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.

Rhodes, EW School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	2900 W. Clearfield St. Philadelphia, Pa 19132	Enrollment	599
		Grade Range	'00-08'
Phone/Fax	215-227-4402 / 215-227-4926	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Rhodes-Elementary	Turnaround Model	Turnaround

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	**27.57%**	**$31,543,340**	**$114,402,631**
Building	31.12 %	$30,094,446	$96,704,890
Grounds	08.19 %	$1,448,894	$17,697,741

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	00.00 %	$0	$3,573,950
Exterior Walls (Shows condition of the structural condition of the exterior facade)	02.05 %	$161,447	$7,880,400
Windows (Shows functionality of exterior windows)	17.13 %	$659,929	$3,852,000
Exterior Doors (Shows condition of exterior doors)	139.58 %	$364,293	$261,000
Interior Doors (Classroom doors)	45.30 %	$286,235	$631,800
Interior Walls (Paint and Finishes)	00.48 %	$13,548	$2,851,200
Plumbing Fixtures	00.00 %	$0	$2,433,600
Boilers	30.12 %	$1,012,205	$3,360,600
Chillers/Cooling Towers	67.94 %	$2,993,671	$4,406,400
Radiators/Unit Ventilators/HVAC	126.50 %	$9,788,604	$7,738,200
Heating/Cooling Controls	132.68 %	$3,224,052	$2,430,000
Electrical Service and Distribution	103.50 %	$1,807,193	$1,746,000
Lighting	43.06 %	$2,687,933	$6,242,400
Communications and Security (Cameras, Pa System and Fire Alarm)	07.95 %	$185,799	$2,338,200

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

S415001;Rhodes, EW and Dobbins Field

Final

Site Assessment Report

February 1, 2017

PARSONS

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Site Executive Summary

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

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

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) is an industry-standard measurement calculated as the ratio of the repair costs to correct a facility's deficiencies to the facility's Current Replacement Value. Condition Index (CI) for a system is calculated as the sum of 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):	180,000
Year Built:	1971
Last Renovation:	
Replacement Value:	$114,402,631
Repair Cost:	$31,543,340.18
Total FCI:	27.57 %
Total RSLI:	68.74 %

Description:

Facility Assessment

December 2015

School District of Philadelphia

E. Washington Rhodes Middle School

2900 W Clearfield St.

Philadelphia, PA 19132

180,000 SF / 1,386 Students / LN 04

GENERAL

There is a dedication plaque to the name sake E. Washington Rhodes in the main lobby with a portrait. The school is identified as

B415001 and was originally designated as the E. Washington Rhodes High School. This facility is located at 2900 W Clearfield St., Philadelphia, PA. The unique design of the rectangular-shaped, concrete and steel-framed building includes brick facades with a concrete foundation. Constructed in 1971 the school has had no additions.

The main entrance faces the Northern exterior drop off area on West Clearfield St. General parking is west of the school in a dedicated fenced in lot. This School serves students in grades 6 to 9 and has two stories consisting of a total gross square footage of 180,000 GSF.

This school has several classrooms, a library, kitchen and student commons, Gym, Pool, Auditorium and cafeteria, with supporting administrative spaces. Science, Music and Art Departments are high profile at this school.

The information for this report was collected during a site visit on December 2, 2015.

Mr. Jonathan Glover, Building Engineer, and Mr. Alex Ingram, Custodial Assistant, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Dr. Andrea Coleman-Hill, Principal, also participated in the interview and shared information about the school with the assessment team.

Architectural / Structural Systems

Foundations are concrete and appear to be in good condition. The superstructure is concrete and steel framed with masonry support and likewise in good condition. The structure reportedly rests on a modified slab-on-grade foundation with interior columns resting on spread footings. The main structure is steel beams and columns with precast concrete.

The roof structure is metal decking on steel joists and has an EPDM single ply roof application with Metal overhangs and detailing. The roofing system was reported to have been installed within the past three years. There were no issues that surfaced during the time of the inspection therefore no projects or recommendations are required at this time.

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

The exterior windows have been upgraded from the original applications. The window system is estimated to have been installed in the 1990's. Several of the windows are no longer functional and will require attention prior to an overall effort. The roof top windows are leaking into the interior spaces creating damage to the interior finishes. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system with the exception of the exterior doors to the pool section. The pool doors although are not being used currently, rust is a factor. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system and service doors are recommended for upgrade. The new doors are expected to retain their dimensions and profiles, but that incorporate updated energy-efficient features.

Special consideration for those that may be physically challenged was not a main factor in the construction of this school. This schools additions design is a good example for the district as the needs of the physically challenged appear to have been paramount. Currently the main entrance acts as the compliant entrance. The path of travel is not very clear from this access point. The interior path of travel is limited with one elevator, some compliant signage, restrooms amities, a mix of compliant door hardware and non-compliant knob hardware, hand rails and guard rails to meet the needs of the physically challenged. The building will require several upgrades to meet the needs of the physically challenged.

The Carlisle EPDM single ply roof application and metal roof was installed within the past three years. This roofing system is in like new condition and expected to have a normal life cycle that extends beyond the outlook of this report. There are no recommendations required at this time.

Interior partitions include CMU, glazed block and glazed openings. Recommended in the exterior window deficiency for this report is an interior wall and ceiling finish correction designed to fix the minor areas of interior finish damage near the windows in the library and in the hallway. The schools interior painted finish is in good condition and appears to be on a cycle of renewal. With this in mind

there are no recommendations required at this time.

There are several movable partitions that remain in classrooms. These wall systems are no longer used and in most cases cannot be used due to damage or wall modifications to support classroom needs. This deficiency provides a budgetary consideration to remove and replace the wall systems with universal removal of the existing movable partitions and upgrades to a permeate wall systems.

Interior doors are typically wood in wood or metal frames with wired glass glazing. Other interior doors include hollow metal in hollow metal frames at the stairwells and exit ways and access doors. Doors are generally in fair condition and are a mix of ADA compliant and non-complaint doors with both non-rated and fire rated. Several of the classroom doors are aging at a faster than normal rate for this application. Numerous repairs to locksets and door hardware have advanced the deterioration of the doors. This deficiency provides a budgetary consideration to replace a portion of the interior doors and frames with consideration for the physically challenged.

Fittings include: chalkboards; marker boards; tack boards; metal lockers; toilet accessories and metal toilet partitions with fixed storage shelving. The systems are well maintained and there are no recommendations required at this time.

There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

The interior stair construction is a steel and concrete constructed system. The landings are a mix of vinyl tile and concrete and the nosing are metal.

Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

A majority of the building's interior walls and partitions are painted CMU. Other wall finishes include: ceramic tile at restrooms. Wall finishes are generally in good condition.

The interior painted brick finish in the fire escape stair lobby and the stairs leading to the western exterior are damaged. Several of the brick will require repairs and then repainted. This deficiency provides consideration for brick repairs and repainting of the isolated areas. The recommended railing deficiency is recommended to be completed as part of an overall correction.

The floor finish for this school is a combination of carpet in the administrative area, tile in the kitchen and service line areas, wood stage and vinyl classrooms with vinyl hallways and concrete and vinyl stirs finishes. The vinyl tile finish is a mix of 12 x 12 and 9 x 9 application. The 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application.

The ceiling finish is a mix of 12 x 12 ceiling grid, painted and 2 x 4 Acoustical tile finish. Ceilings have been repaired in several areas and are in good condition considering the age of the application and the current condition of the school. The ceiling finish is expected to require upgrades to support the recommended efforts in this report prior to re-opening. This deficiency provides a budgetary consideration for removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school. No work should be considered until after the recommended exterior efforts are complete.

Elevators are present at this school.

Institutional equipment includes: library equipment; stage equipment; instrumental equipment; A/V equipment; and laboratory equipment; pool and pool equipment, gym equipment – basketball backstops, scoreboards, etc. Other equipment includes kitchen equipment; loading dock bumpers.

This school was originally constructed with a full functioning swimming pool and diving pool. Currently this entire pool facility is abandoned. This deficiency provides a budgetary consideration for the renovation of the pool finishes and surrounded finishes.

The support equipment for the pool up to and including all mechanical and electrical support functions appear to be functional but

damaged from exposure to the elements. To re-establish this pool into a functioning system this system is recommended for universal upgrade. This effort is expected to be completed as part of an overall renovation effort for the pool.

Furnishings include: fixed casework; window shades/blinds; and fixed auditorium seating.

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

MECHANICAL SYSTEMS

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories and urinals and both floor and wall mounted water closets. Lavatories have dual wheel handle faucets and urinals and water closets have recessed manual flush valves with push button operators. Water coolers are stainless steel single level type. There are some counter top stainless steel sinks.

