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.

Juniata Academy School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	801 E. Hunting Park Ave.	Enrollment	1188
	Philadelphia, Pa 19124	Grade Range	'00-08'
Phone/Fax	215-289-7930 / 215-289-7949	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Juniatapark	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	**01.37%**	**$744,335**	**$54,284,775**
Building	01.15 %	$600,081	$52,035,596
Grounds	06.41 %	$144,254	$2,249,179

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.17 %	$4,773	$2,762,842
Exterior Walls (Shows condition of the structural condition of the exterior facade)	00.27 %	$10,252	$3,775,893
Windows (Shows functionality of exterior windows)	00.06 %	$1,019	$1,842,423
Exterior Doors (Shows condition of exterior doors)	01.61 %	$2,389	$148,335
Interior Doors (Classroom doors)	05.57 %	$20,007	$359,073
Interior Walls (Paint and Finishes)	00.63 %	$8,567	$1,351,383
Plumbing Fixtures	00.00 %	$0	$1,383,096
Boilers	00.00 %	$0	$1,909,941
Chillers/Cooling Towers	00.00 %	$0	$2,504,304
Radiators/Unit Ventilators/HVAC	08.16 %	$358,859	$4,397,877
Heating/Cooling Controls	00.00 %	$0	$1,381,050
Electrical Service and Distribution	00.00 %	$0	$992,310
Lighting	01.57 %	$55,786	$3,547,764
Communications and Security (Cameras, Pa System and Fire Alarm)	00.00 %	$0	$1,328,877

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

S715001;Juniata Academy

Final

Site Assessment Report

January 31, 2017

PARSONS

Table of Contents

Site Executive Summary

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

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

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

Gross Area (SF):	102,300
Year Built:	2007
Last Renovation:	
Replacement Value:	$54,284,775
Repair Cost:	$744,334.78
Total FCI:	1.37 %
Total RSLI:	77.12 %

Description:

Facility Condition Assessment
December 2015

School District of Philadelphia
Juniata Park Academy
801 East Hunting Park Avenue
Philadelphia, PA 19124

102,300 sf; 1,160 students; LN 07

Juniata Arts Academy is located at 801 East Hunting Park Avenue. The building was constructed in 2007 on a site previously occupied by industrial buildings, demolished for construction of this new facility. The school has 102,300sf and is 1 and 2 stories tall with a partial basement. The main student entrance, main parking lot, and school bus drop off of this new facility faces East Bristol Street. Since two sides of the building face busy streets, the few exits on those sides are used only for emergency exiting. A semi-enclosed asphalt play area with access from those spaces facing the playground is formed by three sides of the building. Josh Kidd, the Building Engineer, accompanied the inspection team during the building inspection.

At the time of site inspection, the Team met with Principal Joan Richey who expressed the following concerns. There are HVAC pipe

leaks or condensation leaks above the ceiling causing leaks into classrooms and staining of ceiling tile. The air-conditioning unit on the roof overheats and shuts off. Parking is inadequate for the 95 staff working in the school (there are 73 parking spaces in the on-site lot). There are 72 cameras at the school, including 8 outside cameras – all are working properly.

ARCHITECTURAL/STRUCTURAL SYSTEMS

Foundations are constructed of concrete block and concrete. Wall surfaces are in good condition with no major settlement cracks observed. A hairline crack was observed in the concrete wall in the mechanical room. Footings were not seen and their construction type or condition could not be ascertained.

Floor slabs in the partial basement are in good condition. Concrete floors in the mechanical room and electrical room are also in good condition. Upper floor slabs are also constructed of poured concrete on metal deck on steel beams. The few columns, beams, and floor deck that could be seen also appeared to be in good condition. There is some movement of vinyl tiles on ground floor slabs showing as separating of vinyl tiles. This does not appear to be a large amount of movement, however it should be watched for any increase in tile gaps and cracking of concrete from underneath.

Roof system construction is varied and there are a number of different roof heights. Not all roofs were accessible at the time of inspection and not all structural systems were seen, however assumptions were made based on the systems that were visible at the time of inspection. Roof systems over the majority of the second floor classrooms consist of a minimum pitched "flat" metal deck on steel bar joists (roof deck not seen) on steel beams supported by steel columns. This system is slightly pitched to form a slope to internal roof drains. The gymnasium roof deck and the roof deck over the IMC (library) on second floor over the main entrance is constructed of sloped metal deck with a standing seam roof on bar joists (not seen) on steel beams and columns, pitched to one side, drained to gutters and vertical leaders. Leaks were reported in the IMC metal roof. Vertical leaders terminate into inlets to internal vertical drain pipes which go down through the lower floor and tie into the storm drain system underground. The roof over the cafetorium (roof #9) is 32" below the adjacent roof over classrooms (roof #6); this roof needs a code compliant stair with handrails to provide safe access. All roof decks seem to be in good condition and functioning well as there were no large areas of ponding water.

Exterior walls are constructed of a few different systems. Walls at the ground level are either brick or yellow glazed block (located adjacent to the main entrance and the cafetorium entrance in the courtyard). Insulated metal panels are located above some of the walls forming either a second floor or a soffit above windows (cafetorium). Metal siding is in good condition and although not seen, it is assumed to be an insulated system. Brick walls probably utilize a typical cavity wall system construction, typical for this type of construction. Most classroom and corridor walls have gypsum board facing occupied spaces and the gym, and mechanical areas have block facing occupied spaces. Brick is in very good condition with minor efflorescence visible in a few locations. Vertical expansion joints in masonry need to be recaulked. Metal siding has a bright aluminum panel finish over some windows and a blue finish where used as a second floor wall material; all are in good condition.

Exterior windows consist of double pane insulated glazing in clear anodized aluminum frames. Units in classrooms are triple stacked with the bottom unit consisting of an operable hopper unit with a bug screen on the outside. All classroom and corridor glazing units have external roller shades. There were ten windows seen with loose/broken gaskets, detaching from the frames of the operable hopper units, but all other glazing units appeared to be in good condition with minimal damage observed. Windows on the first floor around the building have heavy duty bug/security screens. None of the windows were observed to be cracked or broken. Univent louvers are integrated into the aluminum tube window system, which minimizes the use of lintels and sources of masonry cracks.

Exterior doors are light gray FRP (fiberglass reinforced plastic) doors or painted hollow metal doors, with clear anodized aluminum frames where used as emergency exit doors or exits from classrooms and cafetorium. Clear anodized aluminum framed full height glass units are used at the two pair of main entrance vestibule doors and one pair of kindergarten corridor exits to the playground. Vestibule glass is insulated whereas door glass is single pane. The main entrance to the building is ADA accessible and has a curb cuts at the drop off driveway outside the doors. Most other exit doors are at grade level and accessible to wheelchairs. The service entrance has 2 pair of light gray FRP doors with anodized aluminum frames matching the aluminum window framing. All exterior FRP doors are in good condition; repaint doors in Kindergartens opening into playground.

Roof coverings on the flat roofs consist of a fully adhered rolled asphalt sheet system with ceramic granules embedded into the membrane surface. Flashing is a fully adhered granule embedded sheets same as the roofing membrane, adhered to the roof membrane and terminated under aluminum coping or steel equipment flashing where equipment is roof mounted. Coping is less than 12" above the roof deck - there is no parapet. Some of the membrane surfaces are showing long wrinkles and bubbles in the membrane surface indicating the start of membrane delamination. Roof covering over the gymnasium and the IMC is a standing seam metal roof system; metal surface has steel ice-catchers attached to the substrate. Roof openings on the flat roof include toilet room vents, ventilation ductwork, exhaust fans, HVAC equipment, and roof drains with overflows, all with the appropriate fully adhered flashing system. Some of the equipment supports and penetrations were not flashed correctly and have no counterflashing or asphalt flashing that is not extended up underneath counterflashing. Roof overflow inlets have gratings, matching main roof

drains. Aluminum coping used on the tops walls is factory painted blue or clear anodized aluminum, matching which ever aluminum panel finish is below the coping. Gutters and leaders leading from upper roofs empty onto pipes passing through lower roofs. Gray painted scupper boxes and vertical leaders from lower roofs lead down and connect to pipes leading to the underground storm water management system. There was no significant standing water observed on any roof or in any gutter; all roof drains, gutters and leaders appeared to be in good operating condition.

Partitions in mechanical areas, corridors, classrooms, gymnasium, IMC, toilet rooms, and most offices are constructed of painted concrete masonry units (block) 88 inches in height, in good condition; extending up from the top of all block corridor walls is a gypsum board and metal stud partition built up to the bottom of the metal deck above, creating complete separation of the corridor from classrooms, as required by code. Exterior walls have painted gypsum board and metal stud finishes in most places, except for the gym which has block on all walls and the cafetorium which has glazed block. Most of the IMC partitions are gypsum board on metal stud and due to the heavy traffic in this space, partitions have some damages. Some of the school offices are constructed of gypsum board and metal stud partitions; being low traffic areas, this material is not subject to the abuse that the corridors and classrooms receive and are in good condition.

Interior doors on all rooms are solid core oak veneer wood; some have narrow glass vision panels or full height wired glass sidelites. Mechanical area interior doors are solid core oak veneer wood in hollow metal frames. Mechanical room and electrical room doors are hollow metal with steel frames. Many frames are beginning to rust where coming in contact with floors; these frames should be properly repainted to minimize future rust damage. Some wood doors have minor surface and edge damages from impact and general use; they should be repaired and refinished to rejuvenate the appearance. Doors are generally in good condition throughout the building and with continued good care and maintenance should last a long time. One corridor to corridor door is damaged from being hit with a heavy object or from being opened to forcefully into the overhead wall hold-open device. This door needs to be replaced. Classroom and office doors have lever locksets with updated security locking feature that allows for locking from inside the room. Some exit hardware in stairways needs adjustment to improve closing and latching operations.

Interior fittings/hardware in classrooms include whiteboards attached to one wall and tackboards in some rooms attached to another wall. Smartboards are mounted in front of whiteboards in some classrooms and on other walls in other classrooms. Toilet room partitions are solid plastic HDPE (high density polyethylene) partitions and doors. Toilet room accessories (toilet paper dispensers, soap, paper towel or dryers, grab bars, door latches) are located in all toilet rooms; approximately 6 components were estimated to be missing or broken. Multiple toilet rooms are ADA compliant with grab bars, wrist-blade faucets and other accessible toilet room accessories. The IMC (library) has wood veneer and plastic laminate book cases and areas with fabric chairs and tables for reading. The music rooms has storage cabinets for musical instruments. The Art room is similar to standard classrooms with plastic laminate counters and cabinets on one wall. Some classrooms also have loose wood bookcases and bookshelves and some classrooms have steel coat lockers. Floor jacks, almost flush with the floor surface, provide power and data to each computer station in the computer room. They are located directly under each desk and because of this precarious location, students have unintentionally trampled the jacks, ruining them; they should not be located on the floor under the desks. Preferably, power and data should be delivered to each desk by power poles or by electrical floor boxes mounted on top of the floor surface. In many classrooms, computer data, video, and power jacks for the smartboards are pulling out of walls in many locations; they need to be more securely attached to the block or gypsum board in which they are mounted.

Stair construction consists of concrete filled treads, steel risers, and steel stringers with painted steel handrails 34” high, steel guards 42” high and steel balusters with mesh or 4” maximum spacing complying with today’s building codes. Steel handrails and guards need to be repainted. Treads are exposed concrete that is in need of cleaning and re-sealing; intermediate platforms in the middle of stair runs and landings at each floor are finished with a textured epoxy matrix material.

Wall finishes consist of painted block or gypsum board. Classroom have painted concrete block interior walls and painted gypsum board exterior walls. The school offices have a combination of block and gypsum board interior and exterior walls. Where desks are adjacent to gypsum board, there is surface damage which can be spackled and repainted. The gypsum board covered columns and other walls in the IMC have damages and need to be repainted. Toilet rooms have painted block finishes; there was no graffiti in any toilet room inspected.

Floor finishes in the building consist mostly of 12”x12” vinyl composition tile (VCT) in classrooms, offices, corridors, and cafetorium. There are some areas of joint separation in the VCT in ground floor corridors, probably due to the usual minimal settlement of the ground floor slab; these corridors should be watched to see if slab settlement increases. In removing these tiles for repair, the slab should be studied to ascertain if there is a settlement problem. The IMC (library), main school offices, and some other offices have glued-down carpet. The stage in the cafetorium is VCT and in good condition. The gymnasium floor is an oak plank floor. One section of the floor was damaged as a result of a heating pipe leak; the floor in that area should be replaced. The kitchen has quarry tile, which is in good condition. The main building entrance lobby is VCT, also in good condition. The main entrance and secondary entrance to the kindergarten corridor has recessed walk-off mats, in good condition. The walk-off mat at the courtyard door in the cafetorium is damaged and needs to be replaced.

