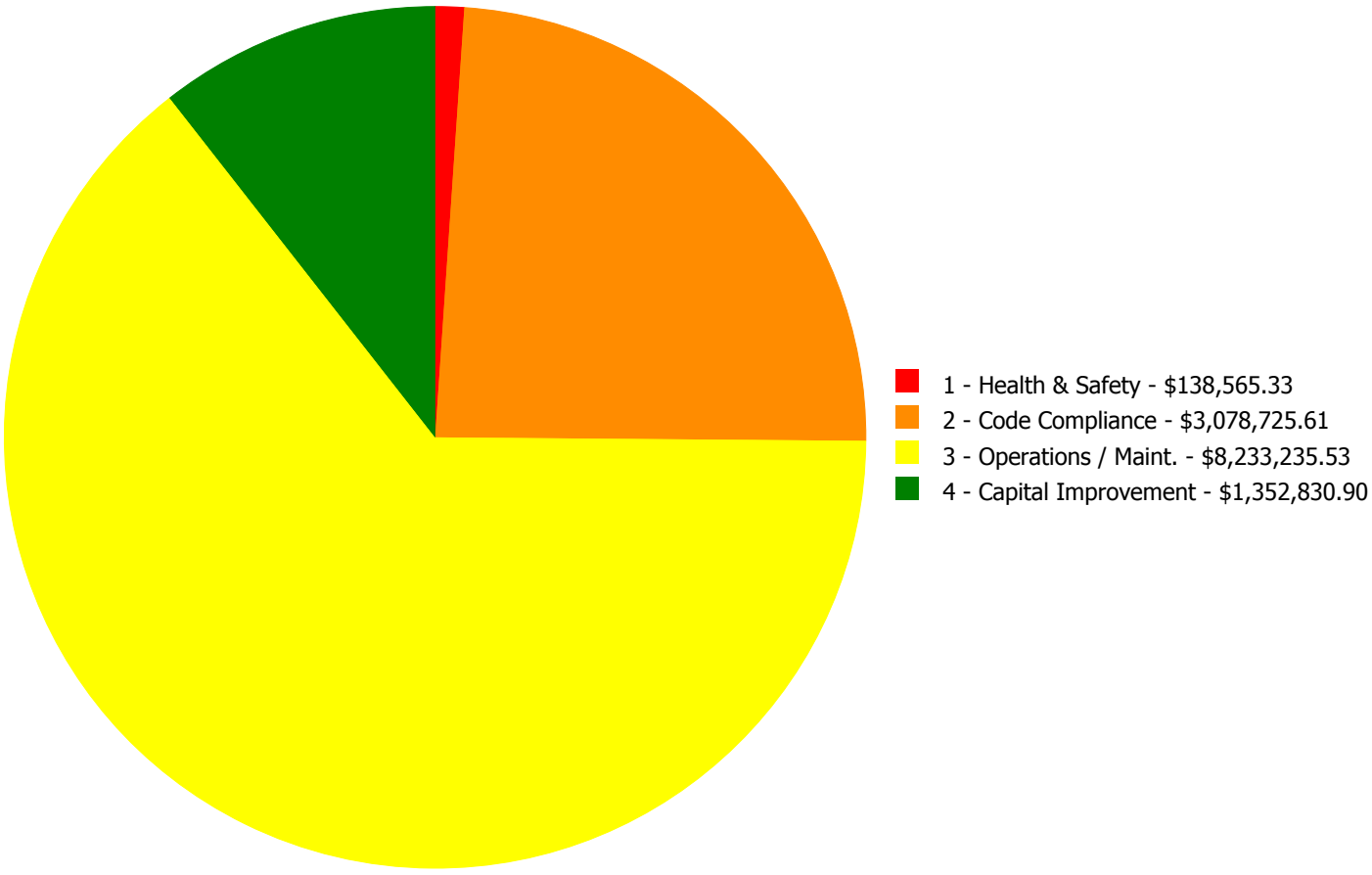
Deficiency By Priority Investment Table

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
B3010105	Built-Up	$866,905.15	$0.00	$0.00	$0.00	$0.00	$866,905.15
C1020	Interior Doors	$0.00	$36,177.02	$0.00	$0.00	$0.00	$36,177.02
C1030	Fittings	$0.00	$0.00	$11,734.26	$0.00	$0.00	$11,734.26
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	$125,543.18	$341,304.34	$0.00	$0.00	$466,847.52
D2020	Domestic Water Distribution	$0.00	$51,112.25	$0.00	$285,799.05	$0.00	$336,911.30
D2030	Sanitary Waste	$0.00	$0.00	$307,370.28	$0.00	$0.00	$307,370.28
D2040	Rain Water Drainage	$0.00	$0.00	$250,101.86	$0.00	$0.00	$250,101.86
D3020	Heat Generating Systems	$233,719.44	$0.00	$983,695.33	$0.00	$0.00	$1,217,414.77
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$931,772.79	$931,772.79
D3040	Distribution Systems	$185,054.61	$1,323,816.81	$551,694.19	$0.00	$1,184,414.57	$3,244,980.18
D3060	Controls & Instrumentation	$0.00	$0.00	$1,209,897.95	$0.00	$0.00	$1,209,897.95
D4010	Sprinklers	$806,827.19	$0.00	$0.00	$0.00	$0.00	$806,827.19
D5010	Electrical Service/Distribution	$0.00	$411,758.77	$0.00	$233,375.73	$0.00	$645,134.50
D5020	Lighting and Branch Wiring	$0.00	$0.00	$637,016.71	$0.00	$0.00	$637,016.71
D5030	Communications and Security	$0.00	$0.00	$0.00	$355,829.55	$0.00	$355,829.55
D5090	Other Electrical Systems	$0.00	$0.00	$367,919.74	$0.00	$0.00	$367,919.74
E1020	Institutional Equipment	$0.00	$0.00	$0.00	$97,915.35	$0.00	$97,915.35
	Total:	$2,092,506.39	$2,961,009.28	$4,660,734.66	$972,919.68	$2,116,187.36	$12,803,357.37

