

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.

Douglass, F School

Governance	CHARTER	Report Type	Elementarymiddle
Address	2118 W. Norris St. Philadelphia, Pa 19121	Enrollment	766
Phone/Fax	215-684-5063 / N/A	Grade Range	'00-08'
Website	Www.Phillyscholars.Org/Ysfd/	Admissions Category	Neighborhood
		Turnaround Model	Renaissance Charter

Building/System FCI Tiers

Facility Condition Index (FCI) = $\frac{\text{Cost of Assessed Deficiencies}}{\text{Replacement Value}}$				
< 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	34.23%	\$19,702,550	\$57,559,102
Building	34.84 %	\$19,630,624	\$56,337,735
Grounds	05.89 %	\$71,926	\$1,221,367

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.59 %	\$677,640	\$756,400
Exterior Walls (Shows condition of the structural condition of the exterior facade)	05.58 %	\$226,026	\$4,047,218
Windows (Shows functionality of exterior windows)	87.10 %	\$1,720,055	\$1,974,815
Exterior Doors (Shows condition of exterior doors)	80.19 %	\$127,502	\$158,994
Interior Doors (Classroom doors)	36.28 %	\$139,630	\$384,875
Interior Walls (Paint and Finishes)	00.00 %	\$0	\$1,736,872
Plumbing Fixtures	05.11 %	\$75,792	\$1,482,482
Boilers	00.00 %	\$0	\$2,047,184
Chillers/Cooling Towers	67.94 %	\$1,823,655	\$2,684,256
Radiators/Unit Ventilators/HVAC	134.16 %	\$6,324,376	\$4,713,896
Heating/Cooling Controls	132.68 %	\$1,964,003	\$1,480,289
Electrical Service and Distribution	27.69 %	\$294,527	\$1,063,615
Lighting	00.20 %	\$7,472	\$3,802,697
Communications and Security (Cameras, Pa System and Fire Alarm)	32.49 %	\$462,758	\$1,424,366

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
S451001; Douglass, F
Final
Site Assessment Report
February 1, 2017



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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 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):	109,651
Year Built:	1940
Last Renovation:	
Replacement Value:	\$57,559,102
Repair Cost:	\$19,702,550.36
Total FCI:	34.23 %
Total RSLI:	52.29 %



Description:

Facility Assessment

July 2015

School District of Philadelphia

Young Scholars Fredrick Douglass Charter School

2118 W Norris St.

Philadelphia, PA 19121

109,651 SF / 994 Students / LN 04

GENERAL

The Young Scholars Fredrick Douglass Charter School is identified as B451001 and was originally constructed as the Fredrick Douglass

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Elementary School a Philadelphia Public School. This facility is located at 2118 W Norris St, Philadelphia, PA. The design of the L-shaped, concrete and steel-framed building includes brick facades with a concrete foundation and detailing.

The main entrance faces the eastern exterior on West Twenty-Second Street. This School serves students in grades K to 8. This school was reported to have been constructed in 1940 and consist of a Basement level and three additional stories with a total gross square footage of 109,651 GSF.

This school has several classrooms, a library, kitchen and student commons, Auditorium and cafeteria, with supporting administrative spaces. Special note the existing paintings on the side of the school near the entrances depicting the children of age attending the school. The information for this report was collected during a site visit on July 21, 2015.

Mr. Neil Dwyer, Assistant Principal of Operations, and Mr. Alfred E. Howard, Director of Facilities for Mastery Charter Schools, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history.

Architectural / Structural Systems

Foundations are concrete and in very good condition. There were no issues related to the basement walls or foundation that surfaced during the time of the inspection. Therefore no recommendations are required at this time.

The superstructure is a combination of masonry, steel and wooden supports. The floor and roof construction is in good condition and no recommendations are warranted at this time.

The main entrance of this school is decorated with a building wide painting supporting the efforts of education. Also, directly over the entranceway there is a concrete image of Senator Fredrick Douglass in very good condition. Care should be taken to protect this surface and image of this school during the recommended corrections for this school.

The exterior brick surfaces are generally in fair to good condition for their age. In some locations, bricks have cracked or spalled and should be replaced. The repointing of deteriorated mortar joints is also recommended, using mortar of a similar color and consistency as the original. Following the detailed examination of the brick and repair of mortar construction joints, the entire building should be pressure washed to remove stains and embedded pollutants. If moisture is found to be penetrating the masonry facade, the application of a spray sealant to the suspected exterior masonry surface is recommended.

Exterior windows have been upgraded from the original applications. The current system is estimated to have been installed in the 1990's. Several windows no longer work and will require attention prior to an overall effort. Windows are in fair condition based on the year of installation or last renovation. The exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system, store front and service doors are recommended for upgrade.

There are a four roof sections and different roof elevations ranging from the main roof to the mechanical roof. Parapet heights, coping materials, and the height of the flashing also varies in different sections. The main roof is a built up application that was reported to have been installed in the early 1990'S. As indicated in the photos sections of the roof is showing conditions that lead to failure such as ponding. Also note the recent roof repairs that have been completed near the access point and on the main level. Considering the age and condition of the roofing systems, universal upgrades are recommended. Remove and replace all roof sections.

As you enter the main entrance to access the office there is an attendance desk located between the stair railing and the wall which limits fire egress. Care should be taken to remove this obstacle from the egress path. This does not warrant a deficiency as all that is required is to clear the path of travel.

Special consideration for those that may be physically challenged was not a main factor in the last construction effort. Currently, there is a single dedicated entrance that serves as the exterior ADA access point. The path of travel is clear from this access points as the interior path of travel is supported by a wheelchair lift, two elevators, compliant signage, restrooms amities, a mix of compliant and non-compliant door hardware, hand rails and guard rails that will require modifications to meet the needs of the physically challenged.

The building has received limited upgrades and does not fully support a path of travel for those that may be physically challenged.

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Interior partitions consist of CMU plaster board and glazed block. The finishes are in good condition however there are several recommendations included in this report to enhance the interior finishes and support modern code.

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.

A large portion of the interior doors are code compliant with both ADA and are fire rated. However, several interior doors are typically wood in wood frames with transom lites or sidelights, glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems.

There are several areas that have independent transoms that will require modification to meet current standards and codes. As indicated in the photos several areas will require additional work outside of the recommended door and transom upgrade project as the doors are in good condition however, the transoms are deficient. This deficiency provides a budgetary consideration to modify these issues. Remove and replace transoms are required.

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.

Several of the chalk boards have been upgraded from the original construction of this school however several are original to the buildings construction. These systems are beyond its expected life and universal upgrades are warranted. Remove and upgrade remaining chalkboards to new marker board systems.

There is a mix of tack boards in this school that range from the age and condition. There are several tack boards in the classrooms and hallways for student displays. The classroom tack boards are newer and in better shape; however, the hallway board appears to be original. The systems are beyond the expected service life for this application. Remove and replace the hallway tack boards is recommended.

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 stair construction is concrete or terrazzo depending on the location of the stair. The doors to the stair systems are code compliant and have proper fire tags on the doors and frames. There are no recommendations for the stair or fire doors at this time.

The interior finishes consist of a painted plaster finish with ceramic block, polished brick and painted CMU.

The interior finishes are in good condition and will require an almost continuous program of renewal of the applied finishes to maintain an acceptable appearance. The cyclical painting program at years end is the best approach to maintaining the quality of the interior finishes. Considering the condition of the painted interior surfaces there are no recommendations required at this time.

The interior carpet finish was installed approximately in 2000 and is in fair condition considering the age and high traffic conditions. This finish will exceed its expected life within the next five years and is recommended for removal and replacement.

This school has a mix of interior floors from Terrazzo, vinyl, concrete to wood and carpet finishes. The Terrazzo, concrete and 12x12 vinyl finishes are in good condition. There were no issues that surfaced during the time of the inspection therefore no recommendations are required at this time. The following recommendations are for the carpet, vinyl and wooden floors.

The interior carpet finish was installed approximately in 2000 and is in fair condition considering the age and high traffic conditions. This finish will exceed its expected life within the next five years and is recommended for removal and replacement.

The vinyl floor finish in most of this school is in very good condition and appears to have part of an isolated upgrade. Some of the original flooring that was not a part of that effort consists of a 9x9 finish. This finish is suspect to contain asbestos and is recommended for upgrade. Remove and replace with a 12x12 vinyl tile application.

The classrooms and auditorium in this school have a wooden 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 wooden 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 are in good condition considering the age of the application and the current condition of the school. However there are sections that are stained and damaged that will require upgrades. The ceiling finish is expected to require upgrades to support the recommended efforts in this report. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school.

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

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories and urinals and both wall and floor mounted water closets. Most lavatories have dual wheel handle faucets and urinals and water closets have manual lever flush valves. Custodial closets have cast iron service sinks or mop basins. There are some stainless steel counter top sinks. There are single level stainless steel water coolers with integral refrigeration and china drinking fountains with no refrigeration. There is no grease trap. Water heating is provided by two gas Paloma instantaneous water heaters in the basement mechanical room, each with a small inline circulating pump and a common inline recirculating pump for the distribution system. There is no domestic water booster pump system, and there are low pressure problems on the upper level. The domestic water system includes a water softener system. Two older duplex sump pumps are located in a portion of the mechanical room.

Water piping has been replaced since the original installation with copper, but may contain lead solder based on age. Sanitary, waste, vent and rainwater piping is original installation hub and spigot cast iron, with some hubless cast iron where additions or damage has occurred. The water service is a three inch line and meter from N. Van Pelt St., located in the mechanical room. There is no backflow preventer. Gas service is a six inch line with a booster system connected at N. Van Pelt St., located in the mechanical room. Gas piping is welded black steel.

The water heaters should be serviceable up to ten more years. Domestic water piping should be replaced based on age and normal service life. All the drinking fountains should be replaced based on age and condition. Other plumbing fixtures should be serviceable five to ten more years.

HVAC-The building is heated by steam and hot water generated by three Weil McLain cast iron sectional boilers. The boilers are model 94 series 3 gas and oil fired one hundred sixty five hp each installed in 1980. Each unit has a Powerflame burner and control panel, separate oil pump and is connected to a common factory fabricated vent system routed through an existing chimney to a roof cap. One of the boilers has been inoperable for 1-1/2 years and is currently being refurbished with new sections. There is a two hundred gallon steel oil tank on a frame in the mechanical room and an underground oil tank, capacity and condition unknown. A duplex fuel oil pump system in the mechanical room provides circulation. Two old abandoned boilers are in the basement electrical room. Hot water is provided by two small steam to water shell and tube heat exchangers installed overhead in the mechanical room with two inline pumps. A Shipco condensate return and boiler feed unit serves the boilers. The unit has four small pumps with one being a spare and two of the pumps have newer motors.

Both the old and newer building areas have unit ventilators in classrooms and some other areas. The older units have steam heating coils and the newer units are Nesbitt units with hot water coils. Units include outside air damper, filter, blower and motor, control valve and controls. Steam and hot water radiation units are located at entrances, toilet rooms, cafeteria and other areas requiring heat. Reportedly most steam control valves and traps and hot water control valves are inoperable. An old central house fan heating and ventilating unit in the mechanical room is inoperable.

There is no central air conditioning. The building has window air conditioners and a ductless split system for the IT room with the condensing unit mounted on the exterior wall. The kitchen has a wall propeller fan and a small exterior wall fan with ductwork. The boiler room has two combustion air louvers with motorized dampers for combustion air. Three centrifugal roof ventilators and one wall centrifugal fan provide toilet exhaust.

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Large heating water piping, steam and condensate return is insulated welded black steel, with smaller piping having threaded fittings. Fuel oil piping is black steel with screwed fittings.

There are old pneumatic control systems with a duplex controls air compressor in the mechanical room. Boilers are individually controlled by the burner control panels.

The boilers should be scheduled for replacement during the next five years. The older and newer unit ventilators have exceeded the anticipated service life and should be replaced along with piping, pumps and heat exchangers. A new direct digital control and building automation system should be installed. New central station air handling units should be installed for the cafeteria and auditorium.

FIRE PROTECTION- There are standpipes with fire hose connections in the older portion of the building but no fire protection in the addition area.

ELECTRICAL SYSTEMS

Electrical Service-- The building is served by PECO Energy Company from a utility-owned pad mounted transformer located adjacent to W. Norris Street on the north side of the building. Secondary service is routed underground to an Eaton Cutler-Hammer 2500A, 208/120V, 3 phase, 4 wire Main Switchboard located in the Boiler Room in the Basement. The Main Switchboard has an incoming section with a 2500A main circuit breaker section with power monitoring device and transient voltage surge suppressor, and one distribution section. The distribution section feeds automatic transfer switches (ATS) ATS-1 and ATS-2, Distribution Panelboards DPBA-1 and DPBA-2, and all panelboards throughout the building. Except for Panelboards PPBR and LPBR, located in the Boiler Room, all electrical distribution system equipment, including panelboards on each floor, was replaced in a 2009 electrical system upgrade project. The distribution system equipment has a remaining useful life expectancy of more than 20 years.