Hot water is provided by three Paloma instantaneous gas water heaters in the mechanical room connected to a horizontal insulated storage tank with a small circulating pump. Each heater has a small circulator. There are two separate vertical inline pumps to boost water pressure. Kitchen waste is piped through a grease trap above the floor.

Sanitary, waste and vent piping is hub and spigot cast iron. Domestic hot and cold water is insulated rigid copper piping. There is a four inch water service and meter with a backflow preventer and a four inch gas service into the mechanical room

The plumbing piping systems are from original 1971 installation. The supply piping has exceeded the service life and should be replaced. The cast iron piping should be inspected for damage and repaired as required. The water heaters and pressure pumps should remain serviceable up to fifteen years. The fixtures appear to have been replaced during the past ten years and should have remaining life of twenty five years.

HVAC- The building is heated with hot water generated by two Weil Mclain cast iron sectional gas fired boilers in the mechanical room. The boilers are model 94 one hundred fifty hp installed in 1971, with Webster burners. One boiler is enclosed in a temporary plywood structure during an asbestos abatement procedure. The other unit reportedly had a similar modification in 2014, with some new sections and a new burner. Hot water is circulated to a dual temperature water system and to cabinet radiation units throughout the building. Boilers are connected to a field fabricated insulated vent system through the mechanical room to a chimney. Combustion air louvers have motorized dampers.

Cooling for the dual temperature system is provided by a water cooled chilled water system with a Carrier absorption chiller in the mechanical room and a single cell Evapco induced draft cooling tower on the roof. Water distribution includes six pumps- two hot water (10 hp), two dual temperature (40 hp), one chilled water (40 hp) and one condenser water (30 hp). Pumps are all in the mechanical room and the dual temperature pumps appear to be older than the others. The chiller was installed in 1971 and the cooling tower appears to be about ten years old. The system includes a Lakos solids separator and a chemical treatment unit.

Exterior classrooms and some other spaces have Nesbitt unit ventilators with outside air damper, water coil, filter, control valve, blower and motor. A second floor mechanical room contains two air handling units. One is a multizone unit for the arts department and one is a single zone unit for the auditorium. The auditorium unit has an "asbestos warning-do not operate" label. There are also units for the health area, library, multipurpose, cafeteria and interior classrooms located in other mechanical spaces. The two gymnasium sections each have a suspended free blow unit in the space. Unit ventilators and air handling units are all from the 1971 installation. There is an indoor pool that has not been used since 2005. All surfaces and equipment in the pool area are badly corroded due to the lack of proper air treatment.

The toilet rooms and other areas have mechanical exhaust with approximately six centrifugal roof ventilators. Two roof ventilators exhaust the gymnasiums. There is no cooking or hood in the kitchen.

There is no central control system. An older duplex air compressor in the mechanical room powers the pneumatic controls, most of which are inoperable.

The boilers were installed in 1971 and have some recent repair and maintenance, but should be replaced based on service life. The unit ventilators and air handling units should be replaced based on age and condition and to provide code required outside air quantities. The hot water distribution piping and dual temperature pumps are in poor condition, have exceeded the service life and should be replaced. The other four pumps are newer and should be serviceable fifteen more years. The chiller has exceeded the

anticipated service life and should be replaced with an air cooled chiller system.

FIRE PROTECTION- There is a six inch fire service line into the mechanical room. Only the auditorium has sprinklers.

ELECTRICAL SYSTEMS

Electrical Service--The building is served by PECO Energy Company with 13.2 kV underground service routed to a 1000/1333 kVA, 13.2 kV-480/277V, 3 phase, 4 wire substation located in Basement Boiler Room. The substation consists of a load interrupter switch, pull section, transformer section, 4000A main circuit breaker and 4000A Distribution Section MDP-1, which feeds Distribution Panelboards SDP B, SDP C, SDP E and a 400A, three section motor control center. There is also a feeder tap on MDP-1 with a 200A safety switch that serves Distribution Panelboard SDP A. All of this equipment is manufactured by Federal Pacific Electric and needs to be replaced.

At the time of this assessment, Construction Drawings for an "Electrical Service Upgrade and Plaza Roof Deck Replacement" project, dated June 12, 2015, were available. Since the project was not under construction at that time of this assessment, the electrical upgrades are included as deficiencies to be addressed in this report.

The east side of the building is designated as Areas A and B, and is the Middle school side. The west side of the building is designated as Areas C and D, and is the Elementary school side. The 480/277 volt distribution panelboards are located in electrical rooms on the first and second floors in Areas A/B and C/D and in the Natatorium mechanical room. These distribution panelboards feed 480/277V panelboards and 208/120V panelboards via step-down transformers. Panelboards are also located in corridors, classrooms, gymnasium, IMC. Most of this equipment is manufactured by Federal Pacific Electric or Penn Panel and Box Company and is near end of its useful life. Replacement is recommended within the next 3 to 4 years, and includes the following equipment:

- (1) Distribution Panelboard, rated 600A, 480/277V
- (3) Distribution Panelboards, rated 400A, 480/277V
- (4) Panelboards, rated 225A, 480/277V
- (2) Panelboards, rated 100A, 480/277V
- (14) Panelboards, rated 225A, 208/120V
- (10) Panelboards, rated 100A, 208/120V
- (3) 60 kVA 480-208V step-down transformers
- (1) 50 kVA 480-208V step-down transformer
- (1) 37.5 kVA 480-208V step-down transformer
- (1) 30 kVA 480-208V step-down transformer
- (2) 25 kVA 480-208V step-down transformers
- (1) 15 kVA 480-208V step-down transformer

Replacement of electrical distribution equipment includes replacement of feeder conductors.

Receptacles-- Most of the classrooms are provided with only 3 duplex receptacles, which is not adequate for today's classrooms. This report includes a budget to add 6 to 8 duplex receptacles using a surface metal raceway system in each of 48 classrooms. Many of the offices also have an inadequate number of convenience receptacles. This report also includes adding duplex receptacles in the General Office area. The Computer Room on the Second Floor has a few duplex receptacles located within 6 feet of a sink that need to be replaced with ground-fault circuit-interrupting (GFCI) type receptacles for protection for personnel, as required by NFPA 70, National Electrical Code, Article 210.8 (B).

There are no receptacles on the roof at the cooling tower location for servicing or maintaining equipment.

Lighting-- Most of the fluorescent lighting fixtures throughout the building have obsolete T12 lamps. The recessed fluorescent troffers in the First Floor corridors have been upgraded with T8 lamps. The two skylight areas at the ticket booths by the auditorium have fluorescent cove fixtures with up/down lighting and T12 lamps. Classrooms have stem mounted fluorescent wraparound fixtures with (2) T12 lamps. Fixtures in the Main Office and stairwells are surface mounted fluorescent wraparounds. Pendant mounted wraparounds are located in several areas, including the Art Suite, Industrial Arts, Computer Room, cafeterias, and Second Floor Student Project areas. Corridors and rooms with acoustical ceiling tile typically have 1x4 or 2x4 recessed fluorescent troffers.

The Auditorium has a combination of recessed downlights (lamp type unknown), fluorescent cove fixtures with up/down lighting along the perimeter and incandescent theatrical fixtures above the platform area. An allowance for replacement of the cove lighting fixtures with T8 lamps is included in this report.

Lighting fixtures in the IMC, gymnasiums and natatorium are all industrial type with high intensity discharge lamps (metal halide). The lighting fixtures in these spaces have served their useful life and need to be replaced.

Lighting fixtures in the Boiler Room, Industrial Arts, Weight Room, Receiving and mechanical rooms are generally 4 foot industrial fluorescent with (2) T12 lamps.

Lighting in classrooms is typically controlled by two wall switches. There are no occupancy sensors for lighting control. The Auditorium has a Strand CD80 dimming system with (24) 1200W dimmers. The dimmer control panel is in very good condition, with a remaining useful life extending beyond this report.

There is no lighting at the access to the roof, at the ladders to the different roof elevations or at the cooling tower. The addition of rooftop lighting is included in this report.

Wall pack lighting fixtures are located on the exterior of the building above or adjacent to exit discharges. Fixtures appear to be in good condition. There are no recommendations at this time.

Fire Alarm System-- The fire alarm system was replaced in 2006 with a General Electric EST 2 addressable system. The EST 2 fire alarm control panel is located in the storage room near the General Offices on the First Floor. The system includes manual pull stations, audible/visual notification appliances, ceiling mounted smoke detectors in the elevator lobbies, smoke and heat detectors for elevator recall, and a remote annunciator panel located in the Main Office. Classrooms and restrooms are provided with notification appliances. The system is expected to have a remaining life of 11 years.

