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.

Wright School

Governance	DISTRICT	Report Type	Elementary
Address	2700 W. Dauphin St. Philadelphia, Pa 19132	Enrollment	364
		Grade Range	'00-05'
Phone/Fax	215-684-5076 / 215-684-7018	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Wright	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	**38.27%**	**$16,230,499**	**$42,411,864**
Building	40.90 %	$16,197,263	$39,597,760
Grounds	01.18 %	$33,235	$2,814,104

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.00 %	$0	$1,134,600
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.00 %	$0	$3,026,620
Windows (Shows functionality of exterior windows)	00.00 %	$0	$1,476,820
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$118,900
Interior Doors (Classroom doors)	82.87 %	$238,529	$287,820
Interior Walls (Paint and Finishes)	00.00 %	$0	$1,083,220
Plumbing Fixtures	00.00 %	$0	$1,108,640
Boilers	42.84 %	$655,797	$1,530,940
Chillers/Cooling Towers	65.60 %	$1,316,857	$2,007,360
Radiators/Unit Ventilators/HVAC	137.27 %	$4,839,149	$3,525,180
Heating/Cooling Controls	158.90 %	$1,759,069	$1,107,000
Electrical Service and Distribution	183.00 %	$1,455,565	$795,400
Lighting	45.60 %	$1,296,637	$2,843,760
Communications and Security (Cameras, Pa System and Fire Alarm)	46.77 %	$498,205	$1,065,180

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

S447001;Wright

Final

Site Assessment Report

January 30, 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):	82,000
Year Built:	1970
Last Renovation:	
Replacement Value:	$42,411,864
Repair Cost:	$16,230,498.69
Total FCI:	38.27 %
Total RSLI:	68.97 %

Description:

Facility Assessment

December 2015

School District of Philadelphia

Richard R Wright School

2700 Dauphin St.

Philadelphia, PA 19132

82,000 SF / 636 Students / LN 04

GENERAL

The Richard R Wright Academy is identified as B447001 and was originally designated as the Richard R Wright Public School.

This K through 5th Grade facility is located at 2700 Dauphin St., Philadelphia, PA. The design of the square-shaped, concrete and steel-framed building includes brick facades with a concrete foundation. Constructed in 1970 the school has had no additions.

The main entrance faces the Southern exterior facing the play ground and parking area. General parking is street side or in the fenced in area next to the playground. This school consist of two stories and a total gross square footage of 82,000 GSF.

This school has several classrooms, a library, kitchen and student commons, Gym, Science lab, Auditorium and cafeteria, with supporting administrative spaces.

The information for this report was collected during a site visit on December 7, 2015.

Mr. Demetrius Dancey, Building Engineer, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Ms. Jeannine Payne, Principal, and Mr. Kohlet Web, Climate Manager, also shared information about the school with the assessment team.

Architectural / Structural Systems

Foundations are concrete and appear to be in good condition. The superstructure is concrete and steel framed with masonry support and likewise in good condition.

The structure reportedly rests on a modified slab-on-grade foundation with interior columns resting on spread footings. The main structure is steel beams and columns

The roof structure is metal decking on steel joists and has a built-up surface

The exterior window system was reported to have been installed in the early 1990's. Although the window system is not a weather tight energy efficient system it is durable and in good condition. There were no issues that surfaced during the time of the inspection therefore no projects or recommendations are required at this time.

The metal framed metal exterior door system was reported to have been installed in the early 2000's. The system is in good condition and there are no recommendations required at this time.

Special consideration for those that may be physically challenged was not a main factor in the construction of this school. Currently, there are two partially compliant entrances at grade one facing south to the playground and the other facing the north drop off point. The path of travel is not very clear from this access points as the interior path of travel is limited in support. The elevator, signage, restrooms amities, compliant door hardware, hand rails and guard rails will require modifications to meet the needs of the physically challenged.

The roofing system is a newly installed built up application. This system is expected to have a normal life cycle that will typically exceed 20 years of good service. There were no issues that surfaced during the time of the inspection therefore no recommendations are required at this time.

The interior partitions include the painted CMU wall finish with movable partitions and decorative lobby finish with clay patch and art work.

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 science labs appear to be original applications installed during construction. The installation consist of an instruction demonstration desk with sink. Wall mounted storage cabinets and cabinets with sinks for student use. The system is showing signs of age and lack of maintenance such as broken sink fixtures missing cabinet doors and damaged shelves. This deficiency provides a budgetary consideration for the universal upgrade of the science teaching labs to include new counter tops, sink, cabinets, shelves and fixtures required to support a conducive level of education.

Interior doors are typically wood in wood frames with wired glass glazing. Other interior doors include wood doors in metal frames, hollow metal in hollow metal frames at the stairwells and exit ways and access doors. Doors are generally in fair condition and is a mix of ADA compliant and non-complaint doors with both non-rated and fire rated. Several of the classroom doors are aging at a

faster than normal rate for this application. Numerous repairs to locksets and door hardware have advanced the deterioration of the doors. This deficiency provides a budgetary consideration to replace a portion of the interior doors and frames with consideration for the physically challenged.

Interior doors are typically wood in wood frames with wired glass glazing. Other interior doors include wood doors in metal frames, hollow metal in hollow metal frames at the stairwells and exit ways and access doors. Doors are generally in fair condition and is a mix of ADA compliant and non-complaint doors with both non-rated and fire rated. Several of the classroom doors are aging at a faster than normal rate for this application. Numerous repairs to locksets and door hardware have advanced the deterioration of the doors. This deficiency provides a budgetary consideration to replace a portion of the interior doors and frames with consideration for the physically challenged.

Fittings include: chalkboards; marker boards; tack boards; interior signage; metal lockers; toilet accessories and wood/metal/marble toilet partitions; fixed storage shelving.

There are several tack boards in the hallways for student displays. The systems are damaged and beyond the expected service life for this application. Remove and replace tack boards is recommended.

Some of the classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade damaged chalk boards to new marker board systems.

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.

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.

The interior wall system is a painted CMU finish. There are a few minor maintenance issues and some touch ups however overall the system is in good condition. This school appears to be on a program of renewal and scheduled for painting appears to be maintained well. There are no recommendations required at this time.

The floor finish for this school is a combination of 12x12 and 9x9 vinyl tile in the classrooms, gym and administrative area, wood stage floor finish with concrete stairs and some hallway sections. The vinyl tile finish is a 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application. 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 stage floor finish in the auditorium is a wood floor finish that appears to be from original construction. The system is showing signs of age such as the effects of sanding and refinishing with yearly cleaning and waxing with some repairs. The floor finish is in fair condition however, the finish is beyond its expected life cycle. It is recommended that the damaged wood floor finish be removed and replaced with an in kind finish.

The ceiling finish is a mix of 12 x 12 ceiling grid, 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 efforts in this report prior to re-opening. 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.

Elevators are present at this school.

Institutional equipment includes: library equipment; stage equipment; instrumental equipment; A/V equipment; and laboratory equipment; gym equipment – basketball backstops, etc. Other equipment includes kitchen equipment; loading dock bumpers. There were no issues that surfaced during the time of the inspection therefore no recommendations are required at this time.

Furnishings include: fixed casework and window blinds. There were no issues that surfaced during the time of the inspection

therefore no recommendations are required at this time.

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories, urinals and mounted water closets. Lavatories have dual wheel handle faucets and urinals and water closets have exposed manual flush valves. Water coolers are stainless steel single level type. There are some counter top stainless steel sinks and special purpose sinks in art classrooms. Custodial areas have cast iron service sinks.

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. There is a new four inch water service and meter with a backflow preventer and six inch gas service into the mechanical room. These services are connected at N. 27th St.

The plumbing piping systems are from original 1970 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 hp installed in 1970, with modulating burners. A 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 and a wall exhaust fan ventilates the space.

Cooling for the dual temperature system is provided by a water cooled chilled water system with a York centrifugal chiller in the mechanical room and a single cell Baltimore Air Coil induced draft cooling tower on the roof. Water distribution includes three pumps-two dual temperature (10 hp) and one condenser water (20 hp). Pumps are all in the mechanical room and appear to be from original installation. The chiller and cooling tower were reportedly installed about 1990.The system includes a chemical treatment unit.

Exterior classrooms and eight second floor interior classrooms have AAF Herman Nelson unit ventilators with outside air damper (exterior classrooms), water coil, filter, control valve, blower and motor. Two mechanical penthouses contain air handling equipment. Unit AH-1 which serves the gymnasium is in one penthouse, along with two floor mounted centrifugal utility exhaust fans. The other penthouse contains AH-2 for the cafeteria/auditorium and AH-3 for the IMC. AH-4 is a multizone unit located in the mechanical room and serves first floor interior spaces.

The toilet rooms and other areas have mechanical exhaust with three centrifugal roof ventilators and one roof mounted centrifugal utility fan. These fans appear to be less than ten years old. There is no cooking or hood in the kitchen. Three smoke vents are on the roof of the IMC.

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 1970 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 and pumps are in poor condition, have exceeded the service life and should be replaced. The chilled water system is within five years of normal service life and is recommended to be replaced as part of an HVAC renovation.

FIRE PROTECTION- There is a four inch fire service line into the mechanical room and an old fifteen hp fire pump and controller that are in poor condition. The only sprinklers are two rows of closely spaced heads at the glass walls of the IMC to create a water curtain.

ELECTRICAL SYSTEMS

Electrical Service--The building is served by PECO Energy Company with 13.2 kV underground service to a General Electric 300 kVA, 1200A, 208/120V, 3 phase, 4 wire unit substation located in Mechanical Room 104A. The substation also has a 13.2 kV service tap that supplies a Westinghouse substation in Boiler Room 101 that feeds the chiller. The substation for the chiller did not have a manufacturer's nameplate with rating, but it is estimated to be a 225 kVA, 13.2 kV, 480/277V substation. The main substation in

Room 104A has a total of 17 feeder circuit breakers to feed the fire pump and (14) 208/120V, 3 phase panelboards throughout the building. The installation does not meet the current minimum working space in front of the equipment and entrance to and egress from the working space, as required by NFPA 70, National Electrical Code Article 110. Since both substations have served their useful life, and since the dedicated equipment space required by code for the main entrance substation is not adequate, it is recommended that a single 1000 kVA, 13.2 kV-208/120V, 3 phase pad mount transformer be provided at the southeast corner of the building to supply a 3000A, 208/120V, 3 phase, 4 wire switchboard located in Mechanical Room 104A. All loads, including the chiller, would be fed from the 3000A switchboard. The substation for the chiller in the Mechanical Room 101 would be removed and replaced with a step-up 208V-480/277V transformer. Replace all 14 panelboards throughout the building, including their feeder conductors.

Receptacles--Most of the classrooms are provided with only a few duplex receptacles, which is not adequate for today's classroom environment. An additional 6 to 8 duplex receptacles should be provided in each of the 31 classrooms using a surface metal raceway system

Lighting—Except for lighting fixtures in the First and Second Floor corridors and Main Office, all fluorescent lighting fixtures have obsolete T12 lamps. Replacement of these fluorescent fixtures is recommended within 3 to 4 years. Classrooms have 2x4 modular fluorescent fixtures with T12 lamps that are surface mounted to the structure. Classroom lighting is controlled by one wall switch. Typically, 2x4 recessed fluorescent troffers with acrylic prismatic lenses are provided in ceilings with acoustical ceiling tile, including the IMC, cafeteria/auditorium, corridors, offices and faculty dining room.

The cafeteria/auditorium also has (8) recessed incandescent fixtures in the lower ceiling area on the sides of the room, and track lighting fixtures in front of the platform as well as above the platform. There is no dimming system for the auditorium/stage. This report includes replacement of lighting fixtures in the cafeteria/auditorium with LED fixtures, and replacement of recessed incandescent lighting in kitchen Room 105 with 2x4 fluorescent troffers.

