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.

Cassidy School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	6523 Lansdowne Ave.	Enrollment	470
	Philadelphia, Pa 19151	Grade Range	'00-07'
Phone/Fax	215-581-5506 / 215-581-5581	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Cassidy	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	**79.47%**	**$25,525,899**	**$32,119,902**
Building	82.54 %	$24,971,234	$30,252,903
Grounds	29.71 %	$554,665	$1,866,999

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	105.25 %	$841,686	$799,689
Exterior Walls (Shows condition of the structural condition of the exterior facade)	17.83 %	$389,121	$2,182,230
Windows (Shows functionality of exterior windows)	221.23 %	$2,355,679	$1,064,805
Exterior Doors (Shows condition of exterior doors)	00.00 %	$0	$85,728
Interior Doors (Classroom doors)	142.36 %	$295,426	$207,522
Interior Walls (Paint and Finishes)	00.00 %	$0	$1,163,541
Plumbing Fixtures	77.36 %	$618,344	$799,343
Boilers	130.34 %	$1,438,673	$1,103,826
Chillers/Cooling Towers	116.51 %	$1,686,236	$1,447,331
Radiators/Unit Ventilators/HVAC	296.92 %	$7,546,932	$2,541,698
Heating/Cooling Controls	161.26 %	$1,287,125	$798,161
Electrical Service and Distribution	114.08 %	$654,229	$573,493
Lighting	27.51 %	$564,127	$2,050,386
Communications and Security (Cameras, Pa System and Fire Alarm)	33.43 %	$256,738	$768,008

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

S424001;Cassidy

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):	59,123
Year Built:	1924
Last Renovation:	
Replacement Value:	$32,119,902
Repair Cost:	$25,525,898.67
Total FCI:	79.47 %
Total RSLI:	114.41 %

Description:

Facility Assessment
October 26th, 2015

School District of Philadelphia
Lewis C Cassidy Elementary School
6523 Lansdowne Avenue
Philadelphia, PA 19151

59,123 SF / 656 Students / LN 02

Mr. Richard Toohey FAC, Ms. Tangela McClam, School Principal provided input to the assessment team on current problems. Mr. Robert Feagans Building Engineer accompanied us on our tour of the school and provided us with detailed information on the building systems and maintenance history.

The 3 story, 59,123 square foot building was originally constructed in 1924. There have been no additions. The building has a one level basement. This building is listed on the National Register of Historic Places.

The building plan is U-shaped with the basement level boiler room and ash/coal rooms under the courtyard created by the wings of the building. The main building entry is on Atwood road.

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. There are not ramps at elevation changes in the basement level. The un-used coal and ash rooms leak through the roof and manhole. The ash room in particular is wet and room contents are moldy. The main structure consists of cast-in-place concrete columns, beams and concrete floor slabs. There are steps up to restrooms at the ends of corridors, without ramps or landings. The roof structure consists of concrete slab supported by the main structural frame. Some spalling of concrete and exposed, rusty rebar was noted at the basement boiler room, which is under the courtyard deck. The building envelope is brick masonry. Elevations are enhanced with decorative stonework around entrances and stone window surrounds and cornices on the Landsdowne elevation. Brick at the basement level and portions of the 1st floor is painted at courtyard and north elevations, presumably to mask graffiti. In general, masonry is in fair condition with evidence of repairs/ maintenance reported to be performed recently at stair towers and the stack. Additional brick repairs are needed. Windows were replaced at an unknown date, estimated to be in the early 1980's with bronze colored extruded aluminum double hung windows single glazed with acrylic panes with insect screens. Typically the upper pane is fitted with opaque material. All windows are generally in fair condition. Much of the glazing has hazed with age. First floor windows are fitted with security grilles. Exterior doors are typically hollow metal with glazing, in fair condition. Roofing is built-up with a silver coating in poor condition with some water ponding observed. All roofing and flashing is in poor condition; several leaks were reported and evidence of roof leaks was observed at the interior. Skylights over the third floor corridor are abandoned in place and roofed over. Roof access is via interior steep metal stairs to an intermediate mechanical space, then via portable ladder to a door opening at the upper roof level. Stair tower roofs are accessed via fixed ladders from the upper roof. The faculty lounge roof is accessed via window from the 3rd floor. The deck over the boiler room and coal/ash rooms appears to be leaking and causing structural damage. Generally, the building is not accessible per ADA requirements due to first floor- grade separation with no ramps or lifts.

Partition walls are typically plastered ceramic hollow blocks. Some classrooms have moveable wall panels in inoperable condition. Interior classroom and office doors are generally original paneled wood in wood frames with glazing. Classroom doors are not recessed and swing into the exit corridors. Doors leading to exit stairways are hollow metal doors and frames with panic hardware in functional condition.

Fittings include: toilet accessories in poor condition; toilet partitions are plastic in student facilities, and wood in faculty restrooms, generally in fair condition; interior identifying signage is typically directly painted on wall or door surfaces and is inadequate.

Stair construction is generally concrete with cast iron non-slip treads in fair condition. Handrails are galvanized steel at the inner courtyard exit stair towers, and wood at the main stair towers. Handrails do not meet modern codes for configuration with improper cross-section at wood rails, no extensions at landings, and improper mounting height. Barrier rails at landings and stairs are too low. The southwest stair tower was closed at the time of assessment due to failure at the exterior steps serving the stair tower.

Interior wall finishes are primarily paint in generally good condition. The school was repainted in summer 2015. There is some ceramic tile in restrooms, and glazed block/brick is used in restrooms, stairwells, basement corridors and the cafeteria/gym with some damage. Flooring in classrooms and the auditorium/stage is hardwood in well maintained condition for their age. Hardwood floors typically have small areas of damage, often near radiators. The main office, cafeteria, kitchen and a few basement classrooms have VCT tile, generally in good condition. Corridors and restrooms have sealed concrete floors. Corridors have coved concrete base. Service areas have concrete floors.

Classroom, corridor and office ceilings are 2x4 suspended acoustical panels in fair condition. Some water damaged tiles were observed. The suspension system is typically yellowed. Tiles are mismatched though generally intact with no missing or broken tile. The auditorium and stairwells have plaster ceilings in generally good condition. The cafetorium has painted concrete structure for ceilings. Services areas have exposed painted structure.

The building has no passenger / service elevators or dumbwaiters.

Institutional and Commercial equipment includes: stage light bar; antique auditorium sound system; stage draperies in deteriorating condition; Smartboards/Promethean boards; basketball backstops are wall mounted in fair condition. Other equipment includes kitchen equipment, generally in fair condition.

Furnishings include: fixed casework in classrooms, corridors and library, generally in fair to poor condition; window shades, generally in good condition; window drapes at the auditorium have failed track hardware; fixed auditorium seating is original, generally in well

maintained fair condition with some damaged/vandalized seats.

MECHANICAL SYSTEMS

Many of the original plumbing fixtures remain in service. Fixtures in the restrooms on each floor consist of wall hung flush valve water closets, wall hung urinals and lavatories with wheel handle faucets. A few of the fixtures are not in service and the chrome finish is damaged at some of the faucets. Shifting of the floor slab and walls in the Girls Locker room on the basement level has damaged many of the fixtures in that area. The older units should be replaced with low flow fixtures as part of any renovation of the spaces.

About half of the original wall hung china drinking fountains in the corridors have been replaced with stainless steel units with integral refrigerated coolers. The remaining original fountains should be replaced as they are well beyond their service life and are NOT accessible type.

A service sink is available on each floor for use by the janitorial staff.

A 4" city water service enters the building from Fillmore Street. The 4" meter and valves are located in the boiler room. A reduced pressure backflow preventer should be installed on the main water service and on the makeup line to the boilers. The original domestic hot and cold water distribution piping is galvanized steel with threaded fittings. Much of this piping has been replaced with copper piping and sweat fittings, but some remains in service. 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 original domestic water piping should be replaced to avoid problems with accumulation of scale common in galvanized piping.

Two gas-fired, tankless instantaneous (on demand) water heaters manufactured by Paloma were installed in the boiler room in 1994 to supply hot water for domestic use. The original tank type, water heaters are abandoned in place. The active units are equipped with T&P relief valves and the system has a circulation pump. The water heaters are beyond their service life and should be replaced to maintain reliable service. A water softener located in the boiler room supplies conditioned water to the boilers.

The building has no sewage ejector pit.

The original sewer discharges to Fillmore Street and combines sanitary wastes and storm drainage. Piping is galvanized steel with threaded fittings. Damaged sections of pipe have been replaced using cast iron pipe with hub less fittings joined with banded couplings. Storm drain lines run from the drains on the roof down inside the building and connect to the underground sewer system. A new manhole and sanitary waste piping should be installed to separate the storm and sanitary sewer systems to avoid backups through the drains on the lower level.

The maintenance staff reported no problems with the sanitary waste piping systems. However, portions of the sewer piping have been in service for over 90 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 piping using video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.

A 6" LP natural gas service enters the building from Fillmore Street. The main runs exposed through the old coal ash pit to the meter and valves located in the boiler room. The pressure booster installed to supply the boilers has failed, so they start on the firm gas pilot but currently run only on oil.

Low pressure steam is generated at 15 lbs/sq. in. or less by two Weil McLain cast iron sectional boilers installed before 1960. Boiler B-1 is120 HP and B-2 is 100 HP. The boilers were originally stoker fired on coal, but are now equipped with Power Flame burners designed to operate on natural gas or fuel oil. Combustion air makeup is supplied by louvers equipped with motorized dampers. Burner controls provide full modulation with pilot ignition, solid-state flame sensing and pressure atomization on oil. Burner oil pumps are loose and not driven by the fan motor. 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. The dual solenoid valves and strainer/disposable media filter of the oil supply to the burners were replaced recently. Cast iron sectional boilers have an anticipated service life of 35 years or more; these units have been in service 60 years or more. The District should budget to replace these boilers in the next few years as they damaged and appear in poor condition.

The reserve oil supply is stored in a 12,000 gallon double wall, steel underground storage tank (UST). The tank is located in the playground area outside the room and is equipped with automatic leak detection and monitoring. The original belt driven duplex pumps located in the old coal ash bunker circulate oil through the system. Oil is intended for used as a backup fuel so the District can receive credit from the gas utility as an interruptible service. The supply of stored oil should be tested for quality on a regular schedule. USTs have an anticipated service life of 20 years. The actual installation date and the condition of the fuel side is unknown.

The District should budget for replacing this tank with a smaller aboveground concrete-encased tank in the next 5-10 years.

The Shipco boiler feed pump assembly has a 400 gallon tank and three ¾ HP pumps. The Shipco condensate receiver tank in the boiler room has two ½ HP pumps and a 40 gallon receiver. These units are beyond their anticipated service life and should be scheduled for replacement. The Building Engineer reports that failed steam traps are addressed on an as needed basis with several replaced in 2014.

The OS&Y gate valves at the steam header above the boilers are badly corroded and packing leaks were observed at the bonnets. The discharge pipe and pan of the boiler pressure relief valves were replaced in 2012.

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 mains from the basement level run up through the building to the terminal units on all three floors. The original distribution piping installed in 1924 has been in service over 90 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.

The original whole house fan unit installed on the basement level in 1924 was designed to supply conditioned 100% outdoor air for heating and ventilation of most of the occupied spaces including the Auditorium. Ductwork risers embedded in the corridor walls conducted excess air from the spaces to the attic plenum and gravity relief hoods on the roof. This unit is no longer used as components of its construction include hazardous materials.

In addition, many of the classrooms in the school building have window air conditioning units, which have an anticipated service life of only 10 years. Installing an air-cooled chiller on the roof with pumps located in the mechanical room on the basement level and chilled water distribution piping could supply more reliable air conditioning for the building with a much longer service life.

Cast iron steam radiators provide supplemental heat for many of the spaces. Among these radiators and the original radiant heating (manifold) terminals fashioned from welded piping that are well beyond their service life. The radiators should be replaced with finned tube elements to protect students from exposure to the very hot surfaces.

The Gymnasium/Lunchroom on the Basement level and the Auditorium on the 1st Floor have no mechanical ventilation. Ventilation could be provided for the Gym/LR by removing the existing fan unit from the adjacent mechanical room and installing a constant volume air handling unit with distribution ductwork and registers. A second unit could be installed to supply the Auditorium. Similar units could be installed for the corridors and offices. These units would be equipped with HW/CHW coils. Steam converters could be installed in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.

Ventilation for the restrooms should be provided by installing wall mounted centrifugal exhaust fans. These fans could be manually controlled by a wall switch. The kitchen has no cooking equipment that requires an exhaust hood.

The original pneumatic systems still provide basic control functions. Pneumatic room thermostats drive the air handling unit, the damper actuators and control valves. Pneumatic control air is supplied from the compressor and dryer located in the basement utility room. The maintenance staff reports no problems with oil, moisture or dirt in the pneumatic copper tubing, but the small rubber gaskets and tubing connections at devices have become brittle and fail regularly. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff. The original control valves, dampers and pneumatic actuators should be rebuilt or replaced. 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 pole mounted transformer on Lansdowne Avenue and an underground lateral secondary conductors serve this school. The electrical room is located in the basement. The electrical room houses the utility main disconnect switch, utility metering 222MU 0973 and 400A

120/240V distribution section. The existing service has no extra capacity for expansion or new Heating, Ventilation, Air Conditioning (HVAC) system. The electrical service entrance needs to be upgraded. The new service will be 480V/277V, 3 phase power, approximate 1000 Amperes and will be located in the vicinity of the existing electrical service. The new electrical service would feed a 480V Motor Control Center (MCC) and HVAC (Heating, Ventilation and Air Conditioning) equipment, and a 480V 3 phase to 120V/208V 3 phase 225 KVA step-down transformer to feed receptacles, lighting and other smaller loads.