Telephone/LAN-- The telephone system demarcation point is located in the Boiler Room adjacent to the hydraulic elevator controller. The Telephone Distribution equipment and Main Distribution Frame (MDF) is located adjacent to the storage room near the General Offices on the First Floor. There is also an Intermediate Distribution Frame (IDF) located on the Second floor by the IMC to stay within the maximum length allowable for station cabling. There is also an IDF hub in the Second Floor Computer Room.

Each classroom is provided with a telephone. Data outlets are also provided in each classroom. Wireless access points are located in classrooms and throughout the building to provide Wi-Fi service throughout the entire school.

Public Address/Paging/Sound Systems-- The paging system is accessed through the telephone system. The paging system amplifiers and telephone system interface is located in Telephone Distribution and Main Distribution Frame (MDF) room. Clock speaker assemblies are provided in classrooms and other rooms, as needed. There are also wall mounted speakers in classrooms. Recessed ceiling paging speakers are provided in corridors and rooms with ceilings. Wall mounted speakers are provided in the gymnasiums. The gymnasium also has a wall recessed Rauland sound system cabinet. There is also a separate sound system for the Auditorium.

Clock and Program System--There is a Simplex Time Control panel in the Main Office. The program system is reported to be in good working order, but the clock system is not functional. This report includes replacement of all clocks with a wireless GPS clock system with battery operated synchronized clocks.

Television Distribution System-- The school does not have a television distribution system.

Video Surveillance and Security System--The video surveillance system provides coverage of stairwells, corridors and cafeterias. Cameras are located on the First Floor only. There is only one (1) camera in each of the four (4) cafeterias. There is a total of 16 cameras throughout the building and no exterior cameras. The video surveillance system equipment cabinet is located in School Police Room on the First Floor. The system is nearing the end of its useful life; replacement of surveillance system equipment is recommended in 3 to 4 years.

Emergency Power System-- There is a Generac 25 kW/31.2 kVA, 208/120V, 3 phase, 4 wire, natural gas fueled standby generator located adjacent to the service entrance substation that provides emergency egress and exit lighting for the building. The generator supplies 100 A Emergency Distribution Panelboard ED-DP via a Generac GTS 105A automatic transfer switch (ATS). Distribution Panelboard ED-DP feeds 100A, 480/277V Panelboard EDP and 100A, 208/120V Panelboard LBR via a 30 kVA transformer. The generator was installed in 1993 and has reached the end of its useful life. Replacement of generator, ATS and emergency panelboards is recommended within the next 3 to 4 years.

Emergency Lighting System / Exit Lighting-- Emergency egress lighting fixtures and exit signs are connected to emergency panelboards. Exit signs are incandescent type and many of the exit signs were not illuminated. Several signs were installed back mounted and were not visible when looking down a corridor. All exit signs should be replaced with LED type and positioned so that exit signs are visible in the path of egress.

Lightning Protection System-- There is no lightning protection system installed on this building.

Conveying Systems-- There is one 25 HP, 2500 pound capacity hydraulic passenger elevator in the building. The hydraulic unit is located in the Boiler Room within a fenced in area. There are separate safety switches for the elevator power and cab lighting. There is also an elevator backup power source for emergency operation. Smoke detectors are provided in elevator lobbies. The elevator controller and cab are in good condition with a useful life extending beyond this report. There are no recommendations at this time.

GROUNDS

The parking play area has no assigned parking and limited markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in very poor condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a play, parking lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement site wide is recommended.

The existing sidewalk system is a mix of the original sidewalks installed during the construction of the school and sections that have been replaced over the years. There are a several areas of cracking concrete but no tripping hazards. Sections of the sidewalk system is expected to expire in the near future. Removal of the damaged sections is recommended. Upgrades are required and should include repairs to exterior concrete stairs and all aspects of current ADA legislation.

This school has a perimeter fence surrounding the parking / playground area. The fence consist of either a chain link or metal picket fence and has several areas in need of repairs. The mounting post are damaged in several areas, gates are damaged and locking units no longer function. Overall the fence is in poor condition considering the age of the application. This picket fence system is recommended to be removed and replaced with a new system.

This school has a perimeter fence surrounding the parking / playground area. The fence consist of either a chain link or metal picket fence and has several areas in need of repairs. The mounting post are damaged in several areas, gates are damaged and locking units no longer function. Overall the fence is in poor condition considering the age of the application. This chain link fence system is recommended to be removed and replaced with a new system.

Site Lighting-- Other than the building mounted lighting fixtures, site lighting is provided for the parking and play areas on the west and south sides of the building. There are a total of five (5) site lighting poles, two that have (3) floodlighting luminaires and three that have (2) floodlighting luminaires. The light poles are in good condition, but the (12) luminaires and site lighting circuit conductors need to be replaced.

Site video surveillance-- there are no exterior video surveillance cameras that provide coverage of the site. It is recommended that six (6) cameras be provided; two for the east and west entrances, two for the south play area, and two for the play and parking areas on the west side.

RECOMMENDATIONS

- Renovate pool equipment
- Upgrade pool finishes
- Point and tuck upgrades
- Upgrade exterior windows
- Remove folding wood partitions; replace with metal studs and gypsum board painted
- Upgrade select interior doors
- Upgrade signage package
- Upgrade Vinyl floor finish
- Upgrade ceiling finish
- Upgrade stage curtain
- Upgrade asphalt surface
- Concrete stair and concrete upgrades
- Isolate dumpster
- Fence replacement and repair picket
- Fence replacement and repair chain link
- Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.

- Remove or abandon the existing chiller and install a new chilled water system with air cooled chillers, pumps, insulated chilled water distribution piping, chemical treatment and controls. Include electrical connections. Total capacity five hundred fifteen tons.
- Install complete NFPA wet pipe automatic sprinkler system and standpipes in areas not protected. If required provide fire pump and jockey pump with controller.
- Remove existing and install new central station air handling units for the two gymnasium sections with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.
- Remove existing and provide new central station air handling units for the four cafeteria sections with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.
- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Inspect old cast iron sanitary piping including camera observation and replace damaged sections.
- Remove the 1000/1333 kVA, 13.2 kV-480/277V, 3 phase, 4 wire substation, including the load interrupter switch, pull section, transformer section, 4000A main circuit breaker and 4000A Distribution Section MDP-1. Replace with a 3000A, 480/277V, 3 phase, 4 wire switchboard fed by a pad mounted utility transformer.
- Replace 400A, three section motor control center containing (13) combination motor starters.
- Replace panelboards, transformers and feeder conductors for distribution equipment located in electrical rooms on the first and second floors in Areas A/B and C/D, in the Natatorium mechanical room, and in corridors, classrooms, gymnasium, IMC. Equipment includes:

(1) Distribution Panelboard, rated 600A, 480/277V

(3) Distribution Panelboards, rated 400A, 480/277V

(4) Panelboards, rated 225A, 480/277V

(2) Panelboards, rated 100A, 480/277V

(14) Panelboards, rated 225A, 208/120V

(10) Panelboards, rated 100A, 208/120V

(3) 60 kVA 480-208V step-down transformers

(1) 50 kVA 480-208V step-down transformer

(1) 37.5 kVA 480-208V step-down transformer

(1) 30 kVA 480-208V step-down transformer

(2) 25 kVA 480-208V step-down transformers

(1) 15 kVA 480-208V step-down transformer

- Provide allowance for adding surface metal raceway system with eight (8) receptacles in each of 48 classrooms.
- Replace duplex receptacles in the Second Floor Computer Room located within six (6) feet of the sink with ground-fault circuit-interrupting (GFCI) type receptacles to comply with NFPA 70, National Electrical Code (NEC) Article 210.8 (B). Also, provide a GFCI receptacle at the cooling tower location on the roof for maintaining and servicing equipment.
- Replace stem mounted fluorescent wraparound fixtures in 48 classrooms with fixtures having T8 or T5 lamps (estimate 37,000 SF).
- Replace fluorescent lighting fixtures having T12 lamps in corridors, offices, stairwells, restrooms, mechanical rooms, and classrooms (Industrial Arts, Arts Suite, Computer Room, Choral Room, Instrumental Room, Homemaking Department, IMC) with fixtures having T8 or T5 lamps. Estimate 41,000 SF @ 60FC, 21,000 SF @ 40FC and 16,000 SF @ 30 FC.
- Provide an allowance for replacing fluorescent cove lighting fixtures with up/down lighting around the perimeter of the Auditorium with fixtures having T8 lamps (estimate 98 fixtures).
- Replace (32) metal halide industrial lighting fixtures in the gymnasiums with LED industrial fixtures.
- Replace (20) metal halide industrial fixtures in the IMC with surface mounted LED fixtures.