Deficiency Summary by Category

The following chart shows the total repair costs broken down by deficiency categories. Assessors assigned deficiencies to one of the following categories:



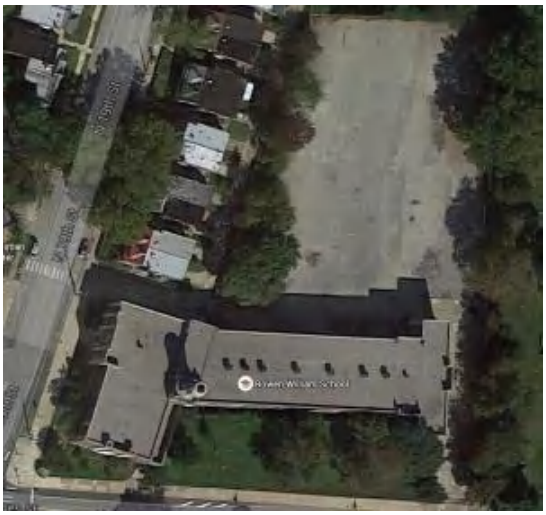
Budget Estimate Total: $12,803,357.37

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: B3010105 - Built-Up



Location: Roof
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Remove and Replace Built Up Roof
Qty: 25,586.00
Unit of Measure: S.F.
Estimate: $866,905.15
Assessor Name: System
Date Created: 02/26/2016

Notes: Replace built-up roofing, including insulation

System: D3020 - Heat Generating Systems

Location: Boiler room
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Replace power burner, gas/oil (100 HP)
Qty: 3.00
Unit of Measure: Ea.
Estimate: $233,719.44
Assessor Name: System
Date Created: 02/04/2016

Notes: Replace the three (3) dual fuel boiler burners, which are beyond their service lives, with new more efficient burners within the next 0-2 years.

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 56,400.00

Unit of Measure: S.F.

Estimate: $185,054.61

Assessor Name: System

Date Created: 02/04/2016

Notes: Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system.

System: D4010 - Sprinklers

Location: Throughout building

Distress: Life Safety / NFPA / PFD

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Install a fire protection sprinkler system

Qty: 56,400.00

Unit of Measure: S.F.

Estimate: $806,827.19

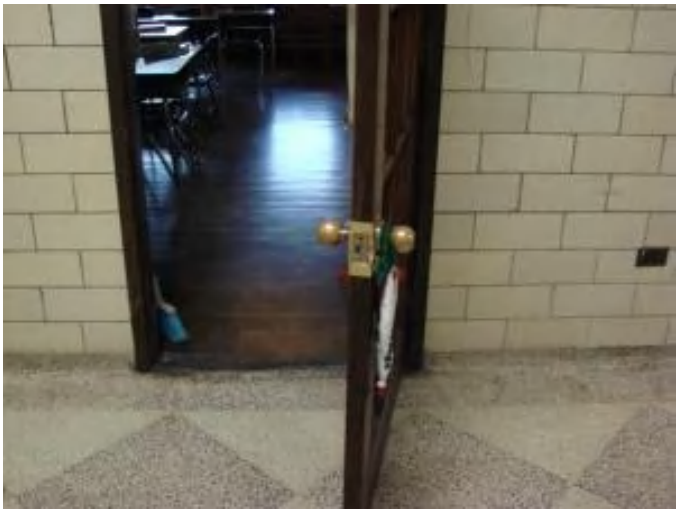
Assessor Name: System

Date Created: 02/04/2016

Notes: Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.

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

System: C1020 - Interior Doors



Location: Throughout

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace door knobs with compliant lever type

Qty: 65.00

Unit of Measure: Ea.

Estimate: $36,177.02

Assessor Name: System

Date Created: 02/26/2016

Notes: Provide ADA compliant hardware on interior doors

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: 02/26/2016

Notes: Install elevator for accessibility

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 water fountains to meet ADA - includes high and low fountains and new recessed alcove

Qty: 8.00

Unit of Measure: Ea.

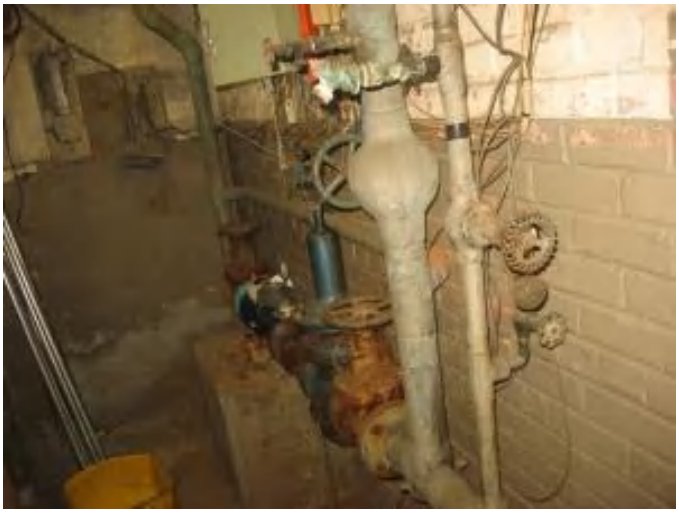
Estimate: $125,543.18

Assessor Name: System

Date Created: 02/04/2016

Notes: Replace eight (8) drinking fountains in the corridors. These units are beyond their service life and most are NOT accessible type.

System: D2020 - Domestic Water Distribution



Location: Boiler room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide 4" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: $51,112.25

Assessor Name: System

Date Created: 02/04/2016

Notes: Install a 4” reduced pressure backflow preventer on the incoming domestic water line.

