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.

Cook-Wissahickon School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	201 E. Salaignac St. Philadelphia, Pa 19128	Enrollment Grade Range	455 '00-08'
Phone/Fax	215-487-4463 / 215-487-4808	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Cookwissahickon	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	**44.38%**	**$16,379,677**	**$36,909,663**
Building	45.82 %	$16,078,007	$35,092,580
Grounds	16.60 %	$301,671	$1,817,083

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.59 %	$813,168	$907,680
Exterior Walls (Shows condition of the structural condition of the exterior facade)	42.04 %	$1,134,324	$2,698,121
Windows (Shows functionality of exterior windows)	00.00 %	$0	$1,316,531
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$105,995
Interior Doors (Classroom doors)	00.00 %	$0	$256,581
Interior Walls (Paint and Finishes)	00.00 %	$0	$754,051
Plumbing Fixtures	00.00 %	$0	$988,312
Boilers	91.93 %	$1,254,577	$1,364,777
Chillers/Cooling Towers	00.00 %	$0	$1,789,488
Radiators/Unit Ventilators/HVAC	156.88 %	$4,930,082	$3,142,569
Heating/Cooling Controls	158.90 %	$1,568,150	$986,850
Electrical Service and Distribution	130.39 %	$924,553	$709,070
Lighting	52.90 %	$1,341,049	$2,535,108
Communications and Security (Cameras, Pa System and Fire Alarm)	50.85 %	$482,829	$949,569

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

S641001;Cook-Wissahickon

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):	73,100
Year Built:	1969
Last Renovation:	
Replacement Value:	$36,909,663
Repair Cost:	$16,379,677.28
Total FCI:	44.38 %
Total RSLI:	69.14 %

Description:

Facility Assessment
December 2015

School District of Philadelphia
Cook-Wissahickon School
201 E. Salaignac St.
Philadelphia, PA 19128

73,100 SF / 537 Students / LN 06

GENERAL

The Cook-Wissahickon School is identified as B641001 and is located at 201 E. Salaignac St., Philadelphia, PA. The unique design of the modified square-shaped, concrete and steel-framed building includes brick facades with a concrete foundation. Constructed in 1968-69 the school has had no additions.

The main entrance faces the Southern exterior facing Salaignac and Righter Streets. General parking is east of the school. This School serves students in grades K to 6 and has a basement with two stories consisting of a total gross square footage of 73,100

GSF.

This school has several classrooms, a library, kitchen and student commons, three Gym, cafeteria, with supporting administrative spaces

The information for this report was collected during a site visit on December 3, 2015.

Mr. Keith Guess, Building Engineer, and Mr. Durelle Holmes, Facilities Area Coordinator, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Mr. Michael Lowe, Principal, also participated in the interview and shared information about the school with the assessment team.

Architectural / Structural Systems

The exterior brick surfaces are generally in fair to good condition for their age. Although the exterior concrete will require repairs the brick finish appears to be in good condition. No recommendations are warranted for the brick exterior finish at this time.

The exterior windows have been upgraded to a double pane aluminum framed application. This weather tight design is in very good condition. This new system incorporated energy-efficient features and there were no issues that surfaced during the time of the inspection, therefore no recommendations are required at this time.

The exterior concrete finish is spalling as indicated in the photos. Thus far the damage is building wide around the concrete framing of the exterior brick finish. This deficiency provides a budgetary consideration for repairs to the concrete sections that are damaged. This work should be coordinated with the recommended exterior point and tuck work.

The exterior doors are metal applications with metal frames. The exterior door system for this school was reported to have been replaced in the early 2000's. This system is expected to have a normal life cycle that exceeds the outlook of this report. No recommendations are warranted at this time.

The roof is a built up application that was installed in the early 1990'S. Considering the age and condition of the roofing systems, universal upgrades are recommended. This deficiency is expected to be completed as part of an exterior effort coordinated with other recommendations included in this report.

Special consideration for those that may be physically challenged was not a main factor in the construction of the school. Currently there are no compliant entrances at grade. The path of travel is limited by the lack of compliant signage, restrooms amities, door hardware, hand rails and guard rails to meet the needs of the physically challenged. The building will require several upgrades to meet the needs of the physically challenged.

Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically wood or metal in metal frames with glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

There are several movable partitions that remain in classrooms. These wall systems are no longer used and in most cases cannot be used due to damage or wall modifications to support classroom needs. This deficiency provides a budgetary consideration to remove and replace the wall systems with universal removal of the existing movable partitions and upgrades to a permeate wall systems.

The interior door system is a metal or wood framed system with wood doors. The doors are not original to the buildings construction and there were no records to indicate the date of installation. The doors are in very good condition and expected to have a normal life cycle that exceeds the outlook of this report.

The tack boards and chalk boards have been upgraded to new systems with the addition of smart boards in the classrooms. No recommendations are warranted at this time.

There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

There are painted walls, trim, and some painted ceilings in this building. The interior finishes are in very good condition. There were no issues that surfaced therefore no recommendations are required at this time.

The tile wall finishes appear to have been replaced in the early 1990's and are in fair condition. The finish is expected to have a life cycle that exceed the outlook of this report.

The hallways, stair landings and mechanical spaces have a sealed concrete finish. The hallway concrete finish is diamond cut and placed as 24x24 inch sections. As indication in the photos most of the finish is in good condition. No recommendations are warranted at this time.

The interior carpet finish was installed approximately in 2000 and is in good condition considering the age and high traffic conditions. The tile floor finish in the restrooms is in very good condition.

This school has sections of 9x9 and 12x12 floor tile that represents upgrades and abatement of some 9x9 tile. Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

The ceiling finish is a mix of painted and 2 x 4 Acoustical tile finish. Ceilings have been repaired in several areas and is in good condition considering the age of the application and the current condition of the school. The ceiling finish is expected to require upgrades to support the recommended mechanical electrical efforts in this report. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school. No work should be considered until after the recommended exterior efforts are complete.

The school stage has a stage curtain assembly that appears to be from the original construction. Modern applications are typically fire -proof applications with adjustable tracks and electric support for operation. The curtains are torn in a few section and the track is not functioning properly, overall the system is in poor condition. It is recommended that the curtain and track system be upgraded to a new system. Special care should be considered in regards to modern fire proofing for the new installation.

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories, urinals and water closets. Lavatories have dual wheel handle faucets and urinals and water closets have recessed manual flush valves with push button operators. Water coolers are stainless steel single level type. There are some counter top stainless steel sinks and instructor lab sinks in science classrooms. Custodial areas have cast iron service sinks. Kitchen waste is piped to an above floor grease trap.

Hot water is provided by two Paloma instantaneous gas water heaters in the mechanical room with a small circulating pump. Each heater has a small circulator and this equipment appears to be less than ten years old. A water softener is part of the system.

Sanitary, waste and vent piping is hub and spigot cast iron. Domestic hot and cold water is insulated rigid copper piping. Gas piping is galvanized with screwed fittings. There is a four inch water service with meter and backflow preventer and four inch gas service into the elevator/meter room on the first floor. These services are connected at Salaignac St.

The plumbing piping systems are from original 1969 installation. The supply piping has exceeded the service life and should be replaced. The cast iron piping should be inspected for damage and replaced or repaired as required. The water heaters should remain serviceable up to fifteen years. The fixtures appear to have been replaced during the past ten years and should have remaining life of twenty five years.

HVAC- The building is heated by two Weil Mclain steam cast iron sectional gas fired boilers in the mechanical room. The boilers are model 94 one hundred fifty hp installed in 1969, with modulating burners and code compliant gas train. A Shipco duplex cast iron condensate receiver serves the boilers. A heat exchanger in the mechanical room converts steam to hot water which is circulated to a dual temperature water system and to cabinet radiation units throughout the building. Boilers are connected to a field fabricated insulated vent system through the mechanical room to a chimney. Combustion air louvers have motorized dampers.

Cooling for the dual temperature system was originally provided by a steam absorption chiller which was replaced in 2005.The current chiller in the mechanical room is a Carrier dual scroll compressor water cooled machine, connected to a single cell Evapco induced draft cooling tower on grade. Water distribution includes three pumps- two dual temperature (7 1/2 hp) and one condenser water (20 hp). Pumps are all in the mechanical room and appear to be from original installation. The cooling tower was reportedly installed about 2000. The system includes a chemical treatment unit.

Exterior classrooms have Nesbitt unit ventilators with outside air damper, water coil, filter, control valve, blower and motor. There are seven air handling units connected to the dual temperature system and two heating and ventilating units in the gymnasium. Unit AH-1 which serves the office is in the elevator/ meter room. AH-2 serves the nurses area and is located in a mechanical closet. Storage rooms adjacent to the gymnasium contain AH-3 for the music area and AH-4 for the art space. These four units are all on the first floor. A second floor mechanical room contains AH-5 for the auditorium/cafeteria, AH-6 for the IMC and AH-7 serving room 213. Unit ventilators and air handling units are from the original 1969 installation. There is a ductless split system for the IT room.

The toilet rooms and other areas have mechanical exhaust with three centrifugal roof ventilators. These fans appear to be less than ten years old. There is a hood in the kitchen over warming equipment ducted to an upblast roof fan. There is no cooking and no fire suppression system for the hood.

There is no central control system. An older duplex air compressor in the mechanical room powers the pneumatic controls, most of which are inoperable.

The boilers were installed in 1969 should be replaced based on excessive service life. The unit ventilators and air handling units should be replaced based on age and condition and to provide code required outside air quantities. The distribution piping, heat exchanger and pumps are in poor condition, have exceeded the service life and should be replaced. The chiller has remaining service life of twenty years and the cooling tower ten years.

FIRE PROTECTION- The building has no fire protection system.

ELECTRICAL SYSTEMS

Electrical Service--The building is served by PECO Energy Company with 13.2 kV underground service to a Federal Pacific Electric (FPE) 500 kVA, 1600A, 208/120V, 3 phase, 4 wire unit substation located in Mechanical Room 019. The substation is original equipment and has exceeded its useful life. The 1600A switchboard feeds a Carrier chiller via a feeder tap and 600A safety switch and all the panelboards throughout the building. These panelboards are all FPE, beyond useful service life and obsolete equipment. There are a total of 12 normal and emergency power panelboards that serve the building, including (1) 400A, (8) 225A and (3) 100A panelboards. There are also one (1) 200A and three (3) 60A safety switches serving mechanical equipment. Replacement of all distribution system equipment and their feeders is included in this report.

Receptacles-- Classrooms typically are not provided with an adequate number of receptacles. It is recommended that 4 to 6 additional duplex receptacles be provided in 26 classrooms using a metal surface raceway system. Because of the age of the wiring devices and branch circuit wiring, replacement of all receptacles in the building is included in this report (estimate of 150 duplex receptacles).

Lighting—Except for a few rooms, such as the Main Office, Principal's Office and Science Room 103, all of the fluorescent lighting fixtures have obsolete T12 lamps and are in fair to poor condition. Replacement of these fixtures is recommended in 3 to 4 years. Typically, 2x4 recessed fluorescent troffers with acrylic prismatic lenses are provided in ceilings with acoustical ceiling tile, including the cafeteria/auditorium, corridors, offices, faculty dining room, locker rooms, restrooms and Kindergarten K2. Classrooms and kitchen have surface mounted 2x4 modular fluorescent fixtures; stairwells have 1x4 fluorescent wraparound fixtures.

The cafeteria/auditorium also has six (6) spotlight fixtures and ten (10) incandescent downlights in front of the platform. There are two rows of theatrical batten lighting fixtures and six (6) shallow dome incandescent fixtures above the platform. Lighting is controlled by branch circuit breakers in the stage panelboard. There is no dimming system.

The IMC has 15 surface metal halide industrial fixtures mounted to acoustical tile ceiling and 2x4 fluorescent troffers to serve as emergency lighting. Replacement with recessed LED fixtures is recommended for aesthetics, improved energy efficiency and reduced maintenance cost.

The gymnasium is illuminated with (20) metal halide industrial fixtures and six (6) incandescent industrial fixtures used for emergency lighting. The fixtures are in poor condition and have reached the end of their useful life. Replacement with LED fixtures is recommended for improved energy efficiency and reduced maintenance cost.

Shallow dome incandescent fixtures in the Boiler Room were retrofitted with compact fluorescent lamps (CFLs) and are in good condition. Replacement with higher wattage CFL's is recommended for increased illumination level. This is considered a maintenance item and not included in this report as a capital expense.

