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.

Greenberg School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	600 Sharon Ln.	Enrollment	762
	Philadelphia, Pa 19115	Grade Range	'00-08'
Phone/Fax	215-961-2002 / 215-961-2560	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Greenberg	Turnaround Model	N/A

Building/System FCI Tiers

Facility Condition Index (FCI) = Cost of Assessed Deficiencies / Replacement Value

< 15%	15 to 25%	25 to 45%	45 to 60%	> 60%
Buildings				
Minimal Current Capital Funding Required	Refurbish Systems in building	Replace Systems in building.	Building should be considered for major renovation.	Building should be considered for closing/replacement.
Systems				
Perform routine maintenance on system	System requires minor repairs	System should be studied to determine repair vs. replacement.	System is nearing end of its life expectancy and should be considered for replacement	System should be replaced as part of the Capital Program

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**50.05%**	**$23,495,647**	**$46,946,853**
Building	51.99 %	$23,063,588	$44,359,585
Grounds	16.70 %	$432,059	$2,587,268

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	89.59 %	$1,154,496	$1,288,678
Exterior Walls (Shows condition of the structural condition of the exterior facade)	02.66 %	$88,504	$3,321,900
Windows (Shows functionality of exterior windows)	155.71 %	$2,523,885	$1,620,900
Exterior Doors (Shows condition of exterior doors)	88.92 %	$116,038	$130,500
Interior Doors (Classroom doors)	134.49 %	$424,847	$315,900
Interior Walls (Paint and Finishes)	05.32 %	$63,249	$1,188,900
Plumbing Fixtures	35.91 %	$436,934	$1,216,800
Boilers	106.94 %	$1,796,906	$1,680,300
Chillers/Cooling Towers	65.60 %	$1,445,345	$2,203,200
Radiators/Unit Ventilators/HVAC	187.07 %	$7,238,069	$3,869,100
Heating/Cooling Controls	158.90 %	$1,930,688	$1,215,000
Electrical Service and Distribution	39.26 %	$342,767	$873,000
Lighting	03.23 %	$100,715	$3,121,200
Communications and Security (Cameras, Pa System and Fire Alarm)	50.25 %	$587,475	$1,169,100

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

S843001;Greenberg

Final

Site Assessment Report

January 31, 2017

PARSONS

Table of Contents

Site Executive Summary

The organization of this report, as displayed in the Table of Contents, follows the structure of the associated eCOMET database. The overall node for each school campus begins with the letter "S", which indicates the "Site" label. Each Site is comprised of separate "Building" and "Grounds" nodes; their asset names begin with the letters "B" and "G" respectively. Information rolls up to the Site node from the Building and Grounds nodes. This Site report combines facility information with subsections for the Buildings And Grounds nodes.

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

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

Gross Area (SF):	90,000
Year Built:	1964
Last Renovation:	
Replacement Value:	$46,946,853
Repair Cost:	$23,495,646.91
Total FCI:	50.05 %
Total RSLI:	67.00 %

Description:

Facility Assessment
December 2015

School District of Philadelphia
Greenberg Elementary B843001
600 Sharon Ln
Philadelphia, PA 19115

90,000 SF / 755 Students / LN 08

J. Greenberg Elementary School is located at 600 Sharon Lane. This building was constructed in 1964 and has 90,000 square feet. There is a 3 story classroom section and a two story section with the gymnasium, auditorium, and cafeteria. Mechanical and electrical equipment are located in a partial basement. The front entrance to the Main Building faces Sharon Lane. The building has two unfinished basement rooms that were called the "bomb shelter rooms"; they have lighting, but not heat, ventilation or plumbing and therefore these spaces would not be appropriate for long term inhabitance. There is an extensive asphalt playground behind the building. Faculty parking lots (upper and lower) for the Little School House and the Main Building are separated from the playgrounds by 48" high chain link fences. Eula "Cookie" Cooper accompanied the FCA team during the inspection.

The inspection Team met Principal Gina Hubbard who expressed concern over some issues. In particular, she indicated that she thought the third floor was sinking, because floors are somewhat dished in the middle of the classrooms. (The inspection Team observed the slight pitch in the floors but since there is no evidence of cracking or failure, the Team does not believe the floors are settling.) Room 101 has a damp smell. Room 203 has cracks over the door frame. Exterior doors do not latch properly. There are roof leaks. The upper parking lot is settling along the edge where intersecting the top of the retaining wall for the lower parking lot. The elevator is old and is not reliable; the Principal was told it would be replaced in spring of 2016. Additional exterior security cameras are needed. Heating controls do not function properly and cannot be adjusted; heat is either all on or completely off. Classroom clocks do not work. There are many cracks in the asphalt play area need to be repaired.

ARCHITECTURAL/STRUCTURAL

Foundations in the Main Building are constructed of block and concrete. Basement block joints are in good condition with no major settlement cracks observed. Basement walls are peeling and need to be repainted. The larger "bomb shelter room" has some wall cracking and extensive moisture seen on exterior walls due to ground water seepage. Footings were not seen and their construction type or condition could not be ascertained. .

Floor slabs in the main building basement mechanical rooms are in good condition although covered with dirt and in need of stripping, cleaning and resealing. Other basement slabs and upper floor slabs are also constructed of cast-in-place concrete with cast-in-place concrete beams. No major cracks were seen in any of the slabs. As mentioned in the summary paragraph above, the third floor slab was thought by some in the school to be sinking. Depressed areas in the centers of most classrooms was observed, by the "rolling marble test". The Inspection Team determined that the slabs in third floor Rooms 314-321 have slightly depressed center areas with approximately 1.2% slope to the low point in the middles of the rooms. The Team does not believe the slabs are settling because cracking or breaking of the slab and walls would probably be seen if slabs were settling or falling.

Roof construction over the main building consists mainly of reinforced concrete beams and deck, bearing on masonry walls and concrete columns. The gymnasium has an exposed, longspan steel bar joist and metal deck roof system and although not observed, it is suspected that the same system extends over the auditorium. The roof deck above all parts of the building consists of a "flat" deck with minimum overall slope and pitch to roof drains. Roof access is via a hatch in the roof over the classroom wing. The roof has no parapets, has a brick chimney, and a brick masonry ventilation roof structure. All roofs have internal roof drains at low points. Vertical leaders run through the building in internal chases. There are no vertical leaders running down the outside of the exterior walls. None of the roofs have overflow scuppers or overflow roof drains, but this is not required since there is no measureable parapet and this is not a structural concern. There is a slightly pitched metal roof over the bus drop-off and walkway to the south building entrance.

Exterior walls of the main building are constructed of brick below the first floor windows and brick end walls, with granite column elements between continuous bands of windows on most main wall elevations. There are a few areas with graffiti painted over. Brick is mildew covered below the first floor windows on all elevations and should be powerwashed to improve the appearance. Windows in the main building run horizontally between granite column elements and have painted steel panels between floors. Precast concrete lintels are used for gym and auditorium windows; they appear to be in good condition with no cracks or joint problems seen. The only wall opening using steel lintels are univent louvers where located in brick; in many locations above univents, brick joints are failing and need to be repointed.

Exterior windows on the main building are the 1990's dark anodized frame and single glazed plexiglass replacement units utilized by the District in many schools. The frames are fading and the plexiglass has become etched and cloudy. Windows are difficult to operate and often get stuck open or slam closed. These single glazed units provide almost no insulation value and do not meet today's energy code requirements making them a large source of heat loss. First floor and basement windows have galvanized steel security screens on the exterior facing the street and full height facing the playground, all in good condition. Some of the steel panels between first and second floor windows or under windows along the low roof are rusted and need repainting.

Exterior doors at the main building front entrance, bus drop-off entrance, first floor toilet rooms, and stairway exits are painted hollow metal with steel frames; some have narrow glass vision panels with security screens. Hollow metal doors are generally in poor condition, with dents and scratches; these doors and frames should be replaced. It was indicated that most hardware does not latch properly and many doors need adjustment. Weatherstripping is missing on most doors as gaps can be seen around the older doors. New doors, frames and hardware is needed.

Roof coverings over the main building consist of a built-up felt and gravel asphalt roofing system, with embedded black granules into the roofing membrane. It is guessed from aerial photos and information given to the inspection Team, that the roof was installed over 20 years ago. Flashing is asphalt-backed aluminum-faced, adhered flashing secured to rooftop ventilation ductwork, plumbing vents, and under aluminum coping. Roof structures include masonry walls, masonry chimney, plumbing vents, ventilation ductwork, and roof drains. Coping and flashing are in good condition, however areas around roof drains and under trees along edges of the roof are

dirty, indicating evaporated water puddles. Areas around the roof drains need to be periodically cleaned to provide better drainage into the roof drain assembly. To eliminate ponding areas, the underlying slope of the roof insulation/deck should be increased to improve water flow into roof drains. Since leaks have been reported, pooling water around clogged roof drains could be a cause; water also could be penetrating through gravity vents or exhaust fans. Since the roof is more than 20 years old, it should be replaced.

Partitions in the main building are constructed of painted block (concrete masonry units) throughout the entire school, except in the entrance lobby which has a brick accent wall on the left and mosaic tile inlays on the right upon entering. The main entrance vestibule has brick on both sides. Corners are bull-nose block to soften the hard edges and provide a more durable surface. Wall bases are either painted block or glazed block. There were some hairline joint cracks observed above third floor doors during the inspection; this should be filled when the wall is repainted. Generally, this highly durable wall system is in good condition. Above the doors into classrooms are wired glass vision panels, which appear to be consistent with a 1 hour fire rating required of corridors in a non-sprinklered building; they can remain in place when the doors are replaced. Some classrooms have folding partitions that when open create large teaching spaces. Most are not utilized, although they are solid and in good condition serving as closed walls separating the classrooms. The auditorium had been renovated some years ago using acoustical block as the wall material; it is in good condition.

Interior doors in the main building classrooms, offices, storage rooms, and bathrooms are solid wood oak veneer doors and steel frames. Many of these wood doors have narrow lite wired glass vision panels where vision is desirable. Classroom doors have wired glass transoms over the doors and some doors have security screens. Most wood door surfaces are worn and damaged in need of replacement; classroom doors do not have closers, required by code on fire-rated corridor doors. Steel door frames are in good enough condition that they could be repainted. Classroom, office, and special function room doors throughout the building have old nob-style locksets. Since none of the classroom doors can be locked from the inside of the classroom, as required today for lock-down security, door hardware and door panels need to be replaced. Stairway, cafeteria, and auditorium doors are steel doors with wired glass vision panels and steel door frames. These doors and frames have panic hardware which latches as required by today's codes. Doors appear to be in fair condition with some dents and scratches in door panels and rust at the bottom of frames. Interior basement doors in the mechanical room are also hollow metal steel doors with steel frames. Steel interior doors and frames are in good enough condition to be repaired and repainted.

Interior fittings/hardware in the main building include stylish blue slate chalkboards and tackboards with metal chalk trays mounted on one wall in each classroom. The library space was created by removing the walls between three rooms and renovating the finishes in that enlarged single room. The library has free-standing wood bookcases, plastic laminate and wood tables, and chairs that are all in new. Classrooms have alcoves for coats and storage and also built-in metal cabinets. Kindergartens have wood cubbies and small kitchenette cabinets with a sink. Toilet rooms have either the original ceiling mounted metal toilet room partitions or newer HDPE (high density polyethylene) floor mounted partitions. Most toilet rooms have accessories in place and are operational. Some toilet rooms have a minimally accessible toilet compartment that has a toilet and sink with (almost) enough maneuverability space for wheelchairs, but no grab bars or properly mounted accessories, not fully meeting ADA. Sinks also do not meet accessibility requirements since they do not have wrist blade faucets, leg protection, and extended or properly mounted bowl heights. Accessories in the main building toilet rooms can be reused if not damaged and new accessories should be added to provide complete sets in all toilet rooms. At least one fully accessible toilet room should be created on each floor by adjusting the partition layout in selected toilet rooms, to be as close to ADA compliant as possible.

Stair construction in the main building consists of concrete filled steel treads with steel nosings, steel risers and stringers and painted steel handrails (31" high) and guards (36" high) at tops of landings. All stairway handrails and guards in the building do not meet today's code requirements for railing height, guard height and baluster spacing; they should be replaced with code compliant systems. Concrete platforms and landings are finished with clear sealer, but the concrete has a mottled appearance and looks dirty. Stairs should be stripped and refinished to give them a cleaner appearance. Stair 3 has extensive rusting underneath risers and treads and should be repaired immediately to prevent further corrosion. Stair 2 also has some rusting and has a low headroom problem going up from the basement; finding a way to increase headroom to the code required 6'-8" height should be investigated.

Wall finishes in the basement, first, and second, floors are full height painted concrete masonry units (block) throughout the building. Basement mechanical room walls are peeling and dirty in need of replacement. There are many locations where corridor walls are peeling or damaged and in need of repainting. Classroom walls were covered with decoration and their condition was difficult to assess. The library, auditorium, and gymnasium have painted block in good condition; the cafeteria walls and columns have some peeling paint; some of the stairways have peeling paint. There are artistic wall mosaics installed in the entrance lobby, adding some color to the lobby. Toilet rooms appear to have colorful "sponge art" appliques to painted walls and are in good condition.

Floor finishes in most classrooms, all corridors, the lobby, auditorium, and the auditorium stage consist of vinyl asbestos tile (VAT). These floors at first appear to be in good condition, but upon closer inspection have many cracks, broken tiles, and mismatched replacement tiles. The rooms with VAT floors should be tested for asbestos and they should be properly removed and

replaced with new VCT. The cafeteria, gymnasium, main school offices and a few classrooms have vinyl composition tile (VCT) in place of the original VAT. These office floors have been well maintained and do not appear to need replacement, but the cafeteria and gymnasium floors are worn and need to be replaced. The main office conference room is finished with carpet and needs to be replaced. The kitchen has a quarry tile floor which is highly durable and in good condition. Basements, stairs, and toilet rooms have sealed concrete finishes which are in need of stripping, cleaning, and resealing; toilet rooms in particular should have a clean finish to promote the appearance of cleanliness. The library has new carpet which is in good condition. Bomb Shelter room floors have unfinished dirt floors with a concrete walk pathway down the middle. These spaces can remain as is.

Ceiling finishes in most spaces throughout he main building consist of exposed concrete deck painted white, with surface mounted 1x4 or 2x4 fluorescent lighting fixtures in corridors, classrooms, and offices. Electrical conduit is secured to the deck above and exposed to view. These painted ceiling surfaces are well maintained. The gym has precast concrete planks over an exposed steel longspan joist structure, all painted white and in good condition. The cafeteria has a 2x4 acoustical tile ceilings with recessed fluorescent lighting. Ceiling grids and tiles are old, yellowed and should be replaced. The library has a new 2x4 acoustical tile ceiling and lighting system in good condition. The Auditorium has a suspended plaster or gypsum board ceiling with surface mounted fluorescent lighting fixtures, in good condition.

Fixed furnishings include wood seating in the auditorium which is in good condition. A few chairs need adjustment or refinishing, but overall the appearance is good with minimal repairs required. The cafeteria has folding tables for serving students. The kitchen area has stainless steel service counters and food preparation fittings in good condition. Kindergartens and the art classroom have kitchen cabinets with sinks which are old, worn and in poor condition, requiring replacement.

There is a small 1200lb capacity 4 stop traction elevator in the building. Being an older model, its controls and floor indications do not provide audible and tactile notifications, as required in new ADA compliant elevator cabs. Finishes in the cab are worn. The elevator's operation is not always reliable. In light of the elevator's age and lack of ADA features, the district should replace the elevator.

MECHANICAL

Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. The kindergarten classrooms have primary fixtures and the gym has drinking fountains and cuspidors on either side. The fixtures appear in good repair and generally provide reliable service. However, the older units should be replaced with low flow fixtures as part of any renovation of the spaces.

Drinking fountains (2 per floor) in the corridors of the basement through 3rd Floors are the original wall hung with integral refrigerated coolers. They are well beyond their service life and should be replaced as most are NOT accessible type.

A service sink is available on each floor for use by the janitorial staff. The Cafeteria has a three compartment, stainless steel sink with lever operated faucets and a grease trap in a pit below the floor. Chemicals are injected manually into the sanitizing basin.

A 3" city water service enters the boiler room on the basement level from Sharon Lane. The meter and valves are located in a pit in the yard. A reduced pressure backflow preventer should be installed on the main service. The original domestic hot and cold water distribution piping was installed in 1964 with copper piping and sweat fittings. The maintenance staff reports no significant problems with scale build up in the domestic piping and the supply is adequate to the fixtures. However, the domestic water piping should be schedule for replacement as it is well beyond the anticipated service life.

A 2" natural gas service enters the boiler room on the basement level from Sharon Lane. The firm and interruptible meters and valves are located on the outside wall of the room.