Panelboards ITRP1, ITRP2 and ITRP3 are located on Floors 1, 2 and 3, respectively, and were installed in 2009 to serve IT receptacles in classrooms. There are also a few classrooms that have panelboards within their room.

The addition of a central air conditioning system for the building will require a second underground service from the pad mount transformer to a main service disconnecting means and distribution section with feeder circuit breakers to supply HVAC equipment.

Receptacles-- Classrooms are supplied with an adequate quantity of receptacles. A surface raceway system with duplex and/or quadruplex receptacles was installed in classrooms in the 2009 upgrade project. Duplex and quadruplex receptacles are typically installed on the front and back walls of classrooms. These wiring devices have a remaining useful life expectancy of more than 14 years.

Lighting--The lighting systems in the school consists mainly of recessed fluorescent troffers with acrylic lenses in grid ceilings and ceiling mounted modular fluorescent or wraparound fixtures in rooms without ceilings. Fluorescent lamps are T8.ooms. Classroom lighting is controlled by two switches and occupancy sensors.

Fixtures in the corridors and offices are typically 2x4, 2 lamp grid troffers. Restrooms and stairwells are provided with 1x4 surface mounted wraparound fluorescent fixtures. Occupancy sensors are provided in offices and restrooms for controlling lighting. Industrial fluorescent fixtures are provided in mechanical spaces.

There are some damaged lighting fixtures in the Basement corridor between the Recreation Room and the elevator that need to be replaced. Also, the illumination level in the food preparation room north of the Recreation Room is poorly illuminated, with readings measured between 13 and 31 footcandles. The 2 lamp wraparound fluorescent fixtures should be replaced with 4 lamp fixtures.

The auditorium has surface mounted square HID lighting halide fixtures and (5) fluorescent wraparound fixtures. The platform has 2 lamp industrial fluorescent fixtures for worklights.

The recreation room is illuminated with (32) 4 lamp surface mounted fluorescent lensed fixtures.

Exterior lighting fixtures are mounted above the doors at exit discharges.

Fire Alarm System-- The fire alarm system is an obsolete 120 volt wired system that includes manual pull stations and bell notification appliances. Pull station mounting heights exceed ADA requirements. There are no visual notification appliances. There are a few smoke detectors in the corridors of the 1963 addition. The fire alarm control panel (FACP) is by S.H. Couch Company and is located in the Boiler Room. There is also a remote fire alarm annunciator panel located in Main Office 100. The system has exceeded its useful life and needs to be replaced to meet current NFPA codes and ADA requirements.

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Telephone/LAN-- The incoming telephone demarcation is in Room 201A, along with IT data racks and wireless master clock. A telephone and data outlet is provided in all classrooms. Wireless access points are provided in classrooms, corridors, auditorium, recreation room and offices for Wi-Fi coverage throughout the school.

Public Address/Paging/Sound Systems-- The paging system is accessed through the telephone system. Classrooms and have ceiling recessed speakers that replaced obsolete wall mounted speakers abandoned in place in both classrooms and corridors. Corridors either have recessed or wall walled speakers. The auditorium has a separate sound system cabinet by General Sound with speakers mounted on each side of the platform and on the back wall. The recreation room also has wall mounted sound system speakers on the back wall. The remaining useful life expectancy of these systems is more than 10 years.

Clock and Program System--There is a wall mounted Sapling synchronized master clock located in IT Room 201A with wireless analog clocks located in classrooms, auditorium, recreation room and offices.

Television System—Cable television outlets are provided in classrooms. The Blonder-Tongue headend equipment cabinet is wall mounted in the southeast corner of the Library located in the Basement.

Video Surveillance and Security Systems—video surveillance cameras are located in corridors, auditorium and recreation room and at the main entrance. Magnetic door contacts are provided on stairwell doors to monitor ingress/egress. There is an Aiphone intercom station at the Visitor's Entrance.

Emergency Power System--There is an Onsite Energy 50 kW/63 kVA standby generator with 110 gallon sub-base fuel oil tank and main circuit breaker located in the Boiler Room. The generator feeds Panelboard GDP, which supplies Panelboard ELP and automatic transfer switches ATS-1 and ATS-2. Panelboard ELP serves mainly emergency lighting loads. Panelboard EPPB is fed from one of the transfer switches.

Emergency Lighting System / Exit Lighting-- Emergency egress lighting is provided by selected lighting fixtures powered from the standby generator. Exit signs are also wired on the standby generator. Exit sign locations are adequate and signage is in good condition.

Lightning Protection System-- There is no lightning protection system for this structure.

Conveying Systems--There is one electric traction elevator that appears to be original to the 1963 addition project, and has exceeded its 35 year useful life. The elevator cab has been modernized, but the machine room and hoist system needs to be upgraded to meet current code requirements.

GROUNDS

There are no paved driveways the parking lot is on the southern exterior of the school. The parking lots are in fair condition and will require service within the next ten years. The sidewalk systems are in very good condition and the landscaping although scarce is well maintained and in good condition.

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 asphalt play area is developing cracks that may turn into tripping hazards. It is recommended that the cracks be filled and the play area be resealed with proper area markers to support the sports activities of the schools physical education requirements.

Site Lighting-- The parking lot and playground areas are illuminated by wall mounted HID floodlights along the perimeter of the building. There are no pole mounted site lighting fixtures in the paved areas.

Site Video Surveillance-- Only two cameras were observed on the building exterior; one at the main entrance and one covering the parking lot on the south side of the building. It is recommended that two additional cameras be added on the west side of the building to provide coverage of the paved play area.

Site Paging-- There is an exterior horn type speaker on the original building that provides coverage of the play area. It is recommended that another speaker be provide at the southwest corner of the 1963 building addition to provided better coverage at the south end of the play area.

RECOMMENDATIONS

- Replace auditorium seating
- Remove and replace stage curtain
- Upgrade Ceilings
- Remove and replace wood flooring
- Remove VAT and replace with VCT
- Remove and replace carpet
- Replace inadequate or install proper stair railing
- Remove and replace tack boards
- Replace blackboards with marker boards
- Replace missing or damaged signage
- Remove non-rated interior glass panels and replace with studs, gypsum board, paint (E) wall
- Remove and replace interior doors - wood doors with wood frame - per leaf
- Remove folding wood partitions; replace with metal studs and gypsum board painted
- Remove and Replace Built Up Roof
- Upgrade exterior door system
- Upgrade exterior windows
- Point and tuck exterior surface
- Build secure trash dumpster enclosure
- Remove egress obstacles
- Repair asphalt systems
- 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 the existing window air conditioning units and install a 275 ton air-cooled chiller on the roof with chilled water distribution piping, two pumps, chemical treatment and controls located in a mechanical room on the basement level.
- Install complete NFPA wet pipe automatic sprinkler system and standpipes. If required provide fire pump and jockey pump with controller.
- Provide a new central station air handling unit for the 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.
- Provide a new central station air handling unit for the cafeteria 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.
- 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.
- Install one ton ductless DX split system to cool elevator equipment penthouse. Locate condensing unit on adjacent roof. Include refrigerant line set and drain line.
- Replace all water coolers and drinking fountains with stainless water coolers with integral refrigeration. Include fittings and trim.
- Replace domestic hot and cold water piping including valves, fittings, hangars and insulation.
- Provide new domestic water booster pump system with two pumps, pressure tank, and controls. Connect to main domestic water line.
- Replace check valve assembly in main water service with approved reduced pressure backflow assembly.
- Replace Panelboards PPBR and LPBR in the Boiler Room.
- Provide a separate underground service from the pad mount transformer to a second main service disconnecting means and distribution section with feeder circuit breakers to supply HVAC equipment for the addition of a central air conditioning system for the building.
- Replace (6) damaged fluorescent lighting fixtures in the Basement corridor between the Recreation Room and the elevator. Also, replace (2) wraparound fluorescent fixtures in the food preparation room north of the Recreation Room to increase illumination level.
- Replace obsolete fire alarm system with addressable fire alarm system that meets urrent NFPA codes and ADA requirements.
- Provide upgrade of elevator machine room and hoist system.
- Provide two additional video surveillance cameras on the west side of the building for coverage of the paved play area.
- Add horn type speaker at the southwest side of the 1963 building addition to provide coverage at the south end of the play area.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 1 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S451001		

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.

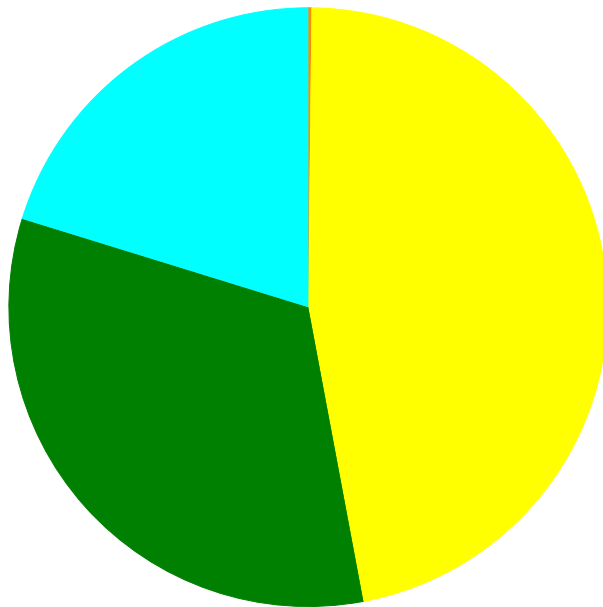
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	25.00 %	0.00 %	\$0.00
A20 - Basement Construction	25.00 %	0.00 %	\$0.00
B10 - Superstructure	25.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	43.88 %	33.55 %	\$2,073,584.25
B30 - Roofing	90.00 %	89.59 %	\$677,640.22
C10 - Interior Construction	26.75 %	12.06 %	\$324,437.88
C20 - Stairs	25.00 %	131.06 %	\$202,635.36
C30 - Interior Finishes	38.66 %	28.35 %	\$2,242,013.64
D10 - Conveying	105.71 %	52.68 %	\$88,387.07
D20 - Plumbing	46.93 %	48.27 %	\$1,080,727.58
D30 - HVAC	94.83 %	83.02 %	\$10,126,675.92
D40 - Fire Protection	105.71 %	177.49 %	\$1,568,605.80
D50 - Electrical	69.68 %	11.87 %	\$764,756.96
E10 - Equipment	16.28 %	0.00 %	\$0.00
E20 - Furnishings	105.00 %	206.01 %	\$481,159.35
G20 - Site Improvements	38.37 %	3.50 %	\$32,679.13
G40 - Site Electrical Utilities	33.33 %	13.59 %	\$39,247.20
Totals:	52.29 %	34.23 %	\$19,702,550.36

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)
B451001;Douglass, F	109,651	34.84	\$0.00	\$34,027.02	\$9,236,642.25	\$6,431,744.84	\$3,928,209.92
G451001;Grounds	66,400	5.89	\$0.00	\$0.00	\$0.00	\$13,826.61	\$58,099.72
Total:		34.23	\$0.00	\$34,027.02	\$9,236,642.25	\$6,445,571.45	\$3,986,309.64

Deficiencies By Priority



- 1 - Response Time (< 2 yr)
- 2 - Response Time (2-3 yrs) - \$34,027.02
- 3 - Response Time (3-4 yrs) - \$9,236,642.25
- 4 - Response Time (4-5 yrs) - \$6,445,571.45
- 5 - Response Time (> 5 yrs) - \$3,986,309.64

Budget Estimate Total: \$19,702,550.36

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):	109,651
Year Built:	1940
Last Renovation:	
Replacement Value:	\$56,337,735
Repair Cost:	\$19,630,624.03
Total FCI:	34.84 %
Total RSLI:	52.61 %



Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B451001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S451001		

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	25.00 %	0.00 %	\$0.00
A20 - Basement Construction	25.00 %	0.00 %	\$0.00
B10 - Superstructure	25.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	43.88 %	33.55 %	\$2,073,584.25
B30 - Roofing	90.00 %	89.59 %	\$677,640.22
C10 - Interior Construction	26.75 %	12.06 %	\$324,437.88
C20 - Stairs	25.00 %	131.06 %	\$202,635.36
C30 - Interior Finishes	38.66 %	28.35 %	\$2,242,013.64
D10 - Conveying	105.71 %	52.68 %	\$88,387.07
D20 - Plumbing	46.93 %	48.27 %	\$1,080,727.58
D30 - HVAC	94.83 %	83.02 %	\$10,126,675.92
D40 - Fire Protection	105.71 %	177.49 %	\$1,568,605.80
D50 - Electrical	69.68 %	11.87 %	\$764,756.96
E10 - Equipment	16.28 %	0.00 %	\$0.00
E20 - Furnishings	105.00 %	206.01 %	\$481,159.35
Totals:	52.61 %	34.84 %	\$19,630,624.03

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 the system based on Building Owners and Managers Association (BOMA) recommendations.
7. Year Installed: The date of system installation.
8. Calc Next Renewal Year: The date of system expiration based on the life, NR stands for non renewable.
9. Next Renewal Year: The suggested system expiration date by the assessor based on visual inspection.
10. CI: The Condition Index of the system.
11. FCI: The Facility Condition Index of the system.
12. RSL: Remaining Service Life.
13. eCR: eCOMET Condition Rating (not used).
14. Deficiency \$: The financial investment to repair/replace system.