Wall pack and floodlighting fixtures are mounted on the exterior of the building to illuminate the paved play areas and parking lot. The Visitor Entrance and each of the exit discharges are illuminated with fixtures mounted on the underside of the canopies. Fixtures are in fair to poor condition and are included for replacement with LED fixtures.

Fire Alarm System-- The fire alarm system is an obsolete 120V wired system that includes only manual pull stations and bell notification appliances. The fire alarm control panel (FACP) is by S.H. Couch Company, and is located in the Building Engineer's Office. Pull station mounting heights exceed ADA requirements. There are no visual notification appliances in the building. The entire fire alarm system needs to be replaced with an addressable type to meet current NFPA codes and ADA requirements.

Telephone/LAN-- The telephone service demarcation point is located in the Building Engineer's Office opposite the fire alarm control panel. Each classroom is provided with a telephone. Data outlets are also provided in each classroom. Wireless access points are located to provide Wi-Fi service throughout the entire school. The Main IT Distribution Frame/Telecom equipment is located in a room within the Main Office on the First Floor. Intermediate Distribution Frames (IDFs) are located as needed to limit station cabling to the maximum allowable length. An IDF is located in the Elevator-Meter Room in the Basement and in the IMC.

Public Address/Paging/Intercom Systems-- The paging system is accessed through the telephone system. The paging system interface equipment, volume attenuators and 250W amplifier are located in the Main IT Distribution Frame/Telecom room.

Recessed ceiling mounted paging speakers are provided in corridors and rooms with acoustical ceiling tile. Wall mounted speakers and clock/speakers are located in classrooms. Trumpet horns are provided in the gymnasium and on the exterior of the building to provide coverage for the play area. The paging system has an estimated remaining useful life of 10 to 12 years. The obsolete recessed paging speakers in the corridor have been abandoned in place. Speaker grilles are considerably discolored; removal of the obsolete speakers and replacement of ceiling tiles is recommended in this report for aesthetic considerations.

A sound reinforcement system is provided in some classrooms on the First Floor. An Aiphone intercom station is located at the Visitor Entrance.

Clock and Program System-- There is a Standard Electric Time 1400 Master Time Programmer panel in the Main Office. The clock and program system were reported to be in good working order. Clock/speaker assemblies are provided in classrooms, cafeteria/auditorium, kitchen and faculty dining. Individual clocks are provided in the Gymnasium and IMC. The system is estimated to have a remaining useful life of 6 to 8 years, at which time a wireless GPS synchronized clock system with battery-operated clocks should be provided. There are no recommendations at this time.

Television Distribution System-- There is no television distribution system in this school.

Video Surveillance and Security Systems-- Interior video surveillance cameras provide coverage of entrances, corridors and cafeteria/auditorium. There are a total of 14 cameras, including three (3) exterior cameras with pan/tilt/zoom that provide coverage of the play areas and parking lot. There is no video surveillance camera at the Visitor Entrance; the addition of a camera is recommended. The system is monitored in the Main Office. The cameras and equipment are expected to have a remaining useful life of 8 to 10 years.

There is no security system or magnetic door contacts on the exterior doors. Magnetic door contacts are recommended on all exterior doors with a security keypad to arm/disarm the system. A card access station is also recommended at the staff or Visitor Entrance.

Emergency/Standby Power System—A 15 kW/18.75 kVA, 208/120V, 3 phase, 4 wire Kohler standby generator with natural gas fuel supply is located in Mechanical Room 019. The generator supplies Emergency Panel 'X' for emergency lighting via a Zenith Controls 75A, 250V, automatic transfer switch (ATS). The generator, ATS and panel 'X' have exceeded their useful lives.

Emergency Lighting System / Exit Lighting-- Emergency egress lighting fixtures and exit signs are connected to emergency power and fed from Emergency Panel 'X'. The exit signs are incandescent and most are in fair or poor condition, and many not illuminated. Replacement of all exit signs with LED type is included in this report.

Lightning Protection System-- There is no lightning protection system for this facility. Two air terminals are mounted on top of the boiler stack for limited protection against lightning strikes.

Conveying Systems-- There is one 20 HP, 208V, 3 phase hydraulic elevator by ESCO. The machine room is located in Elevator-Meter Room 024. At the time of this site visit an elevator vendor was on site in the process of designing an elevator replacement, including enlarging the cab and shaft. The cost for the proposed elevator replacement project as estimated by the elevator vendor, as in is included in this report as a deficiency.

GROUNDS

The sidewalk system has been upgraded from its original construction. There are a several new areas associated with the concrete drop off area and new landscaping project. This system is expected to have a life cycle that exceeds the outlook of this report. No recommendations are required at this time.

The trash dumpster is located south of the main building enclosed by site fencing but open to students. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

This school has a perimeter fence surrounding the service area playground area. The fence is in good condition and there were no issues that surfaced during the time of the inspection. No recommendations are required at this time.

The parking play area has no assigned parking and limited markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in poor condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a play, parking lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement is recommended.

This school has limited landscaping with a few mature trees and small sections of turf. The landscaping is in good condition and is on a program of renewal. There were no issues that surfaced during the time of the inspection therefore no projects or recommendations are required at this time.

Site Lighting-- Other than for building mounted floodlighting fixtures, there are no pole mounted floodlighting fixtures that illuminate the paved parking lot and playing areas. Replacement of building mounted floodlights with LED luminaire is recommended when fixtures need to be replaced. However, there are no recommendations at this time.

Site video surveillance-- there are three (3) building mounted video surveillance cameras that provide surveillance of the play areas and parking lots. An additional camera is recommended at the Visitor Entrance and is included as a building deficiency.

RECOMMENDATIONS

- Remove and replace stage curtain
- Remove and replace suspended acoustic ceilings
- Remove VAT and replace with VCT
- Replace inadequate or install proper stair railing
- Replace missing or damaged signage
- Install fire rated walls and door where required
- Remove and Replace Built Up Roof
- Remove and replace folding partitions
- Repair spalled concrete wall structure
- Remove and replace parking lot play area
- Build secure trash dumpster enclosure
- Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.
- Install complete NFPA wet pipe automatic sprinkler system and standpipes in areas not protected. If required provide fire pump and jockey pump with controller.
- Remove existing and install new central station air handling unit for the gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.
- Remove existing and provide a new central station air handling unit for the cafeteria/auditorium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Inspect old cast iron sanitary piping including camera observation and replace damaged sections.
- Remove existing and provide a new central station air handling unit for the IMC area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.
- Remove existing and provide a new central station air handling unit for the first floor nurses area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.
- Remove and replace two existing cast iron boilers.
- Remove existing and provide a new central station air handling unit for the first floor office area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.
- Remove existing and provide a new central station air handling unit for the first floor art area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.
- Remove existing and provide a new central station air handling unit for the first floor music area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.
- Replace domestic hot and cold water piping including valves, fittings, hangers and insulation.
- Replace the 500 kVA, 1600A, 208/120V, 3 phase, 4 wire substation with a 750 kVA substation.
- Replace one (1) 400A, eight (8) 225A and three (3) 100A panelboards that serve the building and one (1) 200A and three (3) 60A safety switches that serve mechanical equipment.
- Provide surface metal raceway system with 4 to 6 duplex receptacles in each of 26 classrooms.
- Provide an allowance for replacement of an estimated 150 duplex receptacles within the school because of their age/condition.
- Replace all fluorescent lighting fixtures having T12 lamps, and associated branch circuit wiring throughout the building, with fixtures having T8 lamps (classrooms 22,867 SF, corridors, offices, locker rooms and support areas 32,900 SF).
- Replace 24 fluorescent lighting fixtures, six (6) spotlights and ten (10) incandescent downlights in the Cafeteria/Auditorium.
- Replace (15) surface mounted metal halide industrial fixtures in the IMC with recessed LED fixtures for better aesthetics, improved energy efficiency and reduced maintenance costs.
- Replace (20) metal halide lighting fixtures in the gymnasium with LED industrial fixtures.
- Replace six (6) exterior lighting fixtures mounted on the underside of canopies at the Visitors Entrance and all exit discharges with LED fixtures.
- Replace fire alarm system with an addressable type system meeting current NFPA Codes and ADA requirements.
- Remove obsolete recessed ceiling speakers in corridors that have been abandoned in place, show considerable aging, and are an aesthetic issue.
- Add video surveillance camera to provide coverage of the Visitor Entrance.
- Provide magnetic door contacts on all exterior doors to grade and security keypad to arm/disarm the system. Provide card access station for staff use at the Visitor Entrance.
- Replace 15 kW standby generator and automatic transfer switch (ATS). Increase generator size to 30 kW to allow capacity for additional loads and future capacity.
- Replace all incandescent exit signs with LED type.
- Replace hydraulic elevator (deficiency cost is based on estimate provided by elevator vendor designing the elevator replacement).

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S641001		

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.

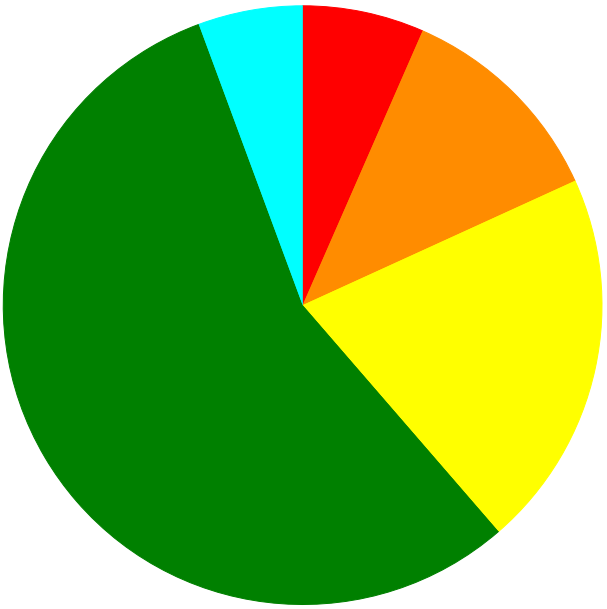
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	54.00 %	0.00 %	$0.00
A20 - Basement Construction	54.00 %	0.00 %	$0.00
B10 - Superstructure	54.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	56.36 %	27.53 %	$1,134,324.24
B30 - Roofing	60.00 %	89.59 %	$813,168.26
C10 - Interior Construction	47.52 %	11.24 %	$201,542.03
C20 - Stairs	54.00 %	12.08 %	$12,455.57
C30 - Interior Finishes	60.94 %	41.08 %	$1,209,121.55
D10 - Conveying	102.86 %	123.83 %	$314,091.20
D20 - Plumbing	75.30 %	48.84 %	$729,034.56
D30 - HVAC	87.50 %	95.34 %	$7,752,809.17
D40 - Fire Protection	92.47 %	177.49 %	$1,045,726.71
D50 - Electrical	106.60 %	66.37 %	$2,851,901.80
E10 - Equipment	34.29 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	8.88 %	$13,831.55
G20 - Site Improvements	53.45 %	22.16 %	$301,670.64
G40 - Site Electrical Utilities	47.05 %	0.00 %	$0.00
Totals:	**69.14 %**	**44.38 %**	**$16,379,677.28**

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)
B641001;Cook-Wissahickon	73,100	45.82	$1,075,258.55	$1,884,341.19	$3,069,328.46	$9,125,461.14	$923,617.30
G641001;Grounds	104,800	16.60	$0.00	$18,852.52	$282,818.12	$0.00	$0.00
Total:		**44.38**	**$1,075,258.55**	**$1,903,193.71**	**$3,352,146.58**	**$9,125,461.14**	**$923,617.30**

Deficiencies By Priority



- 1 - Response Time (< 2 yr) - $1,075,258.55
- 2 - Response Time (2-3 yrs) - $1,903,193.71
- 3 - Response Time (3-4 yrs) - $3,352,146.58
- 4 - Response Time (4-5 yrs) - $9,125,461.14
- 5 - Response Time (> 5 yrs) - $923,617.30

Budget Estimate Total: $16,379,677.28

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):	73,100
Year Built:	1969
Last Renovation:	
Replacement Value:	$35,092,580
Repair Cost:	$16,078,006.64
Total FCI:	45.82 %
Total RSLI:	70.03 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B641001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S641001		