An 80 gallon vertical tank type, electric water heater installed in the boiler room in 2013 supplies hot water for domestic use. It is equipped with a T&P relief valve, but has no expansion tank. The water heater is within its service life and should provide reliable service for the next 5-10 years.

The original sanitary and storm drain piping is galvanized steel with threaded fittings. Roof drain leaders run through the building and connect to an underground storm sewer system on the site. The roof has a zero parapet so overflow drains are not required. These piping systems have been in service for more than 50 years and will require more frequent attention from the maintenance staff as time passes. The District should hire a qualified contractor to examine the sanitary waste and storm drain piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

Hot water for heating the building is generated by three (3) 80 HP Weil McLain cast iron sectional boilers installed in 1964. One boiler is equipped with its original power burner designed to operate on fuel oil, which should be replaced at it is beyond the anticipated

service life. Burners have been replaced on the other two units and are equipped with solid state flame sensing controls. Burner oil pumps are loose and not driven by the fan motor. The supply line to the oil gun is equipped with dual solenoid valves and a basket strainer. Combustion air makeup is supplied by louvers equipped with motorized dampers. Cast iron sectional boilers have an anticipated service life of 35 years or more; these units have been in service more than 50 years. The District should budget to replace these boilers as they appear in poor condition.

The reserve oil supply is stored in two 6,000 gallon single wall steel tanks. The tanks are located in the grass area on the Sharon Lane side of the building. They are not equipped with automatic leak detection and monitoring. Duplex pumps located in the boiler room circulate oil through the system. Natural gas is supplied to the burner pilots, but oil is used as the primary fuel. The District does not receive credit from the gas utility as an interruptible service. The current supply of oil should be tested for quality on a regular schedule. Oil storage tanks have an anticipated service life of 20 years. The District should budget for replacing these tanks in the next few years.

No significant packing leaks were observed at the bonnets of the OS&Y gate valves at the steam header above the boilers.

Heating hot water (HHW) piping is black steel (ASTM A53) with welded fittings. HHW mains from the basement level run up through the building to the heating coils in the air handling units, unit ventilators and finned tube radiation terminals. The original distribution piping installed in 1964 has been in service more than 50 years and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. The District should hire a qualified contractor to examine the HHW piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years.

Many of the classrooms in the school building have window air conditioning units. These units have an anticipated service life of only 10 years. Installing an air-cooled chiller on the roof with pumps located in the boiler room and chilled water distribution piping could supply more reliable air conditioning for the building with a much longer service life.

Unit ventilators provide heating, ventilation and air conditioning for the classrooms. Most are the original units installed in 1964 and are equipped with hot water heating coils, mixing dampers and coil bypass dampers that allow operation on full outdoor air. Classrooms at the corners of the building and other larger spaces have day/night thermostats for temperature reset. The air intake for these units is ducted directly through the wall from outdoor louvers. Excess air supplied by the unit ventilators transfers to the corridor ceiling through wall grilles above the door and relieves to the outdoors through gravity hoods on the upper level. Exhaust from the restrooms is made up by air transferred from the corridors through louvers in the doors. These conditions do not meet requirements of NFPA 90A that prohibit utilizing an egress corridor as part of the air path. The original unit ventilators have been in service for more than 50 years. They are well beyond their anticipated service life and should be scheduled for replacement. The new units should be designed for quiet operation and equipped with hot water and chilled water coils, and integral air-to-air heat exchanger to supply code required minimum outdoor air ventilation.

Three small air handling units located in the mechanical mezzanine serve the Gym AHU-1 the Auditorium (AHU-2) and Cafeteria (AHU-3). A single thermostat controls each unit with night setback. These units are equipped with mixing dampers, heating coils with pumps for freeze protection and a draw through fan. The unit housings and ductwork are insulated with internal fibrous liner. Fiberglass liner materials are classified as a possible human carcinogen and subject to OSHA regulated occupational exposure limits. The liner materials are difficult to maintain and clean. They deteriorate over time and can support microbial growth in the HVAC systems known to cause serious health effects for building occupants. The District should consider removing the liner materials or replacing these air handling units and the associated supply ductwork systems to eliminate this potential liability problem.

Power roof ventilators (6 high roof, 2 low) manually controlled by a time clock exhaust air from the restrooms and utility rooms. The exhaust fans should be schedule for replacement as they are beyond the anticipated service life. A roof fan with filter housing provides exhaust for the kitchen hood. A gas-fired unit should be installed to provide makeup air for the kitchen hood exhaust. Louvered penthouses provide intake for the air handling units and allow excess air to relieve from the building.

The kitchen has cooking equipment and is equipped with an exhaust hood.

The original pneumatic systems still provide basic control functions. Pneumatic room thermostats drive the unit ventilators, the damper actuators and control valves. Pneumatic control air is supplied from the (2-cylinder) compressor and Hankinson dryer located in the boiler room. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff. The original control valves, dampers and pneumatic actuators should be rebuilt or replaced as they have been in service for over 50 years. These controls should be converted to DDC.

A new building automation system (BAS) with modern DDC modules and communications network should be installed to serve the

HVAC systems in this building to improve reliability and energy efficiency. An interface should be provided with the preferred system in use throughout the District.

The school building is NOT covered by an automatic sprinkler system. Installing a sprinkler system with quick response type heads should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure.

ELECTRICAL

Site Electrical Service of the main building is from Medium voltage overhead lines on wooden poles along Sharon Line. Three 75KVA single phase utility transformers additive polarity, connected delta-wye is provided in transformer room for supplying power at 225KVA, 208/120VAC, 3phase, 4 wires to the facility.

The service entrance to the facility consist of a 600A disconnect switch, utility meter and two main distribution panels estimated 600A each are located in electrical room next to transformer room. One distribution panel (original one) is feeding elevator, lighting and power panels. The second distribution panel feeds air units and all smart boards in the school. Power transformers and original distribution panel are very old and far exceeded their useful life and should be replaced.

Power distribution is accomplished several panel boards throughout the building. panel boards, five in each floor, three in the basement, one in gymnasium, one in fan room above gymnasium and one in the kitchen. It appears that fifty percent of the panel boards and branch circuit breakers have been exceeded their useful life and should also be replaced.

Classrooms, corridors and offices typically have equipped with adequate number of duplex receptacles. No major deficiencies with respect to receptacle number and location were observed except the receptacles in Kindergarten classrooms which are not of tamper-resistant type. This is in violation of the electrical codes that receptacles that are subject to child access be of either tamper proof or GFCI.

Interior building spaces are illuminated by various types of fluorescent lighting fixtures. 2x4 surface fluorescent fixtures with clear prismatic lens and T8 lamps are used in classrooms, corridors, and offices. 2x4 lay in grid type with T8 lamp are used in cafeteria. In general these lighting fixtures are in acceptable working condition. Kitchen utilized with 1x4 industrial lighting fixtures with T8 lamps. This type of fixtures is not recommended to be used in cooking area. This can be a safety hazard as the exposed bulb is vulnerable to breakage and should be replaced with fluorescent lighting fixtures with clear prismatic lens specified for kitchen area. Gymnasium illuminated with pendent mounted metal halide fixtures which have high energy consumption and are difficult to re-lamp and required to be replaced.

Building is equipped with 120V manual fire alarm system. The system does not meet current fire alarm codes and should be replaced with an automatic fire alarm system.

The school telephone and data systems are new and working adequately. A main distribution frame (MDF) along whit a telephone PBX system (telephone within an enterprise that switches calls between enterprise users on local lines while allowing all users to share a certain number of external phone lines) servicing the communication system of the building. School also equipped with wifi system.

Separate PA system does not exist. School uses the telephone systems for public announcement. This system is working adequately.

Each classroom is provided by intercom telephone service. The system is permit paging and intercom communication between main office phone to classroom phones, and classroom to main office, classroom to classroom, and to office. Outside line access from a class room phone through the PBX is blocked. The system is interfaces with master clock system for class change signaling utilizing paging speakers. The system also equipped with a tone generator and input from program/clock controller.

School is provided with wireless clock system. In general clock and Program system in the buildings are functioning. Some clocks are not working because of the battery problem.

Video surveillance system is not provided in the school. School provided only with access control system such a door contacts on IMC, and main entrance doors and motion security sensors in corridors. The school desires a complete video surveillance system with cameras located in critical areas, such as exit doors, corridors, and building exterior areas. The cameras should be controlled by a Closed Circuit Television (CCTV) system.

Emergency Power System is provided in the school. A new 25KVA, 208/120V, three phase, 4W is provided in Boiler room for emergency lighting.

Uninterruptible Power System (UPS) is provided for Local Area Network in the main IT room.

Emergency lighting system, including exit lights are provided in the buildings. Numbers of lighting fixtures in corridors, egress way and other critical public areas. Exit signs are not fed by emergency power.

An estimated 7.5 horsepower rated gear type elevator is in operation at the school. The elevator appears to be very old and thus replacement is required.

Existing auditorium Stage is provided with a new theatrical lighting system including, front, upstage, high side, backlighting, scenery lighting. In addition to the stage lights, supplemental fluorescent lighting is also provided in stage area for lectures and testing. The theatrical lighting system is useless because no controller has been provided for controlling the lights. An automatic theatrical lighting controller is recommended to make the system fully operational.

A sound system is provided in school multipurpose room. System is working adequately. Another sound system is provided in dining area. This system is old and outdated and should be replaced.

Campus areas, parking areas, and building perimeters have lighting that is adequate for personnel safety and security of property.

The exterior building and parking areas are monitored by a video surveillance system.

Site Paging system is provided in the school and working adequately. Existing speakers are providing proper coverage in the playground.

GROUNDS

Paving and parking is constructed of asphalt. Half of the surface has a number of long cracks extending over the surface. These should be filled and the area sealed to minimize future cracking. Parking on the upper area is separated from the playground by a chain link fence. Approximately half of the upper playground area should be repaved. The lower parking area is cracked and should be resurfaced.

There is are two ADA accessible ramps into the building. There is an ADA compliant handicap accessible ramp and entrance at the south end of the building facing Alicia Street, leading into the main corridor and there is an accessible ramp and entrance on the east end of the building. Railings and guards along the ramps are in good condition. Even though there are marked handicapped parking spaces in the lower parking area, there is no easy way for people parking in those spaces to access the accessible entrances. Handicap accessible parking is provided in the upper parking area near the dumpsters, but clearer signage for this parking and better separation from the dumpsters is needed. Better signage is needed to direct people to both accessible entrances. Site fencing is composed of chain link fencing which is in fair condition with some bent and rusting sections around the site. There is a gate to close-off the entrances to the parking lot; the District should consider painting the fences in 5 years.

The stone retaining wall along the south side of the lower parking and along the stairs into the main entrance has scattered areas in need of repointing. The 6 riser site stair leading up to the playground needs repairs. The concrete walkway along Sharon Lane has broken panels in need of repaving. The south side of the playground has a sloped hill up to the Alicia Street sidewalk. This hill has been trampled by students killing the grass causing dirt to wash onto the asphalt. More rugged groundcover-type landscaping should be planted to prevent erosion.

RECOMMENDATIONS

- Strip and reseal concrete floors in stairways, toilet rooms and part of basement (10,000sf)
- Provide waterproofing on foundation in Bomb Shelter to prevent moisture intrusion (1,000sf)
- Replace exterior metal doors with new FRP doors with metal frames including hardware and weatherstripping (15 3x7)
- Repaint hollow metal doors and frames at stairways and mechanical rooms (30 3x7) doors.
- Replace roof, improving drainage into roof drains and eliminating flat spots (34,074sf)
- Replace all windows around the building (420 - 3.5x8')
- Repaint rusted steel panels in walls between windows (20)
- Replace univents damaged facing playground (7 8ftx1ft)
- Repoint lintels over univents (80ft)
- Powerwash brick walls below first floor windows and window sills where dirty and with graffiti; paint walls previously painted (5,000sf)
- Replace wood doors into classrooms, toilet rooms, and offices, in corridors and provide new lever locksets (80) 3x7 doors

- Provide security hardware for classrooms and offices, locking from the inside of the room (80)
- Repaint peeling basement, stairway, and corridor walls (8,000sf)
- Replace toilet room partitions with HDPE plastic partitions (6 toilet compartments)
- Provide toilet room accessories where partitions are replaced (6 toilet compartments)
- Remove 9”x9” VAT floors in classrooms, corridors, and auditorium with and replace with VCT (51,000sf)
- Replace damaged VCT in gymnasium and cafeteria (11,000sf)
- Replace carpet in main office conference room with new carpet (300sf)
- Replace stairway railings and guards (650ft)
- Repaint rusted underside of stairway risers and treads (3 flights – 36 risers)
- Replace 2x4 suspended acoustical tile ceiling in cafeteria and school office (6,600sf)
- Repaint water damaged concrete ceilings (2,000sf)
- Refinish auditorium seats (20)
- Replace worn out kitchen cabinets in kindergarten and art classrooms (40 linear feet)
- Replace existing elevator (1200lb; 4 stops)
- New handrails/guards at stairway down from Alicia St. and stairway up from lower parking to playground (100ft)
- Repaint exterior ramp handrails/guards (300ft)

MECHANICAL

- Replace eighteen (18) original lavatories in the restrooms on the Basement through 3rd levels with low flow fixtures.
- Replace sixteen (16) original water closets in the restrooms on the Basement through 3rd levels with low flow fixtures.
- Replace twelve (12) original urinals in the restrooms on the Basement through 3rd levels with low flow fixtures.
- Replace the eight (8) original wall hung drinking fountains and integral refrigerated coolers in the corridors and at the lunchroom. These units are well beyond their service life and most are NOT accessible type.
- Replace the original copper domestic water piping in service for more than 50 years.
- Provide an expansion tank for the 80 gallon vertical tank type, gas-fired domestic water heater.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping in service for more than 50 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Hire a qualified contractor to perform a detailed examination of the storm drainage piping in service for more than 50 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace the three 80 HP Weil McLain cast iron sectional boilers installed in service since 1964. The District should budget to replace these boilers as they beyond the anticipated service life.
- Replace the original power burner still in service on one of the three (3) 80 HP Weil McLain cast iron sectional boilers installed in 1964.
- Replace the two (2) existing 6,000 fuel oil tanks with a new 8,000 gallon aboveground concrete-encased tank, circulation pumps and controls.
- Improve the natural gas service to supply the three 80 HP boilers to receive billing credit from the gas utility as an interruptible service.
- Remove the window air conditioning units and install air-cooled chiller(s) on the roof and chilled water distribution piping and pumps located in the boiler room to supply air conditioning for the building.
- Replace the hot water heating piping in service more than 50 years to avoid potential failures. The District should budget for replacing this piping over the next 10 years.
- Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install distribution piping, valves and controls to provide chilled water for the new coils.
- Replace the two (2) 7.5 HP heating hot water pumps in the boiler room.
- Replace the damaged finned tube radiation terminals.
- Replace air handling unit HV-1 that serves the Gym and associated ductwork and registers. The unit housings and ductwork are insulated with internal fibrous liner classified as a possible human carcinogen and subject to OSHA regulated occupational exposure limits.
- Replace air handling unit HV-2 that serves the Auditorium and associated ductwork and registers. The unit housings and ductwork are insulated with internal fibrous liner classified as a possible human carcinogen and subject to OSHA regulated occupational exposure limits.
- Replace air handling unit HV-3 that serves the Cafeteria and associated ductwork and registers. The unit housings and ductwork are insulated with internal fibrous liner classified as a possible human carcinogen and subject to OSHA regulated occupational exposure limits.
- Provide ventilation for the Main Office by removing the existing unit ventilators and installing a VAV rooftop unit with distribution ductwork and registers.

- Provide ventilation for the IMC by removing the existing unit ventilators and installing a rooftop unit with distribution ductwork and registers.
- Provide ventilation for the corridors by installing five (5) fan coil air handling units hung from the structure with outdoor air louvers.
- Replace the power roof ventilators (6 high roof, 2 low) that exhaust air from the restrooms and utility rooms. The exhaust fans should be schedule for replacement as they are beyond the anticipated service life.
- Install gas-fired unit to provide makeup air for the kitchen hood exhaust.
- Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property.