Ceiling finishes in classrooms and most corridors are 2x4 suspended acoustical tile ceiling system with recessed 2x4 fluorescent lighting fixtures throughout the building. Most 2x4 ceilings and lighting fixtures are in good condition. The cafetorium and the IMC have black-painted ceiling cavities (metal deck and structure) with suspended 2x4 acoustical tile ceiling "clouds". The cafetorium has recessed high hat lighting in the clouds and pendant mounted downlight between clouds and around the perimeter of the space. The IMC also has recessed high-hat lighting in the clouds but has suspended fluorescent lighting fixtures in other areas. he Gymnasium and has an exposed ceiling with steel bar joists and metal deck above and industrial-type suspended lighting fixtures providing light in the space.

Furnishings in the building plastic laminate cabinets and countertops is all classrooms with plastic laminate storage cabinets and in some cases steel lockers. The gymnasium has some telescoping wood bleachers. The cafetorium has a permanent stage with a curtain.

A two-stop hydraulic elevator are present in this school. It is finished with stainless steel walls and doors and are in good condition. Operation is by key activation. The front door and most courtyard doors into the building are ADA accessible entrance. Handicap parking spaces are located in the staff parking lot near the building entrance.

An automatic sprinkler system is provided in this school.

MECHANICAL SYSTEMS

Plumbing Fixtures – The building is equipped with wall hung urinals (flush valve type), wall hung water closets (flush valve type), and wall hung lavatories with wheel handle faucets, of which it appears all are the original plumbing fixtures installed in 2007 remain in service. Bathrooms were equipped with floor drains.

Throughout the school high/low ADA compliant electric water coolers are installed. The ADA compliant fixtures are roughly ten years old and do not need to be replaced at this time. Drinking fountains are also located near the Cafeteria and consist of high low ADA compliant fixtures. There are also drinking fountains in the Gymnasium

The lockers are equipped with single stall ADA showers and floor drains in the locker areas. Lavatories, water closets and urinals in the locker areas are the same types as the rest of the school. There are also high/low ADA drinking fountains in the area.

Floor set mop/service sinks are original and are available throughout the building for use by the janitorial staff. Service sinks are typically throughout the buildings. The fixtures are part of the original building construction of 2007. The service sinks do not need to be replaced at this time. The Cafeteria's food prep/kitchen is equipped with one, three compartment stainless steel sink, one, two compartment sink with wheel handle operated faucets. The three compartment sink is connected to an above floor set grease interceptor which is readily accessible. The kitchen is also equipped several hand sinks. The triple wash sinks and double compartment sinks show signs of normal usage, were installed in 2007 and do not need to be replaced. The grease interceptors shows no signs of corrosion. Chemicals are injected manually into the sanitizing basin. Sink discharges are a combination of indirect and hard connections to the sanitary system.

Domestic Water Distribution – The, 4" water service enters the building through the main boiler mechanical equipment room. The service is equipped with a backflow preventer (RPZA – reduced pressure zone assembly) and a by pass assembly and a 4" water meter. It appears that the 4" domestic water service piping is mostly soldered copper. There are five instantaneous type natural gas fired water heaters, Paloma model PH24MDN (minimum input 37,700 btuh, maximum 178,500 btuh) which serve the facilities restrooms and kitchen with domestic hot water supply. Four of the heaters serve the rest rooms, 120 degree F supply water, while one heater is dedicated to the kitchen, 140 degree F supply water. The water heaters were installed in 2007 and should be replaced within the next 5 years. All water heaters are located in the boiler mechanical equipment room. There are three recirculation pumps. Each system, restrooms and kitchen, is equipped with an expansion tank.

Sanitary Waste - The sanitary waste piping system in the building is extra heavy cast iron with no hub joints. The sanitary system leaves the building by a duplex sewage ejector, which is manufactured by ITT, model D31625N pump control and Alyan Pumps.

Rain Water Drainage - The rain water drains from the roof are routed through mechanical chases in the building and connect to the underground site drainage system. There are secondary drainage scuppers for the roof as there is a parapet present. There are also gutter and downspouts which are routed through the building to the underground site drainage system. Foundation drainage is handled by a sump pump located in the main boiler mechanical equipment room, ITT, model D31625N pump control and Alyan Pumps.

Energy Supply - Duplex fuel oil supply pumps provide the required fuel to the boilers when operating on fuel oil. There are two, 8,000

gallon, fuel storage tanks which are located below ground at the southeast corner of the building near East Hunting Park Avenue. The fuel pumps and controls were installed as part of the building construction in 2007 and do not need to be replaced at this time as they have 10 – 15 of service life remaining. A 6" natural gas service enters the building in a room adjacent to the main electrical service distribution room. The gas system is equipped with a booster fan system. The natural gas main is welded, black steel piping while the branches are threaded, black steel.

Heat Generating Systems – The two heating water boilers serve the heating needs for the building. Heating water is generated by two, 6,680 MBH, model 2494, sectional, cast iron, with dual fuel burners. All boilers are equipped with Webster Cyclonetic model JBX3C-100 -RM7800L-M.30-MR-UL-IRI, dual fuel burner. Burner controls provide full modulation with electronic ignition, digital flame sensing and pressure atomization on oil. Burner oil pumps are driven by independent motors. The boilers were installed in 2007 and will not need to be replaced for 10 – 15 years. The boilers are equipped with a flue gas recirculation system. There is draft control on all of the boiler flues. Combustion air louvers serve the boiler room to provide combustion air for the boiler operation. Burner oil pumps are driven by independent motors. 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 oil supply to the burner is equipped with dual solenoid valves and strainer/disposable media filter.

The heating water primary pumps consist of two distribution pumps, P-1 and P-2, which are Bell & Gossett, constant volume, base mounted end suction, constant volume, 600 gpm, 120 ft head, 30 HP, 1800 rpm. The pumps were installed in 2007 and have another 15 years of service life remaining and should not be replaced at this time.

Cooling Generating Systems – There are two air cooled chillers located on the roof which serve the needs of the building's chilled water system. The chillers of 170 tons each, air cooled, manufactured by McQuay, model AGS170CS27-ER-10, dual rotary screw compressors. The chillers were installed in 2007 and still have 15 years of service life remaining.

The chilled water pumps consist of two pumps, P-4 and 5, which are Bell & Gossett, base mounted end suction, constant volume, 390 gpm, 50 ft head, 20 HP, 1800 rpm.

Distribution Systems – The building heating and chilled water distribution piping is black steel with welded fittings. The piping was installed during the 2007 construction and does not need to be replaced.

The building uses four pipe unit ventilators manufactured by American Air Filter, with heating water and chilled water cooling coils. Generally vertical unit ventilators are located at the building perimeter walls of the classrooms for the classroom with an exterior exposed wall. The unit ventilators were installed as part of the construction in 2007. The classrooms are also provided treated outside air from RTU-1 which has energy recovery. RTU-1 is nine years old and should not need to be replaced for 11 – 16 years. The IMC HVAC system is of the same typical configuration as the classrooms, unit ventilators and decoupled pretreated outside air supply. The cafeteria/auditorium is served by an air handling units equipped with heating, cooling and ventilation. The supply air distribution consists of louvered face supply diffusers and open end return ducts. The unit was part of the 2007 construction and should not need to be replaced for 15 years. The air handler is located in the first floor mechanical equipment room.

The gymnasium is served by two heating and ventilating units with heating water coils and outside air for ventilation. There are two exhaust fans, one paired to each heating and ventilating unit. The H&V units are suspended from the gym structure. The units supply air through square side discharge diffusers. These units are part of the original building construction of 2007 and should not be replaced.

Terminal & Package Units - There are three roof mounted exhaust fans which serve the restrooms. There are also two cabinet style fans that serve two electrical rooms. Entryways and stair landings/stairwells and entries/exists are served by semi-recessed heating water console convection units. There are nine split systems, one 3-1/2 ton unit, seven 1 ton unit and one 2 tone units. The split systems serve LAN/telecomm rooms, elevator machine rooms and electrical rooms. All electrical rooms are not provided with exhaust fans but should be, as heat is accumulating in these spaces. Janitor closets have exhaust air.

Controls & Instrumentation - The control system is a DDC Honeywell system.

Sprinklers - The school building is fully covered by an automatic sprinkler system. The 4" service enters the room adjacent to the main boiler mechanical equipment room. The stairwells are equipped with a standpipe with angle house valve connections. The kitchen hood exhaust systems is equipped with an Ansul fire suppression system.

ELECTRICAL SYSTEMS

Site Electrical Service is from Medium voltage overhead lines on wooden poles along Huntington Park Ave. An underground medium

voltage cable drop from utility power pole feeds the main substation located in the switchgear room in basement of the building.

Main substation consists of 600A medium voltage load interrupter, PT/CT section, and 1500KVA, 13200V to 480/277V, 3PH, 4 wires, dry type transformer and 2500A power distribution switchboard. Utility meter was installed in separate enclosure adjacent to the switchgear assembly. Main Service switchgear is new and is in very good condition.

Distribution switchboard feeds generator auto transfer switches, four sub-main distribution power panels, and kitchen equipment via a 75KVA step down transformer. Each sub-main distribution panels in turn feeds several lighting panels and several power panels via step down transformers sized 15KVA to 112.5KVA. Step down transformers are for converting 480V to 120/208V. All of the panels and transformers are placed in the main switchgear room and in five other electrical closets throughout the building (re. three on the first floor and two on the second floor). School power distribution system installed in year 2009 and is in very good condition.

Classrooms, corridors, offices, and other areas typically have an adequate number of duplex receptacles on each wall. No major deficiencies with respect to receptacle number and location were observed.

Interior building spaces are illuminated by various types of lighting fixtures. Recessed 2x4 fluorescent fixtures with T8 lamps are used in classrooms and offices. In corridors, 1x4 surface mounted fixtures are used. Gymnasium is illuminated by pendent mounted metal halide fixtures which have high energy consumption and are difficult to re-lamp. Dining area is provided with down lighting fixtures and pendent mount fluorescent is used in mechanical and electrical rooms. Lighting systems are controlled by a motion sensors and wall switches in classrooms. Interior and exterior lighting fixtures are in a good condition and the illumination levels are sufficient in accordance with today's lighting standards. For energy saving, we recommend to replace the high bay metal halide fixtures with high bay LED fixtures.

The Fire Alarm system is automated, addressable, and in compliance with minimum requirement of today's safety codes. The Smoke detection system consists of smoke detectors in ductwork and area smoke detectors in recommended area by code. There are also manual pull stations for fire notification. There are a sufficient number of horn/strobes installed in corridors, offices and other areas in the school.

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

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

Each classroom has intercom telephone service. The system permits paging and intercom communications from the main office to classrooms, classrooms to the main office, and classroom to classroom. Outside line access from a classroom phone through the PBX is blocked. The system interfaces with the master clock system for class change signaling utilizing paging speakers. The system is also equipped with a tone generator and input from program/clock controller.

Clock and program system are working adequately. Classrooms are provided with 12 inches, wall mounted, round clock. The clocks are controlled by central wireless master control panel. Our observation shows that the clocks located in north east of the building do not have a good signal reception. Providing additional transmitter in north east area building may solve the problem. However further investigation is required for troubleshooting.

The television system is not provided in the school. Most classes are equipped with smart boards having the ability to connect with computers and internet.

The school has Security intrusion and video surveillance system. A sufficient number of cameras are in corridors and other critical areas, controlled by a Closed Circuit Television system (CCTV). The system is working properly.

Emergency Power System is provided in the school. A 250KW, 480/277V, 3PH, 4W diesel generator manufactured by "CATOLIGHT" is installed in the basement for feeding the elevator, life safety systems such as lighting, exit signs and other critical emergency loads. The generator is new and in very good condition.

An Uninterruptible Power System (UPS) is provided for the IT racks.

Emergency lighting and exit lighting, is provided in corridors, library, auditorium, and exit ways, fed by the emergency backup generator. All exit signs are equipped with batteries and fed by emergency power.

There is no lightning protection system installed in the school. A Risk Assessment Study needs to be conducted to verify if lightning protection system is required to be provided for the school.

A 20 horsepower rated hydraulic type elevator, manufactured by Otis is in operation at the school. Elevator feeds by emergency power and appears to be working properly.