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	54.00 %	0.00 %	$0.00
A20 - Basement Construction	54.00 %	0.00 %	$0.00
B10 - Superstructure	54.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	56.36 %	27.53 %	$1,134,324.24
B30 - Roofing	60.00 %	89.59 %	$813,168.26
C10 - Interior Construction	47.52 %	11.24 %	$201,542.03
C20 - Stairs	54.00 %	12.08 %	$12,455.57
C30 - Interior Finishes	60.94 %	41.08 %	$1,209,121.55
D10 - Conveying	102.86 %	123.83 %	$314,091.20
D20 - Plumbing	75.30 %	48.84 %	$729,034.56
D30 - HVAC	87.50 %	95.34 %	$7,752,809.17
D40 - Fire Protection	92.47 %	177.49 %	$1,045,726.71
D50 - Electrical	106.60 %	66.37 %	$2,851,901.80
E10 - Equipment	34.29 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	8.88 %	$13,831.55
Totals:	**70.03 %**	**45.82 %**	**$16,078,006.64**

Condition Detail

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

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

System Listing

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

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

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

Site Assessment Report - B641001;Cook-Wissahickon

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.	73,100	100	1969	2069		54.00 %	0.00 %	54			$1,345,040
A1030	Slab on Grade	$7.73	S.F.	73,100	100	1969	2069		54.00 %	0.00 %	54			$565,063
A2010	Basement Excavation	$6.55	S.F.	73,100	100	1969	2069		54.00 %	0.00 %	54			$478,805
A2020	Basement Walls	$12.70	S.F.	73,100	100	1969	2069		54.00 %	0.00 %	54			$928,370
B1010	Floor Construction	$75.10	S.F.	73,100	100	1969	2069		54.00 %	0.00 %	54			$5,489,810
B1020	Roof Construction	$13.88	S.F.	24,000	100	1969	2069		54.00 %	0.00 %	54			$333,120
B2010	Exterior Walls	$36.91	S.F.	73,100	100	1969	2069		54.00 %	42.04 %	54		$1,134,324.24	$2,698,121
B2020	Exterior Windows	$18.01	S.F.	73,100	40	2000	2040		62.50 %	0.00 %	25			$1,316,531
B2030	Exterior Doors	$1.45	S.F.	73,100	25	2000	2025		40.00 %	0.00 %	10			$105,995
B3010105	Built-Up	$37.76	S.F.	24,000	20	1996	2016	2027	60.00 %	89.73 %	12		$813,168.26	$906,240
B3020	Roof Openings	$0.06	S.F.	24,000	20	1996	2016	2027	60.00 %	0.00 %	12			$1,440
C1010	Partitions	$17.91	S.F.	73,100	100	1969	2069		54.00 %	13.32 %	54		$174,450.78	$1,309,221
C1020	Interior Doors	$3.51	S.F.	73,100	40	1969	2009	2027	30.00 %	0.00 %	12			$256,581
C1030	Fittings	$3.12	S.F.	73,100	40	1969	2009	2027	30.00 %	11.88 %	12		$27,091.25	$228,072
C2010	Stair Construction	$1.41	S.F.	73,100	100	1969	2069		54.00 %	12.08 %	54		$12,455.57	$103,071
C3010230	Paint & Covering	$13.21	S.F.	53,100	10	2014	2024		90.00 %	0.00 %	9			$701,451
C3010232	Wall Tile	$2.63	S.F.	20,000	30	1969	1999	2027	40.00 %	0.00 %	12			$52,600
C3020411	Carpet	$7.30	S.F.	3,100	10	1969	1979	2027	120.00 %	0.00 %	12			$22,630
C3020413	Vinyl Flooring	$9.68	S.F.	65,000	20	1969	1989	2027	60.00 %	72.31 %	12		$455,000.04	$629,200
C3020415	Concrete Floor Finishes	$0.97	S.F.	5,000	50	1969	2019	2027	24.00 %	0.00 %	12			$4,850
C3030	Ceiling Finishes	$20.97	S.F.	73,100	25	1969	1994	2027	48.00 %	49.20 %	12		$754,121.51	$1,532,907
D1010	Elevators and Lifts	$3.47	S.F.	73,100	35	1969	2004	2051	102.86 %	123.83 %	36		$314,091.20	$253,657
D2010	Plumbing Fixtures	$13.52	S.F.	73,100	35	2005	2040		71.43 %	0.00 %	25			$988,312
D2020	Domestic Water Distribution	$1.68	S.F.	73,100	25	1969	1994	2042	108.00 %	301.63 %	27		$370,424.35	$122,808
D2030	Sanitary Waste	$2.90	S.F.	73,100	25	1969	1994	2042	108.00 %	169.16 %	27		$358,610.21	$211,990
D2040	Rain Water Drainage	$2.32	S.F.	73,100	30	1969	1999	2025	33.33 %	0.00 %	10			$169,592
D3020	Heat Generating Systems	$18.67	S.F.	73,100	35	1969	2004	2052	105.71 %	91.93 %	37		$1,254,576.67	$1,364,777
D3030	Cooling Generating Systems	$24.48	S.F.	73,100	30	2005	2035		66.67 %	0.00 %	20			$1,789,488
D3040	Distribution Systems	$42.99	S.F.	73,100	25	1969	1994	2042	108.00 %	156.88 %	27		$4,930,082.12	$3,142,569
D3050	Terminal & Package Units	$11.60	S.F.	73,100	20				0.00 %	0.00 %				$847,960
D3060	Controls & Instrumentation	$13.50	S.F.	73,100	20	1969	1989	2037	110.00 %	158.90 %	22		$1,568,150.38	$986,850
D4010	Sprinklers	$7.05	S.F.	73,100	35			2052	105.71 %	202.91 %	37		$1,045,726.71	$515,355
D4020	Standpipes	$1.01	S.F.	73,100	35				0.00 %	0.00 %				$73,831
D5010	Electrical Service/Distribution	$9.70	S.F.	73,100	30	1969	1999	2047	106.67 %	130.39 %	32		$924,553.38	$709,070
D5020	Lighting and Branch Wiring	$34.68	S.F.	73,100	20	1969	1989	2037	110.00 %	52.90 %	22		$1,341,048.85	$2,535,108
D5030	Communications and Security	$12.99	S.F.	73,100	15	1969	1984	2030	100.00 %	50.85 %	15		$482,829.41	$949,569
D5090	Other Electrical Systems	$1.41	S.F.	73,100	30	1969	1999	2040	83.33 %	100.39 %	25		$103,470.16	$103,071
E1020	Institutional Equipment	$4.82	S.F.	73,100	35	1969	2004	2027	34.29 %	0.00 %	12			$352,342
E1090	Other Equipment	$11.10	S.F.	73,100	35	1969	2004	2027	34.29 %	0.00 %	12			$811,410
E2010	Fixed Furnishings	$2.13	S.F.	73,100	40	1969	2009	2027	30.00 %	8.88 %	12		$13,831.55	$155,703
								Total	**70.03 %**	**45.82 %**			**$16,078,006.64**	**$35,092,580**

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:	Painted CMU finish 80% Brick or wall tile 20%	
System:	C3020 - Floor Finishes	This system contains no images
Note:	carpet 4% Tile 88% Concrete 8%	
System:	D5010 - Electrical Service/Distribution	This system contains no images
Note:	There is one (1) 500 kVA substation transformer and no secondary transformers.	

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:	**$16,078,007**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,006,758**	**$407,403**	**$17,492,167**
*** 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	$1,134,324	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,134,324**
B2020 - Exterior Windows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2030 - Exterior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$156,694	**$156,694**
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	$813,168	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$813,168**
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	$174,451	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$174,451**
C1020 - Interior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1030 - Fittings	$27,091	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$27,091**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

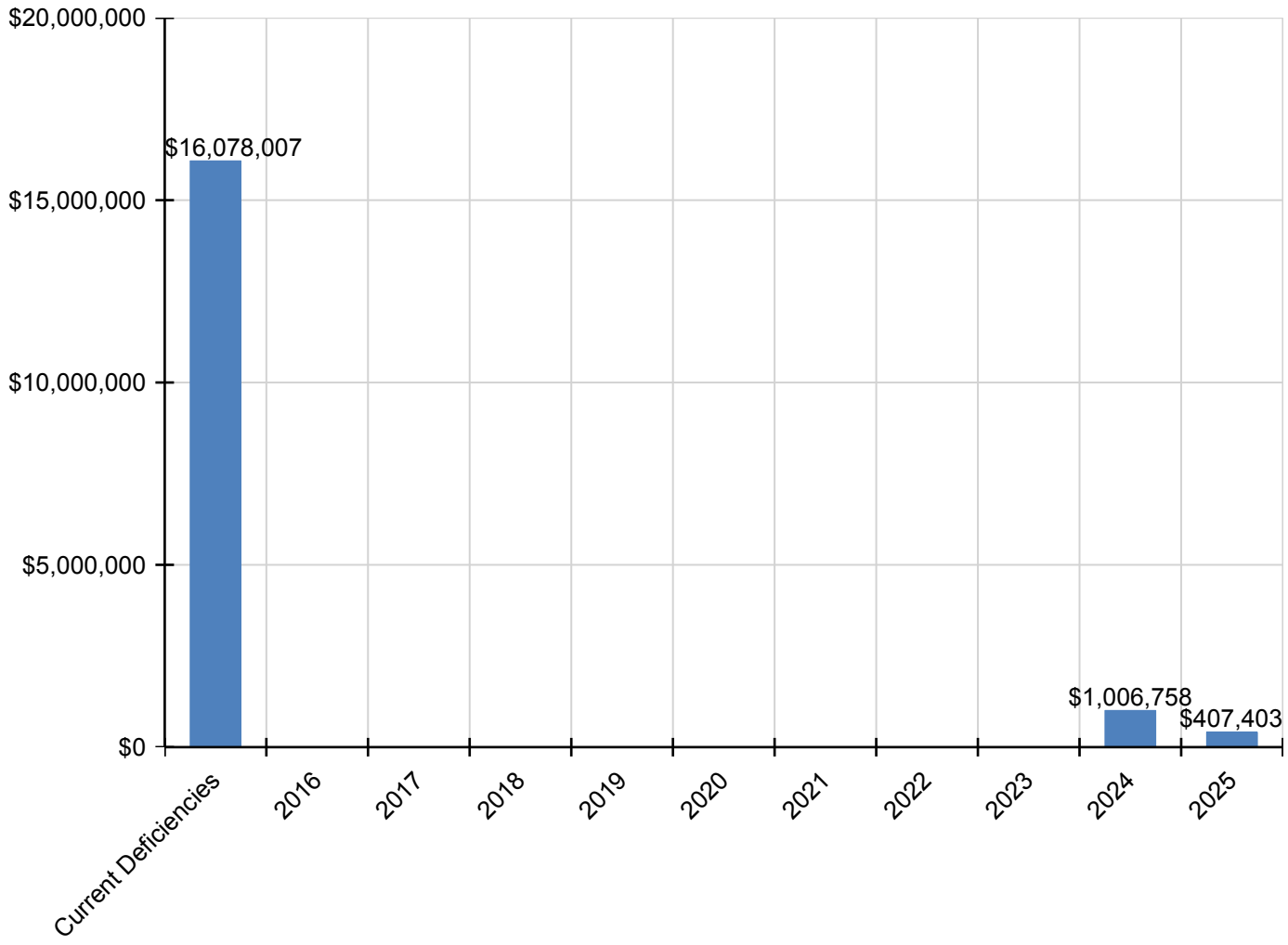
C2010 - Stair Construction	$12,456	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$12,456**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,006,758	$0	**$1,006,758**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$455,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$455,000**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$754,122	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$754,122**
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	$314,091	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$314,091**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2020 - Domestic Water Distribution	$370,424	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$370,424**
D2030 - Sanitary Waste	$358,610	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$358,610**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$250,709	**$250,709**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,254,577	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,254,577**
D3030 - Cooling Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3040 - Distribution Systems	$4,930,082	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,930,082**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,568,150	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,568,150**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,045,727	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,045,727**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$924,553	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$924,553**
D5020 - Lighting and Branch Wiring	$1,341,049	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,341,049**
D5030 - Communications and Security	$482,829	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$482,829**
D5090 - Other Electrical Systems	$103,470	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$103,470**
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	$13,832	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$13,832**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