ELECTRICAL

- Upgrade the existing electrical service with a new service. Replace the existing distribution panels with new 1600A, switchboard.
- Upgrade existing distribution system by replacing new panel boards and new feeders. Provide arc flash label on all panel boards. Estimated total 11 panel boards.
- Replace GFCI type receptacle in areas subject to kid access. Estimated 30 receptacle
- Replace industrial fluorescent lighting fixtures in kitchen with new fluorescent lighting fixtures with clear prismatic lens recommended for kitchen area. Estimated 20 fixtures. Replace metal halide fixtures in gymnasium with LED high bay lighting fixtures. Estimated 30 total.
- Replace existing elevators with a new elevator.
- Replace existing fire alarm system with an automatic fire alarm system including smoke detectors in corridors and other recommended areas per NEC. Install horn/strobes in classroom, corridors, offices, toilets, library and other recommended areas per codes.
- Provide an adequate video surveillance system including camera and Closed Circuit Television (CCTV) for monitoring the system. Cameras should install in the corridors, school entrance doors and on the walls around the building. Provide monitor in main office and building engineer office.
- Replace existing exit signs with battery pack types and provide emergency power to all. Estimated 30 total.
- Provide new modern stage lighting with automatic dimmer bank controller in the Auditorium

GROUNDS

- Crackfill and seal asphalt parking lot and play area (1,000ft cracks; 40,000sf seal)
- Repave asphalt parking lot - all of lower lot; half of upper lot (30,000sf)
- Repave broken sidewalk around building (2,000sf)
- Repoint stone retaining walls (300sf)
- New ground cover landscaping along south side of playground and Alicia St. (5,000sf)

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 2
Status:	Accepted by SDP	Team:	Tm 2
Site ID:	S843001		

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.

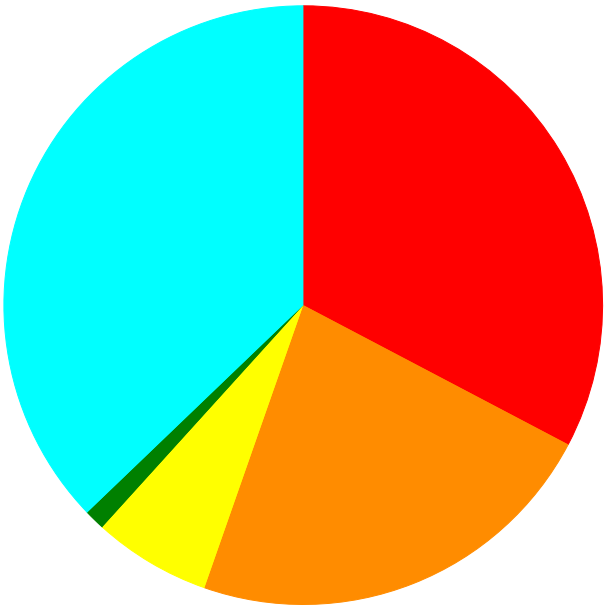
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	49.00 %	2.60 %	$61,214.37
A20 - Basement Construction	49.00 %	0.00 %	$0.00
B10 - Superstructure	49.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	66.66 %	53.78 %	$2,728,426.98
B30 - Roofing	110.00 %	89.59 %	$1,154,495.66
C10 - Interior Construction	54.28 %	19.83 %	$438,004.85
C20 - Stairs	49.00 %	185.97 %	$235,992.55
C30 - Interior Finishes	80.53 %	28.92 %	$1,119,002.96
D10 - Conveying	105.71 %	395.69 %	$833,318.92
D20 - Plumbing	59.04 %	91.62 %	$1,683,850.37
D30 - HVAC	79.61 %	123.97 %	$12,411,008.67
D40 - Fire Protection	0.00 %	177.49 %	$1,287,490.18
D50 - Electrical	109.31 %	19.49 %	$1,030,957.76
E10 - Equipment	18.27 %	4.38 %	$62,706.97
E20 - Furnishings	37.50 %	8.93 %	$17,117.89
G20 - Site Improvements	42.77 %	22.25 %	$432,058.78
G40 - Site Electrical Utilities	20.21 %	0.00 %	$0.00
Totals:	**67.00 %**	**50.05 %**	**$23,495,646.91**

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)
B843001;Greenberg	90,000	51.99	$7,684,580.79	$5,004,397.85	$1,380,123.30	$261,548.03	$8,732,938.16
G843001;Grounds	148,400	16.70	$0.00	$317,771.86	$114,286.92	$0.00	$0.00
Total:		**50.05**	**$7,684,580.79**	**$5,322,169.71**	**$1,494,410.22**	**$261,548.03**	**$8,732,938.16**

Deficiencies By Priority



1 - Response Time (< 2 yr) - $7,684,580.79
2 - Response Time (2-3 yrs) - $5,322,169.71
3 - Response Time (3-4 yrs) - $1,494,410.22
4 - Response Time (4-5 yrs) - $261,548.03
5 - Response Time (> 5 yrs) - $8,732,938.16

Budget Estimate Total: $23,495,646.91

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):	90,000
Year Built:	1964
Last Renovation:	
Replacement Value:	$44,359,585
Repair Cost:	$23,063,588.13
Total FCI:	51.99 %
Total RSLI:	68.75 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B843001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S843001		

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	49.00 %	2.60 %	$61,214.37
A20 - Basement Construction	49.00 %	0.00 %	$0.00
B10 - Superstructure	49.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	66.66 %	53.78 %	$2,728,426.98
B30 - Roofing	110.00 %	89.59 %	$1,154,495.66
C10 - Interior Construction	54.28 %	19.83 %	$438,004.85
C20 - Stairs	49.00 %	185.97 %	$235,992.55
C30 - Interior Finishes	80.53 %	28.92 %	$1,119,002.96
D10 - Conveying	105.71 %	395.69 %	$833,318.92
D20 - Plumbing	59.04 %	91.62 %	$1,683,850.37
D30 - HVAC	79.61 %	123.97 %	$12,411,008.67
D40 - Fire Protection	0.00 %	177.49 %	$1,287,490.18
D50 - Electrical	109.31 %	19.49 %	$1,030,957.76
E10 - Equipment	18.27 %	4.38 %	$62,706.97
E20 - Furnishings	37.50 %	8.93 %	$17,117.89
Totals:	**68.75 %**	**51.99 %**	**$23,063,588.13**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	90,000	100	1964	2064		49.00 %	3.70 %	49		$61,214.37	$1,656,000
A1030	Slab on Grade	$7.73	S.F.	90,000	100	1964	2064		49.00 %	0.00 %	49			$695,700
A2010	Basement Excavation	$6.55	S.F.	90,000	100	1964	2064		49.00 %	0.00 %	49			$589,500
A2020	Basement Walls	$12.70	S.F.	90,000	100	1964	2064		49.00 %	0.00 %	49			$1,143,000
B1010	Floor Construction	$75.10	S.F.	90,000	100	1964	2064		49.00 %	0.00 %	49			$6,759,000
B1020	Roof Construction	$13.88	S.F.	90,000	100	1964	2064		49.00 %	0.00 %	49			$1,249,200
B2010	Exterior Walls	$36.91	S.F.	90,000	100	1964	2064		49.00 %	2.66 %	49		$88,503.62	$3,321,900
B2020	Exterior Windows	$18.01	S.F.	90,000	40	1964	2004	2057	105.00 %	155.71 %	42		$2,523,884.99	$1,620,900
B2030	Exterior Doors	$1.45	S.F.	90,000	25	1964	1989	2025	40.00 %	88.92 %	10		$116,038.37	$130,500
B3010105	Built-Up	$37.76	S.F.	34,074	20	1964	1984	2037	110.00 %	89.73 %	22		$1,154,495.66	$1,286,634
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	34,074	20	1964	1984	2037	110.00 %	0.00 %	22			$2,044
C1010	Partitions	$17.91	S.F.	90,000	100	1964	2064		49.00 %	0.00 %	49			$1,611,900
C1020	Interior Doors	$3.51	S.F.	90,000	40	1964	2004	2057	105.00 %	134.49 %	42		$424,847.38	$315,900
C1030	Fittings	$3.12	S.F.	90,000	40	1964	2004	2026	27.50 %	4.69 %	11		$13,157.47	$280,800
C2010	Stair Construction	$1.41	S.F.	90,000	100	1964	2064		49.00 %	185.97 %	49		$235,992.55	$126,900

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System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3010230	Paint & Covering	$13.21	S.F.	90,000	10	1964	1974	2025	100.00 %	5.32 %	10		$63,249.19	$1,188,900
C3010231	Vinyl Wall Covering	$0.97	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$2.63	S.F.		30				0.00 %	0.00 %				$0
C3020411	Carpet	$7.30	S.F.	2,000	10	1964	1974	2027	120.00 %	22.99 %	12		$3,357.23	$14,600
C3020412	Terrazzo & Tile	$75.52	S.F.	1,100	50	1964	2014	2030	30.00 %	0.00 %	15			$83,072
C3020413	Vinyl Flooring	$9.68	S.F.	70,200	20	1964	1984	2037	110.00 %	133.28 %	22		$905,692.92	$679,536
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	16,700	50	1964	2014	2030	30.00 %	237.33 %	15		$38,445.33	$16,199
C3030	Ceiling Finishes	$20.97	S.F.	90,000	25	1964	1989	2030	60.00 %	5.74 %	15		$108,258.29	$1,887,300
D1010	Elevators and Lifts	$2.34	S.F.	90,000	35	1964	1999	2052	105.71 %	395.69 %	37		$833,318.92	$210,600
D2010	Plumbing Fixtures	$13.52	S.F.	90,000	35	1964	1999	2027	34.29 %	35.91 %	12		$436,934.44	$1,216,800
D2020	Domestic Water Distribution	$1.68	S.F.	90,000	25	1964	1989	2042	108.00 %	307.95 %	27		$465,622.53	$151,200
D2030	Sanitary Waste	$2.90	S.F.	90,000	25	1964	1989	2042	108.00 %	146.43 %	27		$382,194.69	$261,000
D2040	Rain Water Drainage	$2.32	S.F.	90,000	30	1964	1994	2047	106.67 %	191.14 %	32		$399,098.71	$208,800
D3020	Heat Generating Systems	$18.67	S.F.	90,000	35	1964	1999	2052	105.71 %	106.94 %	37		$1,796,905.94	$1,680,300
D3030	Cooling Generating Systems	$24.48	S.F.	90,000	30				0.00 %	65.60 %			$1,445,345.43	$2,203,200
D3040	Distribution Systems	$42.99	S.F.	90,000	25	1964	1989	2042	108.00 %	187.07 %	27		$7,238,069.09	$3,869,100
D3050	Terminal & Package Units	$11.60	S.F.	90,000	20	1964	1984	2028	65.00 %	0.00 %	13			$1,044,000
D3060	Controls & Instrumentation	$13.50	S.F.	90,000	20	1964	1984	2037	110.00 %	158.90 %	22		$1,930,688.21	$1,215,000
D4010	Sprinklers	$7.05	S.F.	90,000	35				0.00 %	202.91 %			$1,287,490.18	$634,500
D4020	Standpipes	$1.01	S.F.	90,000	35				0.00 %	0.00 %				$90,900
D5010	Electrical Service/Distribution	$9.70	S.F.	90,000	30	1964	1994	2047	106.67 %	39.26 %	32		$342,767.49	$873,000
D5020	Lighting and Branch Wiring	$34.68	S.F.	90,000	20	1964	1984	2037	110.00 %	3.23 %	22		$100,715.04	$3,121,200
D5030	Communications and Security	$12.99	S.F.	90,000	15	1964	1979	2032	113.33 %	50.25 %	17		$587,475.23	$1,169,100
D5090	Other Electrical Systems	$1.41	S.F.	90,000	30	1964	1994	2037	73.33 %	0.00 %	22			$126,900
E1020	Institutional Equipment	$4.82	S.F.	90,000	35	1964	1999	2020	14.29 %	14.46 %	5		$62,706.97	$433,800
E1090	Other Equipment	$11.10	S.F.	90,000	35	1964	1999	2022	20.00 %	0.00 %	7			$999,000
E2010	Fixed Furnishings	$2.13	S.F.	90,000	40	1964	2004	2030	37.50 %	8.93 %	15		$17,117.89	$191,700
								Total	**68.75 %**	**51.99 %**			**$23,063,588.13**	**$44,359,585**

System Notes

The facility description in the site executive summary contains an overview of each system. The notes listed below provide additional information on select systems found within the facility.

System: C3010 - Wall Finishes — This system contains no images

Note: paint - 100%

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

Note:
Concrete = 10,000sf 11%
Unfinished (bomb shelter) = 6,700sf 7%
VCT = 19,200sf 22%
Carpet = 2,000sf 2%
QT = 1,100sf 1%
VAT - = 51,000sf 57%

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

Note:
ACT = 10,000sf - 11%
Painted deck = =73,300sf - 82%
unfinished (bomb shelter) = 6,700sf - 7%

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:	**$23,063,588**	**$0**	**$0**	**$0**	**$0**	**$553,182**	**$0**	**$1,351,508**	**$0**	**$0**	**$1,950,480**	**$26,918,759**
*** 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	$61,214	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$61,214**
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	$88,504	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$88,504**
B2020 - Exterior Windows	$2,523,885	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,523,885**
B2030 - Exterior Doors	$116,038	$0	$0	$0	$0	$0	$0	$0	$0	$0	$192,919	**$308,958**
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	$1,154,496	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,154,496**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

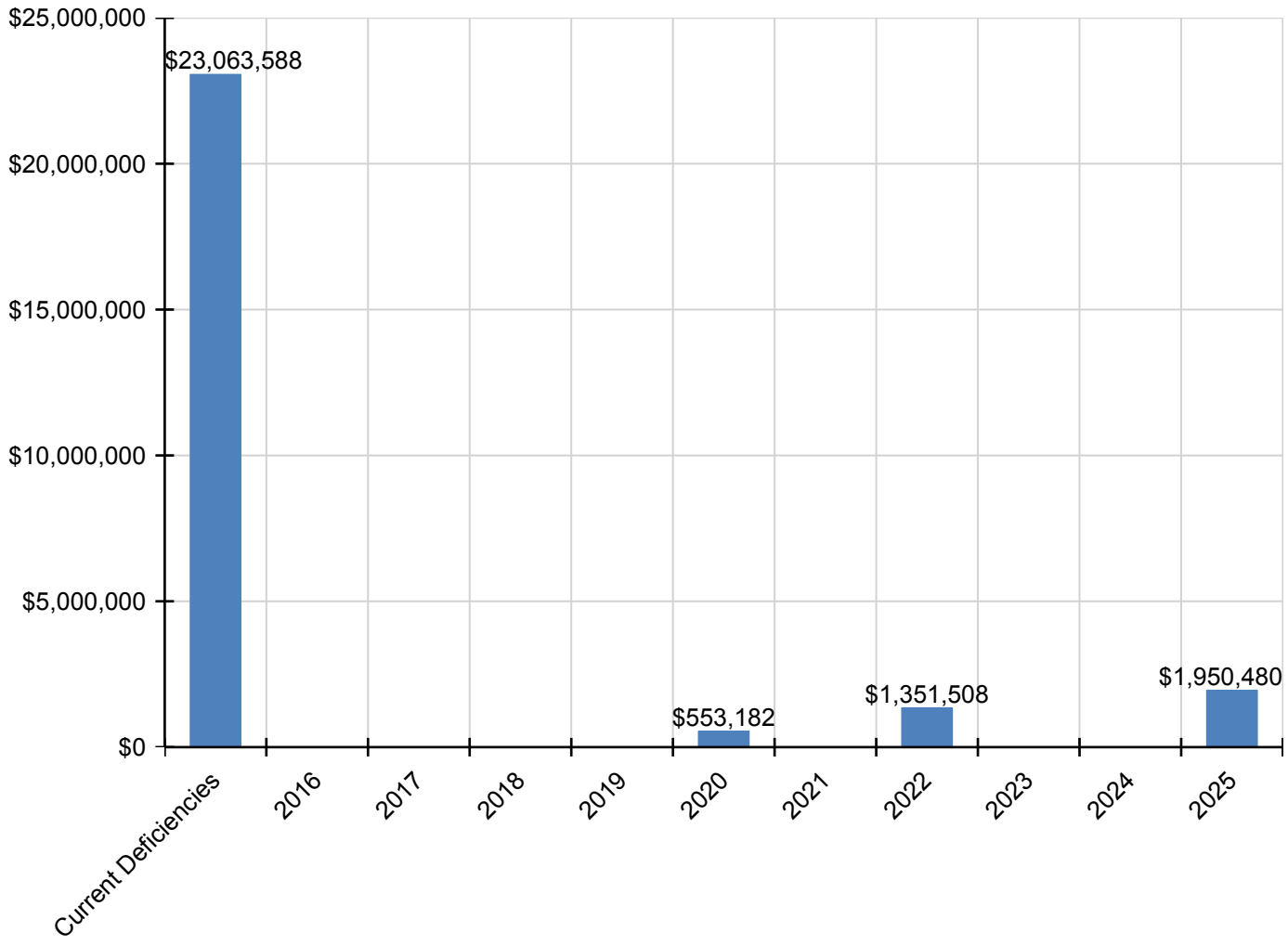
C1020 - Interior Doors	$424,847	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$424,847**
C1030 - Fittings	$13,157	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$13,157**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$235,993	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$235,993**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$63,249	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,757,560	**$1,820,810**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$3,357	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,357**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$905,693	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$905,693**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$38,445	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$38,445**
C3030 - Ceiling Finishes	$108,258	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$108,258**
D - Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D10 - Conveying	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D1010 - Elevators and Lifts	$833,319	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$833,319**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$436,934	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$436,934**
D2020 - Domestic Water Distribution	$465,623	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$465,623**
D2030 - Sanitary Waste	$382,195	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$382,195**
D2040 - Rain Water Drainage	$399,099	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$399,099**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,796,906	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,796,906**
D3030 - Cooling Generating Systems	$1,445,345	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,445,345**
D3040 - Distribution Systems	$7,238,069	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$7,238,069**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,930,688	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,930,688**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,287,490	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,287,490**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$342,767	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$342,767**
D5020 - Lighting and Branch Wiring	$100,715	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$100,715**
D5030 - Communications and Security	$587,475	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$587,475**
D5090 - Other Electrical Systems	$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**
E10 - Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1020 - Institutional Equipment	$62,707	$0	$0	$0	$0	$553,182	$0	$0	$0	$0	$0	**$615,889**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$1,351,508	$0	$0	$0	**$1,351,508**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$17,118	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$17,118**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

