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.

Meade School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	1600 N. 18Th St.	Enrollment	383
	Philadelphia, Pa 19121	Grade Range	'00-08'
Phone/Fax	215-684-5062 / 215-684-7006	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Meade	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	**56.81%**	**$27,153,280**	**$47,794,126**
Building	56.21 %	$26,587,407	$47,296,213
Grounds	113.65 %	$565,873	$497,913

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.43 %	$948,696	$1,060,851
Exterior Walls (Shows condition of the structural condition of the exterior facade)	105.56 %	$3,662,399	$3,469,540
Windows (Shows functionality of exterior windows)	148.57 %	$2,515,225	$1,692,940
Exterior Doors (Shows condition of exterior doors)	133.64 %	$182,146	$136,300
Interior Doors (Classroom doors)	231.34 %	$763,294	$329,940
Interior Walls (Paint and Finishes)	29.28 %	$462,622	$1,580,140
Plumbing Fixtures	17.67 %	$224,549	$1,270,880
Boilers	70.78 %	$1,242,087	$1,754,980
Chillers/Cooling Towers	65.60 %	$1,509,569	$2,301,120
Radiators/Unit Ventilators/HVAC	178.55 %	$7,215,444	$4,041,060
Heating/Cooling Controls	158.90 %	$2,016,494	$1,269,000
Electrical Service and Distribution	48.07 %	$438,320	$911,800
Lighting	00.00 %	$0	$3,259,920
Communications and Security (Cameras, Pa System and Fire Alarm)	02.79 %	$34,058	$1,221,060

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

S457001;Meade

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):	94,000
Year Built:	1937
Last Renovation:	
Replacement Value:	$47,794,126
Repair Cost:	$27,153,280.42
Total FCI:	56.81 %
Total RSLI:	64.19 %

Description:

Facility Assessment, July 2015

School District of Philadelphia

Meade Elementary School (Parkway Center City High School)

540 N 13th Street

Philadelphia, PA 19123

94,000 SF / 894 Students / LN 03

The Meade Elementary School building is located at 1600 N. 18th Street in Philadelphia, PA. The 3 story, 94,000 square foot building was originally constructed in 1935. The north wing was extended with a 3 story addition in approximately 1955.The building has a two level basement and two penthouses on the roof.

Mr. Derek Parker, Facility Area Coordinator provided input to the Parsons assessment team on current problems and planned

renovation projects. Mr. Joe Skinner, 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 damage. The main structure consists typically of cast-in-place concrete columns, beams and concrete, ribbed one-way slabs. The roof structure consists of concrete one-way slab supported by main structural frame. The long span floors and roofs are supported by steel truss girders.

The building envelope is typically masonry with face brick. In general, masonry is in very poor condition with cracks and missing mortar. Many leaks have been reported. The expansion joints on east and west wall are failing. Parapets above the roof show severe cracking and missing mortar from stone coping joints.

The original windows in original building were retrofitted in mid 1990's with extruded aluminum double hung windows single glazed with acrylic glazing. The old window frames were left in place and are rotting causing major leaks around windows perimeters Addition has original rolled steel windows also single glazed. All windows are generally in very poor condition with some of the windows inoperable; first floor windows have security screens in fair to poor condition; they are unsafe to operate due to possible balancing mechanism failure. The windows are generally not energy efficient.

Roofing is built-up in very poor condition with. All flashing is typically in poor condition allowing for water penetration into the building; major leaks have been reported and observed. Exterior doors are typically hollow metal in poor condition with rust and peeling paint showing. Generally, the building is not accessible per ADA requirements due to first floor- grade separation with no ramps or lifts.

INTERIORS:

Partition wall types include plastered ceramic hollow blocks and drywall. The interior wall finishes are generally painted plaster or drywall and some glazed brick with stone panel wainscot in stairways and toilets. The addition has generally painted CMU and glazed CMU wainscots. Generally, paint is in fair condition with the exception of exterior walls showing substantial water damage. Most ceilings are painted plaster; addition has 2x4 suspended acoustical panels and suspended plaster, painted. The suspension system and tile are old and approaching the end of their useful life. Corridors generally have plaster ceilings with exposed electrical conduits running along them.

Flooring in classrooms, basement lunch room, gym and auditorium is generally hardwood; terrazzo in most corridors and concrete or VCT in toilets. Addition's floors are primarily combination of VAT and VCT tiles. Most flooring is in poor condition.

Interior doors are generally rail and stile wood doors, some glazed with matching wood frame side lights and transoms, some doors are missing closers. Doors in the addition are solid core with vision lights in good condition.

Fittings include original chalk boards, generally in poor condition; toilet accessories in fair condition; toilet partitions, generally in good condition; however, none are accessible per ADA requirements; handrails and ornamental metals, generally in good condition. Interior identifying signage is typically directly painted on wall or door surfaces generally in poor condition. Some of the signage is missing

Stair construction is generally concrete with cast iron non-slip treads in good condition.

Institutional and Commercial equipment includes: stage equipment, generally in poor condition; gym equipment – basketball backstops, scoreboards, etc.; generally in poor condition. Other equipment includes kitchen equipment, generally in good condition.

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

CONVEYING SYSTEMS:

The building has no elevators.

PLUMBING:

Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. A few of the fixtures are not in service and the chrome finish is damaged at some of the faucets. With repairs these fixtures should provide reliable service for the next 5-10 years. However, the

older units should be replaced as part of any renovation of the spaces.

Drinking fountains in the corridors and at the restrooms are a mixture of wall hung with integral refrigerated coolers and wall hung porcelain fountains. The porcelain fountains are well 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 Cafeteria did not have a sink during the site visit.

A 3" city water service enters the building from N. Eighteenth Street near the intersection with W. Oxford Street. The meter is 2" and located in the in the basement mechanical room. Two domestic water booster pumps are installed in this room and are well beyond their service life. A reduced pressure backflow preventer is installed on the makeup line to the boilers. 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.

A 6" city gas service enters the building from W. Oxford Street near the intersection with N. Gratz Street. The meter is 4" and located in the in the basement boiler room. The gas main has a booster pump connected in the boiler room.

One Bradford White gas fired, 75 gallon, vertical hot water heater with small recirculating pump supplies hot water for domestic use. The unit is located in the boiler room on the basement level and its installation date is unknown. The hot water heater is equipped with a T&P relief valve, and expansion tank.

The original storm and sanitary sewer piping is heavy weight cast iron with hub and spigot fittings. Downspouts from the roof run down the interior of the building and connect to the storm sewer system in the basement.

A small sewage ejector pit located in basement receives water from the basement area. It has a single pump that is beyond its service life, it should be replaced to prevent flooding of the basement. The pit is not sealed, but should be.

The maintenance staff reported mostly minor problems with the sanitary waste piping systems. However, the sewer piping has been in service for nearly 70 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.

MECHANICAL:

Low pressure steam is generated at a maximum of 15 lbs/sq. in., typically 5-8 lbs/sq. in., by two 120 HP Weil-McLain H-1994 cast iron sectional boilers. The building engineer did not know when the boilers were installed but estimated they are over 40 years old. One boiler can handle the load in normal winter weather conditions; two units are required on very cold days. Each boiler is equipped with a Power Flame burner designed to operate on natural gas or fuel oil. The burners should be replaced as they are nearing the end of their service life and newer, more efficient technologies are available. Burner controls provide full modulation with electronic ignition, digital flame sensing and pressure atomization on oil. Burner oil pumps are loose and not driven by the fan motor. Combustion air makeup is supplied by louvers equipped with motorized dampers. Induced draft fans with positive draft control are installed on the rear of each boiler. The gas train serving the boilers does appear to have code required venting of the regulators and dual solenoid valves with venting of the chamber between. The Building Engineer reports the system loses a significant amount of condensate due to failed traps, which is made up with chemically treated city water. Cast iron sectional boilers have an anticipated service life of 35 years or more; as these units have been in service for an unknown amount of time they should be inspected on a regular basis.

The reserve oil supply is stored in an 8,000 gallon storage tank in the basement. Duplex pumps located in the basement boiler room circulate oil through the system. The fuel oil pumps are beyond their service life and should be inspected and replaced with a new system and control scheme. Oil is used as a backup fuel and the District receives credit from the gas utility as an interruptible service. The current supply has been in storage for some time and should be tested for quality on a regular schedule. It is estimated that the storage tank is beyond its useful life and should be inspected on a regular basis.

Two boiler feed tanks are installed in the basement; one in the boiler room and one in the crawl space under element two of the building. A serious problem was reported with failed steam traps. Live steam passes into the condensate piping system from the failed traps and then vents from the condensate handling equipment. The District has not conducted a steam trap survey for this building and traps are not serviced on a regular schedule.

Steam piping is black steel (ASTM A53) with welded fittings. Not all of the steam piping in the basement was insulated and shows rust

on the exterior. The condensate piping is Schedule 80 black steel with threaded fittings. Steam and condensate piping mains from the basement level run up through the building to the radiators on all three 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.

Two pipe unit ventilators provide heating for the majority of classrooms, offices, and hallways. Two pipe fin tube radiators provide heating in interior hallways. The unit ventilators and radiators are well beyond their service life and original to the building. Limited ventilation for the building is provided by the unit ventilators, which may not meet current codes for outdoor air ventilation. A new heating system should be installed to meet ventilation requirements and achieve more efficient operation. The new units should be designed for quiet operation and equipped with hot water coils, chilled water coils, and integral heat exchangers, where applicable, to introduce sufficient outdoor air to the building.

In addition, most of the classrooms in the school building have window air conditioning units that have an anticipated service life of only 10 years. Installing a 250 ton air-cooled chiller on the roof with pumps located in a mechanical room and chilled water distribution piping could supply more reliable air conditioning for the building with a much longer service life.

The school has no mechanical ventilation for the small gymnasium, auditorium, lunch room/gymnasium, and some restrooms. Ventilation could be provided for the lunch room/gymnasium by installing a constant volume air handling unit with distribution ductwork and registers. For the small gymnasium a fan coil air handling unit could be hung from the structure with outdoor air ducted to the unit from louvers in the window openings. Similar units could be installed for the administration offices. Ventilation could 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. Steam converters could be installed in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.

The exhaust fans serving the restrooms are beyond their service life and should be replaced while utilizing the existing ductwork

The original pneumatic systems still provide basic control functions. Pneumatic room thermostats are intended to control the steam radiator control valves. In reality the radiator control valves are wide open and heating control is achieved via the boilers. Pneumatic control air is supplied from a duplex Quincy compressor and dryer located in the boiler room. The maintenance staff reports no problems with oil, moisture or dirt in the pneumatic copper tubing. The pneumatic systems are beyond their service life 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.

The school building is NOT covered by an automatic sprinkler system. There are fire stand pipes in each of the two building stairwells. 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 does have standpipe in the stairwells.

ELECTRICAL

Electrical Service- The electrical service is fed from a medium voltage overhead line on wooden poles along W Oxford St. The service drops down a pole to underground, then to a vault mounted transformer located along the south side of the school. The service enters the building underground to a 240V, 2 phase, 600A disconnect switch located in the main electrical room. The service is then connected to a 600A, 2 phase, 5 wire distribution panel. The service equipment (disconnect and main distribution panel) have recently been updated. This service is not adequate to provide power for an air conditioning system. It is recommended to provide a new 208/120V service sized for additional air conditioning loads.

Distribution System and Raceway System - Each floor has electrical panels to serve receptacles and lighting on that floor. Most of these panels are original to the building, but there are some newer panels that were installed for the computer lab classrooms.