Theatrical lighting and diming control is provided in the school multipurpose room but has not been completed. Supplemental fluorescent lighting is provided in stage area for lectures and testing. There are no dimmable house lights and switchable stage work lights provided for general illumination during rehearsals other activities.

A sound system is provided in school multipurpose room and working properly.

Campus areas, parking areas, and building perimeters have lighting that is adequate for personnel safety and security of property. Not major deficiencies observed during investigation.

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

Site paging system appears to have a sufficient number of speakers located on building exterior walls and appears to be working adequately.

GROUNDS SYSTEMS

Front, side and rear concrete walkways are generally in good condition with a some cracked concrete panels needing replacement.

Asphalt parking area and the asphalt playground have some cracking which needs to be filled. ADA accessible parking spaces are provided in the parking lot to the north of the main drop off and curb cuts are provided. Entrances do not require ramps since they are grade level. Accessible route signage is needed. The number of required parking spaces for school staff and faculty is unknown, however the inspection team was told there is not enough parking for staff and parents.

Catch basins in the grass near the front entrance were clogged with debris. This could have been the reason for poor drainage of the grass area outside the front entrance. Drains should be cleaned and grass replanted.

There is a full site chain link fence located around the property with gates at the main entrance off G Street and off East Bristol Street. There is also a fence constructed of painted steel posts and balusters gates to close-off the playground, for additional security. Fences are in good condition.

RECOMMENDATIONS

- Repair crack in basement wall (30ft)
- Repair (reinstall) flashing around rooftop equipment (100ft)
- Provide 5 riser stair and handrail from roof over classrooms to roof over cafetorium (1 stairway, 32” h)
- Replace failing foam window gaskets – (10 windows)
- Repaint hollow metal exterior doors opening from Kindergarten into playground (4)
- Repair vertical caulking in masonry expansion joints near entrance (20ft)
- Powerwash efflorescence from brick (2,000sf)
- Replace broken bricks on G Street elevation (100sf)
- Replace short lintel over door on G Street (8ft)
- Repaint interior hollow metal door frames, especially at bottoms where rusting; refinish oak doors where damaged (20) 3’x7’
- Replace corridor door damaged by slamming into hold open (1)
- Repaint stair handrails (350ft)
- Repair cracks in VCT floors in corridors - replace VCT (200sf)
- Repair wood floor in gym, damaged by water from HVAC leaks (200sf)
- Replace water stained ceilings, damaged from HVAC leaks (3,000sf)
- Replace traffic mats at main entrances and side entrance to playground (300sf)
- Repair and repaint damaged gypsum board from accidental impact in IMC and outside walls (1000sf)
- Replace broken toilet room accessories (6)
- Replace floor electrical outlets in computer room (40)
- Replace wall jacks for smartboards in classrooms (20)

MEHANICAL

- Add exhaust fans to electrical rooms.
- Reinsulate ductwork located on the roof as the ductwork jacketing has deteriorated and has become detached which is allowing water to infiltrate into the insulation.

ELECTRICAL

- Provide lightning protection studies to ascertain adequacy of existing systems.
- Provide dimmable house lights and switchable stage work lights at dining area platform.

GROUNDS

- Clean out 3 catch basins in from lawn; replant lawn (8,000 sf)
- Repave damaged sections of concrete walkway (200 sf)
- Fill cracks in asphalt parking lot (2,000 ft)

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 2
Status:	Accepted by SDP	Team:	Tm 2
Site ID:	S715001		

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.

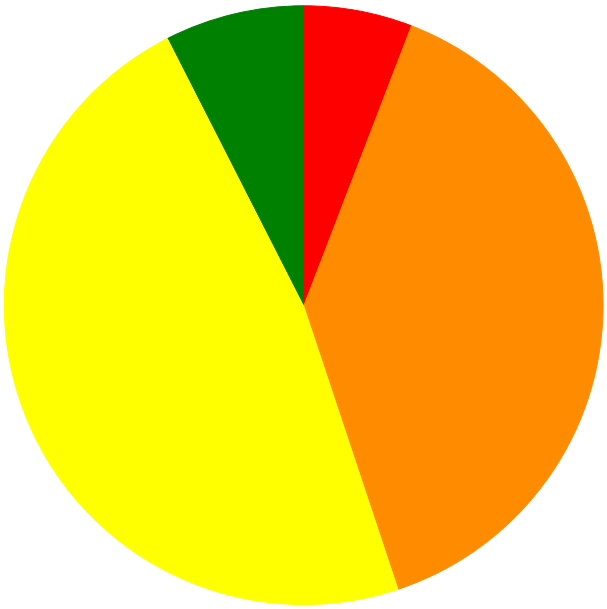
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	92.00 %	0.00 %	$0.00
A20 - Basement Construction	92.00 %	0.01 %	$289.89
B10 - Superstructure	92.00 %	0.32 %	$28,757.03
B20 - Exterior Enclosure	87.55 %	0.24 %	$13,659.94
B30 - Roofing	62.88 %	0.17 %	$4,773.47
C10 - Interior Construction	88.76 %	1.48 %	$37,152.78
C20 - Stairs	92.00 %	6.79 %	$9,791.42
C30 - Interior Finishes	62.53 %	1.10 %	$52,684.35
D10 - Conveying	77.14 %	0.00 %	$0.00
D20 - Plumbing	74.66 %	0.00 %	$0.00
D30 - HVAC	68.90 %	3.15 %	$358,858.90
D40 - Fire Protection	77.14 %	0.00 %	$0.00
D50 - Electrical	63.99 %	1.30 %	$78,253.42
E10 - Equipment	77.14 %	0.97 %	$15,859.94
E20 - Furnishings	80.00 %	0.00 %	$0.00
G20 - Site Improvements	72.48 %	8.52 %	$144,253.64
G40 - Site Electrical Utilities	73.33 %	0.00 %	$0.00
Totals:	**77.12 %**	**1.37 %**	**$744,334.78**

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)
B715001;Juniata Academy	102,300	1.15	$43,501.81	$146,325.88	$354,467.11	$55,786.34	$0.00
G715001;Grounds	127,900	6.41	$0.00	$144,253.64	$0.00	$0.00	$0.00
Total:		**1.37**	**$43,501.81**	**$290,579.52**	**$354,467.11**	**$55,786.34**	**$0.00**

Deficiencies By Priority



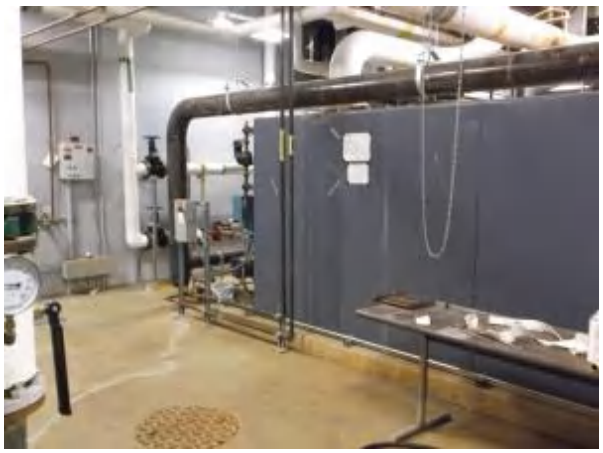
Budget Estimate Total: $744,334.78

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):	102,300
Year Built:	2007
Last Renovation:	
Replacement Value:	$52,035,596
Repair Cost:	$600,081.14
Total FCI:	1.15 %
Total RSLI:	77.31 %



Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B715001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S715001		

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	92.00 %	0.00 %	$0.00
A20 - Basement Construction	92.00 %	0.01 %	$289.89
B10 - Superstructure	92.00 %	0.32 %	$28,757.03
B20 - Exterior Enclosure	87.55 %	0.24 %	$13,659.94
B30 - Roofing	62.88 %	0.17 %	$4,773.47
C10 - Interior Construction	88.76 %	1.48 %	$37,152.78
C20 - Stairs	92.00 %	6.79 %	$9,791.42
C30 - Interior Finishes	62.53 %	1.10 %	$52,684.35
D10 - Conveying	77.14 %	0.00 %	$0.00
D20 - Plumbing	74.66 %	0.00 %	$0.00
D30 - HVAC	68.90 %	3.15 %	$358,858.90
D40 - Fire Protection	77.14 %	0.00 %	$0.00
D50 - Electrical	63.99 %	1.30 %	$78,253.42
E10 - Equipment	77.14 %	0.97 %	$15,859.94
E20 - Furnishings	80.00 %	0.00 %	$0.00
Totals:	**77.31 %**	**1.15 %**	**$600,081.14**

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.	102,300	100	2007	2107		92.00 %	0.00 %	92			$1,882,320
A1030	Slab on Grade	$7.73	S.F.	102,300	100	2007	2107		92.00 %	0.00 %	92			$790,779
A2010	Basement Excavation	$6.55	S.F.	102,300	100	2007	2107		92.00 %	0.00 %	92			$670,065
A2020	Basement Walls	$12.70	S.F.	102,300	100	2007	2107		92.00 %	0.02 %	92		$289.89	$1,299,210
B1010	Floor Construction	$75.10	S.F.	102,300	100	2007	2107		92.00 %	0.37 %	92		$28,757.03	$7,682,730
B1020	Roof Construction	$13.88	S.F.	102,300	100	2007	2107		92.00 %	0.00 %	92			$1,419,924
B2010	Exterior Walls	$36.91	S.F.	102,300	100	2007	2107		92.00 %	0.27 %	92		$10,252.32	$3,775,893
B2020	Exterior Windows	$18.01	S.F.	102,300	40	2007	2047		80.00 %	0.06 %	32		$1,018.60	$1,842,423
B2030	Exterior Doors	$1.45	S.F.	102,300	25	2007	2032		68.00 %	1.61 %	17		$2,389.02	$148,335
B3010105	Built-Up	$37.76	S.F.	57,265	20	2007	2027		60.00 %	0.22 %	12		$4,773.47	$2,162,326
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.	11,000	30	2007	2037		73.33 %	0.00 %	22			$596,420
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	68,265	20	2007	2027		60.00 %	0.00 %	12			$4,096
C1010	Partitions	$17.91	S.F.	102,300	100	2007	2107		92.00 %	0.00 %	92			$1,832,193
C1020	Interior Doors	$3.51	S.F.	102,300	40	2007	2047		80.00 %	5.57 %	32		$20,007.32	$359,073
C1030	Fittings	$3.12	S.F.	102,300	40	2007	2047		80.00 %	5.37 %	32		$17,145.46	$319,176
C2010	Stair Construction	$1.41	S.F.	102,300	100	2007	2107		92.00 %	6.79 %	92		$9,791.42	$144,243