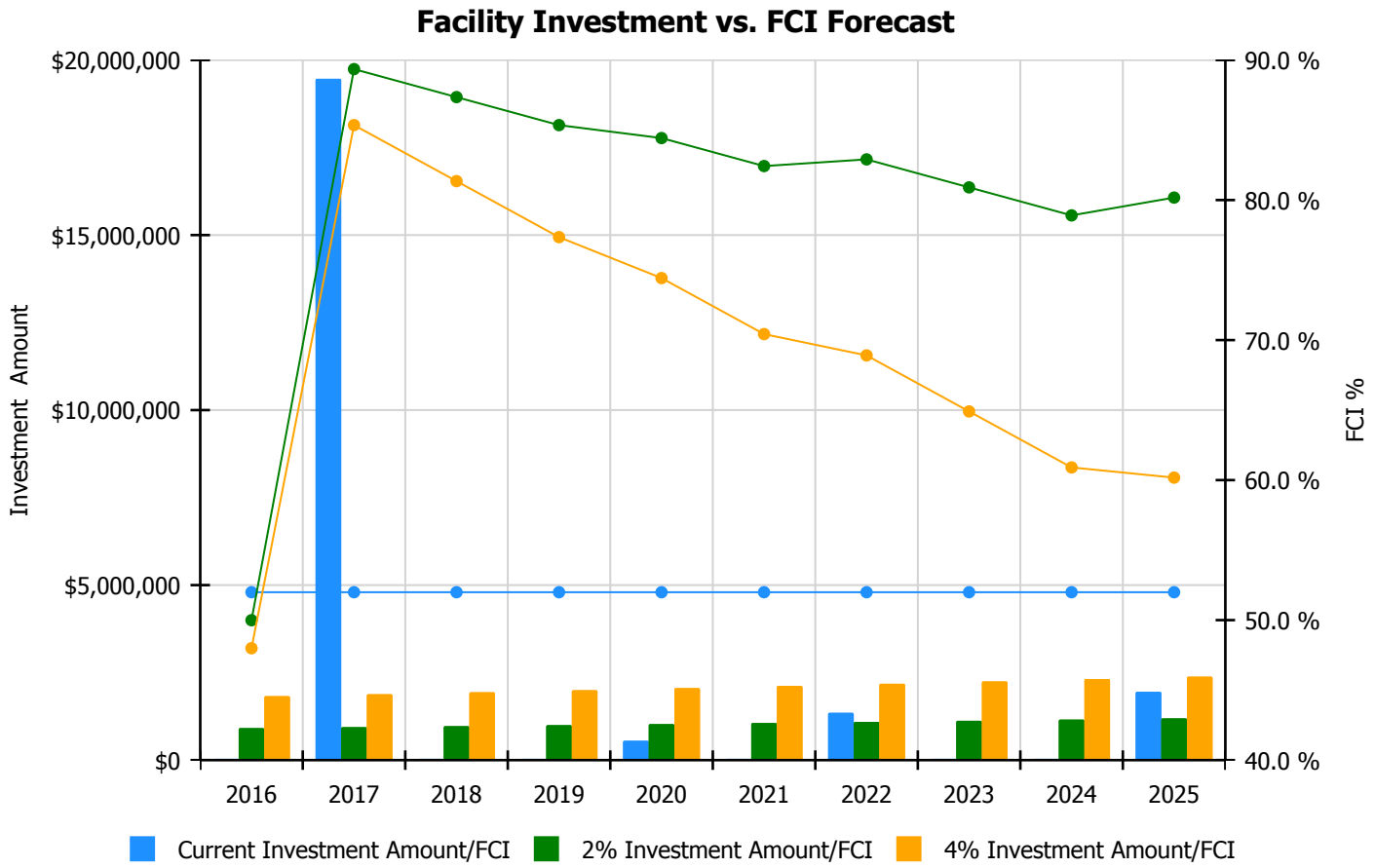
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

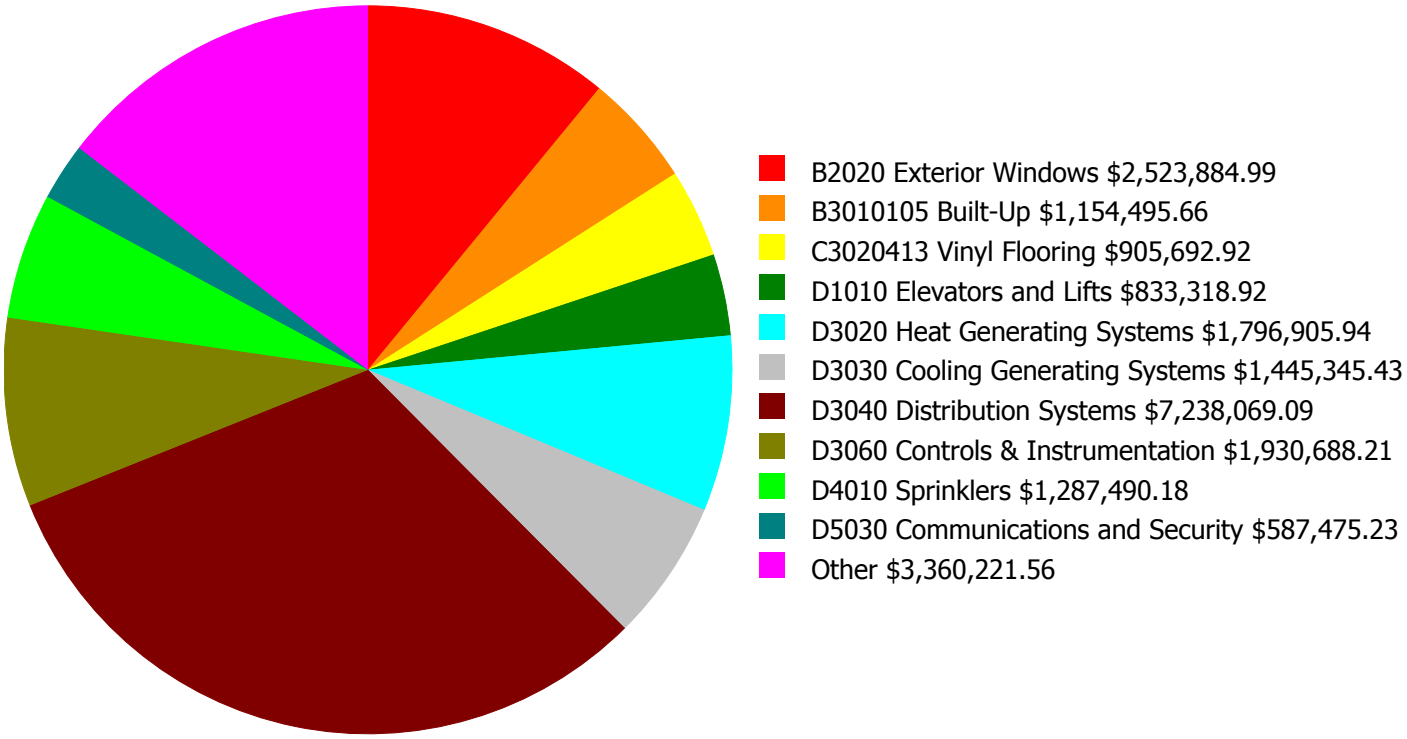
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 51.99%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$913,807.00	49.99 %	$1,827,615.00	47.99 %
2017	$19,464,128	$941,222.00	89.35 %	$1,882,443.00	85.35 %
2018	$0	$969,458.00	87.35 %	$1,938,917.00	81.35 %
2019	$0	$998,542.00	85.35 %	$1,997,084.00	77.35 %
2020	$553,182	$1,028,498.00	84.43 %	$2,056,997.00	74.43 %
2021	$0	$1,059,353.00	82.43 %	$2,118,707.00	70.43 %
2022	$1,351,508	$1,091,134.00	82.90 %	$2,182,268.00	68.90 %
2023	$0	$1,123,868.00	80.90 %	$2,247,736.00	64.90 %
2024	$0	$1,157,584.00	78.90 %	$2,315,168.00	60.90 %
2025	$1,950,480	$1,192,311.00	80.18 %	$2,384,623.00	60.18 %
Total:	**$23,319,298**	**$10,475,777.00**		**$20,951,558.00**	

Deficiency Summary by System

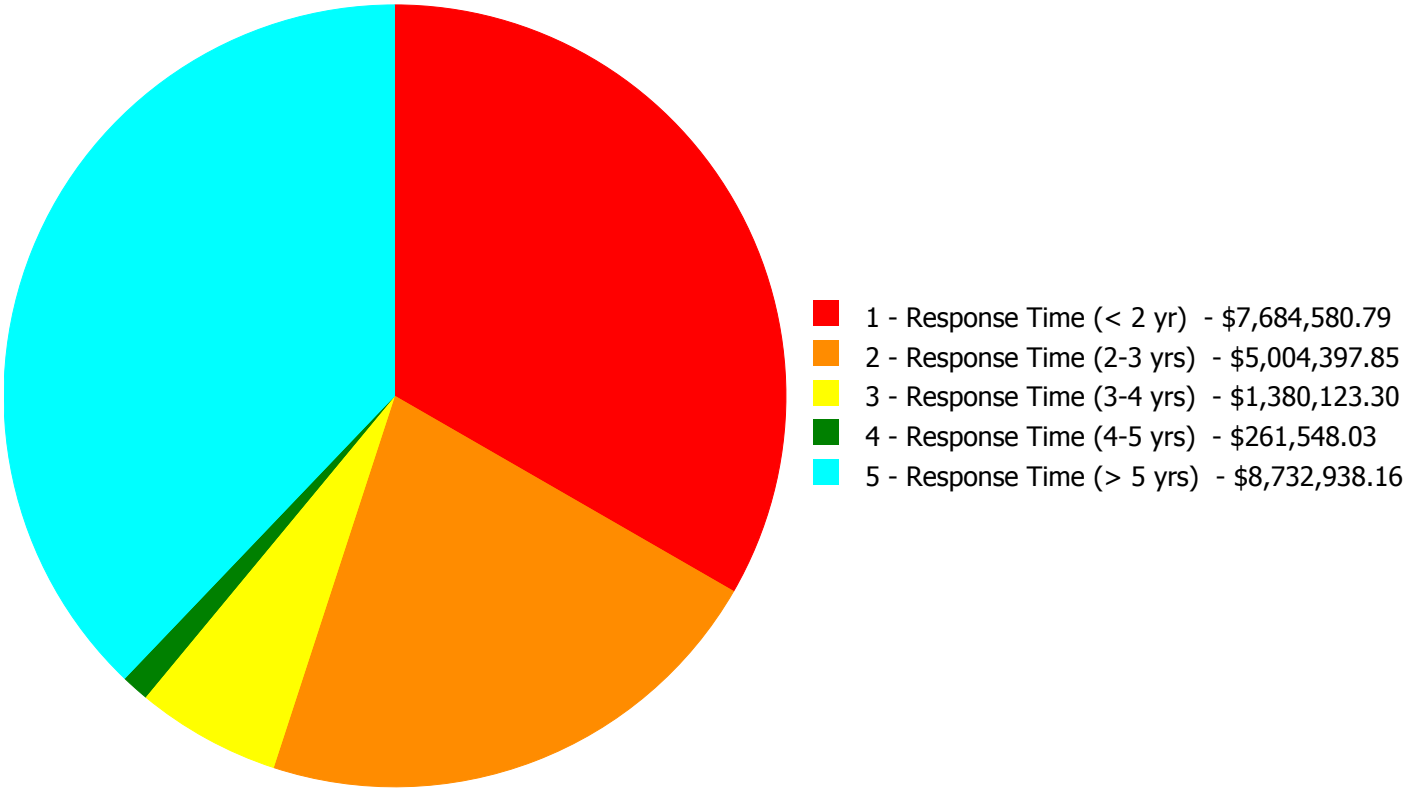
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $23,063,588.13