In each floor, there are original 120/240V recessed, panel-boards for lighting and receptacles. The original panel-boards and associated wiring have exceeded the end of their useful life and need to be replaced. There is (1) 37.5KVA phase converters from 240V to 120/208V which normally feeds newest mechanical equipment.

There number of receptacles in classrooms varies, approximately in 30% of the classrooms the quantity of receptacles 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.

Classrooms and corridors are illuminated with 2'x4', recessed mounted fluorescent fixtures. The stairwells are illuminated with surface mounted fluorescent fixtures. The mechanical rooms are illuminated, with pendant mounted, industrial type fluorescent fixtures. The auditorium is illuminated with pendant gloves with most probably compact fluorescent lamps. Basement fluorescent fixtures are provided with T-8 lamps all other floors are provided with T-12 lamps. T-12 lamps are becoming more expensive, consume more energy and are difficult to find, therefore replace all existing fluorescent fixtures with T-12 lamps with fluorescent fixtures with T-8 lamps.

The Fire Alarm system is manufactured by S.H. Couch Inc. The system is approximately 30 years old. The present Fire Alarm system does not meet current code and needs to be replaced. Fire alarm system is tested every day in the morning.

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

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

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

There is not television system.

The school security system consists of surveillance CCTV cameras. The basement is provided with two surveillance CCTV cameras, the first floor is provided with four surveillance CCTV cameras, the second floor is provided with two surveillance CCTV cameras, the third floor is not provided with surveillance CCTV cameras. Additional surveillance CCTV cameras are required for a complete coverage of the interior of the school.

The emergency power consists of a gas powered generator manufactured by Generac. The generator is rated 120/240V, 15KW (estimated) and serves exit signs, corridors, stairways, boiler, auditorium and the gymnasium. Generator is approximately 20 years old and is undersize to absorb future emergency loads. Provide an outdoor, diesel powered generator

There is adequate UPS in the IT room.

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. Exit signs are illuminated with incandescent lamps. Replace existing exit signs with LED type.

The school lightning protection system is accomplished with air terminals mounted on the chimney. A study needs to be conducted to verify the air terminals provide the proper coverage.

The auditorium is not provided with theatrical lighting and dimming system. 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 system.

The auditorium sound system is obtained with a portable system. Provide a permanent installed sound system

GROUNDS SYSTEMS

There is no faculty/staff parking area. An asphalt service area with a gated entrance from Atwood Avenue is located in the north portion of the courtyard. A large asphalt play area occupies the north half of the site. Asphalt is in fair condition with some cracking present. Pedestrian paving is concrete, in serviceable condition with many mismatched replacement areas. Pedestrian stairs and entrance stoops are granite in need of repair. Granite treads are sunken, and rotated. Joint sealant is missing or failed. The monumental stairs at the west elevation were barricaded at the time of assessment due to collapsing treads. Voids were noted behind stairs leading away from the exit at the northwest end of the building. There are no accessible entrances on the grounds.

Antique metal picket fence surrounds most of the site is in poor condition with much rust, some leaning, and some bent pickets. Original gates are in poor condition. One pair of wide gates is installed at the southeast end of the play area. Brick columns with decorative concrete caps accent corners and gates. Brick retaining walls occur around the paved play area and between the play area and the service courtyard. Retaining walls are in poor condition. The retaining wall adjacent to the service court was fenced off due to safety concerns. Site features include bicycle racks and a flagpole. Site signage is inadequate.

Landscaping consists of grass at the south, east, and west sides of the building. One memorial tree is located in the front yard, with scrubby vegetation close to the building. Street trees are located in the sidewalk east and south of the building.

The school perimeter is illuminated with wall mounted lighting fixtures. There were no indication of additional fixtures are needed.

There are not outdoor, surveillance CCTV cameras around the building perimeter. For a safer environment provide outdoor, surveillance CCTV cameras.

There is a wall mounted loud speaker facing the playground area. There were no indication that additional loud speaker is required.

RECOMMENDATIONS

- Repair spalled concrete structure in the boiler room. Abandon/fill the coal and ash storage rooms which are leaky and unsuitable for repurposing. Waterproof the boiler room roof/deck.
- Repair exterior walls
- Install new roofing system including insulation, flashing, counter flashing, reglets, and coping
- Replace exterior windows
- Install ADA ramps at basement stairs (2 places)
- Reconfigure toilet rooms on each floor for accessibility, provide new toilet partitions and toilet accessories including grab bars
- Replace interior classroom doors
- Replace interior signage
- Replace acoustical panels where occurring throughout the building. Clean or paint existing grid
- Install stairs to basement mechanical room
- Install fixed ladder to roof access door
- Replace auditorium seating
- Install new sound system in auditorium
- Install new drapery hardware at auditorium
- Install passenger elevator
- Provide ADA compliant ramp at main/visitor entrance on Atwood Road
- Repair granite steps on the site
- Repair/fill cracks and seal asphalt playground
- Repaint site fencing & replace gates
- Repair retaining walls

MECHANICAL

- Replace the original lavatories with low flow fixtures. Several fixtures are damaged. 22/031
- Replace the original water closets with low flow fixtures and repair those in the Girls Locker room on the Basement level damaged by shifting of the floors and walls. 36/070
- Replace the original urinals with low flow fixtures. Several fixtures are damaged. 16/045
- Replace the original wall hung china drinking fountains in the corridors and at the restrooms. These units are well beyond their service life, some are damaged and most are NOT accessible type. 5/059
- Replace original domestic water piping with copper to avoid problems with accumulation of scale common in galvanized piping.
- Provide a reduced pressure backflow preventer on the main water service and on the makeup line to the boilers.

- Replace the two gas-fired, tankless instantaneous (on demand) water heaters manufactured by Paloma installed in the boiler room in 1994. These units are beyond their service life and should be replaced to maintain reliable service. 2/085
- Hire a qualified contractor to perform a detailed examination of the galvanized 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. Portions of the piping system have been in service for over 90 years and will require more frequent attention from the maintenance staff as time passes. 60,000/044
- Hire a qualified contractor to perform a detailed examination of the galvanized storm piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures. Portions of the piping system have been in service for over 90 years and will require more frequent attention from the maintenance staff as time passes. 60,000/015
- Provide a new manhole and sanitary waste piping to separate the storm and sanitary sewer systems to avoid backups through the drains on the lower level.
- Replace the failed pressure booster installed on the main gas line to supply the boilers. The operator starts the boilers on the firm gas pilot, but currently runs them only on oil.
- Replace the two 120 HP Weil McLain cast iron sectional boilers. 1/099
- Replace the Shipco boiler feed pump assembly equipped with a 400 gallon tank and three ¾ HP pumps. This unit is beyond the anticipated service life.097
- Replace the Shipco condensate receiver tank in the boiler room equipped with two ½ HP pumps and a 40 gallon receiver. This unit is beyond the anticipated service life. 096
- Replace the OS&Y gate valves at the steam header above the boilers. These valves are badly corroded and packing leaks were observed at the bonnets. 6/093
- The District should budget for replacing this piping over the next 10 years. 60,000/102
- Replace the existing cast iron radiators with finned tube elements to protect students from exposure to the very hot surfaces. 60,000/033
- Remove the window air conditioning units and install an air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room on the basement level to supply more reliable air conditioning for the building with a much longer service life. 60,000/024
- Provide ventilation for the Gym/LR by removing the existing fan unit from the adjacent mechanical room and installing a constant volume air handling unit with distribution ductwork and registers.
- Provide ventilation for the Auditorium by removing the existing fan unit from the adjacent mechanical room and installing a constant volume air handling unit with distribution ductwork and registers.
- Provide ventilation for the corridors by installing four (4) rooftop air handling units, ductwork risers and registers. 021
- Provide wall mounted centrifugal fans vented through the window openings to provide exhaust for the restrooms (3 per floor). 032
- 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. 034
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. 021

ELECTRICAL

- Provide a new electrical service 480V/277V, 3 phase power, 1000 Amperes and will be located in the vicinity of the existing electrical service.
- Replace the entire distribution system with new panels and new wiring/conduits. Approximate (12) 208/120V panel boards.
- Provide (2)25FT of surface raceways with 24” receptacles on center and two-duplex wall mount receptacles. Approximate 128
- Replace 70% of the existing lighting fixtures with up/down, recessed fluorescent fixtures with T8 lamps. Approximate 600 fixtures
- Replace old fire alarm system with addressable type with audio/visual devices at corridors and classrooms. Approximate 80 devices
- Provide indoor surveillance CCTV cameras for a complete coverage of the school interior. Approximate 20 CCTV cameras
- Provide 60 KW, outdoor, diesel powered generator.
- Replace exit signs with incandescent lamps with exit signs with LED lamps. Approximate 40
- Prepare a study to determine if the air terminals on the chimney provide the proper protection to the school building.
- Provide the auditorium with theatrical lighting and dimming system.
- Provide the auditorium with a permanent installed sound system
- Provide outdoor surveillance CCTV cameras. Approximate 15 CCTV camera

Site Assessment Report - S424001;Cassidy

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 4 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S424001		

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.

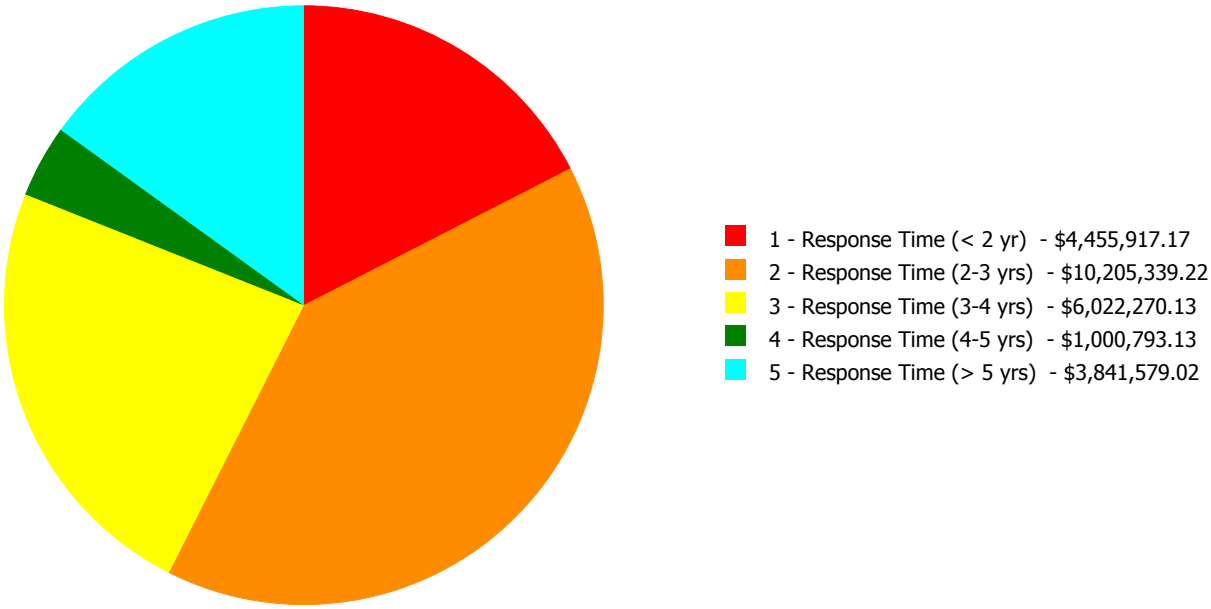
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	37.00 %	7.28 %	$112,414.13
A20 - Basement Construction	37.00 %	18.97 %	$215,856.06
B10 - Superstructure	37.00 %	4.93 %	$259,473.15
B20 - Exterior Enclosure	29.25 %	82.36 %	$2,744,800.02
B30 - Roofing	110.00 %	105.25 %	$841,685.97
C10 - Interior Construction	55.37 %	157.37 %	$2,283,187.83
C20 - Stairs	37.00 %	30.53 %	$25,449.95
C30 - Interior Finishes	85.79 %	7.12 %	$237,914.52
D10 - Conveying	105.71 %	305.84 %	$1,012,601.25
D20 - Plumbing	106.50 %	163.76 %	$2,189,074.28
D30 - HVAC	107.77 %	181.83 %	$11,958,967.39
D40 - Fire Protection	0.00 %	180.12 %	$858,326.79
D50 - Electrical	110.11 %	48.02 %	$1,668,924.73
E10 - Equipment	73.84 %	15.70 %	$90,802.49
E20 - Furnishings	105.00 %	89.55 %	$471,755.34
G20 - Site Improvements	1,041.11 %	20.69 %	$286,892.72
G40 - Site Electrical Utilities	31.69 %	55.73 %	$267,772.05
Totals:	**114.41 %**	**79.47 %**	**$25,525,898.67**

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)
B424001;Cassidy	59,123	82.54	$4,350,843.47	$10,023,520.20	$5,754,498.08	$1,000,793.13	$3,841,579.02
G424001;Grounds	82,700	29.71	$105,073.70	$181,819.02	$267,772.05	$0.00	$0.00
Total:		**79.47**	**$4,455,917.17**	**$10,205,339.22**	**$6,022,270.13**	**$1,000,793.13**	**$3,841,579.02**

Deficiencies By Priority



Budget Estimate Total: $25,525,898.67

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):	59,123
Year Built:	1924
Last Renovation:	
Replacement Value:	$30,252,903
Repair Cost:	$24,971,233.90
Total FCI:	82.54 %
Total RSLI:	73.26 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B424001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S424001		

