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.

Hamilton School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	5640 Spruce St.	Enrollment	579
	Philadelphia, Pa 19139	Grade Range	'00-08'
Phone/Fax	215-471-2911 / 215-471-2724	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Hamilton	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	**64.77%**	**$30,084,893**	**$46,451,973**
Building	63.08 %	$28,328,697	$44,906,143
Grounds	113.61 %	$1,756,196	$1,545,830

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	90.59 %	$1,161,655	$1,282,260
Exterior Walls (Shows condition of the structural condition of the exterior facade)	28.85 %	$952,921	$3,303,445
Windows (Shows functionality of exterior windows)	43.17 %	$695,928	$1,611,895
Exterior Doors (Shows condition of exterior doors)	49.91 %	$64,769	$129,775
Interior Doors (Classroom doors)	177.79 %	$558,521	$314,145
Interior Walls (Paint and Finishes)	68.88 %	$1,212,524	$1,760,465
Plumbing Fixtures	23.70 %	$286,797	$1,210,040
Boilers	74.64 %	$1,247,246	$1,670,965
Chillers/Cooling Towers	00.00 %	$0	$2,190,960
Radiators/Unit Ventilators/HVAC	239.78 %	$9,225,626	$3,847,605
Heating/Cooling Controls	158.90 %	$1,919,960	$1,208,250
Electrical Service and Distribution	138.74 %	$1,204,500	$868,150
Lighting	27.19 %	$843,797	$3,103,860
Communications and Security (Cameras, Pa System and Fire Alarm)	15.94 %	$185,295	$1,162,605

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

S129001;Hamilton

Final

Site Assessment Report

January 30, 2017

PARSONS

Table of Contents

Site Executive Summary

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

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

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

Gross Area (SF):	89,500
Year Built:	1970
Last Renovation:	
Replacement Value:	$46,451,973
Repair Cost:	$30,084,893.16
Total FCI:	64.77 %
Total RSLI:	80.71 %

Description:

Facility Assessment
October 2015

School District of Philadelphia

Andrew Hamilton Elementary School

5640 Spruce Street

Philadelphia, PA 19139

89,500 SF / 696 Students / LN 02

The Andrew Hamilton Elementary School building is located at 5640 Spruce Street in Philadelphia, PA. The 2 story, 89,500 square foot building was originally constructed in 1970. There have been no additions. The building has a partial basement housing the boiler room and other mechanical spaces. Portions of the first floor are underground due the slope of the site with building entrances at the second floor on the west and north elevations.

The school capacity is approximately 696 students with 2015/16 enrollment of 581 serving grades K-8.

The school plan is rectangular with the long axis running roughly N/S. The first floor houses kindergarten classrooms, music classrooms, the cafetorium and gymnasium. The second floor houses classrooms and office space. The third floor contains the IMC, science classrooms which were renovated in 2008, and general classrooms.

Mr. Andrew Bland, Building Engineer, accompanied the team on its tour of the school and provided information on building systems and maintenance history. Ms. Leta Johnson-Garner, school principal, provided input to the Parsons assessment team on current problems in the building.

Architectural/Structural Systems

The building bears on concrete foundations and basement walls that are not showing signs of significant settlement or damage. The basement floor is slab on grade. The main structure is cast-in place concrete. The roof structure is concrete. Exterior walls are typically brick on CMU with elements of integrally colored concrete structure exposed in the exterior walls. Exterior walls above the roof at clerestory windows and bump-outs at kindergarten classrooms on the first floor are cast in place integrally colored concrete with a light sandblast finish. Brick at exposed areas of the 1st floor and much of the second floor is painted, presumably to mask graffiti. Low roof areas at kindergarten classrooms are protected by picket fencing with outward curving tips attached to the walls. In general, masonry is in fair condition with some pointing and replacement of broken brick required – stairwells are in notably worse condition than other portions of exterior walls. Several areas of chipped concrete exposing rusted rebar were seen in the concrete elements. This does not appear to be a structural concern as deterioration does not seem to be spreading and concrete cracking is not typically associated with the condition; rather it is an aesthetic concern. Plaster soffits at recessed areas are in typically in poor condition. Windows are single pane acrylic glazing in bronze anodized tubular frames. Operable units pivot. Fixed windows are installed on stairwells. Windows are in poor condition with failed gaskets, discolored glazing and frames, and some separation in frames. Most of the glazing has hazed with age. Operable windows are typically recessed from the main plane of exterior walls. There is sloped glazing in north and south elevations at cafeteria and gym exterior walls. The sloped glazing appears to be particularly problematic, especially at the cafeteria. Security grilles are installed over windows at all of the east and south elevations including at sloped glazing, at second floor windows at the west elevation, at second floor entrances on the north elevation. Security grilles are in fair condition with some broken connections observed. Security screens are mounted in the main plane of exterior walls at operable windows and debris collects on ledges in the gap between window and grille. Exterior doors are typically fully glazed bronze anodized aluminum, with sidelites and are in poor condition with weathered aluminum and hazed glazing. The main entrance has a scissor style security grille mounted over the door and sidelites. Roofing is low slope built-up with mineral cap sheet. Roofs appear to be in generally serviceable condition, though they are at or near the end of their expected service life. There is some loss of granules on the main roof, and minor bubbling in the cap sheet. Some staining on ceilings at the interior 3rd floor is attributed to leaks at the main roof. One fairly large repair area is noted in the northwest quadrant. The low roofs at kindergarten classrooms have many obvious patches, especially around skylights. Leaks of low roofs were observed at the interior. Perimeter flashing is foil faced modified bitumen torch applied product. It appeared to be a well adhered application and was lapped over metal wall caps. Some breaks in the foil face were noted. Drainage is via interior roof drains with no overflow drains or scuppers. The upper roofs at clerestory window boxes drain through exterior pipe downspouts to splash blocks on the lower roof. Roof access is via fixed ladder to a roof hatch. There are no fixed ladders to lower roofs. Roof openings include roof hatches and long narrow barrel vaulted skylights. The skylights have security grilles installed over them. The building is not accessible per ADA requirements.

Partition walls are typically CMU. The main office corridor wall has glazing in hollow metal frames. Some classrooms have vinyl faced folding partitions inoperable condition. There is a large operable wall with wood tambour facing dividing the auditorium and the cafeteria. The operable wall is in poor condition. Interior classroom and office doors are generally original painted solid core wood with slot lights in hollow metal frames. Doors swing in the direction of exit, except at restrooms, and are typically recessed so as to not decrease exit width in corridors. Pairs of doors to the IMC, office, cafeteria, and gym are glazed. Doors leading to exit stairways are glazed hollow metal doors and frames without panic hardware in functional condition. Doors do not have ADA hardware and are overall in fair condition

Fittings include: toilet accessories in poor condition; toilet partitions are a mixture of baked enamel and plastic in fair to poor condition; obsolete chalk boards; tack boards; lockers in vandalized condition in locker rooms; locker room benches; and interior signage is typically mounted on door surfaces and is inadequate.

Stair construction is concrete. Treads and landings have raised disk resilient floor covering in exit stairwells and quarry tile at the main entry. Handrails and guardrails at exit stairs are aluminum tubular steel. Handrails at the main entry are 2 x lumber and do not provide a proper handgrip. Handrails do not meet modern codes for configuration with no extensions at landings.

Interior wall finishes are primarily paint in fair to good conditions some hardboard wainscoting in the third floor corridor that is in good

condition. The main entrance lobby and auditorium have exposed brick walls and murals painted over walls. Flooring is VCT in most areas of the school. VCT is chipped or missing in some areas, has separation in joints, and many rooms have areas of patching with mismatched tile. VCT is newer in the renovated science classrooms. Nosings on tier edges in the auditorium are in poor condition with many broken/missing pieces. Toilet rooms have ceramic tile flooring in fair condition. Quarry tile in the entrance vestibule and lobby is in poor condition with chipped and cracked tile. Quarry tile in fair condition is installed in the kitchen servery and locker rooms. Carpet tile is installed in the central area of the IMC with a few missing pieces and rubber edging that is pulling away. One conference room in the main office has carpet in poor condition. The engineer's office in the basement and a storage room near the stage have 9" VAT. Service areas have concrete floors. Ceilings are typically painted concrete structure in good to fair condition. Some areas of third floor ceilings are stained, presumably from roof leaks. Science classrooms have fabric covered acoustical panels suspended from ceilings. Corridors have 2x2 suspended acoustical panels in aluminum grid in fair to poor condition with many stained areas. The cafeteria has 2x4 suspended acoustical tile ceilings with localized damage near high windows with sloped glazing. The entrance and auditorium have plaster ceilings in good condition. The restrooms, locker rooms and areas of the kindergartens have painted drywall ceilings in generally fair condition. Private offices, the IMC work room/office, kitchen, and miscellaneous rooms have 12" concealed spline acoustical tiles, often with missing or damaged tiles.

Institutional equipment includes: science classroom equipment in good condition, library shelving and related equipment in fair to good condition; Smart Boards in approximately 1/3 of classroom; fixed backboards and climbing ropes in the gym; a motorized projection screen in the auditorium; and stage lighting that is obsolete. Other equipment includes kitchen equipment, generally in fair condition and a vault in the kitchen that no one knows the combination to. There is a unit kitchen

Furnishings include fixed casework in classrooms, generally in fair to poor condition. Low cabinets are typically plastic laminate faced with plastic laminate counters. Tall cabinets in classroom typically have wood doors that are marred and often have missing hardware. Other casework includes glass faced built-in display cases in far to good condition. Obsolete auditorium seating is fiberglass molded seats on single pedestals with tablet arms. Several are missing. The principal did not feel that tablet arms are a necessary feature. Blinds at exterior windows are either missing or in poor condition.

MECHANICAL

Many of the original plumbing fixtures remain in service. Each floor has only one Boys and one Girls restroom. Fixtures in the restrooms on each floor consist of wall mounted flush valve water closets, wall hung urinals and lavatories with push button 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 Ground and 1st Floors are the original wall hung with integral refrigerated coolers. They are well beyond their service life and should be replaced; 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. Chemicals are injected manually into the sanitizing basin.

A 4" city water service enters the boiler room on the basement level from S. 57th Street. The meter and valves are located in a pit in the yard. A reduced pressure backflow preventer is installed on the main service. The original domestic hot and cold water distribution piping was installed in 1968 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 is well beyond its service life and should be replaced to eliminate joints made with lead solder.

A 6" natural gas service enters the boiler room on the basement level from S. 57th Street. The firm and interruptible meters and valves are located on the outside wall of the room.

A 75 gallon vertical tank type, gas-fired (atmospheric) water heater installed in 2013 supplies hot water for domestic use. The unit is located near the east wall of the boiler room. 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 small sewage ejector pit located in basement boiler room receives waste from the drains in that area. It has two self-priming pumps; one was replaced in 2003. The pumps appear in good repair and one is within its service life. They 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 Principal reported leaks at fittings have caused water damage leading

to mold problems. However, these piping systems have been in service for nearly 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.

Low pressure steam is generated at 15 lbs/sq. in. or less by two 120 HP Weil McLain cast iron sectional boilers installed in 1968. Each boiler is equipped with its original power burner designed to operate on natural gas. Combustion air makeup is supplied by louvers equipped with motorized dampers. The gas train serving each boiler appears to have code required venting of the regulators and dual solenoid valves with venting of the chamber between. Cast iron sectional boilers have an anticipated service life of 35 years or more; these units have been in service nearly 50 years. The District should budget to replace these boilers as they appear in poor condition.

Oil is not available for use as a backup fuel. The District should consider installing an aboveground concrete-encased tank, circulation pumps and controls to receive billing credit from the gas utility as an interruptible service.

The condensate receiver tank and boiler feed pump assembly was replaced 2010. No significant packing leaks were observed at the bonnets of the OS&Y gate valves at the steam header above the boilers.

Steam piping is black steel (ASTM A53) with welded fittings. The condensate piping is Schedule 80 black steel with threaded fittings. Steam and condensate piping supplies the converters in the boiler room and mains from the basement level run up through the building to the heating coils in the air handling units on 1st floor. The original distribution piping installed in 1968 has been in service nearly 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 steam and condensate piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years.

A 180 ton air-cooled screw chiller (R-134a) was installed in a woven wire fence enclosure on the site in 2009. The original steam absorption chiller and cooling tower are abandoned in place in the boiler room. A pair of steam converters and centrifugal pumps in the boiler room powers a dual temperature hydronic system that supplies the unit ventilators and radiation terminals throughout the building.

Unit ventilators provide heating, ventilation and air conditioning for the classrooms, the Cafeteria and the Gymnasium. Most are the original units installed in 1970 and are equipped with dual temperature (2-pipe) changeover coils, mixing dampers and coil bypass dampers that provide a dehumidification cycle and allow operation on full outdoor air. Classrooms at the corners of the building and other larger spaces have day/night thermostats for temperature reset. Pneumatic valves shut off the hydronic finned tube radiation terminals the cooling season to prevent condensation. 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 nearly 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.

A heating and ventilating unit suspended from the structure conditions the boiler room. Three small air handling units are located in the mechanical room 208S adjacent to the Auditorium. AHU-1 serves the Main Office; AHU-2 supplies the Music room and AHU-3 conditions the Auditorium. Condensate dripping from pipes and leaks at floor drains from this room has badly damaged the ceiling tiles below. A single thermostat controls each unit with no accommodation for individual zones. These units are equipped with mixing dampers, heating coils with face and bypass dampers, chilled water cooling coils and a draw through fan with an external motor and belt guard that does not comply with OSHA guidelines. 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.

Two power roof ventilators (one per side, all floors) manually controlled by a time clock exhaust air from the restrooms. The exhaust fans are damaged and should be replaced with a wall mounted centrifugal exhaust fan.