The gymnasium is illuminated with (20) metal halide industrial fixtures and eight (8) incandescent cylinder downlights that are used for emergency lighting. Replacement with LED fixtures is recommended for improved energy efficiency and reduced maintenance cost.

Stairwells and restrooms are provided with surface mounted wraparound or modular fluorescent fixtures with T12 lamps. The Boiler Room and mechanical spaces have 4 foot industrial fluorescent fixtures.

There are two mechanical penthouses on the roof and three areas with rooftop mechanical equipment that have wall mounted vapor-tight globe type fixtures. These fixtures are in poor condition; some are damaged or have missing parts and/or lamps. Replacement of fixtures and weatherproof light switches is included as a correction.

Wall pack floodlighting fixtures are mounted on the perimeter of the building to illuminate the site, paved play areas and parking lot. The Visitor Entrance and each of the exit discharges are illuminated with wall mounted fixtures either above or adjacent to the doors (total of 11 fixtures). There are also (9) recessed lighting fixtures in the overhang on the south side of the building. All of the exterior fixtures are in fair to poor condition; replacement is included in this report.

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 Mechanical Room 104A. There is also a Simplex 4002 FACP in the same room that is tied into the exiting S.H. Couch FACP. 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 Main Distribution Frame (MDF) and telephone distribution system equipment is located in a room adjacent to the Main Office. A telephone and data outlet is provided in each classroom. Wireless access points are provided in classrooms, offices, cafeteria/auditorium, IMC, and gymnasium for Wi-Fi service throughout the entire school.

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 Distribution Frame/Telecom room.

Recessed ceiling mounted paging speakers are provided in corridors and rooms with acoustical ceiling tile. Wall mounted speakers and clock/speaker assemblies are located in classrooms. Trumpet horns are provided in the gymnasium, mechanical rooms and on the exterior of the building. The paging system is in good condition with an estimated remaining useful life that extends beyond this report. 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 program system was reported to be in good working order. Clock/speaker assemblies are provided in classrooms and faculty dining. Individual

clocks are provided in the cafeteria/auditorium, gymnasium and IMC. The clock system has reached the end of its useful service life; clocks were reported to not be functioning. It is recommended that all clocks be replaced with battery operated synchronized clocks controlled by a wireless GPS master clock system.

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

Video Surveillance and Security Systems-- There are a total of 16 video surveillance cameras, including three (3) exterior cameras. Interior cameras provide coverage of corridors and stairwells. There are no cameras in the gymnasium or at the Visitor Entrance. The video surveillance equipment cabinet with monitor and digital video recorder (DVR) is located in the MDF Room adjacent to the Main Office. Up to four (4) cameras were reported by the Building Engineer as not operational. The cameras are nearing end of their useful life; replacement of all cameras, monitor and DVR is included in this report, and the addition of three (3) cameras and one DVR.

Magnetic door contacts are provided on stairwell doors. A security system motion sensor was located in the Main Lobby.

Emergency/Standby Power System-- A 10 kW/12.75 kVA, 208/120V, 3 phase, 4 wire Kohler standby generator with natural gas fuel supply is located in Mechanical Room 104A. The generator supplies a 100A emergency lighting panelboard via a Zenith Controls 75A, 250V, automatic transfer switch (ATS). The generator, ATS and emergency panelboard have exceeded their useful lives. Replacement generator should be sized to also supply the hydraulic elevator.

Emergency Lighting System / Exit Lighting-- Emergency egress lighting fixtures and exit signs are connected to the emergency lighting panelboard in Mechanical Rom 104A. The exit signs are in fair to good condition, with a remaining life extending beyond this report. There are no recommendations for replacement at this time.

Lightning Protection System--The building has a complete lightning protection system that was added when the roof was replaced. The system consists of aluminum roof conductors and 12 inch aluminum air terminals located on building structures protruding above the roof and along the perimeter of the roof. The system is in very good condition. No deficiencies were observed.

Conveying Systems-- There is one hydraulic passenger elevator by Southeastern Elevator Company. The machine room is located adjacent to the elevator on the First Floor. The hydraulic unit was in fair condition. Replacement of the hydraulic unit, elevator signals and hall lanterns, and upgrade of elevator cab is recommended within 3 to 4 years.

GROUNDS

The parking lot is located just south of the playground and is fenced in for security. The asphalt finish is in good condition and there are no recommendations required at this time.

The loading dock is from original construction and in fair condition. The loading dock system is recommended for upgrade to include new concrete work, bumpers and railing replacement.

The trash dumpster is located near the southwestern fence open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area are recommended.

The sidewalk system is original to the buildings construction. There are a several areas of cracking concrete but no tripping hazards. The sidewalk system is expected to expire in the near future. Removal of the entire system is recommended. Universal upgrades are required and should include all aspects of current ADA legislation.

The fencing system for this school is a chain link system in good condition. There were no issues that surfaced during the time of the inspection therefore no recommendations are required at this time.

Site Lighting-- Other than the building mounted floodlights, there is no other site lighting. There are no recommendations at this time.

Site video surveillance-- There are three (3) building mounted video surveillance cameras that provide surveillance coverage on the north and south sides of the building. An additional camera is recommended at the Visitor Entrance on the south side and is included as a building deficiency.

RECOMMENDATIONS

- Remove and upgrade movable partitions
- Science Lab Renovation

- Interior door upgrades
- Remove and replace tack boards
- Remove and replace select chalk boards
- Remove and replace signage
- Improve hand and guard rails at stairs
- Remove and replace vinyl flooring
- Upgrade wood flooring
- Upgrade ceiling finish to support report recommendations
- Secure Dumpster construction
- Loading dock upgrade
- Sidewalk upgrade
- 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.
- Remove or abandon the existing chiller and cooling tower and install a new chilled water system with air cooled chillers, pumps, insulated chilled water distribution piping, chemical treatment and controls. Include electrical connections. Total capacity two hundred forty tons.
- 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.
- Replace domestic hot and cold water piping including valves, fittings, hangars and insulation.
- Remove existing and provide a new central station air handling unit for the first floor interior 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 the main entrance substation in Mechanical Room 104A and the chiller substation in Boiler Room 101 and provide a 1000 kVA, 13.2 kV-208/120V, 3 phase pad mount transformer at the southeast corner of the building and a 3000A, 208/120V, 3 phase, 4 wire switchboard located in Mechanical Room 104A to serve all loads, including the chiller, via a step-up 208V-480/277V transformer. Mechanical Room 104A does not have adequate working space in front of the substation and entrance to and egress from the working space, as required by NFPA 70, National Electrical Code Article 110, for the installation of the equipment.
- Replace all 14 panelboards throughout the building, including their feeder conductors.
- Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 31 classrooms.
- Replace all fluorescent lighting fixtures having T12 lamps, and associated branch circuit wiring throughout the building, with fixtures having T8 lamps (classrooms and IMC 39,480 SF; offices, restrooms, kitchen, faculty areas and miscellaneous areas 9,720 SF; mechanical and storage areas 5,955 SF).
- Replace (20) 2x4 fluorescent lighting fixtures and (8) recessed incandescent fixtures in the cafeteria/auditorium with LED fixtures.
- Replace (20) metal halide industrial fixtures in the gymnasium with LED industrial fixtures. Replace incandescent lamps in eight (8) cylinder downlights that are used for emergency lighting with LED lamps.
- Replace wall mounted vapor-tight globe type fixtures and weather-proof light switches and receptacles in the (2) mechanical penthouses on the roof and at (3) areas with rooftop mechanical equipment. These fixtures are in poor condition; some are damaged or have missing parts and/or lamps. Total of (10) LED fixtures and (5) each of weather-proof light switches and receptacles.
- Replace (9) recessed lighting fixtures in the overhang on the south side of the building with LED fixtures. Replace (17) wall pack HID floodlights are the perimeter of the building with LED wall packs. Replace (11) wall mounted lighting fixtures at exit discharges with LED fixtures.
- Replace fire alarm system with an addressable type system meeting current NFPA Codes and ADA requirements.
- Remove all individual clocks and provide wireless GPS master clock system with battery operated synchronized clocks.

- Replace video surveillance system equipment, including (13) interior cameras, (3) exterior cameras, one digital video recorder (DVR) and one monitor. Add (2) interior cameras in the gymnasium, (1) exterior camera at the Visitor Entrance, and one DVR.eplace the 10 kW standby generator and automatic transfer switch (ATS). Increase generator size to 60 kW to allow capacity for the hydraulic elevator and additional loads.
- Replace hydraulic elevator, signals and hall lanterns and upgrade elevator cab.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S447001		

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.

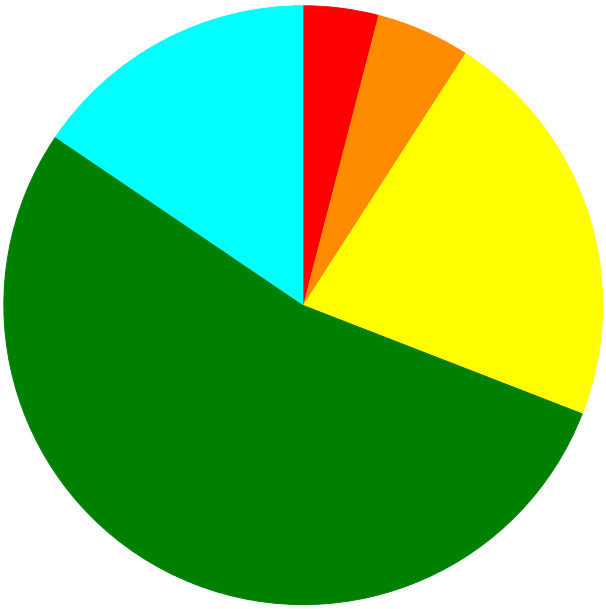
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	55.00 %	0.00 %	$0.00
A20 - Basement Construction	55.00 %	0.00 %	$0.00
B10 - Superstructure	55.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	49.02 %	0.00 %	$0.00
B30 - Roofing	75.00 %	0.00 %	$0.00
C10 - Interior Construction	48.25 %	35.78 %	$720,046.71
C20 - Stairs	55.00 %	9.43 %	$10,898.62
C30 - Interior Finishes	50.85 %	40.15 %	$1,419,092.37
D10 - Conveying	20.00 %	147.92 %	$185,585.19
D20 - Plumbing	75.30 %	45.61 %	$763,744.89
D30 - HVAC	96.30 %	93.96 %	$8,570,871.68
D40 - Fire Protection	92.47 %	177.49 %	$1,173,048.04
D50 - Electrical	110.11 %	69.59 %	$3,353,975.82
E10 - Equipment	34.29 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	0.00 %	$0.00
G20 - Site Improvements	38.10 %	1.54 %	$33,235.37
G40 - Site Electrical Utilities	50.00 %	0.00 %	$0.00
Totals:	**68.97 %**	**38.27 %**	**$16,230,498.69**

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)
B447001;Wright	82,000	40.90	$655,796.89	$808,501.23	$3,516,990.69	$8,695,988.59	$2,519,985.92
G447001;Grounds	151,100	1.18	$0.00	$14,382.85	$18,852.52	$0.00	$0.00
Total:		**38.27**	**$655,796.89**	**$822,884.08**	**$3,535,843.21**	**$8,695,988.59**	**$2,519,985.92**

Deficiencies By Priority



1 - Response Time (< 2 yr) - $655,796.89
2 - Response Time (2-3 yrs) - $822,884.08
3 - Response Time (3-4 yrs) - $3,535,843.21
4 - Response Time (4-5 yrs) - $8,695,988.59
5 - Response Time (> 5 yrs) - $2,519,985.92