System Listing

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

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

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

System Code	System Description	Unit Price \$	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
A1010	Standard Foundations	\$18.40	S.F.	109,651	100	1940	2040		25.00 %	0.00 %	25			\$2,017,578
A1030	Slab on Grade	\$7.73	S.F.	109,651	100	1940	2040		25.00 %	0.00 %	25			\$847,602
A2010	Basement Excavation	\$6.55	S.F.	109,651	100	1940	2040		25.00 %	0.00 %	25			\$718,214
A2020	Basement Walls	\$12.70	S.F.	109,651	100	1940	2040		25.00 %	0.00 %	25			\$1,392,568
B1010	Floor Construction	\$75.10	S.F.	109,651	100	1940	2040		25.00 %	0.00 %	25			\$8,234,790
B1020	Roof Construction	\$13.88	S.F.	109,651	100	1940	2040		25.00 %	0.00 %	25			\$1,521,956
B2010	Exterior Walls	\$36.91	S.F.	109,651	100	1940	2040		25.00 %	5.58 %	25		\$226,026.30	\$4,047,218
B2020	Exterior Windows	\$18.01	S.F.	109,651	40	1940	1980	2047	80.00 %	87.10 %	32		\$1,720,055.46	\$1,974,815
B2030	Exterior Doors	\$1.45	S.F.	109,651	25	1940	1965	2034	76.00 %	80.19 %	19		\$127,502.49	\$158,994
B3010105	Built-Up	\$37.76	S.F.	20,000	20	1980	2000	2033	90.00 %	89.73 %	18		\$677,640.22	\$755,200
B3020	Roof Openings	\$0.06	S.F.	20,000	20	1980	2000	2033	90.00 %	0.00 %	18			\$1,200
C1010	Partitions	\$17.91	S.F.	109,651	100	1940	2040		25.00 %	4.99 %	25		\$98,057.64	\$1,963,849
C1020	Interior Doors	\$3.51	S.F.	109,651	40	1940	1980	2029	35.00 %	36.28 %	14		\$139,630.17	\$384,875
C1030	Fittings	\$3.12	S.F.	109,651	40	1940	1980	2026	27.50 %	25.36 %	11		\$86,750.07	\$342,111
C2010	Stair Construction	\$1.41	S.F.	109,651	100	1940	2040		25.00 %	131.06 %	25		\$202,635.36	\$154,608
C3010230	Paint & Covering	\$13.21	S.F.	109,651	10	2011	2021		60.00 %	0.00 %	6			\$1,448,490
C3010232	Wall Tile	\$2.63	S.F.	109,651	30	1990	2020		16.67 %	0.00 %	5			\$288,382
C3020411	Carpet	\$7.30	S.F.	1,651	10	2011	2021		60.00 %	153.30 %	6		\$18,475.93	\$12,052

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System Code	System Description	Unit Price \$	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
C3020412	Terrazzo & Tile	\$75.52	S.F.	40,000	50	1940	1990	2025	20.00 %	0.00 %	10			\$3,020,800
C3020413	Vinyl Flooring	\$9.68	S.F.	40,000	20	1940	1960	2031	80.00 %	78.34 %	16		\$303,333.36	\$387,200
C3020414	Wood Flooring	\$22.27	S.F.	20,000	25	1940	1965	2042	108.00 %	261.81 %	27		\$1,166,082.84	\$445,400
C3020415	Concrete Floor Finishes	\$0.97	S.F.	8,000	50	1940	1990	2030	30.00 %	0.00 %	15			\$7,760
C3030	Ceiling Finishes	\$20.97	S.F.	109,651	25	1940	1965	2023	32.00 %	32.80 %	8		\$754,121.51	\$2,299,381
D1010	Elevators and Lifts	\$1.53	S.F.	109,651	35	1963	1998	2052	105.71 %	52.68 %	37		\$88,387.07	\$167,766
D2010	Plumbing Fixtures	\$13.52	S.F.	109,651	35	1990	2025		28.57 %	5.11 %	10		\$75,791.90	\$1,482,482
D2020	Domestic Water Distribution	\$1.68	S.F.	109,651	25			2042	108.00 %	292.75 %	27		\$539,290.93	\$184,214
D2030	Sanitary Waste	\$2.90	S.F.	109,651	25			2042	108.00 %	146.43 %	27		\$465,644.75	\$317,988
D2040	Rain Water Drainage	\$2.32	S.F.	109,651	30	1940	1970	2025	33.33 %	0.00 %	10			\$254,390
D3020	Heat Generating Systems	\$18.67	S.F.	109,651	35	1980	2015	2025	28.57 %	0.00 %	10			\$2,047,184
D3030	Cooling Generating Systems	\$24.48	S.F.	109,651	30			2047	106.67 %	67.94 %	32		\$1,823,654.97	\$2,684,256
D3040	Distribution Systems	\$42.99	S.F.	109,651	25			2042	108.00 %	134.16 %	27		\$6,324,376.15	\$4,713,896
D3050	Terminal & Package Units	\$11.60	S.F.	109,651	20			2037	110.00 %	1.15 %	22		\$14,641.41	\$1,271,952
D3060	Controls & Instrumentation	\$13.50	S.F.	109,651	20			2037	110.00 %	132.68 %	22		\$1,964,003.39	\$1,480,289
D4010	Sprinklers	\$7.05	S.F.	109,651	35			2052	105.71 %	202.91 %	37		\$1,568,605.80	\$773,040
D4020	Standpipes	\$1.01	S.F.	109,651	35			2052	105.71 %	0.00 %	37			\$110,748
D5010	Electrical Service/Distribution	\$9.70	S.F.	109,651	30	2009	2039		80.00 %	27.69 %	24		\$294,526.62	\$1,063,615
D5020	Lighting and Branch Wiring	\$34.68	S.F.	109,651	20	2009	2029		70.00 %	0.20 %	14		\$7,472.00	\$3,802,697
D5030	Communications and Security	\$12.99	S.F.	109,651	15	2009	2024		60.00 %	32.49 %	9		\$462,758.34	\$1,424,366
D5090	Other Electrical Systems	\$1.41	S.F.	109,651	30	2009	2039		80.00 %	0.00 %	24			\$154,608
E1020	Institutional Equipment	\$4.82	S.F.	109,651	35	1940	1975	2020	14.29 %	0.00 %	5			\$528,518
E1090	Other Equipment	\$11.10	S.F.	109,651	35	1940	1975	2021	17.14 %	0.00 %	6			\$1,217,126
E2010	Fixed Furnishings	\$2.13	S.F.	109,651	40	1940	1980	2057	105.00 %	206.01 %	42		\$481,159.35	\$233,557
Total									52.61 %	34.84 %			\$19,630,624.03	\$56,337,735

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 Plaster 20% Painted CMU 60% Polished Block 20%	
<hr/>	
System: C3020 - Floor Finishes	This system contains no images
Note: Carpet 2% Terrazzo 38% Vinyl 29% Wood 21% Concrete 10%	
<hr/>	
System: D5010 - Electrical Service/Distribution	This system contains no images
Note: 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:	\$19,630,624	\$0	\$0	\$0	\$0	\$1,041,712	\$3,517,005	\$0	\$3,204,067	\$2,044,323	\$10,059,674	\$39,497,404
* 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	\$226,026	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$226,026
B2020 - Exterior Windows	\$1,720,055	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,720,055
B2030 - Exterior Doors	\$127,502	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$127,502
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	\$677,640	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$677,640
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	\$98,058	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$98,058
C1020 - Interior Doors	\$139,630	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$139,630
C1030 - Fittings	\$86,750	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$86,750
C20 - Stairs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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C2010 - Stair Construction	\$202,635	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$202,635
C30 - Interior Finishes	\$0	\$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	\$0
C3010230 - Paint & Covering	\$0	\$0	\$0	\$0	\$0	\$0	\$1,902,530	\$0	\$0	\$0	\$0	\$0	\$1,902,530
C3010232 - Wall Tile	\$0	\$0	\$0	\$0	\$0	\$367,745	\$0	\$0	\$0	\$0	\$0	\$0	\$367,745
C3020 - Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020411 - Carpet	\$18,476	\$0	\$0	\$0	\$0	\$0	\$15,831	\$0	\$0	\$0	\$0	\$0	\$34,307
C3020412 - Terrazzo & Tile	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,465,673	\$0	\$4,465,673
C3020413 - Vinyl Flooring	\$303,333	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$303,333
C3020414 - Wood Flooring	\$1,166,083	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,166,083
C3020415 - Concrete Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3030 - Ceiling Finishes	\$754,122	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,204,067	\$0	\$0	\$0	\$3,958,188
D - Services	\$0	\$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	\$0
D1010 - Elevators and Lifts	\$88,387	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$88,387
D20 - Plumbing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2010 - Plumbing Fixtures	\$75,792	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,191,565	\$0	\$2,267,357
D2020 - Domestic Water Distribution	\$539,291	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$539,291
D2030 - Sanitary Waste	\$465,645	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$465,645
D2040 - Rain Water Drainage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$376,067	\$0	\$376,067
D30 - HVAC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3020 - Heat Generating Systems	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,026,369	\$0	\$3,026,369
D3030 - Cooling Generating Systems	\$1,823,655	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,823,655
D3040 - Distribution Systems	\$6,324,376	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,324,376
D3050 - Terminal & Package Units	\$14,641	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14,641
D3060 - Controls & Instrumentation	\$1,964,003	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,964,003
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$1,568,606	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,568,606
D4020 - Standpipes	\$0	\$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	\$0
D5010 - Electrical Service/Distribution	\$294,527	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$294,527
D5020 - Lighting and Branch Wiring	\$7,472	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,472
D5030 - Communications and Security	\$462,758	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,044,323	\$0	\$0	\$2,507,081

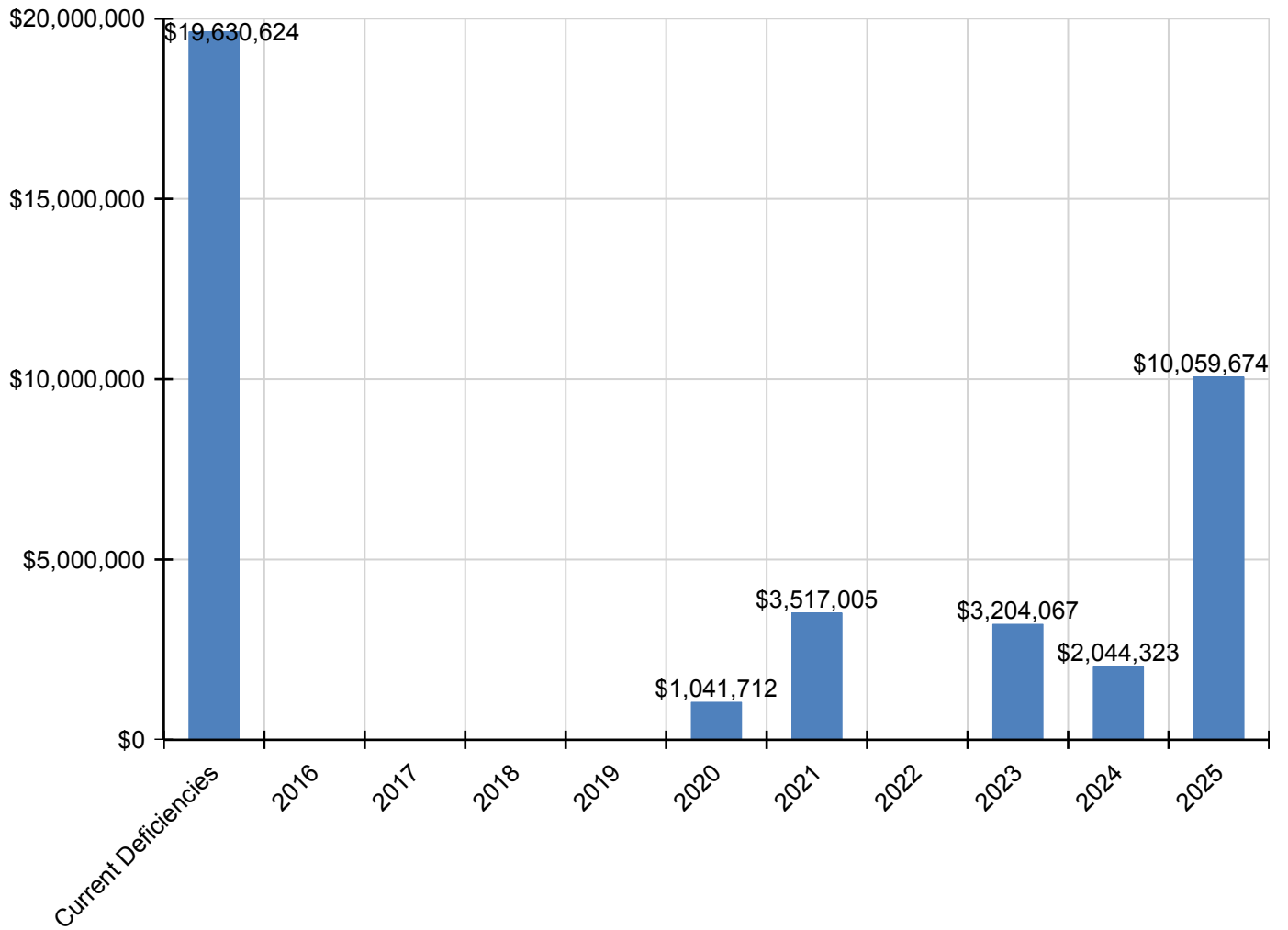
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D5090 - Other Electrical Systems	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E - Equipment & Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E10 - Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E1020 - Institutional Equipment	\$0	\$0	\$0	\$0	\$0	\$673,967	\$0	\$0	\$0	\$0	\$0	\$0	\$673,967
E1090 - Other Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$1,598,644	\$0	\$0	\$0	\$0	\$0	\$1,598,644
E20 - Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E2010 - Fixed Furnishings	\$481,159	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$481,159