The kitchen has no cooking equipment and doesn't require 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 maintenance staff reports a failure of the compressor blow down mechanism had allowed the system to be contaminated with oil, moisture and dirt in the pneumatic copper tubing causing the small rubber gaskets and tubing connections at devices to become brittle and fail prematurely. 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 are over 35 years old and should be rebuilt or replaced. These controls should be converted to DDC.

A new building automation system (BAS) with modern DDC modules and communications network should be installed to serve the HVAC systems in this building to improve reliability and energy efficiency. An interface should be provided with the preferred system in use throughout the District.

The school building is NOT covered by an automatic sprinkler system. 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 SYSTEMS

A unit substation, 750KVA, 13.2KV-120/208V, located in the school basement serves this facility. The unit substation is composed of 15KV load interrupter switch, meter/current transformer section, transformer section, main circuit breaker section and a feeder distribution section. The utility meter is wall mounted No PECO 01 017457335. The main and feeder circuit breaker sections are manufactured by ITE, the transformer section is manufactured by Magnetic Technology Group Corp. The unit substation is original installation and has already exceeded its 40 years of useful service life and has no extra capacity for expansion or new Heating, Ventilation, Air Conditioning (HVAC) system. Two new unit substations will be required to feed this facility, one 1000KVA, 13.2KV-277/480V substation for HVAC equipment and large motor loads and another 300 KVA, 13.2KV-120/208V substation for receptacles, lighting and small motor loads.

There are panel-boards in each floor for lighting and receptacles. These panel-boards and associated wiring have exceeded the end of their useful life. They need to be replaced.

The number of receptacles in 70% of the classrooms are inadequate. Teachers use extension cords. The teacher’s whiteboard wall and the opposite of it need to be provided with double compartment surface raceways, the other two walls with minimum two duplex outlets each, when feasible.

Most of the classrooms are illuminated with pendant mounted fluorescent fixtures. Corridors and stairways are illuminated with 2’x2’recessed fluorescent fixtures. The auditorium, gymnasium and cafeteria are illuminated with pendant mounted HID fixtures. Corridors and stairways fluorescent fixtures are provided with T-8 lamps, classrooms fluorescent fixtures are provided with T-12 lamps.T-12 lamps are becoming more expensive, consume more energy and are difficult to find. Lighting fixtures with T-12 lamps must be replaced which represent, approximately 70% of the fluorescent fixtures in this facility.

The Fire Alarm system is manufactured by Cerberus Pyrotronics and is approximately 10 years old. The present Fire Alarm system does not provide audio/visual devices in classrooms. Provide a new fire alarm system

The present telephone system is adequate. During the assessment, randomly, we verified that each wall mounted handset is provided with a dial tone.

An independent and separate PA system does not exist. School uses the telephone systems for public announcement. System is working adequately for most part.

The present clock control system is manufactured by Primex. The system is wireless, synchronized, battery operated. The system is approximately 5 years old and is expected to provide 10 more years of useful service life.

There is not television system.

The security system consists of surveillance CCTV cameras. The first floor is provided with (4) surveillance CCTV cameras, the second floor is provided with (2) surveillance CCTV cameras and the third floor is provided with (3) surveillance CCTV cameras. The security monitor is located in the main office. System was installed 8 years ago and is expected to provide 10 more years of useful service life. Additional surveillance CCTV cameras are required to provide complete coverage of the interior of the school.

The emergency power system consists of a gas powered generator, manufactured by KHOLER Power Systems, 30KW/37.5KVA, 120/208V. We were unable to determine the served load but typically it will serve the boiler room, corridors, exit signs, auditorium,

gymnasium and stairways. The gas powered generator is approximately 20 years old and is expected to provide 10 more years of useful service life.

The present generator does not have capacity for future emergency load, therefore provide and outdoor diesel powered generator.

During the assessment we did not have access to the IT room but the School District standard is to provide adequate UPS to the IT equipment.

The emergency lighting is obtained with dedicated fixtures connected to the emergency generator. Exit signs are located at each exit door and corridors and are connected to the school emergency system.

The school building is not provided with lightning protection system. A study needs to be conducted to determine if lightning protection system is required.

The school has a hydraulic elevator rated 20HP (estimated) at 208V. The elevator controller is relay type approximately 20 years old and should be replaced with a microprocessor type controller. Since the hydraulic elevator is not connected to the emergency power system provide a battery lowering device.

The stage theatrical lighting is composed of one row of pendant mounted theatrical lighting that is ON/OFF from a local panelboard. Modern school auditorium requires front, upstage, high side, back, theatrical lighting and to create different scenes theatrical lighting fixtures are controlled by a dimming system. Provide theatrical lighting and dimming control system.

The stage sound system is portable type. Provide a permanent installed sound system.

The school uses wall mounted HID lighting fixtures to illuminate the play area and the parking area. The facade facing the public street is illuminated with lighting fixture above the exit door. There were no indication that additional lighting fixtures are required

There are (4) outdoor, surveillance CCTV cameras around the building perimeter. Provide additional surveillance CCTV cameras for complete coverage of the building perimeter.

There are not wall mounted loud speakers facing the play area. Provide two loud speakers facing the play area.

GROUNDS SYSTEMS

The asphalt parking lot is east of the building with access from South Frazier Street. It is level with the street and sits higher than the grass and asphalt areas adjacent to the building. Steps, but no accessible ramp, link the parking lot to the lower grade. The asphalt is in fair to poor condition with potholes, ponding, and alligatoring. The parking lot is not striped or signed, but does have concrete parking bumpers.

Pedestrian paving is asphalt at playgrounds fair to poor condition with potholes, ponding, and alligatoring. The play ground is at grade with the first floor at the south and east sides of the building. Deliveries to the building are made through double gates at a driveway on Pine St, across the playground to the southwest entry. This is an unsafe configuration. City sidewalks surrounding the site are in fair condition. Concrete steps have damaged nosings and improper or missing handrails. There is no accessible ramp to the main entrance. There is a ramp to the southwest entrance.

Retaining walls are typically brick faced. Some are painted. A mural decorates the low retaining wall south of the main entrance facing Spruce St. Retaining walls are in fair condition with some cracking noted. Low brick site walls, some with brick columns with picket fencing to 6’ are located around the playground and at the north end of the parking lot Chain link fence is located atop the retaining wall at the west side of the parking lot and is in good condition. Picket fencing with outward curving spikes surround exterior mechanical equipment. Other site features include bollards, bicycle racks and a flagpole. Site signage is inadequate.

Landscaping consists of: mature trees along city streets; and, lawn areas adjacent to east and north elevations, three plots between the west elevation and the parking lot retaining wall, and narrow strips between site walls and sidewalks parallel to Frazier St. There is no irrigation system.

There is inadequate site drainage at the northeast entry. There is insufficient slope away from the building to the nearest area drain. Standing water turns to ice in winter.

RECOMMENDATIONS:

- Install interior accessibility ramp at stairs in main entrance
- Repair exterior walls – re-caulk control joints, repair broken brick and repoint mortar joints, repair plaster soffits, patch chipped concrete at exposed rebar
- Replace exterior windows
- Replace exterior doors
- Replace roofs
- Replace skylights
- Reconfigure toilet rooms on each floor for accessibility. Provide accessible faculty/staff restrooms on each floor and at the nurse office.
- Replace operable wall between auditorium and cafeteria
- Replace interior doors in existing frames
- Replace interior signage
- Replace lockers in locker rooms and staff areas
- Replace chalkboards with marker boards
- Replace handrails in exit stairwells and at the main entry
- Repaint interior walls
- Replace acoustical tile ceilings. It is recommended that concealed spline ceilings be replaced with 2 x 2 ceilings for access to other systems above ceilings
- Repaint third floor and auditorium ceilings
- Replace quarry tile flooring in main entrance
- Replace 70% of VCT flooring
- Replace carpet in conference room and carpet tile in library
- Replace auditorium drapes
- Replace classroom cabinetry
- Replace auditorium seating
- Replace/install window shades

MECHANICAL

- Replace eighteen (18) original lavatories in the restrooms on the Ground and 1st levels with low flow fixtures.
- Replace sixteen (16) original water closets in the restrooms on the Ground and 1st levels with low flow fixtures.
- Replace eight (8) original urinals in the restrooms on the Ground and 1st levels with low flow fixtures.
- Replace the four (4) wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.
- Replace the original copper domestic water piping in service for nearly 50 years to eliminate joints made with lead solder.
- Provide an expansion tank for the 75 gallon vertical tank type, gas-fired domestic water heater.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures. The Principal reported leaks at fittings have caused water damage leading to mold problems.
- Hire a qualified contractor to perform a detailed examination of the storm drainage piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures. The Principal reported leaks at fittings have caused water damage leading to mold problems.
- Replace the two 120 HP Weil McLain cast iron sectional boilers installed in service since 1968. The District should budget to replace these boilers as they appear in poor condition.
- Provide an 8,000 gallon above ground concrete-encased tank, circulation pumps and controls to receive billing credit from the gas utility as an interruptible service.
- Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system; budget 20 traps.
- Hire a qualified contractor to examine the steam and condensate piping in service nearly 70 years 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.
- 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 steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.
- Replace the original cabinet unit heaters and convectors damaged by condensation caused by failed pneumatic controls.
- Provide ventilation for the Cafeteria by removing the existing unit ventilators and installing a constant volume air handling unit with distribution ductwork and registers.
- Replace air handling unit AHU-1 that serves the Main Offices located in the mechanical room 208S and associated ductwork and registers. This unit has an external motor and belt guard that does not comply with OSHA guidelines and 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 AHU-2 that serves the Music room located in the mechanical room 208S and associated ductwork and registers. This unit has an external motor and belt guard that does not comply with OSHA guidelines and 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 AHU-3 that serves the Auditorium located in the mechanical room 208S and associated ductwork and registers. This unit has an external motor and belt guard that does not comply with OSHA guidelines and 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 gymnasium by removing the existing unit ventilators and installing a constant volume air handling 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 two (2) damaged power roof ventilators that provide exhaust for the restrooms.
- 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

- Two new unit substations are required to feed this facility, one 1000KVA, 13.2KV-277/480V unit substation for HVAC equipment and large motor loads and another 300 KVA, 13.2KV-120/208V unit substation for receptacles, lighting and small motor loads.
- Replace the entire distribution system with new panels and new wiring/conduits. Approximate (20) 208/120V panel boards. Provide new (1) 600A 480V MCC
- Provide (2)25FT of surface raceways with receptacles spaced 24” on center and 4 wall mount receptacles per classroom. Approximate 340 receptacles
- Replace 70% of the existing fluorescent fixtures. Approximate 828 fixtures.
- Provide a new fire alarm system with audio/visual devices in public areas and classrooms. Approximate 40 devices.
- Provide additional surveillance CCTV cameras for a complete coverage of the interior of the school. Approximate 12
- Provide an outdoor 90KW diesel powered generator.
- Prepare a study to determine if lightning protection system is required.
- Provide new elevator controller.
- Provide the elevator with battery lowering device.
- Replace the auditorium theatrical lighting with new theatrical lighting and dimming system.
- Replace the auditorium portable sound system with permanent installed sound system.
- Provide additional outdoor surveillance CCTV cameras. Approximate 8
- Provide two loud speakers facing the play area.

GROUNDS

- Provide ADA compliant ramp at main/visitor entrance, exterior
- Resurface asphalt parking lot. Restripe including handicap symbols and signage. Install an accessible ramp from the parking level to the building 1st floor level. Consider relocating parking to the southwest corner of the site, incorporating a delivery lane segregated from the playground, and convert the current parking area to an upper play area.
- Resurface playground
- Install area drain at northeast entrance at first floor
- Install handicap ramp to main entrance from street level. Install handicap ramp from parking level to northeast or southeast entrance
- Repair exterior steps. Replace/install handrails at exterior steps
- Repair retaining walls

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 4 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S129001		

Site Condition Summary

The Table below shows the CI and FCI for each major system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	55.00 %	4.81 %	$112,414.13
A20 - Basement Construction	55.00 %	0.00 %	$0.00
B10 - Superstructure	55.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	72.34 %	33.97 %	$1,713,617.91
B30 - Roofing	110.00 %	90.59 %	$1,161,654.96
C10 - Interior Construction	68.51 %	120.11 %	$2,637,906.37
C20 - Stairs	55.00 %	213.72 %	$269,700.23
C30 - Interior Finishes	107.14 %	60.06 %	$2,830,419.84
D10 - Conveying	28.57 %	33.16 %	$45,411.80
D20 - Plumbing	68.50 %	83.54 %	$1,526,837.96
D30 - HVAC	92.32 %	124.48 %	$12,392,832.08
D40 - Fire Protection	0.00 %	177.49 %	$1,280,338.88
D50 - Electrical	110.11 %	46.84 %	$2,464,091.98
E10 - Equipment	97.93 %	117.30 %	$1,671,398.96
E20 - Furnishings	105.00 %	116.49 %	$222,072.28
G20 - Site Improvements	105.43 %	142.99 %	$1,602,303.32
G40 - Site Electrical Utilities	33.33 %	36.19 %	$153,892.46
Totals:	**80.71 %**	**64.77 %**	**$30,084,893.16**

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)
B129001;Hamilton	89,500	63.08	$10,027,238.77	$10,279,197.03	$4,685,249.12	$1,131,705.44	$2,205,307.02
G129001;Grounds	73,200	113.61	$144,148.78	$538,250.95	$1,067,405.56	$6,390.49	$0.00
Total:		**64.77**	**$10,171,387.55**	**$10,817,447.98**	**$5,752,654.68**	**$1,138,095.93**	**$2,205,307.02**

Deficiencies By Priority

- 1 - Response Time (< 2 yr) - $10,171,387.55
- 2 - Response Time (2-3 yrs) - $10,817,447.98
- 3 - Response Time (3-4 yrs) - $5,752,654.68
- 4 - Response Time (4-5 yrs) - $1,138,095.93
- 5 - Response Time (> 5 yrs) - $2,205,307.02

Budget Estimate Total: $30,084,893.16

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):	89,500
Year Built:	1970
Last Renovation:	
Replacement Value:	$44,906,143
Repair Cost:	$28,328,697.38
Total FCI:	63.08 %
Total RSLI:	80.54 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B129001
Sewage Ejector:	Yes	Status:	Accepted by SDP
Site ID:	S129001		

Condition Summary

The Table below shows the CI and FCI for each major building system shown at the UNIFORMAT classification Level II. Note that Systems with lower FCIs require less investment than systems with higher FCIs.