- Replace (21) metal halide industrial fixtures in the Natatorium with LED fixtures.
- Provide LED wall pack lighting fixtures at the access to the roof and at the cooling tower location.
- Replace existing clock system and clocks with a wireless GPS master clock system with battery operated synchronized clocks. Replace stand-alone clocks and those mounted in clock speaker assemblies (estimate 114 clocks).
- Replace video surveillance system equipment, including (16) interior cameras, one digital video recorder (DVR) and one security system monitor. Include allowance for six (6) additional cameras on the Second Floor at stair locations. Provide a second DVR and monitor for the additional cameras.
- Replace standby power system, including generator, automatic transfer switch, step-down transformers and emergency lighting panelboards. Generator size should be increased to connect the hydraulic elevator on standby power. Estimated size is 80 KW.
- Replace all exit signs with LED type. Estimate a total of 130 exit signs to be replaced.
- Replace (12) floodlighting fixtures on five (5) site lighting poles, including site lighting circuit conductors.
- Provide six (6) exterior surveillance cameras to provide coverage of the east and west entrances, the play area on the south side and the play and parking areas on the west side.

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 5 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S415001		

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.

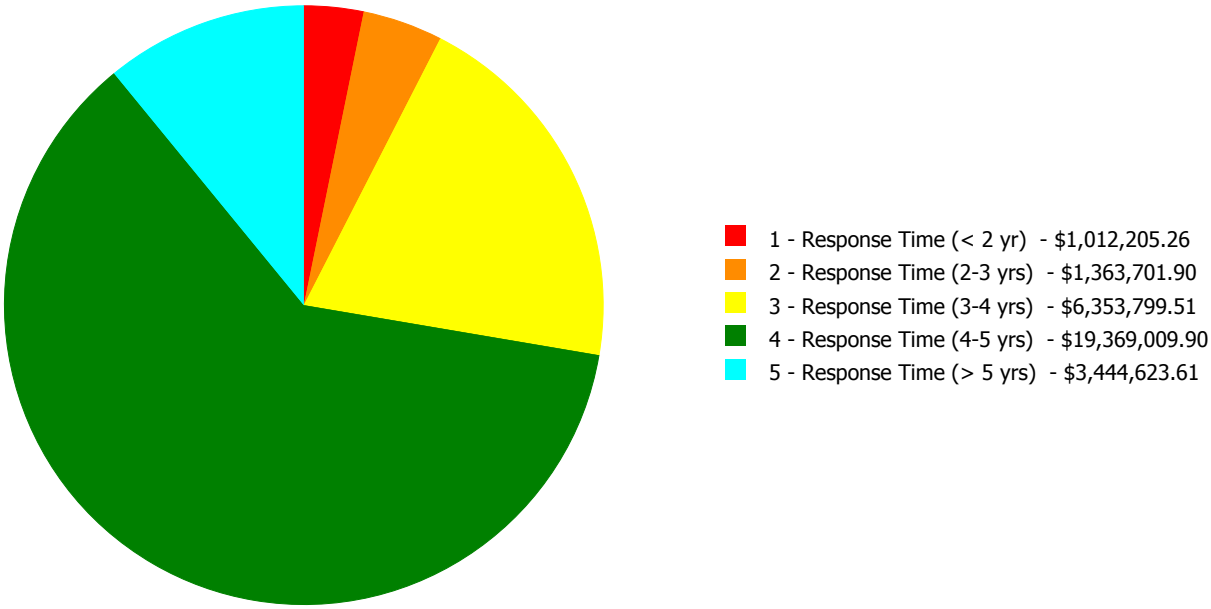
Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	56.00 %	0.00 %	$0.00
A20 - Basement Construction	56.00 %	0.00 %	$0.00
A30 - Pool Construction	25.20 %	0.00 %	$0.00
B10 - Superstructure	56.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	47.48 %	9.89 %	$1,185,669.18
B30 - Roofing	95.13 %	0.00 %	$0.00
C10 - Interior Construction	48.98 %	10.73 %	$474,094.71
C20 - Stairs	56.00 %	79.84 %	$202,635.36
C30 - Interior Finishes	52.65 %	16.32 %	$1,685,907.21
D10 - Conveying	34.29 %	0.00 %	$0.00
D20 - Plumbing	74.52 %	42.35 %	$1,527,667.70
D30 - HVAC	96.30 %	84.99 %	$17,018,532.96
D40 - Fire Protection	92.47 %	172.56 %	$2,503,454.55
D50 - Electrical	104.21 %	47.08 %	$4,981,152.93
E10 - Equipment	34.29 %	1.24 %	$51,089.09
E20 - Furnishings	30.00 %	121.09 %	$464,242.09
G20 - Site Improvements	48.60 %	10.34 %	$1,305,610.57
G40 - Site Electrical Utilities	110.00 %	2.82 %	$143,283.83
Totals:	**68.74 %**	**27.57 %**	**$31,543,340.18**

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)
B415001;Rhodes, E W	180,000	31.12	$1,012,205.26	$439,164.28	$5,829,442.73	$19,369,009.90	$3,444,623.61
G415001;Grounds	1,166,100	8.19	$0.00	$924,537.62	$524,356.78	$0.00	$0.00
Total:		**27.57**	**$1,012,205.26**	**$1,363,701.90**	**$6,353,799.51**	**$19,369,009.90**	**$3,444,623.61**

Deficiencies By Priority



Budget Estimate Total: $31,543,340.18

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:	Middle School
Gross Area (SF):	180,000
Year Built:	1971
Last Renovation:	
Replacement Value:	$96,704,890
Repair Cost:	$30,094,445.78
Total FCI:	31.12 %
Total RSLI:	69.20 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B415001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S415001		

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	56.00 %	0.00 %	$0.00
A20 - Basement Construction	56.00 %	0.00 %	$0.00
A30 - Pool Construction	25.20 %	0.00 %	$0.00
B10 - Superstructure	56.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	47.48 %	9.89 %	$1,185,669.18
B30 - Roofing	95.13 %	0.00 %	$0.00
C10 - Interior Construction	48.98 %	10.73 %	$474,094.71
C20 - Stairs	56.00 %	79.84 %	$202,635.36
C30 - Interior Finishes	52.65 %	16.32 %	$1,685,907.21
D10 - Conveying	34.29 %	0.00 %	$0.00
D20 - Plumbing	74.52 %	42.35 %	$1,527,667.70
D30 - HVAC	96.30 %	84.99 %	$17,018,532.96
D40 - Fire Protection	92.47 %	172.56 %	$2,503,454.55
D50 - Electrical	104.21 %	47.08 %	$4,981,152.93
E10 - Equipment	34.29 %	1.24 %	$51,089.09
E20 - Furnishings	30.00 %	121.09 %	$464,242.09
Totals:	**69.20 %**	**31.12 %**	**$30,094,445.78**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$23.16	S.F.	180,000	100	1971	2071		56.00 %	0.00 %	56			$4,168,800
A1030	Slab on Grade	$5.17	S.F.	180,000	100	1971	2071		56.00 %	0.00 %	56			$930,600
A2010	Basement Excavation	$4.36	S.F.	180,000	100	1971	2071		56.00 %	0.00 %	56			$784,800
A2020	Basement Walls	$10.05	S.F.	180,000	100	1971	2071		56.00 %	0.00 %	56			$1,809,000
A3010	Pool Excavation	$38.73	S.F.	6,000	100	1971	2071	2027	12.00 %	0.00 %	12			$232,380
A3020	Pool Shell	$106.51	S.F.	6,000	40	1971	2011	2027	30.00 %	0.00 %	12			$639,060
B1010	Floor Construction	$85.94	S.F.	180,000	100	1971	2071		56.00 %	0.00 %	56			$15,469,200
B1020	Roof Construction	$9.26	S.F.	180,000	100	1971	2071		56.00 %	0.00 %	56			$1,666,800
B2010	Exterior Walls	$43.78	S.F.	180,000	100	1971	2071		56.00 %	2.05 %	56		$161,447.36	$7,880,400
B2020	Exterior Windows	$21.40	S.F.	180,000	40	1971	2011	2027	30.00 %	17.13 %	12		$659,928.99	$3,852,000
B2030	Exterior Doors	$1.45	S.F.	180,000	25	1971	1996	2027	48.00 %	139.58 %	12		$364,292.83	$261,000
B3010120	Single Ply Membrane	$38.73	S.F.	85,000	20	2014	2034		95.00 %	0.00 %	19			$3,292,050
B3010130	Preformed Metal Roofing	$54.22	S.F.	5,000	30	2014	2044		96.67 %	0.00 %	29			$271,100
B3020	Roof Openings	$0.06	S.F.	180,000	30	2014	2044		96.67 %	0.00 %	29			$10,800
C1010	Partitions	$17.91	S.F.	180,000	100	1971	2071		56.00 %	4.15 %	56		$133,676.98	$3,223,800
C1020	Interior Doors	$3.51	S.F.	180,000	40	1971	2011	2027	30.00 %	45.30 %	12		$286,235.23	$631,800
C1030	Fittings	$3.12	S.F.	180,000	40	1971	2011	2027	30.00 %	9.65 %	12		$54,182.50	$561,600
C2010	Stair Construction	$1.41	S.F.	180,000	100	1971	2071		56.00 %	79.84 %	56		$202,635.36	$253,800