The kitchen equipment is fed from a 208/120V 3 phase, 4 wire panel located in the kitchen area. This panel is fed from a 75KVA, 2 phase to 3 phase-phase converter located in the main electrical room.

Receptacles- Classrooms are typically supplied with duplex receptacles spaced along all walls. Receptacle count for classrooms is adequate and were found to contain 7 receptacles on average. The computer lab rooms have floor mounted wire-way installed along 2 sides of the room. Each wire-way contains 10 receptacles for power only.

Lighting - The facility has a mixture of T12 and T8 fluorescent fixtures. Corridors typically have 2 lamp surface fixtures, classrooms contain 1X4, 2 lamp pendant mounted fixtures. Classrooms are equipped with dual light switches to allow for inboard/outboard switching. The gym lighting has been upgraded and consists of 10 – 2X4, 6 lamp fixtures. The lighting levels in rooms that had updated fixtures and the gym were found to be in the 40-50 fc range, which is adequate.

Auditorium lighting levels were found to be around 5.5 fc. There were many fixtures that were out, with discoloration in other. The maintenance staff has been replacing old T12 magnetic ballasts with new electronic T8 ballasts as each T12 ballasts expires. This has allowed the school to replace approximately half the T12 fixtures with new T8 fixtures. HID wall packs are provided along all exterior walls.

Fire Alarm System – The fire alarm system is a Simplex 4020 system. The fire alarm system has been recently upgraded and contains both audio and visual devices in corridors, gym, restrooms, and cafeteria. No devices were found in the classrooms.

Telephone/LAN – The present telephone/LAN system is adequate.

Public Address/Intercom/Paging – The paging system is adequate and in good condition. Each classroom contains a mounted speaker. Two way communication is not available through the public announcement system. Communication back to the office is through a wall mounted phone located in each classroom.

Clock and Program System – The clock system is inoperable. The programmed bell system is by Simplex and is in adequate condition.

Television System - The present television system is adequate. All classrooms have been wired for CATV, but no televisions are provided.

Security System There is no security system in place. It is recommended that door contacts be installed on all exterior doors.

Emergency Power System – A 15 kW, 120/240V, natural gas Generac generator exists in the basement. This generator would not be adequate to provide sufficient power to an elevator. It is recommended that a new generator of sufficient size be installed to operate an elevator.

Emergency Lighting System / Exit Lighting- The emergency lighting is provided by wall mounted incandescent type fixtures in the auditorium, and select fluorescent fixtures in the corridors. It is recommended that during the lighting upgrade, select fluorescent fixtures be connected to the generator. The exit lighting consists of incandescent fixtures that are in poor condition. Exist lighting should be replaced with LED style fixtures.

Lightning Protection System- A lightning protection system exists on the roof but it does not provide adequate coverage. Lightning protection is only installed on the stack. The conductors have kinks which impairs the conductors ability to ground a lightning strike.

Site Lighting - Site lighting is provided by building mounted flood lights installed around the entire perimeter of the school. The site lighting provides an adequate amount of lighting.

Video Surveillance – There are exterior cameras and cameras located on the first floor for video surveillance system in place. The system is in adequate condition.

Site Paging – There is an adequate amount of exterior speakers for site paging.

GROUNDS (SITE):

There is no parking lot at the site. Playground pavement adjacent to the building is in poor condition, paving is cracked and deteriorated; there is no playground equipment. Perimeter fence separating the playground from the street is generally in poor condition and rusting. Playground equipment installed in early 2000’s is in good condition. The landscaping consists of several trees in good condition and deteriorated grass area.

ACCESSIBILITY:

Generally, the building has an accessible route per ADA requirements. However, toilets are not equipped with accessible fixtures, and accessories, such as grab bars, and accessible partitions. None of the doors in the building have ADA required door handles.

RECOMMENDATIONS:

- Repair cracks in masonry, replace missing mortar – all exterior walls
- Replace expansion joint on east and west wall
- Rebuild brick parapets at original building roof perimeter; re-set stone coping
- Install all new roofing system including insulation; tear-down existing roofing; install flashing, counter flashing and reglets
- Replace all windows
- Replace all exterior doors
- Replace old carpet
- Replace all VCT/ VAT flooring including cove base
- Repair & refinish hardwood flooring incl. auditorium stage
- Replace all suspended acoustical ceilings; install new acoustical ceilings in corridors and classrooms
- Repair and repaint plaster ceilings
- Repair and repaint damaged interior walls
- Provide ADA compliant ramp at one entrance (location TBD)
- Replace all doors in original building; provide ADA compliant hardware (all doors)
- Replace old chalkboards
- Replace damaged auditorium seats
- Reconfigure toilets on each floor for accessibility, provide new toilet partitions and toilet accessories including grab bars
- Install new signage throughout
- Provide 4000 lb traction elevator serving all floors and basement
- Resurface playground paving
- Provide new sod in grass area
- Replace the wheel lavatories in the restrooms with new code compliant fixtures.
- Replace domestic water booster pumps.
- Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.
- 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 existing sewage ejector pump system and piping in the basement as it looks beyond its useful service life.
- 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.
- Hire a qualified contractor to examine the steam and condensate piping, in service for nearly 70 years, and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the two (2) existing 5,600MBH natural gas/oil burners on the boilers, which are nearing the end of their service life, with more efficient new burners.
- Replace the existing natural gas/oil burners on the boilers, which are nearing the end of their service life, with more efficient new burners.
- Inspect and replace current fuel oil pumping system with new system and control scheme.
- Remove the existing unit ventilators and fin tube steam radiators and install units with hot and chilled water coils and integral heat exchangers to introduce outdoor air to the building.
- Remove the window air conditioning units and install a 250 ton air-cooled chiller on the roof 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.
- Replace existing exhaust fans serving the bathrooms and utilize the existing ductwork
- Provide ventilation for the lunch room/gymnasium by installing a constant volume air handling unit with distribution ductwork and registers.
- Provide ventilation for the small gymnasium 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 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.
- 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.
- 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 time clock system.
- Add security system with contacts to exterior doors for intrusion detection.

- Repair lightning protection system. (This deficiency is considered a maintenance item and not included in the capital spending plan.)
- Replace existing generator with a larger generator to support an elevator.
- Replace existing service with new 208/120V three phase service and replace old panels with new panels.
- Replace exit lights with LED style fixtures.
- Provide new emergency fixtures for emergency egress.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 4
Status:	Accepted by SDP	Team:	Tm 4
Site ID:	S457001		

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	22.00 %	0.00 %	$0.00
A20 - Basement Construction	22.00 %	0.00 %	$0.00
B10 - Superstructure	22.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	21.49 %	120.02 %	$6,359,770.41
B30 - Roofing	110.00 %	89.43 %	$948,696.31
C10 - Interior Construction	22.81 %	38.10 %	$878,967.82
C20 - Stairs	22.00 %	0.00 %	$0.00
C30 - Interior Finishes	69.74 %	44.02 %	$2,362,758.64
D10 - Conveying	114.29 %	466.08 %	$670,322.07
D20 - Plumbing	100.74 %	58.42 %	$1,121,320.98
D30 - HVAC	97.04 %	114.60 %	$11,983,594.68
D40 - Fire Protection	96.05 %	177.49 %	$1,344,713.40
D50 - Electrical	110.11 %	11.70 %	$646,691.36
E10 - Equipment	105.71 %	0.00 %	$0.00
E20 - Furnishings	105.00 %	135.14 %	$270,571.65
G20 - Site Improvements	111.76 %	166.86 %	$565,873.10
G40 - Site Electrical Utilities	43.33 %	0.00 %	$0.00
Totals:	**64.19 %**	**56.81 %**	**$27,153,280.42**

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)
B457001;Meade	94,000	56.21	$1,547,917.45	$5,754,358.51	$6,364,546.22	$1,649,436.90	$11,271,148.24
G457001;Grounds	36,500	113.65	$0.00	$0.00	$137,301.94	$0.00	$428,571.16
Total:		**56.81**	**$1,547,917.45**	**$5,754,358.51**	**$6,501,848.16**	**$1,649,436.90**	**$11,699,719.40**

Deficiencies By Priority

- 1 - Response Time (< 2 yr) - $1,547,917.45
- 2 - Response Time (2-3 yrs) - $5,754,358.51
- 3 - Response Time (3-4 yrs) - $6,501,848.16
- 4 - Response Time (4-5 yrs) - $1,649,436.90
- 5 - Response Time (> 5 yrs) - $11,699,719.40

Budget Estimate Total: $27,153,280.42

Executive Summary

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

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

Function:	Elementary School
Gross Area (SF):	94,000
Year Built:	1937
Last Renovation:	
Replacement Value:	$47,296,213
Repair Cost:	$26,587,407.32
Total FCI:	56.21 %
Total RSLI:	63.92 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B457001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S457001		

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	22.00 %	0.00 %	$0.00
A20 - Basement Construction	22.00 %	0.00 %	$0.00
B10 - Superstructure	22.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	21.49 %	120.02 %	$6,359,770.41
B30 - Roofing	110.00 %	89.43 %	$948,696.31
C10 - Interior Construction	22.81 %	38.10 %	$878,967.82
C20 - Stairs	22.00 %	0.00 %	$0.00
C30 - Interior Finishes	69.74 %	44.02 %	$2,362,758.64
D10 - Conveying	114.29 %	466.08 %	$670,322.07
D20 - Plumbing	100.74 %	58.42 %	$1,121,320.98
D30 - HVAC	97.04 %	114.60 %	$11,983,594.68
D40 - Fire Protection	96.05 %	177.49 %	$1,344,713.40
D50 - Electrical	110.11 %	11.70 %	$646,691.36
E10 - Equipment	105.71 %	0.00 %	$0.00
E20 - Furnishings	105.00 %	135.14 %	$270,571.65
Totals:	**63.92 %**	**56.21 %**	**$26,587,407.32**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	94,000	100	1937	2037		22.00 %	0.00 %	22			$1,729,600
A1030	Slab on Grade	$7.73	S.F.	94,000	100	1937	2037		22.00 %	0.00 %	22			$726,620
A2010	Basement Excavation	$6.55	S.F.	94,000	100	1937	2037		22.00 %	0.00 %	22			$615,700
A2020	Basement Walls	$12.70	S.F.	94,000	100	1937	2037		22.00 %	0.00 %	22			$1,193,800
B1010	Floor Construction	$75.10	S.F.	94,000	100	1937	2037		22.00 %	0.00 %	22			$7,059,400
B1020	Roof Construction	$13.88	S.F.	94,000	100	1937	2037		22.00 %	0.00 %	22			$1,304,720
B2010	Exterior Walls	$36.91	S.F.	94,000	100	1937	2037		22.00 %	105.56 %	22		$3,662,399.42	$3,469,540
B2020	Exterior Windows	$18.01	S.F.	94,000	40	1980	2020		12.50 %	148.57 %	5		$2,515,224.57	$1,692,940
B2030	Exterior Doors	$1.45	S.F.	94,000	25	1995	2020	2045	120.00 %	133.64 %	30		$182,146.42	$136,300
B3010105	Built-Up	$37.76	S.F.	28,050	20	1990	2010	2037	110.00 %	89.57 %	22		$948,696.31	$1,059,168
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.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	28,050	20	1990	2010	2037	110.00 %	0.00 %	22			$1,683
C1010	Partitions	$17.91	S.F.	94,000	100	1937	2037		22.00 %	0.00 %	22			$1,683,540
C1020	Interior Doors	$3.51	S.F.	94,000	40	1937	1977	2025	25.00 %	231.34 %	10		$763,293.94	$329,940
C1030	Fittings	$3.12	S.F.	94,000	40	1937	1977	2025	25.00 %	39.44 %	10		$115,673.88	$293,280
C2010	Stair Construction	$1.41	S.F.	94,000	100	1937	2037		22.00 %	0.00 %	22			$132,540