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: 26.00

Unit of Measure: Ea.

Estimate: $1,296,845.49

Assessor Name: System

Date Created: 02/04/2016

Notes: Remove the existing unit ventilators and install units with hot and chilled water coils and integral heat exchangers to introduce outdoor air to the building.

System: D3040 - Distribution Systems

This deficiency has no image.

Location: Restrooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide inline centrifugal fan and wall outlet louver for restroom exhaust (8 plbg fixtures)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $26,971.32

Assessor Name: System

Date Created: 02/04/2016

Notes: Install seven (7) through wall exhaust fans to serve the restrooms, which currently do not have ventilation.

System: D5010 - Electrical Service/Distribution

Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Panelboard - 400 amp

Qty: 1.00

Unit of Measure: Ea.

Estimate: $411,758.77

Assessor Name: System

Date Created: 02/23/2016

Notes: Install new 120V lighting and receptacle panels throughout the building (total of 10)

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

System: C1030 - Fittings

Location: Toilets

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 12.00

Unit of Measure: Ea.

Estimate: $11,734.26

Assessor Name: System

Date Created: 02/26/2016

Notes: Replace toilet partitions for accessibility

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 35.00

Unit of Measure: Ea.

Estimate: $261,175.17

Assessor Name: System

Date Created: 02/04/2016

Notes: Replace thirty-five (35) water closets, in use beyond their service life, with new code compliant fixtures.

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 13.00

Unit of Measure: Ea.

Estimate: $48,178.71

Assessor Name: System

Date Created: 02/04/2016

Notes: Replace thirteen (13) urinals, in use beyond their service life, with new low flow fixtures.

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 3.00

Unit of Measure: Ea.

Estimate: $16,221.05

Assessor Name: System

Date Created: 02/04/2016

Notes: Replace three (3) lavatories, in use beyond their service life, with new code compliant fixtures.

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $15,729.41

Assessor Name: System

Date Created: 02/04/2016

Notes: Replace two (2) service sinks, located in the corridors of each floor, which are beyond their service lives.

System: D2030 - Sanitary Waste

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Inspect sanitary waste piping and replace damaged sections. (+50KSF)

Qty: 56,400.00

Unit of Measure: S.F.

Estimate: $276,684.33

Assessor Name: System

Date Created: 02/04/2016

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

System: D2030 - Sanitary Waste

Location: Boiler room

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace sanitary sewage ejector pit and pumps. (48" dia.)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $30,685.95

Assessor Name: System

Date Created: 02/04/2016

Notes: Replace the sewage ejector in the basement which is showing signs of rust damage.

System: D2040 - Rain Water Drainage

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 56,400.00

Unit of Measure: S.F.

Estimate: $250,101.86

Assessor Name: System

Date Created: 02/04/2016

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

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Not Reliable

Category: 3 - Operations / Maint.

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

Correction: Replace boiler, cast iron sectional (100 HP)

Qty: 3.00

Unit of Measure: Ea.

Estimate: $983,695.33

Assessor Name: System

Date Created: 02/04/2016

Notes: Replace the three (3) existing 2,821MBH fire tube boilers, which are approaching the end of their service lives, with new cast iron boiler within the next 2-4 years.

System: D3040 - Distribution Systems

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 56,400.00

Unit of Measure: S.F.

Estimate: $533,564.99

Assessor Name: System

Date Created: 02/04/2016

Notes: Hire a qualified contractor to examine the steam and condensate piping, in service for almost 80 years, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3040 - Distribution Systems

This deficiency has no image.

Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 7.00

Unit of Measure: Ea.

Estimate: $18,129.20

Assessor Name: System

Date Created: 02/04/2016

Notes: Replace seven (7) roof mounted gravity ventilators which are beyond their service lives.

System: D3060 - Controls & Instrumentation

Location: Throughout building

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 56,400.00

Unit of Measure: S.F.

Estimate: $1,209,897.95

Assessor Name: System

Date Created: 02/04/2016

Notes: Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.

System: D5020 - Lighting and Branch Wiring

Location: throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 0.00

Unit of Measure: S.F.

Estimate: $384,311.21

Assessor Name: System

Date Created: 02/23/2016

Notes: Install new lighting system for 80% of the building.
56,400 SF x 80% = 45,120 SF

System: D5020 - Lighting and Branch Wiring

Location: throughout the building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace Wiring Devices (SF) - surface mounted conduit and boxes

Qty: 0.00

Unit of Measure: S.F.

Estimate: $252,705.50

Assessor Name: System

Date Created: 02/23/2016

Notes: Install new receptacles for 80% of the building

System: D5090 - Other Electrical Systems

Location: throughout the building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Emergency/Exit Lighting
Qty: 1.00
Unit of Measure: Ea.
Estimate: $229,354.41
Assessor Name: System
Date Created: 02/23/2016

Notes: Install new exit lights and emergency lights.

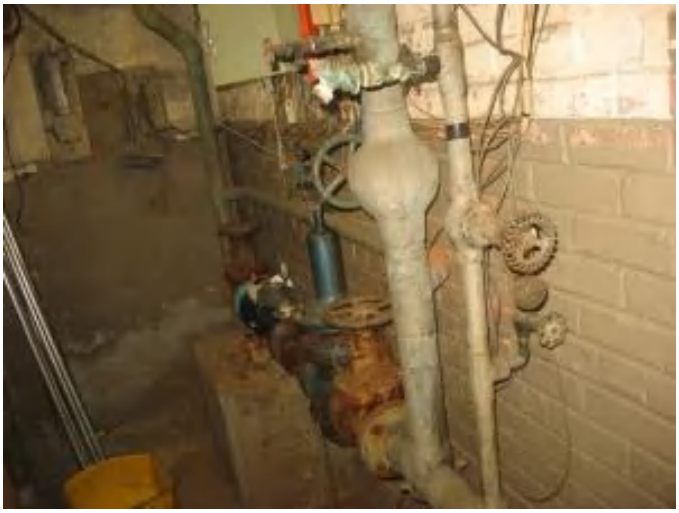
System: D5090 - Other Electrical Systems

Location: electrical room
Distress: Health Hazard / Risk
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace standby generator system
Qty: 1.00
Unit of Measure: Ea.
Estimate: $138,565.33
Assessor Name: System
Date Created: 02/23/2016

Notes: Install new automated/addressable FA system.