* Indicates non-renewable system

Forecasted Sustainment Requirement

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

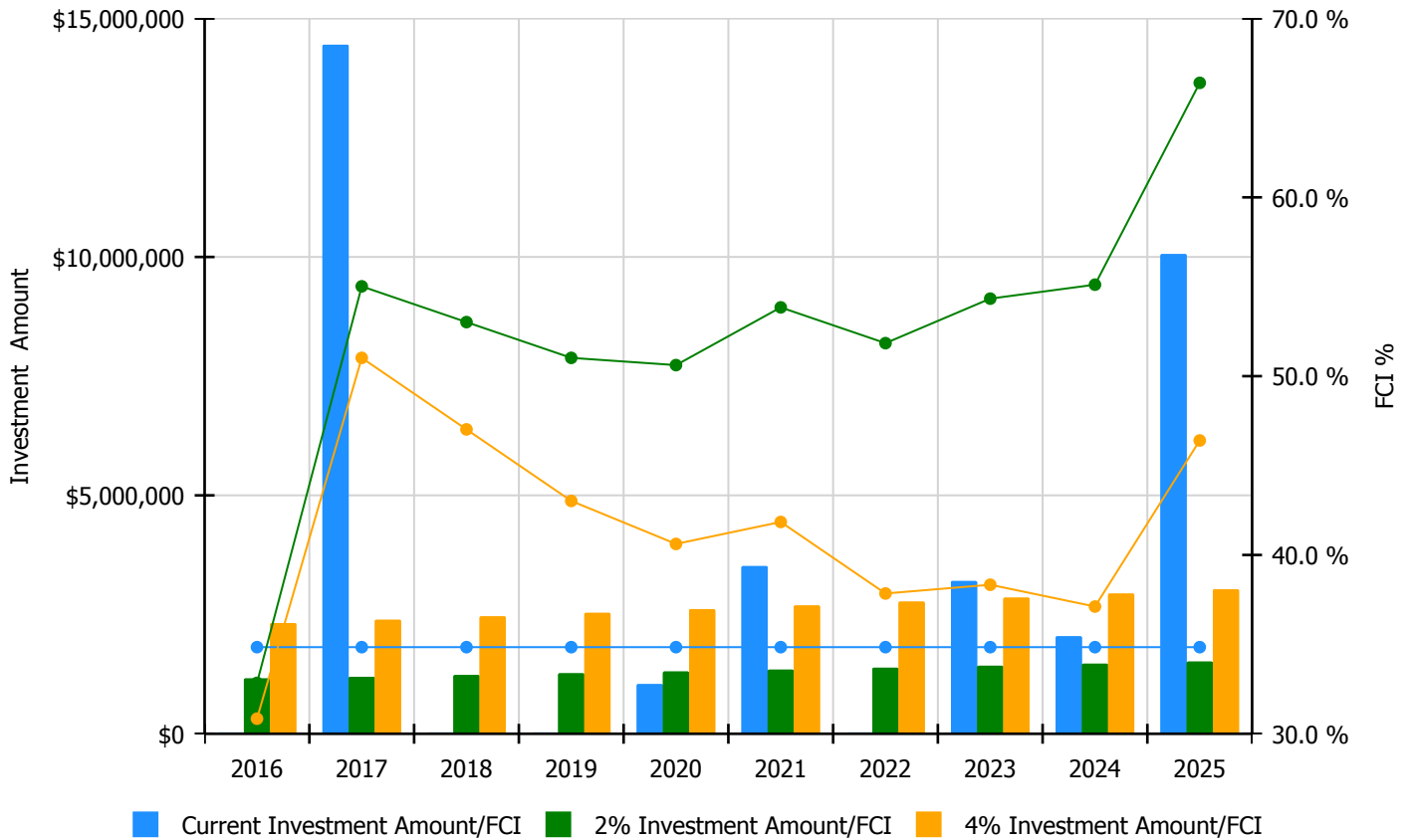


10 Year FCI Forecast by Investment Scenario

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

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

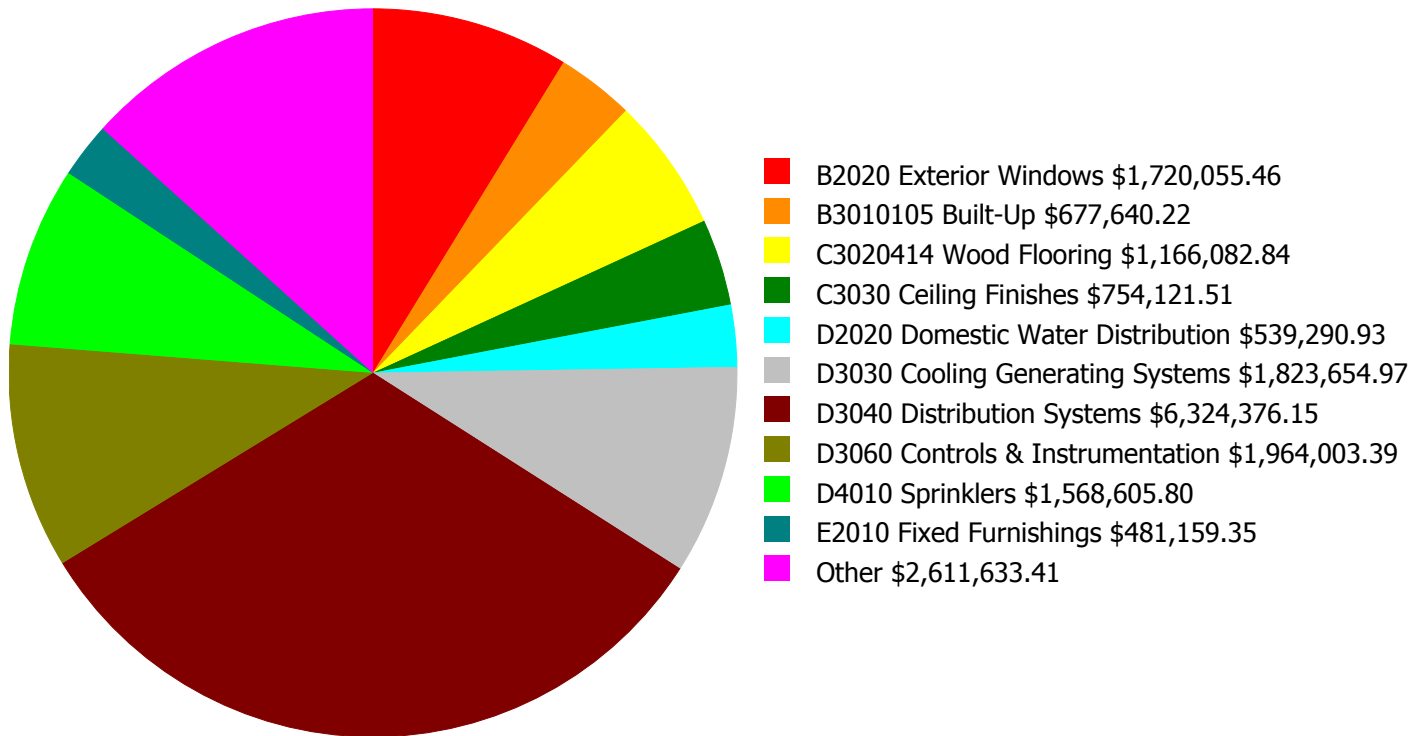
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 34.84%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$1,160,557.00	32.84 %	\$2,321,115.00	30.84 %
2017	\$14,450,959	\$1,195,374.00	55.02 %	\$2,390,748.00	51.02 %
2018	\$0	\$1,231,235.00	53.02 %	\$2,462,471.00	47.02 %
2019	\$0	\$1,268,172.00	51.02 %	\$2,536,345.00	43.02 %
2020	\$1,041,712	\$1,306,218.00	50.62 %	\$2,612,435.00	40.62 %
2021	\$3,517,005	\$1,345,404.00	53.85 %	\$2,690,808.00	41.85 %
2022	\$0	\$1,385,766.00	51.85 %	\$2,771,532.00	37.85 %
2023	\$3,204,067	\$1,427,339.00	54.34 %	\$2,854,678.00	38.34 %
2024	\$2,044,323	\$1,470,159.00	55.12 %	\$2,940,319.00	37.12 %
2025	\$10,059,674	\$1,514,264.00	66.40 %	\$3,028,528.00	46.40 %
Total:	\$34,317,739	\$13,304,488.00		\$26,608,979.00	

Deficiency Summary by System

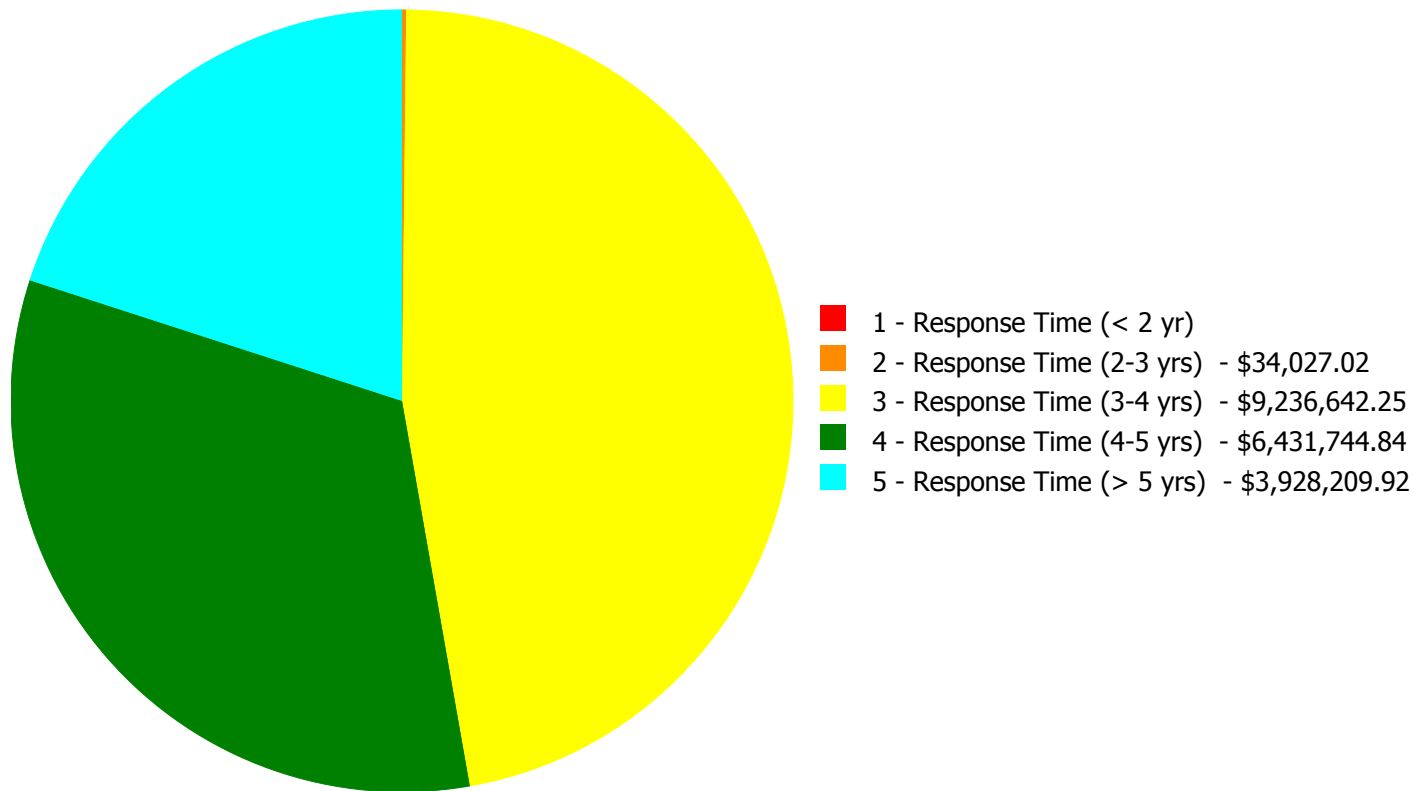
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$19,630,624.03