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	55.00 %	4.81 %	$112,414.13
A20 - Basement Construction	55.00 %	0.00 %	$0.00
B10 - Superstructure	55.00 %	0.00 %	$0.00
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B30 - Roofing	110.00 %	90.59 %	$1,161,654.96
C10 - Interior Construction	68.51 %	120.11 %	$2,637,906.37
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D10 - Conveying	28.57 %	33.16 %	$45,411.80
D20 - Plumbing	68.50 %	83.54 %	$1,526,837.96
D30 - HVAC	92.32 %	124.48 %	$12,392,832.08
D40 - Fire Protection	0.00 %	177.49 %	$1,280,338.88
D50 - Electrical	110.11 %	46.84 %	$2,464,091.98
E10 - Equipment	97.93 %	117.30 %	$1,671,398.96
E20 - Furnishings	105.00 %	116.49 %	$222,072.28
Totals:	**80.54 %**	**63.08 %**	**$28,328,697.38**

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.	89,500	100	1970	2070		55.00 %	0.00 %	55			$1,646,800
A1030	Slab on Grade	$7.73	S.F.	89,500	100	1970	2070		55.00 %	16.25 %	55		$112,414.13	$691,835
A2010	Basement Excavation	$6.55	S.F.	89,500	100	1970	2070		55.00 %	0.00 %	55			$586,225
A2020	Basement Walls	$12.70	S.F.	89,500	100	1970	2070		55.00 %	0.00 %	55			$1,136,650
B1010	Floor Construction	$75.10	S.F.	89,500	100	1970	2070		55.00 %	0.00 %	55			$6,721,450
B1020	Roof Construction	$13.88	S.F.	89,500	100	1970	2070		55.00 %	0.00 %	55			$1,242,260
B2010	Exterior Walls	$36.91	S.F.	89,500	100	1970	2070		55.00 %	28.85 %	55		$952,920.94	$3,303,445
B2020	Exterior Windows	$18.01	S.F.	89,500	40	1970	2010	2057	105.00 %	43.17 %	42		$695,928.33	$1,611,895
B2030	Exterior Doors	$1.45	S.F.	89,500	25	1970	1995	2042	108.00 %	49.91 %	27		$64,768.64	$129,775
B3010105	Built-Up	$37.76	S.F.	33,413	20	1995	2015	2037	110.00 %	89.73 %	22		$1,132,099.63	$1,261,675
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	$0.23	S.F.	89,500	20	1970	1990	2037	110.00 %	143.58 %	22		$29,555.33	$20,585
C1010	Partitions	$17.91	S.F.	89,500	100	1970	2070		55.00 %	111.07 %	55		$1,780,434.90	$1,602,945
C1020	Interior Doors	$3.51	S.F.	89,500	40	1970	2010	2057	105.00 %	177.79 %	42		$558,520.68	$314,145
C1030	Fittings	$3.12	S.F.	89,500	40	1970	2010	2057	105.00 %	107.06 %	42		$298,950.79	$279,240
C2010	Stair Construction	$1.41	S.F.	89,500	100	1970	2070		55.00 %	213.72 %	55		$269,700.23	$126,195

Site Assessment Report - B129001;Hamilton

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	$19.67	S.F.	89,500	10	2002	2012	2027	120.00 %	68.88 %	12		$1,212,523.98	$1,760,465
C3010231	Vinyl Wall Covering	$0.00	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$0.00	S.F.		30				0.00 %	0.00 %				$0
C3020411	Carpet	$7.30	S.F.	1,800	10	2007	2017	2027	120.00 %	153.30 %	12		$20,143.38	$13,140
C3020412	Terrazzo & Tile	$75.52	S.F.	3,600	50	1970	2020		10.00 %	5.03 %	5		$13,662.78	$271,872
C3020413	Vinyl Flooring	$9.68	S.F.	81,400	20	1990	2010	2037	110.00 %	132.93 %	22		$1,047,425.66	$787,952
C3020414	Wood Flooring	$22.27	S.F.		25				0.00 %	0.00 %				$0
C3020415	Concrete Floor Finishes	$0.97	S.F.	2,700	50	1970	2020		10.00 %	0.00 %	5			$2,619
C3030	Ceiling Finishes	$20.97	S.F.	89,500	25	1970	1995	2042	108.00 %	28.59 %	27		$536,664.04	$1,876,815
D1010	Elevators and Lifts	$1.53	S.F.	89,500	35	1970	2005	2025	28.57 %	33.16 %	10		$45,411.80	$136,935
D2010	Plumbing Fixtures	$13.52	S.F.	89,500	35	1970	2005	2032	48.57 %	23.70 %	17		$286,796.64	$1,210,040
D2020	Domestic Water Distribution	$1.68	S.F.	89,500	25	1970	1995	2042	108.00 %	307.99 %	27		$463,088.45	$150,360
D2030	Sanitary Waste	$2.90	S.F.	89,500	25	1970	1995	2042	108.00 %	146.43 %	27		$380,071.30	$259,550
D2040	Rain Water Drainage	$2.32	S.F.	89,500	30	1970	2000	2047	106.67 %	191.14 %	32		$396,881.57	$207,640
D3020	Heat Generating Systems	$18.67	S.F.	89,500	35	1970	2005	2032	48.57 %	74.64 %	17		$1,247,246.24	$1,670,965
D3030	Cooling Generating Systems	$24.48	S.F.	89,500	30	2009	2039		80.00 %	0.00 %	24			$2,190,960
D3040	Distribution Systems	$42.99	S.F.	89,500	25	1970	1995	2042	108.00 %	239.78 %	27		$9,225,626.22	$3,847,605
D3050	Terminal & Package Units	$11.60	S.F.	89,500	20	1970	1990	2037	110.00 %	0.00 %	22			$1,038,200
D3060	Controls & Instrumentation	$13.50	S.F.	89,500	20	1970	1990	2037	110.00 %	158.90 %	22		$1,919,959.62	$1,208,250
D4010	Sprinklers	$7.05	S.F.	89,500	35				0.00 %	202.91 %			$1,280,338.88	$630,975
D4020	Standpipes	$1.01	S.F.	89,500	35				0.00 %	0.00 %				$90,395
D5010	Electrical Service/Distribution	$9.70	S.F.	89,500	30	1970	2000	2047	106.67 %	138.74 %	32		$1,204,500.00	$868,150
D5020	Lighting and Branch Wiring	$34.68	S.F.	89,500	20	1970	1990	2037	110.00 %	27.19 %	22		$843,796.95	$3,103,860
D5030	Communications and Security	$12.99	S.F.	89,500	15	1970	1985	2032	113.33 %	15.94 %	17		$185,295.10	$1,162,605
D5090	Other Electrical Systems	$1.41	S.F.	89,500	30	1970	2000	2047	106.67 %	182.65 %	32		$230,499.93	$126,195
E1020	Institutional Equipment	$4.82	S.F.	89,500	35	2008	2043		80.00 %	387.44 %	28		$1,671,398.96	$431,390
E1090	Other Equipment	$11.10	S.F.	89,500	35	1970	2005	2052	105.71 %	0.00 %	37			$993,450
E2010	Fixed Furnishings	$2.13	S.F.	89,500	40	1970	2010	2057	105.00 %	116.49 %	42		$222,072.28	$190,635
								Total	**80.54 %**	**63.08 %**			**$28,328,697.38**	**$44,906,143**

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:
Carpet2%
Terrazzo/Tile4%
Vinyl 91%
Concrete3%

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

Note:
Painted structure 70%
Painted gyp 4%
Plaster 4%
Suspended acoustical tile 15%
12" acoustical tile 3%
Unpainted 4%

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:	**$28,328,697**	**$0**	**$0**	**$0**	**$0**	**$350,031**	**$0**	**$0**	**$0**	**$0**	**$202,433**	**$28,881,161**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$112,414	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$112,414**
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	$952,921	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$952,921**
B2020 - Exterior Windows	$695,928	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$695,928**
B2030 - Exterior Doors	$64,769	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$64,769**
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	$1,132,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,132,100**
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	$29,555	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$29,555**
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	$1,780,435	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,780,435**

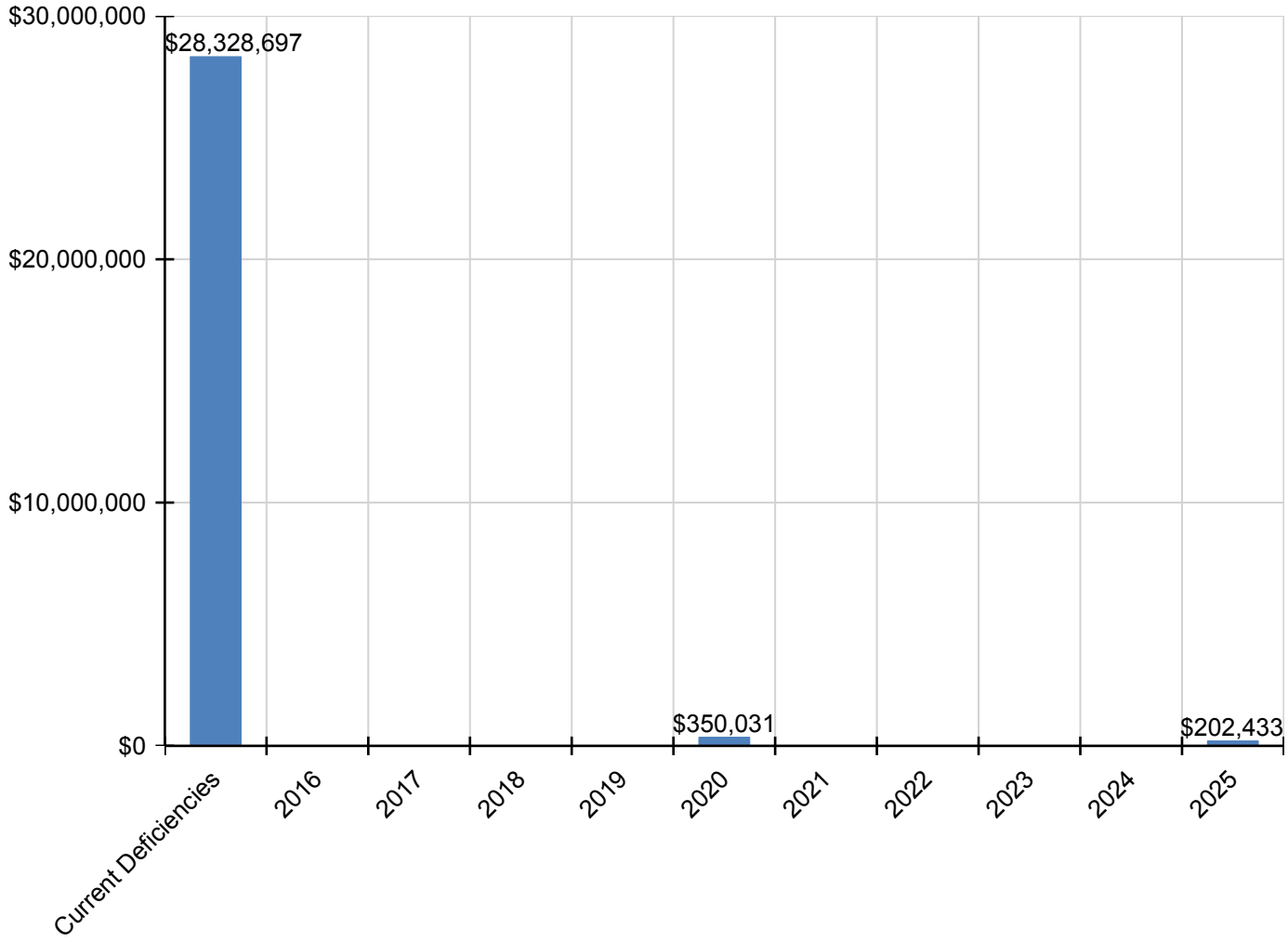
C1020 - Interior Doors	$558,521	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$558,521**
C1030 - Fittings	$298,951	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$298,951**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$269,700	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$269,700**
C30 - Interior Finishes	$0	$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	$1,212,524	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,212,524**
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	$20,143	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$20,143**
C3020412 - Terrazzo & Tile	$13,663	$0	$0	$0	$0	$346,691	$0	$0	$0	$0	$0	**$360,354**
C3020413 - Vinyl Flooring	$1,047,426	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,047,426**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$3,340	$0	$0	$0	$0	$0	**$3,340**
C3030 - Ceiling Finishes	$536,664	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$536,664**
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	$45,412	$0	$0	$0	$0	$0	$0	$0	$0	$0	$202,433	**$247,845**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$286,797	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$286,797**
D2020 - Domestic Water Distribution	$463,088	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$463,088**
D2030 - Sanitary Waste	$380,071	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$380,071**
D2040 - Rain Water Drainage	$396,882	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$396,882**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,247,246	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,247,246**
D3030 - Cooling Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3040 - Distribution Systems	$9,225,626	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$9,225,626**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,919,960	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,919,960**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$1,280,339	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,280,339**
D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$1,204,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,204,500**
D5020 - Lighting and Branch Wiring	$843,797	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$843,797**
D5030 - Communications and Security	$185,295	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$185,295**
D5090 - Other Electrical Systems	$230,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$230,500**
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	$1,671,399	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,671,399**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$222,072	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$222,072**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