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System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3010230	Paint & Covering	$13.21	S.F.	94,000	10	2000	2010	2020	50.00 %	37.26 %	5		$462,622.10	$1,241,740
C3010231	Vinyl Wall Covering	$0.97	S.F.	94,000	15				0.00 %	0.00 %				$91,180
C3010232	Wall Tile	$2.63	S.F.	94,000	30				0.00 %	0.00 %				$247,220
C3020411	Carpet	$7.30	S.F.	2,100	10	2008	2018	2028	130.00 %	153.30 %	13		$23,500.61	$15,330
C3020412	Terrazzo & Tile	$75.52	S.F.	5,800	50				0.00 %	0.00 %				$438,016
C3020413	Vinyl Flooring	$9.68	S.F.	21,200	20	1995	2015	2035	100.00 %	156.68 %	20		$321,533.36	$205,216
C3020414	Wood Flooring	$22.27	S.F.	52,000	25	1937	1962	2035	80.00 %	57.43 %	20		$665,009.59	$1,158,040
C3020415	Concrete Floor Finishes	$0.97	S.F.		50	1937	1987	2067	104.00 %	0.00 %	52			$0
C3030	Ceiling Finishes	$20.97	S.F.	94,000	25	1937	1962	2040	100.00 %	45.16 %	25		$890,092.98	$1,971,180
D1010	Elevators and Lifts	$1.53	S.F.	94,000	35			2055	114.29 %	466.08 %	40		$670,322.07	$143,820
D2010	Plumbing Fixtures	$13.52	S.F.	94,000	35	1937	1972	2052	105.71 %	17.67 %	37		$224,549.34	$1,270,880
D2020	Domestic Water Distribution	$1.68	S.F.	94,000	25	1937	1962	2025	40.00 %	31.70 %	10		$50,068.17	$157,920
D2030	Sanitary Waste	$2.90	S.F.	94,000	25	1937	1962	2042	108.00 %	157.69 %	27		$429,867.04	$272,600
D2040	Rain Water Drainage	$2.32	S.F.	94,000	30	1937	1967	2047	106.67 %	191.14 %	32		$416,836.43	$218,080
D3020	Heat Generating Systems	$18.67	S.F.	94,000	35	1975	2010	2052	105.71 %	70.78 %	37		$1,242,087.39	$1,754,980
D3030	Cooling Generating Systems	$24.48	S.F.	94,000	20	1937	1957	2037	110.00 %	65.60 %	22		$1,509,569.31	$2,301,120
D3040	Distribution Systems	$42.99	S.F.	94,000	25			2042	108.00 %	178.55 %	27		$7,215,443.88	$4,041,060
D3050	Terminal & Package Units	$11.60	S.F.	94,000	20				0.00 %	0.00 %				$1,090,400
D3060	Controls & Instrumentation	$13.50	S.F.	94,000	20	1937	1957	2037	110.00 %	158.90 %	22		$2,016,494.10	$1,269,000
D4010	Sprinklers	$7.05	S.F.	94,000	35			2052	105.71 %	202.91 %	37		$1,344,713.40	$662,700
D4020	Standpipes	$1.01	S.F.	94,000	35	1990	2025		28.57 %	0.00 %	10			$94,940
D5010	Electrical Service/Distribution	$9.70	S.F.	94,000	30	1937	1967	2047	106.67 %	48.07 %	32		$438,319.57	$911,800
D5020	Lighting and Branch Wiring	$34.68	S.F.	94,000	20	1937	1957	2037	110.00 %	0.00 %	22			$3,259,920
D5030	Communications and Security	$12.99	S.F.	94,000	15	1937	1952	2032	113.33 %	2.79 %	17		$34,057.61	$1,221,060
D5090	Other Electrical Systems	$1.41	S.F.	94,000	30	1937	1967	2047	106.67 %	131.52 %	32		$174,314.18	$132,540
E1020	Institutional Equipment	$4.82	S.F.	94,000	35	1937	1972	2052	105.71 %	0.00 %	37			$453,080
E1090	Other Equipment	$11.10	S.F.	94,000	35	1937	1972	2052	105.71 %	0.00 %	37			$1,043,400
E2010	Fixed Furnishings	$2.13	S.F.	94,000	40	1937	1977	2057	105.00 %	135.14 %	42		$270,571.65	$200,220
								Total	**63.92 %**	**56.21 %**			**$26,587,407.32**	**$47,296,213**

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: Paint 90%
Glazed CMU 10%

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

Note: Hardwood 64%
VCT/VAT 26%
Terrazzo 7%
Carpet 3%

System: C3030 - Ceiling Finishes — This system contains no images

Note: ACT 76%
Exposed/plaster 24%

System: D5010 - Electrical Service/Distribution — This system contains no images

Note: 2 transformers - 1-75 kVA 2 phase to 3 phase phase converter, 1-1 kVA 2 phase to 3 phase phase converter

Renewal Schedule

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

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$26,587,407**	**$0**	**$0**	**$0**	**$0**	**$3,742,308**	**$0**	**$0**	**$0**	**$0**	**$1,295,116**	**$31,624,832**
*** 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	$3,662,399	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,662,399**
B2020 - Exterior Windows	$2,515,225	$0	$0	$0	$0	$2,158,840	$0	$0	$0	$0	$0	**$4,674,064**
B2030 - Exterior Doors	$182,146	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$182,146**
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	$948,696	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$948,696**
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**

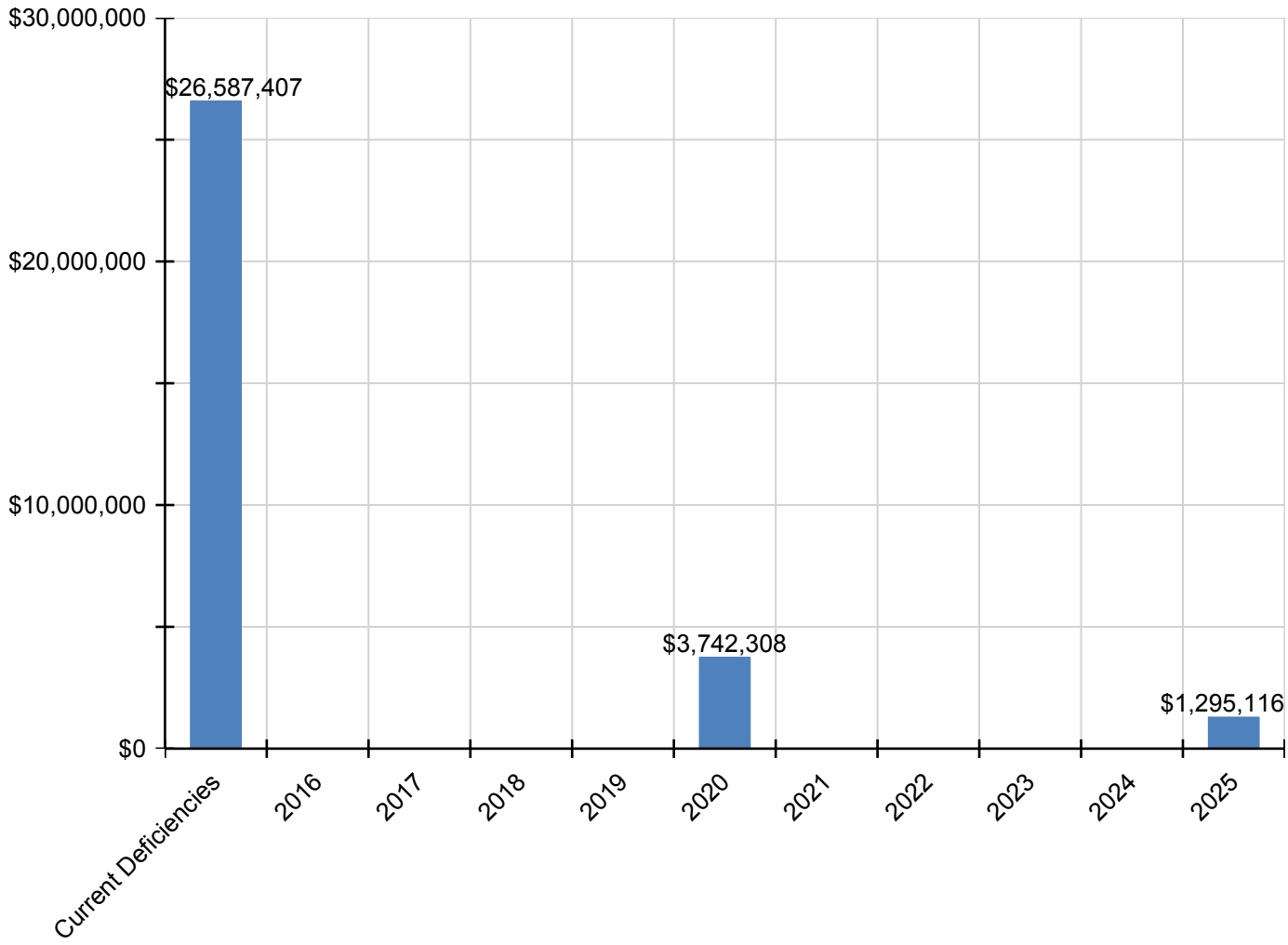
C1020 - Interior Doors	$763,294	$0	$0	$0	$0	$0	$0	$0	$0	$0	$487,753	**$1,251,047**
C1030 - Fittings	$115,674	$0	$0	$0	$0	$0	$0	$0	$0	$0	$433,558	**$549,232**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C30 - Interior Finishes	$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	$462,622	$0	$0	$0	$0	$1,583,469	$0	$0	$0	$0	$0	**$2,046,091**
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	$23,501	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$23,501**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$321,533	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$321,533**
C3020414 - Wood Flooring	$665,010	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$665,010**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$890,093	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$890,093**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$670,322	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$670,322**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$224,549	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$224,549**
D2020 - Domestic Water Distribution	$50,068	$0	$0	$0	$0	$0	$0	$0	$0	$0	$233,454	**$283,523**
D2030 - Sanitary Waste	$429,867	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$429,867**
D2040 - Rain Water Drainage	$416,836	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$416,836**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,242,087	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,242,087**
D3030 - Cooling Generating Systems	$1,509,569	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,509,569**
D3040 - Distribution Systems	$7,215,444	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$7,215,444**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$2,016,494	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,016,494**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,344,713	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,344,713**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$140,351	**$140,351**

D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$438,320	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$438,320**
D5020 - Lighting and Branch Wiring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5030 - Communications and Security	$34,058	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$34,058**
D5090 - Other Electrical Systems	$174,314	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$174,314**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$270,572	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$270,572**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