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: \$19,630,624.03

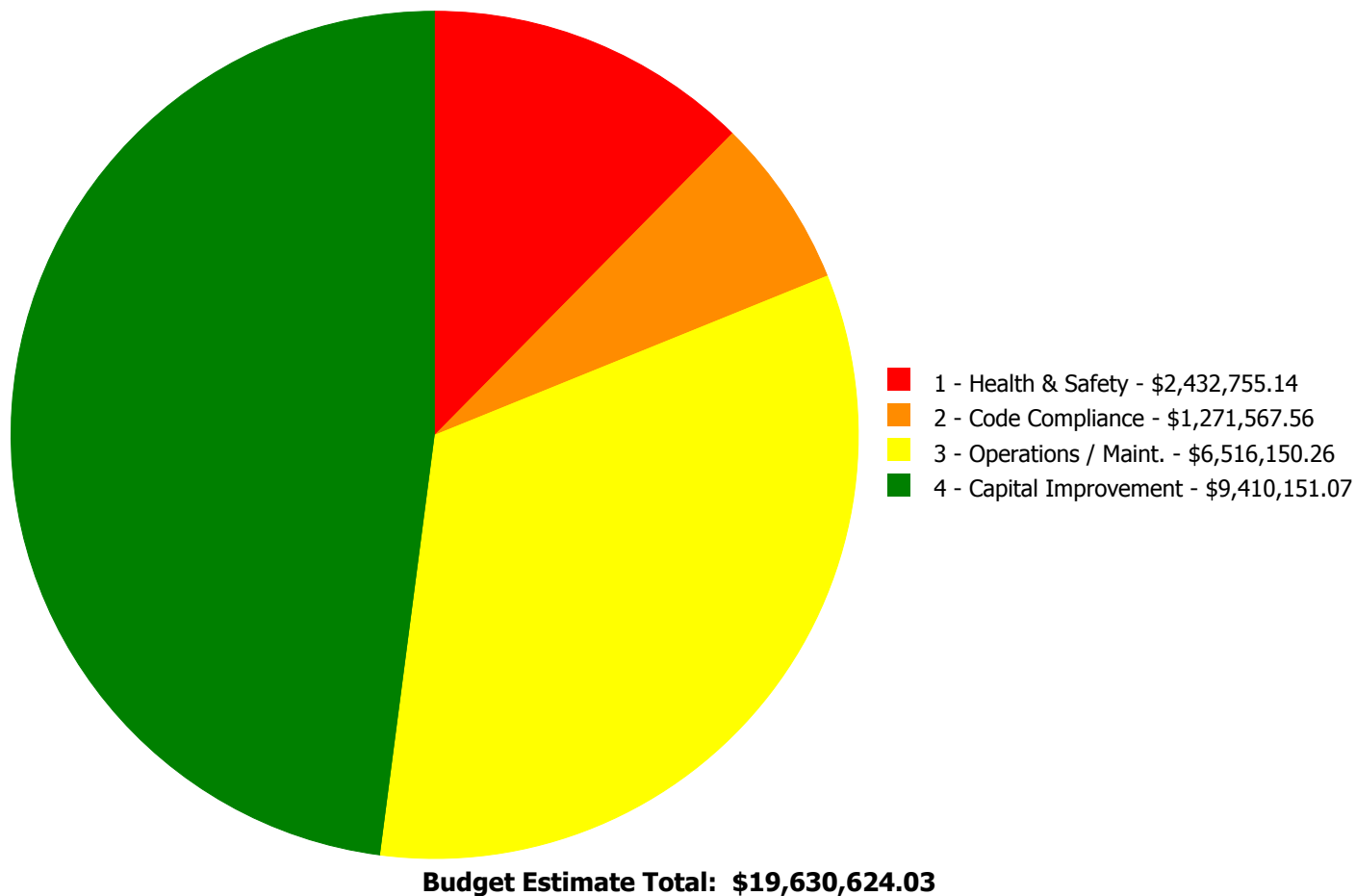
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	\$0.00	\$0.00	\$0.00	\$226,026.30	\$0.00	\$226,026.30
B2020	Exterior Windows	\$0.00	\$0.00	\$0.00	\$0.00	\$1,720,055.46	\$1,720,055.46
B2030	Exterior Doors	\$0.00	\$0.00	\$0.00	\$0.00	\$127,502.49	\$127,502.49
B3010105	Built-Up	\$0.00	\$0.00	\$0.00	\$0.00	\$677,640.22	\$677,640.22
C1010	Partitions	\$0.00	\$0.00	\$53,498.64	\$44,559.00	\$0.00	\$98,057.64
C1020	Interior Doors	\$0.00	\$0.00	\$0.00	\$0.00	\$139,630.17	\$139,630.17
C1030	Fittings	\$0.00	\$0.00	\$0.00	\$7,927.26	\$78,822.81	\$86,750.07
C2010	Stair Construction	\$0.00	\$0.00	\$202,635.36	\$0.00	\$0.00	\$202,635.36
C3020411	Carpet	\$0.00	\$0.00	\$0.00	\$0.00	\$18,475.93	\$18,475.93
C3020413	Vinyl Flooring	\$0.00	\$0.00	\$0.00	\$303,333.36	\$0.00	\$303,333.36
C3020414	Wood Flooring	\$0.00	\$0.00	\$0.00	\$0.00	\$1,166,082.84	\$1,166,082.84
C3030	Ceiling Finishes	\$0.00	\$0.00	\$0.00	\$754,121.51	\$0.00	\$754,121.51
D1010	Elevators and Lifts	\$0.00	\$0.00	\$88,387.07	\$0.00	\$0.00	\$88,387.07
D2010	Plumbing Fixtures	\$0.00	\$0.00	\$0.00	\$75,791.90	\$0.00	\$75,791.90
D2020	Domestic Water Distribution	\$0.00	\$34,027.02	\$505,263.91	\$0.00	\$0.00	\$539,290.93
D2030	Sanitary Waste	\$0.00	\$0.00	\$465,644.75	\$0.00	\$0.00	\$465,644.75
D3030	Cooling Generating Systems	\$0.00	\$0.00	\$0.00	\$1,823,654.97	\$0.00	\$1,823,654.97
D3040	Distribution Systems	\$0.00	\$0.00	\$5,859,641.79	\$464,734.36	\$0.00	\$6,324,376.15
D3050	Terminal & Package Units	\$0.00	\$0.00	\$0.00	\$14,641.41	\$0.00	\$14,641.41
D3060	Controls & Instrumentation	\$0.00	\$0.00	\$0.00	\$1,964,003.39	\$0.00	\$1,964,003.39
D4010	Sprinklers	\$0.00	\$0.00	\$1,568,605.80	\$0.00	\$0.00	\$1,568,605.80
D5010	Electrical Service/Distribution	\$0.00	\$0.00	\$0.00	\$294,526.62	\$0.00	\$294,526.62
D5020	Lighting and Branch Wiring	\$0.00	\$0.00	\$0.00	\$7,472.00	\$0.00	\$7,472.00
D5030	Communications and Security	\$0.00	\$0.00	\$462,758.34	\$0.00	\$0.00	\$462,758.34
E2010	Fixed Furnishings	\$0.00	\$0.00	\$30,206.59	\$450,952.76	\$0.00	\$481,159.35
	Total:	\$0.00	\$34,027.02	\$9,236,642.25	\$6,431,744.84	\$3,928,209.92	\$19,630,624.03

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:



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: D2020 - Domestic Water Distribution



Location: mechanical room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Provide 3" reduced pressure back flow preventer

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$34,027.02

Assessor Name: System

Date Created: 09/02/2015

Notes: Replace check valve assembly in main water service with approved reduced pressure backflow assembly.

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

System: C1010 - Partitions



Location: Building Wide

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Remove non-rated interior glass panels and replace with studs, gypsum board, paint (E) wall

Qty: 2,000.00

Unit of Measure: S.F.

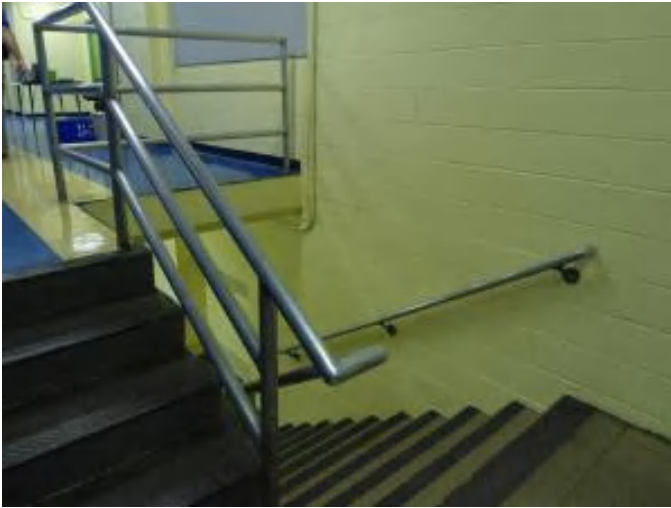
Estimate: \$53,498.64

Assessor Name: System

Date Created: 09/10/2015

Notes: There are several areas that have independent transoms that will required modification to meet current standards and codes. As indicated in the photos several areas will required additional work outside of the recommended door and transom upgrade project as the doors are in good condition however, the transoms are deficient. This deficiency provides a budgetary consideration to modify these issues. Remove and replace transoms are required.

System: C2010 - Stair Construction



Location: Stairs

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 1,200.00

Unit of Measure: L.F.

Estimate: \$202,635.36

Assessor Name: System

Date Created: 09/11/2015

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: D1010 - Elevators and Lifts



Location: 1963 Building Addition

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Upgrade passenger elevator machine room and controls

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$88,387.07

Assessor Name: System

Date Created: 08/14/2015

Notes: Provide upgrade of elevator machine room and hoist system.

System: D2020 - Domestic Water Distribution



Location: entire building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace domestic water piping (150 KSF)
Qty: 109,651.00
Unit of Measure: S.F.
Estimate: \$454,730.05
Assessor Name: System
Date Created: 09/02/2015

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

System: D2020 - Domestic Water Distribution



Location: mechanical room
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace duplex domestic booster pump set (5 HP)
Qty: 1.00
Unit of Measure: Ea.
Estimate: \$50,533.86
Assessor Name: System
Date Created: 09/02/2015

Notes: Provide new domestic water booster pump system with two pumps, pressure tank, and controls. Connect to main domestic water line.

System: D2030 - Sanitary Waste



Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Inspect sanitary waste piping and replace damaged sections. (+100KSF)

Qty: 109,651.00

Unit of Measure: S.F.

Estimate: \$465,644.75

Assessor Name: System

Date Created: 09/02/2015

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

System: D3040 - Distribution Systems



Location: entire building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 3 - Response Time (3-4 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: 109,651.00

Unit of Measure: S.F.

Estimate: \$5,289,470.97

Assessor Name: System

Date Created: 09/02/2015

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: auditorium

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 400.00

Unit of Measure: Seat

Estimate: \$570,170.82

Assessor Name: System

Date Created: 09/02/2015

Notes: Provide a new central station air handling unit for the 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.

System: D4010 - Sprinklers



Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Install a fire protection sprinkler system

Qty: 109,651.00

Unit of Measure: S.F.

Estimate: \$1,568,605.80

Assessor Name: System

Date Created: 09/02/2015

Notes: Install complete NFPA wet pipe automatic sprinkler system and standpipes. If required provide fire pump and jockey pump with controller.

System: D5030 - Communications and Security



Location: Entire Building
Distress: Life Safety / NFPA / PFD
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace fire alarm system
Qty: 109,651.00
Unit of Measure: S.F.
Estimate: \$462,758.34
Assessor Name: System
Date Created: 08/14/2015

Notes: Replace obsolete fire alarm system with addressable fire alarm system that meets current NFPA codes and ADA requirements.