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

System: D2020 - Domestic Water Distribution



Location: Throughout building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace domestic water piping (75 KSF)
Qty: 56,400.00
Unit of Measure: S.F.
Estimate: $285,799.05
Assessor Name: System
Date Created: 02/04/2016

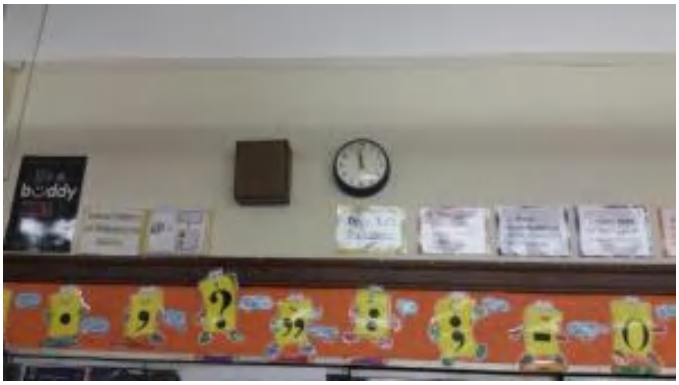
Notes: Hire a qualified contractor to perform a detailed inspection of the domestic water piping, in use for an unknown amount of time, and replace any damaged piping.

System: D5010 - Electrical Service/Distribution

Location: electrical room
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace Service Transformer, Add Switchboard
Qty: 0.00
Unit of Measure: Ea.
Estimate: $233,375.73
Assessor Name: System
Date Created: 02/23/2016

Notes: Install a new and upgraded electrical service for this school to handle existing loads plus any additional mechanical loads.

System: D5030 - Communications and Security



Location: throughout the building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace clock/program system
Qty: 0.00
Unit of Measure: Ea.
Estimate: $238,589.19
Assessor Name: System
Date Created: 02/23/2016

Notes: Install new clock system

System: D5030 - Communications and Security

Location: throughout the building
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Video Surveillance System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $117,240.36
Assessor Name: System
Date Created: 02/23/2016

Notes: Install additional video surveillance system for indoor and outdoor.

System: E1020 - Institutional Equipment

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $97,915.35

Assessor Name: System

Date Created: 02/23/2016

Notes: Install an upgraded auditorium stage lighting, lighting control and sound system.

Priority 5 - Response Time (> 5 yrs):

System: D3030 - Cooling Generating Systems

Location: Throughout 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: 56,400.00

Unit of Measure: S.F.

Estimate: $931,772.79

Assessor Name: System

Date Created: 02/04/2016

Notes: Remove the window air conditioning units and install a 160 ton air-cooled chiller with chilled water distribution piping and pumps located in a mechanical room to supply more reliable air conditioning for the building with a much longer service life.

System: D3040 - Distribution Systems

Location: Auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 432.00

Unit of Measure: Seat

Estimate: $615,784.46

Assessor Name: System

Date Created: 02/04/2016

Notes: Provide ventilation for the Auditorium by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.

System: D3040 - Distribution Systems

Location: Gymnasium/Cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $344,860.27

Assessor Name: System

Date Created: 02/04/2016

Notes: Provide ventilation for the Gymnasium/Cafeteria by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in the window openings.

System: D3040 - Distribution Systems

Location: Administration offices

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 517.00

Unit of Measure: Student

Estimate: $223,769.84

Assessor Name: System

Date Created: 02/04/2016

Notes: Provide ventilation for the administration offices by installing a fan coil air handling unit hung from the structure with outdoor air ducted to the unit from louvers in window openings.

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, packaged scotch marine, fire tube, gross output, #2 oil, 15 PSI steam, 3348 MBH, 100 H.P.	3.00	Ea.	Boiler Room	Burnham	E80	7589516		25	1995	2020	$99,413.00	$328,062.90
D3020 Heat Generating Systems	Boiler, packaged scotch marine, fire tube, gross output, #2 oil, 15 PSI steam, 3348 MBH, 100 H.P.	3.00	Ea.	Boiler Room	Burnham	E80	7589515		25	1995	2020	$99,413.00	$328,062.90
D3020 Heat Generating Systems	Boiler, packaged scotch marine, fire tube, gross output, #2 oil, 15 PSI steam, 3348 MBH, 100 H.P.	3.00	Ea.	Boiler Room	Burnham	E80	7589513		25	1995	2020	$99,413.00	$328,062.90
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.	electrical room					30	1938	1968	$42,600.60	$46,860.66
D5010 Electrical Service/Distribution	Panelboards, 3 pole 3 wire, main circuit breaker, 240 V, 225 amp	4.00	Ea.	throughout the building					30	1938	2047	$3,105.00	$13,662.00
D5090 Other Electrical Systems	Generator set, diesel, 3 phase 4 wire, 277/480 V, 125 kW, incl battery, charger, muffler, & day tank, excl conduit, wiring, & concrete	1.00	Ea.	electrical room					30	1980	2047	$50,797.80	$55,877.58
												Total:	**$1,100,588.94**

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):	93,900
Year Built:	1938
Last Renovation:	
Replacement Value:	$1,829,586
Repair Cost:	$146,968.63
Total FCI:	8.03 %
Total RSLI:	55.02 %