Site Assessment Report - B715001;Juniata Academy

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
C3010230	Paint & Covering	$13.21	S.F.	102,300	10	2007	2017	2020	50.00 %	0.63 %	5		$8,567.08	$1,351,383
C3010231	Vinyl Wall Covering	$0.97	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$2.63	S.F.		30				0.00 %	0.00 %				$0
C3020411	Carpet	$7.30	S.F.	8,600	10	2007	2017	2020	50.00 %	0.00 %	5			$62,780
C3020412	Terrazzo & Tile	$75.52	S.F.	4,400	50	2007	2057		84.00 %	0.00 %	42			$332,288
C3020413	Vinyl Flooring	$9.68	S.F.	79,300	20	2007	2027		60.00 %	0.31 %	12		$2,403.51	$767,624
C3020414	Wood Flooring	$22.27	S.F.	6,000	25	2007	2032		68.00 %	4.51 %	17		$6,020.19	$133,620
C3020415	Concrete Floor Finishes	$0.97	S.F.	4,000	50	2007	2057		84.00 %	0.00 %	42			$3,880
C3030	Ceiling Finishes	$20.97	S.F.	102,300	25	2007	2032		68.00 %	1.66 %	17		$35,693.57	$2,145,231
D1010	Elevators and Lifts	$1.53	S.F.	102,300	35	2007	2042		77.14 %	0.00 %	27			$156,519
D2010	Plumbing Fixtures	$13.52	S.F.	102,300	35	2007	2042		77.14 %	0.00 %	27			$1,383,096
D2020	Domestic Water Distribution	$1.68	S.F.	102,300	25	2007	2032		68.00 %	0.00 %	17			$171,864
D2030	Sanitary Waste	$2.90	S.F.	102,300	25	2007	2032		68.00 %	0.00 %	17			$296,670
D2040	Rain Water Drainage	$2.32	S.F.	102,300	30	2007	2037		73.33 %	0.00 %	22			$237,336
D3020	Heat Generating Systems	$18.67	S.F.	102,300	35	2007	2042		77.14 %	0.00 %	27			$1,909,941
D3030	Cooling Generating Systems	$24.48	S.F.	102,300	30	2007	2037		73.33 %	0.00 %	22			$2,504,304
D3040	Distribution Systems	$42.99	S.F.	102,300	25	2007	2032		68.00 %	8.16 %	17		$358,858.90	$4,397,877
D3050	Terminal & Package Units	$11.60	S.F.	102,300	20	2007	2027		60.00 %	0.00 %	12			$1,186,680
D3060	Controls & Instrumentation	$13.50	S.F.	102,300	20	2007	2027		60.00 %	0.00 %	12			$1,381,050
D4010	Sprinklers	$7.05	S.F.	102,300	35	2007	2042		77.14 %	0.00 %	27			$721,215
D4020	Standpipes	$1.01	S.F.	102,300	35	2007	2042		77.14 %	0.00 %	27			$103,323
D5010	Electrical Service/Distribution	$9.70	S.F.	102,300	30	2007	2037	2037	73.33 %	0.00 %	22			$992,310
D5020	Lighting and Branch Wiring	$34.68	S.F.	102,300	20	2007	2027	2027	60.00 %	1.57 %	12		$55,786.34	$3,547,764
D5030	Communications and Security	$12.99	S.F.	102,300	15	2007	2022	2025	66.67 %	0.00 %	10			$1,328,877
D5090	Other Electrical Systems	$1.41	S.F.	102,300	30	2007	2037	2037	73.33 %	15.58 %	22		$22,467.08	$144,243
E1020	Institutional Equipment	$4.82	S.F.	102,300	35	2007	2042		77.14 %	3.22 %	27		$15,859.94	$493,086
E1090	Other Equipment	$11.10	S.F.	102,300	35	2007	2042		77.14 %	0.00 %	27			$1,135,530
E2010	Fixed Furnishings	$2.13	S.F.	102,300	40	2007	2047		80.00 %	0.00 %	32			$217,899
								Total	**77.31 %**	**1.15 %**			**$600,081.14**	**$52,035,596**

System Notes

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

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

Note: paint on block or gypsum board 100%

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

Note: Concrete – 4,000 4%
Wood - 6,000 6%
VCT - 79,300 78%
CT/QT/terrazzo4,400 4%
Carpet - 8,600 8%

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

Note: Suspended acoustical tile 88%
exposed - (gym, mech, storage, stairs) 12%

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

Note: (5) 30KVA, 480 to 208/120V transformers
(4) 45KVA, 480 to 208/120V transformers
(1) 75KVA, 480 to 208/120V transformers

Renewal Schedule

eCOMET forecasts future Capital Renewal funding needed to address expiring systems based on the Next Renewal year found in the Cost Models. A 3% annual inflation factor is applied to the costs for systems expiring in future years. The table below reflects recommended Capital Renewal funding needs over the next 10 years. Note: Cells with a zero value indicate systems for which renewal is not scheduled in that year.

Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$600,081**	**$0**	**$0**	**$0**	**$0**	**$1,803,342**	**$0**	**$0**	**$0**	**$0**	**$1,964,490**	**$4,367,913**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A10 - Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A20 - Basement Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$290	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$290**
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	$28,757	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$28,757**
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	$10,252	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$10,252**
B2020 - Exterior Windows	$1,019	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,019**
B2030 - Exterior Doors	$2,389	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,389**
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	$4,773	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$4,773**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

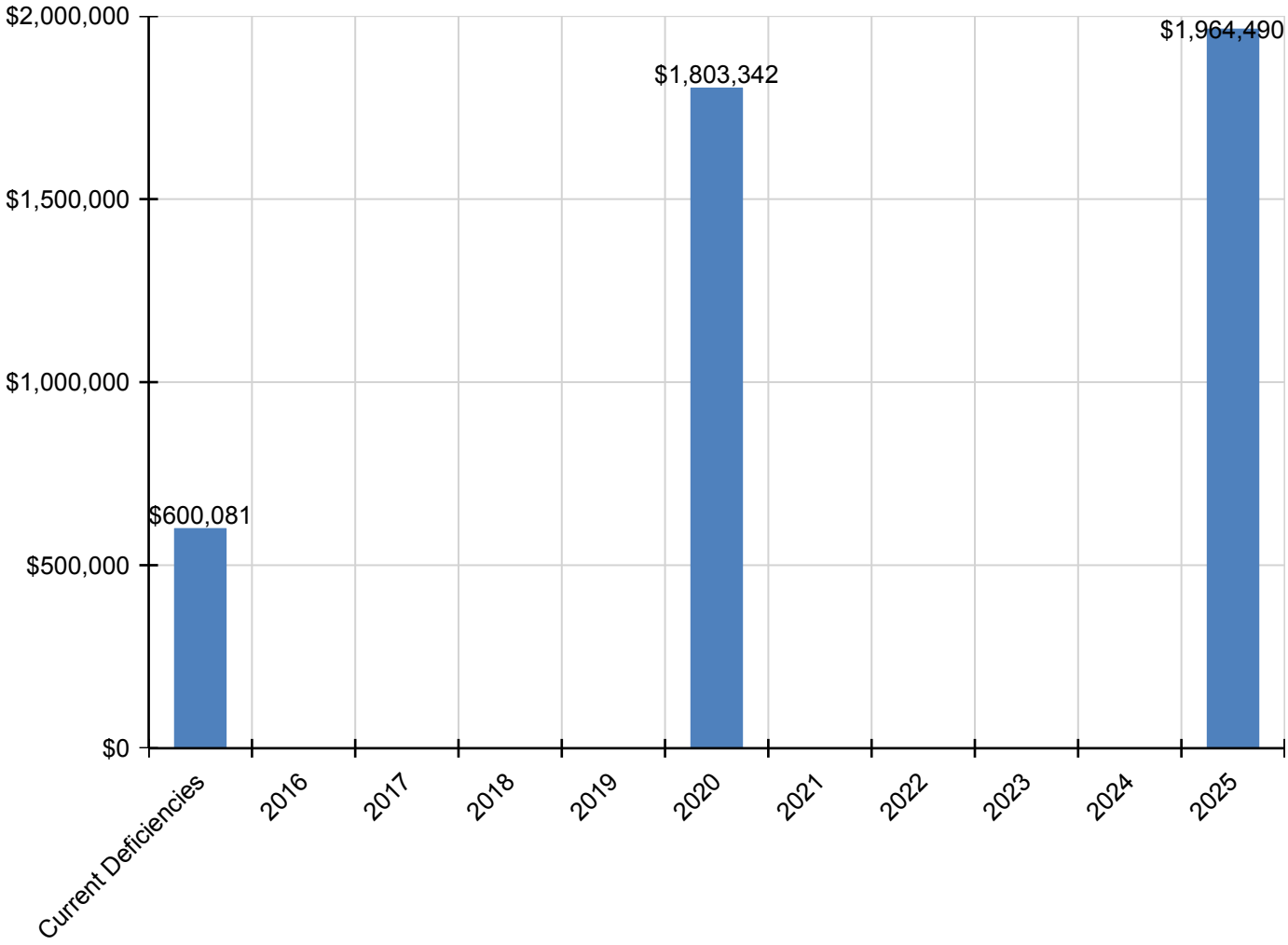
C1020 - Interior Doors	$20,007	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$20,007**
C1030 - Fittings	$17,145	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$17,145**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$9,791	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$9,791**
C30 - Interior Finishes	$0	$0	$0	$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	$8,567	$0	$0	$0	$0	$1,723,285	$0	$0	$0	$0	$0	**$1,731,852**
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	$80,057	$0	$0	$0	$0	$0	**$80,057**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$2,404	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,404**
C3020414 - Wood Flooring	$6,020	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$6,020**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$35,694	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$35,694**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2020 - Domestic Water Distribution	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2030 - Sanitary Waste	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3030 - Cooling Generating Systems	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3040 - Distribution Systems	$358,859	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$358,859**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5020 - Lighting and Branch Wiring	$55,786	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$55,786**
D5030 - Communications and Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,964,490	**$1,964,490**
D5090 - Other Electrical Systems	$22,467	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$22,467**
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	$15,860	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$15,860**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

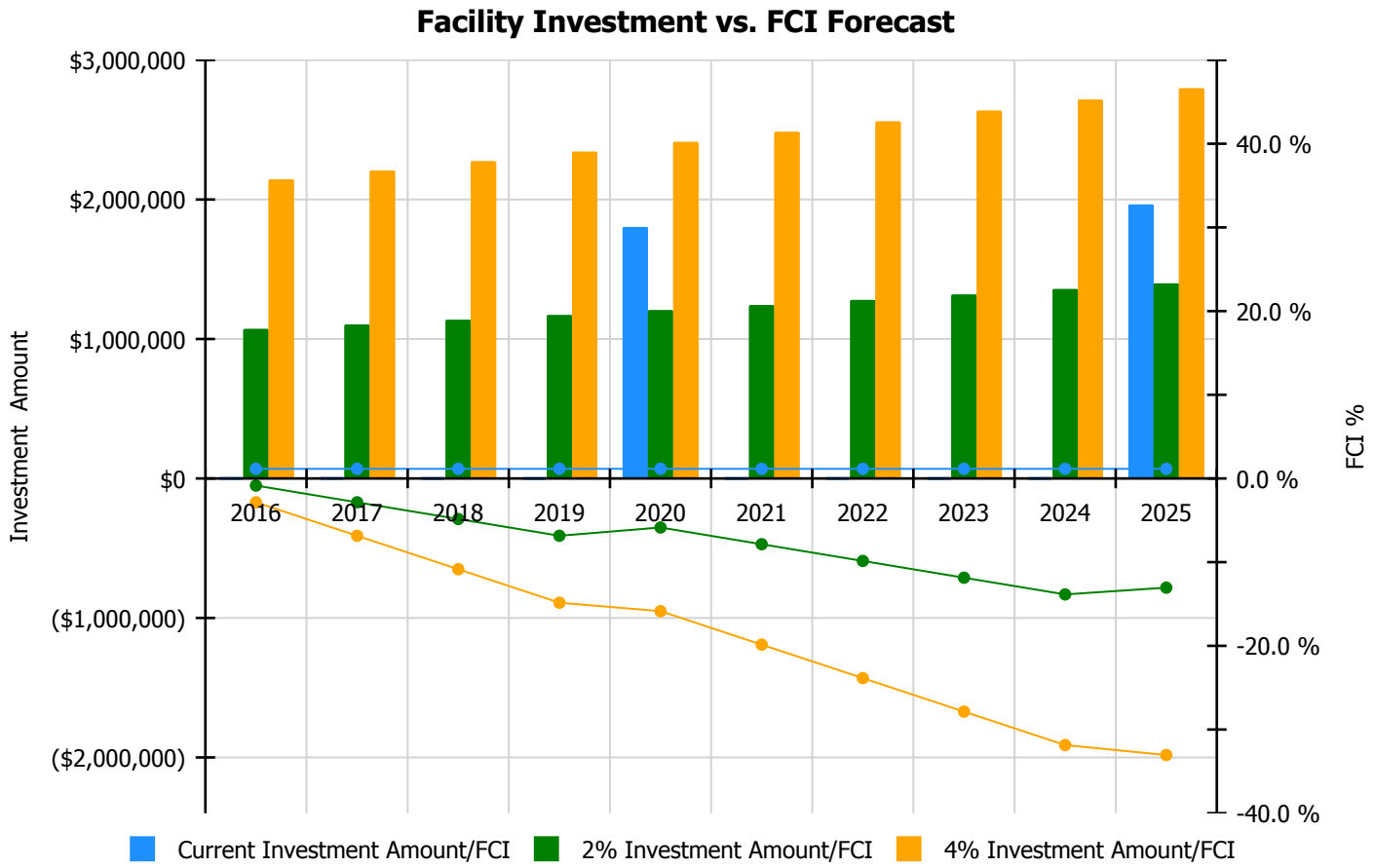
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