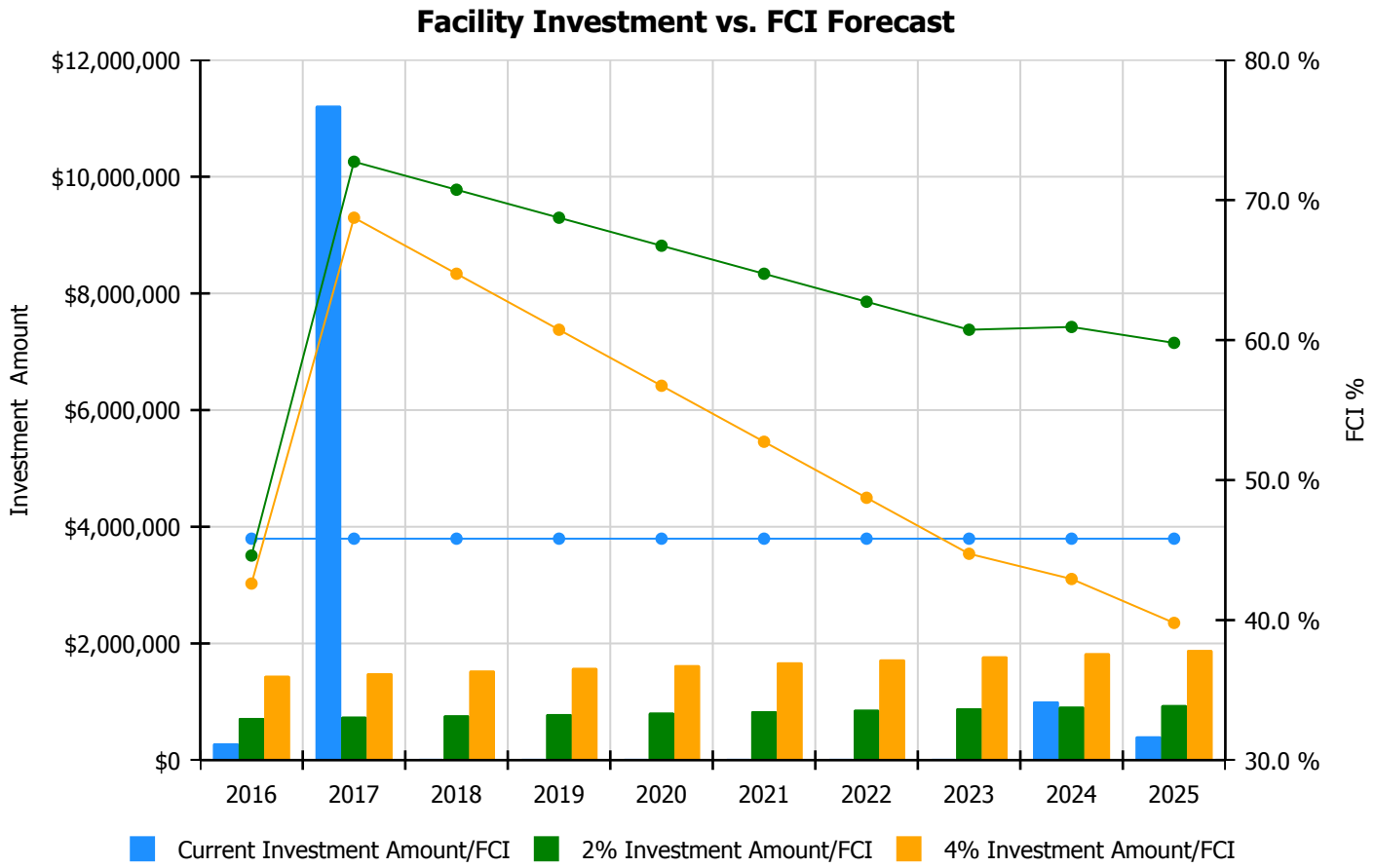
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

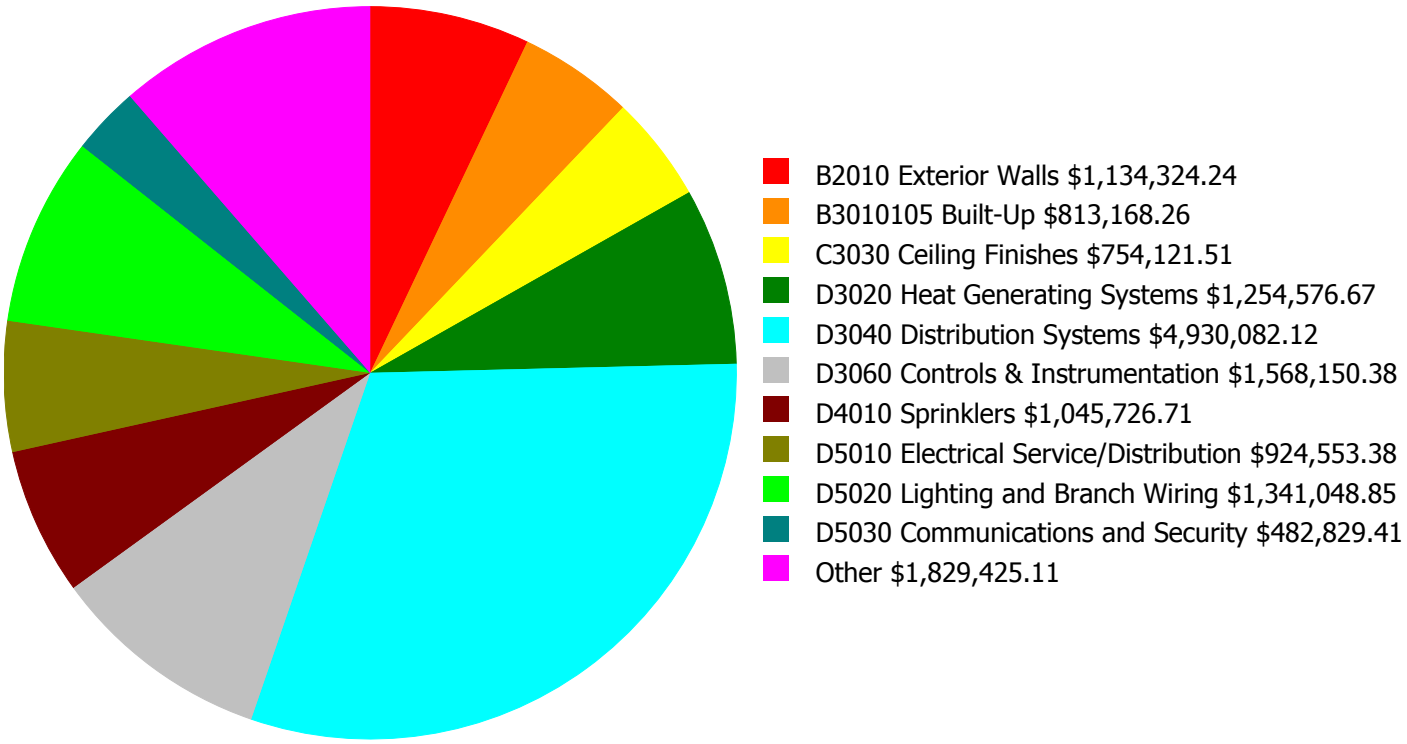
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 45.82%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$287,394	$722,907.00	44.61 %	$1,445,814.00	42.61 %
2017	$11,216,125	$744,594.00	72.74 %	$1,489,189.00	68.74 %
2018	$0	$766,932.00	70.74 %	$1,533,864.00	64.74 %
2019	$0	$789,940.00	68.74 %	$1,579,880.00	60.74 %
2020	$0	$813,638.00	66.74 %	$1,627,277.00	56.74 %
2021	$0	$838,048.00	64.74 %	$1,676,095.00	52.74 %
2022	$0	$863,189.00	62.74 %	$1,726,378.00	48.74 %
2023	$0	$889,085.00	60.74 %	$1,778,169.00	44.74 %
2024	$1,006,758	$915,757.00	60.94 %	$1,831,514.00	42.94 %
2025	$407,403	$943,230.00	59.80 %	$1,886,460.00	39.80 %
Total:	**$12,917,680**	**$8,287,320.00**		**$16,574,640.00**	

Deficiency Summary by System

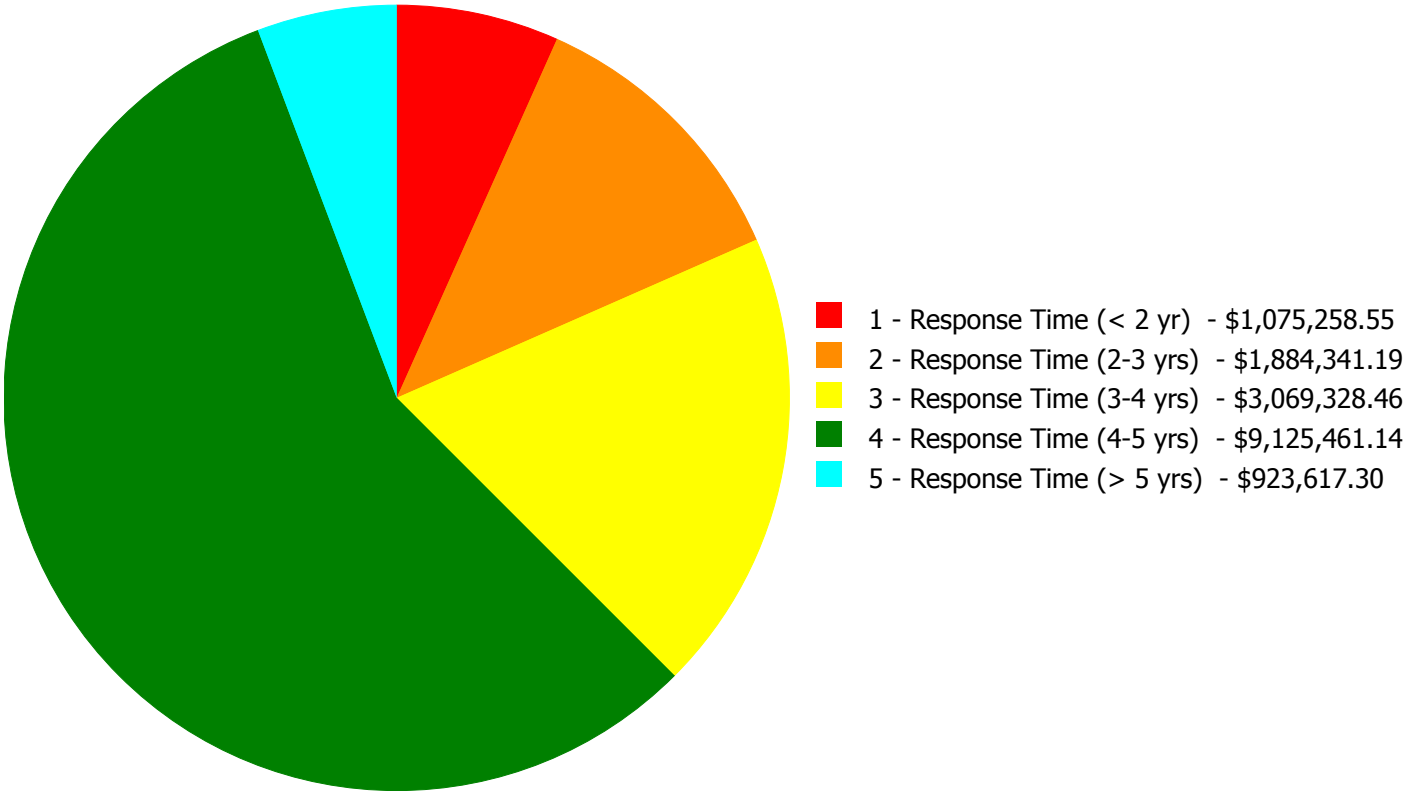
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $16,078,006.64