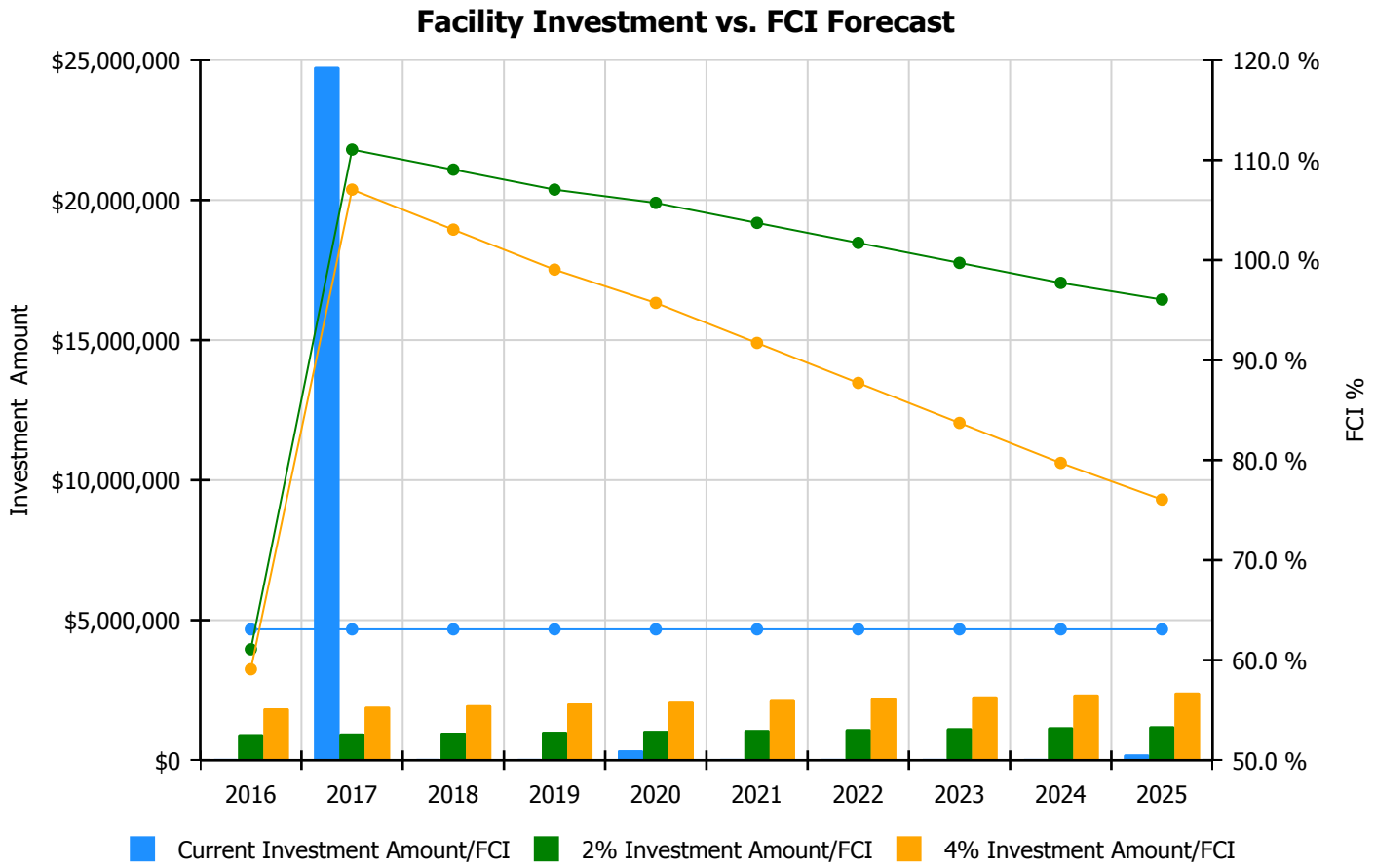
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

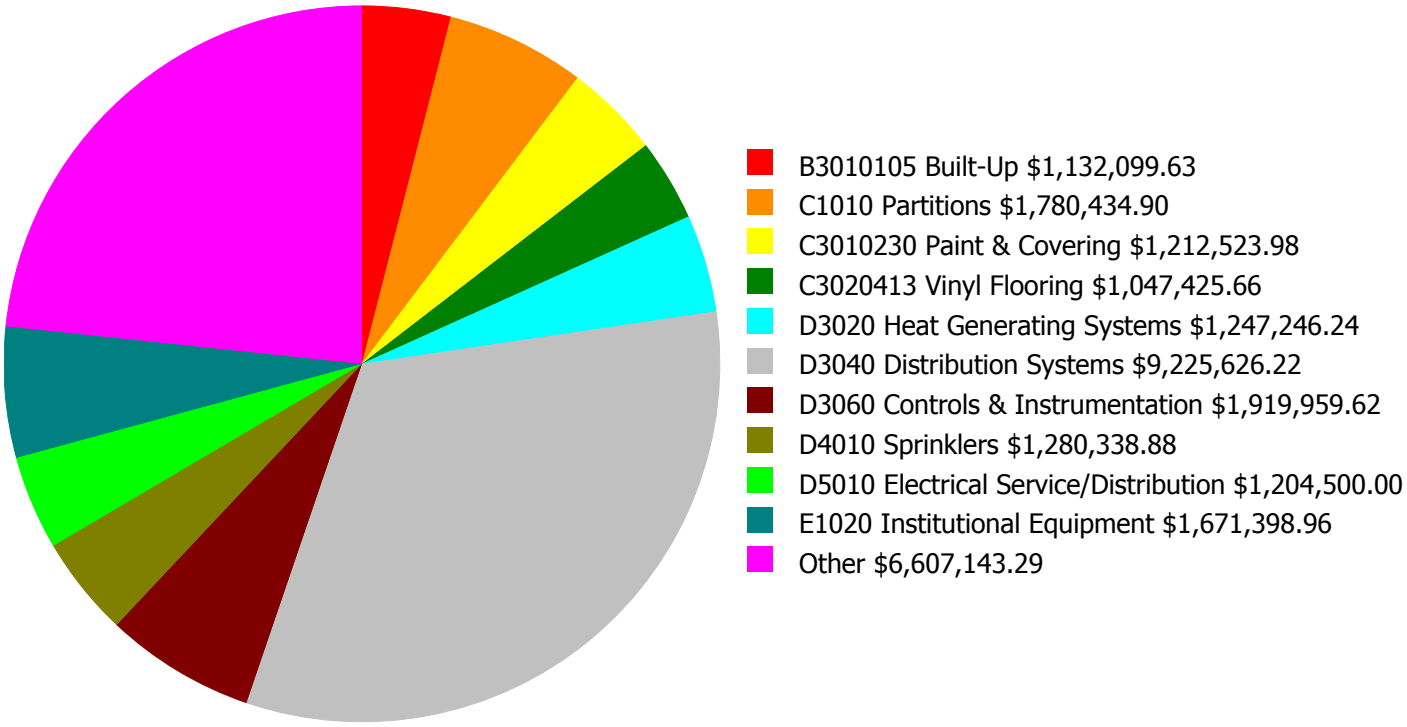
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 63.08%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$925,067.00	61.08 %	$1,850,133.00	59.08 %
2017	$24,754,415	$952,819.00	111.04 %	$1,905,637.00	107.04 %
2018	$0	$981,403.00	109.04 %	$1,962,806.00	103.04 %
2019	$0	$1,010,845.00	107.04 %	$2,021,690.00	99.04 %
2020	$350,031	$1,041,171.00	105.72 %	$2,082,341.00	95.72 %
2021	$0	$1,072,406.00	103.72 %	$2,144,811.00	91.72 %
2022	$0	$1,104,578.00	101.72 %	$2,209,156.00	87.72 %
2023	$0	$1,137,715.00	99.72 %	$2,275,430.00	83.72 %
2024	$0	$1,171,847.00	97.72 %	$2,343,693.00	79.72 %
2025	$202,433	$1,207,002.00	96.05 %	$2,414,004.00	76.05 %
Total:	**$25,306,879**	**$10,604,853.00**		**$21,209,701.00**	

Deficiency Summary by System

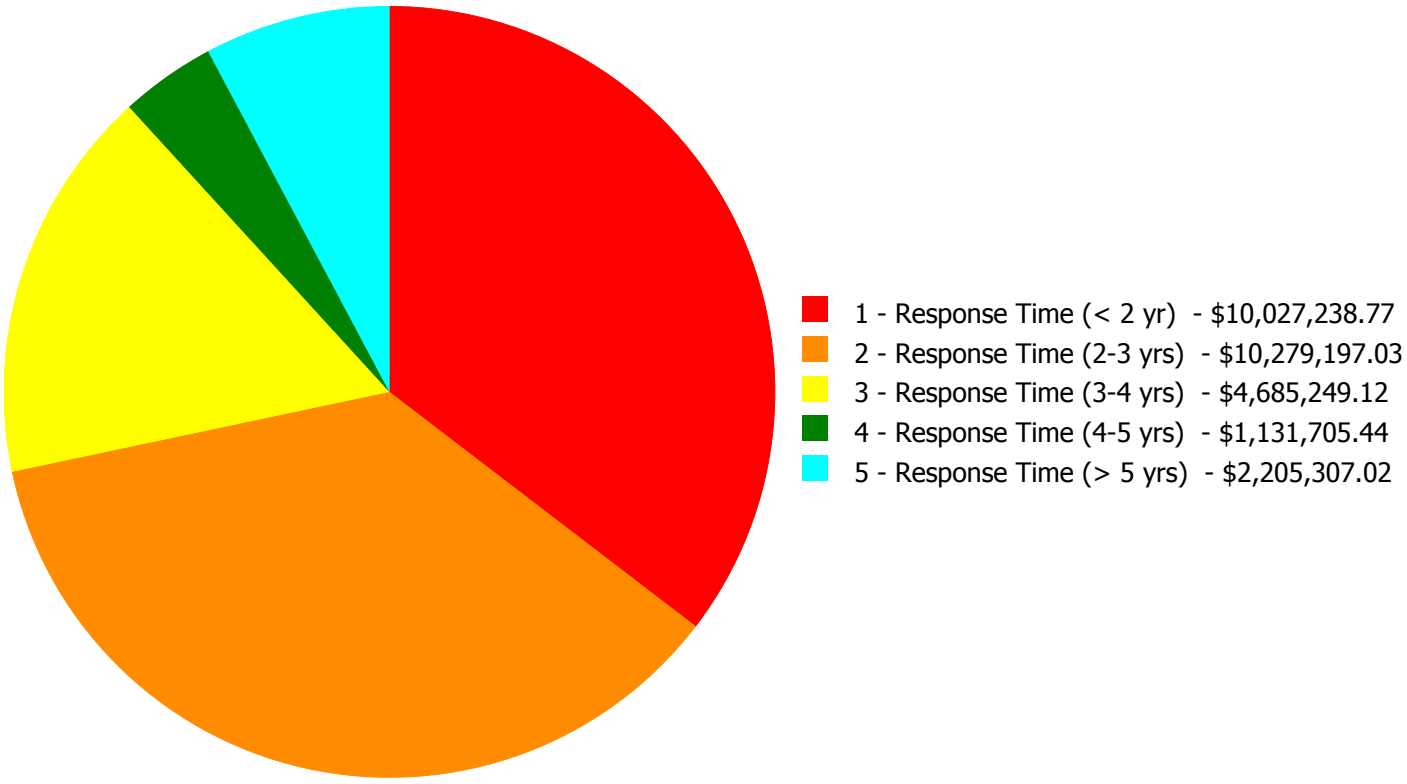
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $28,328,697.38