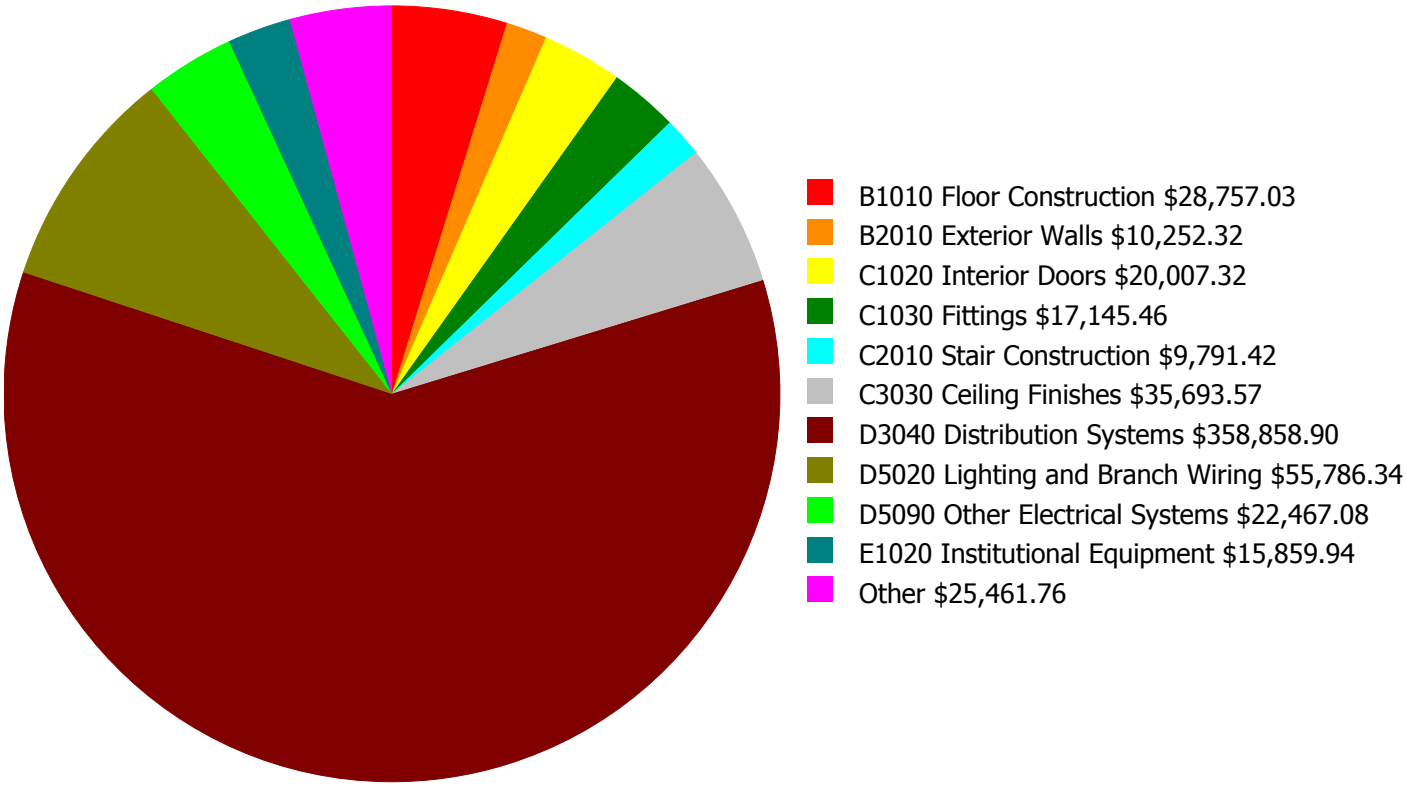
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 1.15%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$1,071,933.00	-0.85 %	$2,143,867.00	-2.85 %
2017	$0	$1,104,091.00	-2.85 %	$2,208,183.00	-6.85 %
2018	$0	$1,137,214.00	-4.85 %	$2,274,428.00	-10.85 %
2019	$0	$1,171,330.00	-6.85 %	$2,342,661.00	-14.85 %
2020	$1,803,342	$1,206,470.00	-5.86 %	$2,412,941.00	-15.86 %
2021	$0	$1,242,664.00	-7.86 %	$2,485,329.00	-19.86 %
2022	$0	$1,279,944.00	-9.86 %	$2,559,889.00	-23.86 %
2023	$0	$1,318,343.00	-11.86 %	$2,636,685.00	-27.86 %
2024	$0	$1,357,893.00	-13.86 %	$2,715,786.00	-31.86 %
2025	$1,964,490	$1,398,630.00	-13.05 %	$2,797,260.00	-33.05 %
Total:	**$3,767,832**	**$12,288,512.00**		**$24,577,029.00**	

Deficiency Summary by System

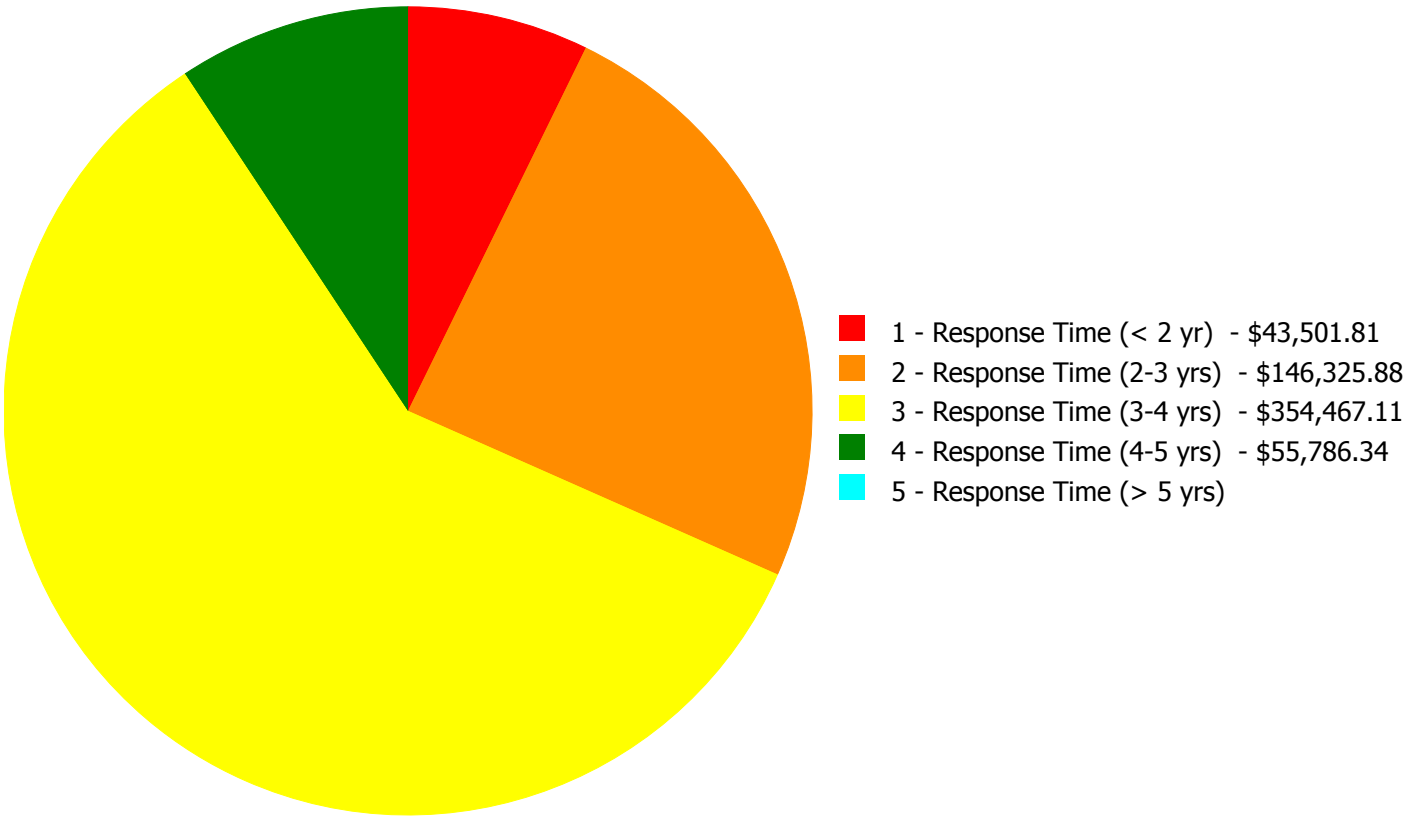
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $600,081.14

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: $600,081.14

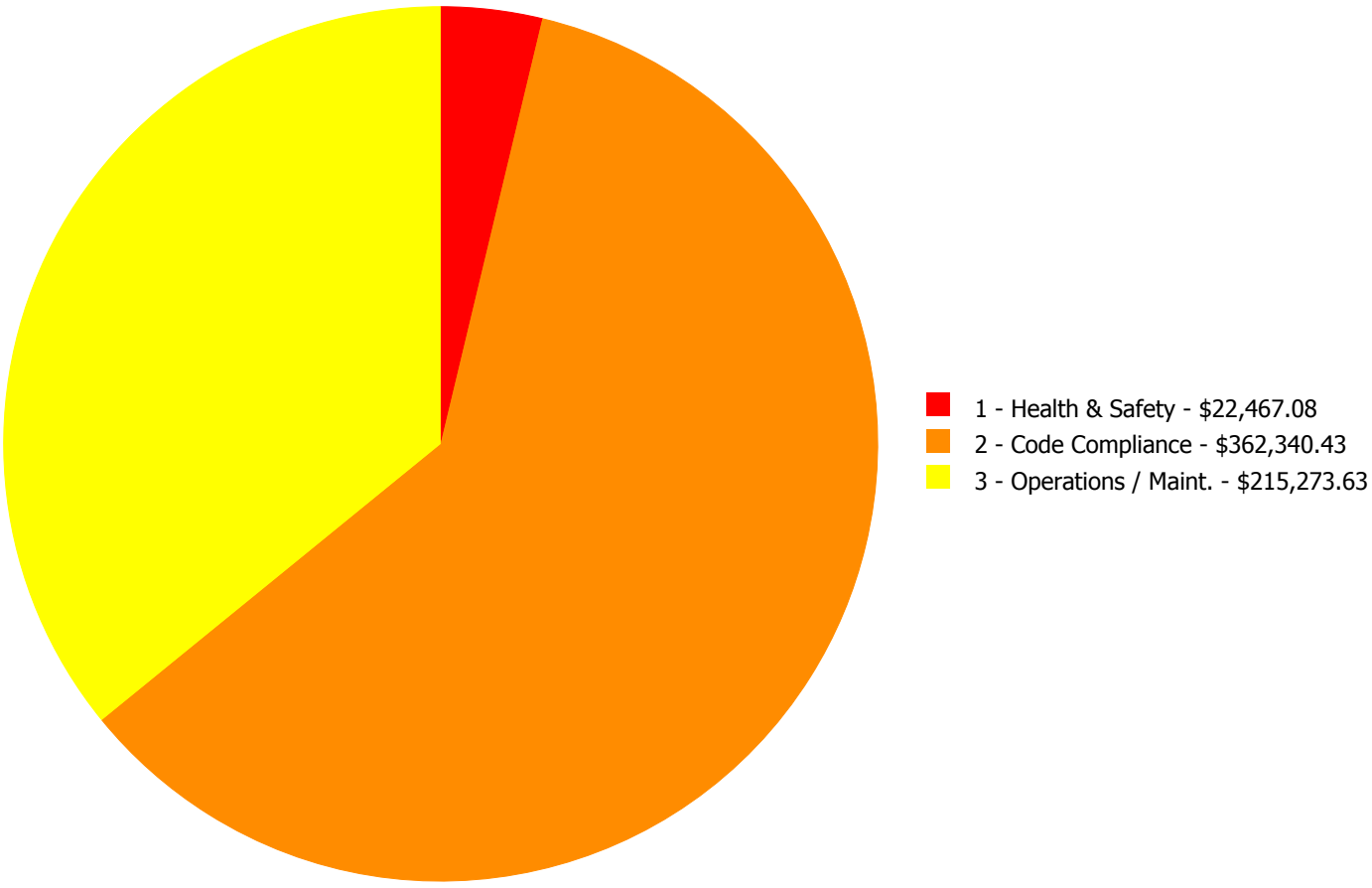
Deficiency By Priority Investment Table

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
A2020	Basement Walls	$0.00	$289.89	$0.00	$0.00	$0.00	$289.89
B1010	Floor Construction	$0.00	$28,757.03	$0.00	$0.00	$0.00	$28,757.03
B2010	Exterior Walls	$401.32	$9,851.00	$0.00	$0.00	$0.00	$10,252.32
B2020	Exterior Windows	$0.00	$1,018.60	$0.00	$0.00	$0.00	$1,018.60
B2030	Exterior Doors	$0.00	$2,389.02	$0.00	$0.00	$0.00	$2,389.02
B3010105	Built-Up	$4,773.47	$0.00	$0.00	$0.00	$0.00	$4,773.47
C1020	Interior Doors	$0.00	$20,007.32	$0.00	$0.00	$0.00	$20,007.32
C1030	Fittings	$0.00	$17,145.46	$0.00	$0.00	$0.00	$17,145.46
C2010	Stair Construction	$0.00	$9,791.42	$0.00	$0.00	$0.00	$9,791.42
C3010230	Paint & Covering	$0.00	$8,567.08	$0.00	$0.00	$0.00	$8,567.08
C3020413	Vinyl Flooring	$0.00	$2,403.51	$0.00	$0.00	$0.00	$2,403.51
C3020414	Wood Flooring	$0.00	$6,020.19	$0.00	$0.00	$0.00	$6,020.19
C3030	Ceiling Finishes	$0.00	$35,693.57	$0.00	$0.00	$0.00	$35,693.57
D3040	Distribution Systems	$0.00	$4,391.79	$354,467.11	$0.00	$0.00	$358,858.90
D5020	Lighting and Branch Wiring	$0.00	$0.00	$0.00	$55,786.34	$0.00	$55,786.34
D5090	Other Electrical Systems	$22,467.08	$0.00	$0.00	$0.00	$0.00	$22,467.08
E1020	Institutional Equipment	$15,859.94	$0.00	$0.00	$0.00	$0.00	$15,859.94
	Total:	$43,501.81	$146,325.88	$354,467.11	$55,786.34	$0.00	$600,081.14

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: $600,081.14

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: B2010 - Exterior Walls

Location: brick walls near entrance

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Re-caulk exterior control joints and other caulk joints

Qty: 20.00

Unit of Measure: L.F.