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: $23,063,588.13

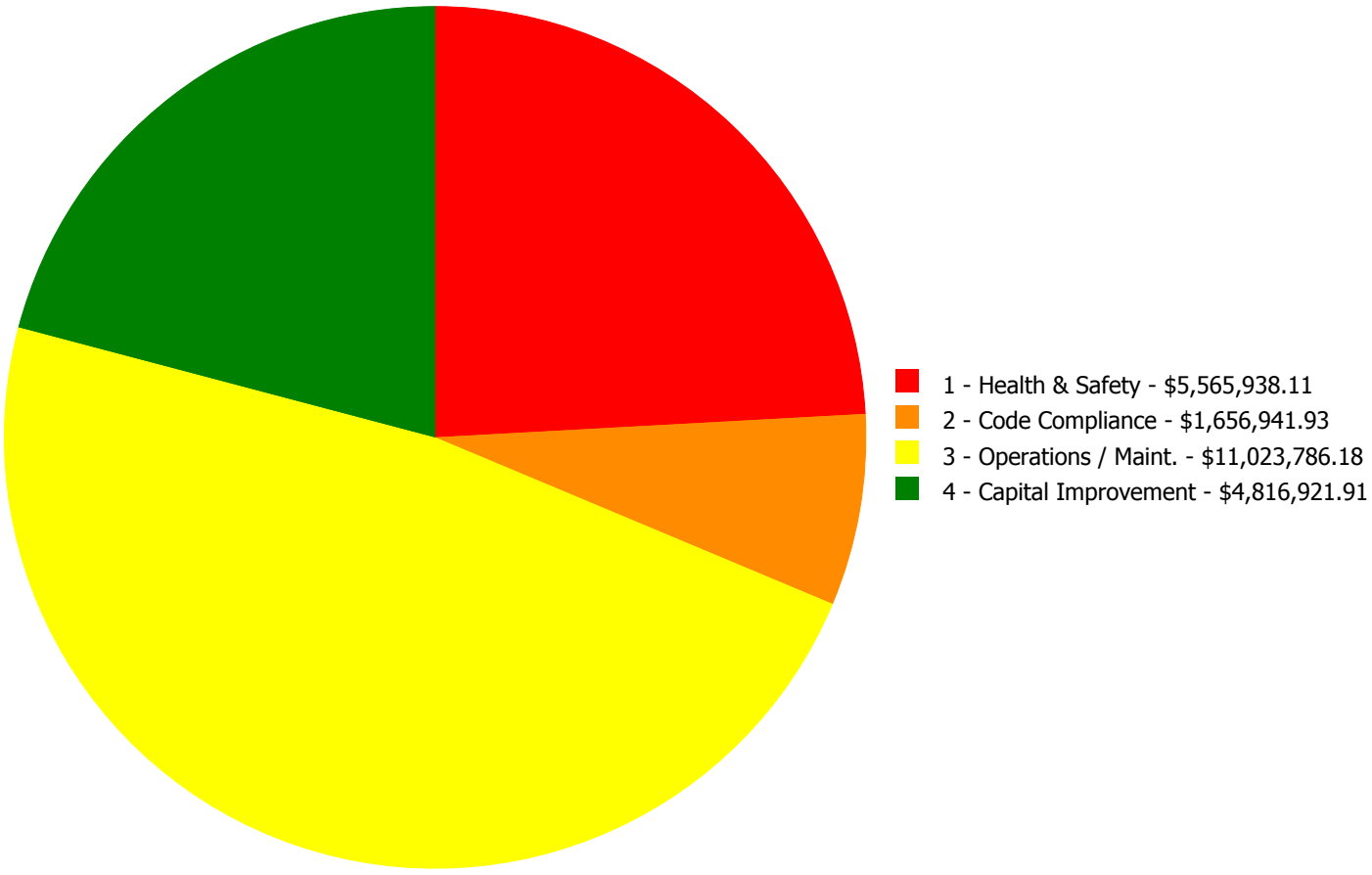
Deficiency By Priority Investment Table

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
A1010	Standard Foundations	$61,214.37	$0.00	$0.00	$0.00	$0.00	$61,214.37
B2010	Exterior Walls	$33,695.10	$54,808.52	$0.00	$0.00	$0.00	$88,503.62
B2020	Exterior Windows	$0.00	$2,523,884.99	$0.00	$0.00	$0.00	$2,523,884.99
B2030	Exterior Doors	$0.00	$116,038.37	$0.00	$0.00	$0.00	$116,038.37
B3010105	Built-Up	$1,154,495.66	$0.00	$0.00	$0.00	$0.00	$1,154,495.66
C1020	Interior Doors	$0.00	$424,847.38	$0.00	$0.00	$0.00	$424,847.38
C1030	Fittings	$0.00	$13,157.47	$0.00	$0.00	$0.00	$13,157.47
C2010	Stair Construction	$234,348.46	$1,644.09	$0.00	$0.00	$0.00	$235,992.55
C3010230	Paint & Covering	$0.00	$63,249.19	$0.00	$0.00	$0.00	$63,249.19
C3020411	Carpet	$0.00	$3,357.23	$0.00	$0.00	$0.00	$3,357.23
C3020413	Vinyl Flooring	$0.00	$905,692.92	$0.00	$0.00	$0.00	$905,692.92
C3020415	Concrete Floor Finishes	$0.00	$38,445.33	$0.00	$0.00	$0.00	$38,445.33
C3030	Ceiling Finishes	$0.00	$99,544.04	$8,714.25	$0.00	$0.00	$108,258.29
D1010	Elevators and Lifts	$199,133.78	$634,185.14	$0.00	$0.00	$0.00	$833,318.92
D2010	Plumbing Fixtures	$0.00	$125,543.18	$0.00	$0.00	$311,391.26	$436,934.44
D2020	Domestic Water Distribution	$9,560.11	$0.00	$0.00	$0.00	$456,062.42	$465,622.53
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$0.00	$382,194.69	$382,194.69
D2040	Rain Water Drainage	$0.00	$0.00	$0.00	$0.00	$399,098.71	$399,098.71
D3020	Heat Generating Systems	$0.00	$0.00	$983,695.33	$239,487.42	$573,723.19	$1,796,905.94
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,445,345.43	$1,445,345.43
D3040	Distribution Systems	$4,936,657.91	$0.00	$354,467.11	$0.00	$1,946,944.07	$7,238,069.09
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$0.00	$1,930,688.21	$1,930,688.21
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$1,287,490.18	$1,287,490.18
D5010	Electrical Service/Distribution	$342,767.49	$0.00	$0.00	$0.00	$0.00	$342,767.49
D5020	Lighting and Branch Wiring	$95,772.32	$0.00	$0.00	$4,942.72	$0.00	$100,715.04
D5030	Communications and Security	$587,475.23	$0.00	$0.00	$0.00	$0.00	$587,475.23
E1020	Institutional Equipment	$29,460.36	$0.00	$33,246.61	$0.00	$0.00	$62,706.97
E2010	Fixed Furnishings	$0.00	$0.00	$0.00	$17,117.89	$0.00	$17,117.89
	Total:	$7,684,580.79	$5,004,397.85	$1,380,123.30	$261,548.03	$8,732,938.16	$23,063,588.13

Deficiency Summary by Category

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



Budget Estimate Total: $23,063,588.13

Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: A1010 - Standard Foundations

Location: foundation wall in Bomb Shelter Room

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Apply waterproofing on existing foundation walls - SF of foundation wall - add for sump and discharge piping

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $61,214.37

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Provide waterproofing on foundation in Bomb Shelter to prevent moisture intrusion (1,000sf)

System: B2010 - Exterior Walls

Location: exterior walls

Distress: Appearance

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Remove graffiti - power wash and paint

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $33,695.10

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Powerwash brick walls below first floor windows and on concrete window sills where dirty and with graffiti; repaint walls previously painted (5,000sf)

System: B3010105 - Built-Up

Location: roof

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Remove and Replace Built Up Roof

Qty: 34,074.00

Unit of Measure: S.F.

Estimate: $1,154,495.66

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace roof, improving drainage into roof drains and eliminating flat spots (34,074sf)

System: C2010 - Stair Construction

Location: stairways

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

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

Qty: 650.00

Unit of Measure: L.F.

Estimate: $219,131.44

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace stairway railings and guards (650ft)

System: C2010 - Stair Construction

Location: exterior stairways

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

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

Qty: 100.00

Unit of Measure: L.F.

Estimate: $15,217.02

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: New handrails/guards at stairway down from Alicia St. and stairway up from lower parking to playground (100ft)

System: D1010 - Elevators and Lifts

Location: Interior Building

Distress: Beyond Service Life

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $199,133.78

Assessor Name: Craig Anding

Date Created: 01/07/2016

Notes: Replace existing elevators with a new elevator.

System: D2020 - Domestic Water Distribution

Location: Boiler Room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Provide expansion tank for water heater.

Qty: 1.00

Unit of Measure: Ea.

Estimate: $9,560.11

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Provide an expansion tank for the 80 gallon vertical tank type, gas-fired domestic water heater.

System: D3040 - Distribution Systems

Location: Classrooms

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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: 60,000.00

Unit of Measure: S.F.

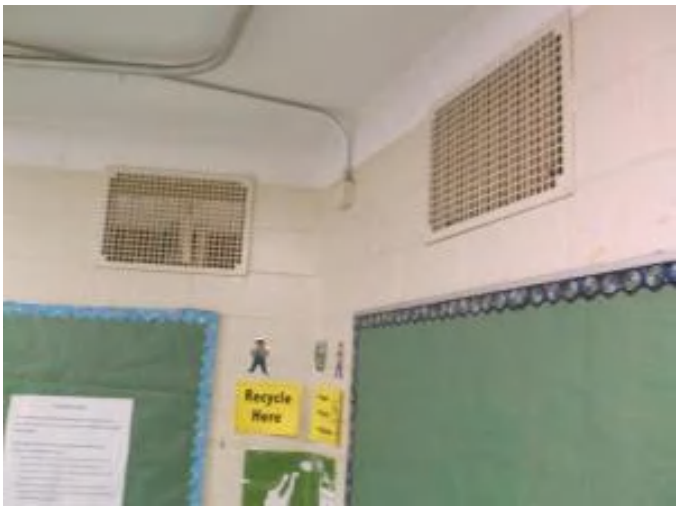
Estimate: $2,894,351.11

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install distribution piping, valves and controls to provide chilled water for the new coils.

System: D3040 - Distribution Systems



Location: Corridors

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

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

Qty: 75.00

Unit of Measure: TonAC

Estimate: $1,276,700.27

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Provide ventilation for the corridors by installing five (5) fan coil air handling units hung from the structure with outdoor air louvers.

System: D3040 - Distribution Systems

Location: Mezzanine Mechanical

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace HVAC unit for Auditorium (800 seat).

Qty: 600.00

Unit of Measure: Seat

Estimate: $306,762.03

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace air handling unit HV-2 that serves the Auditorium and associated ductwork and registers. The unit housings and ductwork are insulated with internal fibrous liner classified as a possible human carcinogen and subject to OSHA regulated occupational exposure limits.

System: D3040 - Distribution Systems

Location: Mezzanine Mechanical

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 850.00

Unit of Measure: Student

Estimate: $231,369.13

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace air handling unit HV-3 that serves the Cafeteria and associated ductwork and registers. The unit housings and ductwork are insulated with internal fibrous liner classified as a possible human carcinogen and subject to OSHA regulated occupational exposure limits.

System: D3040 - Distribution Systems

Location: Mezzanine Mechanical

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace HVAC unit for Gymnasium (single station)

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $227,475.37

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace air handling unit HV-1 that serves the Gym and associated ductwork and registers. The unit housings and ductwork are insulated with internal fibrous liner classified as a possible human carcinogen and subject to OSHA regulated occupational exposure limits.

System: D5010 - Electrical Service/Distribution

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $264,420.28

Assessor Name: Craig Anding

Date Created: 01/07/2016

Notes: Upgrade existing distribution system by replacing new panel boards and new feeders. Provide arc flash label on all panel boards. Estimated total 11 panel boards.

System: D5010 - Electrical Service/Distribution

Location: Electrical Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add Electrical Switchgear and Distribution System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $78,347.21

Assessor Name: Craig Anding

Date Created: 01/07/2016

Notes: Upgrade the existing electrical service with a new service. Replace the existing distribution panels with new 1600A, switchboard.

System: D5020 - Lighting and Branch Wiring

Location: Kitchen and Gymnasium

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace lighting fixtures

Qty: 1.00

Unit of Measure: Ea.

Estimate: $72,322.27

Assessor Name: Craig Anding

Date Created: 01/07/2016

Notes: Replace industrial fluorescent lighting fixtures in kitchen with new fluorescent lighting fixtures with clear prismatic lens recommended for kitchen area. Estimated 20 fixtures. Replace metal halide fixtures in gymnasium with LED high bay lighting fixtures. Estimated 30 total.

System: D5020 - Lighting and Branch Wiring

Location: Entire Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace lighting fixtures

Qty: 1.00

Unit of Measure: Ea.

Estimate: $23,450.05

Assessor Name: Craig Anding

Date Created: 01/07/2016

Notes: Replace existing exit signs with battery pack types and provide emergency power to all. Estimated 30 total.

System: D5030 - Communications and Security

Location: Entire Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

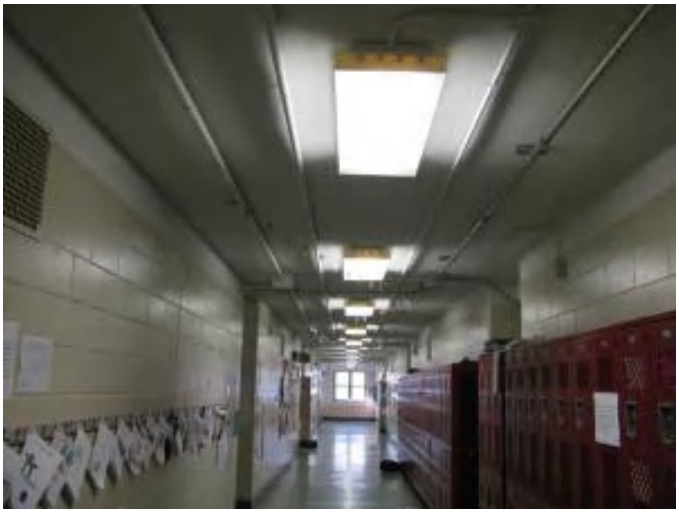
Estimate: $322,184.99

Assessor Name: Craig Anding

Date Created: 01/07/2016

Notes: Replace existing fire alarm system with an automatic fire alarm system including smoke detectors in corridors and other recommended areas per NEC. Install horn/strobes in classroom, corridors, offices, toilets, library and other recommended areas per codes.

System: D5030 - Communications and Security



Location: Entire Building

Distress: Security Issue

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Video Surveillance System

Qty: 1.00

Unit of Measure: Ea.

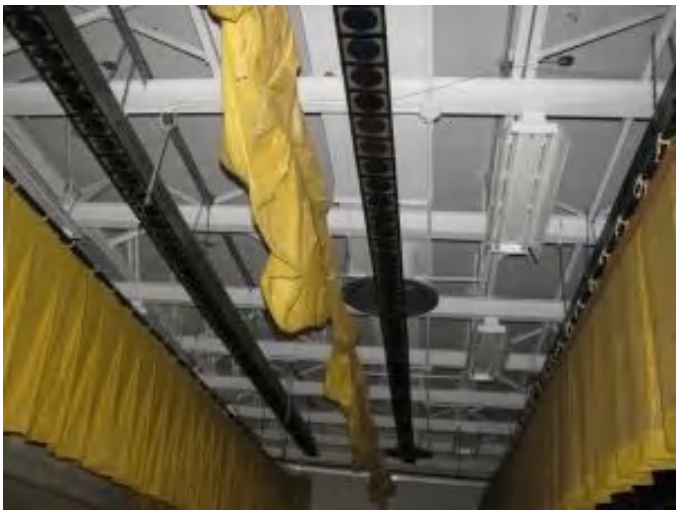
Estimate: $265,290.24

Assessor Name: Craig Anding

Date Created: 01/07/2016

Notes: Provide an adequate video surveillance system including camera and Closed Circuit Television (CCTV) for monitoring the system. Cameras should install in the corridors, school entrance doors and on the walls around the building. Provide monitor in main office and building engineer office.

System: E1020 - Institutional Equipment



Location: Auditorium

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace stage dimmer control board

Qty: 1.00

Unit of Measure: Ea.

Estimate: $29,460.36

Assessor Name: Craig Anding

Date Created: 01/20/2016

Notes: Provide new automatic dimmer bank controller in the Auditorium

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

System: B2010 - Exterior Walls

Location: exterior univents

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replacing failing steel lintels in brick wall construction

Qty: 80.00

Unit of Measure: L.F.

Estimate: $44,345.85

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Repoint lintels over univents (80ft)

System: B2010 - Exterior Walls

Location: exterior univents

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior wall louvers - pick the closest size and insert the number of louvers

Qty: 7.00

Unit of Measure: Ea.

Estimate: $8,185.35

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace univents damaged facing playground (7 8ftx1ft)

System: B2010 - Exterior Walls

Location: exterior windows (panels)

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Prepare and paint exterior steel beams or steel surfaces

Qty: 300.00

Unit of Measure: S.F.

Estimate: $2,277.32

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Repaint rusted steel panels in walls between windows (300sf)

System: B2020 - Exterior Windows

Location: exterior windows

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 420.00

Unit of Measure: Ea.

Estimate: $2,523,884.99

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace all windows around the building (420 - 3.5x8')

System: B2030 - Exterior Doors

Location: exterior doors

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 15.00

Unit of Measure: Ea.

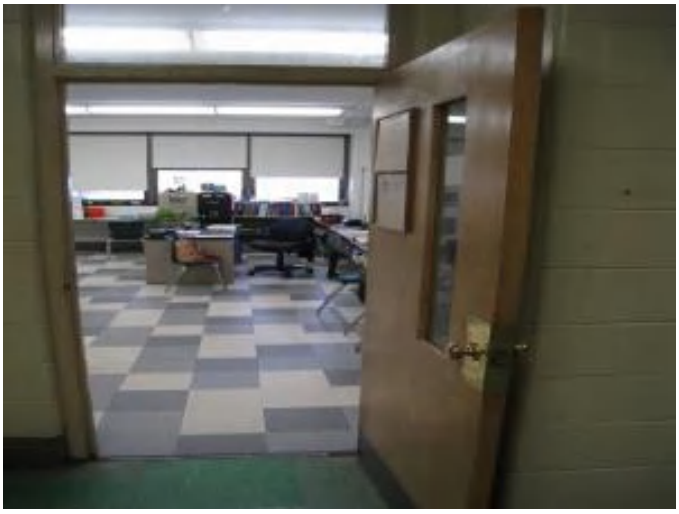
Estimate: $116,038.37

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace exterior metal doors with new FRP doors with metal frames including hardware and weatherstripping (15 3x7)

System: C1020 - Interior Doors



Location: interior doors

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 80.00

Unit of Measure: Ea.

Estimate: $381,646.97

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace wood doors into classrooms, toilet rooms, and offices, in corridors and provide new lever locksets (80) 3x7 doors

System: C1020 - Interior Doors

Location: stairway and mech room doors

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Refinish interior doors

Qty: 30.00

Unit of Measure: Ea.

Estimate: $24,845.49

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Repaint hollow metal doors and frames at stairways and mechanical rooms (30 3x7) doors.

System: C1020 - Interior Doors

Location: corridor classroom and office doors

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Provide security hardware for classroom and office doors

Qty: 80.00

Unit of Measure: Ea.

Estimate: $18,354.92

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Provide security hardware for classrooms and offices, locking from the inside of the room (80)

System: C1030 - Fittings

Location: toilet rooms

Distress: Inadequate

Category: 3 - Operations / Maint.

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

Correction: Replace toilet accessories - select accessories and quantity

Qty: 6.00

Unit of Measure: Ea.

Estimate: $7,290.34

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Provide toilet room accessories where partitions are replaced (6 toilet compartments)

System: C1030 - Fittings

Location: toilet rooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace damaged toilet paritions - handicap units

Qty: 6.00

Unit of Measure: Ea.