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	37.00 %	7.28 %	$112,414.13
A20 - Basement Construction	37.00 %	18.97 %	$215,856.06
B10 - Superstructure	37.00 %	4.93 %	$259,473.15
B20 - Exterior Enclosure	29.25 %	82.36 %	$2,744,800.02
B30 - Roofing	110.00 %	105.25 %	$841,685.97
C10 - Interior Construction	55.37 %	157.37 %	$2,283,187.83
C20 - Stairs	37.00 %	30.53 %	$25,449.95
C30 - Interior Finishes	85.79 %	7.12 %	$237,914.52
D10 - Conveying	105.71 %	305.84 %	$1,012,601.25
D20 - Plumbing	106.50 %	163.76 %	$2,189,074.28
D30 - HVAC	107.77 %	181.83 %	$11,958,967.39
D40 - Fire Protection	0.00 %	180.12 %	$858,326.79
D50 - Electrical	110.11 %	48.02 %	$1,668,924.73
E10 - Equipment	73.84 %	15.70 %	$90,802.49
E20 - Furnishings	105.00 %	89.55 %	$471,755.34
Totals:	**73.26 %**	**82.54 %**	**$24,971,233.90**

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.	59,123	100	1924	2024	2052	37.00 %	0.00 %	37			$1,087,863
A1030	Slab on Grade	$7.73	S.F.	59,123	100	1924	2024	2052	37.00 %	24.60 %	37		$112,414.13	$457,021
A2010	Basement Excavation	$6.55	S.F.	59,123	100	1924	2024	2052	37.00 %	0.00 %	37			$387,256
A2020	Basement Walls	$12.70	S.F.	59,123	100	1924	2024	2052	37.00 %	28.75 %	37		$215,856.06	$750,862
B1010	Floor Construction	$75.10	S.F.	59,123	100	1924	2024	2052	37.00 %	5.84 %	37		$259,473.15	$4,440,137
B1020	Roof Construction	$13.88	S.F.	59,123	100	1924	2024	2052	37.00 %	0.00 %	37			$820,627
B2010	Exterior Walls	$36.91	S.F.	59,123	100	1924	2024	2052	37.00 %	17.83 %	37		$389,121.24	$2,182,230
B2020	Exterior Windows	$18.01	S.F.	59,123	40	1980	2020		12.50 %	221.23 %	5		$2,355,678.78	$1,064,805
B2030	Exterior Doors	$1.45	S.F.	59,123	25	2000	2025		40.00 %	0.00 %	10			$85,728
B3010105	Built-Up	$37.76	S.F.	17,896	20	1991	2011	2037	110.00 %	105.77 %	22		$714,774.87	$675,753
B3010120	Single Ply Membrane	$38.73	S.F.	3,200	20	1924	1944	2037	110.00 %	102.40 %	22		$126,911.10	$123,936
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	0	20				0.00 %	0.00 %				$0
C1010	Partitions	$17.91	S.F.	59,123	100	1924	2024	2052	37.00 %	185.79 %	37		$1,967,335.90	$1,058,893
C1020	Interior Doors	$3.51	S.F.	59,123	40	1924	1964	2057	105.00 %	142.36 %	42		$295,426.15	$207,522
C1030	Fittings	$3.12	S.F.	59,123	40	1924	1964	2057	105.00 %	11.07 %	42		$20,425.78	$184,464
C2010	Stair Construction	$1.41	S.F.	59,123	100	1924	2024	2052	37.00 %	30.53 %	37		$25,449.95	$83,363

Site Assessment Report - B424001;Cassidy

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	$19.29	S.F.	59,123	10	2015	2025	2025	100.00 %	0.00 %	10			$1,140,483
C3010231	Vinyl Wall Covering	$0.00	S.F.	59,123	15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$0.39	S.F.	59,123	30	1924	1954	2047	106.67 %	0.00 %	32			$23,058
C3020411	Carpet	$7.30	S.F.	0	10				0.00 %	0.00 %				$0
C3020412	Terrazzo & Tile	$75.52	S.F.	0	50				0.00 %	0.00 %				$0
C3020413	Vinyl Flooring	$9.68	S.F.	7,100	20	2000	2020		25.00 %	0.00 %	5			$68,728
C3020414	Wood Flooring	$22.27	S.F.	38,423	25	1924	1949	2025	40.00 %	0.00 %	10			$855,680
C3020415	Concrete Floor Finishes	$0.97	S.F.	13,600	50	1924	1974	2025	20.00 %	0.00 %	10			$13,192
C3030	Ceiling Finishes	$20.97	S.F.	59,123	25	1988	2013	2042	108.00 %	19.19 %	27		$237,914.52	$1,239,809
D1010	Elevators and Lifts	$5.60	S.F.	59,123	35			2052	105.71 %	305.84 %	37		$1,012,601.25	$331,089
D2010	Plumbing Fixtures	$13.52	S.F.	59,123	35	1924	1959	2052	105.71 %	77.36 %	37		$618,343.52	$799,343
D2020	Domestic Water Distribution	$3.87	S.F.	59,123	25	1924	1949	2042	108.00 %	232.17 %	27		$531,223.56	$228,806
D2030	Sanitary Waste	$2.90	S.F.	59,123	25	1924	1949	2042	108.00 %	412.30 %	27		$706,924.94	$171,457
D2040	Rain Water Drainage	$2.32	S.F.	59,123	30	1924	1954	2047	106.67 %	242.47 %	32		$332,582.26	$137,165
D3020	Heat Generating Systems	$18.67	S.F.	59,123	35	1924	1959	2052	105.71 %	130.34 %	37		$1,438,673.16	$1,103,826
D3030	Cooling Generating Systems	$24.48	S.F.	59,123	30	1924	1954	2047	106.67 %	116.51 %	32		$1,686,236.35	$1,447,331
D3040	Distribution Systems	$42.99	S.F.	59,123	25	1924	1949	2042	108.00 %	296.92 %	27		$7,546,932.40	$2,541,698
D3050	Terminal & Package Units	$11.60	S.F.	59,123	20	1924	1944	2037	110.00 %	0.00 %	22			$685,827
D3060	Controls & Instrumentation	$13.50	S.F.	59,123	20	1924	1944	2037	110.00 %	161.26 %	22		$1,287,125.48	$798,161
D4010	Sprinklers	$7.05	S.F.	59,123	35				0.00 %	205.92 %			$858,326.79	$416,817
D4020	Standpipes	$1.01	S.F.	59,123	35				0.00 %	0.00 %				$59,714
D5010	Electrical Service/Distribution	$9.70	S.F.	59,123	30	1924	1954	2047	106.67 %	114.08 %	32		$654,229.42	$573,493
D5020	Lighting and Branch Wiring	$34.68	S.F.	59,123	20	1924	1944	2037	110.00 %	27.51 %	22		$564,127.09	$2,050,386
D5030	Communications and Security	$12.99	S.F.	59,123	15	1924	1939	2032	113.33 %	33.43 %	17		$256,738.05	$768,008
D5090	Other Electrical Systems	$1.41	S.F.	59,123	30	1924	1954	2047	106.67 %	232.51 %	32		$193,830.17	$83,363
E1020	Institutional Equipment	$4.82	S.F.	59,123	35	1924	1959	2052	105.71 %	31.86 %	37		$90,802.49	$284,973
E1090	Other Equipment	$4.96	S.F.	59,123	35	1995	2030		42.86 %	0.00 %	15			$293,250
E2010	Fixed Furnishings	$8.91	S.F.	59,123	40	1924	1964	2057	105.00 %	89.55 %	42		$471,755.34	$526,786
								Total	**73.26 %**	**82.54 %**			**$24,971,233.90**	**$30,252,903**

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: C3020 - Floor Finishes — This system contains no images

Note: Vinyl 10%
Wood65%
Concrete25%

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

Note: 2 x 4 Acoustical tile 80%
Plaster 8%
Painted structure 12%

System: D5010 - Electrical Service/Distribution

Note: Phase converter manufactured by PMI, rated 37.5KVA 240/120-208V

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:	**$24,971,234**	**$0**	**$0**	**$0**	**$0**	**$1,445,484**	**$0**	**$0**	**$0**	**$0**	**$3,097,178**	**$29,513,895**
*** 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	$215,856	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$215,856**
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	$259,473	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$259,473**
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	$389,121	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$389,121**
B2020 - Exterior Windows	$2,355,679	$0	$0	$0	$0	$1,357,841	$0	$0	$0	$0	$0	**$3,713,520**
B2030 - Exterior Doors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$126,733	**$126,733**
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	$714,775	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$714,775**
B3010120 - Single Ply Membrane	$126,911	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$126,911**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$1,967,336	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,967,336**

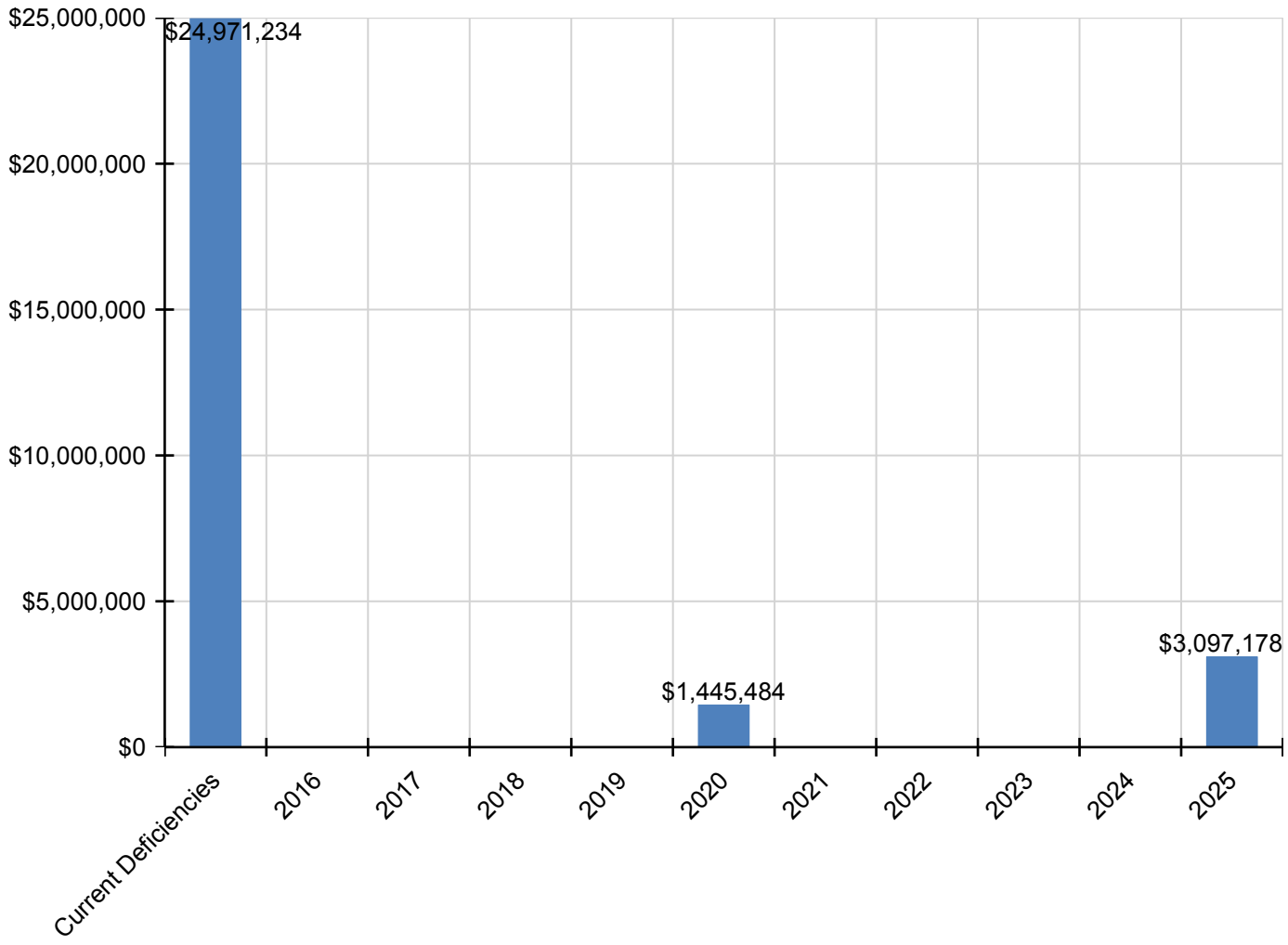
C1020 - Interior Doors	$295,426	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$295,426**
C1030 - Fittings	$20,426	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$20,426**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$25,450	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$25,450**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,685,985	**$1,685,985**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$0	$0	$0	$0	$0	$87,642	$0	$0	$0	$0	$0	**$87,642**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,264,959	**$1,264,959**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$19,502	**$19,502**
C3030 - Ceiling Finishes	$237,915	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$237,915**
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	$1,012,601	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,012,601**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$618,344	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$618,344**
D2020 - Domestic Water Distribution	$531,224	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$531,224**
D2030 - Sanitary Waste	$706,925	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$706,925**
D2040 - Rain Water Drainage	$332,582	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$332,582**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,438,673	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,438,673**
D3030 - Cooling Generating Systems	$1,686,236	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,686,236**
D3040 - Distribution Systems	$7,546,932	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$7,546,932**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,287,125	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,287,125**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$858,327	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$858,327**
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	$654,229	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$654,229**
D5020 - Lighting and Branch Wiring	$564,127	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$564,127**
D5030 - Communications and Security	$256,738	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$256,738**
D5090 - Other Electrical Systems	$193,830	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$193,830**
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	$90,802	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$90,802**
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	$471,755	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$471,755**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