Estimate: $401.32

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Repair vertical caulking in masonry expansion joints near entrance (20ft)

System: B3010105 - Built-Up

Location: roof

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Repair or replace flashing where it connects to masonry parapet - choose proper material

Qty: 100.00

Unit of Measure: L.F.

Estimate: $4,773.47

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Repair (reinstall) flashing around rooftop equipment (100ft)

System: D5090 - Other Electrical Systems

Location: Roof

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Repair Lightning Protection System

Qty: 1.00

Unit of Measure: Job

Estimate: $22,467.08

Assessor Name: Craig Anding

Date Created: 01/07/2016

Notes: Provide lightning protection studies to ascertain adequacy of existing systems.

System: E1020 - Institutional Equipment

Location: Dining area platform

Distress: Inadequate

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Stage Theatrical Lighting System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $15,859.94

Assessor Name: Craig Anding

Date Created: 01/07/2016

Notes: Provide dimmable house lights and switchable stage work lights at dining area platform.

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

System: A2020 - Basement Walls

Location: basement

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Repair cracks in foundation walls - pick the appropriate repair and insert the LF

Qty: 30.00

Unit of Measure: L.F.

Estimate: $289.89

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Repair crack in basement wall (30ft)

System: B1010 - Floor Construction

Location: entrance mats

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace metal floor grate or traffic mat

Qty: 300.00

Unit of Measure: S.F.

Estimate: $28,757.03

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Replace traffic mats at main entrances and side entrance to playground (300sf)

System: B2010 - Exterior Walls

Location: exterior wall

Distress: Inadequate

Category: 3 - Operations / Maint.

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

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

Qty: 8.00

Unit of Measure: L.F.

Estimate: $4,434.59

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Replace short lintel over door on G Street (8ft)

System: B2010 - Exterior Walls

Location: exterior walls

Distress: Damaged

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: 100.00

Unit of Measure: S.F.

Estimate: $3,228.94

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Replace broken bricks on G Street elevation (100sf)

System: B2010 - Exterior Walls

Location: exterior walls

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Sooty and dirty walls - powerwash

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $2,187.47

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Power wash efflorescence from brick (2,000sf)

System: B2020 - Exterior Windows

Location: windows

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replacement of failing perimeter window sealant - per LF of sealant

Qty: 100.00

Unit of Measure: L.F.

Estimate: $1,018.60

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Replace failing foam window gaskets – (10 windows)

System: B2030 - Exterior Doors

Location: exterior doors

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Refinish and repaint exterior doors - per leaf

Qty: 4.00

Unit of Measure: Ea.

Estimate: $2,389.02

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Repaint hollow metal exterior doors opening from Kindergarten into playground (4)

System: C1020 - Interior Doors

Location: interior door frames

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Refinish interior doors

Qty: 20.00

Unit of Measure: Ea.

Estimate: $16,563.66

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Repaint interior hollow metal door frames, especially at bottoms where rusting; refinish oak doors where damaged (20) 3’x7’

System: C1020 - Interior Doors

Location: corridor door

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $3,443.66

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Replace corridor door damaged by slamming into hold open; reuse hardware (1)

System: C1030 - Fittings

Location: toilet rooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace toilet accessories - select accessories and quantity

Qty: 6.00

Unit of Measure: Ea.

Estimate: $17,145.46

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Replace broken toilet room accessories (6)

System: C2010 - Stair Construction

Location: roof

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Add exterior stairs - per flight - galvanized or painted for rooftop use

Qty: 1.00

Unit of Measure: Flight

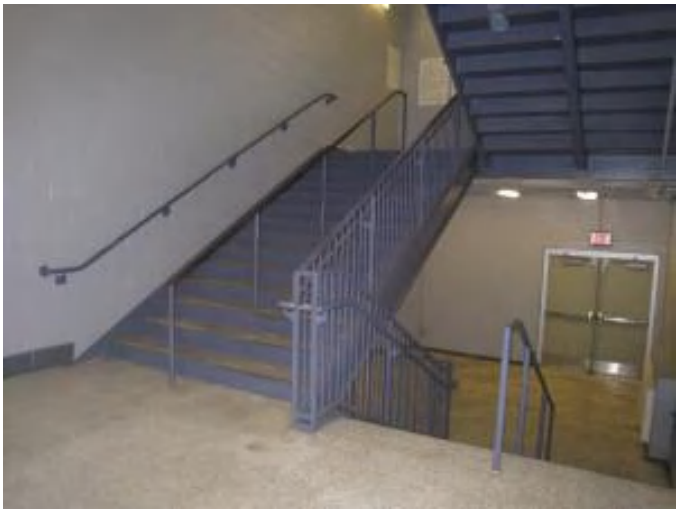
Estimate: $7,873.32

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Provide 5 riser stair and handrail from roof over classrooms to roof over cafetorium (1 stairway, 32” h)

System: C2010 - Stair Construction



Location: stairways

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 350.00

Unit of Measure: L.F.

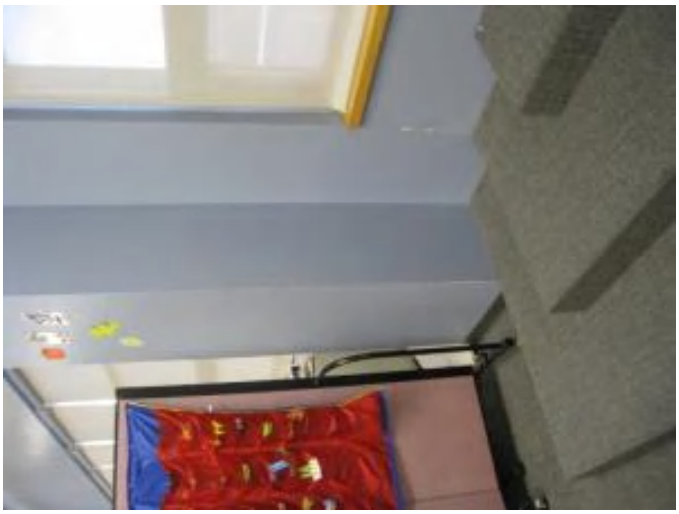
Estimate: $1,918.10

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Repaint stair handrails (350ft)

System: C3010230 - Paint & Covering



Location: IMC, offices, interior of exterior walls

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $8,567.08

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Repair and repaint damaged gypsum board from accidental impact in IMC and outside walls (1000sf)

System: C3020413 - Vinyl Flooring

Location: corridor floors

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace VCT

Qty: 200.00

Unit of Measure: S.F.

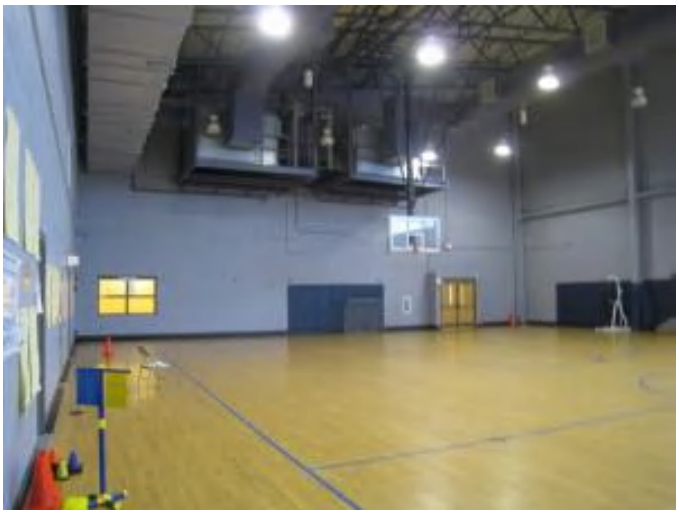
Estimate: $2,403.51

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Repair cracks in VCT floors in corridors - replace VCT (200sf)

System: C3020414 - Wood Flooring



Location: gym floor

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace partial area of wood flooring and refinish entire floor - set replacement area

Qty: 200.00

Unit of Measure: S.F.

Estimate: $6,020.19

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Repair wood floor in gym, damaged by water from HVAC leaks (200sf)

System: C3030 - Ceiling Finishes

Location: ceilings

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $35,693.57

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Replace water stained ceilings, damaged from HVAC leaks (3,000sf)

System: D3040 - Distribution Systems

Location: Roof

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace thermal duct insulation - per 100 SF

Qty: 100.00

Unit of Measure: S.F.

Estimate: $4,391.79

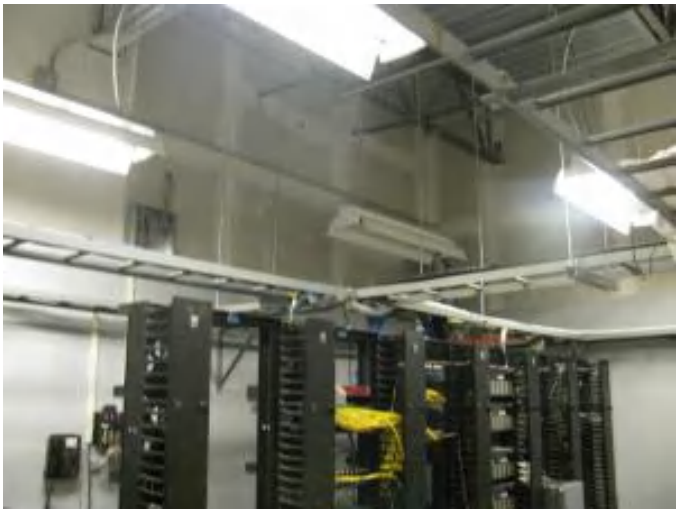
Assessor Name: Craig Anding

Date Created: 02/25/2016

Notes: Reinsulate ductwork located on the roof as the ductwork jacketing has deteriorated and has become detached which is allowing water to infiltrate into the insulation.

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

System: D3040 - Distribution Systems



Location: Roof

Distress: Inadequate

Category: 2 - Code Compliance

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

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

Qty: 8.00

Unit of Measure: Ea.

Estimate: $354,467.11

Assessor Name: Craig Anding

Date Created: 02/25/2016

Notes: Add exhaust fans to electrical rooms.

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

System: D5020 - Lighting and Branch Wiring

Location: classrooms

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace Wiring Device

Qty: 60.00

Unit of Measure: Ea.

Estimate: $49,399.34

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Replace wall jacks and cable connections for smartboards in classrooms (60)

System: D5020 - Lighting and Branch Wiring

Location: computer lab

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace wiring devices - receptacles and switches

Qty: 40.00

Unit of Measure: S.F.