Estimate: $5,867.13

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace toilet room partitions with HDPE plastic partitions (6 toilet compartments)

System: C2010 - Stair Construction

Location: exterior ramp handrails/guards

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Re-paint stairway handrails - per LF of handrail pipe

Qty: 300.00

Unit of Measure: L.F.

Estimate: $1,644.09

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Repaint exterior ramp handrails/guards (300ft)

System: C3010230 - Paint & Covering

Location: basement and corridor walls

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 8,000.00

Unit of Measure: S.F.

Estimate: $60,016.01

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Repaint peeling basement, stairway, and corridor walls (8,000sf)

System: C3010230 - Paint & Covering

Location: stairways

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 400.00

Unit of Measure: S.F.

Estimate: $3,233.18

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Repaint rusted underside of stairway risers and treads (3 flights – 36 risers)

System: C3020411 - Carpet

Location: office

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 300.00

Unit of Measure: S.F.

Estimate: $3,357.23

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace carpet in main office conference room with new carpet (300sf)

System: C3020413 - Vinyl Flooring

Location: floors

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 51,000.00

Unit of Measure: S.F.

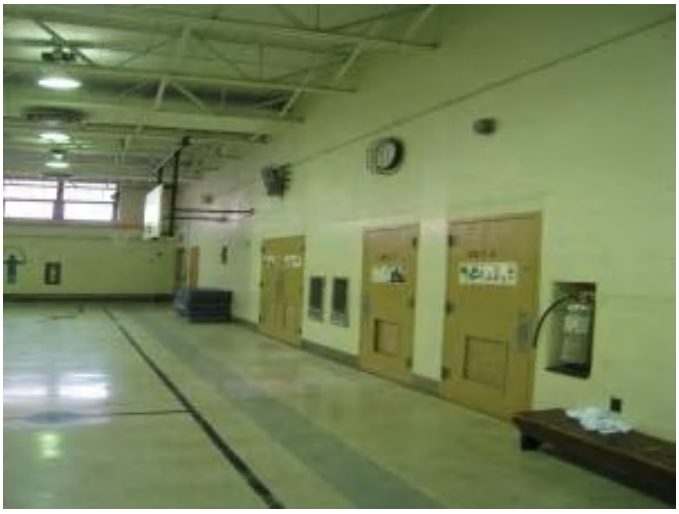
Estimate: $773,500.07

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Remove 9”x9” VAT floors in classrooms, corridors, and auditorium with and replace with VCT (51,000sf)

System: C3020413 - Vinyl Flooring



Location: gym and cafeteria floors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace VCT

Qty: 11,000.00

Unit of Measure: S.F.

Estimate: $132,192.85

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace damaged VCT in gymnasium and cafeteria (11,000sf)

System: C3020415 - Concrete Floor Finishes

Location: concrete floors

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Clean and reseal concrete floors

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $38,445.33

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Strip and reseal concrete floors in stairways, toilet rooms and part of basement (10,000sf)

System: C3030 - Ceiling Finishes

Location: cafeteria and office ceiling

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 6,600.00

Unit of Measure: S.F.

Estimate: $99,544.04

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace 2x4 suspended acoustical tile ceiling in cafeteria and school office (6,600sf)

System: D1010 - Elevators and Lifts

Location: elevator

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 1.00

Unit of Measure: Ea.

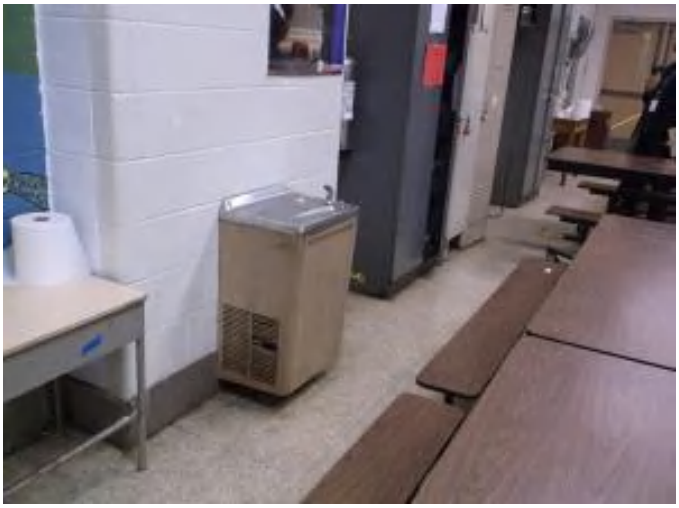
Estimate: $634,185.14

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace existing elevator (1200lb; 4 stops)

System: D2010 - Plumbing Fixtures



Location: Restrooms

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Remove and replace water fountains to meet ADA - includes high and low fountains and new recessed alcove

Qty: 8.00

Unit of Measure: Ea.

Estimate: $125,543.18

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace the eight (8) original wall hung drinking fountains and integral refrigerated coolers in the corridors and at the lunchroom. These units are well beyond their service life and most are NOT accessible type.

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

System: C3030 - Ceiling Finishes

Location: ceilings
Distress: Appearance
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Re-paint ceilings - SF of ceilings
Qty: 2,000.00
Unit of Measure: S.F.
Estimate: $8,714.25
Assessor Name: Craig Anding
Date Created: 02/09/2016

Notes: Repaint water damaged concrete ceilings (2,000sf)

System: D3020 - Heat Generating Systems

Location: Boiler Room
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace boiler, cast iron sectional (100 HP)
Qty: 3.00
Unit of Measure: Ea.
Estimate: $983,695.33
Assessor Name: Craig Anding
Date Created: 03/01/2016

Notes: Replace the three 80 HP Weil McLain cast iron sectional boilers installed in service since 1964. The District should budget to replace these boilers as they beyond the anticipated service life.

System: D3040 - Distribution Systems

Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace power roof ventilator (24" dia.)

Qty: 8.00

Unit of Measure: Ea.

Estimate: $354,467.11

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace the power roof ventilators (6 high roof, 2 low) that exhaust air from the restrooms and utility rooms. The exhaust fans should be schedule for replacement as they are beyond the anticipated service life.

System: E1020 - Institutional Equipment

Location: classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace base cabinets and countertops

Qty: 40.00

Unit of Measure: L.F.

Estimate: $33,246.61

Assessor Name: Craig Anding

Date Created: 02/09/2016

Notes: Replace worn out kitchen cabinets in kindergarten and art classrooms (40 linear feet)

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

System: D3020 - Heat Generating Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $161,580.94

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace the two (2) 7.5 HP heating hot water pumps in the boiler room.

System: D3020 - Heat Generating Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace power burner, gas/oil (100 HP)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $77,906.48

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace the original power burner still in service on one of the three (3) 80 HP Weil McLain cast iron sectional boilers installed in 1964.

System: D5020 - Lighting and Branch Wiring

Location: Entire Building
Distress: Inadequate
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Replace Wiring Device
Qty: 0.00
Unit of Measure: Ea.
Estimate: $4,942.72
Assessor Name: Craig Anding
Date Created: 01/07/2016

Notes: Replace GFCI type receptacle in areas subject to kid access. Estimated 30 receptacle

System: E2010 - Fixed Furnishings

Location: auditorium
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Refinish auditorium seating
Qty: 20.00
Unit of Measure: Ea.
Estimate: $17,117.89
Assessor Name: Craig Anding
Date Created: 02/09/2016

Notes: Refinish auditorium seats (20)

Priority 5 - Response Time (> 5 yrs):

System: D2010 - Plumbing Fixtures

Location: Restrooms
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace lavatory - with finishes
Qty: 18.00
Unit of Measure: Ea.
Estimate: $147,524.24
Assessor Name: Craig Anding
Date Created: 03/01/2016

Notes: Replace eighteen (18) original lavatories in the restrooms on the Basement through 3rd levels with low flow fixtures.

System: D2010 - Plumbing Fixtures

Location: Restrooms
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Remove and replace or replace water closet - quantify additional units
Qty: 16.00
Unit of Measure: Ea.
Estimate: $119,394.37
Assessor Name: Craig Anding
Date Created: 03/01/2016

Notes: Replace sixteen (16) original water closets in the restrooms on the Basement through 3rd levels with low flow fixtures.

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Remove and replace or replace wall hung urinals

Qty: 12.00

Unit of Measure: Ea.

Estimate: $44,472.65

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace twelve (12) original urinals in the restrooms on the Basement through 3rd levels with low flow fixtures.

System: D2020 - Domestic Water Distribution

Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace domestic water piping (75 KSF)

Qty: 90,000.00

Unit of Measure: S.F.

Estimate: $456,062.42

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace the original copper domestic water piping in service for more than 50 years.

System: D2030 - Sanitary Waste

Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 90,000.00

Unit of Measure: S.F.

Estimate: $382,194.69

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Hire a qualified contractor to perform a detailed examination of the sanitary waste piping in service for more than 50 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D2040 - Rain Water Drainage

Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 90,000.00

Unit of Measure: S.F.

Estimate: $399,098.71

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Hire a qualified contractor to perform a detailed examination of the storm drainage piping in service for more than 50 years using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

System: D3020 - Heat Generating Systems

Location: Site

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Provide fuel oil tank, above ground concrete encased (8,000 gal)

Qty: 12,000.00

Unit of Measure: Gal.

Estimate: $352,561.49

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace the two (2) existing 6,000 fuel oil tanks with a new 8,000 gallon aboveground concrete-encased tank, circulation pumps and controls.

System: D3020 - Heat Generating Systems

Location: Site

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Improve service to support burning natural gas as the primary fuel (75KSF)

Qty: 100.00

Unit of Measure: L.F.

Estimate: $221,161.70

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Improve the natural gas service to supply the three 80 HP boilers to receive billing credit from the gas utility as an interruptible service.

System: D3030 - Cooling Generating Systems

Location: Throughout Building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 90,000.00

Unit of Measure: S.F.

Estimate: $1,445,345.43

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Remove the window air conditioning units and install air-cooled chiller(s) on the roof and chilled water distribution piping and pumps located in the boiler room to supply air conditioning for the building.

System: D3040 - Distribution Systems

Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace hydronic heating piping (75KSF)

Qty: 90,000.00

Unit of Measure: S.F.

Estimate: $885,997.14

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace the hot water heating piping in service more than 50 years to avoid potential failures. The District should budget for replacing this piping over the next 10 years.

System: D3040 - Distribution Systems

This deficiency has no image.

Location: IMC

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 755.00

Unit of Measure: Student

Estimate: $395,857.08

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Provide ventilation for the IMC by removing the existing unit ventilators and installing a rooftop unit with distribution ductwork and registers.

System: D3040 - Distribution Systems

This deficiency has no image.

Location: Main Offices

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 755.00

Unit of Measure: Student

Estimate: $315,334.37

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Provide ventilation for the Main Office by removing the existing unit ventilators and installing a VAV rooftop unit with distribution ductwork and registers.

System: D3040 - Distribution Systems

Location: Kitchen

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install GF makeup air unit for kitchen exhaust hood (single 10 ft hood).

Qty: 1.00

Unit of Measure: Ea.

Estimate: $309,401.34

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Install gas-fired unit to provide makeup air for the kitchen hood exhaust.

System: D3040 - Distribution Systems

Location: Throughout Building

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace finned tube radiation terminals (per 100 LF)

Qty: 100.00

Unit of Measure: L.F.

Estimate: $40,354.14

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Replace the damaged finned tube radiation terminals.

System: D3060 - Controls & Instrumentation

Location: Throughout Building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 90,000.00

Unit of Measure: S.F.

Estimate: $1,930,688.21

Assessor Name: Craig Anding

Date Created: 03/01/2016

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

System: D4010 - Sprinklers

Location: Throughout Building

Distress: Life Safety / NFPA / PFD

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 90,000.00

Unit of Measure: S.F.

Estimate: $1,287,490.18

Assessor Name: Craig Anding

Date Created: 03/01/2016

Notes: Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property.

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, hot water, 2628 MBH	3.00	Ea.	B-3	Weil McLain	BH-1692-WH			35			$119,222.40	$393,433.92
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, hot water, 2628 MBH	3.00	Ea.	B-2	Weil McLain	BH-1692-WH			35			$119,222.40	$393,433.92
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, hot water, 2628 MBH	3.00	Ea.	B-1	Weil McLain	BH-1692-WH			35			$119,222.40	$393,433.92
D3040 Distribution Systems	AHU, central station, cool/heat coils, constant volume, filters, 10,000 CFM	3.00	Ea.	HV-3	American Air Filter	INV-10080-HYS	433798-03		25			$58,369.30	$192,618.69
D3040 Distribution Systems	AHU, central station, cool/heat coils, constant volume, filters, 10,000 CFM	3.00	Ea.	HV-2	American Air Filter	INV-10070-HYS	433798-02		25			$58,369.30	$192,618.69
D3040 Distribution Systems	AHU, central station, cool/heat coils, constant volume, filters, 10,000 CFM	3.00	Ea.	HV-1	American Air Filter	INV-10080-HYS	433798-01		25			$58,369.30	$192,618.69
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 600 A, 1 stories, 25' horizontal	2.00	Ea.						30	1964	2017	$18,536.85	$40,781.07
												Total:	**$1,798,938.90**

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):	148,400
Year Built:	1964
Last Renovation:	
Replacement Value:	$2,587,268
Repair Cost:	$432,058.78
Total FCI:	16.70 %
Total RSLI:	37.14 %

Description:

Attributes:

General Attributes:

Bldg ID:	S843001	Site ID:	S843001

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	42.77 %	22.25 %	$432,058.78
G40 - Site Electrical Utilities	20.21 %	0.00 %	$0.00
Totals:	**37.14 %**	**16.70 %**	**$432,058.78**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30				0.00 %	0.00 %				$0
G2020	Parking Lots	$7.65	S.F.	36,800	30	1964	1994	2025	33.33 %	61.13 %	10		$172,106.16	$281,520
G2030	Pedestrian Paving	$11.52	S.F.	76,400	40	1964	2004	2026	27.50 %	3.27 %	11		$28,765.70	$880,128
G2040	Site Development	$4.36	S.F.	148,400	25	1964	1989	2030	60.00 %	21.63 %	15		$139,934.39	$647,024
G2050	Landscaping & Irrigation	$3.78	S.F.	35,200	15	1964	1979	2027	80.00 %	68.58 %	12		$91,252.53	$133,056
G4020	Site Lighting	$3.58	S.F.	148,400	30	1964	1994	2020	16.67 %	0.00 %	5			$531,272
G4030	Site Communications & Security	$0.77	S.F.	148,400	30	1964	1994	2026	36.67 %	0.00 %	11			$114,268
								Total	**37.14 %**	**16.70 %**			**$432,058.78**	**$2,587,268**

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.