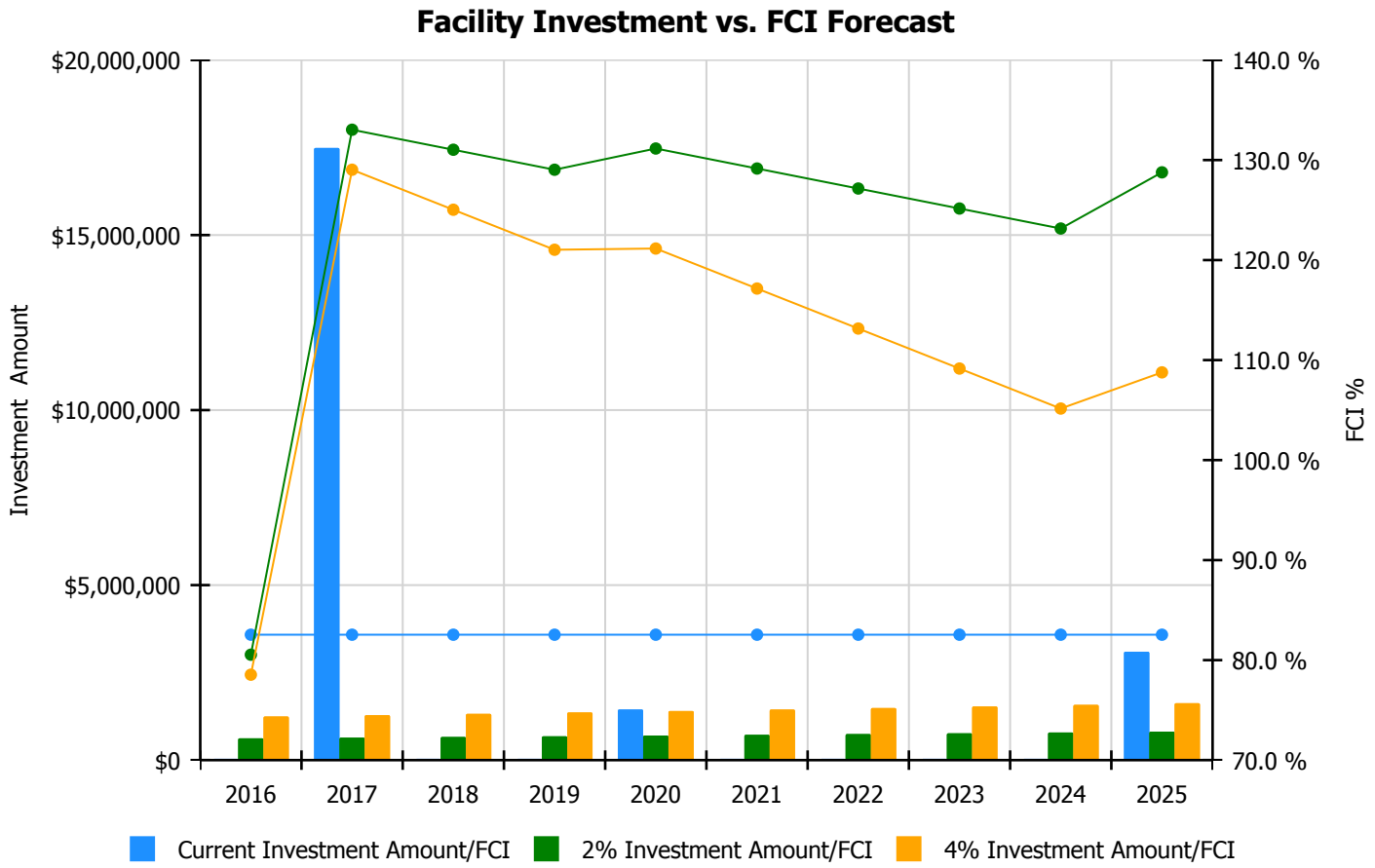
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

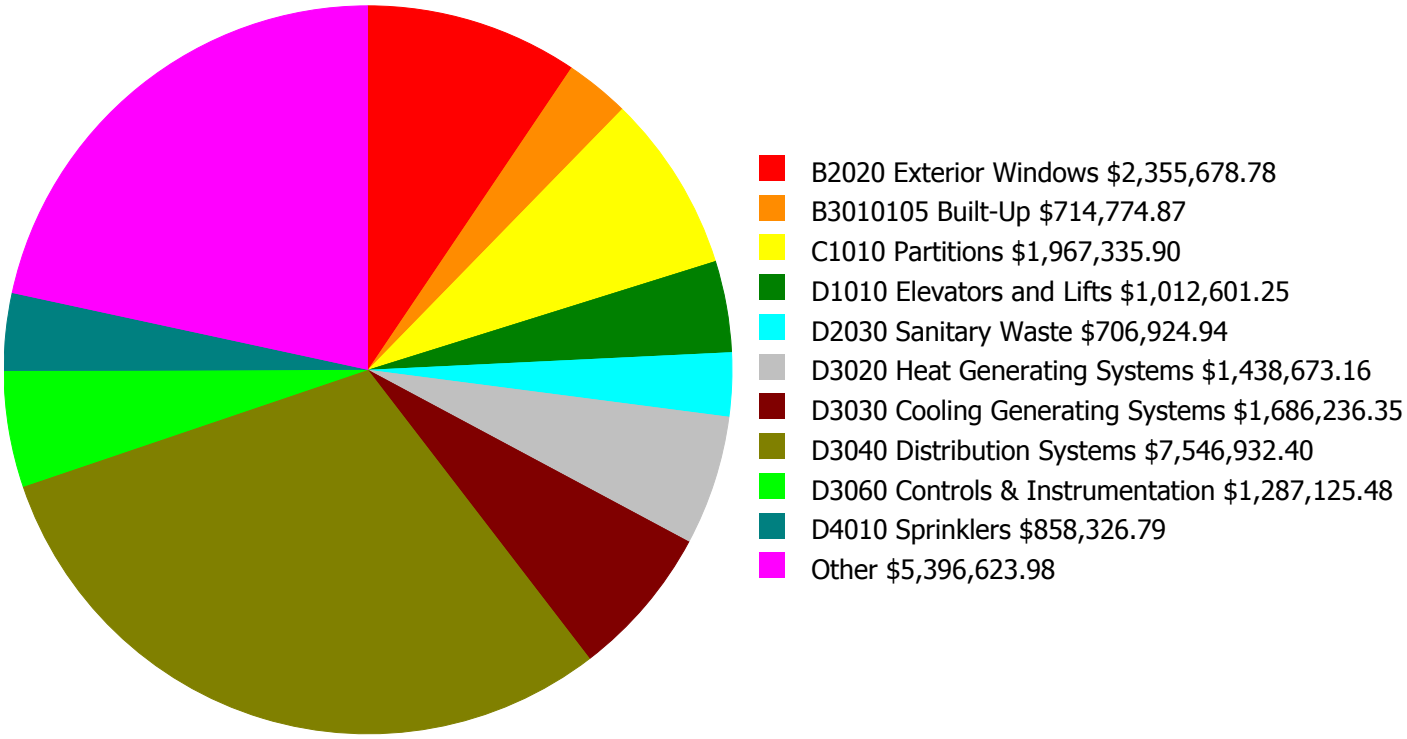
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 82.54%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$623,210.00	80.54 %	$1,246,420.00	78.54 %
2017	$17,488,808	$641,906.00	133.03 %	$1,283,812.00	129.03 %
2018	$0	$661,163.00	131.03 %	$1,322,327.00	125.03 %
2019	$0	$680,998.00	129.03 %	$1,361,996.00	121.03 %
2020	$1,445,484	$701,428.00	131.15 %	$1,402,856.00	121.15 %
2021	$0	$722,471.00	129.15 %	$1,444,942.00	117.15 %
2022	$0	$744,145.00	127.15 %	$1,488,290.00	113.15 %
2023	$0	$766,469.00	125.15 %	$1,532,939.00	109.15 %
2024	$0	$789,464.00	123.15 %	$1,578,927.00	105.15 %
2025	$3,097,178	$813,147.00	128.77 %	$1,626,295.00	108.77 %
Total:	**$22,031,469**	**$7,144,401.00**		**$14,288,804.00**	

Deficiency Summary by System

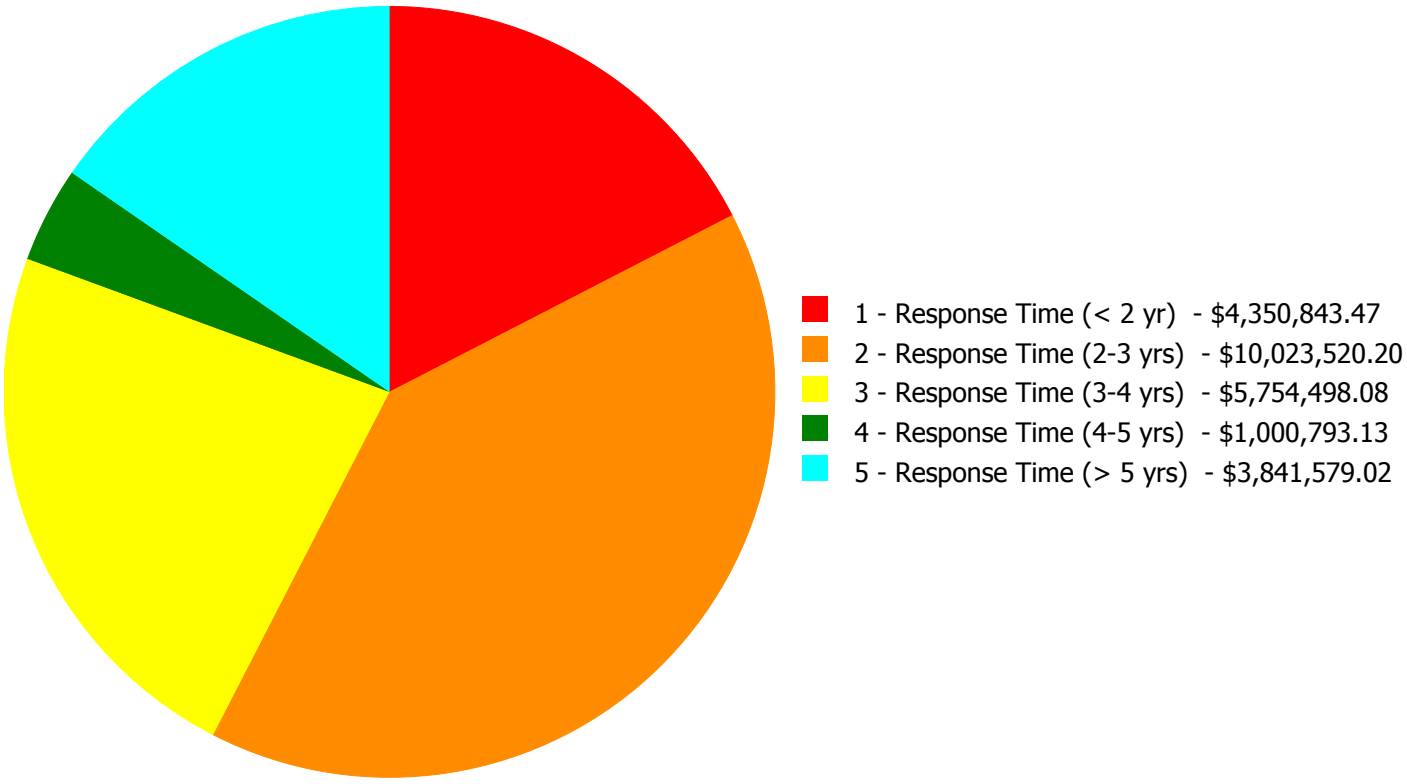
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $24,971,233.90