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: $16,078,006.64

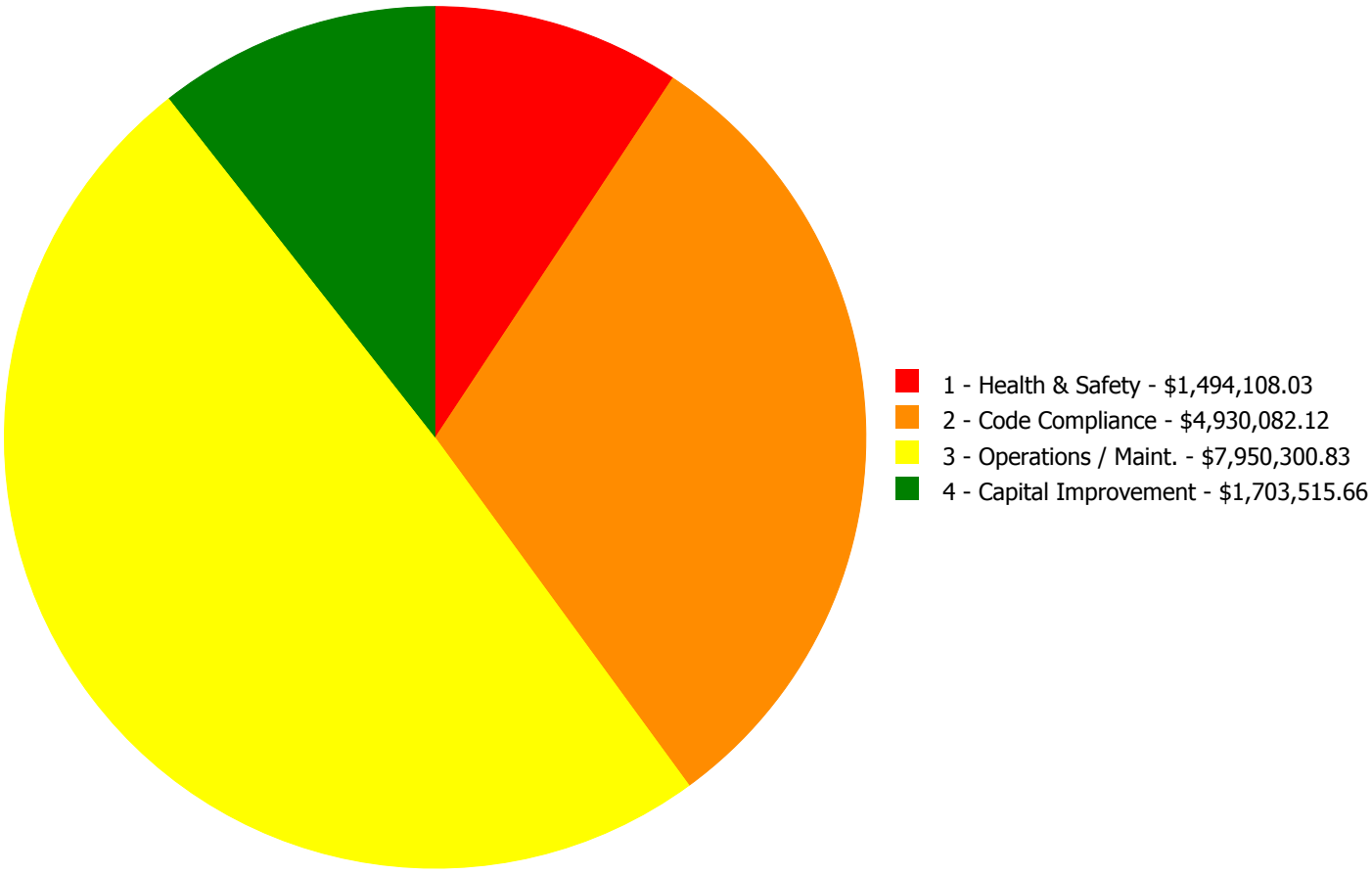
Deficiency By Priority Investment Table

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	$1,134,324.24	$0.00	$0.00	$0.00	$1,134,324.24
B3010105	Built-Up	$0.00	$0.00	$813,168.26	$0.00	$0.00	$813,168.26
C1010	Partitions	$63,053.29	$0.00	$0.00	$0.00	$111,397.49	$174,450.78
C1030	Fittings	$0.00	$0.00	$0.00	$27,091.25	$0.00	$27,091.25
C2010	Stair Construction	$0.00	$0.00	$12,455.57	$0.00	$0.00	$12,455.57
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$455,000.04	$0.00	$455,000.04
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$0.00	$754,121.51	$754,121.51
D1010	Elevators and Lifts	$0.00	$314,091.20	$0.00	$0.00	$0.00	$314,091.20
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$370,424.35	$0.00	$370,424.35
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$358,610.21	$0.00	$358,610.21
D3020	Heat Generating Systems	$1,012,205.26	$0.00	$0.00	$242,371.41	$0.00	$1,254,576.67
D3040	Distribution Systems	$0.00	$0.00	$0.00	$4,930,082.12	$0.00	$4,930,082.12
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$1,568,150.38	$0.00	$1,568,150.38
D4010	Sprinklers	$0.00	$0.00	$0.00	$1,045,726.71	$0.00	$1,045,726.71
D5010	Electrical Service/Distribution	$0.00	$0.00	$924,553.38	$0.00	$0.00	$924,553.38
D5020	Lighting and Branch Wiring	$0.00	$0.00	$1,189,835.52	$101,317.37	$49,895.96	$1,341,048.85
D5030	Communications and Security	$0.00	$435,925.75	$25,845.57	$12,855.75	$8,202.34	$482,829.41
D5090	Other Electrical Systems	$0.00	$0.00	$103,470.16	$0.00	$0.00	$103,470.16
E2010	Fixed Furnishings	$0.00	$0.00	$0.00	$13,831.55	$0.00	$13,831.55
	Total:	$1,075,258.55	$1,884,341.19	$3,069,328.46	$9,125,461.14	$923,617.30	$16,078,006.64

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: $16,078,006.64

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: C1010 - Partitions

Location: Stairs

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Install fire rated walls and door where required - insert number of doors

Qty: 12.00

Unit of Measure: S.F.

Estimate: $63,053.29

Assessor Name: Ed Davis

Date Created: 02/16/2016

Notes: A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically wood or metal in metal frames with glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,012,205.26

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Remove and replace two existing cast iron boilers.

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

System: B2010 - Exterior Walls

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair spalled concrete wall structure

Qty: 20,000.00

Unit of Measure: S.F.

Estimate: $1,134,324.24

Assessor Name: Ed Davis

Date Created: 02/16/2016

Notes: The exterior concrete finish is spalling as indicated in the photos. Thus far the damage is building wide around the concrete framing of the exterior brick finish. This deficiency provides a budgetary consideration for repairs to the concrete sections that are damaged. This work should be coordinated with the recommended exterior point and tuck work.

System: D1010 - Elevators and Lifts

Location: Mechanical Room 024

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Elevator - 2 to 3 stop hydraulic - add to the estimate for the number of stops over 2 up to 3 stops total - for 4 stops and up use traction elevator

Qty: 1.00

Unit of Measure: Ea.

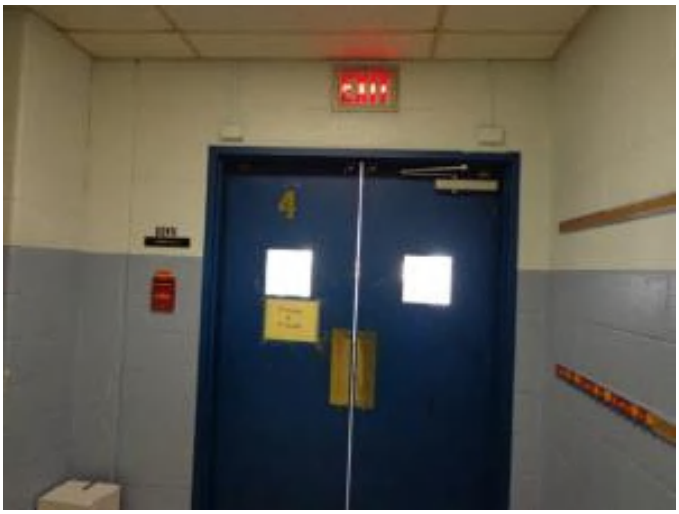
Estimate: $314,091.20

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Replace hydraulic elevator (deficiency cost is based on estimate provided by elevator vendor designing the elevator replacement).

System: D5030 - Communications and Security



Location: Building wide

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace fire alarm system

Qty: 73,100.00

Unit of Measure: S.F.

Estimate: $435,925.75

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Replace fire alarm system with an addressable type system meeting current NFPA Codes and ADA requirements.

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

System: B3010105 - Built-Up

Location: Roof

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and Replace Built Up Roof

Qty: 24,000.00

Unit of Measure: S.F.

Estimate: $813,168.26

Assessor Name: Ed Davis

Date Created: 02/16/2016

Notes: The roof is a built up application that was installed in the early 1990'S. Considering the age and condition of the roofing systems, universal upgrades are recommended. This deficiency is expected to be completed as part of an exterior effort coordinated with other recommendations included in this report.

System: C2010 - Stair Construction

Location: Stairs

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace inadequate or install proper stair railing - select appropriate material

Qty: 800.00

Unit of Measure: L.F.

Estimate: $12,455.57

Assessor Name: Ed Davis

Date Created: 02/16/2016

Notes: Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

System: D5010 - Electrical Service/Distribution

Location: Mechanical Room 019

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace unit substation

Qty: 1.00

Unit of Measure: Ea.

Estimate: $607,230.55

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Replace the 500 kVA, 1600A, 208/120V, 3 phase, 4 wire substation with a 750 kVA substation.

System: D5010 - Electrical Service/Distribution

Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Panelboard

Qty: 12.00

Unit of Measure: Ea.

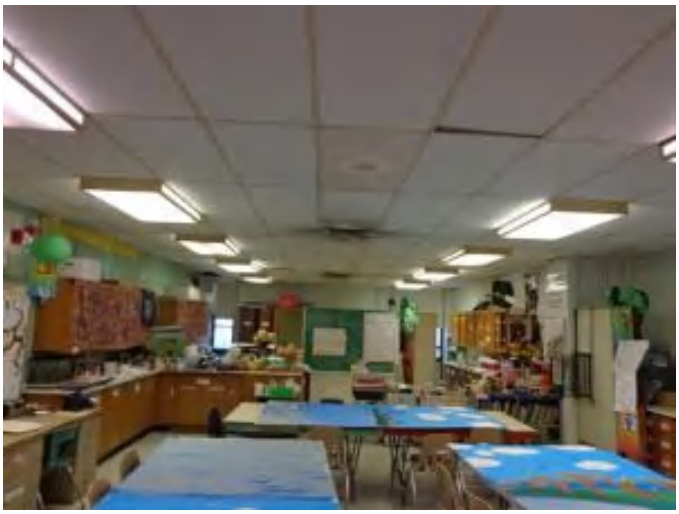
Estimate: $317,322.83

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Replace one (1) 400A, eight (8) 225A and three (3) 100A panelboards that serve the building and one (1) 200A and three (3) 60A safety switches that serve mechanical equipment.

System: D5020 - Lighting and Branch Wiring



Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 55,767.00

Unit of Measure: S.F.

Estimate: $1,006,212.60

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Replace all fluorescent lighting fixtures having T12 lamps, and associated branch circuit wiring throughout the building, with fixtures having T8 lamps (classrooms 22,867 SF, corridors, offices, locker rooms and support areas 32,900 SF).

System: D5020 - Lighting and Branch Wiring

Location: Building wide

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace Wiring Device

Qty: 150.00

Unit of Measure: Ea.

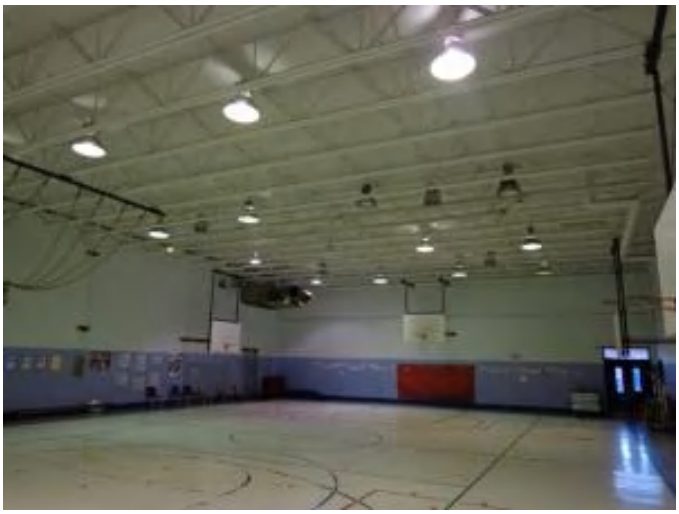
Estimate: $75,416.61

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Provide an allowance for replacement of an estimated 150 duplex receptacles within the school because of their age/condition.