System: E2010 - Fixed Furnishings



Location: Stage
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Remove and replace stage curtain - insert the LF of track and SF of curtain
Qty: 1.00
Unit of Measure: Ea.
Estimate: \$30,206.59
Assessor Name: System
Date Created: 09/11/2015

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

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

System: B2010 - Exterior Walls



Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 7,000.00

Unit of Measure: S.F.

Estimate: \$226,026.30

Assessor Name: System

Date Created: 09/10/2015

Notes: The exterior brick surfaces are generally in fair to good condition for their age. In some locations, bricks have cracked or spalled and should be replaced. The repointing of deteriorated mortar joints is also recommended, using mortar of a similar color and consistency as the original. Following the detailed examination of the brick and repair of mortar construction joints, the entire building should be pressure washed to remove stains and embedded pollutants. If moisture is found to be penetrating the masonry facade, the application of a spray sealant to the suspected exterior masonry surface is recommended.

System: C1010 - Partitions



Location: Classrooms

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: \$44,559.00

Assessor Name: System

Date Created: 09/10/2015

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: Hallways

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace tackboards - select size

Qty: 10.00

Unit of Measure: Ea.

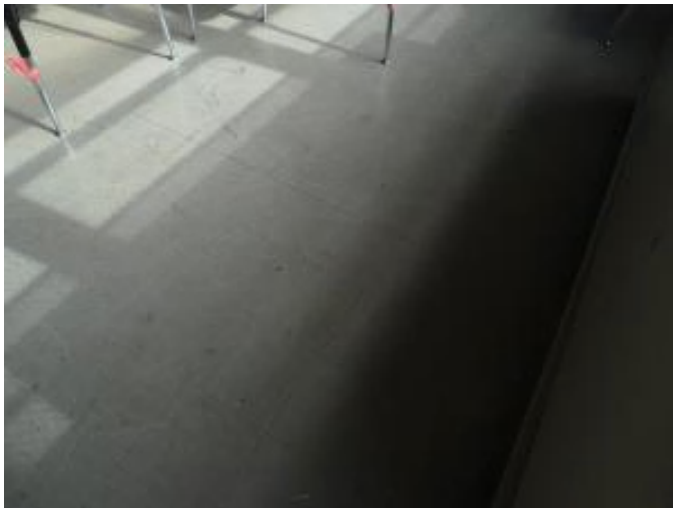
Estimate: \$7,927.26

Assessor Name: System

Date Created: 09/11/2015

Notes: There is a mix of tack boards in this school that range from the age and condition. There are several tack boards in the classrooms and hallways for student displays. The classroom tack boards are newer and in better shape however the hallway board appear to be original. The systems are beyond the expected service life for this application. Remove and replace the hallway tack boards is recommended.

System: C3020413 - Vinyl Flooring



Location: Building Wide

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

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

Qty: 20,000.00

Unit of Measure: S.F.

Estimate: \$303,333.36

Assessor Name: System

Date Created: 09/11/2015

Notes: The vinyl floor finish in most of this school is in very good condition and appears to have part of an isolated upgrade. Some of the original flooring that was not a part of that effort consist of a 9x9 finish. This finish is suspect to contain asbestos and is recommended for upgrade. Remove and replace with a 12x12 vinyl tile application.

System: C3030 - Ceiling Finishes



Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 4 - Response Time (4-5 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: 09/11/2015

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. However there are sections that are stained and damaged that will require upgrades. The ceiling finish is expected to require upgrades to support the recommended efforts in this report. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school.

System: D2010 - Plumbing Fixtures



Location: basement corridors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 10.00

Unit of Measure: Ea.

Estimate: \$75,791.90

Assessor Name: System

Date Created: 09/02/2015

Notes: Replace all water coolers and drinking fountains with stainless water coolers with integral refrigeration. Include fittings and trim.

System: D3030 - Cooling Generating Systems



Location: roof, mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Install chilled water system with distribution piping and pumps. (+150KSF)

Qty: 109,651.00

Unit of Measure: S.F.

Estimate: \$1,823,654.97

Assessor Name: System

Date Created: 09/02/2015

Notes: Remove the existing window air conditioning units and install a 275 ton air-cooled chiller on the roof with chilled water distribution piping, two pumps, chemical treatment and controls located in a mechanical room on the basement level.

System: D3040 - Distribution Systems



Location: cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 994.00

Unit of Measure: Pr.

Estimate: \$464,734.36

Assessor Name: System

Date Created: 09/02/2015

Notes: Provide a new central station air handling unit for the cafeteria 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.

System: D3050 - Terminal & Package Units



Location: roof

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Install ductless split system for equipment room

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$14,641.41

Assessor Name: System

Date Created: 09/02/2015

Notes: Install one ton ductless DX split system to cool elevator equipment penthouse. Locate condensing unit on adjacent roof. Include refrigerant line set and drain line.

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 (150KSF)
Qty: 109,651.00
Unit of Measure: S.F.
Estimate: \$1,964,003.39
Assessor Name: System
Date Created: 09/02/2015

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

System: D5010 - Electrical Service/Distribution



Location: Boiler Room
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Add Electrical Switchgear and Distribution System
Qty: 0.00
Unit of Measure: Ea.
Estimate: \$267,846.47
Assessor Name: System
Date Created: 08/14/2015

Notes: Provide a separate underground service from the pad mount transformer to a second main service disconnecting means and distribution section with feeder circuit breakers to supply HVAC equipment for the addition of a central air conditioning system for the building.

System: D5010 - Electrical Service/Distribution



Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Panelboard - 225A

Qty: 2.00

Unit of Measure: Ea.

Estimate: \$26,680.15

Assessor Name: System

Date Created: 08/14/2015

Notes: Replace Panelboards PPBR and LPBR in the Boiler Room.

System: D5020 - Lighting and Branch Wiring



Location: Basement Corridor, Prep kitchen

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace lighting fixtures

Qty: 9.00

Unit of Measure: Ea.

Estimate: \$7,472.00

Assessor Name: System

Date Created: 08/14/2015

Notes: Replace (6) damaged fluorescent lighting fixtures in the Basement corridor between the Recreation Room and the elevator. Also, replace (2) wraparound fluorescent fixtures in the food preparation room north of the Recreation Room to increase illumination level.

System: E2010 - Fixed Furnishings



Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 500.00

Unit of Measure: Ea.

Estimate: \$450,952.76

Assessor Name: System

Date Created: 09/11/2015

Notes: The fixed seating for this school is from the original construction. The systems are in fair condition considering the age and usage. This project provides a budgetary consideration for universal upgrades for the fixed seating and furnishing of this school.

Priority 5 - Response Time (> 5 yrs):

System: B2020 - Exterior Windows



Location: Exterior Elevation
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Remove and replace aluminum windows - pick the appropriate size and style and insert the number of units
Qty: 250.00
Unit of Measure: Ea.
Estimate: \$1,720,055.46
Assessor Name: System
Date Created: 09/10/2015

Notes: Exterior windows have been upgraded from the original applications. The current system is estimated to have been installed in the 1990's. Several windows no longer work and will require attention prior to an overall effort. Windows are in fair condition based on the year of installation or last renovation. The exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: B2030 - Exterior Doors



Location: Exterior Elevation
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Remove and replace exterior doors - per leaf
Qty: 14.00
Unit of Measure: Ea.
Estimate: \$127,502.49
Assessor Name: System
Date Created: 09/10/2015

Notes: The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system, store front and service doors are recommended for upgrade.

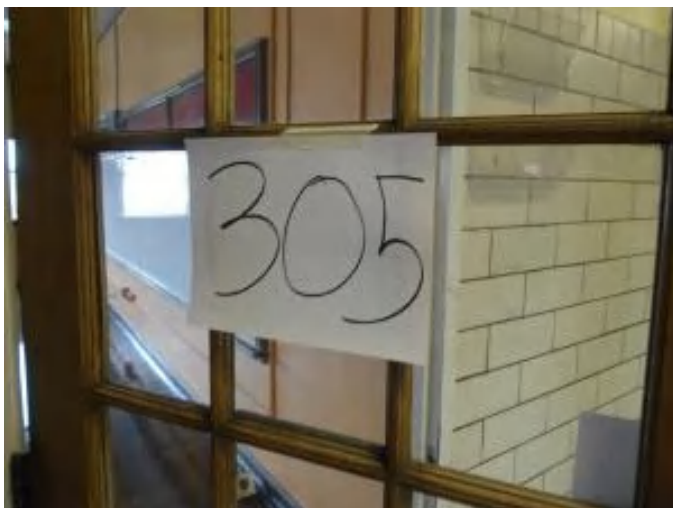
System: B3010105 - Built-Up



Location: Roof
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Remove and Replace Built Up Roof
Qty: 20,000.00
Unit of Measure: S.F.
Estimate: \$677,640.22
Assessor Name: System
Date Created: 09/10/2015

Notes: There are a number of roof sections and different roof elevations ranging from the main roof to the mechanical roof. Parapet heights, coping materials, and the height of the flashing also varies in different sections. The main roof is a built up application that was reported to have been installed in the early 1990'S. As indicated in the photos sections of the roof is showing conditions that lead to failure such as ponding. Also note the recent roof repairs that have been completed near the access point and on the main level. Considering the age and condition of the roofing systems, universal upgrades are recommended. Remove and replace all roof sections.

System: C1020 - Interior Doors



Location: Building Wide
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Remove and replace interior doors - wood doors with wood frame - per leaf
Qty: 30.00
Unit of Measure: Ea.
Estimate: \$139,630.17
Assessor Name: System
Date Created: 09/10/2015

Notes: A large portion of the interior doors are code compliant with both ADA and are fire rated. However, several interior doors are typically wood in wood frames with transom lites or sidelights, glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems.

System: C1030 - Fittings



Location: Building Wide Signage
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace missing or damaged signage - insert the number of rooms
Qty: 250.00
Unit of Measure: Ea.
Estimate: \$65,058.17
Assessor Name: System
Date Created: 09/10/2015

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: C1030 - Fittings



Location: Classrooms
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace blackboards with marker boards - pick the appropriate size and insert the quantities
Qty: 20.00
Unit of Measure: Ea.
Estimate: \$13,764.64
Assessor Name: System
Date Created: 09/10/2015

Notes: Several of the chalk boards have been upgraded from the original construction of this school however several are original to the buildings construction. These systems are beyond its expected life and universal upgrades are warranted. Remove and upgrade remaining chalkboards to new marker board systems.

System: C3020411 - Carpet



Location: Administration Areas

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace carpet

Qty: 1,651.00

Unit of Measure: S.F.

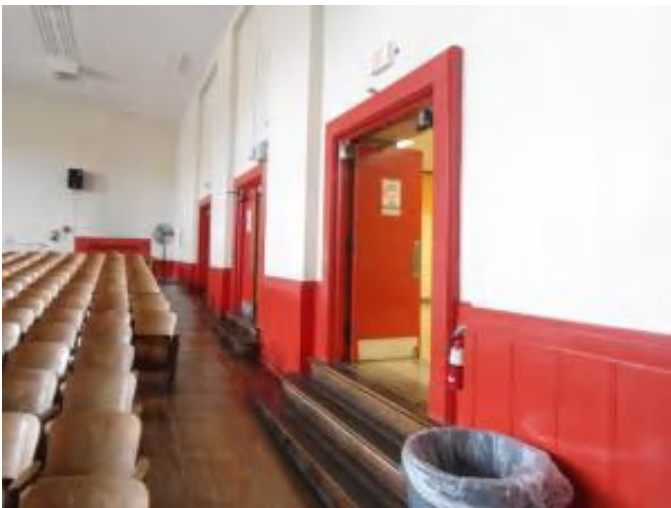
Estimate: \$18,475.93

Assessor Name: System

Date Created: 09/11/2015

Notes: The interior carpet finish was installed approximately in 2000 and is in fair condition considering the age and high traffic conditions. This finish will exceed its expected life within the next five years and is recommended for removal and replacement.

System: C3020414 - Wood Flooring



Location: Building Wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace wood flooring

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: \$1,166,082.84

Assessor Name: System

Date Created: 09/11/2015

Notes: The classrooms and auditorium in this school have a wooden 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 wooden floor finish be removed and replaced with an in kind finish.