Budget Estimate Total: $16,230,498.69

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):	82,000
Year Built:	1970
Last Renovation:	
Replacement Value:	$39,597,760
Repair Cost:	$16,197,263.32
Total FCI:	40.90 %
Total RSLI:	70.96 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B447001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S447001		

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	55.00 %	0.00 %	$0.00
A20 - Basement Construction	55.00 %	0.00 %	$0.00
B10 - Superstructure	55.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	49.02 %	0.00 %	$0.00
B30 - Roofing	75.00 %	0.00 %	$0.00
C10 - Interior Construction	48.25 %	35.78 %	$720,046.71
C20 - Stairs	55.00 %	9.43 %	$10,898.62
C30 - Interior Finishes	50.85 %	40.15 %	$1,419,092.37
D10 - Conveying	20.00 %	147.92 %	$185,585.19
D20 - Plumbing	75.30 %	45.61 %	$763,744.89
D30 - HVAC	96.30 %	93.96 %	$8,570,871.68
D40 - Fire Protection	92.47 %	177.49 %	$1,173,048.04
D50 - Electrical	110.11 %	69.59 %	$3,353,975.82
E10 - Equipment	34.29 %	0.00 %	$0.00
E20 - Furnishings	30.00 %	0.00 %	$0.00
Totals:	**70.96 %**	**40.90 %**	**$16,197,263.32**

Condition Detail

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

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

System Listing

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

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

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

Site Assessment Report - B447001;Wright

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.	82,000	100	1970	2070		55.00 %	0.00 %	55			$1,508,800
A1030	Slab on Grade	$7.73	S.F.	82,000	100	1970	2070		55.00 %	0.00 %	55			$633,860
A2010	Basement Excavation	$6.55	S.F.	82,000	100	1970	2070		55.00 %	0.00 %	55			$537,100
A2020	Basement Walls	$12.70	S.F.	82,000	100	1970	2070		55.00 %	0.00 %	55			$1,041,400
B1010	Floor Construction	$75.10	S.F.	82,000	100	1970	2070		55.00 %	0.00 %	55			$6,158,200
B1020	Roof Construction	$13.88	S.F.	30,000	100	1970	2070		55.00 %	0.00 %	55			$416,400
B2010	Exterior Walls	$36.91	S.F.	82,000	100	1970	2070		55.00 %	0.00 %	55			$3,026,620
B2020	Exterior Windows	$18.01	S.F.	82,000	40	1990	2030		37.50 %	0.00 %	15			$1,476,820
B2030	Exterior Doors	$1.45	S.F.	82,000	25	2000	2025		40.00 %	0.00 %	10			$118,900
B3010105	Built-Up	$37.76	S.F.	30,000	20	2010	2030		75.00 %	0.00 %	15			$1,132,800
B3020	Roof Openings	$0.06	S.F.	30,000	20	2010	2030		75.00 %	0.00 %	15			$1,800
C1010	Partitions	$17.91	S.F.	82,000	100	1970	2070		55.00 %	28.57 %	55		$419,587.57	$1,468,620
C1020	Interior Doors	$3.51	S.F.	82,000	40	1970	2010	2027	30.00 %	82.87 %	12		$238,529.36	$287,820
C1030	Fittings	$3.12	S.F.	82,000	40	1970	2010	2027	30.00 %	24.21 %	12		$61,929.78	$255,840
C2010	Stair Construction	$1.41	S.F.	82,000	100	1970	2070		55.00 %	9.43 %	55		$10,898.62	$115,620
C3010230	Paint & Covering	$13.21	S.F.	82,000	10	2010	2020		50.00 %	0.00 %	5			$1,083,220
C3020413	Vinyl Flooring	$9.68	S.F.	70,000	20	1970	1990	2027	60.00 %	89.53 %	12		$606,666.72	$677,600
C3020414	Wood Flooring	$22.27	S.F.	2,000	25	1970	1995	2027	48.00 %	130.90 %	12		$58,304.14	$44,540
C3020415	Concrete Floor Finishes	$0.97	S.F.	10,000	50	1970	2020	2027	24.00 %	0.00 %	12			$9,700
C3030	Ceiling Finishes	$20.97	S.F.	82,000	25	1970	1995	2027	48.00 %	43.86 %	12		$754,121.51	$1,719,540
D1010	Elevators and Lifts	$1.53	S.F.	82,000	35	1970	2005	2022	20.00 %	147.92 %	7		$185,585.19	$125,460
D2010	Plumbing Fixtures	$13.52	S.F.	82,000	35	2005	2040		71.43 %	0.00 %	25			$1,108,640
D2020	Domestic Water Distribution	$1.68	S.F.	82,000	25	1970	1995	2042	108.00 %	301.63 %	27		$415,523.15	$137,760
D2030	Sanitary Waste	$2.90	S.F.	82,000	25	1970	1995	2042	108.00 %	146.43 %	27		$348,221.74	$237,800
D2040	Rain Water Drainage	$2.32	S.F.	82,000	30	1970	2000	2025	33.33 %	0.00 %	10			$190,240
D3020	Heat Generating Systems	$18.67	S.F.	82,000	35	1970	2005	2052	105.71 %	42.84 %	37		$655,796.89	$1,530,940
D3030	Cooling Generating Systems	$24.48	S.F.	82,000	30	1990	2020	2047	106.67 %	65.60 %	32		$1,316,856.56	$2,007,360
D3040	Distribution Systems	$42.99	S.F.	82,000	25	1970	1995	2042	108.00 %	137.27 %	27		$4,839,149.29	$3,525,180
D3050	Terminal & Package Units	$11.60	S.F.	82,000	20				0.00 %	0.00 %				$951,200
D3060	Controls & Instrumentation	$13.50	S.F.	82,000	20	1970	1990	2037	110.00 %	158.90 %	22		$1,759,068.94	$1,107,000
D4010	Sprinklers	$7.05	S.F.	82,000	35	1970	2005	2052	105.71 %	202.91 %	37		$1,173,048.04	$578,100
D4020	Standpipes	$1.01	S.F.	82,000	35				0.00 %	0.00 %				$82,820
D5010	Electrical Service/Distribution	$9.70	S.F.	82,000	30	1970	2000	2047	106.67 %	183.00 %	32		$1,455,565.46	$795,400
D5020	Lighting and Branch Wiring	$34.68	S.F.	82,000	20	1970	1990	2037	110.00 %	45.60 %	22		$1,296,637.29	$2,843,760
D5030	Communications and Security	$12.99	S.F.	82,000	15	1970	1985	2032	113.33 %	46.77 %	17		$498,204.83	$1,065,180
D5090	Other Electrical Systems	$1.41	S.F.	82,000	30	1970	2000	2047	106.67 %	89.58 %	32		$103,568.24	$115,620
E1020	Institutional Equipment	$4.82	S.F.	82,000	35	1970	2005	2027	34.29 %	0.00 %	12			$395,240
E1090	Other Equipment	$11.10	S.F.	82,000	35	1970	2005	2027	34.29 %	0.00 %	12			$910,200
E2010	Fixed Furnishings	$2.13	S.F.	82,000	40	1970	2010	2027	30.00 %	0.00 %	12			$174,660
								Total	**70.96 %**	**40.90 %**			**$16,197,263.32**	**$39,597,760**

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 100%

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

Note: Vinyl 85%
Concrete 12%
Wood 3%

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

Note: There are two (2) substation transformers, one rated 300kVA, 13.2kV-208/120V, 3 phase 4 wire, and the second one has no manufacturer's label or equipment identification.
There are 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:	**$16,197,263**	**$0**	**$0**	**$0**	**$0**	**$1,381,324**	**$0**	**$169,730**	**$0**	**$0**	**$457,004**	**$18,205,321**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2020 - Exterior Windows	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2030 - Exterior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$175,771	**$175,771**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$419,588	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$419,588**
C1020 - Interior Doors	$238,529	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$238,529**
C1030 - Fittings	$61,930	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$61,930**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

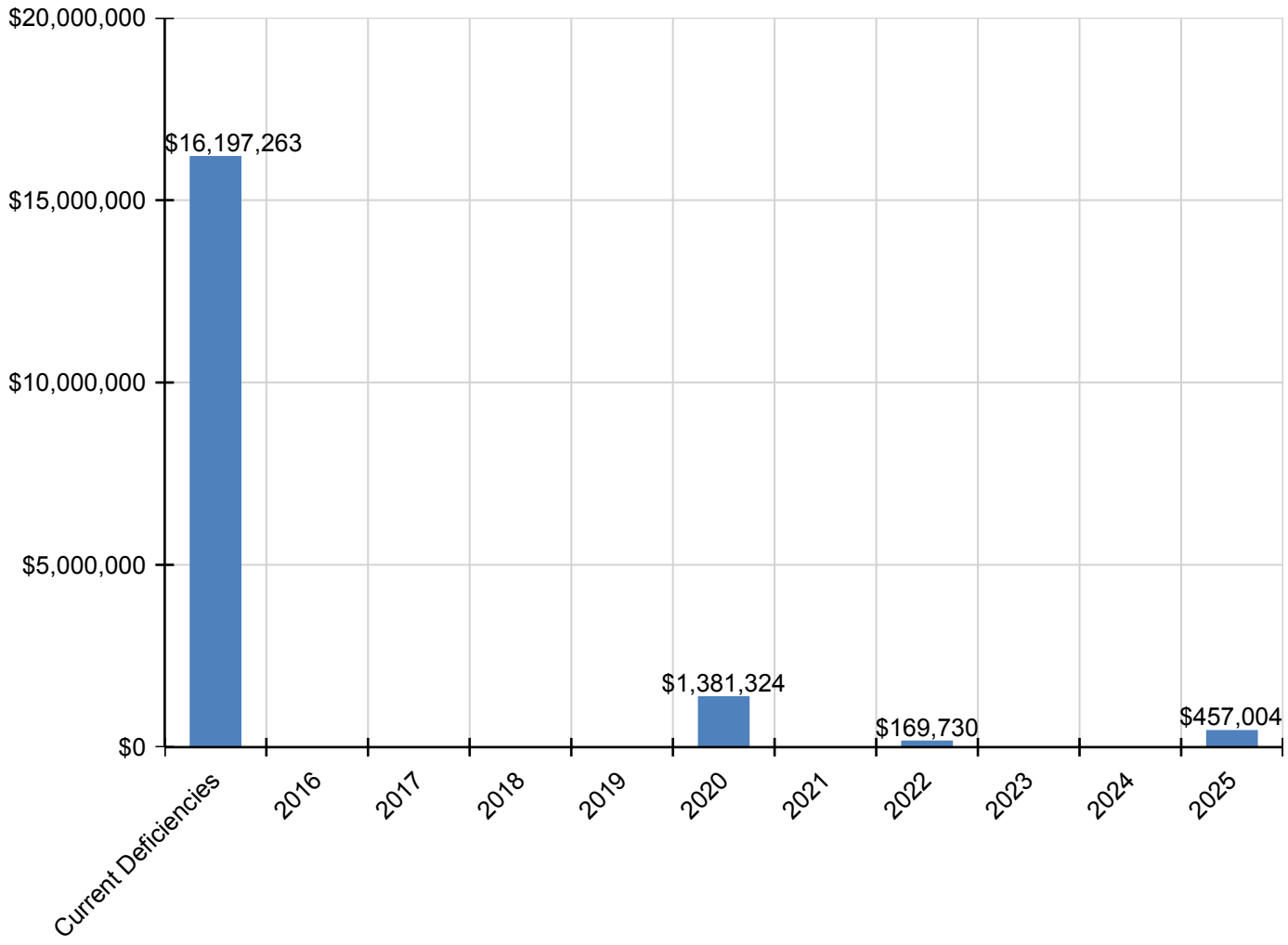
C2010 - Stair Construction	$10,899	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$10,899**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$1,381,324	$0	$0	$0	$0	$0	**$1,381,324**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$606,667	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$606,667**
C3020414 - Wood Flooring	$58,304	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$58,304**
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	$185,585	$0	$0	$0	$0	$0	$0	$169,730	$0	$0	$0	**$355,315**
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	$415,523	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$415,523**
D2030 - Sanitary Waste	$348,222	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$348,222**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$281,233	**$281,233**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$655,797	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$655,797**
D3030 - Cooling Generating Systems	$1,316,857	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,316,857**
D3040 - Distribution Systems	$4,839,149	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,839,149**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,759,069	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,759,069**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,173,048	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,173,048**
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	$1,455,565	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,455,565**
D5020 - Lighting and Branch Wiring	$1,296,637	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,296,637**
D5030 - Communications and Security	$498,205	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$498,205**
D5090 - Other Electrical Systems	$103,568	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$103,568**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