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: $28,328,697.38

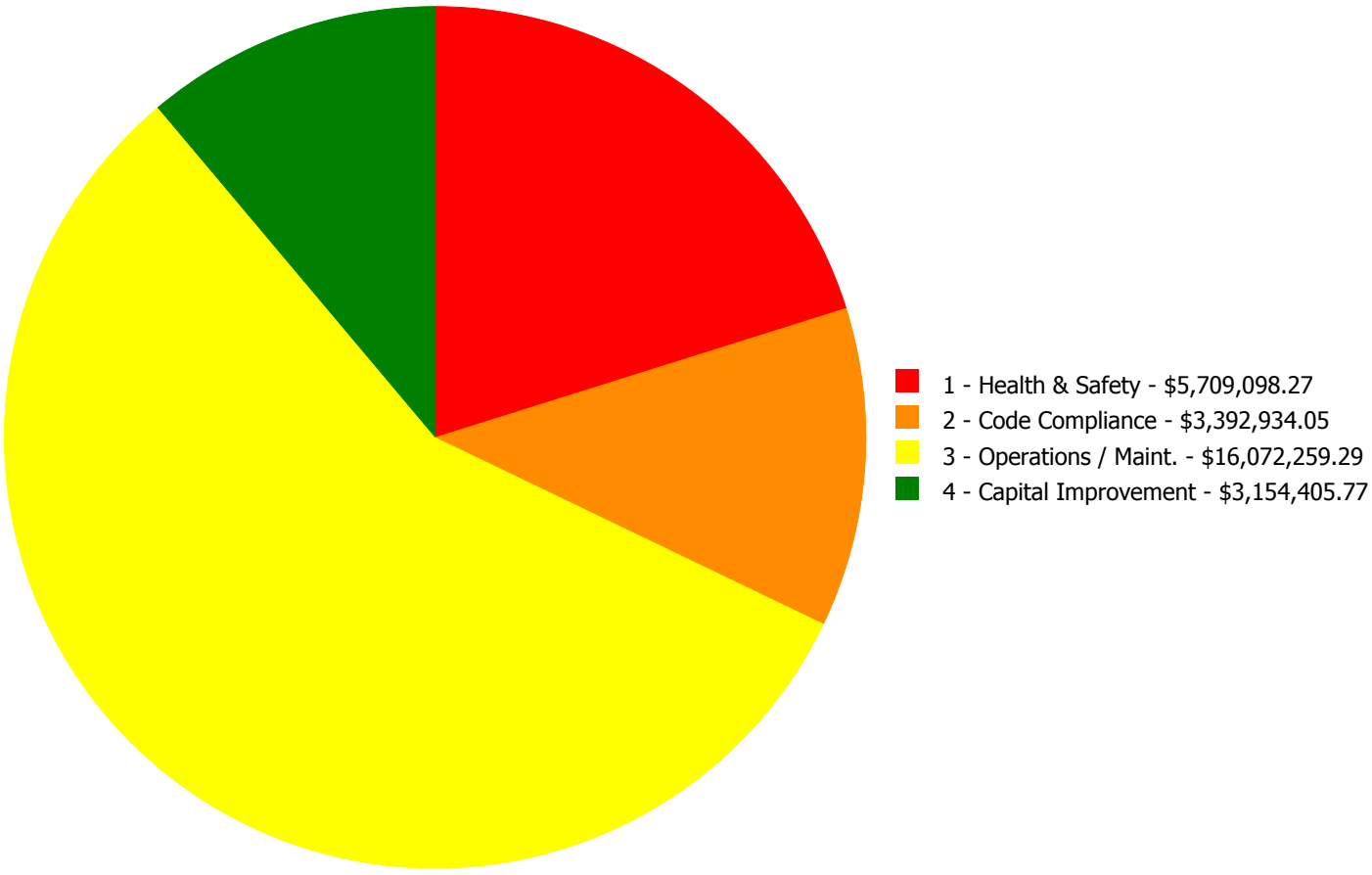
Deficiency By Priority Investment Table

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
A1030	Slab on Grade	$0.00	$0.00	$112,414.13	$0.00	$0.00	$112,414.13
B2010	Exterior Walls	$0.00	$952,920.94	$0.00	$0.00	$0.00	$952,920.94
B2020	Exterior Windows	$0.00	$695,928.33	$0.00	$0.00	$0.00	$695,928.33
B2030	Exterior Doors	$0.00	$64,768.64	$0.00	$0.00	$0.00	$64,768.64
B3010105	Built-Up	$1,132,099.63	$0.00	$0.00	$0.00	$0.00	$1,132,099.63
B3020	Roof Openings	$0.00	$29,555.33	$0.00	$0.00	$0.00	$29,555.33
C1010	Partitions	$0.00	$1,780,434.90	$0.00	$0.00	$0.00	$1,780,434.90
C1020	Interior Doors	$0.00	$558,520.68	$0.00	$0.00	$0.00	$558,520.68
C1030	Fittings	$0.00	$298,950.79	$0.00	$0.00	$0.00	$298,950.79
C2010	Stair Construction	$269,700.23	$0.00	$0.00	$0.00	$0.00	$269,700.23
C3010230	Paint & Covering	$0.00	$1,212,523.98	$0.00	$0.00	$0.00	$1,212,523.98
C3020411	Carpet	$0.00	$20,143.38	$0.00	$0.00	$0.00	$20,143.38
C3020412	Terrazzo & Tile	$0.00	$13,662.78	$0.00	$0.00	$0.00	$13,662.78
C3020413	Vinyl Flooring	$0.00	$1,047,425.66	$0.00	$0.00	$0.00	$1,047,425.66
C3030	Ceiling Finishes	$0.00	$202,481.62	$334,182.42	$0.00	$0.00	$536,664.04
D1010	Elevators and Lifts	$0.00	$0.00	$45,411.80	$0.00	$0.00	$45,411.80
D2010	Plumbing Fixtures	$0.00	$211,814.39	$0.00	$0.00	$74,982.25	$286,796.64
D2020	Domestic Water Distribution	$9,560.11	$0.00	$0.00	$0.00	$453,528.34	$463,088.45
D2030	Sanitary Waste	$380,071.30	$0.00	$0.00	$0.00	$0.00	$380,071.30
D2040	Rain Water Drainage	$0.00	$396,881.57	$0.00	$0.00	$0.00	$396,881.57
D3020	Heat Generating Systems	$1,012,205.26	$0.00	$0.00	$0.00	$235,040.98	$1,247,246.24
D3040	Distribution Systems	$7,223,602.24	$336,346.95	$1,504,260.46	$0.00	$161,416.57	$9,225,626.22
D3060	Controls & Instrumentation	$0.00	$1,919,959.62	$0.00	$0.00	$0.00	$1,919,959.62
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$1,280,338.88	$1,280,338.88
D5010	Electrical Service/Distribution	$0.00	$0.00	$1,204,500.00	$0.00	$0.00	$1,204,500.00
D5020	Lighting and Branch Wiring	$0.00	$0.00	$130,193.99	$713,602.96	$0.00	$843,796.95
D5030	Communications and Security	$0.00	$0.00	$60,787.32	$124,507.78	$0.00	$185,295.10
D5090	Other Electrical Systems	$0.00	$0.00	$230,499.93	$0.00	$0.00	$230,499.93
E1020	Institutional Equipment	$0.00	$380,406.06	$997,398.20	$293,594.70	$0.00	$1,671,398.96
E2010	Fixed Furnishings	$0.00	$156,471.41	$65,600.87	$0.00	$0.00	$222,072.28
	Total:	$10,027,238.77	$10,279,197.03	$4,685,249.12	$1,131,705.44	$2,205,307.02	$28,328,697.38

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: $28,328,697.38

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: B3010105 - Built-Up

Location: Roof
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Remove and Replace Built Up Roof
Qty: 33,413.00
Unit of Measure: S.F.
Estimate: $1,132,099.63
Assessor Name: Craig Anding
Date Created: 02/23/2016

Notes: Remove and replace the built-up roof

System: C2010 - Stair Construction

Location: Stairways
Distress: Accessibility
Category: 2 - Code Compliance
Priority: 1 - Response Time (< 2 yr)
Correction: Replace inadequate or install proper stair railing - select appropriate material
Qty: 800.00
Unit of Measure: L.F.
Estimate: $269,700.23
Assessor Name: Craig Anding
Date Created: 02/23/2016

Notes: Replace handrails in exit stairwells and at the main entry

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: 02/03/2016

Notes: Provide an expansion tank for the 75 gallon vertical tank type, gas-fired domestic water heater.

System: D2030 - Sanitary Waste

Location: Throughout Building

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 89,500.00

Unit of Measure: S.F.

Estimate: $380,071.30

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures. The Principal reported leaks at fittings have caused water damage leading to mold problems.

System: D3020 - Heat Generating Systems

Location: Boiler Room

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,012,205.26

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Replace the two 120 HP Weil McLain cast iron sectional boilers installed in service since 1968. The District should budget to replace these boilers as they appear in poor condition.

System: D3040 - Distribution Systems

Location: Throughout Building

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: 89,500.00

Unit of Measure: S.F.

Estimate: $5,533,844.72

Assessor Name: Craig Anding

Date Created: 02/03/2016

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 steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.

System: D3040 - Distribution Systems

Location: Corridors

Distress: Inadequate

Category: 4 - Capital Improvement

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: 02/03/2016

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: Auditorium

Distress: OSHA

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

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

Qty: 200.00

Unit of Measure: Seat

Estimate: $413,057.25

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: 18. Replace air handling unit AHU-3 that serves the Auditorium located in the mechanical room 208S and associated ductwork and registers. This unit has an external motor and belt guard that does not comply with OSHA guidelines and 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.

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

System: B2010 - Exterior Walls

Location: Exterior walls

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 21,600.00

Unit of Measure: S.F.

Estimate: $697,452.59

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Repair exterior walls – re-caulk control joints, repair broken brick and repoint mortar joints

System: B2010 - Exterior Walls

Location: Exterior walls

Distress: Building Envelope Integrity

Category: 3 - Operations / Maint.

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

Correction: Repair spalled concrete wall structure

Qty: 4,000.00

Unit of Measure: S.F.

Estimate: $226,864.85

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Repair concrete walls covering exposed rebar

System: B2010 - Exterior Walls

Location: Exterior Soffits

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Exterior plaster or stucco repair and refinishing - based on SF of wall surface

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $28,603.50

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Repair plaster soffits

System: B2020 - Exterior Windows

Location: Exterior walls

Distress: Beyond Service Life

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: 98.00

Unit of Measure: Ea.

Estimate: $597,627.87

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Replace exterior windows as they are beyond normal service life and new ones will be more efficient and energy saving.

System: B2020 - Exterior Windows

Location: Cafe

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace curtain wall systems - SF of curtain wall area

Qty: 600.00

Unit of Measure: S.F.

Estimate: $98,300.46

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Repair damaged sloped glazing at café

System: B2030 - Exterior Doors

Location: Exterior doors

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 8.00

Unit of Measure: Ea.

Estimate: $64,768.64

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Replace exterior doors

System: B3020 - Roof Openings

Location: Roof

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace skylights - pick the closest size and type

Qty: 16.00

Unit of Measure: Ea.

Estimate: $29,555.33

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Remove and replace skylights

System: C1010 - Partitions

Location: Throughout the building

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Build new gang restroom to meet code or occupant needs - select type and number of fixtures and toilet partitions for mens or womens

Qty: 6.00

Unit of Measure: Ea.

Estimate: $1,264,524.00

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Reconfigure toilet rooms on each floor for accessibility. Based on two restrooms per floor.

System: C1010 - Partitions

Location: Throughout the building

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Build new single restroom to meet code requirements

Qty: 5.00

Unit of Measure: Ea.

Estimate: $351,629.86

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Provide accessible faculty/staff restrooms on each floor and at the nurse office. Based on three restrooms for the building.

System: C1010 - Partitions

Location: Cafeteria/Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Folding partition inoperable - remove and replace - select quality

Qty: 600.00

Unit of Measure: S.F.

Estimate: $164,281.04

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Replace operable wall between auditorium and cafeteria

System: C1020 - Interior Doors

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace interior doors - wood doors with wood frame - per leaf

Qty: 120.00

Unit of Measure: Ea.

Estimate: $558,520.68

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Remove and replace interior doors - beyond service life and ADA access

System: C1030 - Fittings

Location: Classrooms

Distress: Inadequate

Category: 3 - Operations / Maint.

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

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

Qty: 70.00

Unit of Measure: Ea.

Estimate: $110,890.77

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Replace chalkboards with marker boards

System: C1030 - Fittings

Location: Locker rooms and staff areas
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and replace lockers - select size
Qty: 120.00
Unit of Measure: Ea.
Estimate: $78,558.38
Assessor Name: Craig Anding
Date Created: 02/23/2016

Notes: Replace lockers in locker rooms and staff areas

System: C1030 - Fittings

Location: Restrooms
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and replace toilet partitions
Qty: 30.00
Unit of Measure: Ea.
Estimate: $76,992.14
Assessor Name: Craig Anding
Date Created: 02/22/2016

Notes:

System: C1030 - Fittings

Location: Throughout the building

Distress: Inadequate

Category: 2 - Code Compliance

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

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

Qty: 120.00

Unit of Measure: Ea.

Estimate: $32,509.50

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Replace signage with ADA compliant signage

System: C3010230 - Paint & Covering

Location: Throughout the building

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 179,000.00

Unit of Measure: S.F.

Estimate: $1,212,523.98

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Repaint interior walls

System: C3020411 - Carpet

Location: Administrative

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace carpet

Qty: 1,800.00

Unit of Measure: S.F.

Estimate: $20,143.38

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Replace carpet in conference room and carpet tile in library

System: C3020412 - Terrazzo & Tile

Location: Lobby

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace terazzo or tile flooring - pick the appropriate material

Qty: 1,200.00

Unit of Measure: S.F.

Estimate: $13,662.78

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Replace quarry tile flooring in main entrance

System: C3020413 - Vinyl Flooring

Location: Throughout the building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and replace VCT
Qty: 81,400.00
Unit of Measure: S.F.
Estimate: $978,227.08
Assessor Name: Craig Anding
Date Created: 02/22/2016

Notes: Remove and replace VCT

System: C3020413 - Vinyl Flooring

Location: Auditorium
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Remove and replace VCT
Qty: 4,800.00
Unit of Measure: S.F.
Estimate: $69,198.58
Assessor Name: Craig Anding
Date Created: 02/23/2016

Notes: Replace vinyl flooring and vinyl nosings at auditorium tiers

System: C3030 - Ceiling Finishes

Location: Ceilings

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 13,425.00

Unit of Measure: S.F.