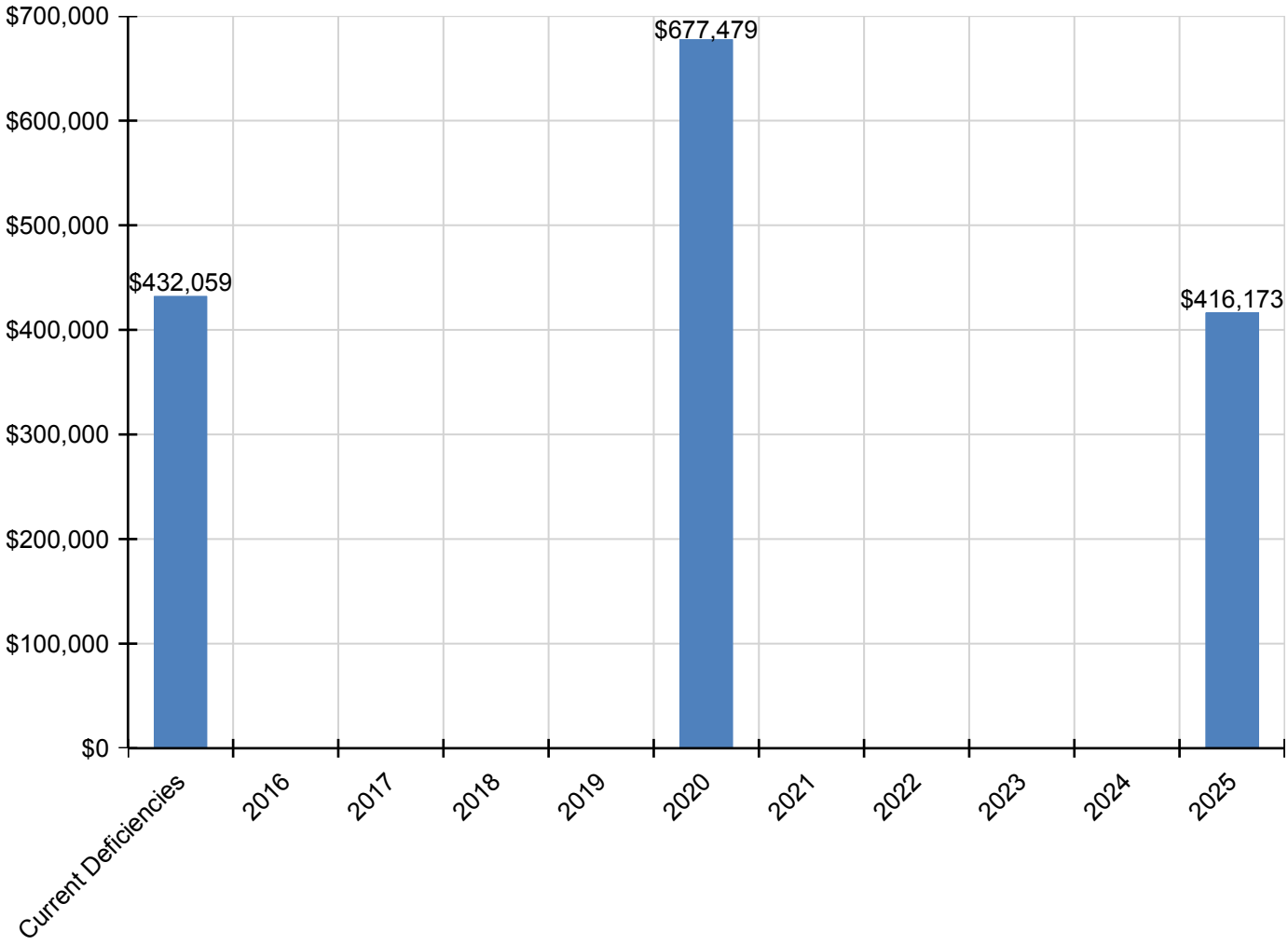
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$432,059**	**$0**	**$0**	**$0**	**$0**	**$677,479**	**$0**	**$0**	**$0**	**$0**	**$416,173**	**$1,525,711**
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	$172,106	$0	$0	$0	$0	$0	$0	$0	$0	$0	$416,173	**$588,279**
G2030 - Pedestrian Paving	$28,766	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$28,766**
G2040 - Site Development	$139,934	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$139,934**
G2050 - Landscaping & Irrigation	$91,253	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$91,253**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$677,479	$0	$0	$0	$0	$0	**$677,479**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

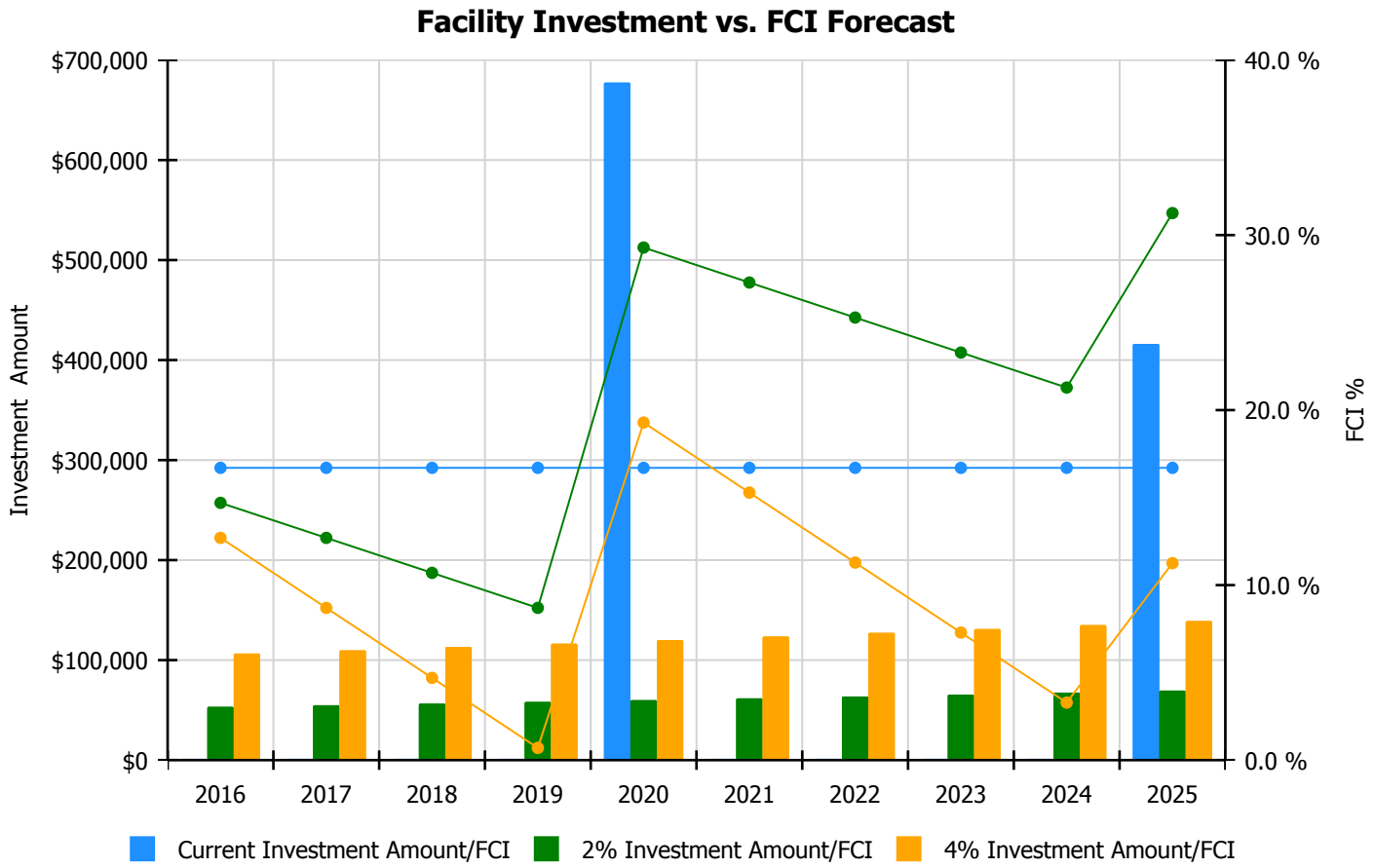
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

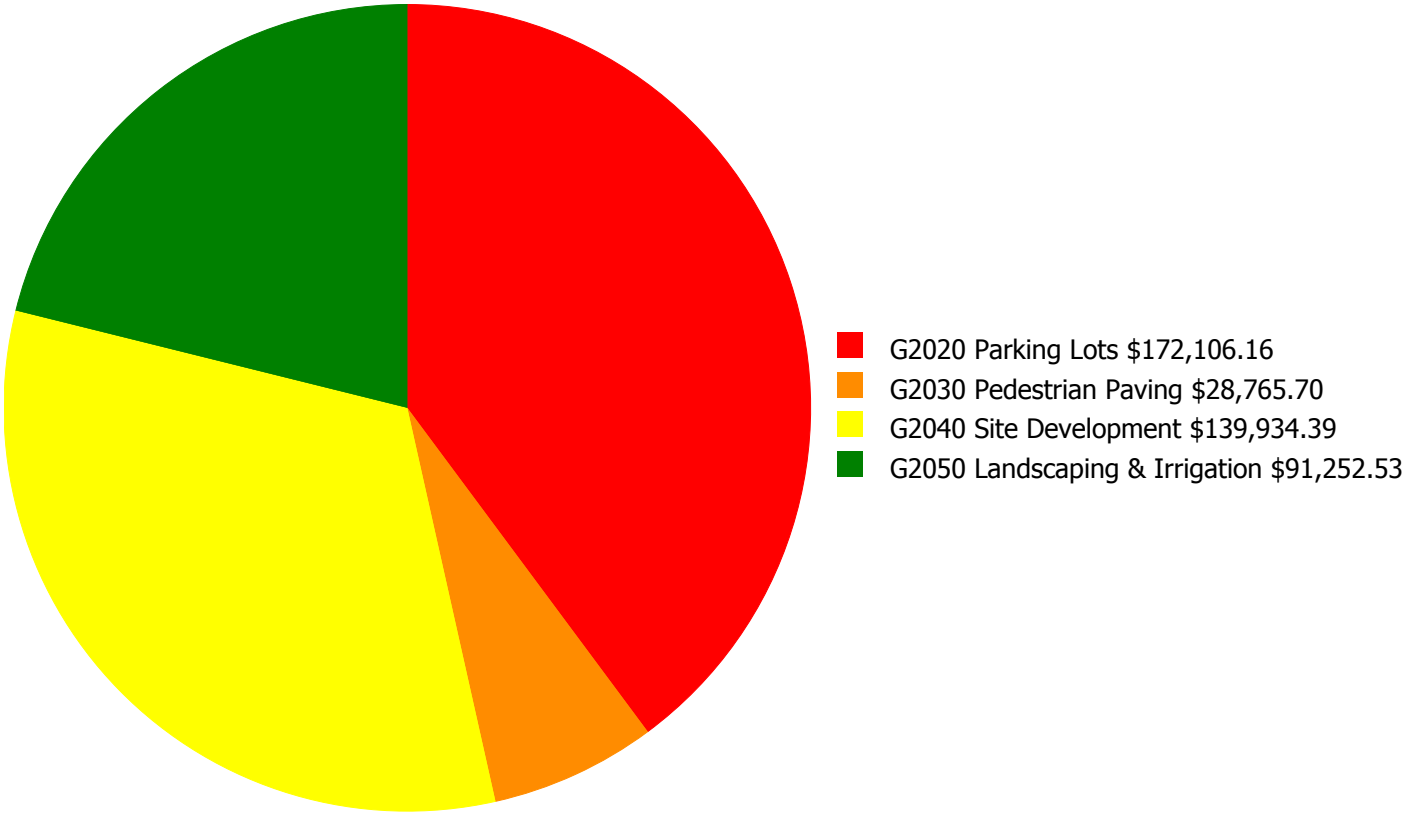
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 16.7%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$53,298.00	14.70 %	$106,595.00	12.70 %
2017	$0	$54,897.00	12.70 %	$109,793.00	8.70 %
2018	$0	$56,544.00	10.70 %	$113,087.00	4.70 %
2019	$0	$58,240.00	8.70 %	$116,480.00	0.70 %
2020	$677,479	$59,987.00	29.29 %	$119,974.00	19.29 %
2021	$0	$61,787.00	27.29 %	$123,573.00	15.29 %
2022	$0	$63,640.00	25.29 %	$127,281.00	11.29 %
2023	$0	$65,549.00	23.29 %	$131,099.00	7.29 %
2024	$0	$67,516.00	21.29 %	$135,032.00	3.29 %
2025	$416,173	$69,541.00	31.26 %	$139,083.00	11.26 %
Total:	**$1,093,652**	**$610,999.00**		**$1,221,997.00**	

Deficiency Summary by System

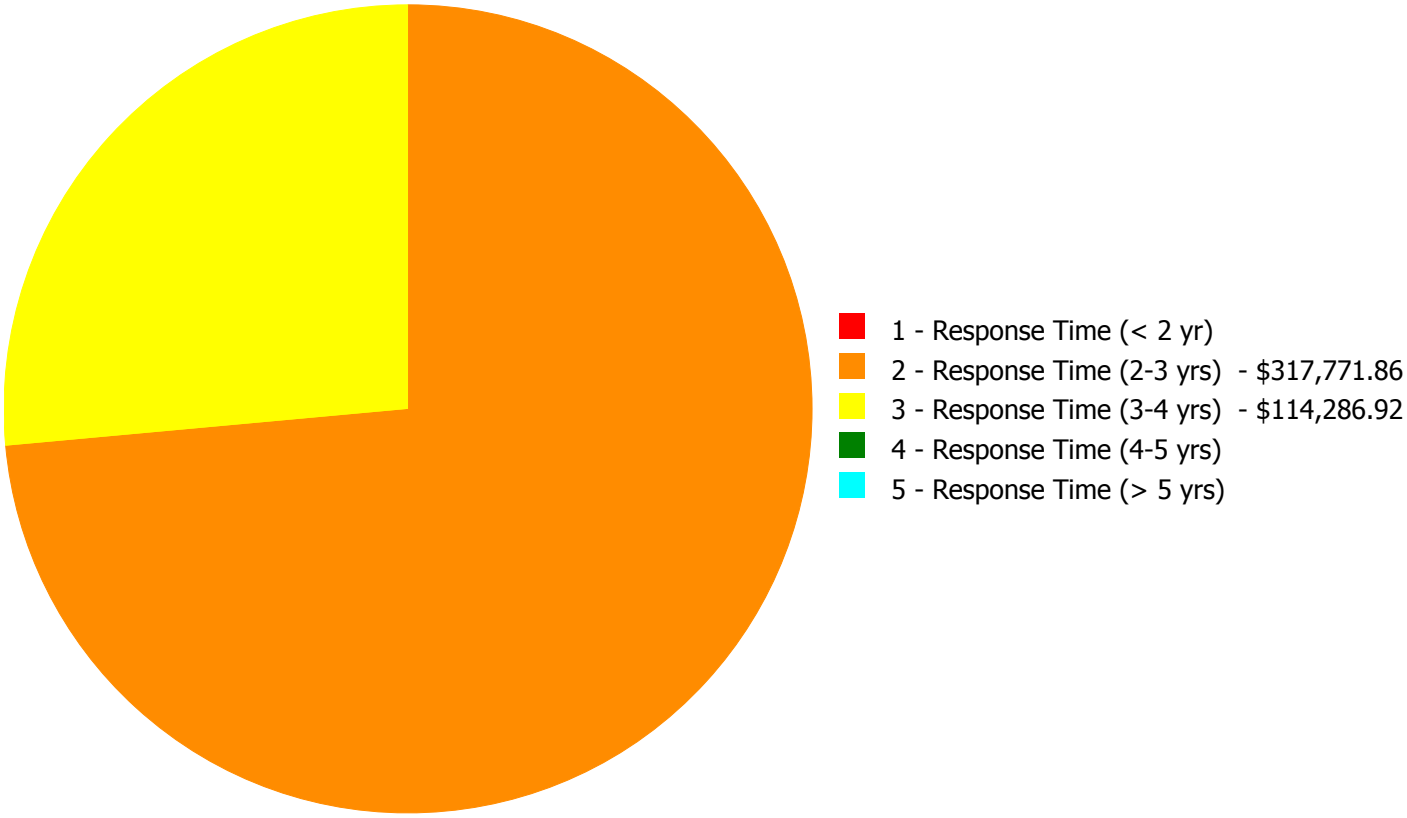
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $432,058.78

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: $432,058.78

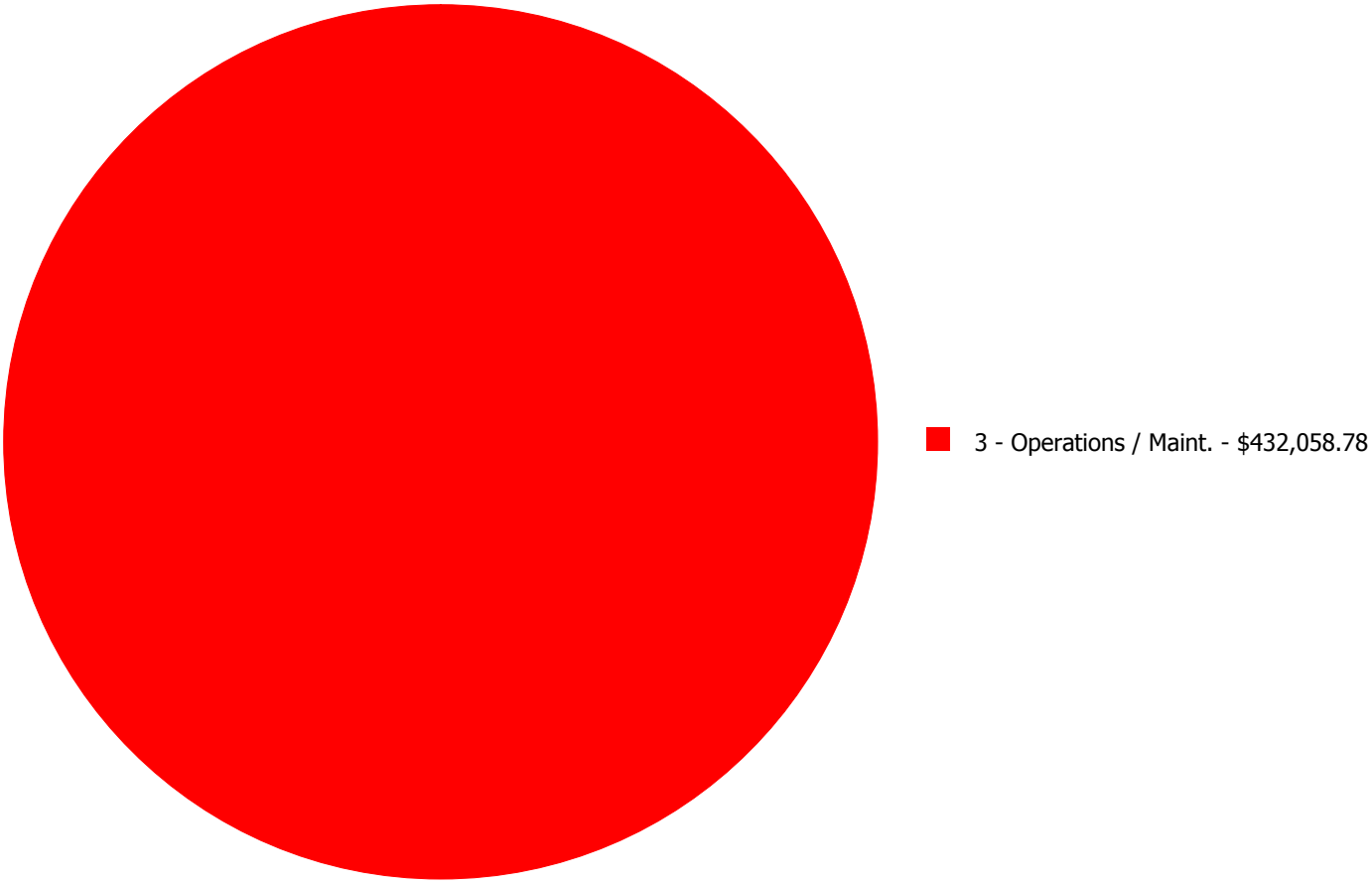
Deficiency By Priority Investment Table

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	$57,819.24	$114,286.92	$0.00	$0.00	$172,106.16
G2030	Pedestrian Paving	$0.00	$28,765.70	$0.00	$0.00	$0.00	$28,765.70
G2040	Site Development	$0.00	$139,934.39	$0.00	$0.00	$0.00	$139,934.39
G2050	Landscaping & Irrigation	$0.00	$91,252.53	$0.00	$0.00	$0.00	$91,252.53
	Total:	$0.00	$317,771.86	$114,286.92	$0.00	$0.00	$432,058.78