Description:

Attributes:

General Attributes:

Bldg ID:	S753001	Site ID:	S753001

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	40.17 %	0.17 %	$2,402.75
G40 - Site Electrical Utilities	106.67 %	35.39 %	$144,565.88
Totals:	**55.02 %**	**8.03 %**	**$146,968.63**

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	$7.65	S.F.	12,500	30	1991	2021		20.00 %	2.51 %	6		$2,402.75	$95,625
G2030	Pedestrian Paving	$11.52	S.F.	72,500	40	1991	2031		40.00 %	0.00 %	16			$835,200
G2040	Site Development	$4.36	S.F.	93,900	25	1991	2016	2025	40.00 %	0.00 %	10			$409,404
G2050	Landscaping & Irrigation	$3.78	S.F.	21,400	15	1991	2006	2025	66.67 %	0.00 %	10			$80,892
G4020	Site Lighting	$3.58	S.F.	93,900	30	1938	1968	2047	106.67 %	24.54 %	32		$82,487.73	$336,162
G4030	Site Communications & Security	$0.77	S.F.	93,900	30	1938	1968	2047	106.67 %	85.86 %	32		$62,078.15	$72,303
								Total	**55.02 %**	**8.03 %**			**$146,968.63**	**$1,829,586**

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.

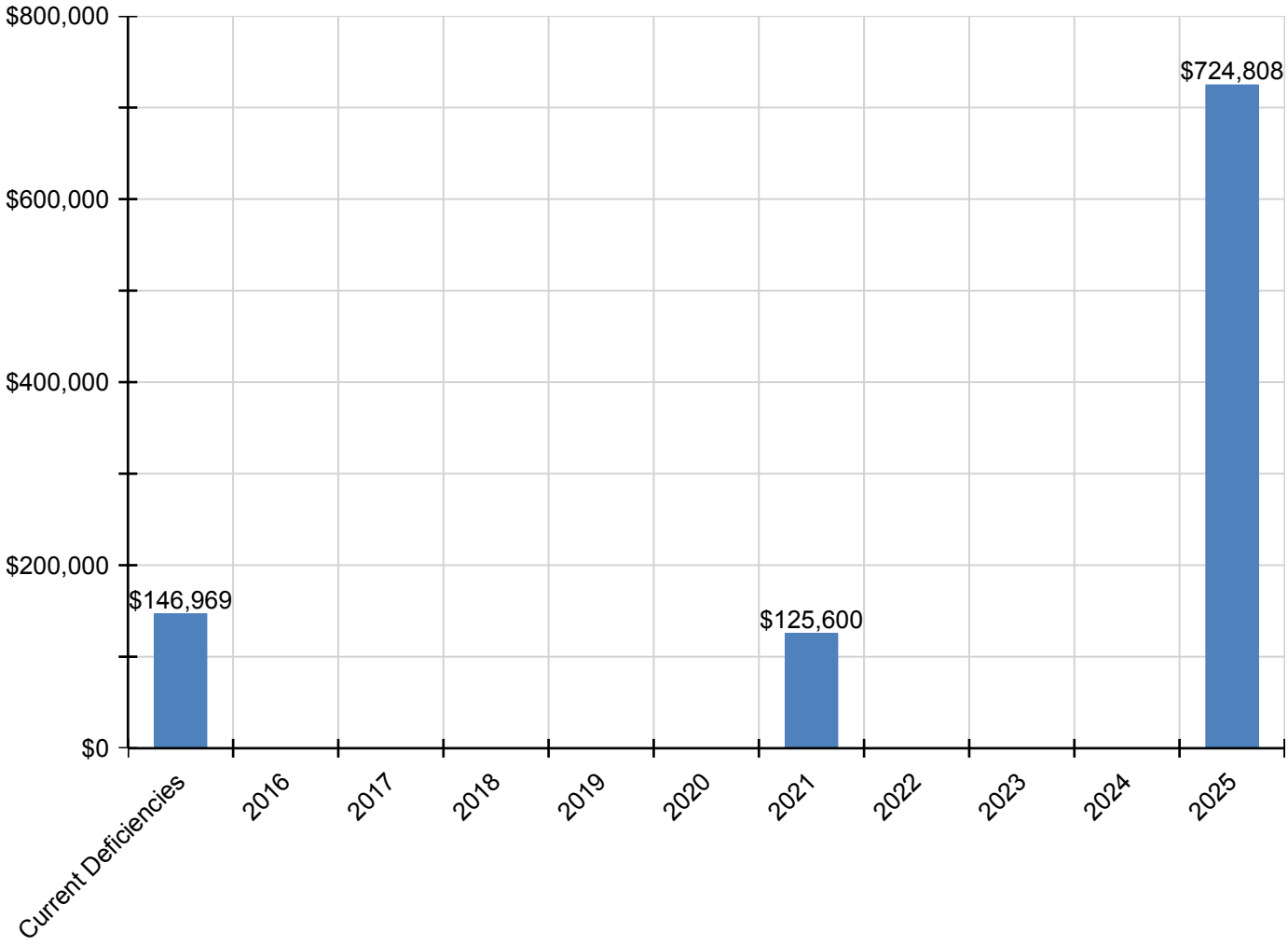
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$146,969**	**$0**	**$0**	**$0**	**$0**	**$0**	**$125,600**	**$0**	**$0**	**$0**	**$724,808**	**$997,376**
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	$2,403	$0	$0	$0	$0	$0	$125,600	$0	$0	$0	$0	**$128,003**
G2030 - Pedestrian Paving	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2040 - Site Development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$605,225	**$605,225**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$119,583	**$119,583**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$82,488	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$82,488**
G4030 - Site Communications & Security	$62,078	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$62,078**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