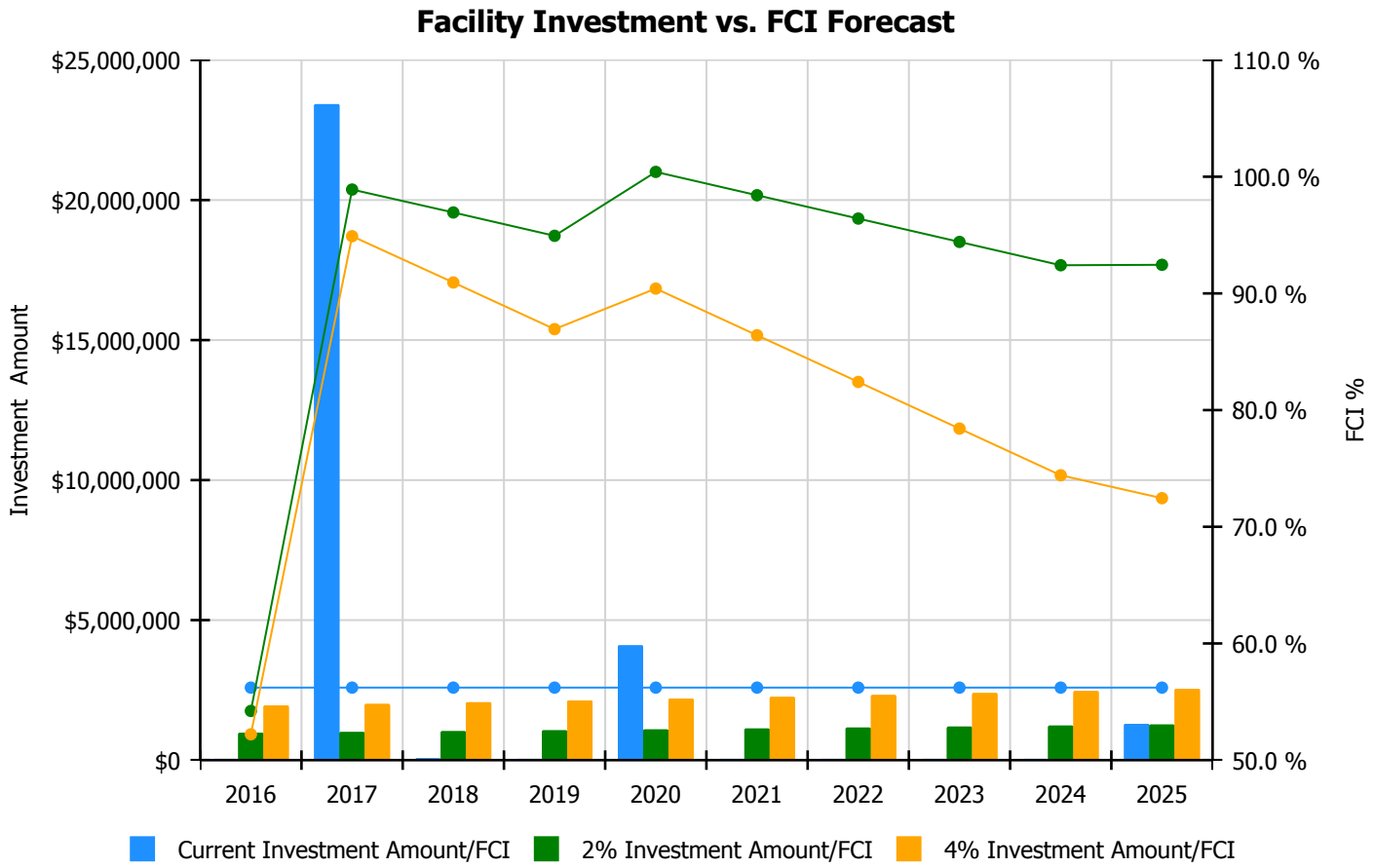
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

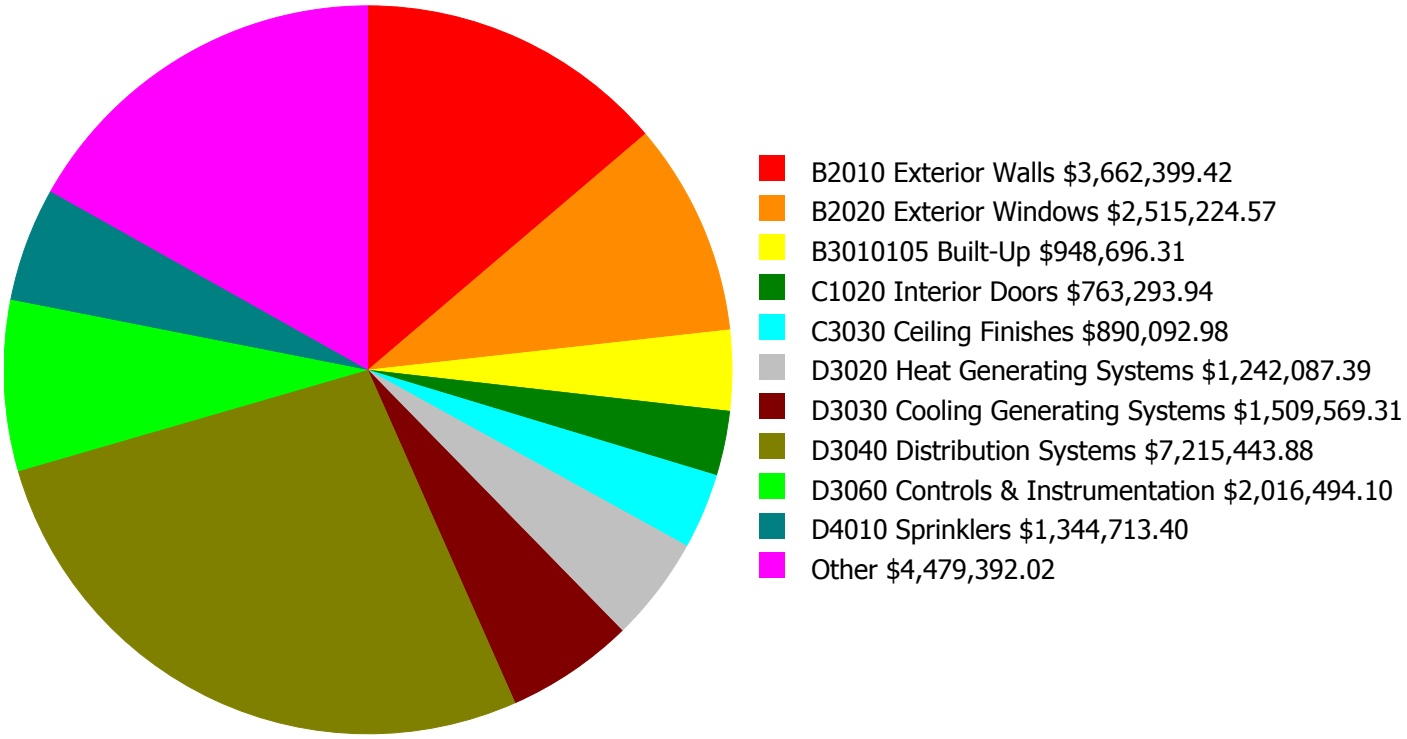
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 56.21%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$974,302.00	54.21 %	$1,948,604.00	52.21 %
2017	$23,425,330	$1,003,531.00	98.90 %	$2,007,062.00	94.90 %
2018	$18,427	$1,033,637.00	96.94 %	$2,067,274.00	90.94 %
2019	$0	$1,064,646.00	94.94 %	$2,129,292.00	86.94 %
2020	$4,099,518	$1,096,585.00	100.41 %	$2,193,171.00	90.41 %
2021	$0	$1,129,483.00	98.41 %	$2,258,966.00	86.41 %
2022	$0	$1,163,368.00	96.41 %	$2,326,735.00	82.41 %
2023	$0	$1,198,269.00	94.41 %	$2,396,537.00	78.41 %
2024	$0	$1,234,217.00	92.41 %	$2,468,433.00	74.41 %
2025	$1,295,116	$1,271,243.00	92.45 %	$2,542,486.00	72.45 %
Total:	**$28,838,390**	**$11,169,281.00**		**$22,338,560.00**	

Deficiency Summary by System

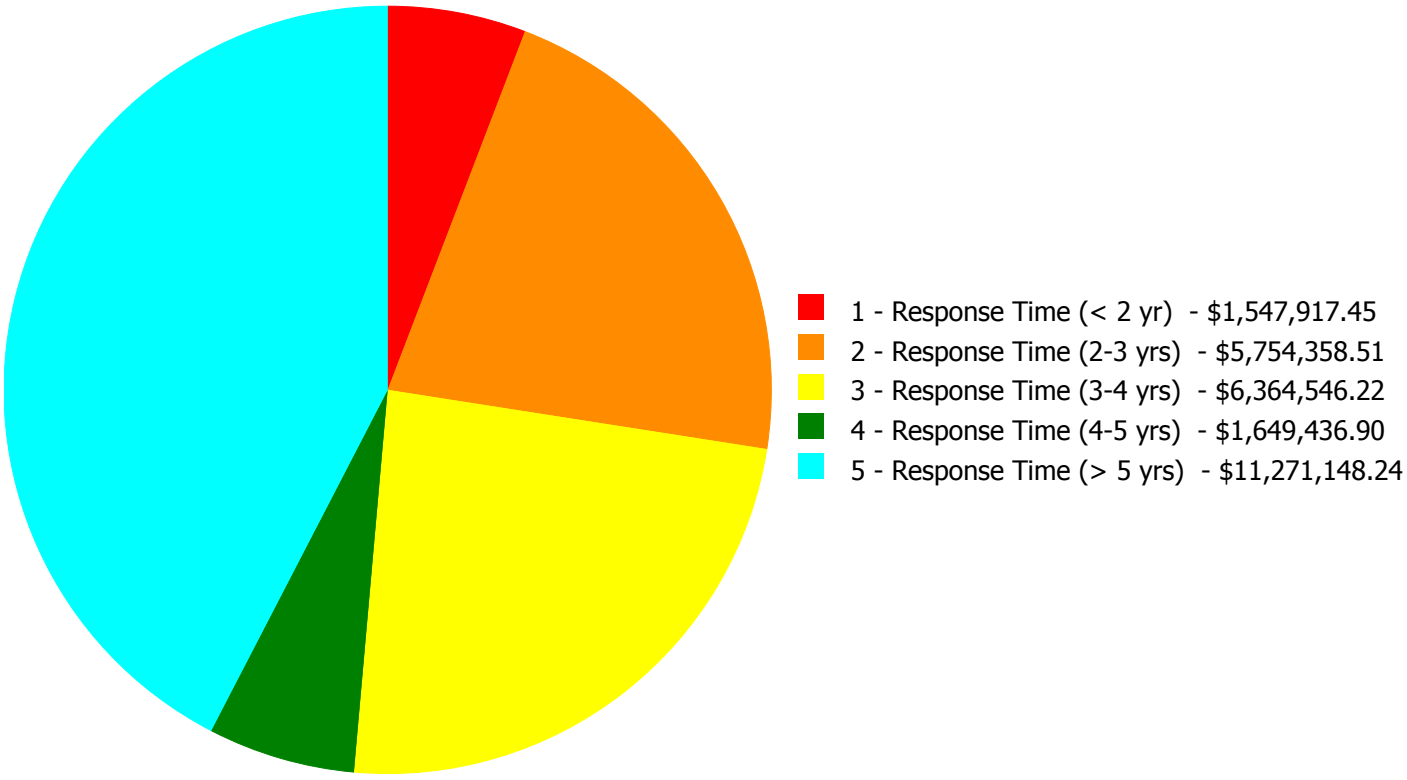
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $26,587,407.32