Deficiency Summary by Category

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



Budget Estimate Total: $432,058.78

Deficiency Details by Priority

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

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

System: G2020 - Parking Lots

Location: playground and parking lots

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Fill pavement cracks and reseal parking lot - including striping - change the LF of crack repair if it is severe

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $57,819.24

Assessor Name: Steven Litman

Date Created: 02/09/2016

Notes: Crackfill and seal asphalt parking lot and play area (1,000ft cracks; 40,000sf seal)

System: G2030 - Pedestrian Paving

Location: sidewalk

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $28,765.70

Assessor Name: Steven Litman

Date Created: 02/09/2016

Notes: Repave broken sidewalk around building (2,000sf)

System: G2040 - Site Development

Location: parking lot retaining wall

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair and regrout stone retaining wall - LF of wall - up to 4' tall

Qty: 300.00

Unit of Measure: L.F.

Estimate: $139,934.39

Assessor Name: Steven Litman

Date Created: 02/09/2016

Notes: Repoint stone retaining walls (300sf)

System: G2050 - Landscaping & Irrigation

Location: playground

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace landscape beds - including irrigation - small areas

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $91,252.53

Assessor Name: Steven Litman

Date Created: 02/09/2016

Notes: New ground cover landscaping along south side of playground and Alicia St. (5,000sf)

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

System: G2020 - Parking Lots

Location: parking lots - upper and lower

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Resurface parking lot - grind and resurface including striping

Qty: 30,000.00

Unit of Measure: S.F.

Estimate: $114,286.92

Assessor Name: Steven Litman

Date Created: 02/09/2016

Notes: Repave asphalt parking lot - all of lower lot; half of upper lot (30,000sf)

Equipment Inventory

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

No data found for this asset

Glossary

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

BTS	Before Tax Savings
Btu	British thermal unit
Building Addition	An area space or component of a building added to a building after the original building's year built date.
CAA	Clean Air Act
CAAA-90	Clean Air Act Amendments of 1990
CABO	Council of American Building Officials
CAC	Conventional Air Conditioning
CADDET	Center for the Analysis and Dissemination of Demonstrated Energy Technologies
Calculated Next Renewal	The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system.
Capital Renewal	Capital renewal is condition work (excluding suitability and energy audit work) that includes the replacement of building systems or elements (as they become obsolete or beyond their useful life) not normally included in an annual operating budget. Calculated next renewal The year a system or element would be expected to expire based solely on the date it was installed and the expected useful lifetime for that kind of system. Next renewal The assessor adjusted expected useful life of a system or element based on on-site inspection.
CDD	Cooling Degree Days
CDGP	Certified Distributed Generation Professional
CEC	California Energy Commission
CEM	Certified Energy Manager
CEP	Certified Energy Procurement Professional
CFC	Chlorofluorocarbon
CFD	Cash Flow Diagram
CFL	Compact Fluorescent Light
CFM cfm	Cubic Feet per Minute
CHP	Combined Heat and Power (a.k.a. cogeneration)
CHW	Chilled Water
Condition	Condition refers to the state of physical fitness or readiness of a facility system or system element for its intended use.
COP	Coefficient of Performance
Cp	Heat Capacity of Material
CPUC	California Public Utility Commission
CRI	Color Rendering Index
CRT	Cathode Ray Tube VDT HMI

CTC	Competitive Transition Charge
Cu	Coefficient of Utilization
Current Replacement Value (CRV)	CRV represents the hypothetical total cost of rebuilding or replacing an existing facility in current dollars to its optimal condition (excluding auxiliary facilities) under current codes and construction standards.
Cv	Value Coefficient
CWS	Chilled Water System
D d	Distance (usually feet)
DB	Dry Bulb
DCV	Demand Control Ventilation
DD	Degree Day
DDB	Double Declining Balance
DDC	Direct Digital Controls
Deferred maintenance	Deferred maintenance is condition work (excluding suitability and energy audit needs) deferred on a planned or unplanned basis to a future budget cycle or postponed until funds are available.
Deficiency	A deficiency is a repair item that is damaged missing inadequate or insufficient for an intended purpose.
Delta	Difference
Delta P	Pressure Difference
Delta T	Temperature Difference
DG	Distributed Generation
DOE	Department of Energy
DP	Dew Point
DR	Demand Response
DX	Direct Expansion Air Conditioner
EA	Energy Audit
EBITDA	Earnings before Interest Taxes Depreciation and Amortization
ECI	Energy Cost Index
ECM	Energy Conservation Measure
ECO	Energy Conservation Opportunity
ECPA	Energy Conservation and Production Act
ECR	Energy Conservation Recommendation
ECS	Energy Control System

EER	Energy Efficiency Ratio
EERE	Energy Efficiency and Renewable Energy division of US DOE
EIA	Energy Information Agency
EIS	Energy Information System
EMCS	Energy Management Computer System
EMO	Energy Management Opportunity
EMP	Energy Management Project
EMR	Energy Management Recommendation
EMS	Energy Management System
Energy Utilization Index (EUI)	EUI is the measure of total energy consumed in the cooling or heating of a building in a period expressed as British thermal unit (BTU) per (cooled or heated) gross square foot.
EO	Executive Order
EPA	Environmental Protection Agency
EPACT	Energy Policy Act of 1992
EPCA	Energy Production and Conservation Act of 1975
EPRI	Electric Power Research Institute
EREN	Efficiency and Renewable Energy (Division of USDOE)
ERV	Energy Recovery Ventilator
ESCO	Energy Service Company
ESPC	Energy Savings Performance Contract
EUI	Energy Use Index
EWG	Exempt Wholesale Generators
Extended Facility Condition Index (EFCI)	EFCI is calculated as the condition needs for the current year plus facility system renewal needs going out to a set time in the future divided by Current Replacement Value.
f	Frequency
F	Fahrenheit
Facility	A facility refers to site(s) building(s) or building addition(s) or combinations thereof that provide a particular service.
Facility Condition Assessment (FCA)	FCA is a process for evaluating the condition of buildings and facilities for programming and budgetary purposes through an on site inspection and evaluation process.
Facility Condition Index (FCI)	FCI is an industry-standard measurement of a facility's condition that is the ratio of the cost to correct a facility's deficiencies to the Current Replacement Value of the facilities. The higher the FCI the poorer the condition of a facility. After an FCI is established for all buildings within a portfolio a building's condition can be ranked relative to other buildings. The FCI may also represent the condition of a portfolio based on the cumulative FCIs of the portfolio's facilities.

FC	Footcandle
FCA	Fuel Cost Adjustment
FEMIA	Federal Energy Management Improvement Act of 1988
FEMP	Federal Energy Management Program
FERC	Federal Energy Regulatory Commission
FESR	Fuel Energy Savings Ratio
FLA	Full Load Amps
FLF	Facility Load Factor (usually monthly)
FLRPM	Full Load Revolutions per Minute
FMS	Facility Management System
FPM fpm	Feet per Minute (velocity)
FSEC	Florida Solar Energy Center
Ft	Foot
GPM gpm	Gallons per Minute
GRI	Gas Research Institute
Gross Square Feet (GSF)	The size of the enclosed floor space of a building in square feet measured to the outside face of the enclosing wall.
GUI	Graphical User Interface
H h	Enthalpy Btu/lb
HCFC	Hydrochlorofluorocarbons
HDD	Heating Degree days
HFC	Hydrofluorocarbons
HHV	Higher Heating Value
HID	High Intensity Discharge (lamp)
HMI	Human Machine Interface
HMMI	Human Man Machine Interface
HO	High Output (lamp)
HP Hp hp	Horsepower
HPS	High Pressure Sodium (lamp)
HR	Humidity Ratio
Hr hr	Hour

HRU	Heat Recovery Unit
HVAC	Heating Ventilation and Air-Conditioning
Hz	Hertz
I	Intensity (lumen output of lamp)
I i	Interest rate or Discount rate
IAQ	Indoor Air Quality
ICA	International Cogeneration Alliance
ICBO	International Conference of Buildings Officials
ICC	International Code Council
ICP	Institutional Conservation Program
IECC	International Energy Conservation Code
IEEE	Institute of Electrical and Electronic Engineers
IESNA	Illuminating Engineering Society of North America
Install year	The year a building or system was built or the most recent major renovation date (where a minimum of 70 of the system?s Current Replacement Value (CRV) was replaced).
IRP	Integrated Resource Planning
IRR	Internal Rate of Return
ISO	Independent System Operator
ITA	Independent Tariff Administrator
k	Kilo multiple of thousands in SI system
K	Kelvins (color temperature of lamp)
K k	Thermal Conductivity of Material
KVA	Kilovolt Ampere
KVAR	Kilovolt Ampere Reactive
kW	kiloWatt
kWh	kiloWatt hour
L	Length (usually feet)
LCC	Life Cycle Costing
LDC	Local Distribution Company
LEED	Leadership in Energy and Environmental Design
LEED EB	LEED for Existing Buildings

LEED NC	LEED for new construction
LF	Load Factor
LHV	Lower Heating Value
Life cycle	The period of time that a building or site system or element can be expected to adequately serve its intended function.
LPS	Low Pressure Sodium (lamp)
Lu	Lumen Output of a Lamp or Fixture
M	Mega multiple of millions in SI system
M&V	Measurement and Verification
MACRS	Modified Accelerated Cost Recovery System
MARR	Minimum Attractive Rate of Return
Mbtu	Thousand Btu
MCF	Thousand Cubic Feet (usually of gas)
MEC	Model Energy Code
Mm	Multiple of Thousands in I/P System
MMBtu	Million Btu
MMCS	Maintenance Management Computer System
MMI	Man Machine Interface
MMS	Maintenance Management System
MSE 2000	Management System for Energy 2000 (ANSI Georgia Tech Univ)
MW	MegaWatt
MWH MWh	MegaWatt hour
NAAQS	National Ambient Air Quality Standards
NAESCO	National Association of Energy Service Companies
NAIMA	North American Insulation Manufacturers Association
NEA	National Energy Act of 1978
NECPA	National Energy Conservation Policy Act
NEMA	National Electrical Manufacturer's Association
NERC	North American Electric Reliability Council
Next Renewal	The Next Renewal date is an override of the 'Calculated Next Renewal' date and is based upon the assessor?s visual inspection.

NFPA	National Fire Protection Association
NGPA	National Gas Policy Act of 1978
NLRPM	No Load Revolutions per Minute (speed)
Nn	Equipment or Project lifetime in economic analysis
NOPR	Notice of Proposed Rule Making from FERC
NOx	Nitrogen Oxide Compounds
NPV	Net present value in economic analysis
NREL	National Renewable Energy Laboratory
NUG	Non-Utility Generator
O&M	Operation and Maintenance
OA	Outside Air
ODP	Ozone Depletion Potential
OPAC	Off-Peak Air Conditioning
P	Present value in economic analysis
PBR	Performance Based Rates
PEA	Preliminary Energy Audit
PF	Power Factor
PID	Proportional plus integral plus derivative (control system)
PM	Portfolio Manager in Energy Star rating system
PM	Preventive Maintenance
PoolCo	Power Pool Company or Organization
POU	Point of Use
PQ	Power Quality
PSC	Public Service Commission
PSIA psia	Pounds per square inch absolute (pressure)
PSIG psig	Pounds per square inch gauge (pressure)
PUC	Public Utility Commission
PUHCA	Public Utilities Holding Company Act of 1935
PURPA	Public Utilities Regulatory Policies of 1978
PV	Photovotaic system

PV	Present Value
PW	Present Worth
PX	Power Exchange
q	Rate of heat flow in Btu per hour
Q	Heat load due to conduction using degree days
QF	Qualifying Facility
R	Electrical resistance
R	Thermal Resistance
RC	Remote controller
RCR	Room Cavity Ratio
RCRA	Resource Conservation and Recovery Act
Remaining Service Life (RSL)	RSL is the number of years service remaining for a system or equipment item. It is automatically calculated based on the difference between the current year and the 'Calculated Next Renewal' date or the 'Next Renewal' date whichever one is the later date.
Remaining Service Life Index (RSLI)	RSLI is defined as a percentage ratio of the remaining service life of a system. It usually ranges from 0 to 100
REMR	Repair Evaluation Maintenance Rehabilitation (REMR) is a scale used to objectively rank systems based on their condition
Renewal Schedule	A timeline that provides the items that need repair the year in which the repair is needed and the estimated price of the renewal.
RH	Relative Humidity
RLA	Running Load Amps
RMS	Root Mean Square
RO	Reverse Osmosis
ROI	Return on Investment
RPM	Revolutions Per Minute
RTG	Regional Transmission Group
RTO	Regional Transmission Organization
RTP	Real Time Pricing
SBCCI	Southern Building Code Congress International
SC	Scheduling Coordinator
SC	Shading Coefficient
SCADA	Supervisory Control and Data Acquisition Systems

SEER	Seasonal Energy Efficiency Ratio
SHR	Sensible Heat Ratio
Site	The grounds and utilities roadways landscaping fencing and other typical land improvements needed to support the facility.
Soft Cost	An expense item that is not considered direct construction cost. Soft cost includes architectural engineering financing legal fees and other pre-and-post construction expenses.
SOx	Sulfur Oxide Compounds
SP	Static Pressure
SP SPB	Simple Payback
SPP	Simple Payback Period
SPP	Small Power Producers
STR	Stack Temperature Rise
SV	Specific Volume
System	System refers to building and related site work elements as described by ASTM Uniformat II Classification for Building Elements (E1557-97) a format for classifying major facility elements common to most buildings. Elements usually perform a given function regardless of the design specification construction method or materials used. See also Uniformat II.
T	Temperature
T	Tubular (lamps)
TAA	Technical Assistance Audit
TCP/IP	Transmission Control Protocol/Internet Protocol
TES	Thermal Energy Storage
THD	Total Harmonic Distortion
TOD	Time of Day
TOU	Time of Use
TQM	Total Quality Management
TransCo	Transmission Company
U	Thermal Conductance
UDC	Utility Distribution Company
UL	Underwriters Laboratories
UNIFORMAT II	The ASTM UNIFORMAT II Classification for Building Elements (E1557-97) a format for classifying major facility components common to most buildings.
USGBC	US Green Building Council
v	Specific Volume

V	Volts Voltage
V	Volume
VAV	Variable Air Volume
VDT	Video Display Terminal
VFD	Variable Frequency Drive
VHO	Very High Output
VSD	Variable Speed Drive
W	Watts
W	Width
WB	Wet bulb
WH Wh	Watt Hours
Year built	The year that a building or addition was originally built based on substantial completion or occupancy.
Z	Electrical Impedance