Site Assessment Report - B415001;Rhodes, E W

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.	180,000	10	2014	2024		90.00 %	0.57 %	9		$13,547.75	$2,377,800
C3010232	Wall Tile	$2.63	S.F.	180,000	30	1971	2001	2020	16.67 %	0.00 %	5			$473,400
C3020411	Carpet	$7.30	S.F.	3,000	10	2010	2020	2027	120.00 %	0.00 %	12			$21,900
C3020412	Terrazzo & Tile	$75.52	S.F.	30,000	50	1971	2021	2027	24.00 %	0.00 %	12			$2,265,600
C3020413	Vinyl Flooring	$9.68	S.F.	125,000	20	1971	1991	2027	60.00 %	37.60 %	12		$455,000.04	$1,210,000
C3020414	Wood Flooring	$22.27	S.F.	2,000	25	1971	1996	2027	48.00 %	0.00 %	12			$44,540
C3020415	Concrete Floor Finishes	$0.97	S.F.	20,000	50	1971	2021	2027	24.00 %	0.00 %	12			$19,400
C3030	Ceiling Finishes	$20.97	S.F.	180,000	25	1971	1996	2027	48.00 %	19.98 %	12		$754,121.51	$3,774,600
C3040	Pool Finishes	$24.21	S.F.	6,000	20	1971	1991	2027	60.00 %	318.90 %	12		$463,237.91	$145,260
D1010	Elevators and Lifts	$1.53	S.F.	180,000	35	1971	2006	2027	34.29 %	0.00 %	12			$275,400
D2010	Plumbing Fixtures	$13.52	S.F.	180,000	35	2005	2040		71.43 %	0.00 %	25			$2,433,600
D2020	Domestic Water Distribution	$1.68	S.F.	180,000	25	1971	1996	2042	108.00 %	246.85 %	27		$746,472.45	$302,400
D2030	Sanitary Waste	$2.52	S.F.	180,000	30	1971	2001	2047	106.67 %	172.22 %	32		$781,195.25	$453,600
D2040	Rain Water Drainage	$2.32	S.F.	180,000	30	1971	2001	2025	33.33 %	0.00 %	10			$417,600
D3020	Heat Generating Systems	$18.67	S.F.	180,000	35	1971	2006	2052	105.71 %	30.12 %	37		$1,012,205.26	$3,360,600
D3030	Cooling Generating Systems	$24.48	S.F.	180,000	30	1971	2001	2047	106.67 %	67.94 %	32		$2,993,670.85	$4,406,400
D3040	Distribution Systems	$42.99	S.F.	180,000	25	1971	1996	2042	108.00 %	126.50 %	27		$9,788,604.45	$7,738,200
D3050	Terminal & Package Units	$11.60	S.F.	180,000	20				0.00 %	0.00 %				$2,088,000
D3060	Controls & Instrumentation	$13.50	S.F.	180,000	20	1971	1991	2037	110.00 %	132.68 %	22		$3,224,052.40	$2,430,000
D4010	Sprinklers	$7.05	S.F.	180,000	35			2052	105.71 %	197.28 %	37		$2,503,454.55	$1,269,000
D4020	Standpipes	$1.01	S.F.	180,000	35				0.00 %	0.00 %				$181,800
D5010	Electrical Service/Distribution	$9.70	S.F.	180,000	30	1971	2001	2047	106.67 %	103.50 %	32		$1,807,193.42	$1,746,000
D5020	Lighting and Branch Wiring	$34.68	S.F.	180,000	20	1971	1991	2037	110.00 %	43.06 %	22		$2,687,933.25	$6,242,400
D5030	Communications and Security	$12.99	S.F.	180,000	15	1971	1986	2028	86.67 %	7.95 %	13		$185,798.62	$2,338,200
D5090	Other Electrical Systems	$1.41	S.F.	180,000	30	1971	2001	2047	106.67 %	118.29 %	32		$300,227.64	$253,800
E1020	Institutional Equipment	$10.65	S.F.	180,000	35	1971	2006	2027	34.29 %	0.00 %	12			$1,917,000
E1090	Other Equipment	$12.20	S.F.	180,000	35	1971	2006	2027	34.29 %	2.33 %	12		$51,089.09	$2,196,000
E2010	Fixed Furnishings	$2.13	S.F.	180,000	40	1971	2011	2027	30.00 %	121.09 %	12		$464,242.09	$383,400
								Total	**69.20 %**	**31.12 %**			**$30,094,445.78**	**$96,704,890**

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

Note: There is one (1) service transformer rated 1000/1333 kVA, 13.2 kV - 480/277V, 3 phase, 4 wire and (13) secondary transformers, all rated 480V - 208/120V, 3 phase, 4 wire, as follows:
(1) 15 kVA
(2) 25 kVA
(4) 30 kVA
(1) 37.5 kVA
(1) 45 kVA
(1) 50 kVA
(3) 60 kVA

System: E10 - Equipment — This system contains no images

Note: Additional cost added for pool equipment.

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:	**$30,094,446**	**$0**	**$0**	**$0**	**$0**	**$603,680**	**$0**	**$0**	**$0**	**$3,412,739**	**$617,341**	**$34,728,206**
*** A - Substructure**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
*** A10 - Foundations**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1010 - Standard Foundations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A1030 - Slab on Grade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
*** A20 - Basement Construction**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2010 - Basement Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A2020 - Basement Walls	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A30 - Pool Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A3010 - Pool Excavation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
A3020 - Pool Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B - Shell	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B10 - Superstructure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1010 - Floor Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B1020 - Roof Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B20 - Exterior Enclosure	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B2010 - Exterior Walls	$161,447	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$161,447**
B2020 - Exterior Windows	$659,929	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$659,929**
B2030 - Exterior Doors	$364,293	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$364,293**
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**
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**
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**