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: $24,971,233.90

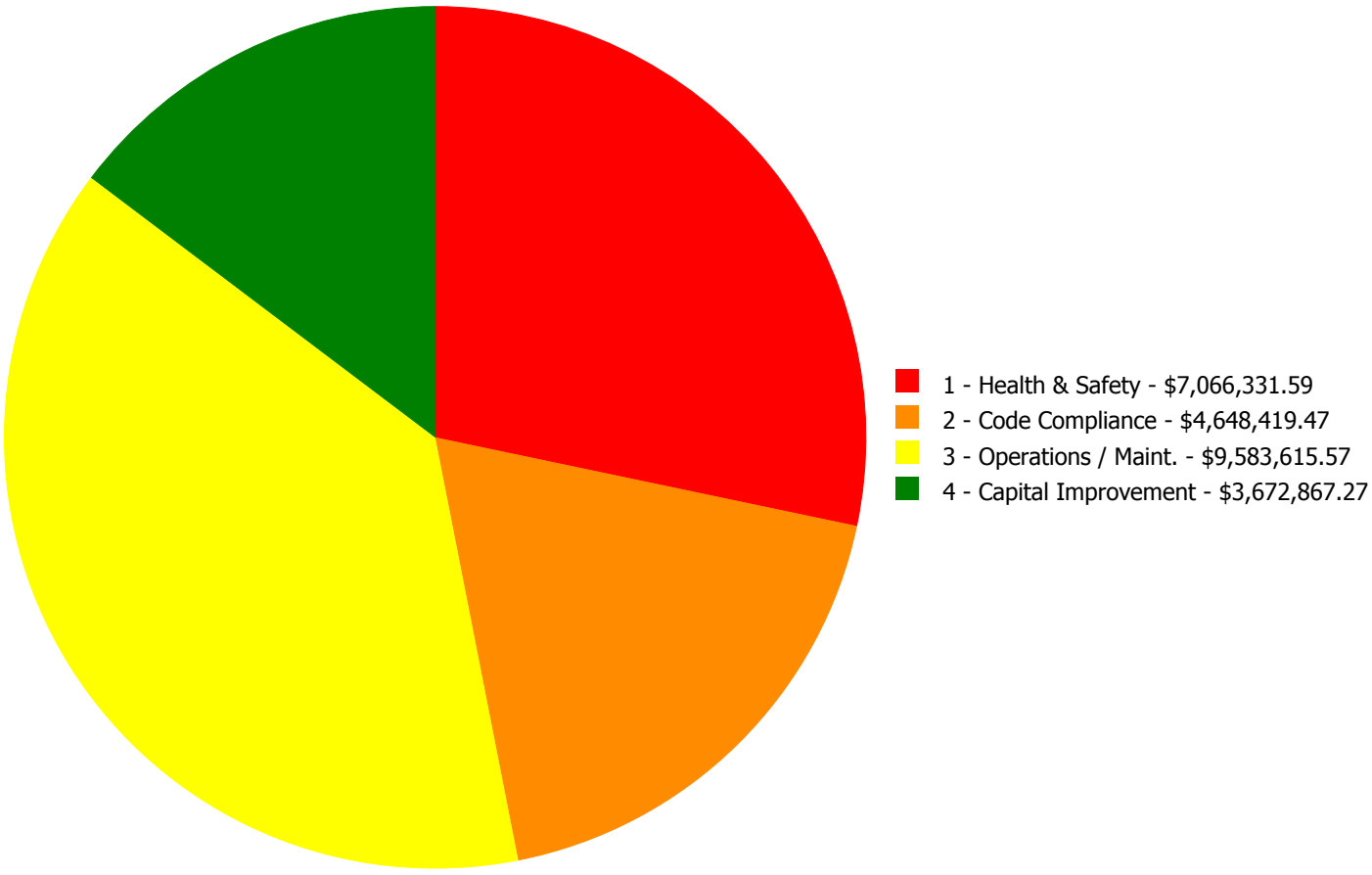
Deficiency By Priority Investment Table

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
A2020	Basement Walls	$215,856.06	$0.00	$0.00	$0.00	$0.00	$215,856.06
B1010	Floor Construction	$0.00	$259,473.15	$0.00	$0.00	$0.00	$259,473.15
B2010	Exterior Walls	$0.00	$389,121.24	$0.00	$0.00	$0.00	$389,121.24
B2020	Exterior Windows	$0.00	$2,355,678.78	$0.00	$0.00	$0.00	$2,355,678.78
B3010105	Built-Up	$714,774.87	$0.00	$0.00	$0.00	$0.00	$714,774.87
B3010120	Single Ply Membrane	$0.00	$126,911.10	$0.00	$0.00	$0.00	$126,911.10
C1010	Partitions	$0.00	$1,967,335.90	$0.00	$0.00	$0.00	$1,967,335.90
C1020	Interior Doors	$0.00	$295,426.15	$0.00	$0.00	$0.00	$295,426.15
C1030	Fittings	$0.00	$20,425.78	$0.00	$0.00	$0.00	$20,425.78
C2010	Stair Construction	$0.00	$25,449.95	$0.00	$0.00	$0.00	$25,449.95
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$237,914.52	$0.00	$237,914.52
D1010	Elevators and Lifts	$0.00	$1,012,601.25	$0.00	$0.00	$0.00	$1,012,601.25
D2010	Plumbing Fixtures	$0.00	$359,571.64	$180,307.40	$0.00	$78,464.48	$618,343.52
D2020	Domestic Water Distribution	$0.00	$102,224.50	$0.00	$48,947.09	$380,051.97	$531,223.56
D2030	Sanitary Waste	$0.00	$367,196.40	$339,728.54	$0.00	$0.00	$706,924.94
D2040	Rain Water Drainage	$0.00	$332,582.26	$0.00	$0.00	$0.00	$332,582.26
D3020	Heat Generating Systems	$97,773.01	$0.00	$1,340,900.15	$0.00	$0.00	$1,438,673.16
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$1,686,236.35	$1,686,236.35
D3040	Distribution Systems	$3,322,439.53	$668,146.66	$2,717,846.78	$0.00	$838,499.43	$7,546,932.40
D3060	Controls & Instrumentation	$0.00	$1,287,125.48	$0.00	$0.00	$0.00	$1,287,125.48
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$858,326.79	$858,326.79
D5010	Electrical Service/Distribution	$0.00	$0.00	$654,229.42	$0.00	$0.00	$654,229.42
D5020	Lighting and Branch Wiring	$0.00	$0.00	$47,023.49	$517,103.60	$0.00	$564,127.09
D5030	Communications and Security	$0.00	$0.00	$150,712.62	$106,025.43	$0.00	$256,738.05
D5090	Other Electrical Systems	$0.00	$0.00	$193,830.17	$0.00	$0.00	$193,830.17
E1020	Institutional Equipment	$0.00	$0.00	$0.00	$90,802.49	$0.00	$90,802.49
E2010	Fixed Furnishings	$0.00	$454,249.96	$17,505.38	$0.00	$0.00	$471,755.34
	Total:	$4,350,843.47	$10,023,520.20	$5,754,498.08	$1,000,793.13	$3,841,579.02	$24,971,233.90

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: $24,971,233.90

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: A2020 - Basement Walls

Location: Ash and Coal Rooms

Distress: Obsolete

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Remove the lid for coal ash bunkers, fill in the bunker and replace the lid with concrete paving - estimate based on SF of lid and CY of fill at 2,000 SF and 15' of depth and a 20 LF fill in basement wall - adjust the BCY of fill if the fill is deeper - moving oil supply tank is a separate cost

Qty: 1,325.00

Unit of Measure: S.F.

Estimate: $215,856.06

Assessor Name: System

Date Created: 01/21/2016

Notes: Ash and coal rooms leak. They are wet and moldy, making them unsuitable for re-purposing. Abandonment by filling is recommended.

System: B3010105 - Built-Up

Location: Roofs

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Remove and Replace Built Up Roof

Qty: 21,096.00

Unit of Measure: S.F.

Estimate: $714,774.87

Assessor Name: System

Date Created: 01/21/2016

Notes: Roofs are beyond their expected life. Leaks are occurring at various places in the building. System renewal is recommended.

System: D3020 - Heat Generating Systems

Location: Boiler Room

Distress: Energy Efficiency

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace natural gas booster (300 HP)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $97,773.01

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the failed pressure booster installed on the main gas line to supply the boilers. The operator starts the boilers on the firm gas pilot, but currently runs them only on oil. 1/099

System: D3040 - Distribution Systems

Location: Classrooms / Labs

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Provide classroom FC units and dedicated OA ventilation system. (20 clsrms)

Qty: 40.00

Unit of Measure: C

Estimate: $3,322,439.53

Assessor Name: System

Date Created: 02/11/2016

Notes: Install new fan coil units with HW/CHW coils and DDC controls in the classroom and lab spaces with code required minimum ventilation provided by dedicated outdoor air systems mounted on the roof. 40/108

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

System: B1010 - Floor Construction

Location: Mech boiler rooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair rebar and epoxy grout exposed rebar on the underside of floors and floor beams

Qty: 3,200.00

Unit of Measure: S.F.

Estimate: $259,473.15

Assessor Name: System

Date Created: 01/21/2016

Notes: The ceiling structure in the boiler room has spalled concrete and exposed rebar. Repairs are recommended for structural integrity.

System: B2010 - Exterior Walls

Location: Exterior walls

Distress: Building Envelope Integrity

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: 12,000.00

Unit of Measure: S.F.

Estimate: $387,473.67

Assessor Name: System

Date Created: 01/22/2016

Notes: Although it appears that masonry repairs have been made to this building, additional repairs are required in brick walls.

System: B2010 - Exterior Walls

Location: Roof access

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Add fixed ladders to wall

Qty: 10.00

Unit of Measure: V.L.F.

Estimate: $1,647.57

Assessor Name: System

Date Created: 01/22/2016

Notes: Roof access is via portable ladder. Install a fixed ladder.

System: B2020 - Exterior Windows

Location: Exterior windows

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: 380.00

Unit of Measure: Ea.

Estimate: $2,355,678.78

Assessor Name: System

Date Created: 01/22/2016

Notes: Existing windows are replacements, assumed to be early '80's vintage. Acrylic glazing is hazed with age. Units do not operate properly, and are energy inefficient.

System: B3010120 - Single Ply Membrane

Location: Exterior deck above boiler room

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace concrete deck topping including remove and replace waterproofing membrane - add for epoxy coating if required by inserting the SF in the estimate

Qty: 3,200.00

Unit of Measure: S.F.

Estimate: $126,911.10

Assessor Name: System

Date Created: 01/22/2016

Notes: The lid of the boiler and mechanical rooms is leaking. Replacement of waterproof membrane is recommended.

System: C1010 - Partitions

Location: Student Toilet Rooms

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: 8.00

Unit of Measure: Ea.

Estimate: $1,686,032.01

Assessor Name: System

Date Created: 01/22/2016

Notes: Student toilet rooms are in need of refurbishment, including wall and floor finishes, and upgrades for ADA compliance.

System: C1010 - Partitions

Location: Each floor

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Build new single restroom to meet code requirements

Qty: 4.00

Unit of Measure: Ea.

Estimate: $281,303.89

Assessor Name: System

Date Created: 01/22/2016

Notes: Provide accessible unisex toilet rooms for faculty/staff, one per floor.

System: C1020 - Interior Doors

Location: Classrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 35.00

Unit of Measure: Ea.

Estimate: $295,426.15

Assessor Name: System

Date Created: 01/22/2016

Notes: Interior classroom doors are functional, but well beyond their expected life and have many repairs. Door hardware is not ADA compliant. Doors swing into corridors. Consider partition reconfiguration to reduce corridor encroachment.

System: C1030 - Fittings

Location: Throughout the building

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 70.00

Unit of Measure: Ea.

Estimate: $20,425.78

Assessor Name: System

Date Created: 01/21/2016

Notes: Building signage is not code compliant.

System: C2010 - Stair Construction

Location: Basement mechanical room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Add egress stairways from lower levels - per flight including below level concrete basement and doors - add for additional doors if required

Qty: 0.50

Unit of Measure: Flight

Estimate: $25,449.95

Assessor Name: System

Date Created: 01/22/2016

Notes: Wooden steps used to access the mechanical room from the basement corridor are in disrepair, have no handrails, and no landing at the door level. Install a code compliant assembly.

System: D1010 - Elevators and Lifts

Location: TBD

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Add external 4 stop elevator - adjust the electrical run lengths to hook up the elevator

Qty: 1.00

Unit of Measure: Ea.

Estimate: $1,012,601.25

Assessor Name: System

Date Created: 01/22/2016

Notes: Provide a passenger elevator serving levels B-3 for accessibility.

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: 36.00

Unit of Measure: Ea.

Estimate: $268,637.32

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the original water closets with low flow fixtures and repair those in the Girls Locker room on the Basement level damaged by shifting of the floors and walls. 36/070

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 stall or floor type urinal

Qty: 16.00

Unit of Measure: Ea.

Estimate: $90,934.32

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the original urinals with low flow fixtures. Several fixtures are damaged. 16/045

System: D2020 - Domestic Water Distribution

Location: Boiler Room

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Provide 4" reduced pressure back flow preventer

Qty: 2.00

Unit of Measure: Ea.

Estimate: $102,224.50

Assessor Name: System

Date Created: 02/11/2016

Notes: Provide a 4" reduced pressure backflow preventer on the main water service and on the makeup line to the boilers. 2/084

System: D2030 - Sanitary Waste

This deficiency has no image.

Location: Site

Distress: Life Safety / NFPA / PFD

Category: 2 - Code Compliance

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

Correction: Install backwater prevention system to prevent storm water from backing up into the sanitary sewer system - 8" - change the pipe lengths if necessary - assumes 100 SF hardscape repair

Qty: 10.00

Unit of Measure: Ea.

Estimate: $367,196.40

Assessor Name: System

Date Created: 02/11/2016

Notes: Provide a new manhole and sanitary waste piping to separate the storm and sanitary sewer systems to avoid backups through the drains on the lower level.

System: D2040 - Rain Water Drainage

Location: Throughout Building

Distress: Beyond Service Life

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: 75,000.00

Unit of Measure: S.F.

Estimate: $332,582.26

Assessor Name: System

Date Created: 02/11/2016

Notes: Hire a qualified contractor to perform a detailed examination of the galvanized storm piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures. Portions of the piping system have been in service for over 90 years and will require more frequent attention from the maintenance staff as time passes. 60,000/015

System: D3040 - Distribution Systems

Location: Restrooms

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Provide inline centrifugal fan and wall outlet louver for restroom exhaust (8 plbg fixtures)

Qty: 18.00

Unit of Measure: Ea.

Estimate: $485,483.76

Assessor Name: System

Date Created: 02/11/2016

Notes: Provide wall mounted centrifugal fans vented through the window openings to provide exhaust for the restrooms (6 per floor x 3 floors). 032

System: D3040 - Distribution Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace duplex vacuum and condensate receiver

Qty: 1.00

Unit of Measure: Ea.

Estimate: $182,662.90

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the Shipco boiler feed pump assembly equipped with a 400 gallon tank and three ¾ HP pumps. This unit is beyond the anticipated service life. /097

System: D3060 - Controls & Instrumentation

Location: Throughout Building

Distress: Energy Efficiency

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 60,000.00

Unit of Measure: S.F.

Estimate: $1,287,125.48

Assessor Name: System

Date Created: 02/11/2016

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. 034

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: 500.00

Unit of Measure: Ea.

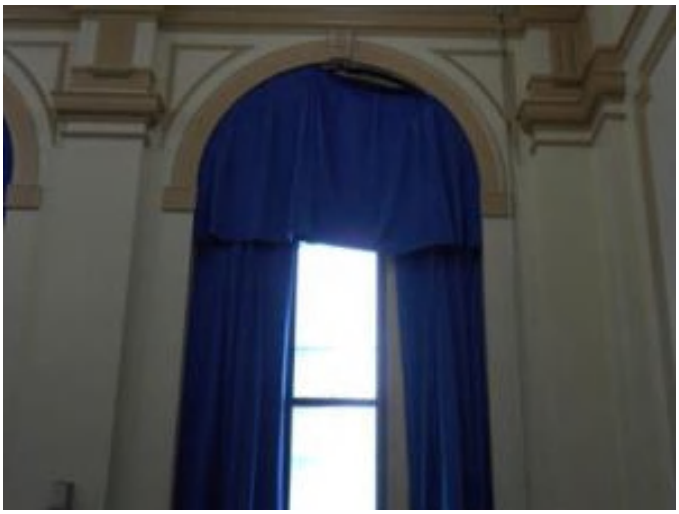
Estimate: $450,952.76

Assessor Name: System

Date Created: 01/21/2016

Notes: Auditorium seating is original to the building. Replacement parts are difficult to obtain. Replace auditorium seating.