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: $26,587,407.32

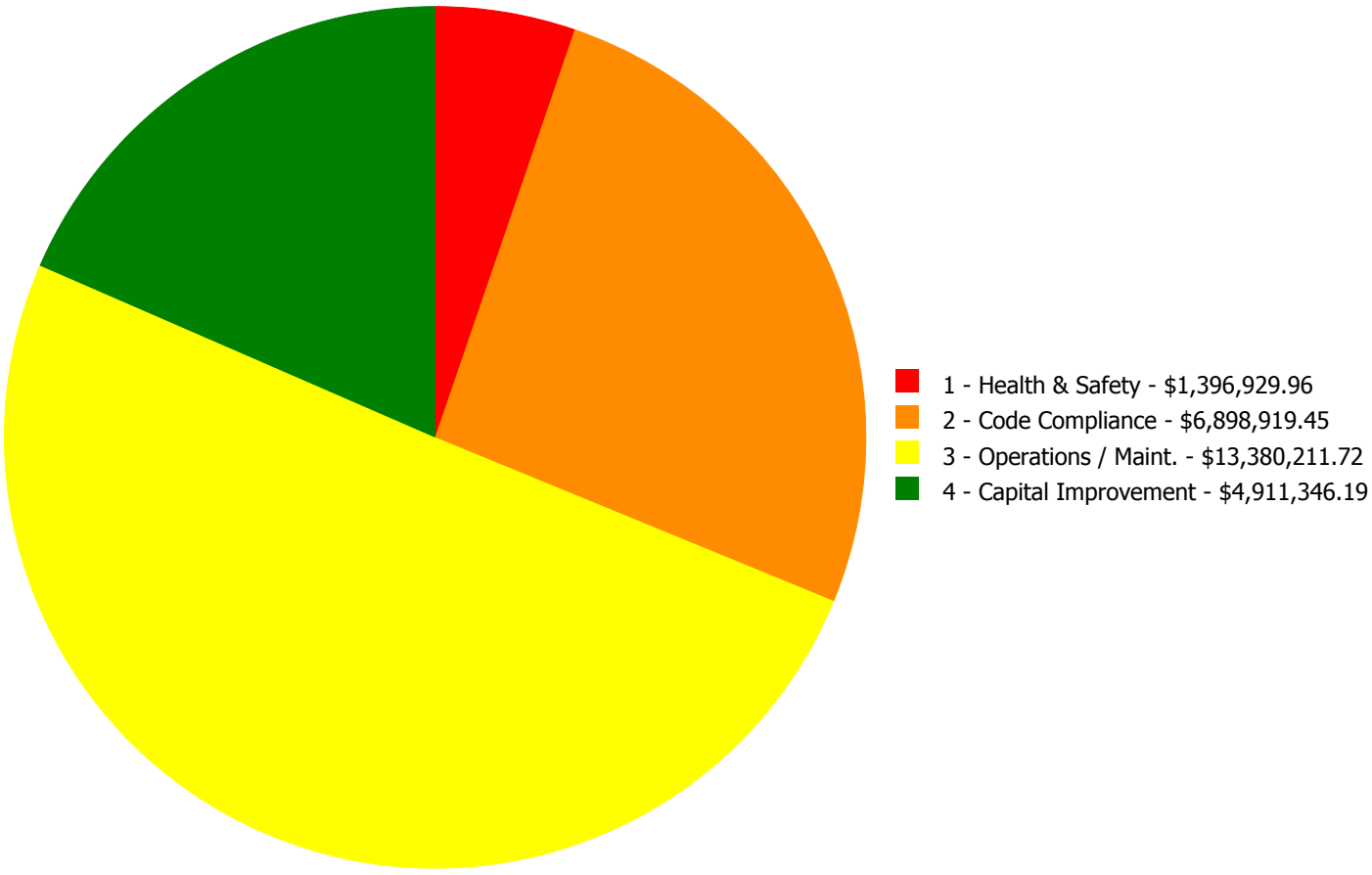
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	$0.00	$1,140,852.60	$2,521,546.82	$0.00	$0.00	$3,662,399.42
B2020	Exterior Windows	$0.00	$2,515,224.57	$0.00	$0.00	$0.00	$2,515,224.57
B2030	Exterior Doors	$0.00	$0.00	$182,146.42	$0.00	$0.00	$182,146.42
B3010105	Built-Up	$0.00	$948,696.31	$0.00	$0.00	$0.00	$948,696.31
C1020	Interior Doors	$0.00	$0.00	$0.00	$763,293.94	$0.00	$763,293.94
C1030	Fittings	$0.00	$0.00	$46,937.04	$0.00	$68,736.84	$115,673.88
C3010230	Paint & Covering	$0.00	$0.00	$462,622.10	$0.00	$0.00	$462,622.10
C3020411	Carpet	$0.00	$0.00	$23,500.61	$0.00	$0.00	$23,500.61
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$321,533.36	$0.00	$321,533.36
C3020414	Wood Flooring	$0.00	$0.00	$0.00	$0.00	$665,009.59	$665,009.59
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$92,232.42	$797,860.56	$890,092.98
D1010	Elevators and Lifts	$0.00	$0.00	$670,322.07	$0.00	$0.00	$670,322.07
D2010	Plumbing Fixtures	$0.00	$60,633.52	$163,915.82	$0.00	$0.00	$224,549.34
D2020	Domestic Water Distribution	$0.00	$50,068.17	$0.00	$0.00	$0.00	$50,068.17
D2030	Sanitary Waste	$0.00	$0.00	$399,181.09	$0.00	$30,685.95	$429,867.04
D2040	Rain Water Drainage	$0.00	$0.00	$416,836.43	$0.00	$0.00	$416,836.43
D3020	Heat Generating Systems	$203,204.05	$1,038,883.34	$0.00	$0.00	$0.00	$1,242,087.39
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,509,569.31	$1,509,569.31
D3040	Distribution Systems	$0.00	$0.00	$1,303,223.64	$0.00	$5,912,220.24	$7,215,443.88
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$0.00	$2,016,494.10	$2,016,494.10
D4010	Sprinklers	$1,344,713.40	$0.00	$0.00	$0.00	$0.00	$1,344,713.40
D5010	Electrical Service/Distribution	$0.00	$0.00	$0.00	$438,319.57	$0.00	$438,319.57
D5030	Communications and Security	$0.00	$0.00	$0.00	$34,057.61	$0.00	$34,057.61
D5090	Other Electrical Systems	$0.00	$0.00	$174,314.18	$0.00	$0.00	$174,314.18
E2010	Fixed Furnishings	$0.00	$0.00	$0.00	$0.00	$270,571.65	$270,571.65
	Total:	$1,547,917.45	$5,754,358.51	$6,364,546.22	$1,649,436.90	$11,271,148.24	$26,587,407.32

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: $26,587,407.32

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: 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 (150 HP)
Qty: 2.00
Unit of Measure: Ea.
Estimate: $203,204.05
Assessor Name: System
Date Created: 07/29/2015

Notes: Replace the two (2) existing 5,600MBH natural gas/oil burners on the boilers, which are nearing the end of their service life, with more efficient new burners.

System: D4010 - Sprinklers

Location: Throughout building
Distress: Life Safety / NFPA / PFD
Category: 1 - Health & Safety
Priority: 1 - Response Time (< 2 yr)
Correction: Install a fire protection sprinkler system
Qty: 94,000.00
Unit of Measure: S.F.
Estimate: $1,344,713.40
Assessor Name: System
Date Created: 07/29/2015

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: B2010 - Exterior Walls

Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

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

Qty: 35,000.00

Unit of Measure: S.F.

Estimate: $1,130,131.52

Assessor Name: System

Date Created: 08/12/2015

Notes: Repair cracks in masonry, replace missing mortar – all exterior walls; replace expansion joint on east and west wall

System: B2010 - Exterior Walls

Location: Exterior

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace expansion joints at exterior walls

Qty: 120.00

Unit of Measure: L.F.

Estimate: $10,721.08

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace expansion joint on east and west wall

System: B2020 - Exterior Windows

Location: Exterior

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Remove and replace aluminum windows - pick the appropriate size and style and insert the number of units

Qty: 400.00

Unit of Measure: Ea.

Estimate: $2,515,224.57

Assessor Name: System

Date Created: 08/12/2015

Notes: Replace all windows

System: B3010105 - Built-Up

Location: Exterior/ Roof

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 28,000.00

Unit of Measure: S.F.

Estimate: $948,696.31

Assessor Name: System

Date Created: 08/13/2015

Notes: Install all new roofing system including insulation; tear-down existing roofing; install flashing, counter flashing and reglets

System: D2010 - Plumbing Fixtures

Location: Throughout building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 8.00

Unit of Measure: Ea.

Estimate: $60,633.52

Assessor Name: System

Date Created: 07/29/2015

Notes: Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.

System: D2020 - Domestic Water Distribution

Location: Basement Mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace duplex domestic booster pump set (5 HP)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $50,068.17

Assessor Name: System

Date Created: 07/29/2015

Notes: Replace domestic water booster pumps.

System: D3020 - Heat Generating Systems

Location: Boiler room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,012,205.26

Assessor Name: System

Date Created: 01/20/2016

Notes: Replace the two (2) existing 5,230MBH cast iron boilers, which are beyond their service life.

System: D3020 - Heat Generating Systems

Location: Basement

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace fuel oil pumps

Qty: 1.00

Unit of Measure: Ea.

Estimate: $26,678.08

Assessor Name: System

Date Created: 07/29/2015

Notes: Inspect and replace current fuel oil pumping system with new system and control scheme.

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

System: B2010 - Exterior Walls

Location: Exterior/ Roof level

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Rebuild brick parapets at original building roof perimeter; re-set stone coping - change qty. for LF of coping if necessary

Qty: 9,100.00

Unit of Measure: S.F.

Estimate: $2,521,546.82

Assessor Name: System

Date Created: 08/12/2015

Notes: Rebuild brick parapets at original building roof perimeter; re-set stone coping

System: B2030 - Exterior Doors

Location: Exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 20.00

Unit of Measure: Ea.

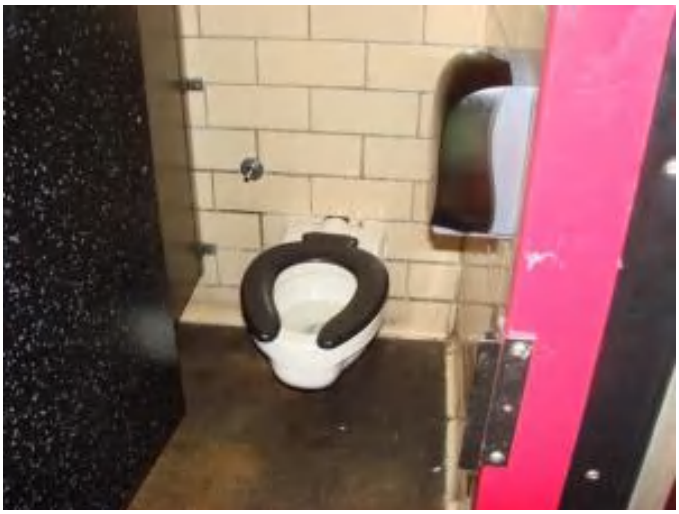
Estimate: $182,146.42

Assessor Name: System

Date Created: 08/12/2015

Notes: Replace all exterior doors

System: C1030 - Fittings



Location: Interiors

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 48.00

Unit of Measure: Ea.

Estimate: $46,937.04

Assessor Name: System

Date Created: 08/13/2015

Notes: Reconfigure toilets on each floor for accessibility, provide new toilet partitions and toilet accessories including grab bars

System: C3010230 - Paint & Covering

Location: Interiors

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 54,000.00

Unit of Measure: S.F.

Estimate: $462,622.10

Assessor Name: System

Date Created: 08/13/2015

Notes: Repair and repaint damaged interior walls

System: C3020411 - Carpet

Location: Interiors/ Library

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 2,100.00

Unit of Measure: S.F.

Estimate: $23,500.61

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace old carpet

System: D1010 - Elevators and Lifts

This deficiency has no image.