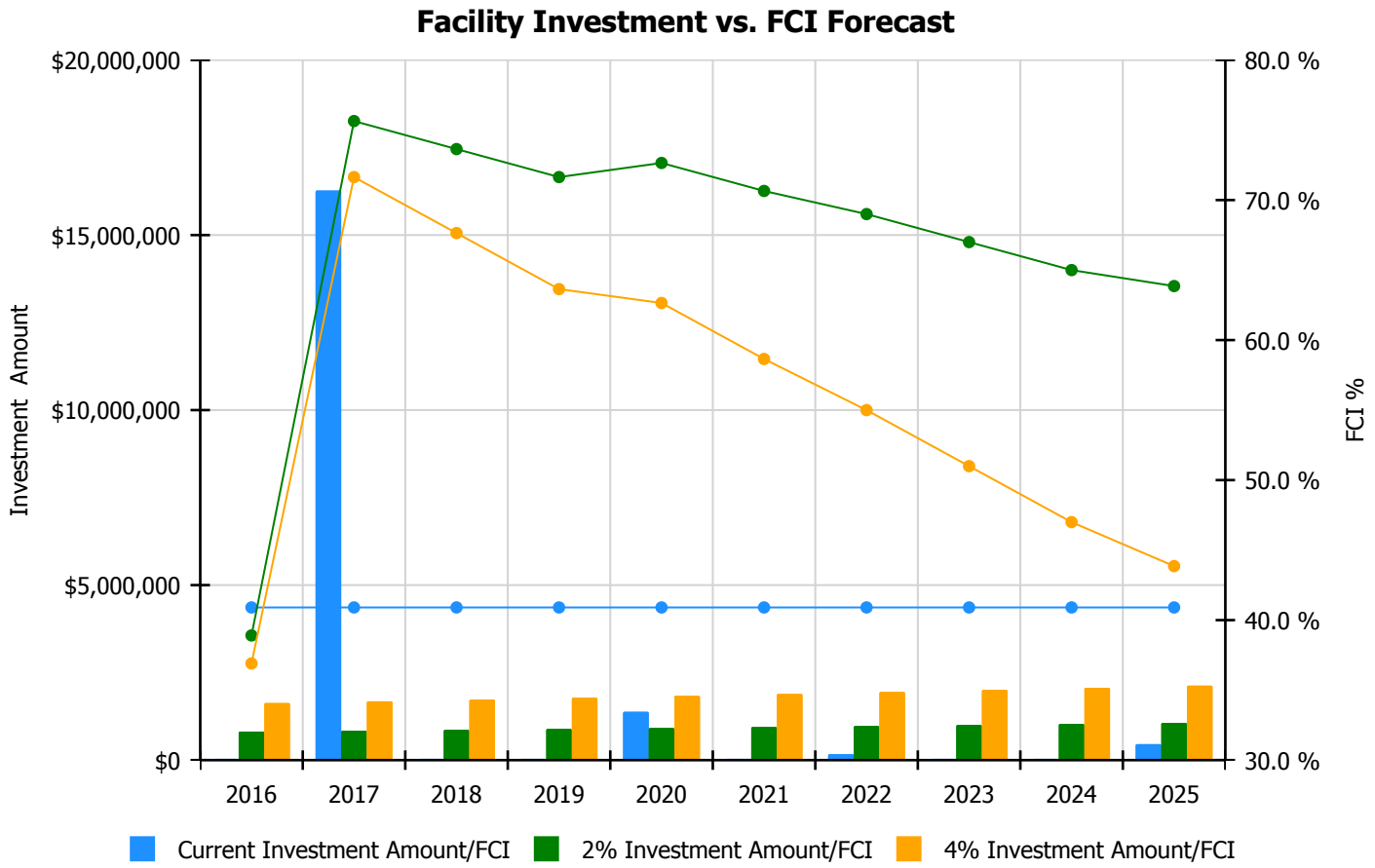
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

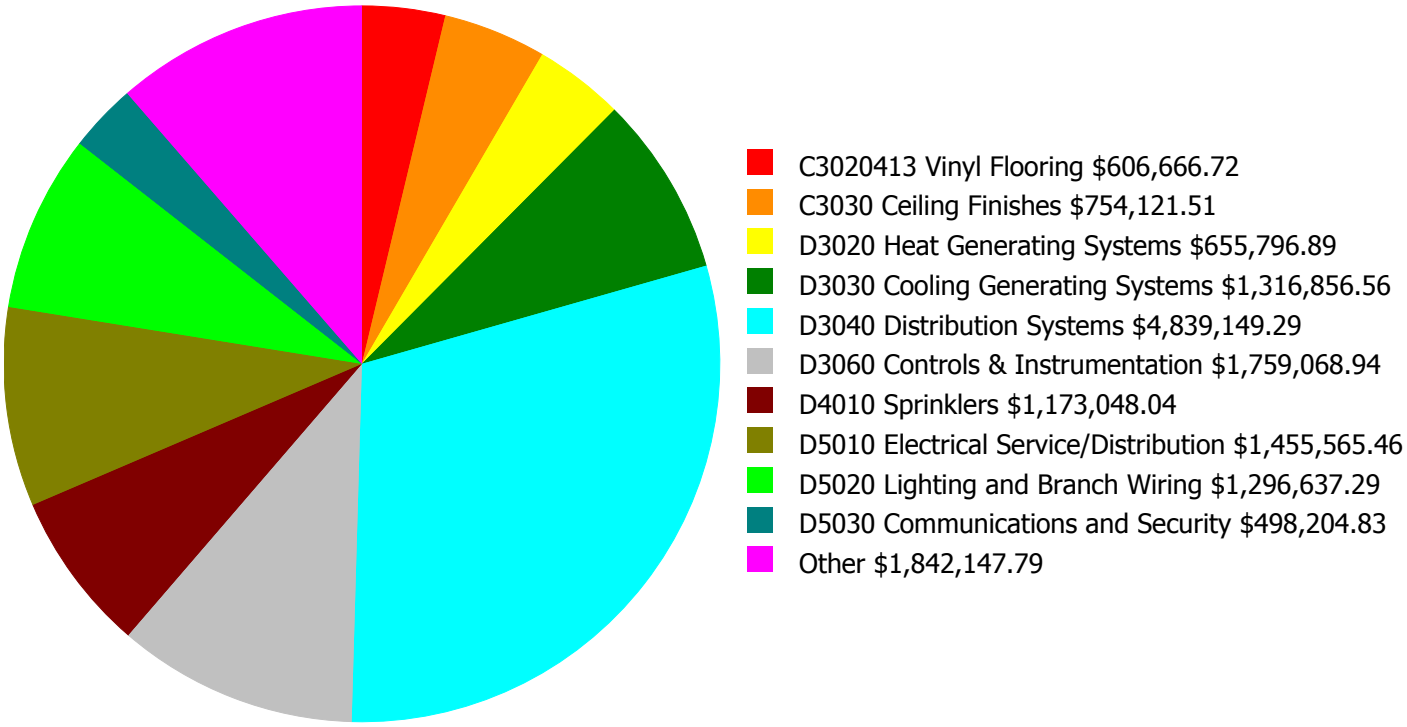
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 40.9%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$815,714.00	38.90 %	$1,631,428.00	36.90 %
2017	$16,272,625	$840,185.00	75.64 %	$1,680,371.00	71.64 %
2018	$0	$865,391.00	73.64 %	$1,730,782.00	67.64 %
2019	$0	$891,353.00	71.64 %	$1,782,705.00	63.64 %
2020	$1,381,324	$918,093.00	72.65 %	$1,836,186.00	62.65 %
2021	$0	$945,636.00	70.65 %	$1,891,272.00	58.65 %
2022	$169,730	$974,005.00	69.00 %	$1,948,010.00	55.00 %
2023	$0	$1,003,225.00	67.00 %	$2,006,450.00	51.00 %
2024	$0	$1,033,322.00	65.00 %	$2,066,644.00	47.00 %
2025	$457,004	$1,064,322.00	63.86 %	$2,128,643.00	43.86 %
Total:	**$18,280,683**	**$9,351,246.00**		**$18,702,491.00**	

Deficiency Summary by System

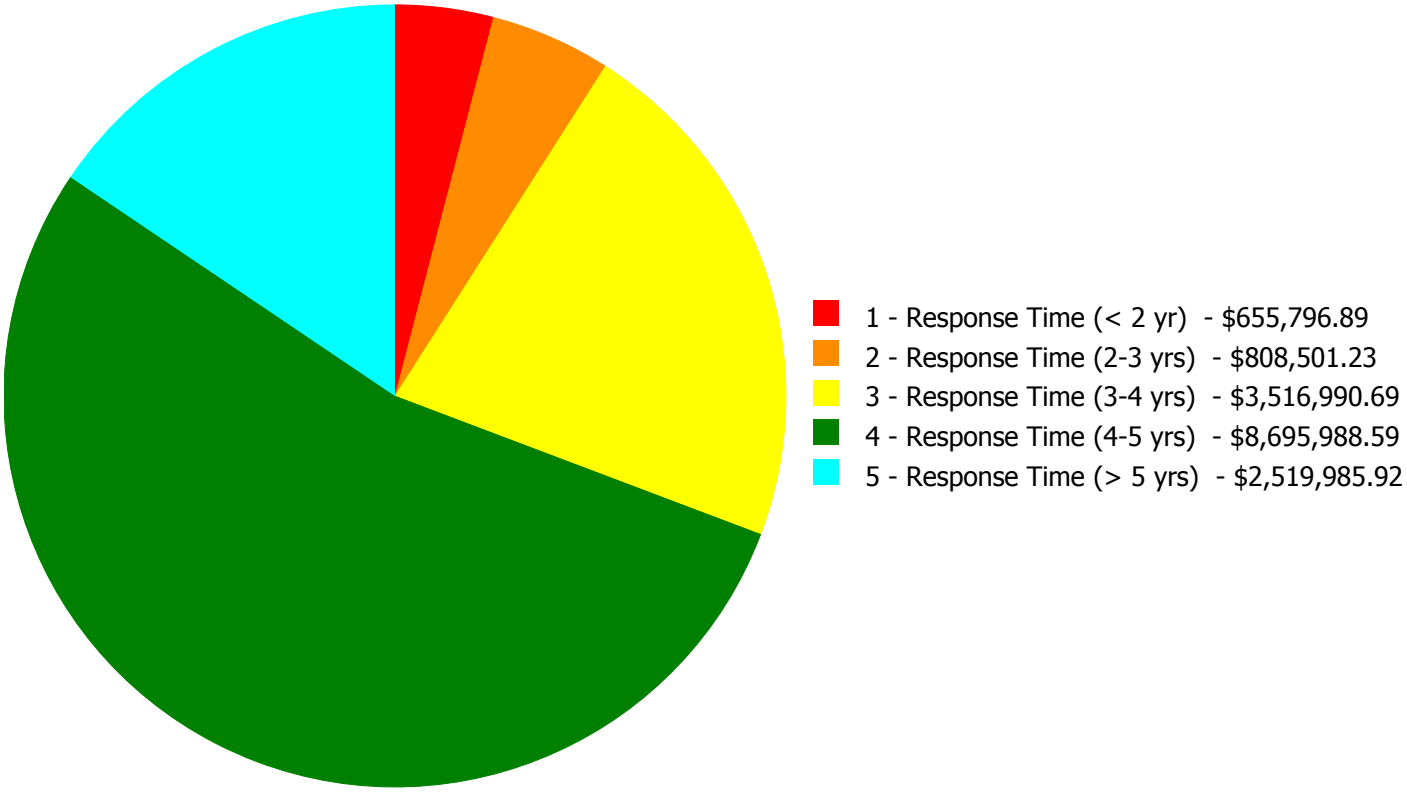
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $16,197,263.32