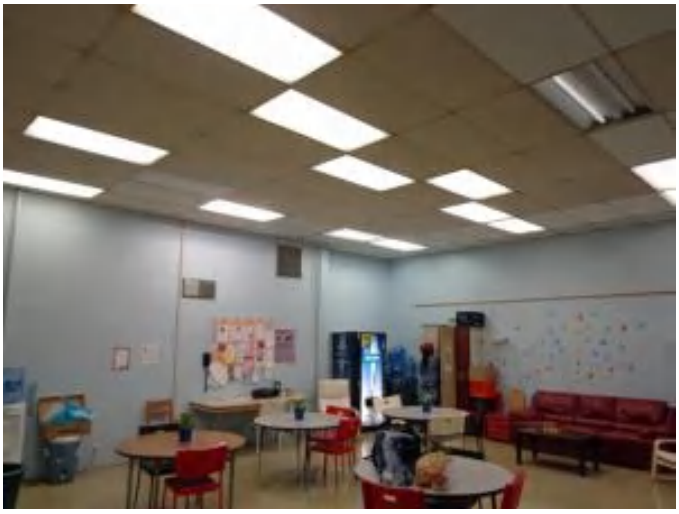
System: D5020 - Lighting and Branch Wiring



Location: Gymnasium
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace lighting fixtures
Qty: 20.00
Unit of Measure: Ea.
Estimate: $69,287.16
Assessor Name: Ed Davis
Date Created: 01/24/2016

Notes: Replace (20) metal halide lighting fixtures in the gymnasium with LED industrial fixtures.

System: D5020 - Lighting and Branch Wiring



Location: Cafeteria/Auditorium
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace lighting fixtures
Qty: 40.00
Unit of Measure: Ea.
Estimate: $30,253.47
Assessor Name: Ed Davis
Date Created: 01/24/2016

Notes: Replace 24 fluorescent lighting fixtures, six (6) spotlights and ten (10) incandescent downlights in the Cafeteria/Auditorium.

System: D5020 - Lighting and Branch Wiring

Location: Exit discharges

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 6.00

Unit of Measure: Ea.

Estimate: $8,665.68

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Replace six (6) exterior lighting fixtures mounted on the underside of canopies at the Visitors Entrance and all exit discharges with LED fixtures.

System: D5030 - Communications and Security

Location: Exterior doors

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add/Replace Security System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $25,845.57

Assessor Name: Ed Davis

Date Created: 01/24/2016

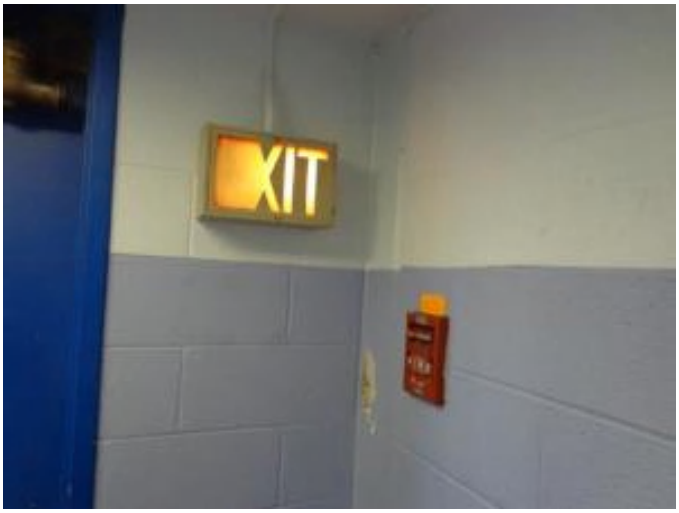
Notes: Provide magnetic door contacts on all exterior doors to grade and security keypad to arm/disarm the system. Provide card access station for staff use at the Visitor Entrance.

System: D5090 - Other Electrical Systems

Location: Mechanical Room 019
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace standby generator system
Qty: 1.00
Unit of Measure: Ea.
Estimate: $65,318.30
Assessor Name: Ed Davis
Date Created: 01/24/2016

Notes: Replace 15 kW standby generator and automatic transfer switch (ATS). Increase generator size to 30 kW to allow capacity for additional loads and future capacity.

System: D5090 - Other Electrical Systems



Location: Building wide
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Emergency/Exit Lighting
Qty: 45.00
Unit of Measure: Ea.
Estimate: $38,151.86
Assessor Name: Ed Davis
Date Created: 01/24/2016

Notes: Replace all incandescent exit signs with LED type.

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

System: C1030 - Fittings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 100.00

Unit of Measure: Ea.

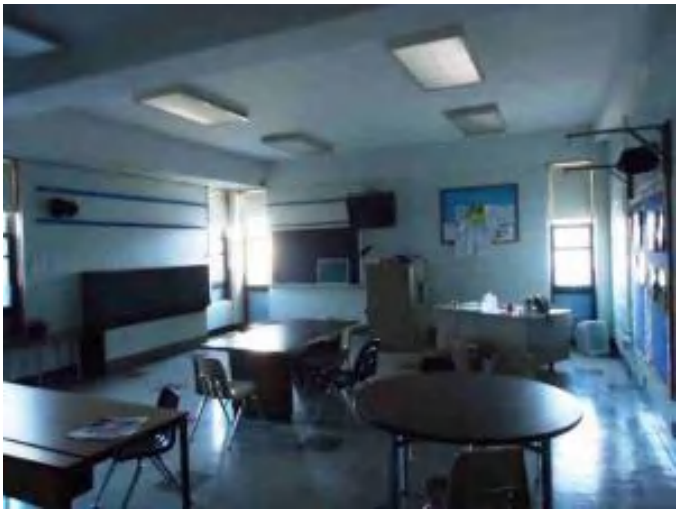
Estimate: $27,091.25

Assessor Name: Ed Davis

Date Created: 02/16/2016

Notes: There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

System: C3020413 - Vinyl Flooring



Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 30,000.00

Unit of Measure: S.F.

Estimate: $455,000.04

Assessor Name: Ed Davis

Date Created: 02/16/2016

Notes: This school has sections of 9x9 and 12x12 floor tile that represents upgrades and abatement of some 9x9 tile. Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

System: D2020 - Domestic Water Distribution

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace domestic water piping (75 KSF)

Qty: 73,100.00

Unit of Measure: S.F.

Estimate: $370,424.35

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Replace domestic hot and cold water piping including valves, fittings, hangars and insulation

System: D2030 - Sanitary Waste

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 73,100.00

Unit of Measure: S.F.

Estimate: $358,610.21

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Inspect old cast iron sanitary piping including camera observation and replace damaged sections.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 3.00

Unit of Measure: Ea.

Estimate: $242,371.41

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Replace three existing end suction pumps.

System: D3040 - Distribution Systems

Location: classrooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 4 - Response Time (4-5 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: 73,100.00

Unit of Measure: S.F.

Estimate: $3,526,288.42

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.

System: D3040 - Distribution Systems

Location: IMC

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for IMC (850 students).

Qty: 537.00

Unit of Measure: Student

Estimate: $281,565.43

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Remove existing and provide a new central station air handling unit for the IMC area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: office area

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for Admin (2000 students).

Qty: 537.00

Unit of Measure: Student

Estimate: $224,284.36

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Remove existing and provide a new central station air handling unit for the first floor office area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: gymnasium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for Gymnasium (single station)

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $189,559.18

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Remove existing and install new central station air handling unit for the gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: nurses area

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace indoor AHU, CV, DT (15T)

Qty: 10.00

Unit of Measure: TonAC

Estimate: $187,403.32

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Remove existing and provide a new central station air handling unit for the first floor nurses area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: art area

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace indoor AHU, CV, DT (15T)

Qty: 10.00

Unit of Measure: TonAC

Estimate: $187,403.32

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: • Remove existing and provide a new central station air handling unit for the first floor art area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: music area

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace indoor AHU, CV, DT (15T)

Qty: 10.00

Unit of Measure: TonAC

Estimate: $187,403.32

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Remove existing and provide a new central station air handling unit for the first floor music area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: cafeteria/ auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 537.00

Unit of Measure: Student

Estimate: $146,174.77

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Remove existing and provide a new central station air handling unit for the cafeteria/auditorium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3060 - Controls & Instrumentation

Location: entire building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 73,100.00

Unit of Measure: S.F.

Estimate: $1,568,150.38

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Install new direct digital control system and building automation system with remote computer control capability and graphics package.

System: D4010 - Sprinklers

Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Install a fire protection sprinkler system

Qty: 73,100.00

Unit of Measure: S.F.

Estimate: $1,045,726.71

Assessor Name: Ed Davis

Date Created: 02/19/2016

Notes: Install complete NFPA wet pipe automatic sprinkler system and standpipes in areas not protected. If required provide fire pump and jockey pump with controller.

System: D5020 - Lighting and Branch Wiring

Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide surface raceway system and wiring devices

Qty: 780.00

Unit of Measure: L.F.

Estimate: $101,317.37

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Provide surface metal raceway system with 4 to 6 duplex receptacles in each of 26 classrooms.

System: D5030 - Communications and Security

Location: Corridors

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Add/Replace Paging System

Qty: 20.00

Unit of Measure: Ea.

Estimate: $12,855.75

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Remove obsolete recessed ceiling speakers in corridors that have been abandoned in place, show considerable aging, and are an aesthetic issue.

System: E2010 - Fixed Furnishings

Location: Stage

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace stage curtain - insert the LF of track and SF of curtain

Qty: 1.00

Unit of Measure: Ea.

Estimate: $13,831.55

Assessor Name: Ed Davis

Date Created: 02/16/2016

Notes: The school stage has a stage curtain assembly that appears to be from the original construction. Modern applications are typically fire-proof applications with adjustable tracks and electric support for operation. The curtains are torn in a few section and the track is not functioning properly, overall the system is in poor condition. It is recommended that the curtain and track system be upgraded to a new system. Special care should be considered in regards to modern fire proofing for the new installation.

Priority 5 - Response Time (> 5 yrs):

System: C1010 - Partitions

Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove folding wood partitions; replace with metal studs and gypsum board painted

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $111,397.49

Assessor Name: Ed Davis

Date Created: 02/16/2016

Notes: There are several movable partitions that remain in classrooms. These wall systems are no longer used and in most cases cannot be used due to damage or wall modifications to support classroom needs. This deficiency provides a budgetary consideration to remove and replace the wall systems with universal removal of the existing movable partitions and upgrades to a permeate wall systems.

System: C3030 - Ceiling Finishes

Location: Building wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 50,000.00

Unit of Measure: S.F.

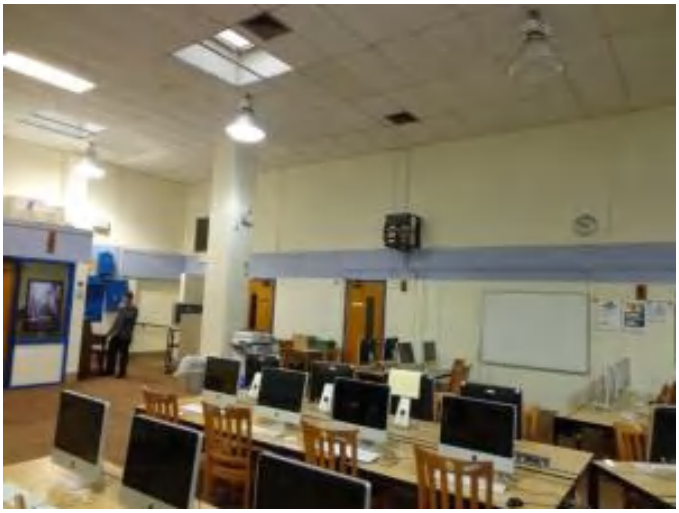
Estimate: $754,121.51

Assessor Name: Ed Davis

Date Created: 02/16/2016

Notes: The ceiling finish is a mix of painted and 2 x 4 Acoustical tile finish. Ceilings have been repaired in several areas and is in good condition considering the age of the application and the current condition of the school. The ceiling finish is expected to require upgrades to support the recommended mechanical electrical efforts in this report. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school. No work should be considered until after the recommended exterior efforts are complete.