System: E2010 - Fixed Furnishings



Location: Auditorium window drapes

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace or add drapery hardware

Qty: 64.00

Unit of Measure: L.F.

Estimate: $3,297.20

Assessor Name: System

Date Created: 01/22/2016

Notes: Replace drapery hardware at auditorium windows.

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

System: A1030 - Slab on Grade

Location: Basement Corridor

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: System

Date Created: 01/22/2016

Notes: Provide ramps at basement stairs for accessibility.

System: D2010 - Plumbing Fixtures

Location: Restrooms

Distress: Accessibility

Category: 2 - Code Compliance

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

Correction: Replace lavatory - with finishes

Qty: 22.00

Unit of Measure: Ea.

Estimate: $180,307.40

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the original lavatories with low flow fixtures. Several fixtures are damaged. 22/031

System: D2030 - Sanitary Waste

Location: Throughout Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 80,000.00

Unit of Measure: S.F.

Estimate: $339,728.54

Assessor Name: System

Date Created: 02/11/2016

Notes: Hire a qualified contractor to perform a detailed examination of the galvanized 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. Portions of the piping system have been in service for over 90 years and will require more frequent attention from the maintenance staff as time passes. 60,000/044

System: D3020 - Heat Generating Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,012,205.26

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the two 120 HP Weil McLain cast iron sectional boilers. 1/077

System: D3020 - Heat Generating Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace OSY valves (4" thru 8") - edit quantities

Qty: 3.00

Unit of Measure: Ea.

Estimate: $328,694.89

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the OSY gate valves at the steam header above the boilers. These valves are badly corroded and packing leaks were observed at the bonnets. 6/093

System: D3040 - Distribution Systems

Location: Corridors

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Replace Rooftop Unit (25T) and air terminals

Qty: 100.00

Unit of Measure: Ton

Estimate: $1,640,337.77

Assessor Name: System

Date Created: 02/11/2016

Notes: Provide ventilation for the corridors when by installing four (4) rooftop air handling units, ductwork risers and registers. 021

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: 60,000.00

Unit of Measure: S.F.

Estimate: $567,622.35

Assessor Name: System

Date Created: 02/11/2016

Notes: Hire a qualified contractor to examine the steam and condensate piping in service over 90 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. 60,000/102

System: D3040 - Distribution Systems

Location: Auditorium

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

Correction: Install / replace HVAC unit for Auditorium (800 seat).

Qty: 800.00

Unit of Measure: Seat

Estimate: $447,414.96

Assessor Name: System

Date Created: 02/11/2016

Notes: Provide ventilation for the Auditorium by removing the existing fan unit from the adjacent mechanical room and installing a constant volume air handling unit with distribution ductwork and registers. 525/187

System: D3040 - Distribution Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Condensate Receiver Pump Set

Qty: 1.00

Unit of Measure: Ea.

Estimate: $62,471.70

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the Shipco condensate receiver tank in the boiler room equipped with two ½ HP pumps and a 40 gallon receiver. This unit is beyond the anticipated service life. 096

System: D5010 - Electrical Service/Distribution

Location: Basement

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace Switchboard

Qty: 1.00

Unit of Measure: Ea.

Estimate: $328,238.86

Assessor Name: System

Date Created: 01/18/2016

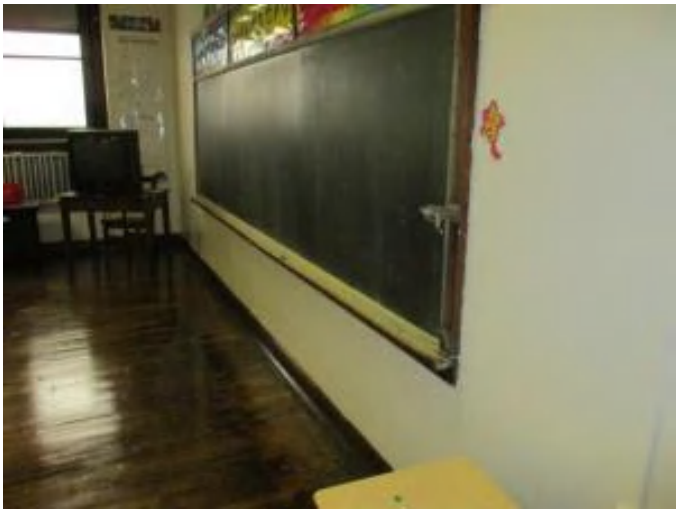
Notes: Provide a new electrical service 480V/277V, 3 phase power, 1000 Amperes and will be located in the vicinity of the existing electrical service.

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: $325,990.56
Assessor Name: System
Date Created: 01/18/2016

Notes: Replace the entire distribution system with new panels and new wiring/conduits. Approximate (12) 208/120V panel boards.

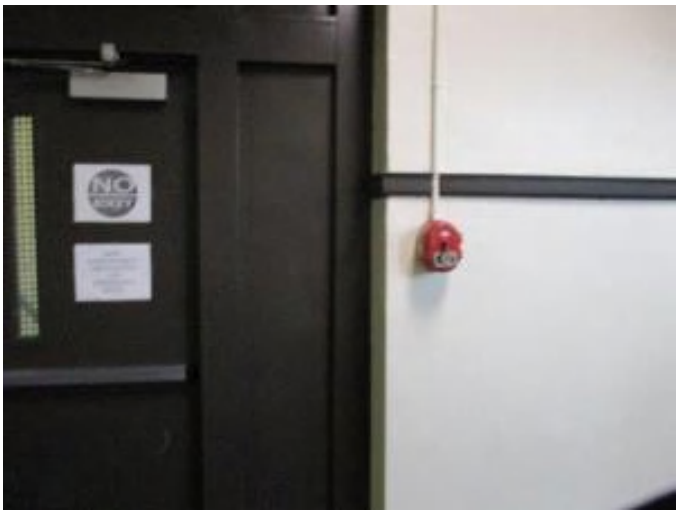
System: D5020 - Lighting and Branch Wiring



Location: Entire Building
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Add wiring device
Qty: 1.00
Unit of Measure: Ea.
Estimate: $47,023.49
Assessor Name: System
Date Created: 01/18/2016

Notes: Provide (2)25FT of surface raceways with 24” receptacles on center and two-duplex wall mount receptacles. Approximate 128

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: 80.00

Unit of Measure: S.F.

Estimate: $150,712.62

Assessor Name: System

Date Created: 01/18/2016

Notes: Replace old fire alarm system with addressable type with audio/visual devices at corridors and classrooms. Approximate 80 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: $135,667.59

Assessor Name: System

Date Created: 01/18/2016

Notes: Provide 60 KW, outdoor, diesel powered generator

System: D5090 - Other Electrical Systems

Location: Entire Building
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace Emergency/Exit Lighting
Qty: 40.00
Unit of Measure: Ea.
Estimate: $33,912.76
Assessor Name: System
Date Created: 01/18/2016

Notes: Replace exit signs with incandescent lamps with exit signs with LED lamps. Approximate 40

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: System
Date Created: 01/18/2016

Notes: Prepare a study to determine if the air terminals on the chimney provide the proper protection to the school building.

System: E2010 - Fixed Furnishings

Location: Stage

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $17,505.38

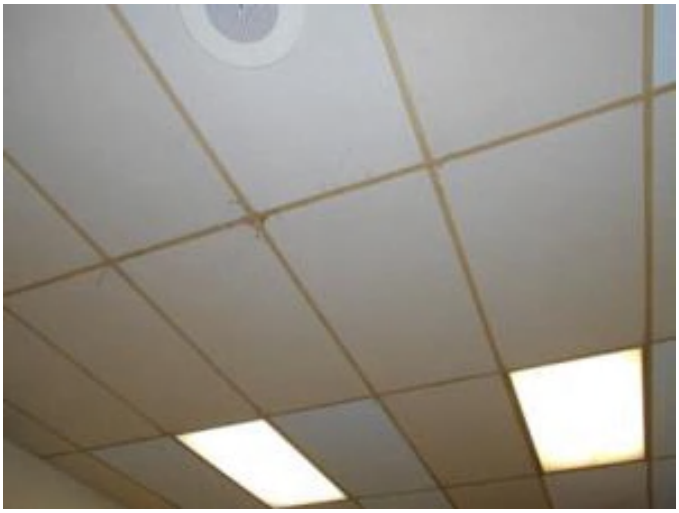
Assessor Name: System

Date Created: 01/22/2016

Notes: Replace stage drape.

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

System: C3030 - Ceiling Finishes



Location: Throughout the building

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Remove and replace ceiling tiles only in suspended ceiling - pick the proper material

Qty: 47,000.00

Unit of Measure: S.F.

Estimate: $237,914.52

Assessor Name: System

Date Created: 01/22/2016

Notes: Acoustical ceiling tiles throughout the building are frequently mis-matched and in yellowed grid. Replace tiles throughout and clean or paint grid.

System: D2020 - Domestic Water Distribution

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace instantaneous water heater

Qty: 2.00

Unit of Measure: Ea.

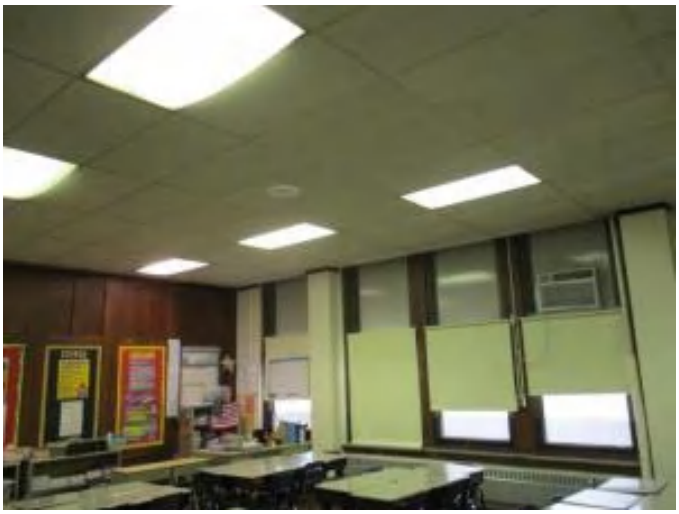
Estimate: $48,947.09

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the two gas-fired, tankless instantaneous (on demand) water heaters manufactured by Paloma installed in the boiler room in 1994. These units are beyond their service life and should be replaced to maintain reliable service. 2/085

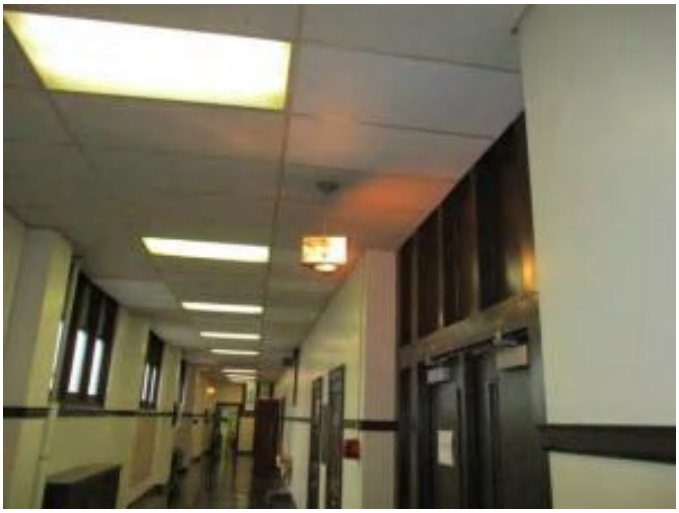
System: D5020 - Lighting and Branch Wiring



Location: Entire Building
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Add Lighting Fixtures
Qty: 600.00
Unit of Measure: Ea.
Estimate: $517,103.60
Assessor Name: System
Date Created: 01/18/2016

Notes: Replace 70% of the existing lighting fixtures with up/down, recessed fluorescent fixtures with T8 lamps. Approximate 600 fixtures

System: D5030 - Communications and Security



Location: Entire Buildiing
Distress: Security Issue
Category: 1 - Health & Safety
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Video Surveillance System
Qty: 20.00
Unit of Measure: Ea.
Estimate: $79,219.02
Assessor Name: System
Date Created: 01/18/2016

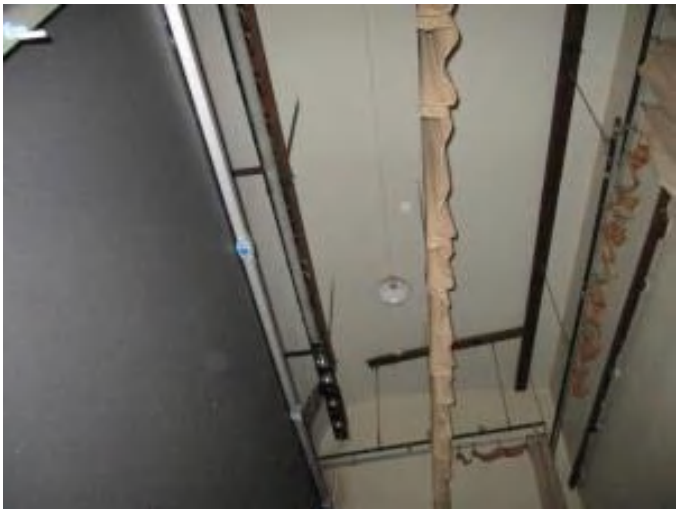
Notes: Provide indoor surveillance CCTV cameras for a complete coverage of the school interior. Approximate 20 CCTV cameras

System: D5030 - Communications and Security

Location: Auditorium
Distress: Obsolete
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Sound System
Qty: 1.00
Unit of Measure: LS
Estimate: $26,806.41
Assessor Name: System
Date Created: 01/18/2016

Notes: Provide the auditorium with a permanent installed sound system

System: E1020 - Institutional Equipment



Location: Auditorium
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Stage Theatrical Lighting System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $90,802.49
Assessor Name: System
Date Created: 01/18/2016

Notes: Provide the auditorium with theatrical lighting and dimming system.