Deficiency Summary by Priority

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



Budget Estimate Total: $16,197,263.32

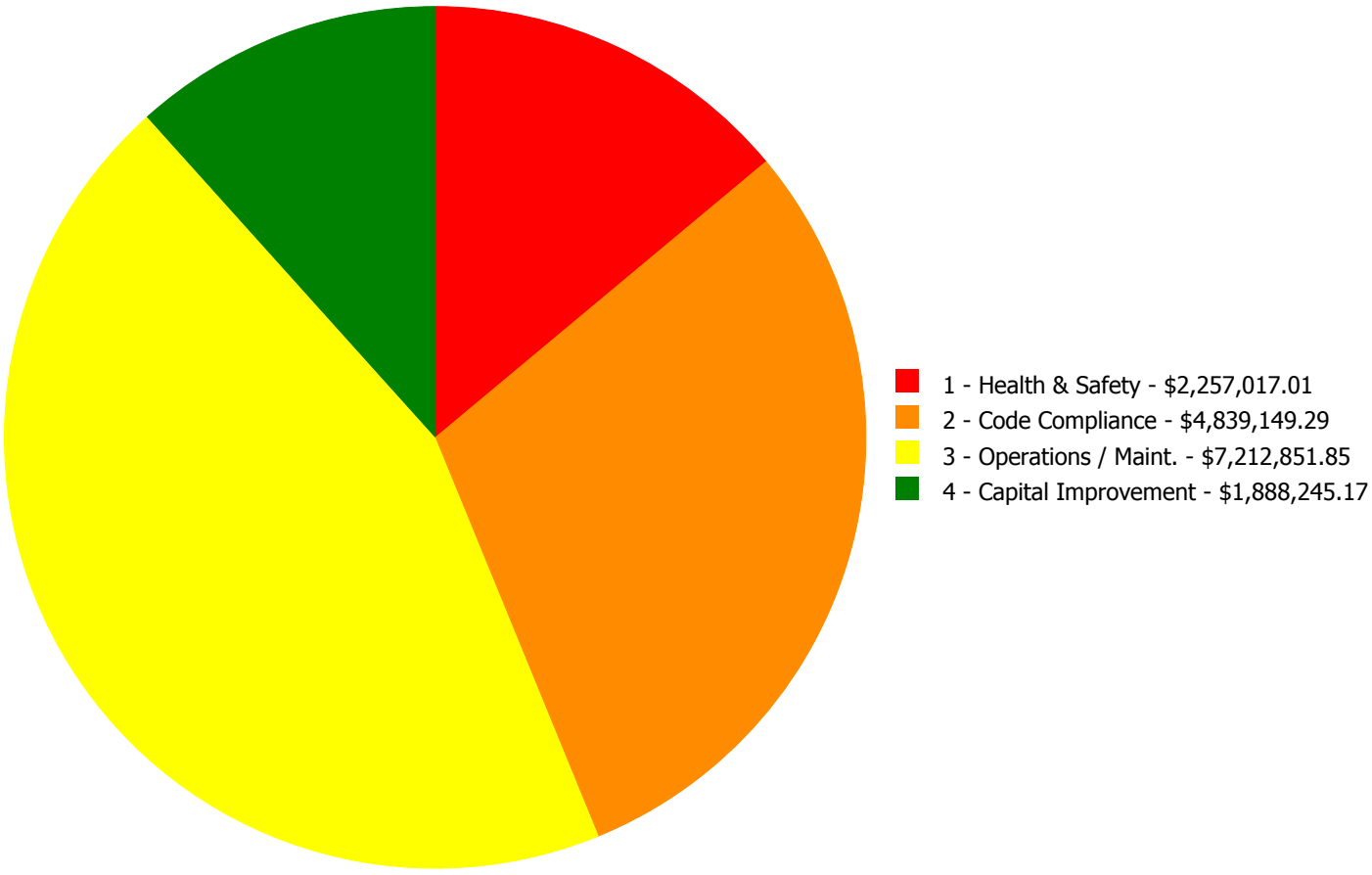
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
C1010	Partitions	$0.00	$0.00	$0.00	$0.00	$419,587.57	$419,587.57
C1020	Interior Doors	$0.00	$238,529.36	$0.00	$0.00	$0.00	$238,529.36
C1030	Fittings	$0.00	$0.00	$32,509.50	$0.00	$29,420.28	$61,929.78
C2010	Stair Construction	$0.00	$0.00	$10,898.62	$0.00	$0.00	$10,898.62
C3020413	Vinyl Flooring	$0.00	$0.00	$606,666.72	$0.00	$0.00	$606,666.72
C3020414	Wood Flooring	$0.00	$0.00	$58,304.14	$0.00	$0.00	$58,304.14
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$0.00	$754,121.51	$754,121.51
D1010	Elevators and Lifts	$0.00	$0.00	$185,585.19	$0.00	$0.00	$185,585.19
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$415,523.15	$0.00	$415,523.15
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$348,221.74	$0.00	$348,221.74
D3020	Heat Generating Systems	$655,796.89	$0.00	$0.00	$0.00	$0.00	$655,796.89
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,316,856.56	$1,316,856.56
D3040	Distribution Systems	$0.00	$0.00	$0.00	$4,839,149.29	$0.00	$4,839,149.29
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$1,759,068.94	$0.00	$1,759,068.94
D4010	Sprinklers	$0.00	$0.00	$0.00	$1,173,048.04	$0.00	$1,173,048.04
D5010	Electrical Service/Distribution	$0.00	$0.00	$1,455,565.46	$0.00	$0.00	$1,455,565.46
D5020	Lighting and Branch Wiring	$0.00	$0.00	$1,167,461.06	$129,176.23	$0.00	$1,296,637.29
D5030	Communications and Security	$0.00	$466,403.63	$0.00	$31,801.20	$0.00	$498,204.83
D5090	Other Electrical Systems	$0.00	$103,568.24	$0.00	$0.00	$0.00	$103,568.24
	Total:	$655,796.89	$808,501.23	$3,516,990.69	$8,695,988.59	$2,519,985.92	$16,197,263.32

Deficiency Summary by Category

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



Budget Estimate Total: $16,197,263.32

Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $655,796.89

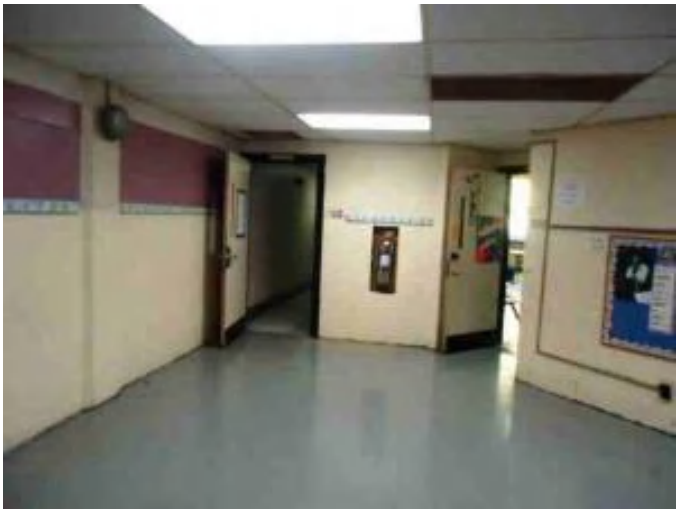
Assessor Name: System

Date Created: 02/18/2016

Notes: Remove and replace two existing cast iron boilers.

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

System: C1020 - Interior Doors



Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 50.00

Unit of Measure: Ea.

Estimate: $238,529.36

Assessor Name: System

Date Created: 02/10/2016

Notes: Interior doors are typically wood in wood frames with wired glass glazing. Other interior doors include wood doors in metal frames, hollow metal in hollow metal frames at the stairwells and exit ways and access doors. Doors are generally in fair condition and is a mix of ADA compliant and non-complaint doors with both non-rated and fire rated. Several of the classroom doors are aging at a faster than normal rate for this application. Numerous repairs to locksets and door hardware have advanced the deterioration of the doors. This deficiency provides a budgetary consideration to replace a portion of the interior doors and frames with consideration for the physically challenged.

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: 82,000.00

Unit of Measure: S.F.

Estimate: $375,221.86

Assessor Name: System

Date Created: 01/29/2016

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

System: D5030 - Communications and Security

Location: Building wide

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add/Replace Video Surveillance System

Qty: 18.00

Unit of Measure: Ea.

Estimate: $91,181.77

Assessor Name: System

Date Created: 01/29/2016

Notes: Replace video surveillance system equipment, including (13) interior cameras, (3) exterior cameras, one digital video recorder (DVR) and one monitor. Add (2) interior cameras in the gymnasium, (1) exterior camera at the Visitor Entrance, and one DVR.

System: D5090 - Other Electrical Systems

Location: Mechanical Room 104A

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace standby generator system

Qty: 1.00

Unit of Measure: Ea.

Estimate: $103,568.24

Assessor Name: System

Date Created: 01/29/2016

Notes: Replace the 10 kW standby generator and automatic transfer switch (ATS). Increase generator size to 60 kW to allow capacity for the hydraulic elevator and additional loads.

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

System: C1030 - Fittings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 120.00

Unit of Measure: Ea.

Estimate: $32,509.50

Assessor Name: System

Date Created: 02/10/2016

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: 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: 700.00

Unit of Measure: L.F.

Estimate: $10,898.62

Assessor Name: System

Date Created: 02/10/2016

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: C3020413 - Vinyl Flooring

Location: Building Wide

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

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

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $606,666.72

Assessor Name: System

Date Created: 02/10/2016

Notes: The floor finish for this school is a combination of 12x12 and 9x9 vinyl tile in the classrooms, gym and administrative area, wood stage floor finish with concrete stairs and some hallway sections. The vinyl tile finish is a 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application. 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: C3020414 - Wood Flooring

Location: Stage

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace wood flooring

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $58,304.14

Assessor Name: System

Date Created: 02/10/2016

Notes: The stage floor finish in the auditorium is a wood floor finish that appears to be from original construction. The system is showing signs of age such as the effects of sanding and refinishing with yearly cleaning and waxing with some repairs. The floor finish is in fair condition however, the finish is beyond its expected life cycle. It is recommended that the damaged wood floor finish be removed and replaced with an in kind finish.

System: D1010 - Elevators and Lifts

Location: Elevator machine room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Upgrade elevator cab and machinery - based on 3 stops, change the stops if required

Qty: 1.00

Unit of Measure: Ea.

Estimate: $185,585.19

Assessor Name: System

Date Created: 01/29/2016

Notes: Replace hydraulic elevator, signals and hall lanterns and upgrade elevator cab.