Location: Interior

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $670,322.07

Assessor Name: System

Date Created: 08/13/2015

Notes: Provide 4000 lb traction elevator serving all floors and basement

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace lavatory - with finishes

Qty: 20.00

Unit of Measure: Ea.

Estimate: $163,915.82

Assessor Name: System

Date Created: 07/29/2015

Notes: Replace the wheel lavatories in the restrooms with new code compliant fixtures.

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. (+100KSF)

Qty: 94,000.00

Unit of Measure: S.F.

Estimate: $399,181.09

Assessor Name: System

Date Created: 07/29/2015

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: 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: 94,000.00

Unit of Measure: S.F.

Estimate: $416,836.43

Assessor Name: System

Date Created: 11/18/2015

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: 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: 94,000.00

Unit of Measure: S.F.

Estimate: $889,275.10

Assessor Name: System

Date Created: 07/29/2015

Notes: Hire a qualified contractor to examine the steam and condensate piping, in service for nearly 70 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

Location: Throughout building

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

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

Qty: 94,000.00

Unit of Measure: S.F.

Estimate: $308,424.26

Assessor Name: System

Date Created: 07/29/2015

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

System: D3040 - Distribution Systems

Location: Roof

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace utility set exhaust fan (5 HP)

Qty: 3.00

Unit of Measure: Ea.

Estimate: $105,524.28

Assessor Name: System

Date Created: 07/29/2015

Notes: Replace existing exhaust fans serving the bathrooms and utilize the existing ductwork.

System: D5090 - Other Electrical Systems

Location: Basement
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace standby generator system
Qty: 1.00
Unit of Measure: Ea.
Estimate: $121,804.78
Assessor Name: System
Date Created: 08/04/2015

Notes: Replace existing generator with a larger generator to support an elevator.

System: D5090 - Other Electrical Systems

Location: Throughout Building
Distress: Life Safety / NFPA / PFD
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Emergency/Exit Lighting
Qty: 1.00
Unit of Measure: Ea.
Estimate: $28,500.44
Assessor Name: System
Date Created: 08/04/2015

Notes: Provide new emergency fixtures for emergency egress.

System: D5090 - Other Electrical Systems

Location: Throughout Building
Distress: Health Hazard / Risk
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Emergency/Exit Lighting
Qty: 1.00
Unit of Measure: Ea.
Estimate: $16,956.38
Assessor Name: System
Date Created: 08/04/2015

Notes: Replace exit lights with LED style fixtures

System: D5090 - Other Electrical Systems

Location: Roof
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Repair Lightning Protection System
Qty: 1.00
Unit of Measure: Job
Estimate: $7,052.58
Assessor Name: System
Date Created: 08/04/2015

Notes: Repair lightning protection system.

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

System: C1020 - Interior Doors

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace interior doors - wood doors with hollow metal frames - per leaf

Qty: 160.00

Unit of Measure: Ea.

Estimate: $763,293.94

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace all doors in original building; provide ADA compliant hardware (all doors)

System: C3020413 - Vinyl Flooring

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove VAT and replace with VCT - SF of area

Qty: 21,200.00

Unit of Measure: S.F.

Estimate: $321,533.36

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace all VCT/ VAT flooring including cove base

System: C3030 - Ceiling Finishes

Location: Interiors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair and resurface plaster ceilings - 2 coats plaster

Qty: 16,800.00

Unit of Measure: S.F.

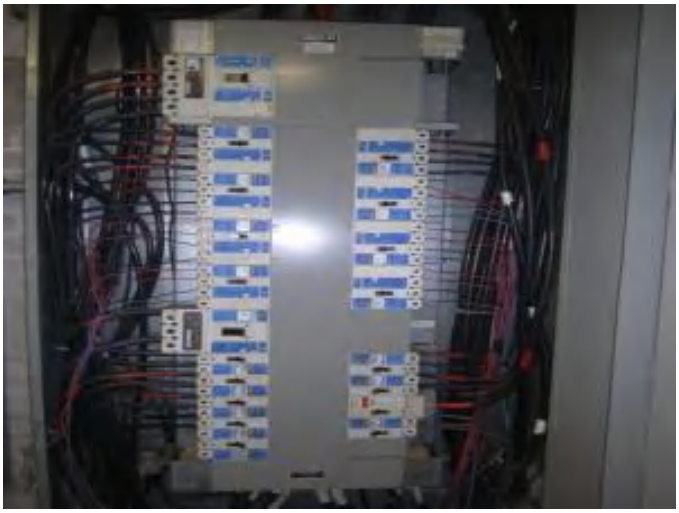
Estimate: $92,232.42

Assessor Name: System

Date Created: 08/13/2015

Notes: Repair and repaint plaster ceilings

System: D5010 - Electrical Service/Distribution



Location: Throughout Building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace Electrical DIstribution System (U1)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $438,319.57

Assessor Name: System

Date Created: 08/04/2015

Notes: Replace existing service with new 208/120V three phase service and replace old panels with new panels.

System: D5030 - Communications and Security

Location: Throughout Building
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Clock System or Components
Qty: 0.00
Unit of Measure: Ea.
Estimate: $27,297.87
Assessor Name: System
Date Created: 08/04/2015

Notes: Install a new time clock system.

System: D5030 - Communications and Security

Location: 1st Floor
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Security System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $6,759.74
Assessor Name: System
Date Created: 08/04/2015

Notes: Add security system with contacts to exterior doors for intrusion detection.

Priority 5 - Response Time (> 5 yrs):

System: C1030 - Fittings

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 180.00

Unit of Measure: Ea.

Estimate: $46,025.18

Assessor Name: System

Date Created: 08/13/2015

Notes: Install new signage throughout

System: C1030 - Fittings

Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace blackboards with marker boards - pick the appropriate size and insert the quantities

Qty: 33.00

Unit of Measure: Ea.

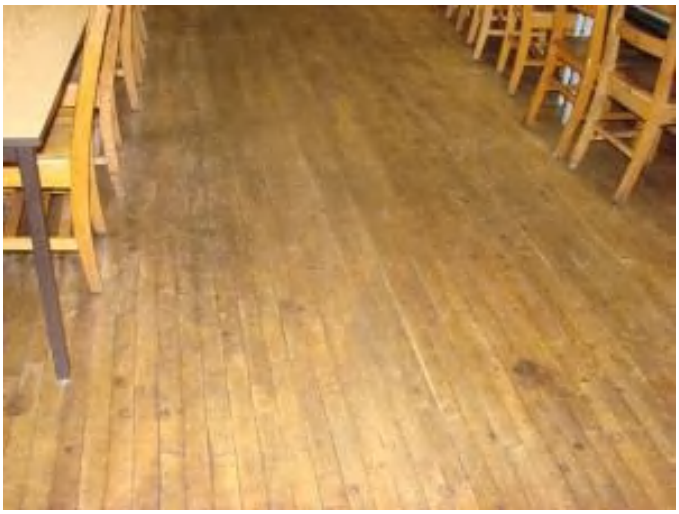
Estimate: $22,711.66

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace old chalkboards

System: C3020414 - Wood Flooring



Location: Interiors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 52,000.00

Unit of Measure: S.F.

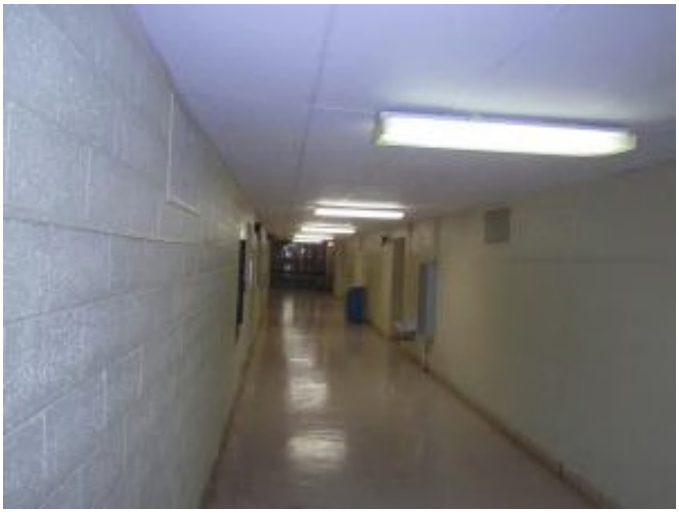
Estimate: $665,009.59

Assessor Name: System

Date Created: 08/13/2015

Notes: Repair refinish hardwood flooring incl. auditorium stage

System: C3030 - Ceiling Finishes



Location: Interiors

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 52,900.00

Unit of Measure: S.F.

Estimate: $797,860.56

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace all suspended acoustical ceilings; install new acoustical ceilings in corridors and classrooms

System: D2030 - Sanitary Waste

Location: Basement

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 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: 07/29/2015

Notes: Replace existing sewage ejector pump system and piping in the basement as it looks beyond its useful service life.

System: D3030 - Cooling Generating Systems

Location: Roof

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install chilled water system with distribution piping and pumps. (+75KSF)

Qty: 94,000.00

Unit of Measure: S.F.

Estimate: $1,509,569.31

Assessor Name: System

Date Created: 07/29/2015

Notes: Remove the window air conditioning units and install a 250 ton air-cooled chiller on the roof 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: Throughout building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62 - insert the SF of bldg. in the qty.

Qty: 94,000.00

Unit of Measure: S.F.

Estimate: $4,534,479.43

Assessor Name: System

Date Created: 07/29/2015

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

System: D3040 - Distribution Systems

Location: Lunch room/gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install HVAC unit for Cafeteria (850 students).

Qty: 850.00

Unit of Measure: Pr.

Estimate: $397,410.06

Assessor Name: System

Date Created: 07/29/2015

Notes: Provide ventilation for the lunch room/gymnasium by installing a constant volume air handling unit with distribution ductwork and registers.

System: D3040 - Distribution Systems

Location: Administration

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 894.00

Unit of Measure: Pr.

Estimate: $386,944.30

Assessor Name: System

Date Created: 07/29/2015

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.

System: D3040 - Distribution Systems

Location: Small gymnasium

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: Ea.

Estimate: $308,301.04

Assessor Name: System

Date Created: 07/29/2015

Notes: Provide ventilation for the small gymnasium 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: Auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 200.00

Unit of Measure: Seat

Estimate: $285,085.41

Assessor Name: System

Date Created: 07/29/2015

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: D3060 - Controls & Instrumentation

Location: Throughout building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 94,000.00

Unit of Measure: S.F.

Estimate: $2,016,494.10

Assessor Name: System

Date Created: 07/29/2015

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: E2010 - Fixed Furnishings

This deficiency has no image.

Location: Interiors/ Auditorium

Distress: Appearance

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 300.00

Unit of Measure: Ea.