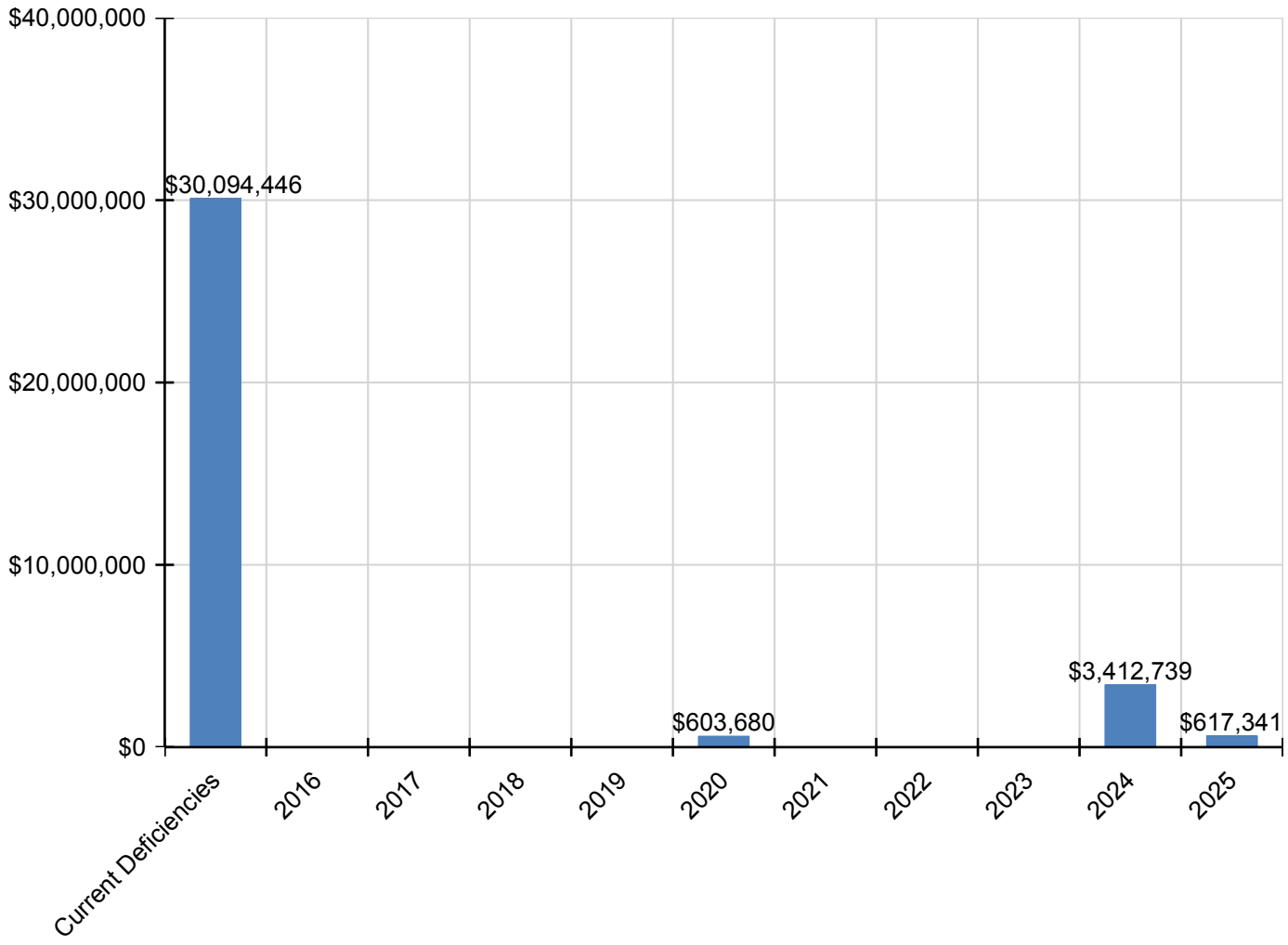
C1010 - Partitions	$133,677	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$133,677**
C1020 - Interior Doors	$286,235	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$286,235**
C1030 - Fittings	$54,183	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$54,183**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$202,635	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$202,635**
C30 - Interior Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010 - Wall Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010230 - Paint & Covering	$13,548	$0	$0	$0	$0	$0	$0	$0	$0	$3,412,739	$0	**$3,426,286**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$603,680	$0	$0	$0	$0	$0	**$603,680**
C3020 - Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020411 - Carpet	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020412 - Terrazzo & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020413 - Vinyl Flooring	$455,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$455,000**
C3020414 - Wood Flooring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3020415 - Concrete Floor Finishes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3030 - Ceiling Finishes	$754,122	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$754,122**
C3040 - Pool Finishes	$463,238	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$463,238**
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	$746,472	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$746,472**
D2030 - Sanitary Waste	$781,195	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$781,195**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$617,341	**$617,341**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,012,205	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,012,205**
D3030 - Cooling Generating Systems	$2,993,671	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,993,671**
D3040 - Distribution Systems	$9,788,604	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$9,788,604**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$3,224,052	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,224,052**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$2,503,455	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,503,455**

D4020 - Standpipes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D50 - Electrical	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D5010 - Electrical Service/Distribution	$1,807,193	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,807,193**
D5020 - Lighting and Branch Wiring	$2,687,933	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$2,687,933**
D5030 - Communications and Security	$185,799	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$185,799**
D5090 - Other Electrical Systems	$300,228	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$300,228**
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	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E1090 - Other Equipment	$51,089	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$51,089**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$464,242	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$464,242**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

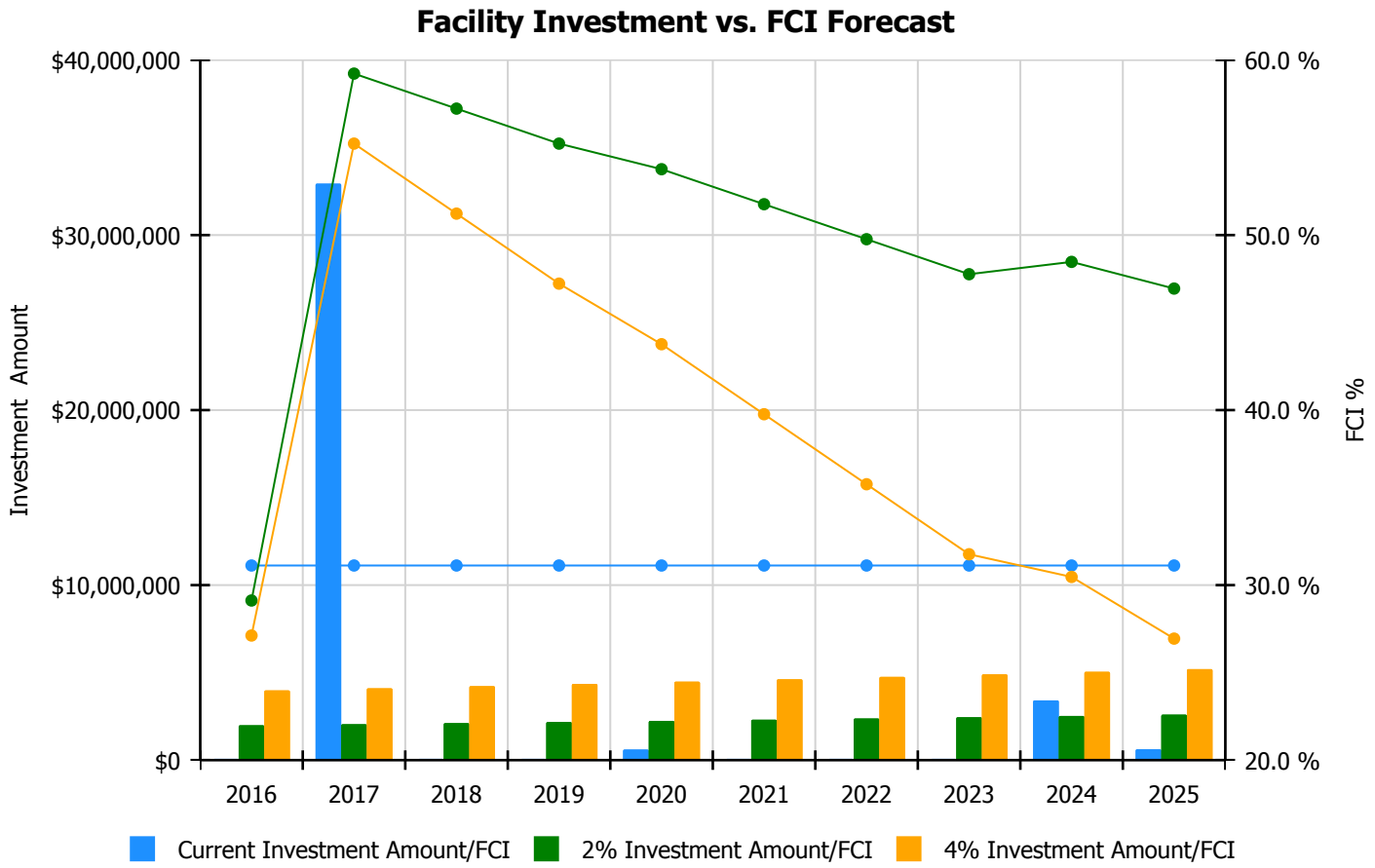
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