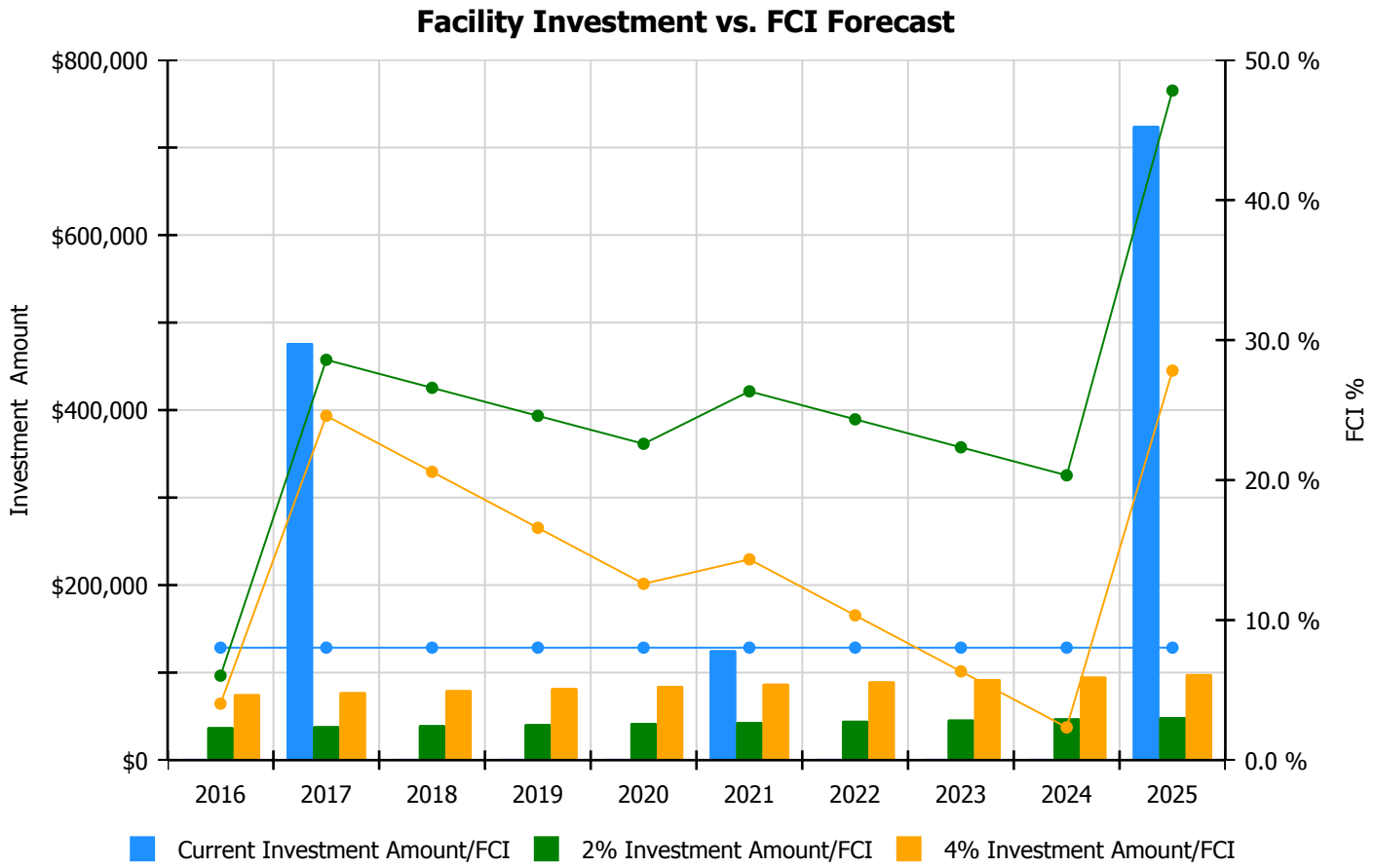
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