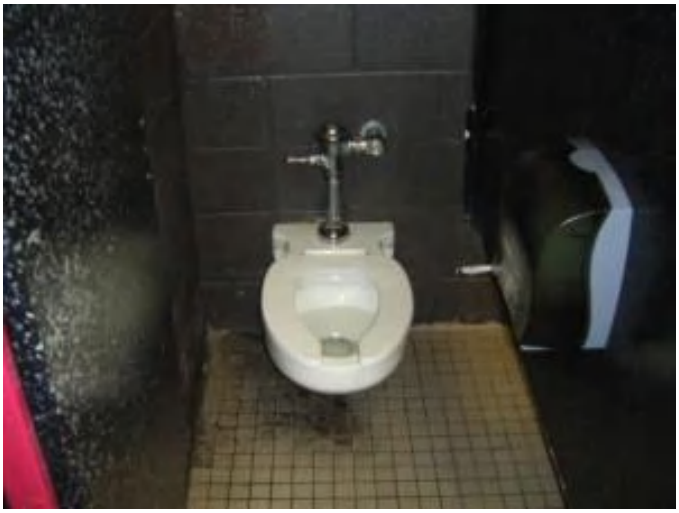
Estimate: $202,481.62

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: • Replace acoustical tile ceilings. It is recommended that concealed spline ceilings be replaced with 2 x 2 ceilings for access to other systems above ceilings

System: D2010 - Plumbing Fixtures



Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 2 - Response Time (2-3 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: 02/03/2016

Notes: Replace sixteen (16) original water closets in the restrooms on the Ground and 1st levels with low flow fixtures.

System: D2010 - Plumbing Fixtures

Location: Corridors

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: 4.00

Unit of Measure: Ea.

Estimate: $62,771.59

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Replace the four (4) wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace wall hung urinals

Qty: 8.00

Unit of Measure: Ea.

Estimate: $29,648.43

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Replace eight (8) original urinals in the restrooms on the Ground and 1st levels with low flow fixtures.

System: D2040 - Rain Water Drainage

Location: Throughout Building

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 89,500.00

Unit of Measure: S.F.

Estimate: $396,881.57

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Hire a qualified contractor to perform a detailed examination of the storm drainage piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures. The Principal reported leaks at fittings have caused water damage leading to mold problems.

System: D3040 - Distribution Systems

Location: Gymnasium

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace HVAC unit for Gymnasium (single station)

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $287,130.24

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Provide ventilation for the gymnasium by removing the existing unit ventilators and installing a constant volume air handling unit with distribution ductwork and registers.

System: D3040 - Distribution Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 15,000.00

Unit of Measure: S.F.

Estimate: $49,216.71

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system; budget 20 traps.

System: D3060 - Controls & Instrumentation

Location: Throughout Building

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 89,500.00

Unit of Measure: S.F.

Estimate: $1,919,959.62

Assessor Name: Craig Anding

Date Created: 02/03/2016

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: E1020 - Institutional Equipment

Location: Classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace library shelving

Qty: 300.00

Unit of Measure: L.F.

Estimate: $380,406.06

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Remove and replace wall storage cabinets

System: E2010 - Fixed Furnishings

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 100.00

Unit of Measure: Ea.

Estimate: $105,223.60

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Replace auditorium seating

System: E2010 - Fixed Furnishings

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 30.00

Unit of Measure: Ea.

Estimate: $32,056.24

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Replace auditorium stage curtain

System: E2010 - Fixed Furnishings

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace or add drapery hardware

Qty: 60.00

Unit of Measure: L.F.

Estimate: $19,191.57

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes:

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

System: A1030 - Slab on Grade

Location: Entrance area

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Install interior handicap ramp - per LF 5' wide - insert the LF in the quantity

Qty: 56.00

Unit of Measure: L.F.

Estimate: $112,414.13

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Install interior accessibility ramp at stairs in main entrance

System: C3030 - Ceiling Finishes

Location: Painted ceilings

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Re-paint ceilings - SF of ceilings

Qty: 69,810.00

Unit of Measure: S.F.

Estimate: $334,182.42

Assessor Name: Craig Anding

Date Created: 02/23/2016

Notes: Repaint third floor and auditorium ceilings and other ceilings

System: D1010 - Elevators and Lifts

Location: Elevator Machine Room
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace elevator motor and controller
Qty: 1.00
Unit of Measure: Ea.
Estimate: $29,571.81
Assessor Name: Craig Anding
Date Created: 01/19/2016

Notes: Provide new elevator controller.

System: D1010 - Elevators and Lifts

Location: Elevator Machine Room
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace elevator motor and controller
Qty: 1.00
Unit of Measure: Ea.
Estimate: $15,839.99
Assessor Name: Craig Anding
Date Created: 01/19/2016

Notes: Provide the elevator with battery lowering device.

System: D3040 - Distribution Systems

Location: Music room

Distress: OSHA

Category: 2 - Code Compliance

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

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

Qty: 15.00

Unit of Measure: TonAC

Estimate: $434,857.11

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Replace air handling unit AHU-2 that serves the Music room located in the mechanical room 208S and associated ductwork and registers. This unit has an external motor and belt guard that does not comply with OSHA guidelines and 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: Main Offices

Distress: OSHA

Category: 2 - Code Compliance

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

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

Qty: 696.00

Unit of Measure: Student

Estimate: $417,660.45

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Replace air handling unit AHU-1 that serves the Main Offices located in the mechanical room 208S and associated ductwork and registers. This unit has an external motor and belt guard that does not comply with OSHA guidelines and 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: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Perform testing to identify and replace damaged steam and condensate piping.

Qty: 25,000.00

Unit of Measure: S.F.

Estimate: $236,509.41

Assessor Name: Craig Anding

Date Created: 02/03/2016

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

System: D3040 - Distribution Systems

Location: Cafeteria

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 696.00

Unit of Measure: Student

Estimate: $231,369.13

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Provide ventilation for the Cafeteria by removing the existing unit ventilators and installing a constant volume air handling unit with distribution ductwork and registers.

System: D3040 - Distribution Systems

Location: Roof

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace power roof ventilator (36" dia.)

Qty: 2.00

Unit of Measure: Ea.

Estimate: $183,864.36

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Replace the two (2) damaged power roof ventilators that provide exhaust for the restrooms.

System: D5010 - Electrical Service/Distribution

Location: Basement

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace unit substation

Qty: 2.00

Unit of Measure: Ea.

Estimate: $696,374.99

Assessor Name: Craig Anding

Date Created: 01/18/2016

Notes: Two new unit substations are required to feed this facility, one 1000KVA, 13.2KV-277/480V unit substation for HVAC equipment and large motor loads and another 300 KVA, 13.2KV-120/208V unit substation for receptacles, lighting and small motor loads.

System: D5010 - Electrical Service/Distribution

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $508,125.01

Assessor Name: Craig Anding

Date Created: 01/18/2016

Notes: Replace the entire distribution system with new panels and new wiring/conduits. Approximate (20) 208/120V panel boards. Provide new (1) 600A 480V MCC

System: D5020 - Lighting and Branch Wiring

Location: Entire Building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add wiring device

Qty: 340.00

Unit of Measure: Ea.

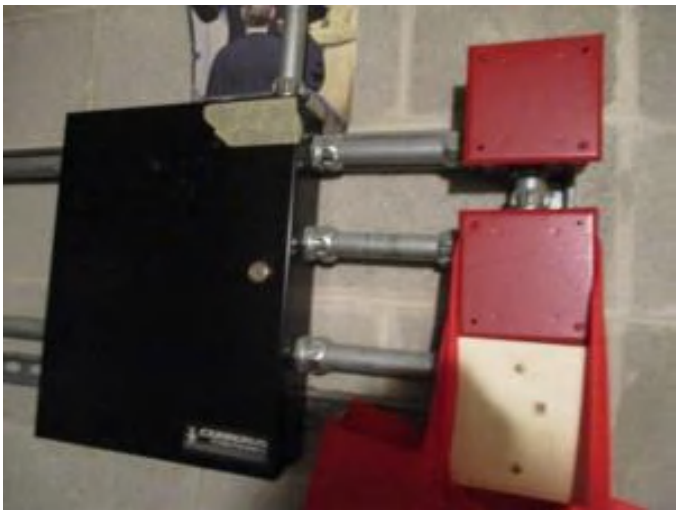
Estimate: $130,193.99

Assessor Name: Craig Anding

Date Created: 01/18/2016

Notes: Provide (2)25FT of surface raceways with receptacles spaced 24” on center and 4 wall mount receptacles per classroom. Approximate 340 receptacles

System: D5030 - Communications and Security



Location: Entire Building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

Estimate: $60,787.32

Assessor Name: Craig Anding

Date Created: 01/18/2016

Notes: Provide a new fire alarm system with audio/visual devices in public areas and classrooms. Approximate 40 devices.

System: D5090 - Other Electrical Systems

Location: Outdoor

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $206,250.11

Assessor Name: Craig Anding

Date Created: 01/18/2016

Notes: Provide an outdoor 90KW diesel powered generator.

System: D5090 - Other Electrical Systems

Location: Roof

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Repair Lightning Protection System

Qty: 1.00

Unit of Measure: Job

Estimate: $24,249.82

Assessor Name: Craig Anding

Date Created: 01/19/2016

Notes: Prepare a study to determine if lightning protection system is required.

System: E1020 - Institutional Equipment

Location: Classrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace base cabinets and countertops

Qty: 1,200.00

Unit of Measure: L.F.

Estimate: $997,398.20

Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes:

System: E2010 - Fixed Furnishings

Location: Exterior windows

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace window blinds

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $65,600.87

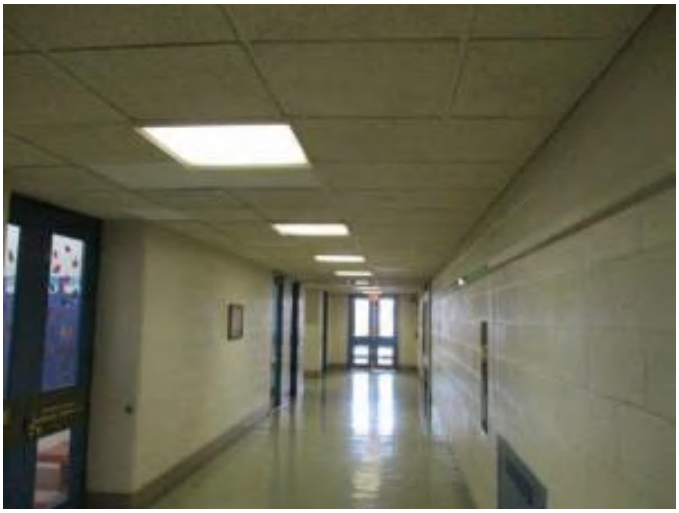
Assessor Name: Craig Anding

Date Created: 02/22/2016

Notes: Remove and replace window blinds

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

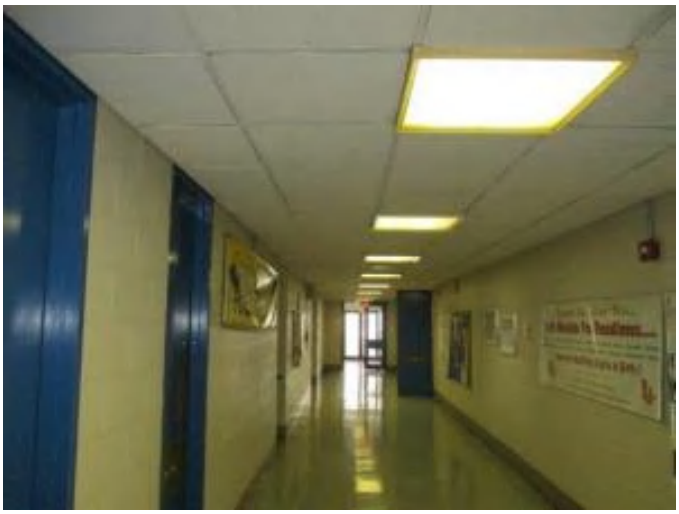
System: D5020 - Lighting and Branch Wiring



Location: Entire Building
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Add Lighting Fixtures
Qty: 828.00
Unit of Measure: Ea.
Estimate: $713,602.96
Assessor Name: Craig Anding
Date Created: 01/18/2016

Notes: Replace 70% of the existing fluorescent fixtures. Approximate 828 fixtures.

System: D5030 - Communications and Security



Location: Entire Building
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Video Surveillance System
Qty: 12.00
Unit of Measure: Ea.
Estimate: $98,626.24
Assessor Name: Craig Anding
Date Created: 01/18/2016

Notes: Provide additional surveillance CCTV cameras for a complete coverage of the interior of the school. Approximate 12

System: D5030 - Communications and Security

Location: Auditorium
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Sound System
Qty: 1.00
Unit of Measure: LS
Estimate: $25,881.54
Assessor Name: Craig Anding
Date Created: 01/19/2016

Notes: Replace the auditorium portable sound system with permanent installed sound system.

System: E1020 - Institutional Equipment

Location: Auditorium
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Stage Theatrical Lighting System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $293,594.70
Assessor Name: Craig Anding
Date Created: 01/19/2016

Notes: Replace the auditorium theatrical lighting with new theatrical lighting and dimming system.

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: Remove and replace or replace lavatory - quantify accessible if required

Qty: 18.00

Unit of Measure: Ea.

Estimate: $74,982.25

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Replace eighteen (18) original lavatories in the restrooms on the Ground and 1st 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: 89,500.00

Unit of Measure: S.F.

Estimate: $453,528.34

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Replace the original copper domestic water piping in service for nearly 50 years to eliminate joints made with lead solder.

System: D3020 - Heat Generating Systems

This deficiency has no image.

Location: Boiler Room

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $235,040.98

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Provide an 8,000 gallon aboveground concrete-encased tank, circulation pumps and controls to receive billing credit from the gas utility as an interruptible service.

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: 400.00

Unit of Measure: L.F.

Estimate: $161,416.57

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: Replace the original cabinet unit heaters and convectors damaged by condensation caused by failed pneumatic controls.