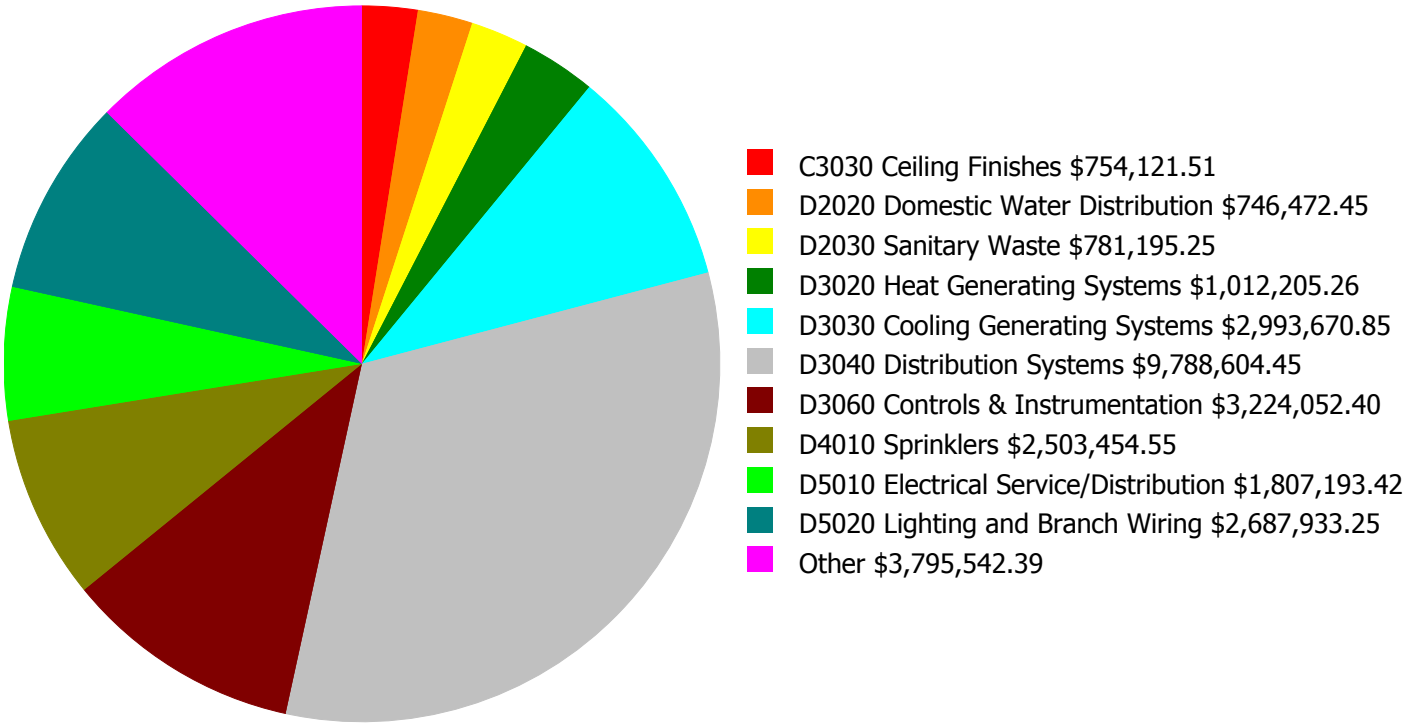
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 31.12%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$1,992,121.00	29.12 %	$3,984,241.00	27.12 %
2017	$32,937,476	$2,051,884.00	59.22 %	$4,103,769.00	55.22 %
2018	$0	$2,113,441.00	57.22 %	$4,226,882.00	51.22 %
2019	$0	$2,176,844.00	55.22 %	$4,353,688.00	47.22 %
2020	$603,680	$2,242,149.00	53.76 %	$4,484,299.00	43.76 %
2021	$0	$2,309,414.00	51.76 %	$4,618,828.00	39.76 %
2022	$0	$2,378,696.00	49.76 %	$4,757,393.00	35.76 %
2023	$0	$2,450,057.00	47.76 %	$4,900,114.00	31.76 %
2024	$3,412,739	$2,523,559.00	48.47 %	$5,047,118.00	30.47 %
2025	$617,341	$2,599,266.00	46.94 %	$5,198,531.00	26.94 %
Total:	**$37,571,236**	**$22,837,431.00**		**$45,674,863.00**	

Deficiency Summary by System

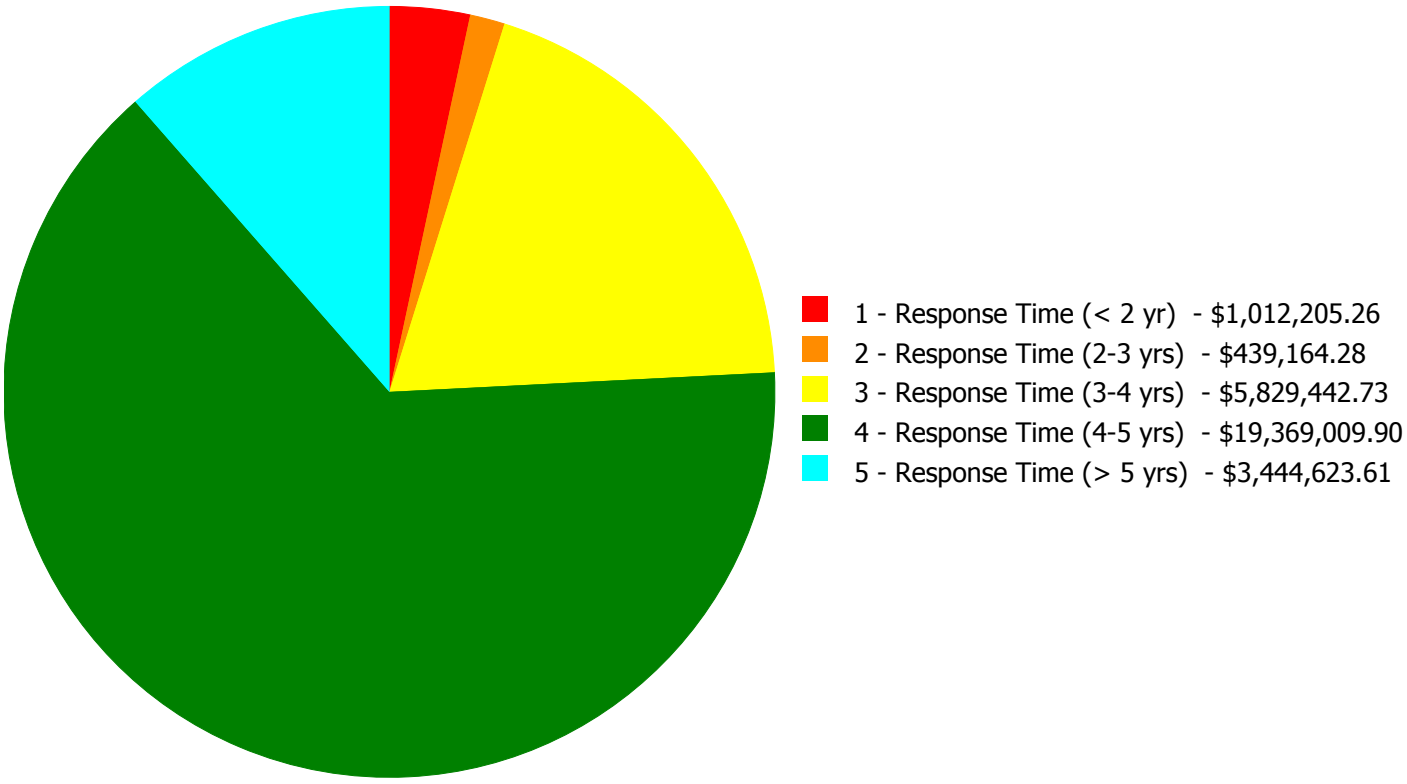
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $30,094,445.78