Estimate: $270,571.65

Assessor Name: System

Date Created: 08/13/2015

Notes: Replace auditorium seats

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
D2020 Domestic Water Distribution	Pump, pressure booster system, 1 HP pump, includes diaphragm tank, control and pressure switch	2.00	Ea.	Basement Mechanical Room					25	1985	2010	$9,262.50	$20,377.50
D2020 Domestic Water Distribution	Pump, pressure booster system, 1 HP pump, includes diaphragm tank, control and pressure switch	2.00	Ea.	Basement Mechanical Room					25	1985	2010	$9,262.50	$20,377.50
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 5230 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Basement Boiler Room	Weil-McLain	H-1994			35	1975	2010	$122,870.00	$270,314.00
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 5230 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Basement Boiler Room	Weil-McLain	H-1994			35	1975	2010	$122,870.00	$270,314.00
D5010 Electrical Service/Distribution	Switchboards, main fusible switch, 3 pole, 4 wire, 120/208, 120/240 V, 600 amp, incl fuse	1.00	Ea.	Basement	Eaton				30			$6,986.25	$7,684.88
												Total:	**$589,067.88**

Executive Summary

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

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

Function:	
Gross Area (SF):	36,500
Year Built:	1937
Last Renovation:	
Replacement Value:	$497,913
Repair Cost:	$565,873.10
Total FCI:	113.65 %
Total RSLI:	89.94 %

Description:

Attributes:

General Attributes:

Bldg ID:	G457001	Site ID:	S457001

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	111.76 %	166.86 %	$565,873.10
G40 - Site Electrical Utilities	43.33 %	0.00 %	$0.00
Totals:	**89.94 %**	**113.65 %**	**$565,873.10**

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.		30				0.00 %	0.00 %				$0
G2030	Pedestrian Paving	$11.52	S.F.	27,700	40	1980	2020	2060	112.50 %	163.37 %	45		$521,324.05	$319,104
G2040	Site Development	$4.36	S.F.		25				0.00 %	0.00 %				$0
G2050	Landscaping & Irrigation	$3.78	S.F.	5,300	15	2000	2015	2030	100.00 %	222.37 %	15		$44,549.05	$20,034
G4020	Site Lighting	$3.58	S.F.	36,500	30	1937	1967	2028	43.33 %	0.00 %	13			$130,670
G4030	Site Communications & Security	$0.77	S.F.	36,500	30	1937	1967	2028	43.33 %	0.00 %	13			$28,105
								Total	**89.94 %**	**113.65 %**			**$565,873.10**	**$497,913**

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.

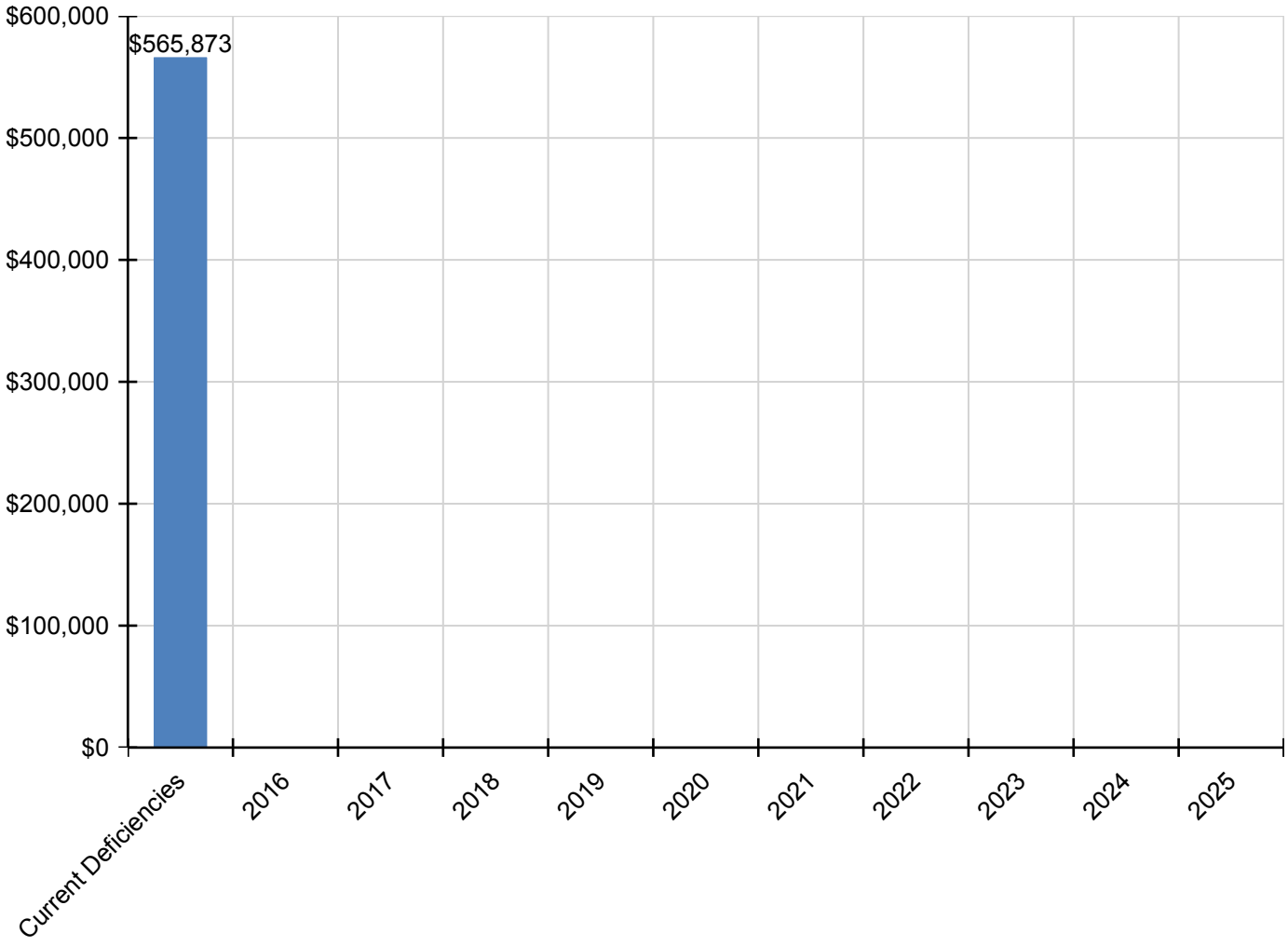
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$565,873**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$565,873**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2010 - Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2030 - Pedestrian Paving	$521,324	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$521,324**
G2040 - Site Development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2050 - Landscaping & Irrigation	$44,549	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$44,549**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

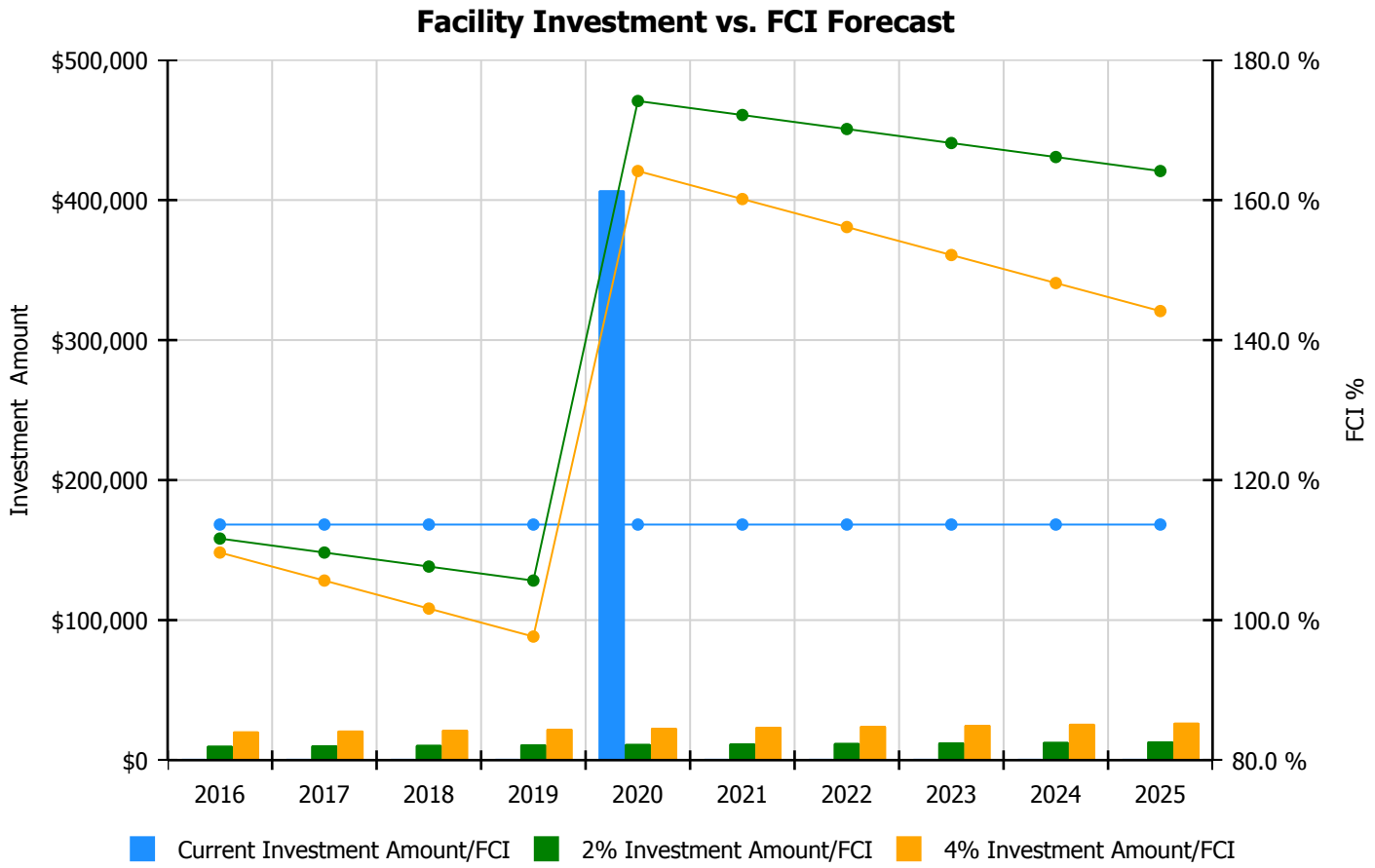
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