System: D4010 - Sprinklers

Location: Throughout Building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 89,500.00

Unit of Measure: S.F.

Estimate: $1,280,338.88

Assessor Name: Craig Anding

Date Created: 02/03/2016

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
D1010 Elevators and Lifts	Hydraulic passenger elevators, base unit, standard finish, 1500 lb, 100 fpm, 2 stop	1.00	Ea.	Basement elevator machine room					35	1970	2025	$61,999.00	$68,198.90
D3020 Heat Generating Systems	Boiler, cast iron, gas, steam, 4720 MBH	2.00	Ea.		Weil McLain	ABG-1794SF Series 2			35			$150,947.30	$332,084.06
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, air cooled, insulated evaporator, 180 ton, includes standard controls	1.00	Ea.		Carrier	30Xaa1807T-06S5L	0509Q0826		30	2009	2039	$164,191.50	$180,610.65
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 300 kVA & below w/CLF fuses, 4.8 kV, 600 amp, NEMA 1	1.00	Ea.	Basement					30	1970	2047	$34,900.20	$38,390.22
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 2000 amp, excl breakers	1.00	Ea.	Basement					30	1970	2047	$8,352.45	$9,187.70
D5010 Electrical Service/Distribution	Transformer, liquid-filled, 5 kV or 15 kV primary, 277/480 V secondary, 3 phase, 750 kVA, pad mounted	1.00	Ea.	Basement					30	1970	2047	$41,855.40	$46,040.94
												Total:	**$674,512.47**

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):	73,200
Year Built:	1970
Last Renovation:	
Replacement Value:	$1,545,830
Repair Cost:	$1,756,195.78
Total FCI:	113.61 %
Total RSLI:	85.59 %

Description:

Attributes:

General Attributes:

Bldg ID:	S129001	Site ID:	S129001

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	105.43 %	142.99 %	$1,602,303.32
G40 - Site Electrical Utilities	33.33 %	36.19 %	$153,892.46
Totals:	**85.59 %**	**113.61 %**	**$1,756,195.78**

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	1970	2000	2047	106.67 %	0.00 %	32			$0
G2020	Parking Lots	$8.50	S.F.	13,300	30	1970	2000	2047	106.67 %	166.36 %	32		$188,074.04	$113,050
G2030	Pedestrian Paving	$12.30	S.F.	53,800	40	1970	2010	2057	105.00 %	131.79 %	42		$872,131.28	$661,740
G2040	Site Development	$4.36	S.F.	73,200	25	1970	1995	2042	108.00 %	169.86 %	27		$542,098.00	$319,152
G2050	Landscaping & Irrigation	$4.36	S.F.	6,100	15	1970	1985	2027	80.00 %	0.00 %	12			$26,596
G4020	Site Lighting	$4.84	S.F.	73,200	30	1970	2000	2025	33.33 %	0.00 %	10			$354,288
G4030	Site Communications & Security	$0.97	S.F.	73,200	30	1970	2000	2025	33.33 %	216.74 %	10		$153,892.46	$71,004
								Total	**85.59 %**	**113.61 %**			**$1,756,195.78**	**$1,545,830**

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.

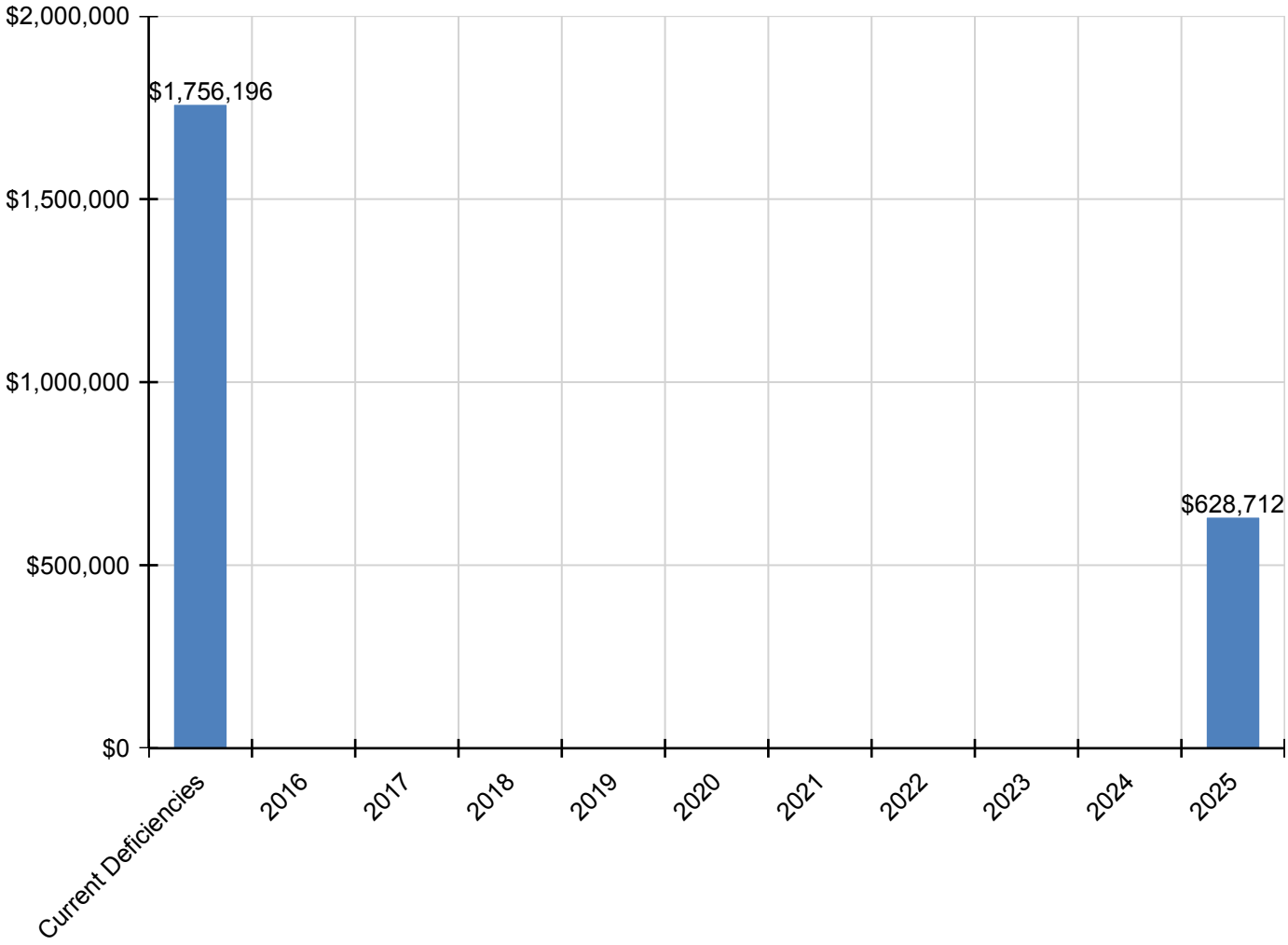
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$1,756,196**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$628,712**	**$2,384,908**
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	$188,074	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$188,074**
G2030 - Pedestrian Paving	$872,131	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$872,131**
G2040 - Site Development	$542,098	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$542,098**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$523,747	**$523,747**
G4030 - Site Communications & Security	$153,892	$0	$0	$0	$0	$0	$0	$0	$0	$0	$104,965	**$258,858**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

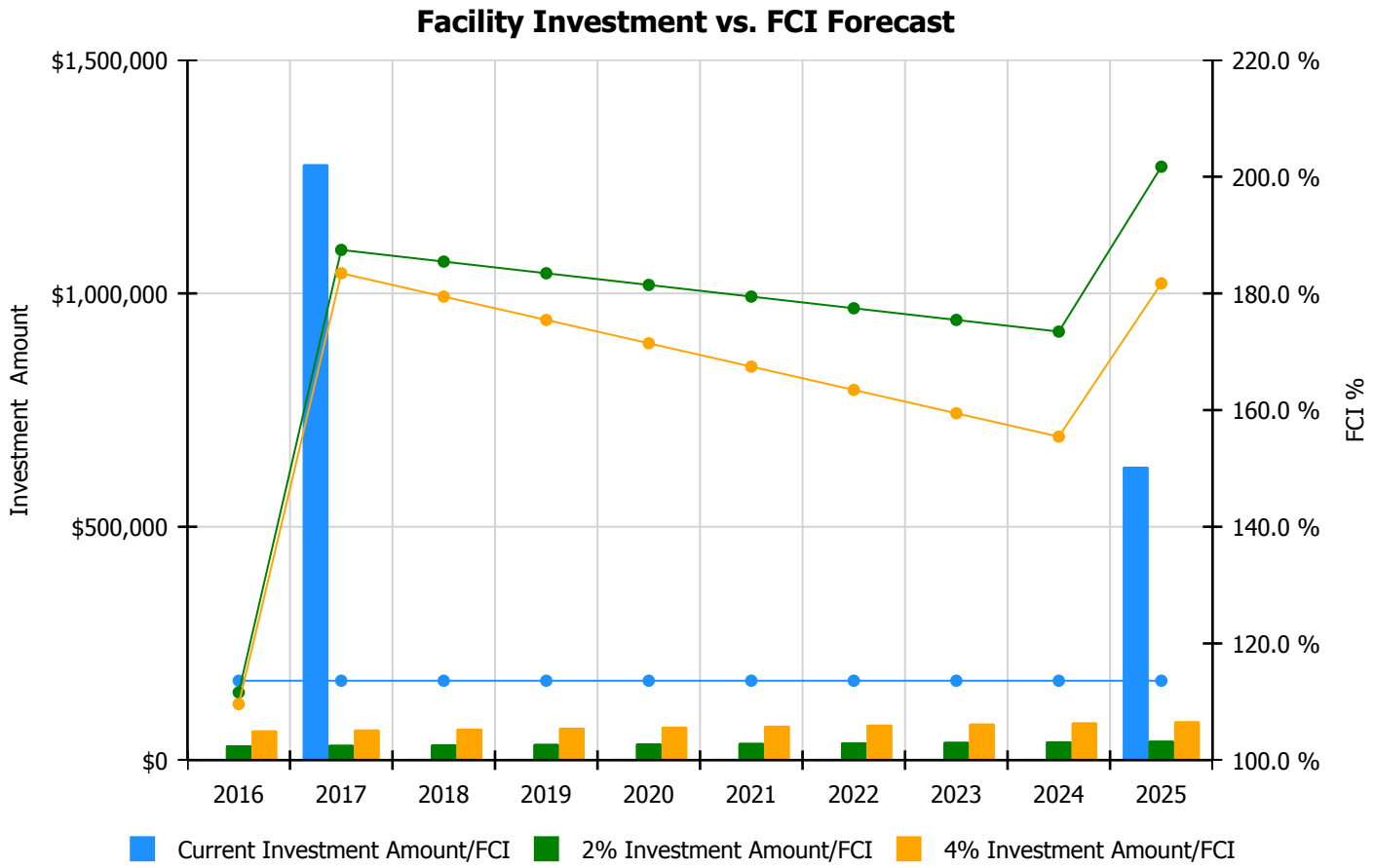
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

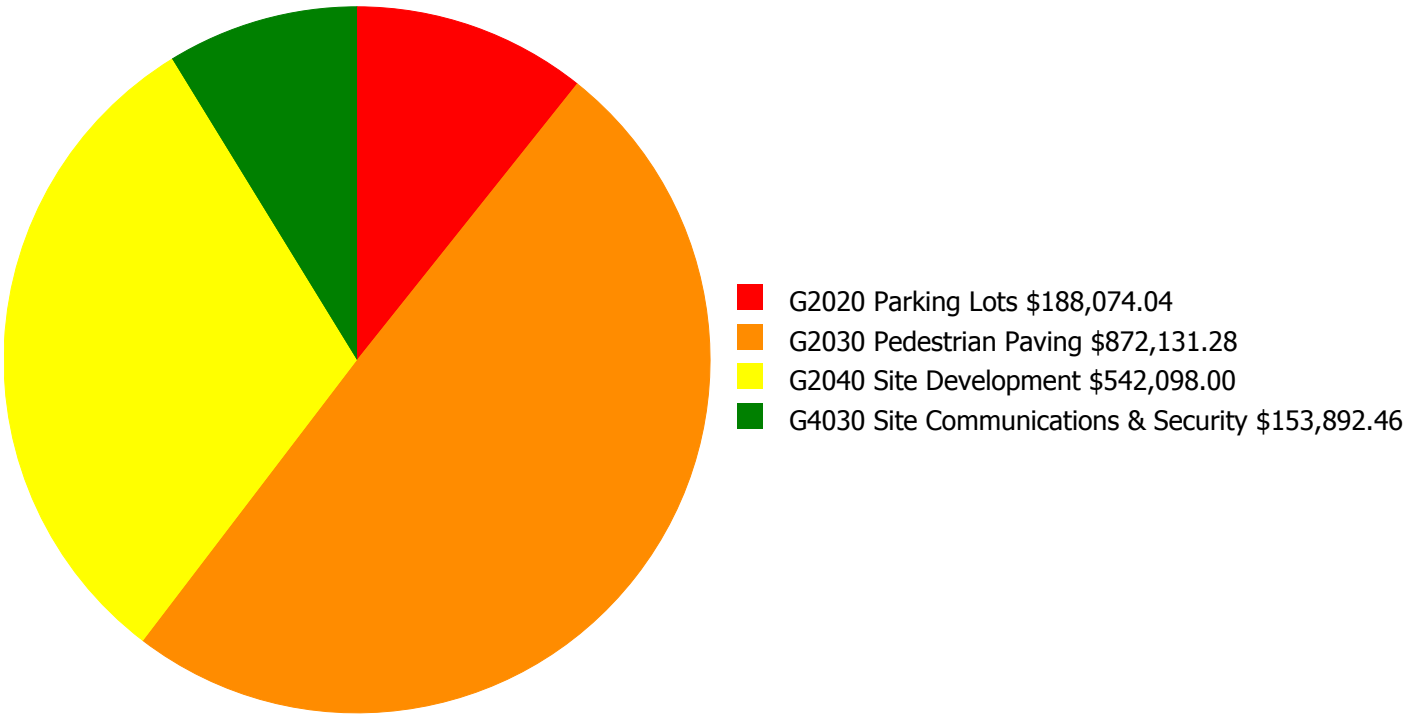
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 113.61%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$31,844.00	111.61 %	$63,688.00	109.61 %
2017	$1,276,619	$32,799.00	187.45 %	$65,599.00	183.45 %
2018	$0	$33,783.00	185.45 %	$67,567.00	179.45 %
2019	$0	$34,797.00	183.45 %	$69,594.00	175.45 %
2020	$0	$35,841.00	181.45 %	$71,682.00	171.45 %
2021	$0	$36,916.00	179.45 %	$73,832.00	167.45 %
2022	$0	$38,024.00	177.45 %	$76,047.00	163.45 %
2023	$0	$39,164.00	175.45 %	$78,328.00	159.45 %
2024	$0	$40,339.00	173.45 %	$80,678.00	155.45 %
2025	$628,712	$41,549.00	201.72 %	$83,099.00	181.72 %
Total:	**$1,905,331**	**$365,056.00**		**$730,114.00**	