System: D5020 - Lighting and Branch Wiring



Location: IMC

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace lighting fixtures

Qty: 15.00

Unit of Measure: Ea.

Estimate: $49,895.96

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Replace (15) surface mounted metal halide industrial fixtures in the IMC with recessed LED fixtures for better aesthetics, improved energy efficiency and reduced maintenance costs.

System: D5030 - Communications and Security

Location: Visitor Entrance

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Add/Replace Video Surveillance System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $8,202.34

Assessor Name: Ed Davis

Date Created: 01/24/2016

Notes: Add video surveillance camera to provide coverage of the Visitor Entrance.

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 2000 lb, 5 floors, 100 FPM	1.00	Ea.	Mechanical Room 024	ESCO	NA	NA		30			$140,070.00	$154,077.00
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, steam, gross output, 5660 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	mechanical room	weil mclain	model 94 series3	a3g139437		35			$115,609.50	$254,340.90
D3030 Cooling Generating Systems	Cooling tower, packaged unit, galvanized steel, axial fan, induced draft, 200 ton, includes standard controls, excludes pumps and piping	1.00	Ea.	exterior grade	evapco	sst8612b	962332		30	2000	2030	$33,963.60	$37,359.96
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, packaged unit, water cooled, 200 ton, includes standard controls, excludes water tower	1.00	Ea.	mechanical room	carrier	30hxc186rl	1305q04985		30	2005	2035	$114,064.50	$125,470.95
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	1.00	Ea.	Boiler Room 018	Federal Pacifi Electric	Type LI	Cat. No. 2651 D 1595		30			$42,849.00	$47,133.90
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 1 stories, 25' horizontal	1.00	Ea.	Boiler Room 018	Federal Pacific Electric	Type CDP	AJ-314488		30			$12,109.50	$13,320.45
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 1600 A	2.00	Ea.	Boiler Room 018	Federal Pacific Electric	Type CDP	262107		30			$40,458.15	$89,007.93
D5010 Electrical Service/Distribution	Transformer, dry-type, 3 phase 15 kV primary 277/480 volt secondary, 750 kVA	1.00	Ea.	Boiler Room 018	National Industri	NA	01328-1		30			$96,255.00	$105,880.50
												Total:	**$826,591.59**

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):	104,800
Year Built:	1969
Last Renovation:	
Replacement Value:	$1,817,083
Repair Cost:	$301,670.64
Total FCI:	16.60 %
Total RSLI:	51.85 %

Description:

Attributes:

General Attributes:

Bldg ID:	S641001	Site ID:	S641001

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	53.45 %	22.16 %	$301,670.64
G40 - Site Electrical Utilities	47.05 %	0.00 %	$0.00
Totals:	**51.85 %**	**16.60 %**	**$301,670.64**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2020	Parking Lots	$7.65	S.F.	16,900	30	1969	1999	2027	40.00 %	218.76 %	12		$282,818.12	$129,285
G2030	Pedestrian Paving	$11.52	S.F.	57,200	40	1999	2039		60.00 %	0.00 %	24			$658,944
G2040	Site Development	$4.36	S.F.	104,800	25	1999	2024		36.00 %	4.13 %	9		$18,852.52	$456,928
G2050	Landscaping & Irrigation	$3.78	S.F.	30,700	15	2015	2030		100.00 %	0.00 %	15			$116,046
G4020	Site Lighting	$3.58	S.F.	104,800	20	1969	1989	2025	50.00 %	0.00 %	10			$375,184
G4030	Site Communications & Security	$0.77	S.F.	104,800	30	1969	1999	2025	33.33 %	0.00 %	10			$80,696
								Total	**51.85 %**	**16.60 %**			**$301,670.64**	**$1,817,083**

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.

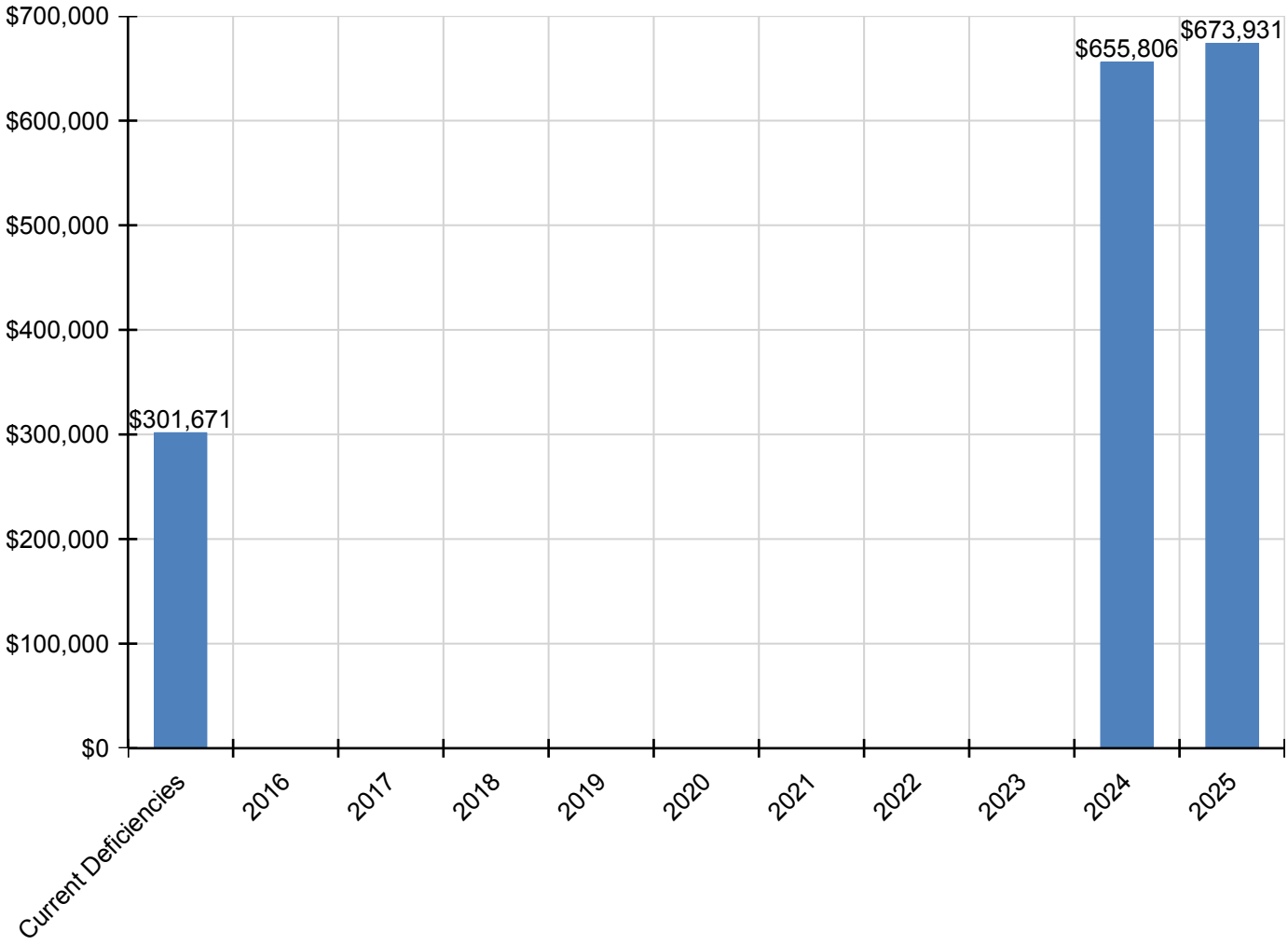
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$301,671**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$655,806**	**$673,931**	**$1,631,408**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$282,818	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$282,818**
G2030 - Pedestrian Paving	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2040 - Site Development	$18,853	$0	$0	$0	$0	$0	$0	$0	$0	$655,806	$0	**$674,659**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$554,637	**$554,637**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$119,294	**$119,294**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