Priority 5 - Response Time (> 5 yrs):

System: D2010 - Plumbing Fixtures

Location: Corridors

Distress: Accessibility

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 5.00

Unit of Measure: Ea.

Estimate: $78,464.48

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the original wall hung china drinking fountains in the corridors and at the restrooms. These units are well beyond their service life, some are damaged and most are NOT accessible type. 5/059

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: 75,000.00

Unit of Measure: S.F.

Estimate: $380,051.97

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace original domestic water piping with copper to avoid problems with accumulation of scale common in galvanized piping. 60,000/017

System: D3030 - Cooling Generating Systems

Location: Throughout Building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 75,000.00

Unit of Measure: S.F.

Estimate: $1,686,236.35

Assessor Name: System

Date Created: 02/11/2016

Notes: Remove the window air conditioning units and install an air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room on the basement level to supply more reliable air conditioning for the building with a much longer service life. 60,000/024

System: D3040 - Distribution Systems

Location: Gym/Lunchroom

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 850.00

Unit of Measure: Student

Estimate: $434,958.00

Assessor Name: System

Date Created: 02/11/2016

Notes: Provide ventilation for the Gym/Lunchroom by removing the existing fan unit from the adjacent mechanical room and installing a constant volume air handling unit with distribution ductwork and registers. 656/301

System: D3040 - Distribution Systems

Location: Throughout Building

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 1,000.00

Unit of Measure: L.F.

Estimate: $403,541.43

Assessor Name: System

Date Created: 02/11/2016

Notes: Replace the existing cast iron radiators with finned tube elements to protect students from exposure to the very hot surfaces. 1,000/033

System: D4010 - Sprinklers

Location: Throughout Building

Distress: Life Safety / NFPA / PFD

Category: 2 - Code Compliance

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 60,000.00

Unit of Measure: S.F.

Estimate: $858,326.79

Assessor Name: System

Date Created: 02/11/2016

Notes: Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. 021

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, steam, 4650 MBH	1.00	Ea.	B-2	Weil McLain	AH-1994-5			35			$168,672.60	$185,539.86
D3020 Heat Generating Systems	Boiler, cast iron, gas & oil, steam, 4650 MBH	1.00	Ea.	B-1	Weil McLain	AH-1994-5			35			$168,672.60	$185,539.86
D5010 Electrical Service/Distribution	Load centers, 1 phase, 3 wire, main lugs, rainproof, 120/240 V, 400 amp, 42 circuits, incl 20 A 1 pole plug-in breakers	1.00	Ea.	Basement					30	1924	2047	$3,663.90	$4,030.29
												Total:	**$375,110.01**

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):	82,700
Year Built:	1924
Last Renovation:	
Replacement Value:	$1,866,999
Repair Cost:	$554,664.77
Total FCI:	29.71 %
Total RSLI:	781.33 %

Description:

Attributes:

General Attributes:

Bldg ID:	S424001	Site ID:	S424001

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	1,041.11 %	20.69 %	$286,892.72
G40 - Site Electrical Utilities	31.69 %	55.73 %	$267,772.05
Totals:	**781.33 %**	**29.71 %**	**$554,664.77**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30				0.00 %	0.00 %				$0
G2020	Parking Lots	$8.50	S.F.	8,500	30	1994	2024	2047	106.67 %	111.86 %	32		$80,822.33	$72,250
G2030	Pedestrian Paving	$12.30	S.F.	74,700	40	1924	1964	2057	105.00 %	3.02 %	42		$27,729.93	$918,810
G2040	Site Development	$4.36	S.F.	82,700	25	1924	1949	2942	3,708.00 %	49.46 %	927		$178,340.46	$360,572
G2050	Landscaping & Irrigation	$4.36	S.F.	8,000	15	2010	2025		66.67 %	0.00 %	10			$34,880
G4020	Site Lighting	$4.84	S.F.	82,700	30	1924	1954	2020	16.67 %	0.00 %	5			$400,268
G4030	Site Communications & Security	$0.97	S.F.	82,700	30	1924	1954	2047	106.67 %	333.80 %	32		$267,772.05	$80,219
								Total	**781.33 %**	**29.71 %**			**$554,664.77**	**$1,866,999**

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.

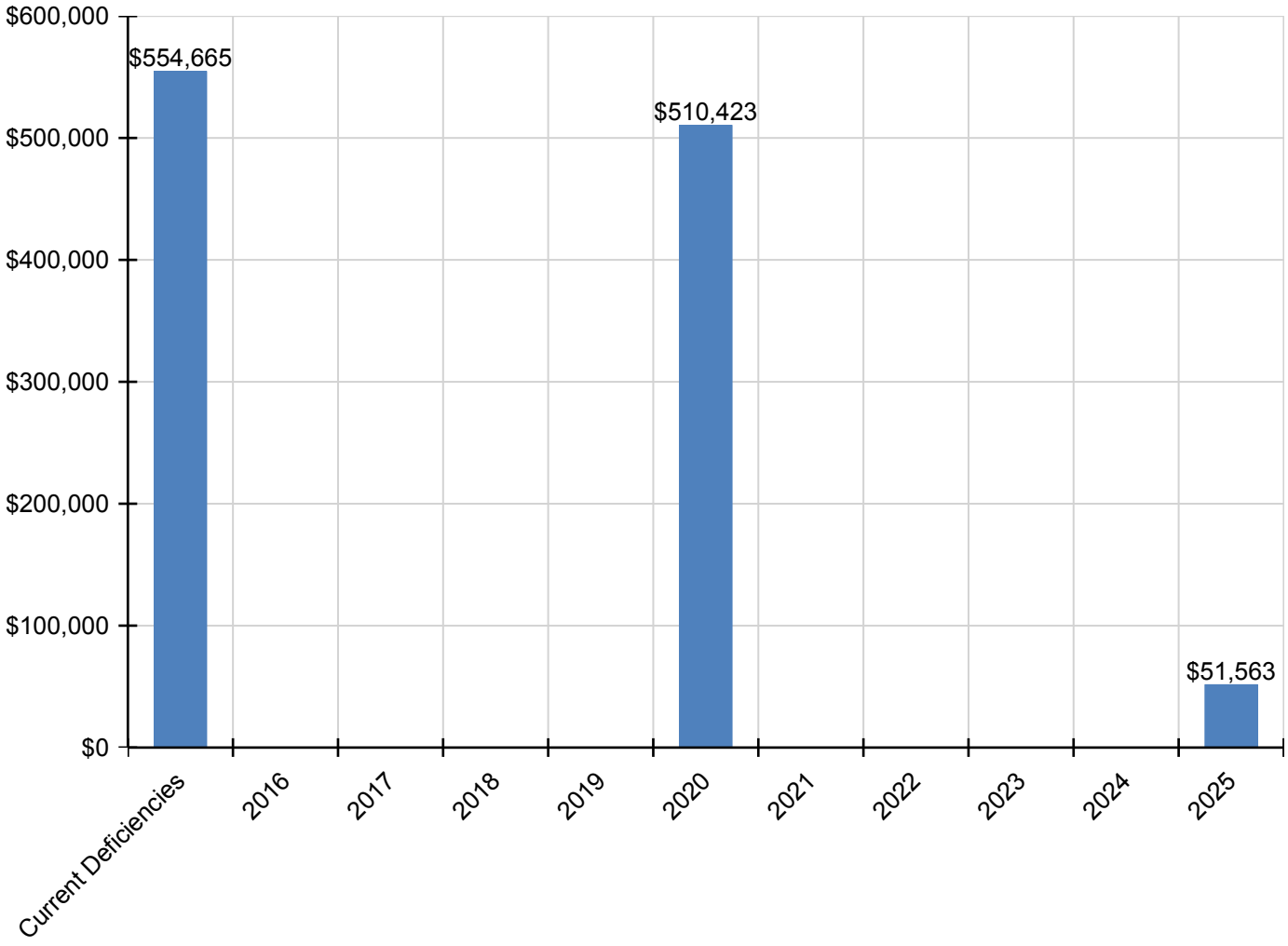
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$554,665**	**$0**	**$0**	**$0**	**$0**	**$510,423**	**$0**	**$0**	**$0**	**$0**	**$51,563**	**$1,116,651**
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	$80,822	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$80,822**
G2030 - Pedestrian Paving	$27,730	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$27,730**
G2040 - Site Development	$178,340	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$178,340**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$51,563	**$51,563**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$510,423	$0	$0	$0	$0	$0	**$510,423**
G4030 - Site Communications & Security	$267,772	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$267,772**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

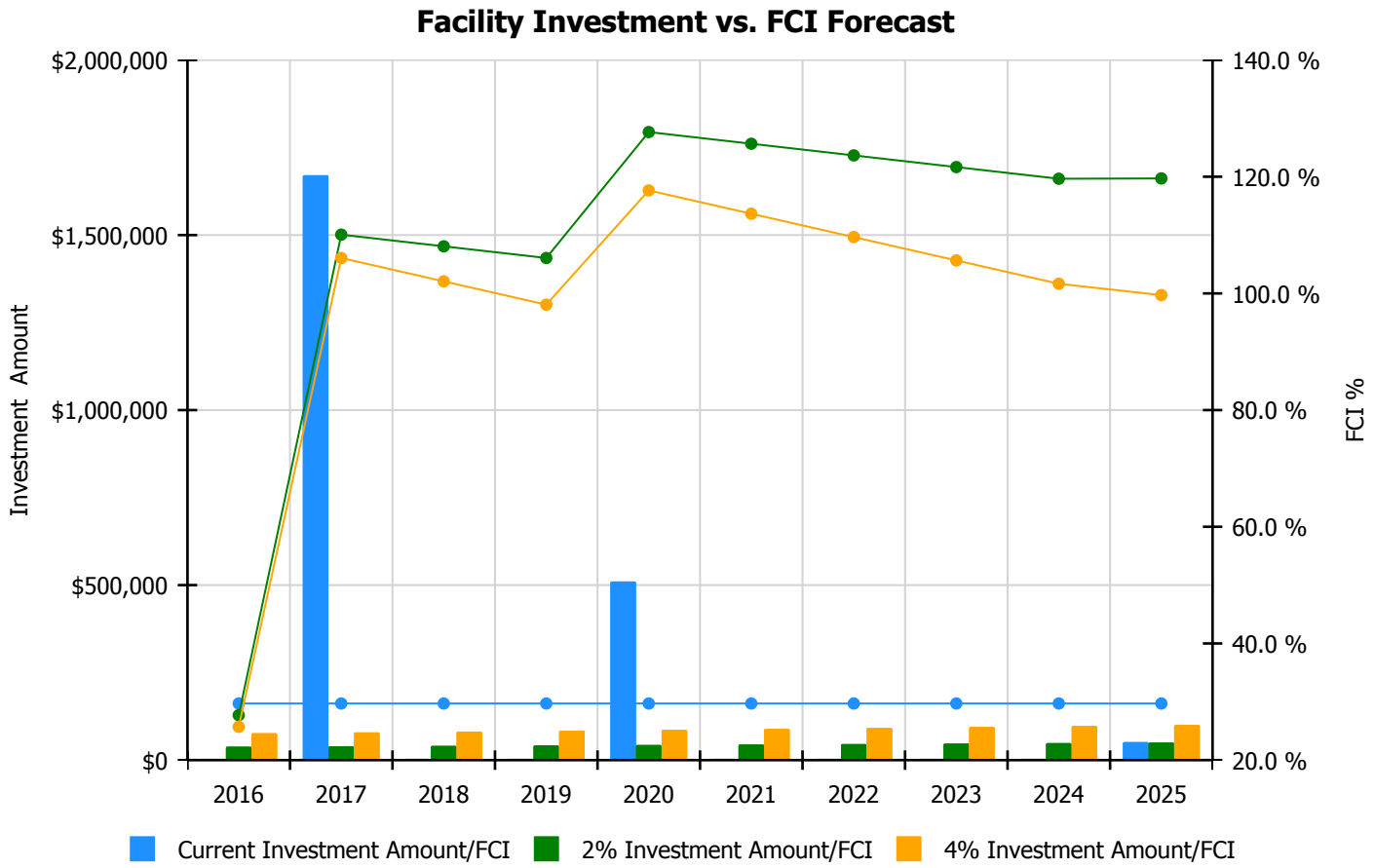
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