Estimate: $6,387.00

Assessor Name: Craig Anding

Date Created: 02/15/2016

Notes: Replace floor electrical outlets in computer room (40)

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, gas/oil combination, cast iron, hot water, gross output, 5256 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Main boiler mechanical equipment room	Weil McLain	2494			35			$112,817.00	$248,197.40
D3030 Cooling Generating Systems	Chiller, reciprocating, air cooled, standard controls, 175 ton	2.00	Ea.	Roof	McQuay	AGS170CS27-ER-10			30			$165,285.60	$363,628.32
D3040 Distribution Systems	Pump, circulating, cast iron, base mounted, coupling guard, bronze impeller, flanged joints, 20 H.P., to 1350 GPM, 6" size	2.00	Ea.	Main boiler mechancial equipment room	Bell and Gossett	1510			25			$23,598.00	$51,915.60
D3040 Distribution Systems	Pump, circulating, cast iron, close coupled, end suction, bronze impeller, flanged joints, 25 H.P., to 1550 GPM, 5" size	2.00	Ea.	Main boiler mechanical equipment room	Bell & Gossett	1510			25			$10,858.50	$23,888.70
D5010 Electrical Service/Distribution	Load interrupter switch, 2 position, 400 kVA & above, 13.8 kV, 600 amp w/CLF fuses, NEMA 1	1.00	Ea.	Electrical Room					30	2007	2037	$42,849.00	$47,133.90
D5010 Electrical Service/Distribution	Switchboards, no main disconnect, 4 wire, 277/480 V, 3000 amp, incl CT compartment, excl CT's or PT's	1.00	Ea.	Electrical Room					30	2007	2037	$12,792.60	$14,071.86
D5010 Electrical Service/Distribution	Transformer, liquid-filled, 5 kV or 15 kV primary, 277/480 V secondary, 3 phase, 1500 kVA, pad mounted	1.00	Ea.	Electrical Room					30	2007	2037	$58,498.20	$64,348.02
												Total:	**$813,183.80**

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):	127,900
Year Built:	2007
Last Renovation:	
Replacement Value:	$2,249,179
Repair Cost:	$144,253.64
Total FCI:	6.41 %
Total RSLI:	72.69 %

Description:

Attributes:

General Attributes:

Bldg ID:	S715001	Site ID:	S715001

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	72.48 %	8.52 %	$144,253.64
G40 - Site Electrical Utilities	73.33 %	0.00 %	$0.00
Totals:	**72.69 %**	**6.41 %**	**$144,253.64**

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.	12,000	30	2007	2037		73.33 %	0.00 %	22			$138,240
G2020	Parking Lots	$7.65	S.F.	31,800	30	2007	2037		73.33 %	9.28 %	22		$22,579.59	$243,270
G2030	Pedestrian Paving	$11.52	S.F.	56,300	40	2007	2047		80.00 %	0.44 %	32		$2,876.57	$648,576
G2040	Site Development	$4.36	S.F.	127,900	25	2007	2032		68.00 %	0.00 %	17			$557,644
G2050	Landscaping & Irrigation	$3.78	S.F.	27,800	15	2007	2022		46.67 %	113.05 %	7		$118,797.48	$105,084
G4020	Site Lighting	$3.58	S.F.	127,900	30	2007	2037		73.33 %	0.00 %	22			$457,882
G4030	Site Communications & Security	$0.77	S.F.	127,900	30	2007	2037		73.33 %	0.00 %	22			$98,483
								Total	**72.69 %**	**6.41 %**			**$144,253.64**	**$2,249,179**

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.

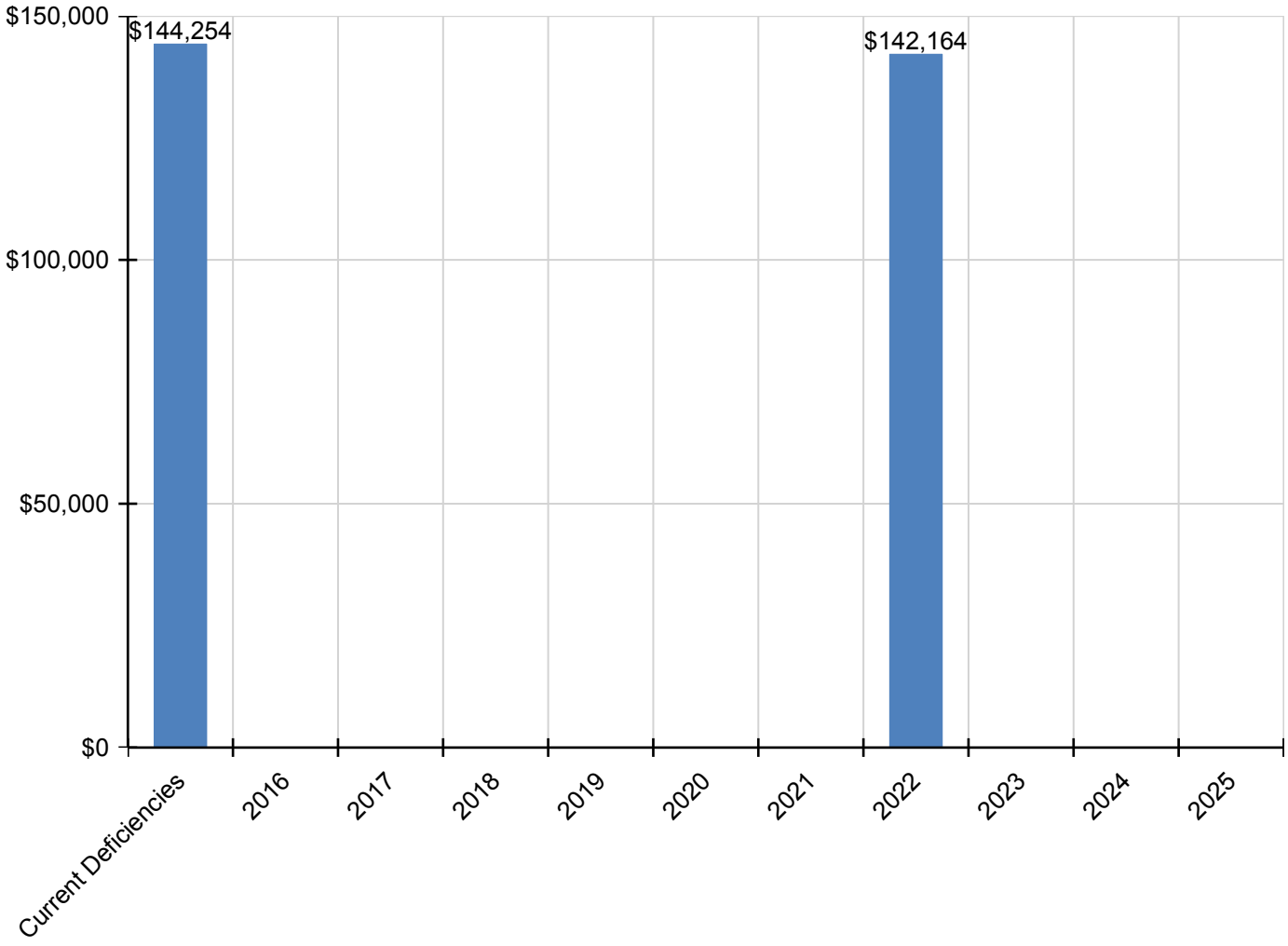
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$144,254**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$142,164**	**$0**	**$0**	**$0**	**$286,417**
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	$22,580	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$22,580**
G2030 - Pedestrian Paving	$2,877	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,877**
G2040 - Site Development	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2050 - Landscaping & Irrigation	$118,797	$0	$0	$0	$0	$0	$0	$142,164	$0	$0	$0	**$260,961**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

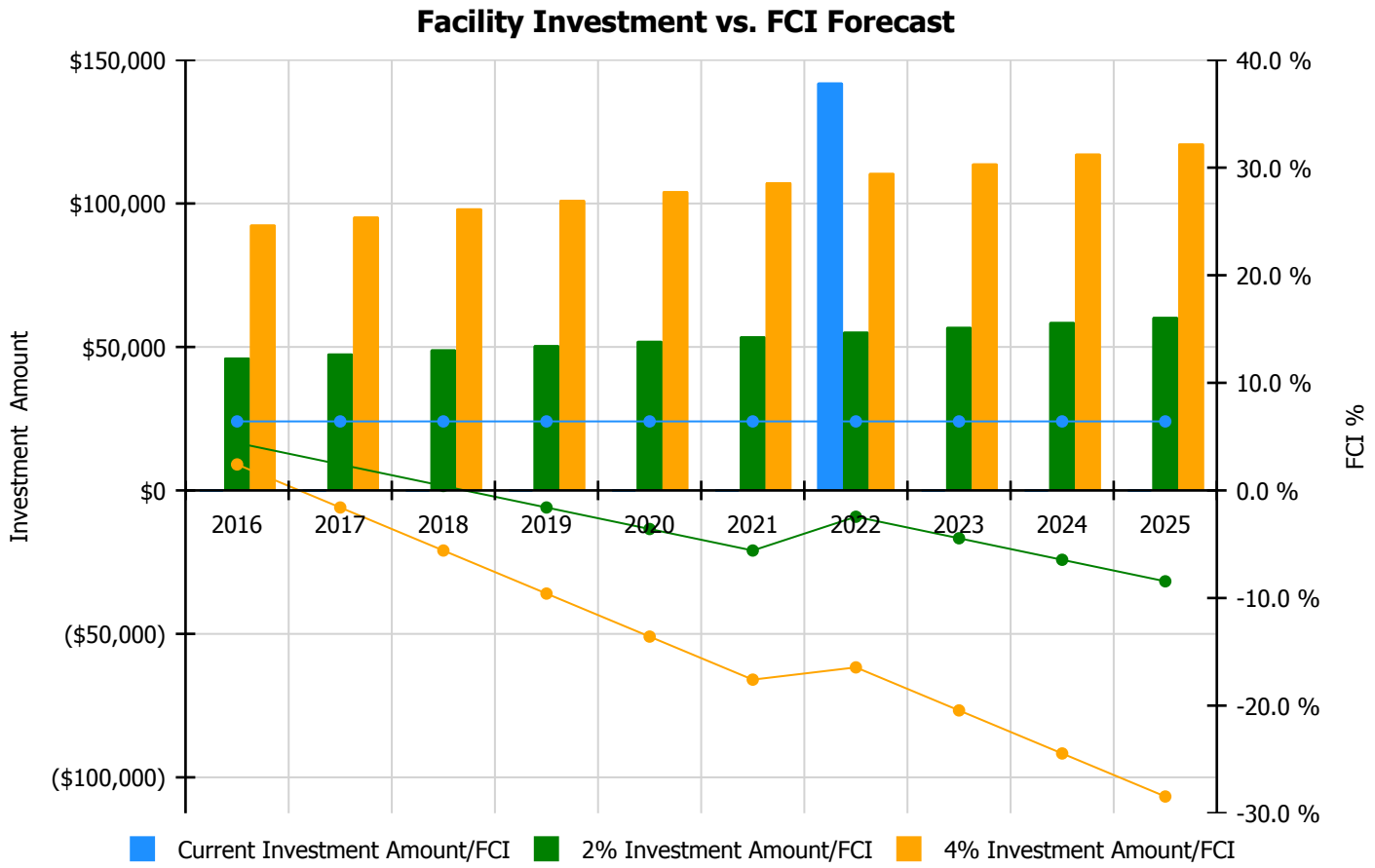
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