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

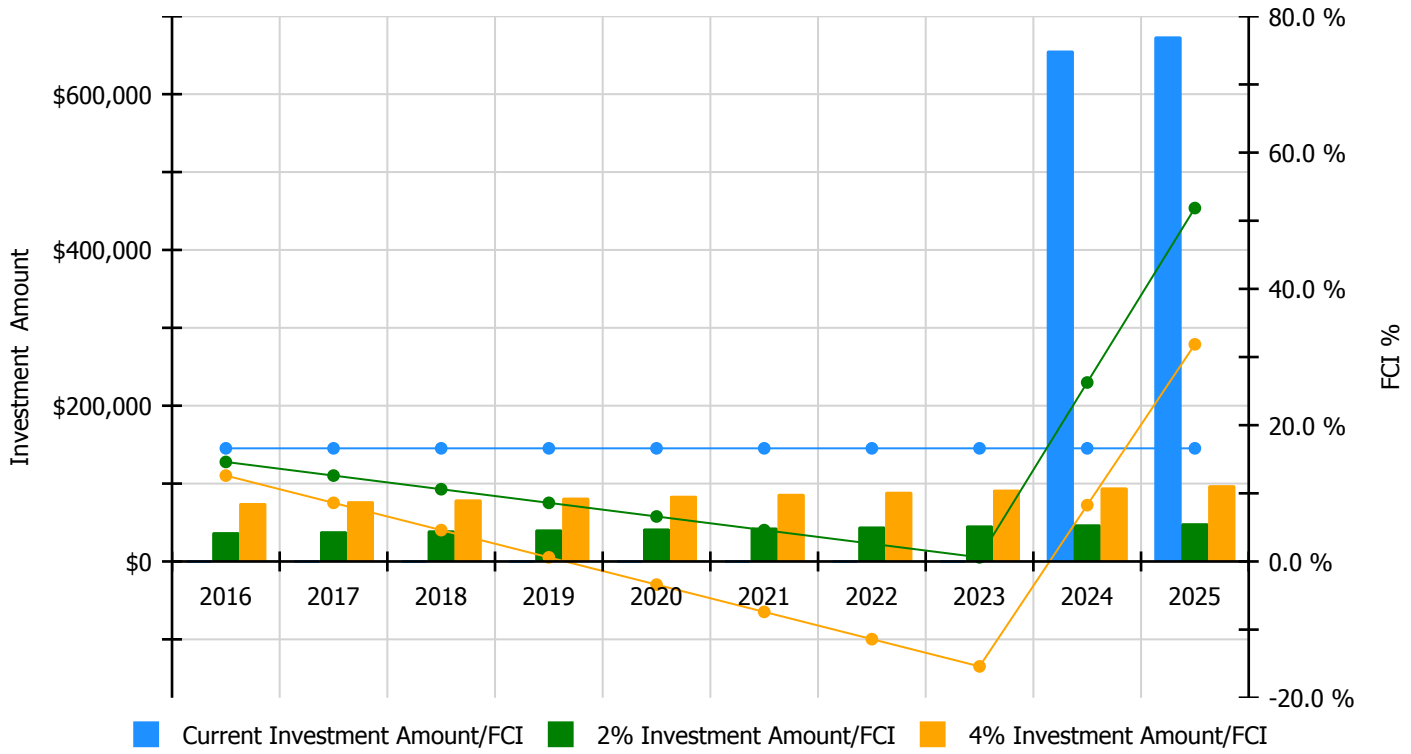


10 Year FCI Forecast by Investment Scenario

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

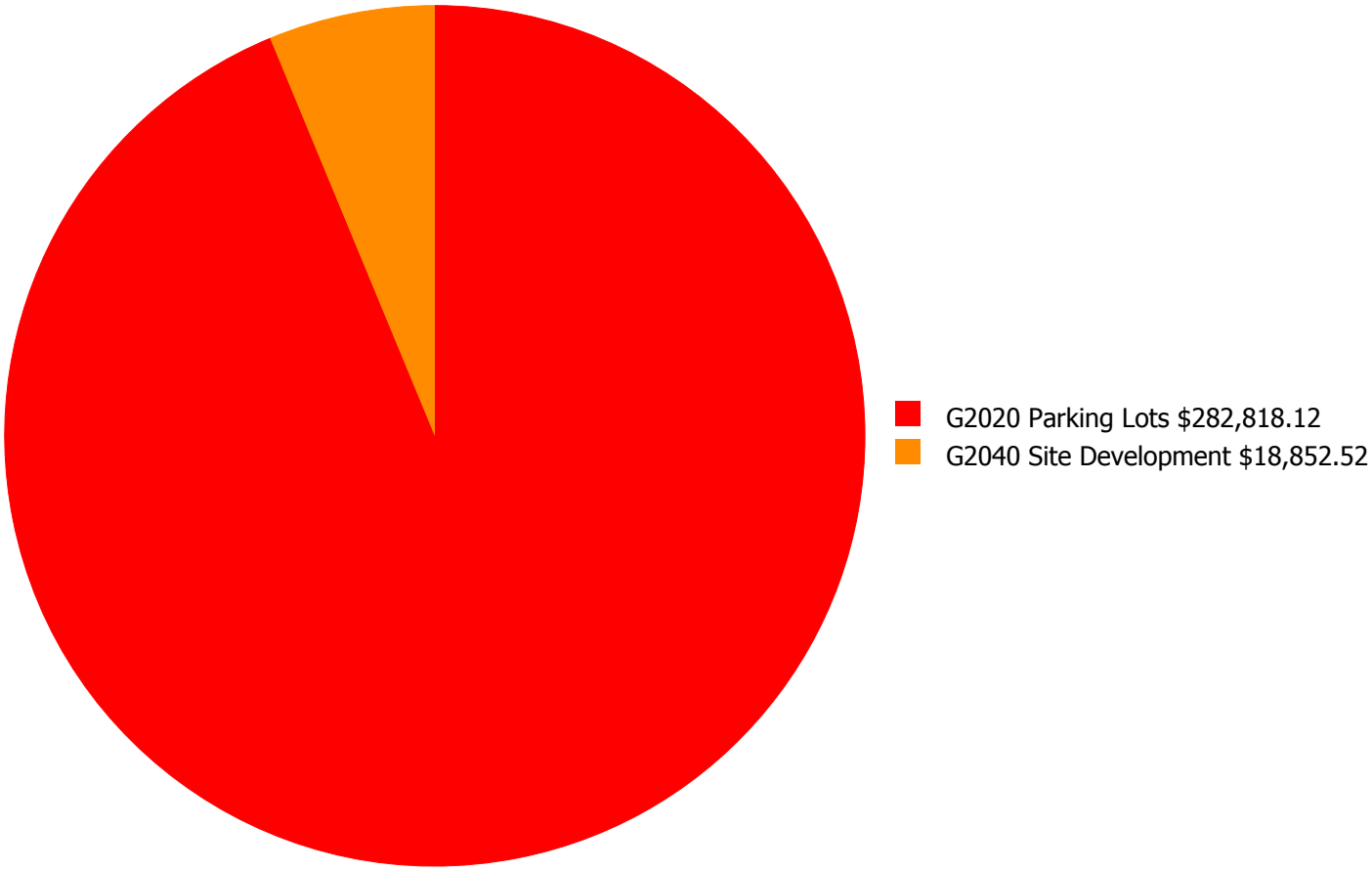
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 16.6%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$37,432.00	14.60 %	$74,864.00	12.60 %
2017	$0	$38,555.00	12.60 %	$77,110.00	8.60 %
2018	$0	$39,712.00	10.60 %	$79,423.00	4.60 %
2019	$0	$40,903.00	8.60 %	$81,806.00	0.60 %
2020	$0	$42,130.00	6.60 %	$84,260.00	-3.40 %
2021	$0	$43,394.00	4.60 %	$86,788.00	-7.40 %
2022	$0	$44,696.00	2.60 %	$89,391.00	-11.40 %
2023	$0	$46,037.00	0.60 %	$92,073.00	-15.40 %
2024	$655,806	$47,418.00	26.26 %	$94,835.00	8.26 %
2025	$673,931	$48,840.00	51.86 %	$97,680.00	31.86 %
Total:	**$1,329,737**	**$429,117.00**		**$858,230.00**	

Deficiency Summary by System

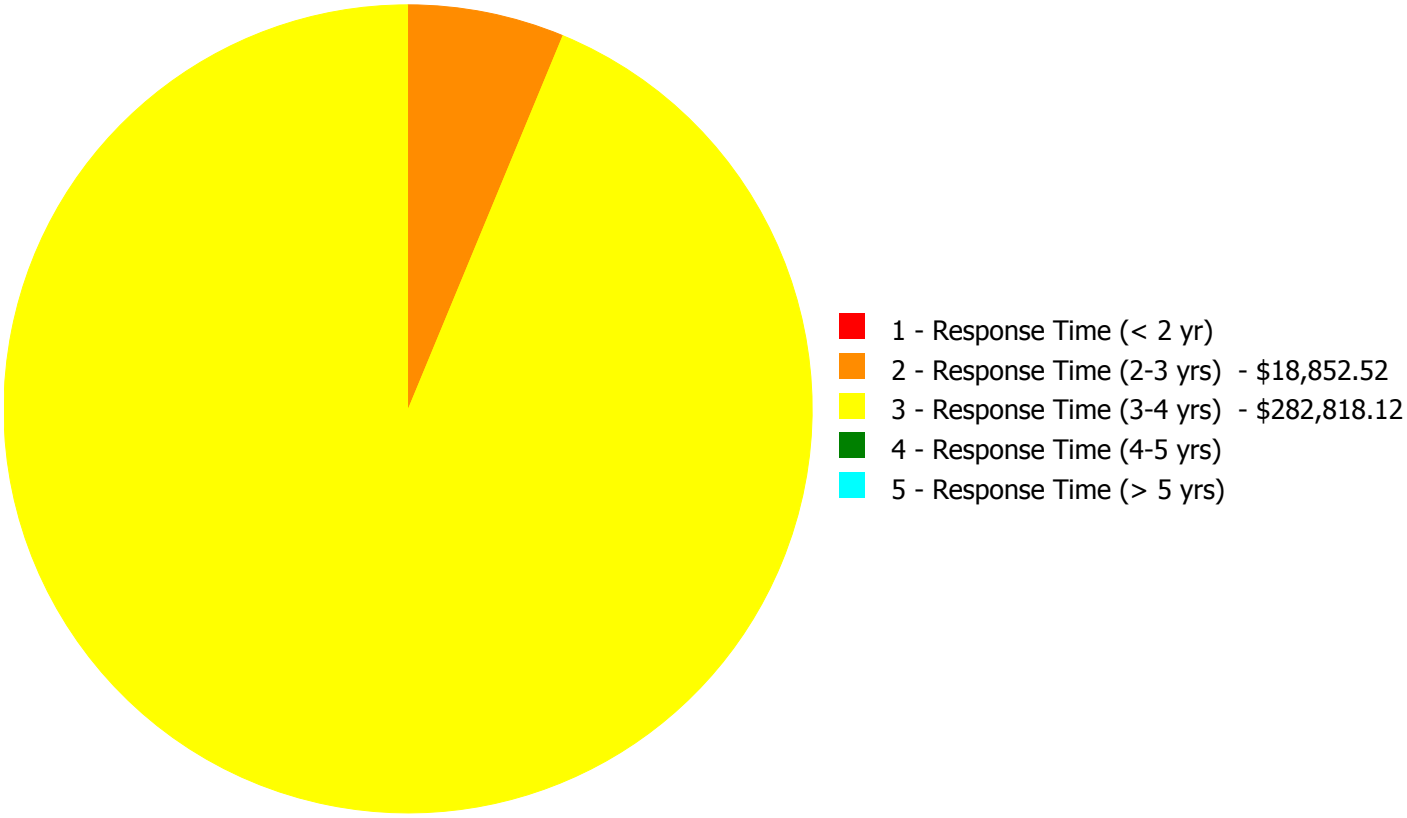
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $301,670.64

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: $301,670.64

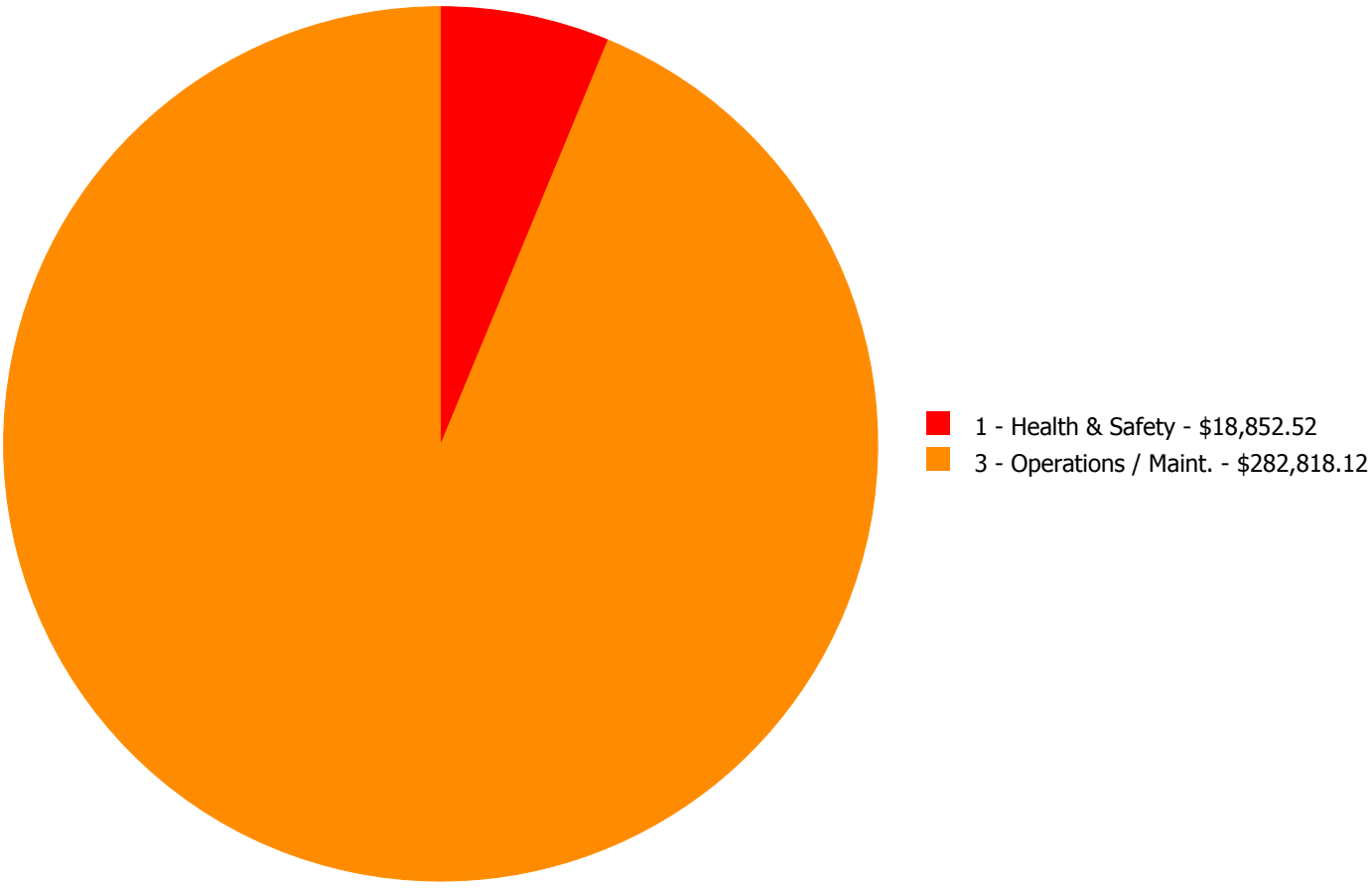
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$282,818.12	$0.00	$0.00	$282,818.12
G2040	Site Development	$0.00	$18,852.52	$0.00	$0.00	$0.00	$18,852.52
	Total:	$0.00	$18,852.52	$282,818.12	$0.00	$0.00	$301,670.64

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: $301,670.64

Deficiency Details by Priority

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

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

System: G2040 - Site Development

Location: Site

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Build secure trash dumpster enclosure

Qty: 1.00

Unit of Measure: Ea.

Estimate: $18,852.52

Assessor Name: Hayden Collins

Date Created: 02/16/2016

Notes: The trash dumpster is located south of the main building enclosed by site fencing but open to students. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

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

System: G2020 - Parking Lots

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace AC paving parking lot

Qty: 20,000.00

Unit of Measure: S.F.

Estimate: $282,818.12

Assessor Name: Hayden Collins

Date Created: 02/16/2016

Notes: The parking play area has no assigned parking and limited markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in poor condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a play, parking lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement is recommended.

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