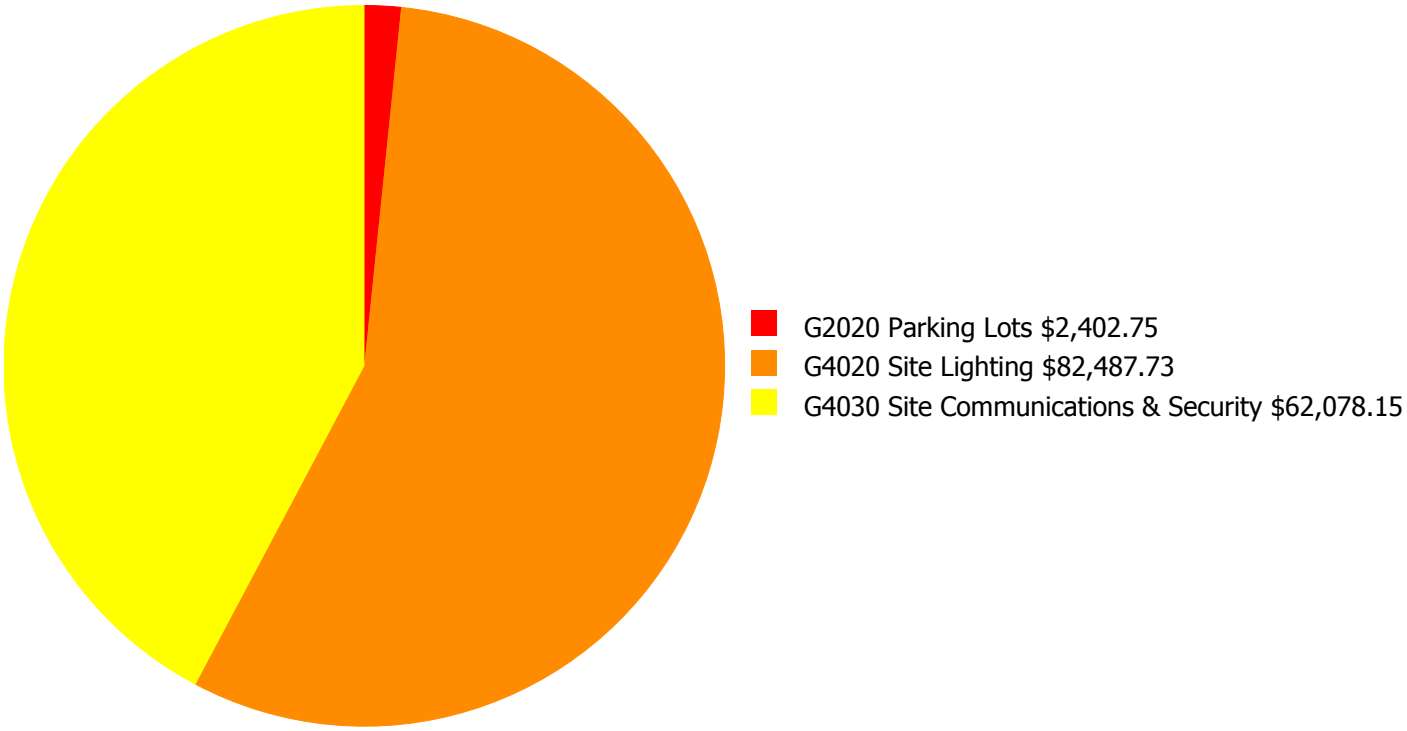
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 8.03%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$37,689.00	6.03 %	$75,379.00	4.03 %
2017	$476,674	$38,820.00	28.59 %	$77,640.00	24.59 %
2018	$0	$39,985.00	26.59 %	$79,970.00	20.59 %
2019	$0	$41,184.00	24.59 %	$82,369.00	16.59 %
2020	$0	$42,420.00	22.59 %	$84,840.00	12.59 %
2021	$125,600	$43,692.00	26.34 %	$87,385.00	14.34 %
2022	$0	$45,003.00	24.34 %	$90,006.00	10.34 %
2023	$0	$46,353.00	22.34 %	$92,707.00	6.34 %
2024	$0	$47,744.00	20.34 %	$95,488.00	2.34 %
2025	$724,808	$49,176.00	47.82 %	$98,352.00	27.82 %
Total:	**$1,327,082**	**$432,066.00**		**$864,136.00**	

Deficiency Summary by System

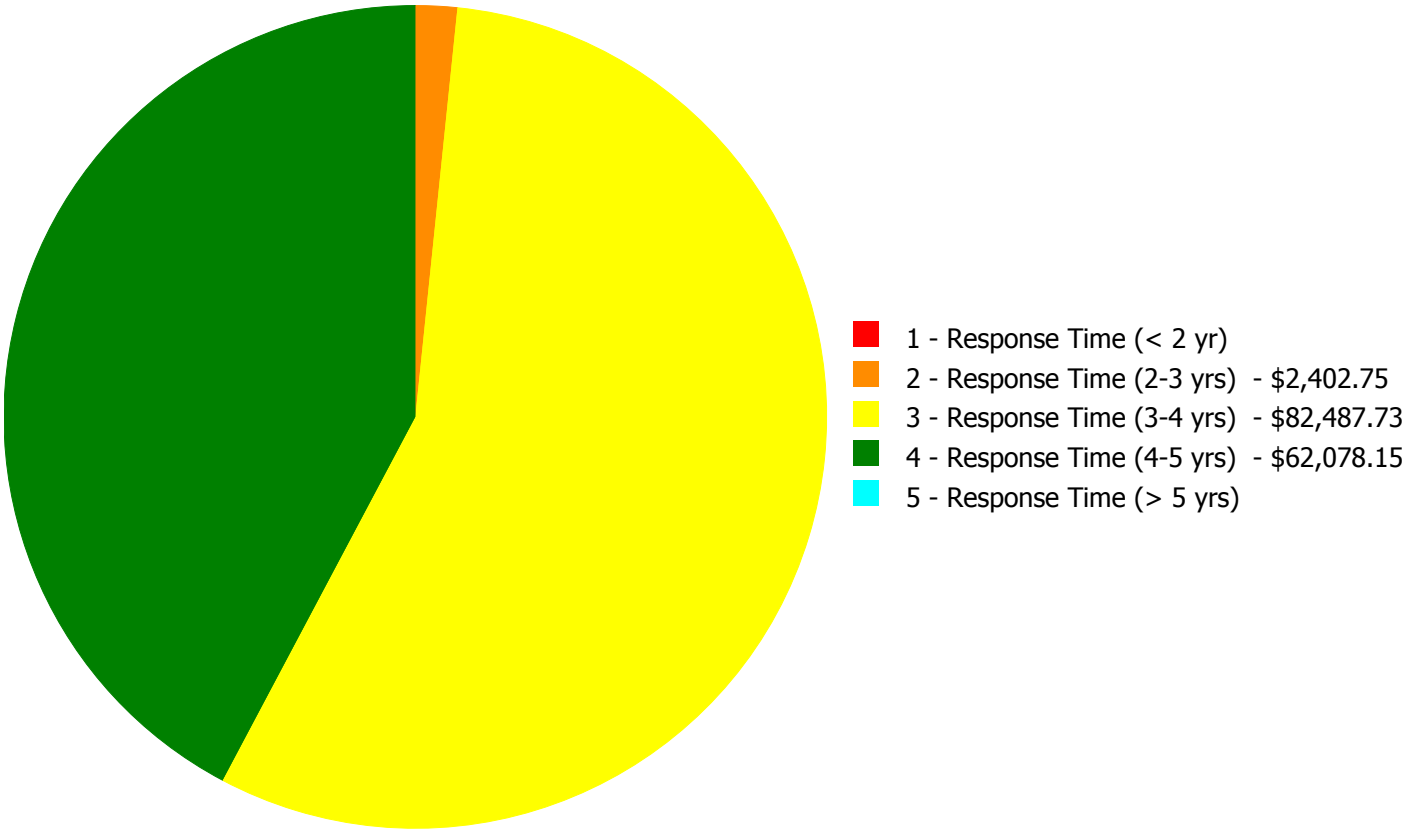
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $146,968.63