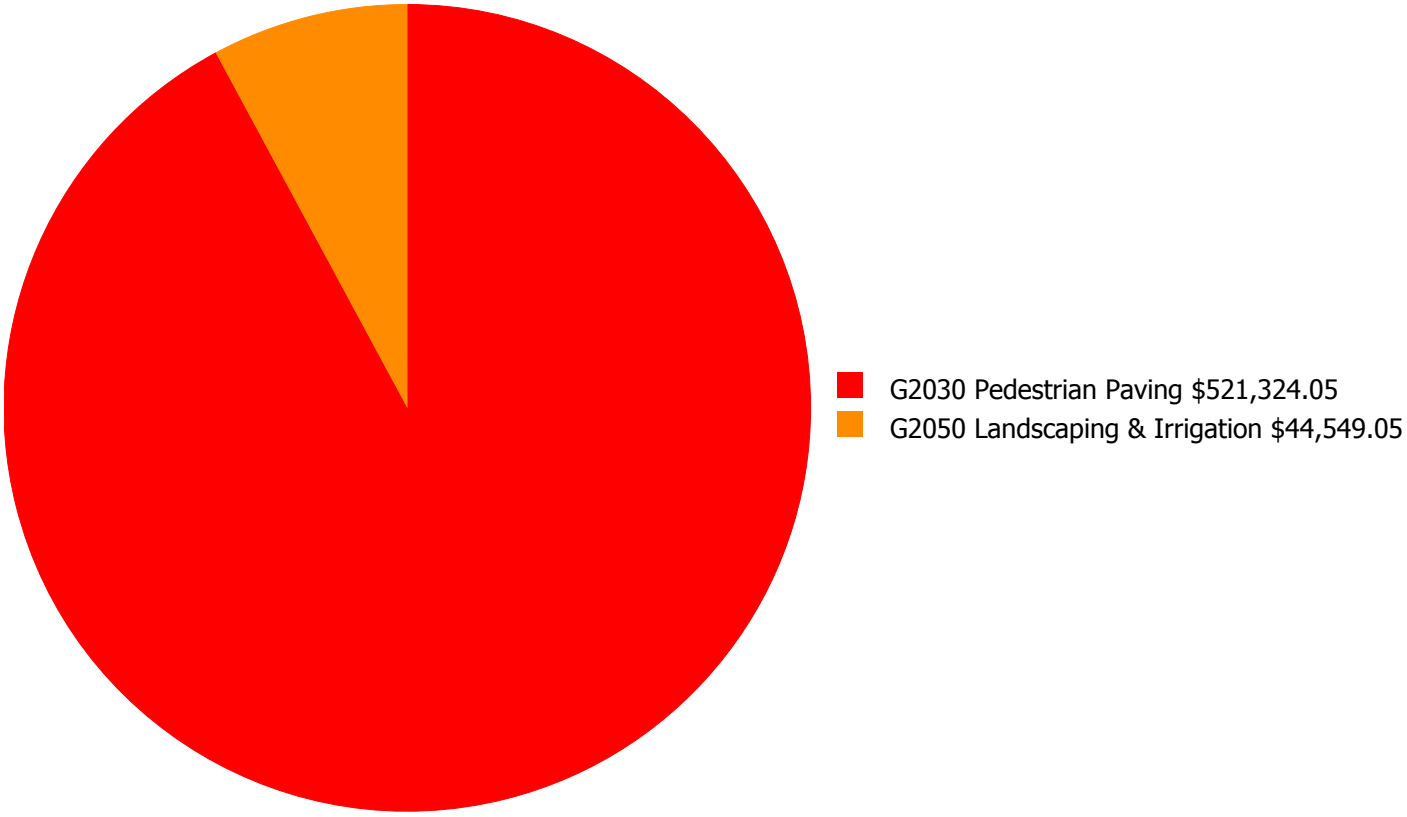
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 113.65%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$10,257.00	111.65 %	$20,514.00	109.65 %
2017	$0	$10,565.00	109.65 %	$21,129.00	105.65 %
2018	$0	$10,882.00	107.65 %	$21,763.00	101.65 %
2019	$0	$11,208.00	105.65 %	$22,416.00	97.65 %
2020	$406,921	$11,544.00	174.15 %	$23,089.00	164.15 %
2021	$0	$11,891.00	172.15 %	$23,781.00	160.15 %
2022	$0	$12,247.00	170.15 %	$24,495.00	156.15 %
2023	$0	$12,615.00	168.15 %	$25,230.00	152.15 %
2024	$0	$12,993.00	166.15 %	$25,987.00	148.15 %
2025	$0	$13,383.00	164.15 %	$26,766.00	144.15 %
Total:	**$406,921**	**$117,585.00**		**$235,170.00**	

Deficiency Summary by System

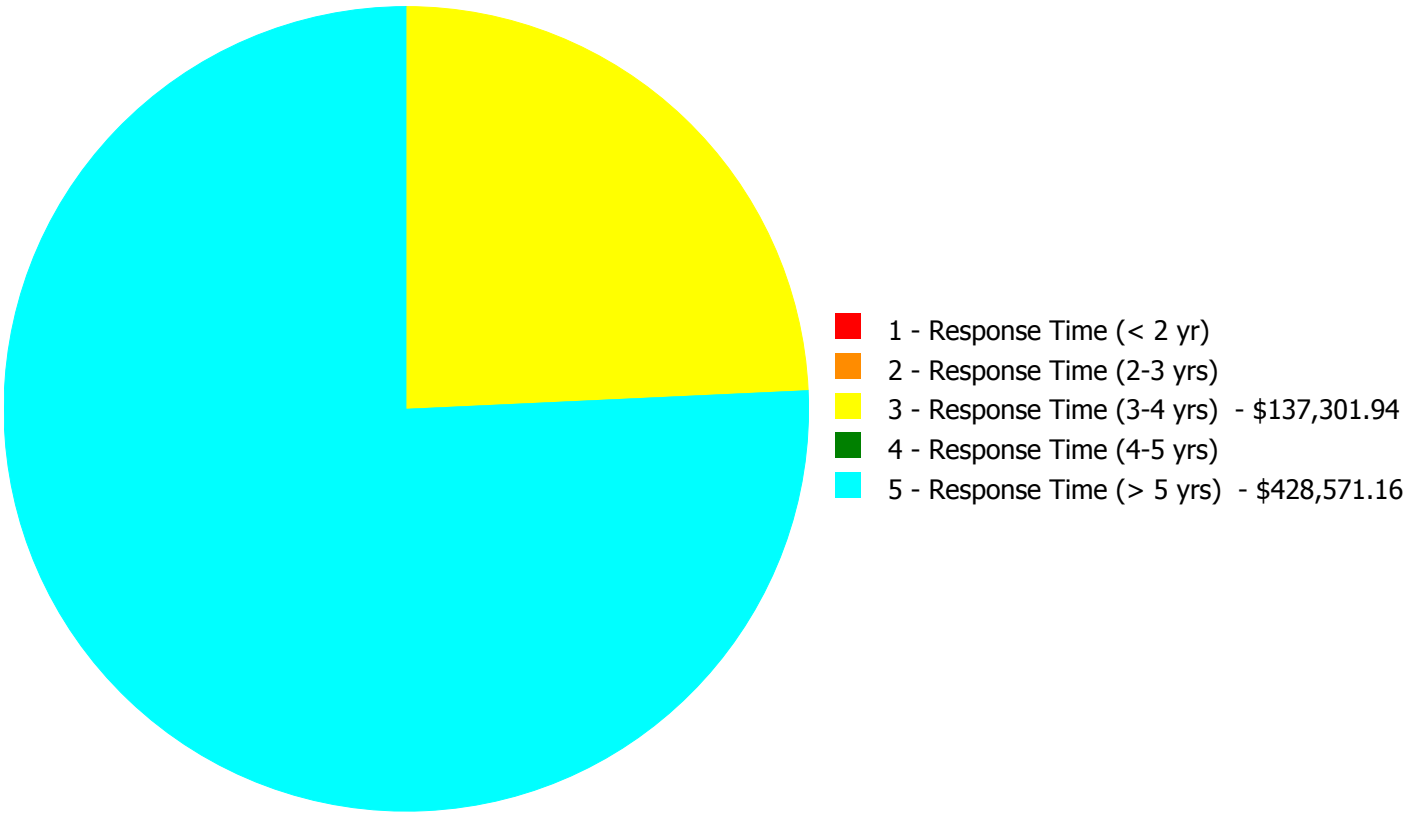
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $565,873.10

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: $565,873.10

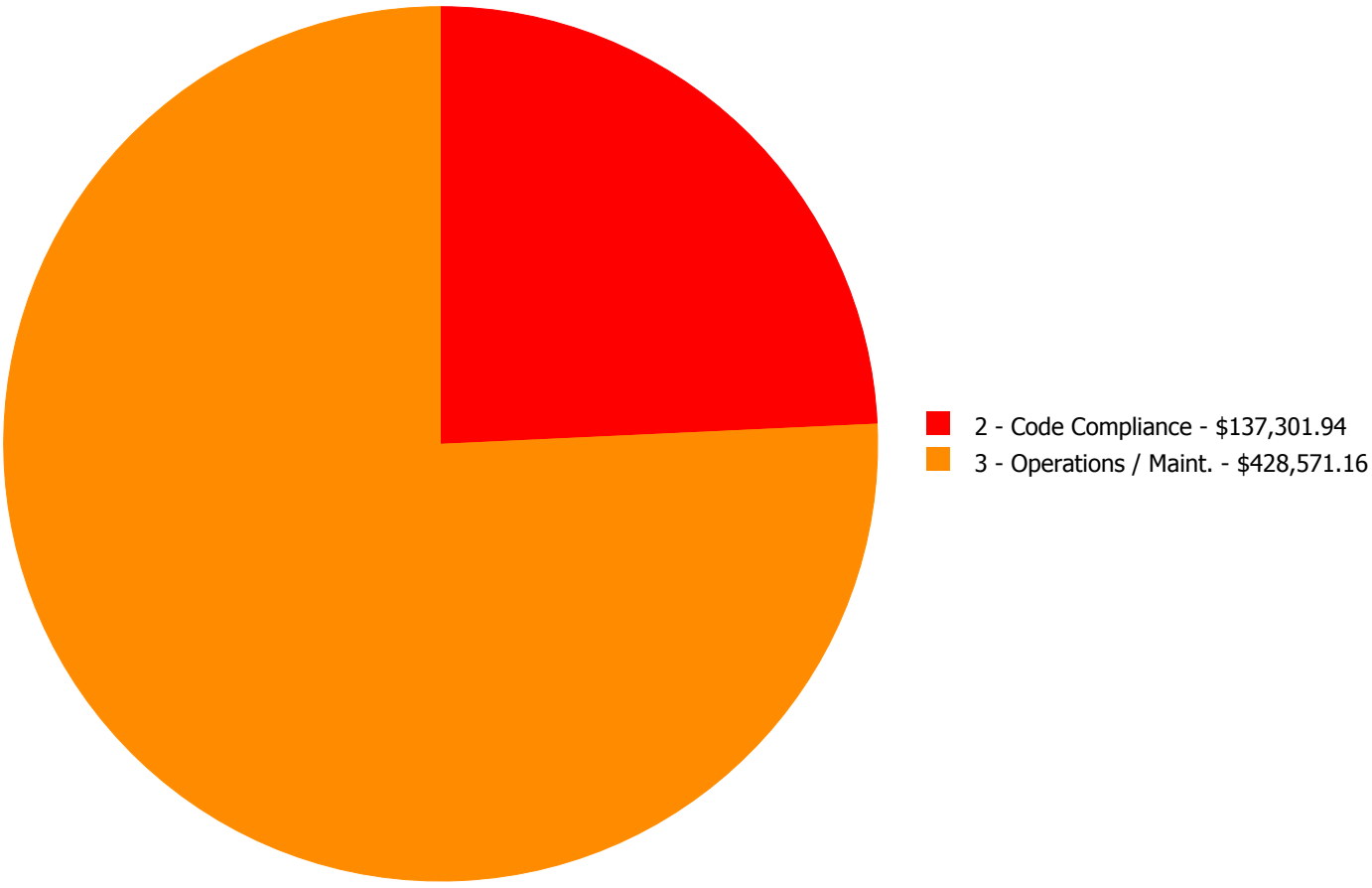
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	$0.00	$0.00	$137,301.94	$0.00	$384,022.11	$521,324.05
G2050	Landscaping & Irrigation	$0.00	$0.00	$0.00	$0.00	$44,549.05	$44,549.05
	Total:	$0.00	$0.00	$137,301.94	$0.00	$428,571.16	$565,873.10

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: $565,873.10

Deficiency Details by Priority

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

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

System: G2030 - Pedestrian Paving

This deficiency has no image.

Location: Grounds/ Site

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Install an exterior ADA ramp - based on 5' wide by the linear foot - up to 84" rise - per LF of ramp - figure 1 LF of ramp per inch of rise

Qty: 58.00

Unit of Measure: L.F.

Estimate: $137,301.94

Assessor Name: Craig Anding

Date Created: 08/13/2015

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

Priority 5 - Response Time (> 5 yrs):

System: G2030 - Pedestrian Paving

Location: Grounds/ Site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace concrete sidewalk or concrete paving - 4" concrete thickness

Qty: 26,700.00

Unit of Measure: S.F.

Estimate: $384,022.11

Assessor Name: Craig Anding

Date Created: 08/13/2015

Notes: Resurface playground paving

System: G2050 - Landscaping & Irrigation

Location: Grounds/ Site

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace or replace sod

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $44,549.05

Assessor Name: Craig Anding

Date Created: 08/13/2015

Notes: Provide new sod in grass area

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