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	Traction geared elevators, passenger, 2500 lb., 5 floors, 200 FPM	1.00	Ea.	1963 Building Addition	Not Known	NA			30			\$179,550.00	\$197,505.00
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 5230 MBH, includes burners, controls and insulated jacket, packaged	1.00	Ea.	mechanical room	weil mclain	model 94			35	1980	2015	\$122,870.00	\$135,157.00
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 5230 MBH, includes burners, controls and insulated jacket, packaged	1.00	Ea.	mechanical room	weil mclain	model 94	series 3		35	1980	2015	\$122,870.00	\$135,157.00
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 2000 A	2.00	Ea.	Boiler Room	Eaton C-H	Pow-R-Line	NA		30	2009	2039	\$47,537.55	\$104,582.61
Total:												\$572,401.61	

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): 66,400

Year Built: 1940

Last Renovation:

Replacement Value: \$1,221,367

Repair Cost: \$71,926.33

Total FCI: 5.89 %

Total RSLI: 37.18 %



Description:

Attributes:

General Attributes:

Bldg ID:	S451001	Site ID:	S451001
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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	38.37 %	3.50 %	\$32,679.13
G40 - Site Electrical Utilities	33.33 %	13.59 %	\$39,247.20
Totals:	37.18 %	5.89 %	\$71,926.33

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 the system based on Building Owners and Managers Association (BOMA) recommendations.
7. Year Installed: The date of system installation.
8. Calc Next Renewal Year: The date of system expiration based on the life, NR stands for non renewable.
9. Next Renewal Year: The suggested system expiration date by the assessor based on visual inspection.
10. CI: The Condition Index of the system.
11. FCI: The Facility Condition Index of the system.
12. RSL: Remaining Service Life.
13. eCR: eCOMET Condition Rating (not used).
14. Deficiency \$: The financial investment to repair/replace system.

System Listing

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

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

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

System Code	System Description	Unit Price \$	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
G2010	Roadways	\$11.52	S.F.		30				0.00 %	0.00 %				\$0
G2020	Parking Lots	\$7.65	S.F.	21,300	30	1980	2010	2027	40.00 %	8.49 %	12		\$13,826.61	\$162,945
G2030	Pedestrian Paving	\$11.52	S.F.	40,000	40	1960	2000	2027	30.00 %	0.00 %	12			\$460,800
G2040	Site Development	\$4.36	S.F.	66,400	25	2000	2025	2027	48.00 %	6.51 %	12		\$18,852.52	\$289,504
G2050	Landscaping & Irrigation	\$3.78	S.F.	5,100	15	1960	1975	2027	80.00 %	0.00 %	12			\$19,278
G4020	Site Lighting	\$3.58	S.F.	66,400	30	1995	2025	2025	33.33 %	0.00 %	10			\$237,712
G4030	Site Communications & Security	\$0.77	S.F.	66,400	30	1995	2025	2025	33.33 %	76.76 %	10		\$39,247.20	\$51,128
Total									37.18 %	5.89 %			\$71,926.33	\$1,221,367

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.

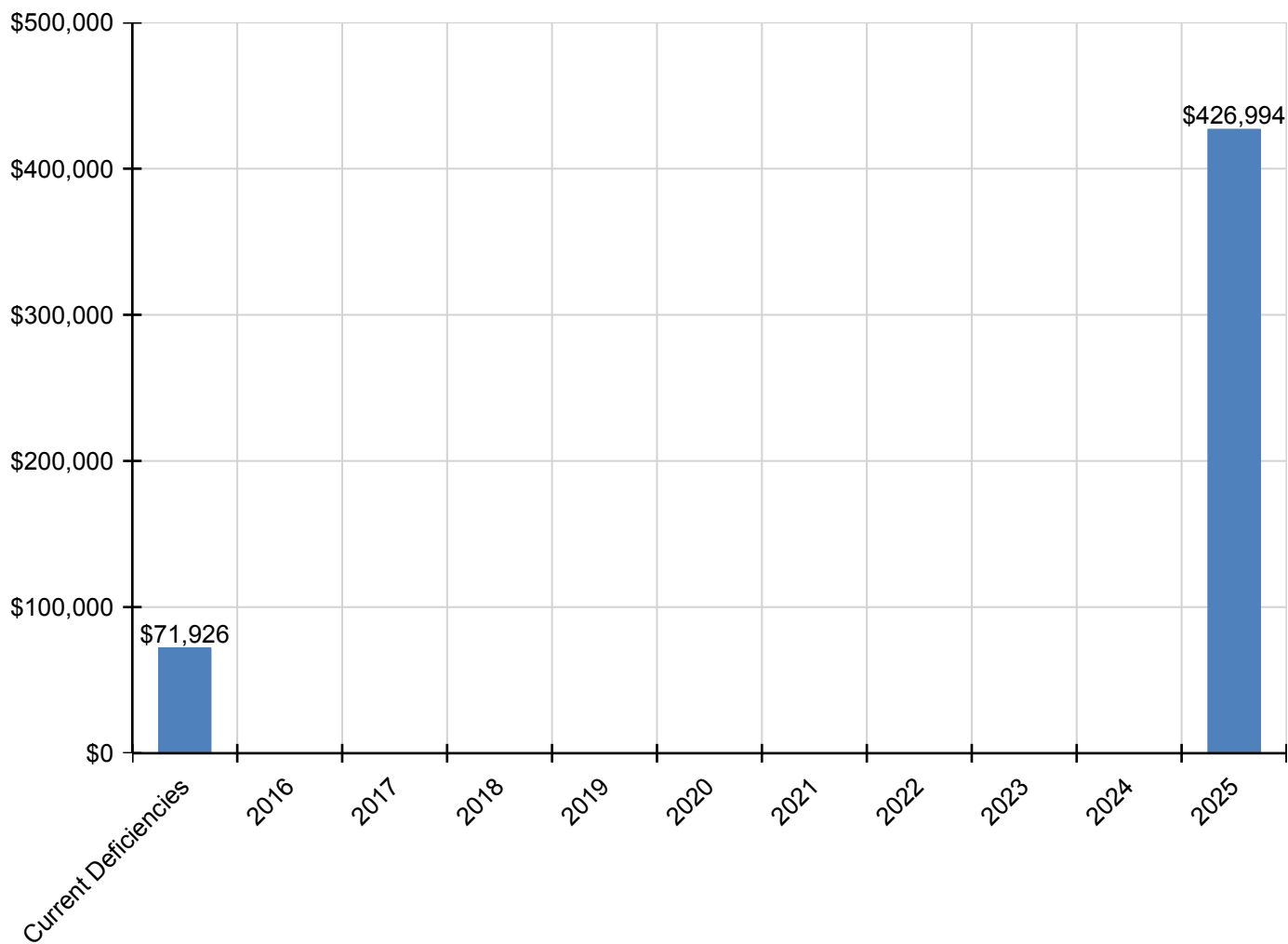
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	\$71,926	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$426,994	\$498,921
G - Building Sitework	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G20 - Site Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2010 - Roadways	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2020 - Parking Lots	\$13,827	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13,827
G2030 - Pedestrian Paving	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2040 - Site Development	\$18,853	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$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	\$351,411	\$351,411
G4030 - Site Communications & Security	\$39,247	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$75,583	\$114,830

* Indicates non-renewable system

Forecasted Sustainment Requirement

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

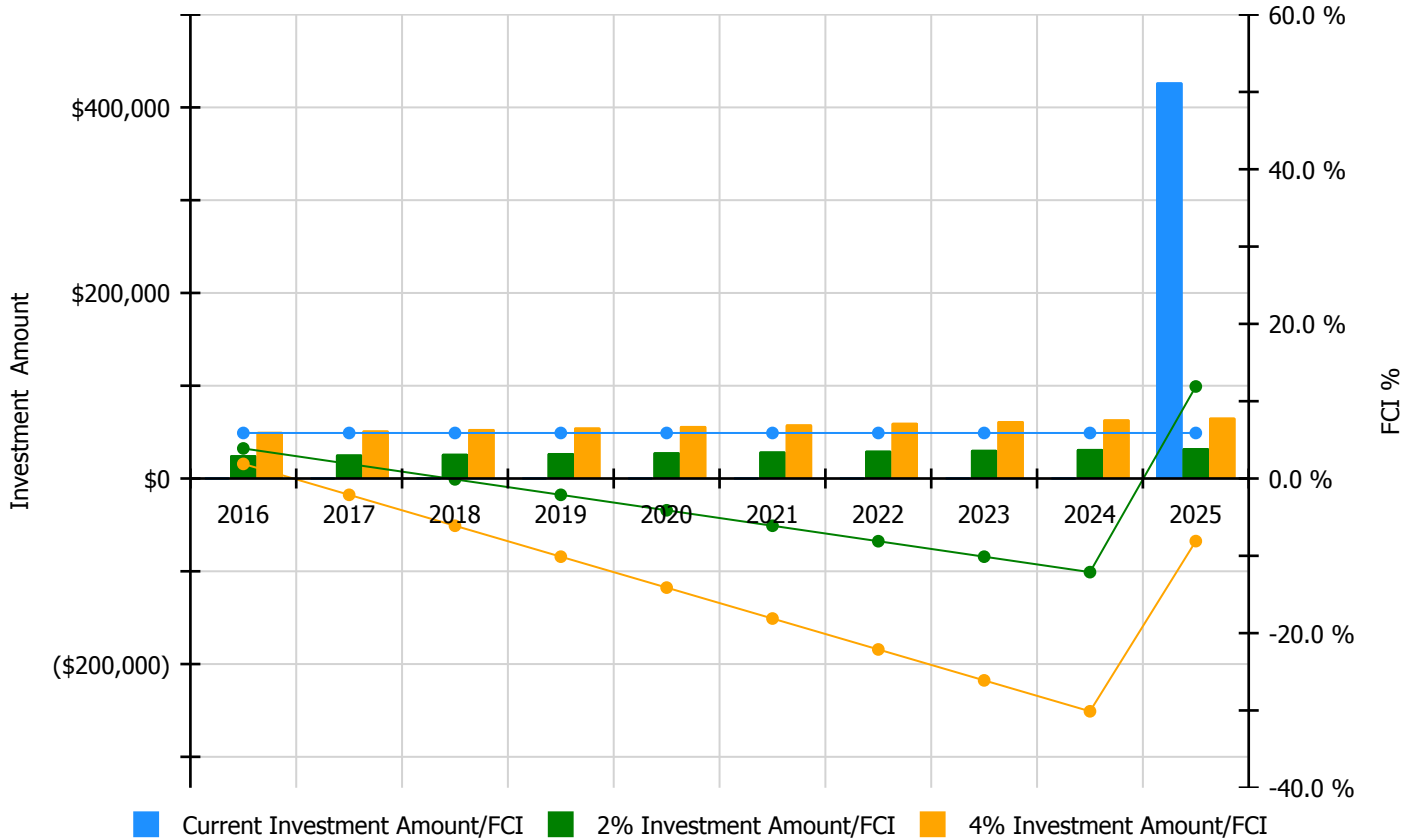


10 Year FCI Forecast by Investment Scenario

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

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

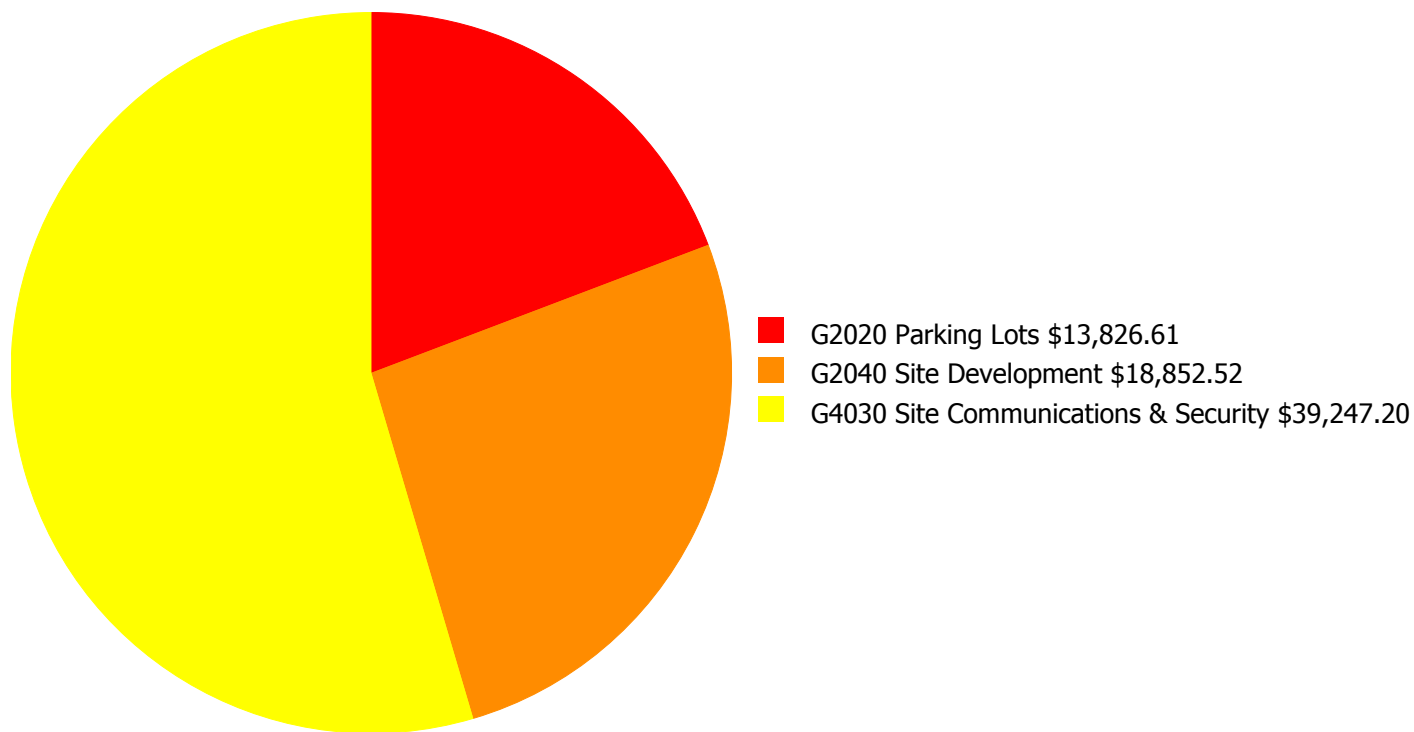
Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 5.89%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$25,160.00	3.89 %	\$50,320.00	1.89 %
2017	\$0	\$25,915.00	1.89 %	\$51,830.00	-2.11 %
2018	\$0	\$26,692.00	-0.11 %	\$53,385.00	-6.11 %
2019	\$0	\$27,493.00	-2.11 %	\$54,986.00	-10.11 %
2020	\$0	\$28,318.00	-4.11 %	\$56,636.00	-14.11 %
2021	\$0	\$29,168.00	-6.11 %	\$58,335.00	-18.11 %
2022	\$0	\$30,043.00	-8.11 %	\$60,085.00	-22.11 %
2023	\$0	\$30,944.00	-10.11 %	\$61,888.00	-26.11 %
2024	\$0	\$31,872.00	-12.11 %	\$63,744.00	-30.11 %
2025	\$426,994	\$32,828.00	11.90 %	\$65,657.00	-8.10 %
Total:	\$426,994	\$288,433.00		\$576,866.00	