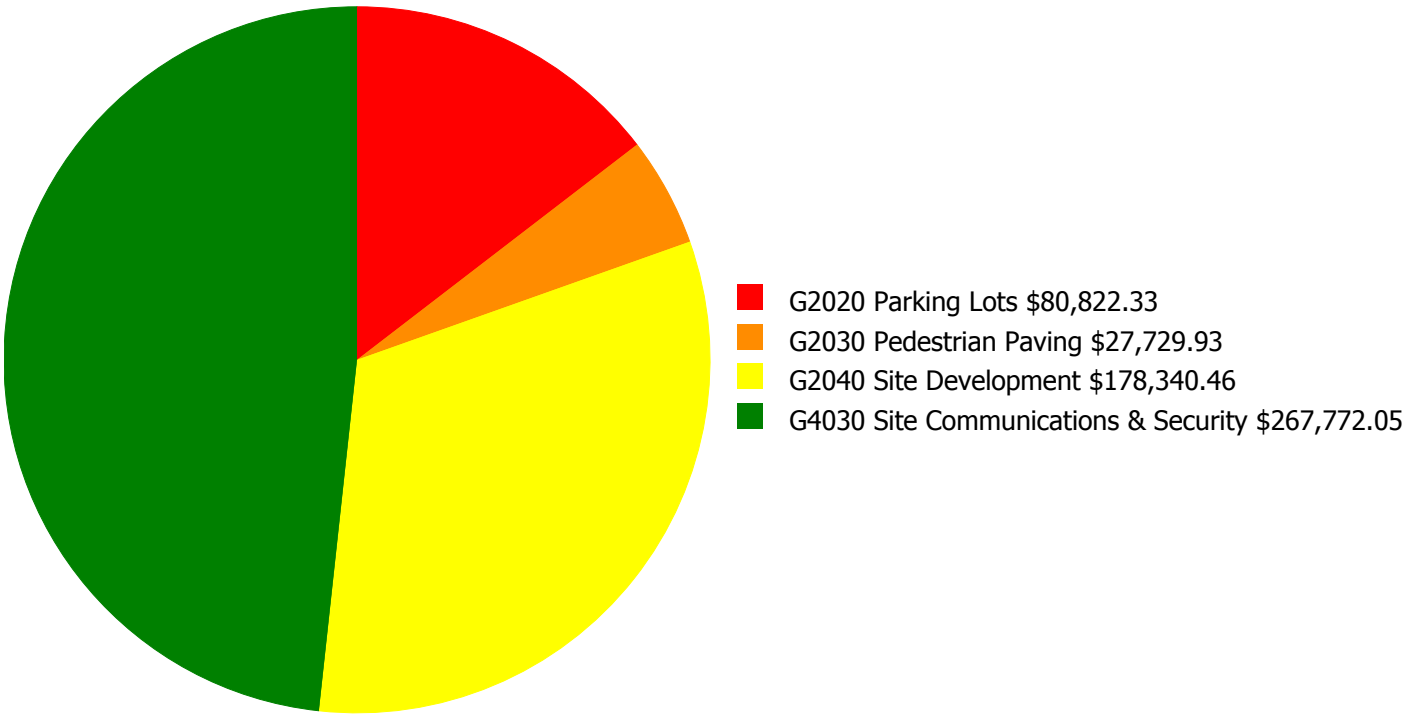
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 29.71%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$38,460.00	27.71 %	$76,920.00	25.71 %
2017	$1,670,956	$39,614.00	110.07 %	$79,228.00	106.07 %
2018	$0	$40,802.00	108.07 %	$81,605.00	102.07 %
2019	$0	$42,026.00	106.07 %	$84,053.00	98.07 %
2020	$510,423	$43,287.00	127.65 %	$86,575.00	117.65 %
2021	$0	$44,586.00	125.65 %	$89,172.00	113.65 %
2022	$0	$45,923.00	123.65 %	$91,847.00	109.65 %
2023	$0	$47,301.00	121.65 %	$94,602.00	105.65 %
2024	$0	$48,720.00	119.65 %	$97,440.00	101.65 %
2025	$51,563	$50,182.00	119.71 %	$100,364.00	99.71 %
Total:	**$2,232,942**	**$440,901.00**		**$881,806.00**	

Deficiency Summary by System

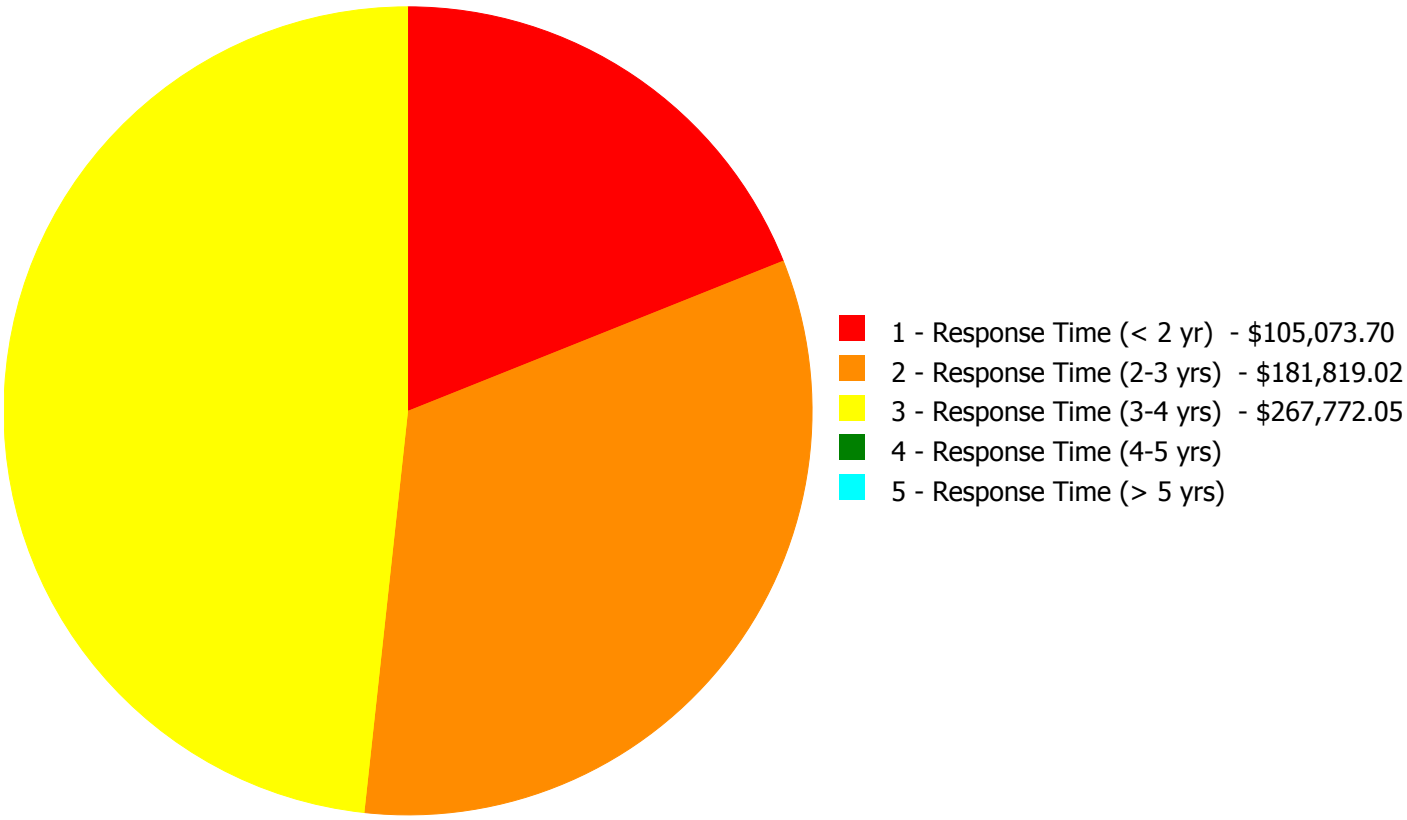
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $554,664.77

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: $554,664.77

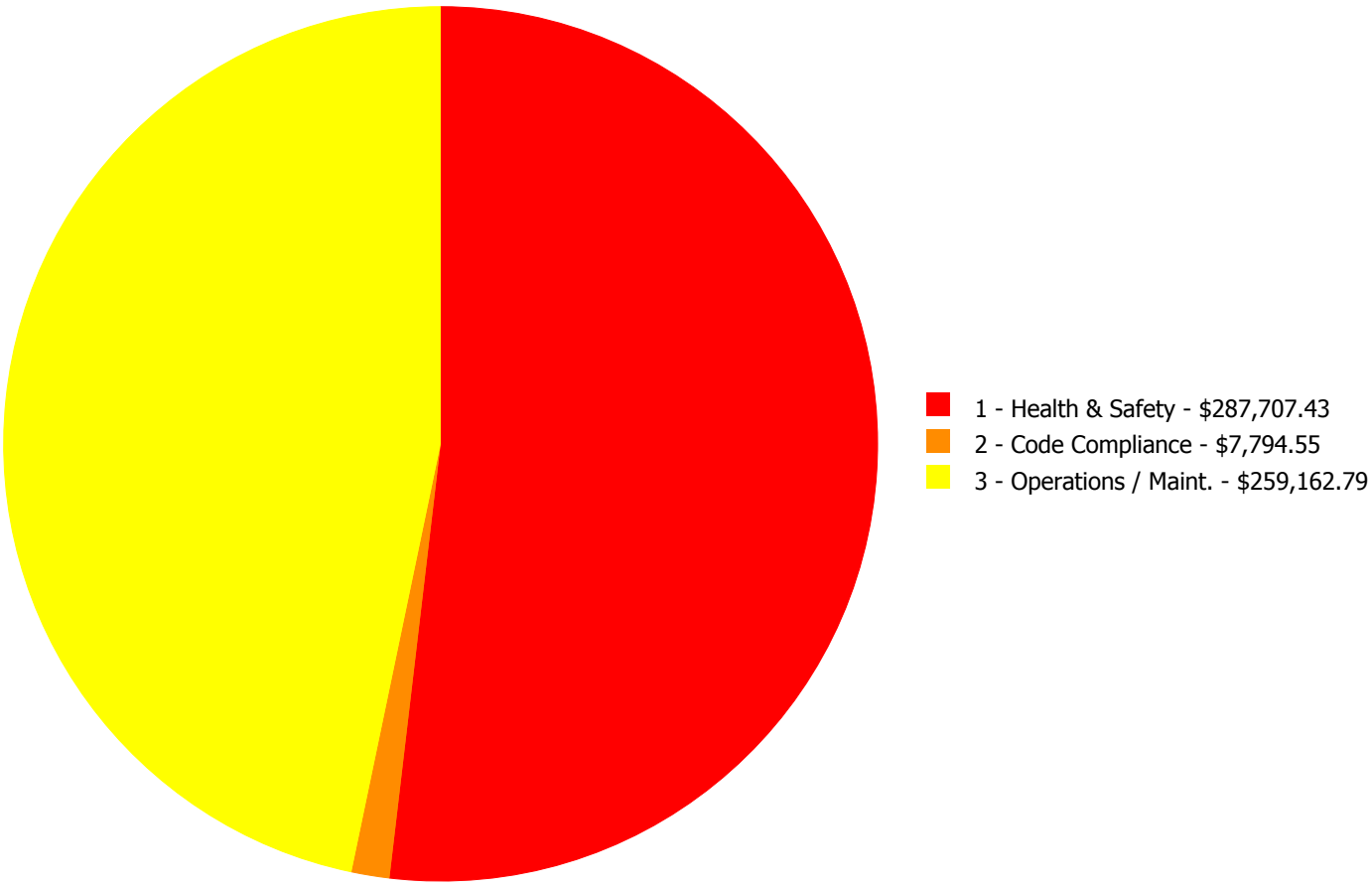
Deficiency By Priority Investment Table

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	$80,822.33	$0.00	$0.00	$0.00	$80,822.33
G2030	Pedestrian Paving	$27,729.93	$0.00	$0.00	$0.00	$0.00	$27,729.93
G2040	Site Development	$77,343.77	$100,996.69	$0.00	$0.00	$0.00	$178,340.46
G4030	Site Communications & Security	$0.00	$0.00	$267,772.05	$0.00	$0.00	$267,772.05
	Total:	$105,073.70	$181,819.02	$267,772.05	$0.00	$0.00	$554,664.77

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: $554,664.77

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: Exterior granite steps

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Regrout joints between stone treads and risers - LF of grout

Qty: 400.00

Unit of Measure: L.F.

Estimate: $19,935.38

Assessor Name: Craig Anding

Date Created: 01/22/2016

Notes: Granite steps around the site are in failing condition. Steps at the east emergency exit stair collapsed shortly before the Parsons site assessment and the exit was closed on an emergency basis. Steps outside of the building to the north are also in poor condition with settlement/rotation noted, causing uneven rise/run and unlevel treads. The steps nearest the northwest exit were noted to have voids visible at the asphalt/granite interface.

System: G2030 - Pedestrian Paving

Location: Main entrance on Atwood Ave.

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: 6.00

Unit of Measure: L.F.

Estimate: $7,794.55

Assessor Name: Craig Anding

Date Created: 01/22/2016

Notes: Provide a handicap ramp at the main entrance on Atwood Avenue.

System: G2040 - Site Development

Location: Exterior, north of building

Distress: Failing

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 150.00

Unit of Measure: L.F.

Estimate: $77,343.77

Assessor Name: Craig Anding

Date Created: 01/22/2016

Notes: The retaining wall dividing the building courtyard/service area from the playground is failing.

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

System: G2020 - Parking Lots

Location: Paved play area

Distress: Maintenance Required

Category: 3 - Operations / Maint.

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

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

Qty: 40,172.00

Unit of Measure: S.F.

Estimate: $80,822.33

Assessor Name: Craig Anding

Date Created: 01/22/2016

Notes: Crack seal and recoat asphalt play surface. Use stall striping budget to apply games to surface.

System: G2040 - Site Development

Location: Site perimeter

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Paint steel picket fence - LF of fence 6' high

Qty: 1,400.00

Unit of Measure: L.F.

Estimate: $100,996.69

Assessor Name: Craig Anding

Date Created: 01/22/2016

Notes: Site perimeter fencing is very rusty - repaint. Antique gates are disintegrating - replace

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

System: G4030 - Site Communications & Security

Location: Building Perimeter

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add Video Surveillance System

Qty: 15.00

Unit of Measure: Ea.

Estimate: $267,772.05

Assessor Name: Craig Anding

Date Created: 01/18/2016

Notes: Provide outdoor surveillance CCTV cameras. Approximate 15 CCTV cameras

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