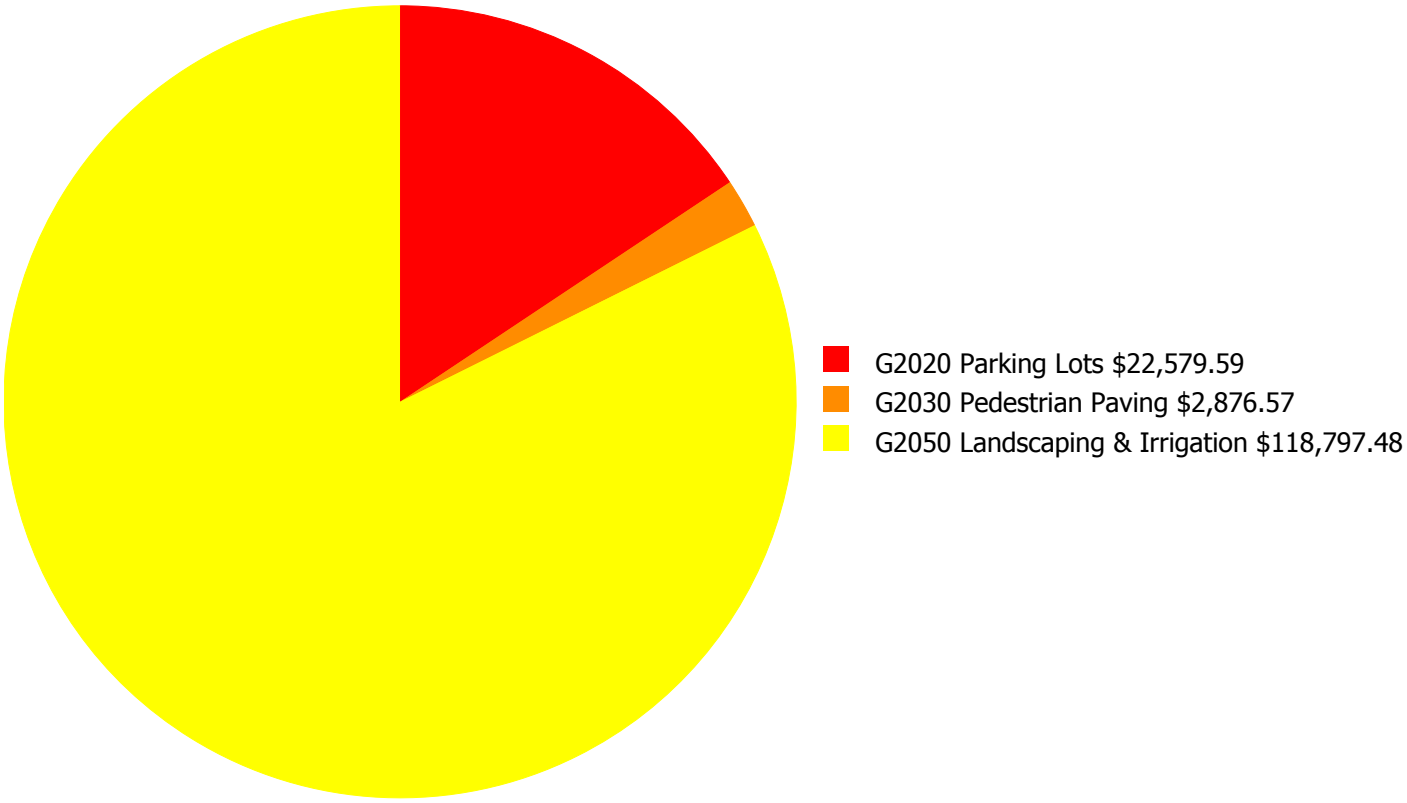
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 6.41%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$46,333.00	4.41 %	$92,666.00	2.41 %
2017	$0	$47,723.00	2.41 %	$95,446.00	-1.59 %
2018	$0	$49,155.00	0.41 %	$98,310.00	-5.59 %
2019	$0	$50,629.00	-1.59 %	$101,259.00	-9.59 %
2020	$0	$52,148.00	-3.59 %	$104,297.00	-13.59 %
2021	$0	$53,713.00	-5.59 %	$107,425.00	-17.59 %
2022	$142,164	$55,324.00	-2.45 %	$110,648.00	-16.45 %
2023	$0	$56,984.00	-4.45 %	$113,968.00	-20.45 %
2024	$0	$58,693.00	-6.45 %	$117,387.00	-24.45 %
2025	$0	$60,454.00	-8.45 %	$120,908.00	-28.45 %
Total:	**$142,164**	**$531,156.00**		**$1,062,314.00**	

Deficiency Summary by System

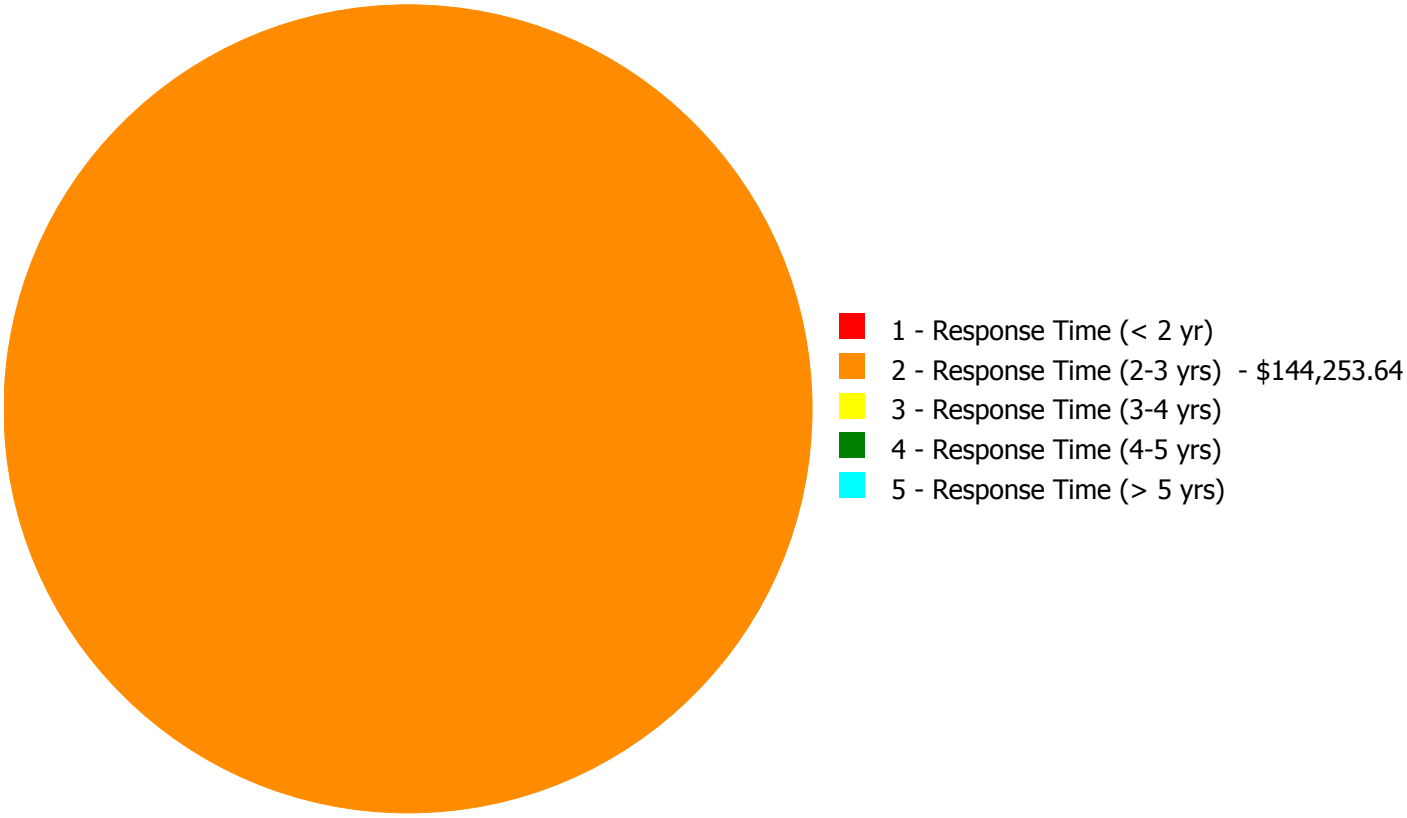
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $144,253.64

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: $144,253.64

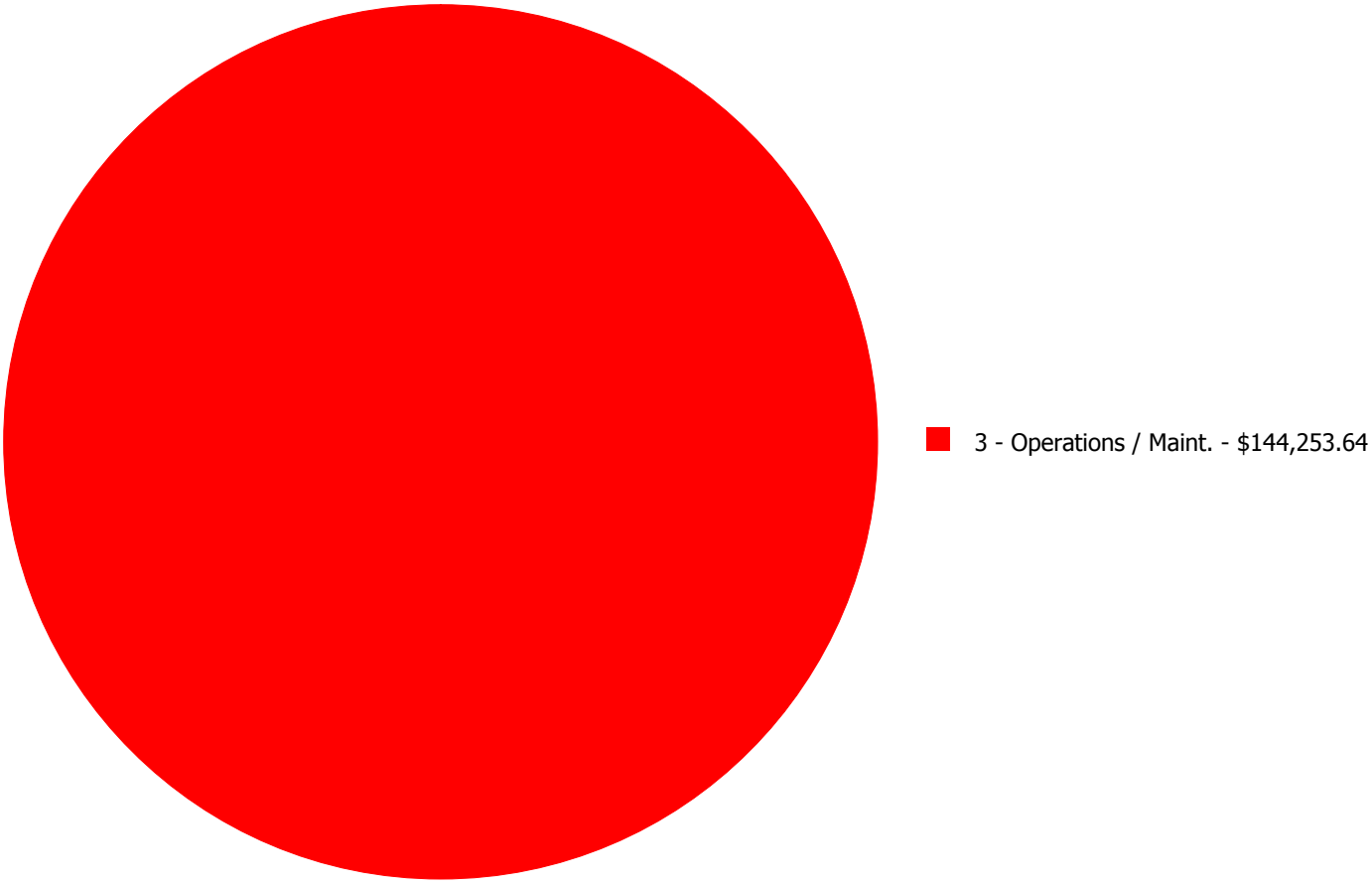
Deficiency By Priority Investment Table

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	$22,579.59	$0.00	$0.00	$0.00	$22,579.59
G2030	Pedestrian Paving	$0.00	$2,876.57	$0.00	$0.00	$0.00	$2,876.57
G2050	Landscaping & Irrigation	$0.00	$118,797.48	$0.00	$0.00	$0.00	$118,797.48
	Total:	$0.00	$144,253.64	$0.00	$0.00	$0.00	$144,253.64

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: $144,253.64

Deficiency Details by Priority

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

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

System: G2020 - Parking Lots

Location: staff parking lot

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 2,000.00

Unit of Measure: L.F.

Estimate: $22,579.59

Assessor Name: Steven Litman

Date Created: 02/15/2016

Notes: Fill cracks in asphalt parking lot (2,000ft)

System: G2030 - Pedestrian Paving

Location: sidewalks

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 200.00

Unit of Measure: S.F.

Estimate: $2,876.57

Assessor Name: Steven Litman

Date Created: 02/15/2016

Notes: Repave damaged sections of concrete walkway (200sf)

System: G2050 - Landscaping & Irrigation

Location: front entrance area

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace or replace sod

Qty: 8,000.00

Unit of Measure: S.F.

Estimate: $118,797.48

Assessor Name: Steven Litman

Date Created: 02/15/2016

Notes: Clean out 3 catch basins in from lawn; replant lawn (8,000sf)

Equipment Inventory

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

No data found for this asset

Glossary

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

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

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

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

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

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

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

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

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

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

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