System: D5010 - Electrical Service/Distribution

Location: Mechanical Room 104A

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Substation

Qty: 1.00

Unit of Measure: Ea.

Estimate: $993,654.17

Assessor Name: System

Date Created: 01/29/2016

Notes: Remove the main entrance substation in Mechanical Room 104A and the chiller substation in Boiler Room 101 and provide a 1000 kVA, 13.2 kV-208/120V, 3 phase pad mount transformer at the southeast corner of the building and a 3000A, 208/120V, 3 phase, 4 wire switchboard located in Mechanical Room 104A to serve all loads, including the chiller, via a step-up 208V-480/277V transformer. Mechanical Room 104A does not have adequate working space in front of the substation and entrance to and egress from the working space, as required by NFPA 70, National Electrical Code Article 110, for the installation of the equipment.

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: 14.00

Unit of Measure: Ea.

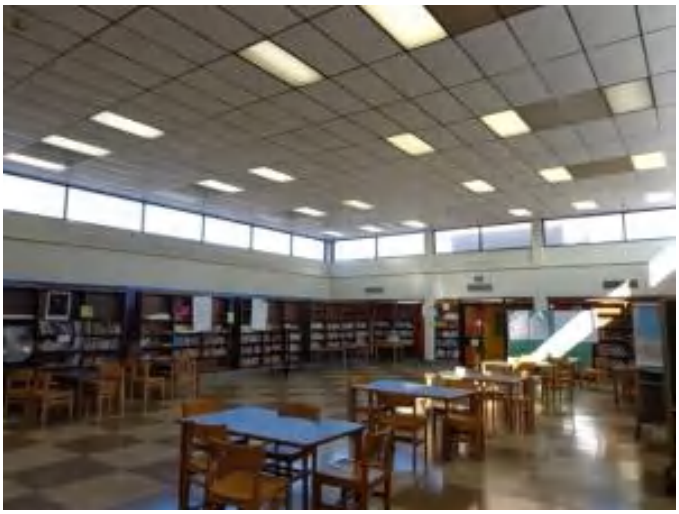
Estimate: $461,911.29

Assessor Name: System

Date Created: 01/29/2016

Notes: Replace all (14) 208/120V panelboards throughout the building, including their feeder conductors.

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: 55,155.00

Unit of Measure: S.F.

Estimate: $995,653.61

Assessor Name: System

Date Created: 01/29/2016

Notes: Replace all fluorescent lighting fixtures having T12 lamps, and associated branch circuit wiring throughout the building, with fixtures having T8 lamps (classrooms and IMC 39,480 SF; offices, restrooms, kitchen, faculty areas and miscellaneous areas 9,720 SF; mechanical and storage areas 5,955 SF).

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: $71,465.22

Assessor Name: System

Date Created: 01/29/2016

Notes: Replace (20) metal halide industrial fixtures in the gymnasium with LED industrial fixtures. Replace incandescent lamps in eight (8) cylinder downlights that are used for emergency lighting with LED lamps.

System: D5020 - Lighting and Branch Wiring

Location: Building exterior

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 37.00

Unit of Measure: Ea.

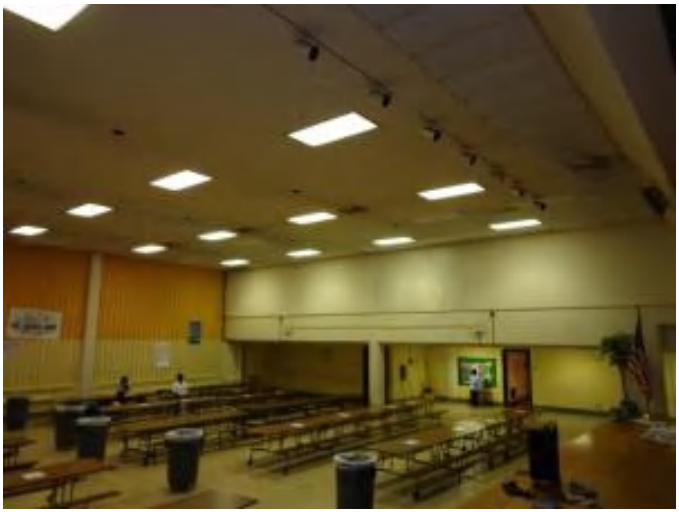
Estimate: $61,775.80

Assessor Name: System

Date Created: 01/29/2016

Notes: Replace (9) recessed lighting fixtures in the overhang on the south side of the building with LED fixtures. Replace (17) wall pack HID floodlights are the perimeter of the building with LED wall packs. Replace (11) wall mounted lighting fixtures at exit discharges with LED 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: 28.00

Unit of Measure: Ea.

Estimate: $25,417.30

Assessor Name: System

Date Created: 01/29/2016

Notes: Replace (20) 2x4 fluorescent lighting fixtures and (8) recessed incandescent fixtures in the cafeteria/auditorium with LED fixtures.

System: D5020 - Lighting and Branch Wiring

Location: Roof and Mech. Penthouses

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 10.00

Unit of Measure: Ea.

Estimate: $13,149.13

Assessor Name: System

Date Created: 01/29/2016

Notes: Replace wall mounted vapor-tight globe type fixtures and weather-proof light switches and receptacles in the (2) mechanical penthouses on the roof and at (3) areas with rooftop mechanical equipment. These fixtures are in poor condition; some are damaged or have missing parts and/or lamps. Total of (10) LED fixtures and (5) each of weather-proof light switches and receptacles.

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

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: 82,000.00

Unit of Measure: S.F.

Estimate: $415,523.15

Assessor Name: System

Date Created: 02/18/2016

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. (+100KSF)

Qty: 82,000.00

Unit of Measure: S.F.

Estimate: $348,221.74

Assessor Name: System

Date Created: 02/18/2016

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

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: 82,000.00

Unit of Measure: S.F.

Estimate: $3,955,609.23

Assessor Name: System

Date Created: 02/18/2016

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: penthouse, 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: 636.00

Unit of Measure: Student

Estimate: $333,462.94

Assessor Name: System

Date Created: 02/18/2016

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

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System: D3040 - Distribution Systems

Location: penthouse, 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: System

Date Created: 02/18/2016

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: first floor, mechanical room

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: System

Date Created: 02/18/2016

Notes: Remove existing and provide a new central station air handling unit for the first floor interior 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: penthouse, 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: 636.00

Unit of Measure: Student

Estimate: $173,114.62

Assessor Name: System

Date Created: 02/18/2016

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: 82,000.00

Unit of Measure: S.F.

Estimate: $1,759,068.94

Assessor Name: System

Date Created: 02/18/2016

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: 82,000.00

Unit of Measure: S.F.

Estimate: $1,173,048.04

Assessor Name: System

Date Created: 02/18/2016

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: 930.00

Unit of Measure: L.F.

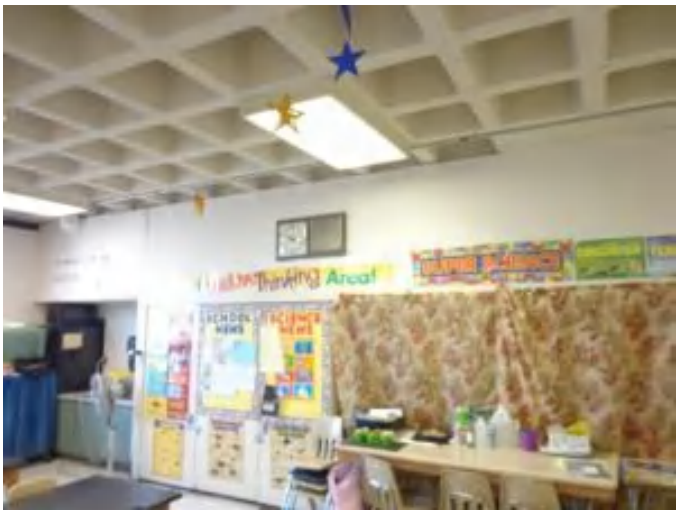
Estimate: $129,176.23

Assessor Name: System

Date Created: 01/29/2016

Notes: Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 31 classrooms.

System: D5030 - Communications and Security



Location: Building wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Provide wireless GPS clock system

Qty: 1.00

Unit of Measure: LS

Estimate: $31,801.20

Assessor Name: System

Date Created: 01/29/2016

Notes: Remove all individual clocks and provide wireless GPS master clock system with battery operated synchronized clocks.

Priority 5 - Response Time (> 5 yrs):

System: C1010 - Partitions

Location: Science Lab

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remodel existing classroom for lab use - approx 900 GSF - with chemical storage room, 15 tables + instructors table

Qty: 1.00

Unit of Measure: Ea.

Estimate: $352,749.08

Assessor Name: System

Date Created: 02/10/2016

Notes: The installation consist of an instruction demonstration desk with sink. Wall mounted storage cabinets and cabinets with sinks for student use. The system is showing signs of age and lack of maintenance such as broken sink fixtures missing cabinet doors and damaged shelves. This deficiency provides a budgetary consideration for the universal upgrade of the science teaching labs to include new counter tops, sink, cabinets, shelves and fixtures required to support a conducive level of education.

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: 3,000.00

Unit of Measure: S.F.

Estimate: $66,838.49

Assessor Name: System

Date Created: 02/10/2016

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: C1030 - Fittings

Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 20.00

Unit of Measure: Ea.

Estimate: $21,493.02

Assessor Name: System

Date Created: 02/10/2016

Notes: Some of the classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade damaged chalk boards to new marker board systems.

System: C1030 - Fittings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace tackboards - select size

Qty: 10.00

Unit of Measure: Ea.

Estimate: $7,927.26

Assessor Name: System

Date Created: 02/10/2016

Notes: There are several tack boards in the hallways for student displays. The systems are damaged and beyond the expected service life for this application. Remove and replace tack boards is recommended.

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: System

Date Created: 02/10/2016

Notes: The ceiling finish is a mix of 12 x 12 ceiling grid, 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 efforts in this report prior to re-opening. 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.

System: D3030 - Cooling Generating Systems

Location: roof, mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 82,000.00

Unit of Measure: S.F.

Estimate: $1,316,856.56

Assessor Name: System

Date Created: 02/18/2016

Notes: Remove or abandon the existing chiller and cooling tower and install a new chilled water system with air cooled chillers, pumps, insulated chilled water distribution piping, chemical treatment and controls. Include electrical connections. Total capacity two hundred forty tons.