Deficiency Summary by System

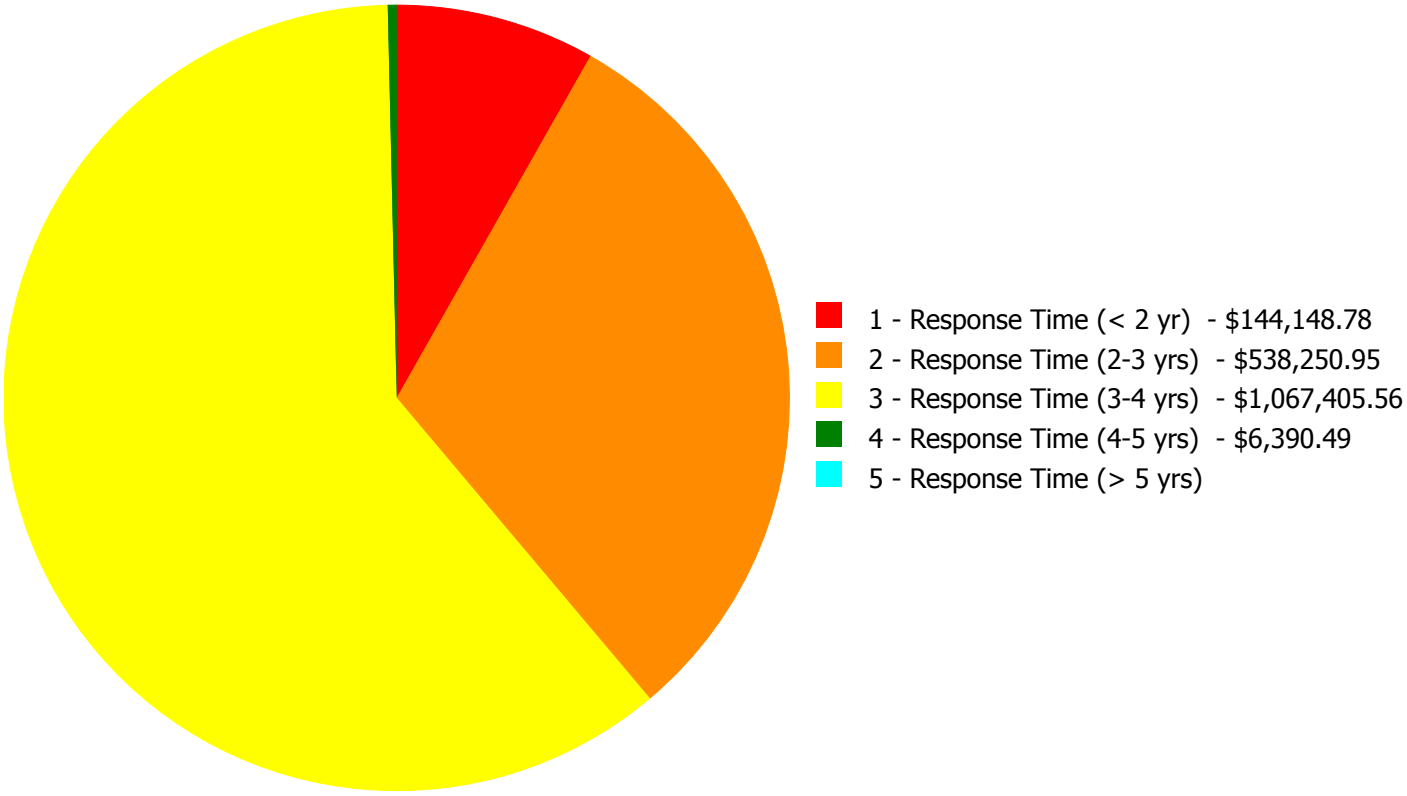
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $1,756,195.78

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: $1,756,195.78

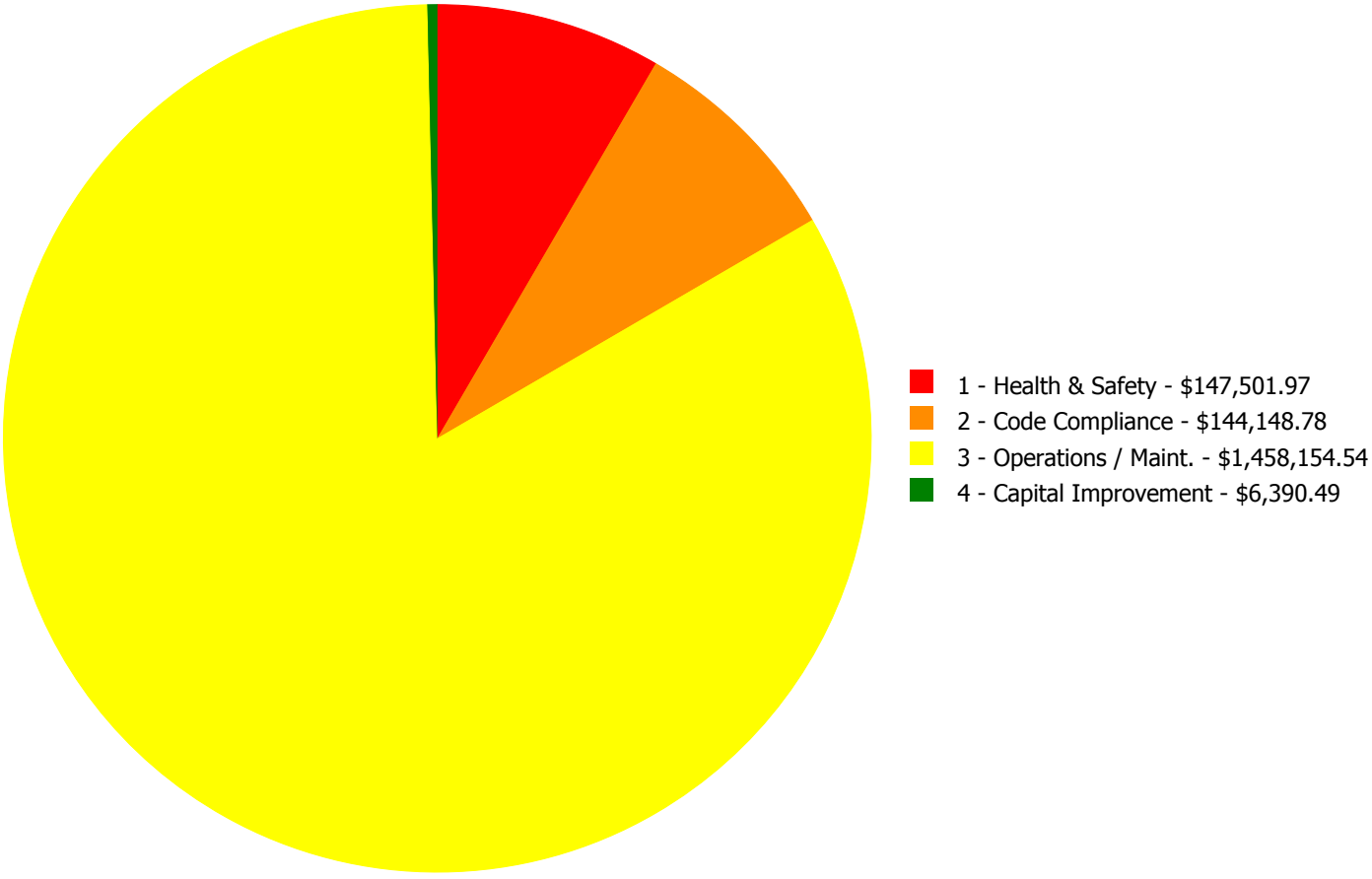
Deficiency By Priority Investment Table

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	$0.00	$188,074.04	$0.00	$0.00	$188,074.04
G2030	Pedestrian Paving	$140,301.73	$0.00	$731,829.55	$0.00	$0.00	$872,131.28
G2040	Site Development	$3,847.05	$538,250.95	$0.00	$0.00	$0.00	$542,098.00
G4030	Site Communications & Security	$0.00	$0.00	$147,501.97	$6,390.49	$0.00	$153,892.46
	Total:	$144,148.78	$538,250.95	$1,067,405.56	$6,390.49	$0.00	$1,756,195.78

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: $1,756,195.78

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: G2030 - Pedestrian Paving

Location: Main entrance

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Install an exterior ADA ramp - based on 5' wide by the linear foot - up to a 48" rise - per LF of ramp - figure 1 LF per inch of rise

Qty: 72.00

Unit of Measure: L.F.

Estimate: $93,534.50

Assessor Name: Tom Moe

Date Created: 02/23/2016

Notes: Install handicap ramp to main/visitor entrance from street level, exterior. Two ramps at 36" of rise.

System: G2030 - Pedestrian Paving

Location: Parking lot

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Install an exterior ADA ramp - based on 5' wide by the linear foot - up to a 48" rise - per LF of ramp - figure 1 LF per inch of rise

Qty: 36.00

Unit of Measure: L.F.

Estimate: $46,767.23

Assessor Name: Tom Moe

Date Created: 02/23/2016

Notes: Install handicap ramp from parking level to northeast or southeast entrance

---

System: G2040 - Site Development

Location: Steps

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 1 - Response Time (< 2 yr)

Correction: Replace or install exterior guardrails

Qty: 20.00

Unit of Measure: L.F.

Estimate: $3,847.05

Assessor Name: Tom Moe

Date Created: 02/23/2016

Notes:

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

System: G2040 - Site Development

Location: Site retaining walls

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair exterior brick retaining wall - per LF of wall - up to 4' tall

Qty: 700.00

Unit of Measure: L.F.

Estimate: $360,937.61

Assessor Name: Tom Moe

Date Created: 02/23/2016

Notes: Repair site retaining walls

System: G2040 - Site Development

Location: Steps

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace chain link gate - 6' high

Qty: 230.00

Unit of Measure: Ea.

Estimate: $135,716.31

Assessor Name: Tom Moe

Date Created: 02/23/2016

Notes: Replace/install exterior fence

System: G2040 - Site Development

Location: Site Steps

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace on grade concrete steps - based on 6' wide steps and 6 or 12 risers - modify estimate to suit the configuration

Qty: 2.00

Unit of Measure: Flight

Estimate: $28,080.02

Assessor Name: Tom Moe

Date Created: 02/23/2016

Notes:

System: G2040 - Site Development

Location: Entrance

Distress: Inadequate

Category: 3 - Operations / Maint.

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

Correction: Remove and replace area drain/drop inlet - change length of pipe if required

Qty: 1.00

Unit of Measure: Ea.

Estimate: $13,517.00

Assessor Name: Tom Moe

Date Created: 02/23/2016

Notes: Install area drain at northeast entrance at first floor

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

System: G2020 - Parking Lots

Location: Parking lot

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace AC paving parking lot

Qty: 13,300.00

Unit of Measure: S.F.

Estimate: $188,074.04

Assessor Name: Tom Moe

Date Created: 02/22/2016

Notes: Resurface asphalt parking lot. Restripe including handicap symbols and signage. Install an accessible ramp from the parking level to the building 1st floor level. Consider relocating parking to the southwest corner of the site, incorporating a delivery lane segregated from the playground, and convert the current parking area to an upper play area.

System: G2030 - Pedestrian Paving

Location: Playground

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace AC paving

Qty: 53,800.00

Unit of Measure: S.F.

Estimate: $731,829.55

Assessor Name: Tom Moe

Date Created: 02/22/2016

Notes: Remove and replace AC paving

System: G4030 - Site Communications & Security

Location: Outdoor

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add Video Surveillance System

Qty: 8.00

Unit of Measure: Ea.

Estimate: $147,501.97

Assessor Name: Ann Buerger Linden

Date Created: 01/19/2016

Notes: Provide additional outdoor surveillance CCTV cameras. Approximate 8

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

System: G4030 - Site Communications & Security

Location: Building Perimeter

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Add Site Paging System

Qty: 2.00

Unit of Measure: Ea.

Estimate: $6,390.49

Assessor Name: Ann Buerger Linden

Date Created: 01/19/2016

Notes: Provide two loud speakers facing the play area.

Equipment Inventory

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

No data found for this asset

Glossary

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

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