Deficiency Summary by System

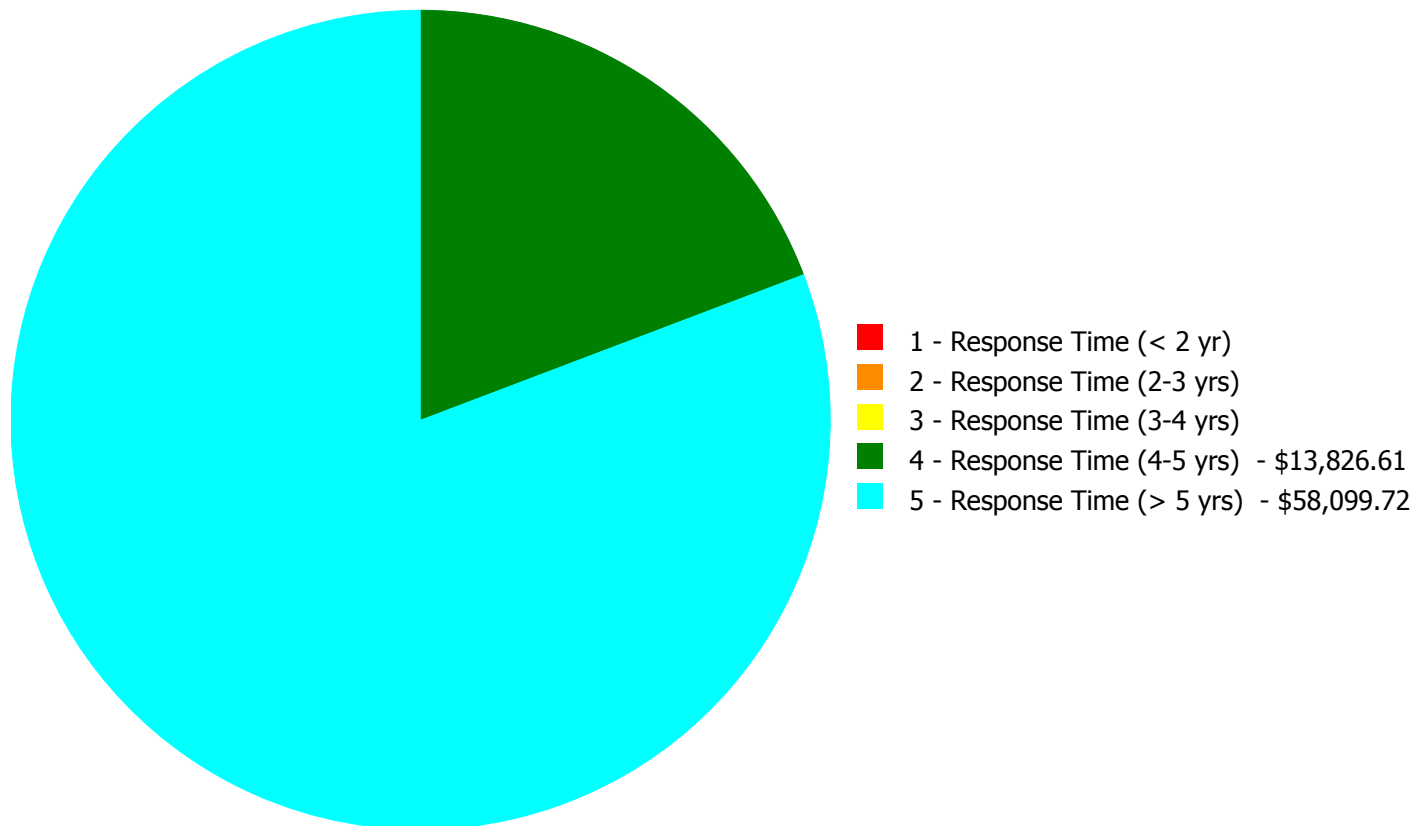
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: \$71,926.33

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: \$71,926.33

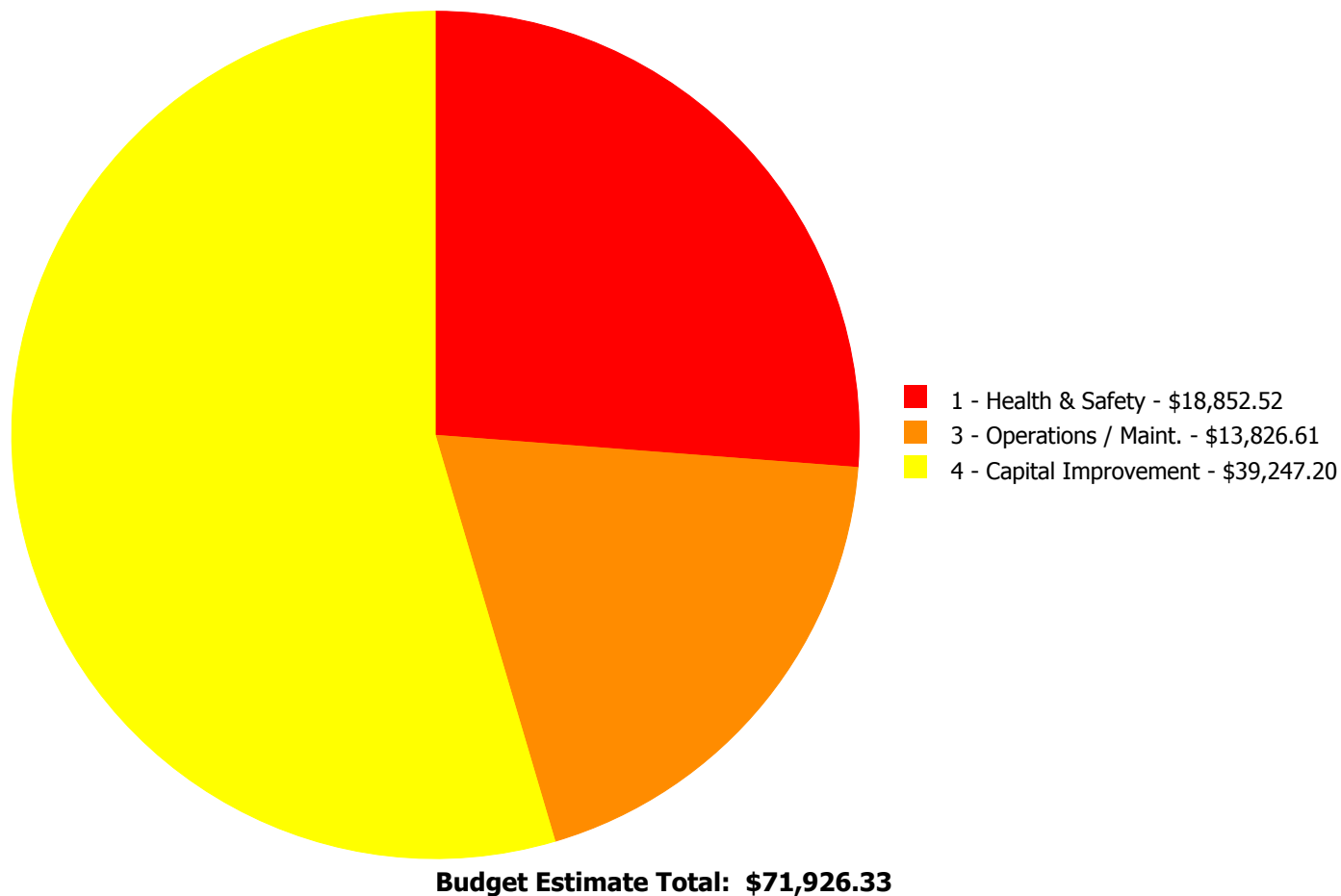
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	\$0.00	\$0.00	\$0.00	\$13,826.61	\$0.00	\$13,826.61
G2040	Site Development	\$0.00	\$0.00	\$0.00	\$0.00	\$18,852.52	\$18,852.52
G4030	Site Communications & Security	\$0.00	\$0.00	\$0.00	\$0.00	\$39,247.20	\$39,247.20
	Total:	\$0.00	\$0.00	\$0.00	\$13,826.61	\$58,099.72	\$71,926.33

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:



Deficiency Details by Priority

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

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

System: G2020 - Parking Lots



Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Fill cracks in AC paving - by the LF - select appropriate width and depth

Qty: 1,500.00

Unit of Measure: L.F.

Estimate: \$13,826.61

Assessor Name: Ben Nixon

Date Created: 09/11/2015

Notes: The asphalt play area is developing cracks that may turn into tripping hazards. It is recommended that the cracks be filled and the play area be resealed with proper area markers to support the sports activities of the schools physical education requirements.

Priority 5 - Response Time (> 5 yrs):

System: G2040 - Site Development



Location: Site

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

Correction: Build secure trash dumpster enclosure

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$18,852.52

Assessor Name: Ben Nixon

Date Created: 09/11/2015

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.

System: G4030 - Site Communications & Security



Location: Exterior - west side

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Add Video Surveillance System

Qty: 2.00

Unit of Measure: Ea.

Estimate: \$28,771.32

Assessor Name: Ben Nixon

Date Created: 08/14/2015

Notes: Provide two additional video surveillance cameras on the west side of the building for coverage of the paved play area.

System: G4030 - Site Communications & Security



Location: Exterior - west side

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Add Site Paging System

Qty: 1.00

Unit of Measure: Ea.

Estimate: \$10,475.88

Assessor Name: Ben Nixon

Date Created: 08/14/2015

Notes: Add horn type speaker at the southwest side of the 1963 building addition to provide coverage at the south end of the play area.

Equipment Inventory

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

No data found for this asset

Glossary

ABMA	American Boiler Manufacturers Association http://www.abma.com/
ACEEE	American Council for an Energy-Efficient Economy
ACGIH	American Council of Governmental and Industrial Hygienists
AEE	Association of Energy Engineers
AFD	Adjustable Frequency Drive
AFTC	After Tax Cash Flow
AGA	American Gas Association
AHU	Air Handling Unit
Amp	Ampere
ANSI	American National Standards Institute
ARI	Air Conditioning and Refrigeration Institute
ASD	Adjustable Speed Drive
ASHRAE	American Society of Heating Refrigerating and Air-Conditioning Engineers Inc.
ASME	American Society of Mechanical Engineers
Assessment	Visual survey of a facility to determine its condition. It involves looking at the age of systems reviewing information from local sources and visual evidence of potential problems to assign a condition rating. It does not include destructive testing of materials or testing of systems or equipment for functionality.
ATS	After Tax Savings
AW	Annual worth
BACNET	Building Automation Control Network
BAS	Building Automation System
BCR	Benefit Cost Ratio
BEP	Business Energy Professional (AEE)
BF	Ballast Factor
BHP	Boiler Horsepower (boilers)
BHP	Brake Horsepower (motors)
BLCC	Building Life Cycle Cost analysis program (FEMP)
BOCA	Building Officials and Code Administrators
BTCF	Before Tax Cash Flow

Site Assessment Report - S451001;Douglass, F

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

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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

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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.

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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

Site Assessment Report - S451001;Douglass, F

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

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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.

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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	Photovoltaic system

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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

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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

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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