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.	Elevator Machine Room	Southeastern Elevator Company	NA	NA		30			$140,070.00	$154,077.00
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, steam, gross output, 3060 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	mechanical room	weil mclain	model 94 series 3			35	1970	2005	$52,610.70	$115,743.54
D3030 Cooling Generating Systems	Chiller, centrifugal, water cooled, packaged hermetic, standard controls, 200 ton	1.00	Ea.	mechanical room	york	ytb2c3b2	mrp311397		30	1990	2020	$152,640.80	$167,904.88
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.	roof	bac				30	1990	2020	$33,963.60	$37,359.96
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 20 H.P., to 1350 GPM, 6" size	1.00	Ea.	mechanical room	paco				25	1970	1995	$23,598.00	$25,957.80
D4010 Sprinklers	Fire pumps, electric, 500 GPM, 50 psi, 27 HP, 1,770 RPM, 4" pump, including controller, fittings and relief valve	1.00	Ea.	mechanical room					35	1970	2005	$22,805.80	$25,086.38
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 1200 A	5.00	Ea.	Main Electrical Room	General Electric	Type QMR	NA		30			$27,696.60	$152,331.30
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 277/480 V, 600 A	1.00	Ea.	Boiler Room	Westinghouse	NA	NA		30			$26,578.80	$29,236.68
D5010 Electrical Service/Distribution	Transformer, dry-type, 3 phase 15 kV primary 277/480 volt secondary, 300 kVA	1.00	Ea.	Main Electrical Room	General Electric	9T26Y5507 G 98			30			$58,995.00	$64,894.50
D5010 Electrical Service/Distribution	Transformer, liquid-filled, 5 kV or 15 kV primary, 277/480 V secondary, 3 phase, 225 kVA, pad mounted	1.00	Ea.	Boiler Room	Westinghouse	NA	NA		30			$22,728.60	$25,001.46
												Total:	**$797,593.50**

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):	151,100
Year Built:	1970
Last Renovation:	
Replacement Value:	$2,814,104
Repair Cost:	$33,235.37
Total FCI:	1.18 %
Total RSLI:	40.88 %

Description:

Attributes:

General Attributes:

Bldg ID:	S447001	Site ID:	S447001

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	38.10 %	1.54 %	$33,235.37
G40 - Site Electrical Utilities	50.00 %	0.00 %	$0.00
Totals:	**40.88 %**	**1.18 %**	**$33,235.37**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2020	Parking Lots	$7.65	S.F.	17,100	30	1970	2000	2027	40.00 %	0.00 %	12			$130,815
G2030	Pedestrian Paving	$11.52	S.F.	111,200	40	1970	2010	2027	30.00 %	1.12 %	12		$14,382.85	$1,281,024
G2040	Site Development	$4.36	S.F.	151,100	25	1970	1995	2027	48.00 %	2.86 %	12		$18,852.52	$658,796
G2050	Landscaping & Irrigation	$3.78	S.F.	22,800	15	1970	1985	2027	80.00 %	0.00 %	12			$86,184
G4020	Site Lighting	$3.58	S.F.	151,100	30	1970	2000	2030	50.00 %	0.00 %	15			$540,938
G4030	Site Communications & Security	$0.77	S.F.	151,100	30	1970	2000	2030	50.00 %	0.00 %	15			$116,347
								Total	**40.88 %**	**1.18 %**			**$33,235.37**	**$2,814,104**

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.

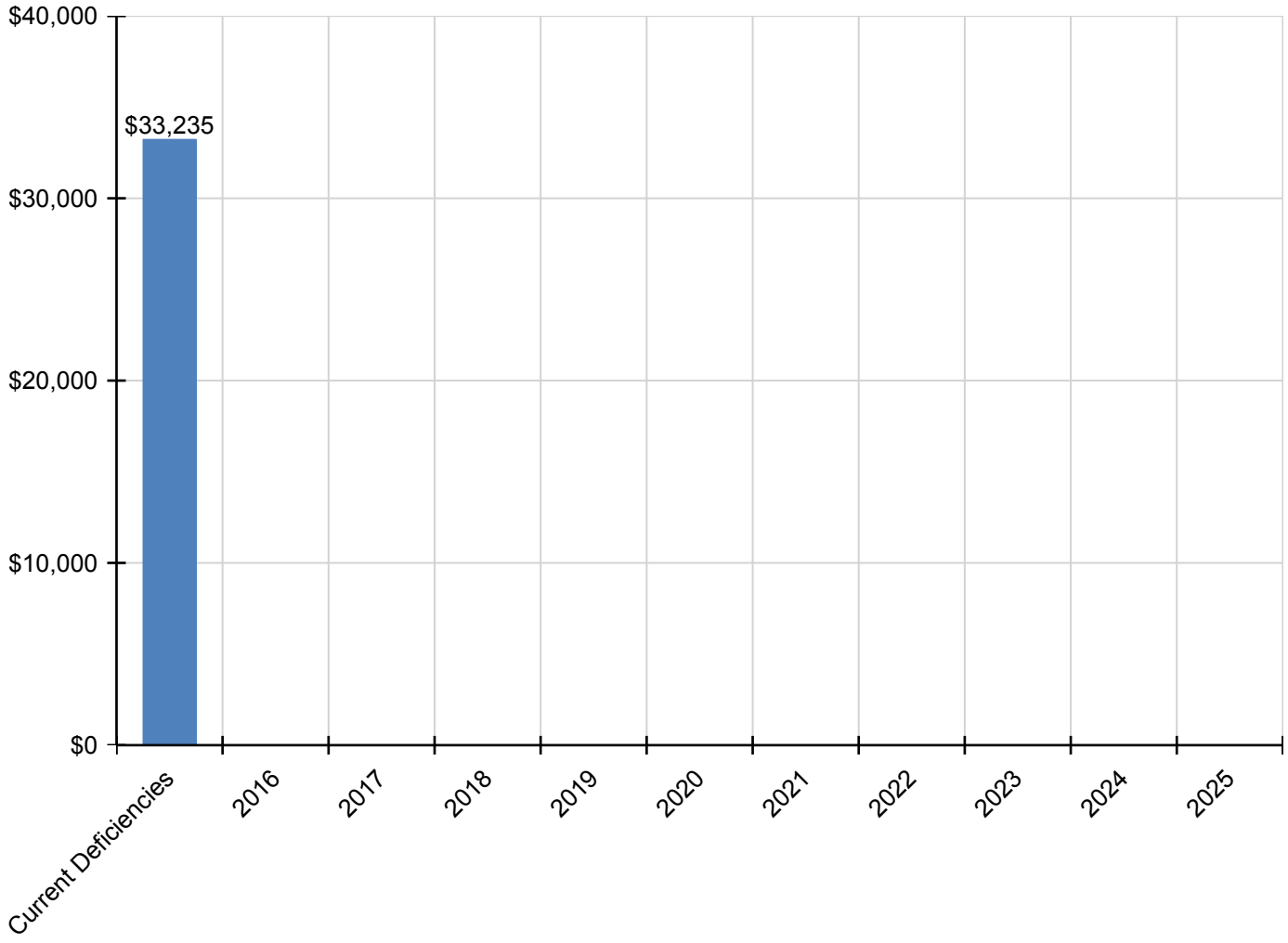
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$33,235**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$33,235**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2030 - Pedestrian Paving	$14,383	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$14,383**
G2040 - Site Development	$18,853	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$18,853**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

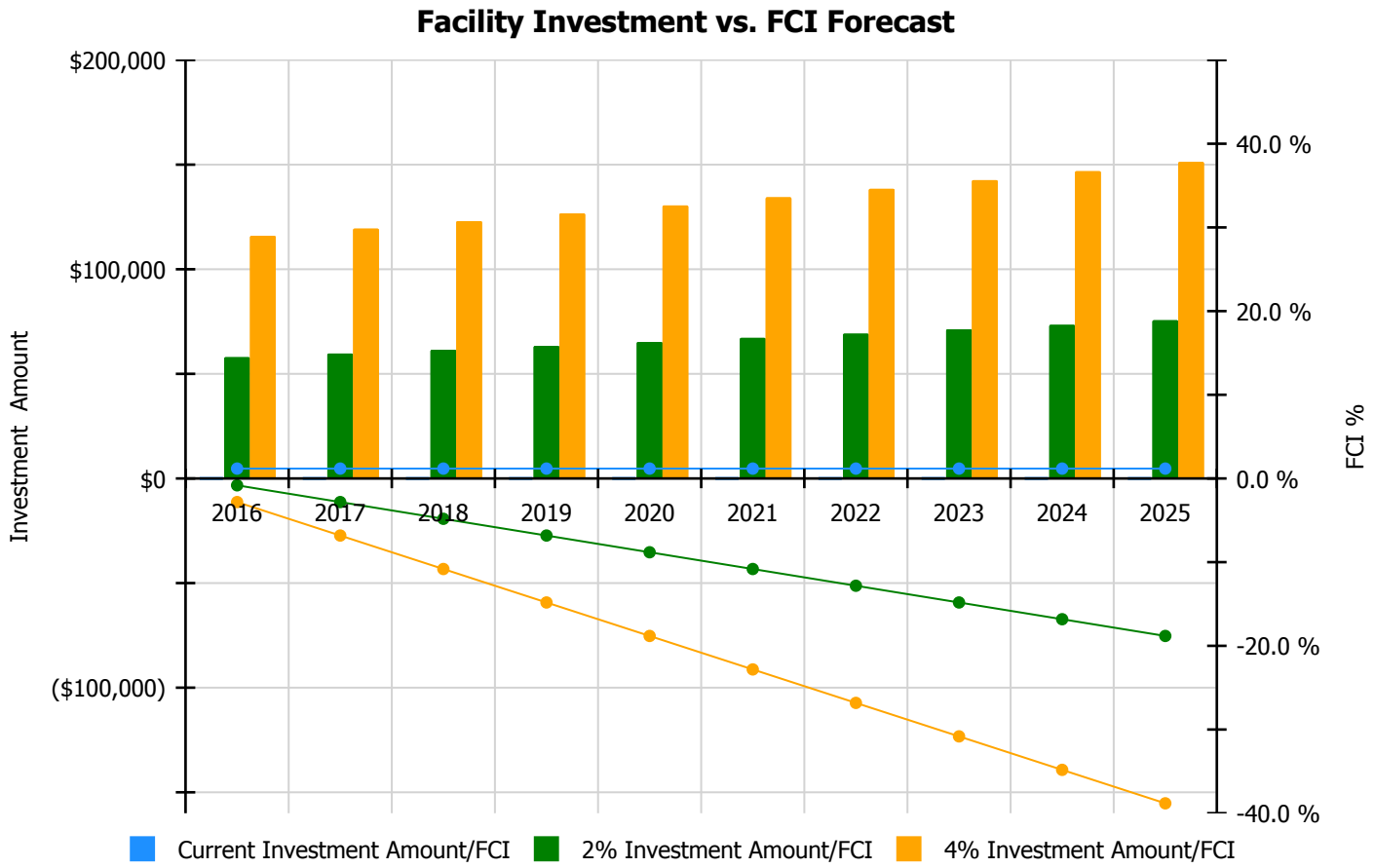
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