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: $146,968.63

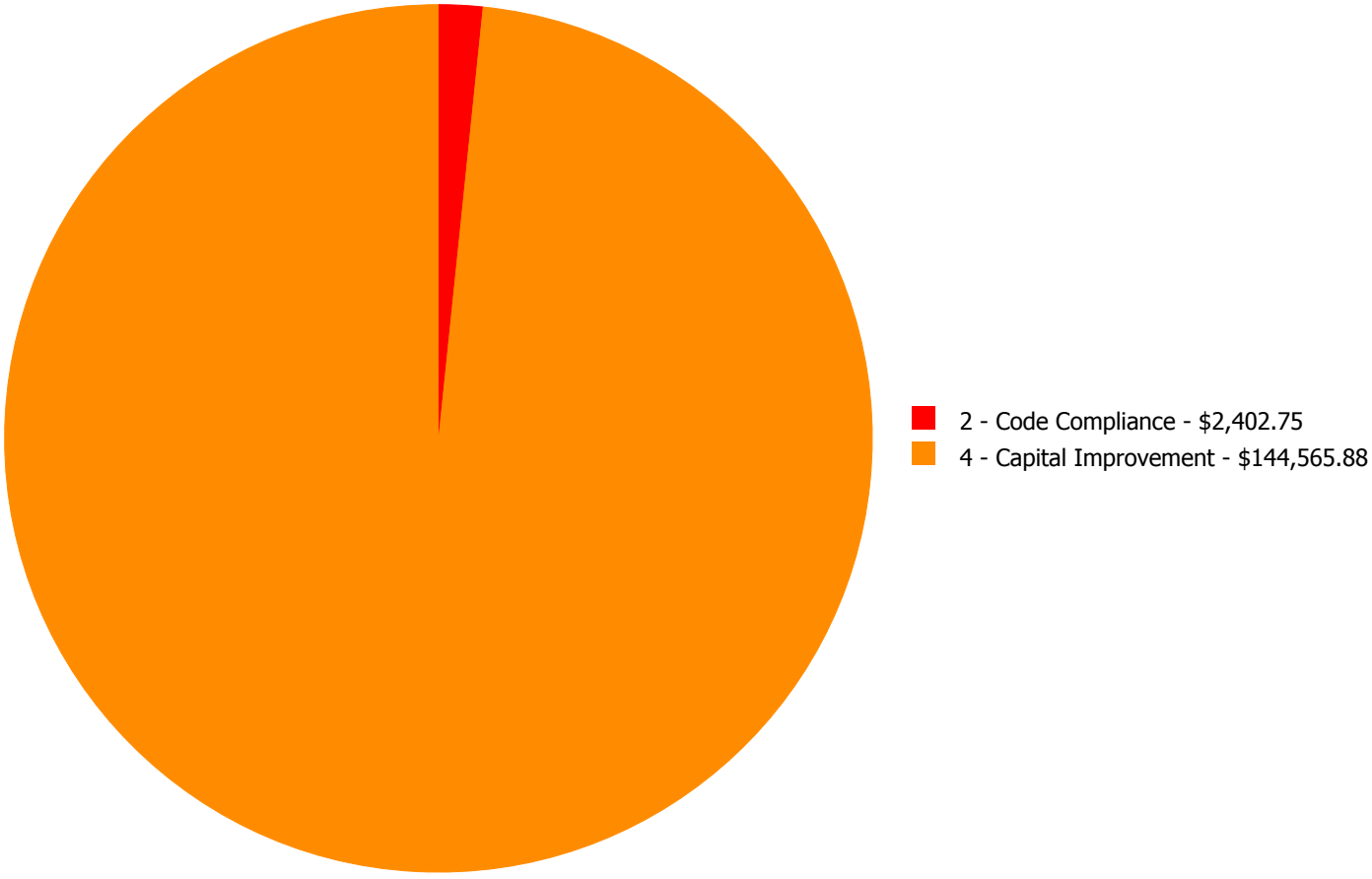
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$2,402.75	$0.00	$0.00	$0.00	$2,402.75
G4020	Site Lighting	$0.00	$0.00	$82,487.73	$0.00	$0.00	$82,487.73
G4030	Site Communications & Security	$0.00	$0.00	$0.00	$62,078.15	$0.00	$62,078.15
	Total:	$0.00	$2,402.75	$82,487.73	$62,078.15	$0.00	$146,968.63

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: $146,968.63

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: G2020 - Parking Lots

Location: Parking

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Stripe parking stalls, install parking bumpers, provide handicap symbol and handicap post mounted sign - insert proper quantities in estimate

Qty: 3.00

Unit of Measure: Ea.

Estimate: $2,402.75

Assessor Name: Craig Anding

Date Created: 02/26/2016

Notes: Stripe parking lot and add accessible stalls

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

System: G4020 - Site Lighting

Location: grounds

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Site Lighting - pole mounted - select the proper light and pole

Qty: 1.00

Unit of Measure: Ea.

Estimate: $82,487.73

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Install additional pole-mounted lights for the grounds

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

System: G4030 - Site Communications & Security

Location: grounds

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Site Paging System

Qty: 0.00

Unit of Measure: Ea.

Estimate: $62,078.15

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Install additional exterior speakers for the grounds

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