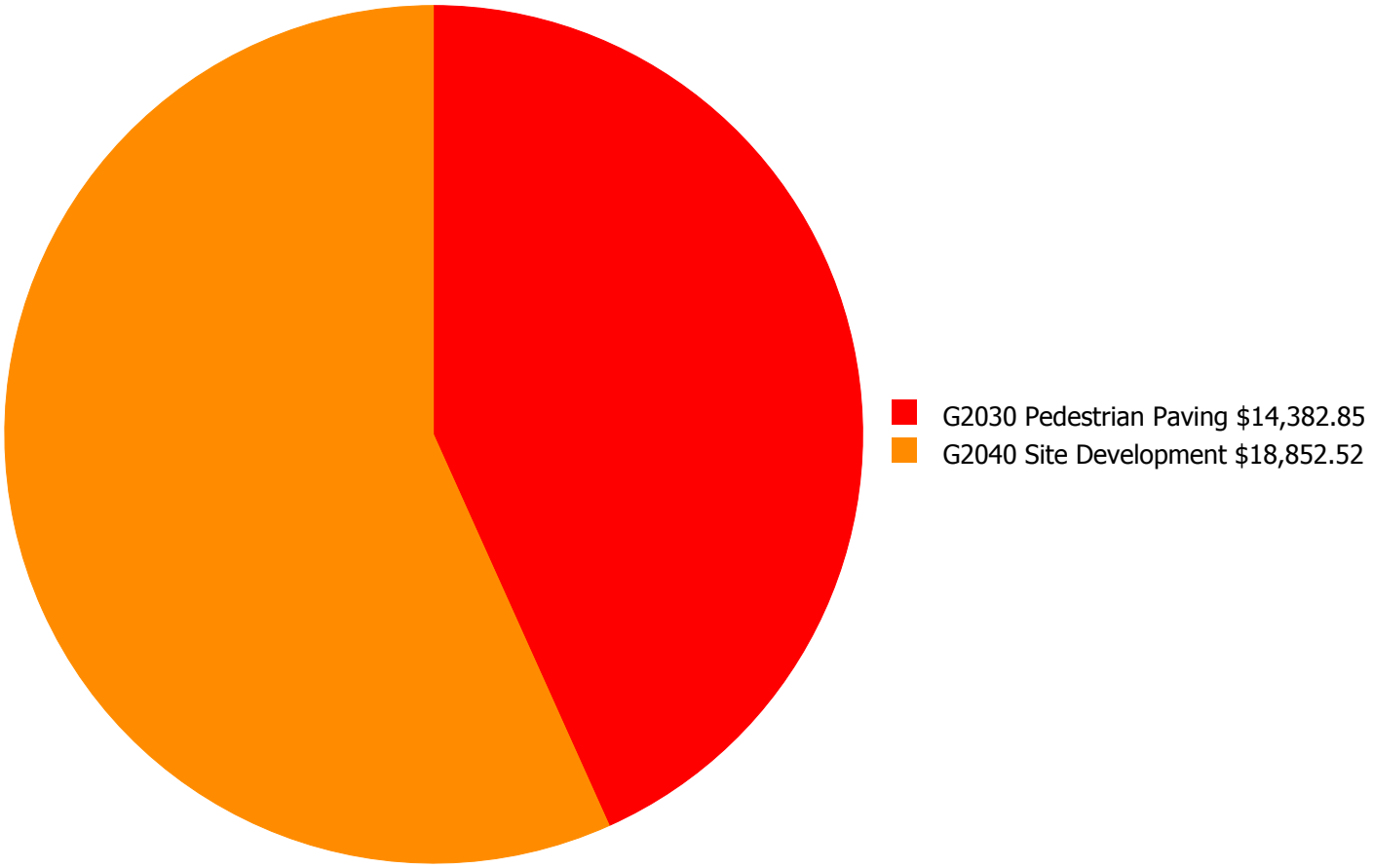
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 1.18%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$57,971.00	-0.82 %	$115,941.00	-2.82 %
2017	$0	$59,710.00	-2.82 %	$119,419.00	-6.82 %
2018	$0	$61,501.00	-4.82 %	$123,002.00	-10.82 %
2019	$0	$63,346.00	-6.82 %	$126,692.00	-14.82 %
2020	$0	$65,246.00	-8.82 %	$130,493.00	-18.82 %
2021	$0	$67,204.00	-10.82 %	$134,407.00	-22.82 %
2022	$0	$69,220.00	-12.82 %	$138,440.00	-26.82 %
2023	$0	$71,296.00	-14.82 %	$142,593.00	-30.82 %
2024	$0	$73,435.00	-16.82 %	$146,871.00	-34.82 %
2025	$0	$75,638.00	-18.82 %	$151,277.00	-38.82 %
Total:	**$0**	**$664,567.00**		**$1,329,135.00**	

Deficiency Summary by System

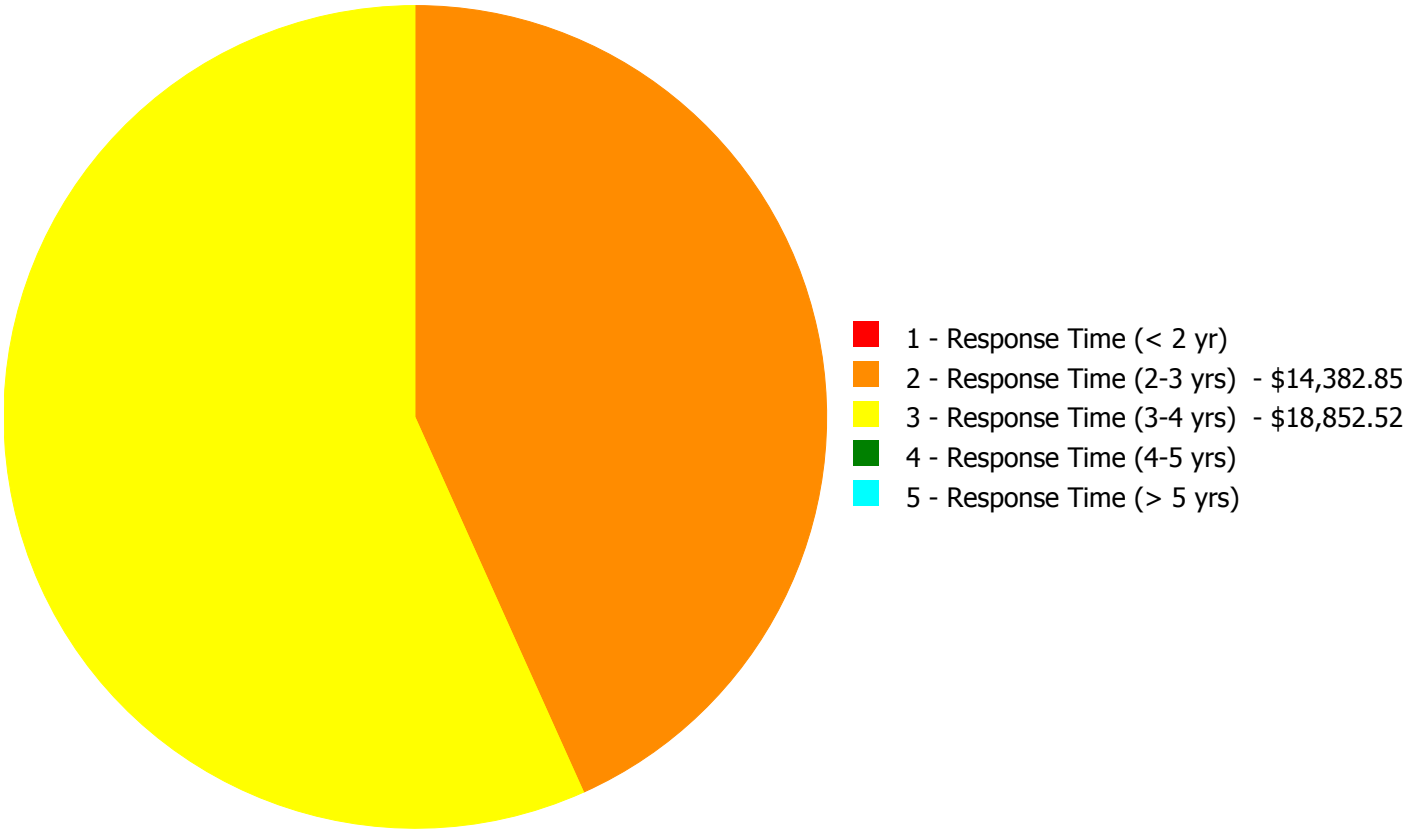
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $33,235.37

Deficiency Summary by Priority

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



Budget Estimate Total: $33,235.37

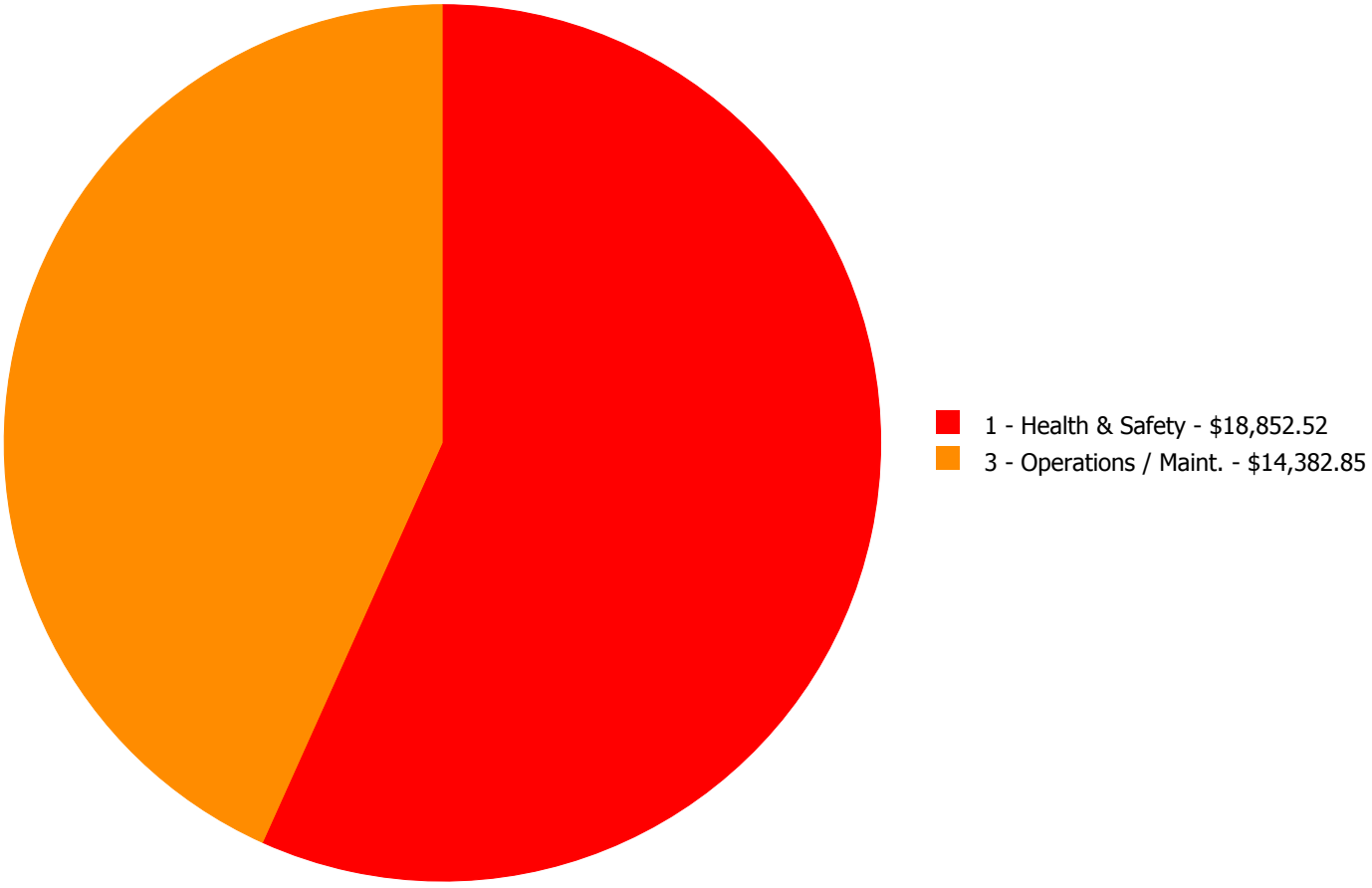
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2030	Pedestrian Paving	$0.00	$14,382.85	$0.00	$0.00	$0.00	$14,382.85
G2040	Site Development	$0.00	$0.00	$18,852.52	$0.00	$0.00	$18,852.52
	Total:	$0.00	$14,382.85	$18,852.52	$0.00	$0.00	$33,235.37

Deficiency Summary by Category

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



Budget Estimate Total: $33,235.37

Deficiency Details by Priority

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

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

System: G2030 - Pedestrian Paving

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $14,382.85

Assessor Name: Hayden Collins

Date Created: 02/10/2016

Notes: The sidewalk system is original to the buildings construction. There are a several areas of cracking concrete but no tripping hazards. The sidewalk system is expected to expire in the near future. Removal of the entire system is recommended. Universal upgrades are required and should include all aspects of current ADA legislation.

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

System: G2040 - Site Development

Location: Site

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Build secure trash dumpster enclosure

Qty: 1.00

Unit of Measure: Ea.

Estimate: $18,852.52

Assessor Name: Craig Anding

Date Created: 02/10/2016

Notes: The trash dumpster is located near the southwestern fence open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area are 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