Deficiency Summary by Priority

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



Budget Estimate Total: $30,094,445.78

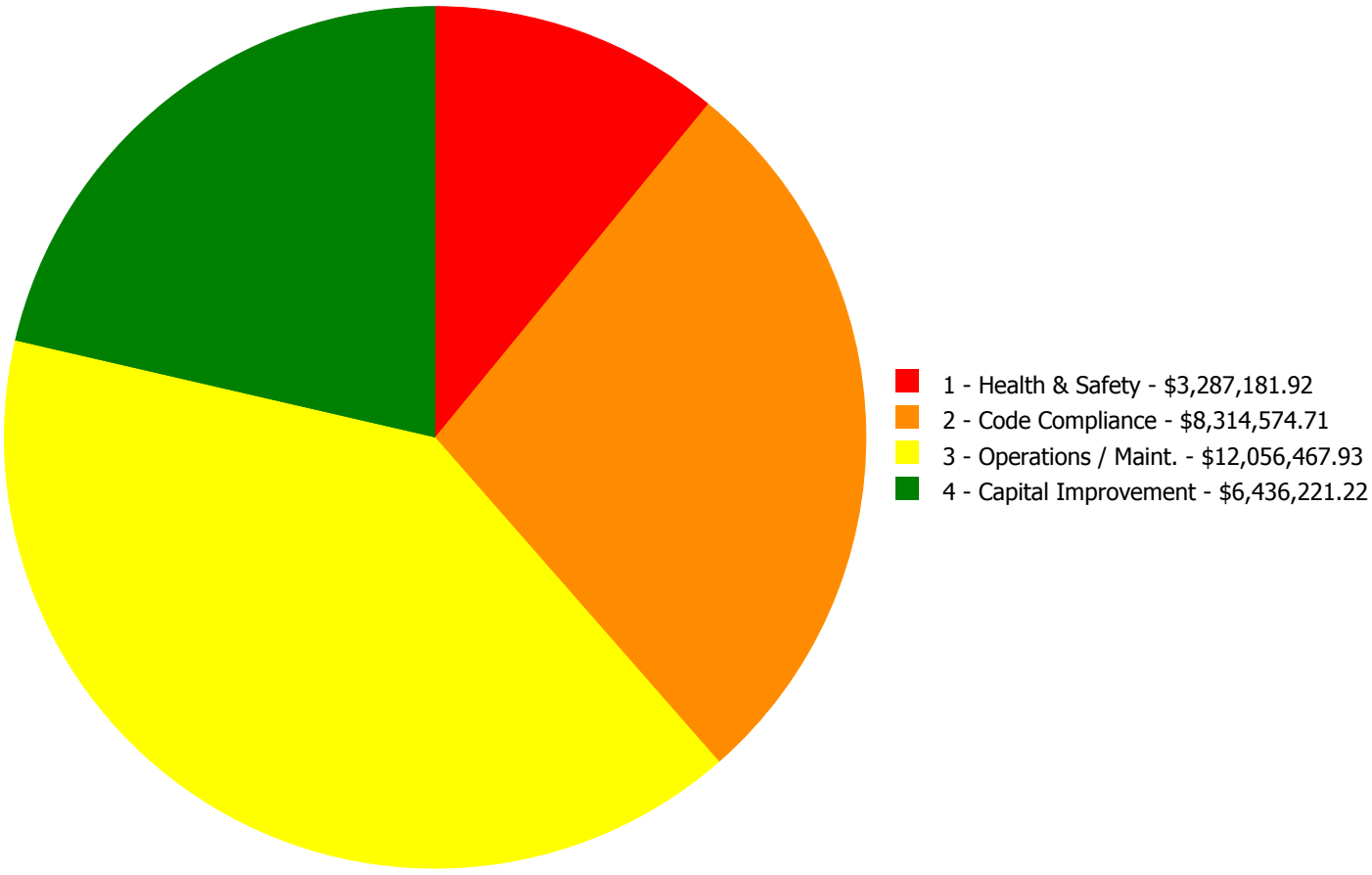
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	$0.00	$0.00	$0.00	$161,447.36	$0.00	$161,447.36
B2020	Exterior Windows	$0.00	$0.00	$659,928.99	$0.00	$0.00	$659,928.99
B2030	Exterior Doors	$0.00	$0.00	$0.00	$364,292.83	$0.00	$364,292.83
C1010	Partitions	$0.00	$0.00	$0.00	$133,676.98	$0.00	$133,676.98
C1020	Interior Doors	$0.00	$286,235.23	$0.00	$0.00	$0.00	$286,235.23
C1030	Fittings	$0.00	$0.00	$0.00	$54,182.50	$0.00	$54,182.50
C2010	Stair Construction	$0.00	$0.00	$0.00	$202,635.36	$0.00	$202,635.36
C3010230	Paint & Covering	$0.00	$13,547.75	$0.00	$0.00	$0.00	$13,547.75
C3020413	Vinyl Flooring	$0.00	$0.00	$0.00	$455,000.04	$0.00	$455,000.04
C3030	Ceiling Finishes	$0.00	$0.00	$0.00	$754,121.51	$0.00	$754,121.51
C3040	Pool Finishes	$0.00	$0.00	$463,237.91	$0.00	$0.00	$463,237.91
D2020	Domestic Water Distribution	$0.00	$0.00	$0.00	$746,472.45	$0.00	$746,472.45
D2030	Sanitary Waste	$0.00	$0.00	$0.00	$781,195.25	$0.00	$781,195.25
D3020	Heat Generating Systems	$1,012,205.26	$0.00	$0.00	$0.00	$0.00	$1,012,205.26
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$2,993,670.85	$2,993,670.85
D3040	Distribution Systems	$0.00	$0.00	$0.00	$9,788,604.45	$0.00	$9,788,604.45
D3060	Controls & Instrumentation	$0.00	$0.00	$0.00	$3,224,052.40	$0.00	$3,224,052.40
D4010	Sprinklers	$0.00	$0.00	$0.00	$2,503,454.55	$0.00	$2,503,454.55
D5010	Electrical Service/Distribution	$0.00	$0.00	$1,807,193.42	$0.00	$0.00	$1,807,193.42
D5020	Lighting and Branch Wiring	$0.00	$2,645.94	$2,485,413.09	$199,874.22	$0.00	$2,687,933.25
D5030	Communications and Security	$0.00	$123,446.03	$62,352.59	$0.00	$0.00	$185,798.62
D5090	Other Electrical Systems	$0.00	$0.00	$300,227.64	$0.00	$0.00	$300,227.64
E1090	Other Equipment	$0.00	$0.00	$51,089.09	$0.00	$0.00	$51,089.09
E2010	Fixed Furnishings	$0.00	$13,289.33	$0.00	$0.00	$450,952.76	$464,242.09
	Total:	$1,012,205.26	$439,164.28	$5,829,442.73	$19,369,009.90	$3,444,623.61	$30,094,445.78

Deficiency Summary by Category

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



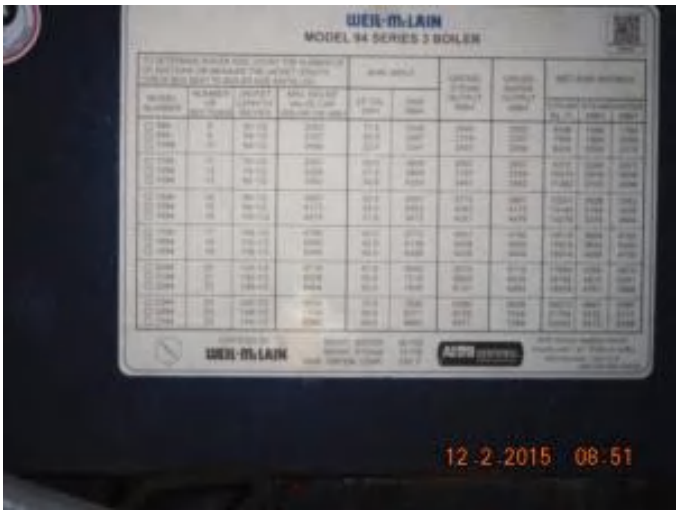
Budget Estimate Total: $30,094,445.78

Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: D3020 - Heat Generating Systems



Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $506,102.63

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove and replace two existing cast iron boilers.

System: D3020 - Heat Generating Systems

Location: mechanical room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $506,102.63

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove and replace two existing cast iron boilers.

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

System: C1020 - Interior Doors

Location: Building Wide

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: 60.00

Unit of Measure: Ea.

Estimate: $286,235.23

Assessor Name: System

Date Created: 02/03/2016

Notes: Interior doors are typically wood in wood or metal frames with wired glass glazing. Other interior doors include hollow metal in hollow metal frames at the stairwells and exit ways and access doors. Doors are generally in fair condition and is a mix of ADA compliant and non-complaint doors with both non-rated and fire rated. Several of the classroom doors are aging at a faster than normal rate for this application. Numerous repairs to locksets and door hardware have advanced the deterioration of the doors. This deficiency provides a budgetary consideration to replace a portion of the interior doors and frames with consideration for the physically challenged.

System: C3010230 - Paint & Covering

Location: Stair

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $13,547.75

Assessor Name: System

Date Created: 02/04/2016

Notes: The interior painted brick finish in the fire escape stair lobby and the stairs leading to the western exterior are damaged. Several of the brick will require repairs and then repainted. This deficiency provides consideration for brick repairs and repainting of the isolated areas. The recommended railing deficiency is recommended to be completed as part of an overall correction.

System: D5020 - Lighting and Branch Wiring

Location: Computer Room and Roof

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Replace Wiring Device

Qty: 2.00

Unit of Measure: Ea.

Estimate: $2,645.94

Assessor Name: System

Date Created: 02/17/2016

Notes: Replace duplex receptacles in the Second Floor Computer Room located within six (6) feet of the sink with ground-fault circuit -interrupting (GFCI) type receptacles to comply with NFPA 70, National Electrical Code (NEC) Article 210.8 (B). Also, provide a GFCI receptacle at the cooling tower location on the roof for maintaining and servicing equipment.

System: D5030 - Communications and Security

Location: Building wide

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add/Replace Video Surveillance System

Qty: 22.00

Unit of Measure: Ea.

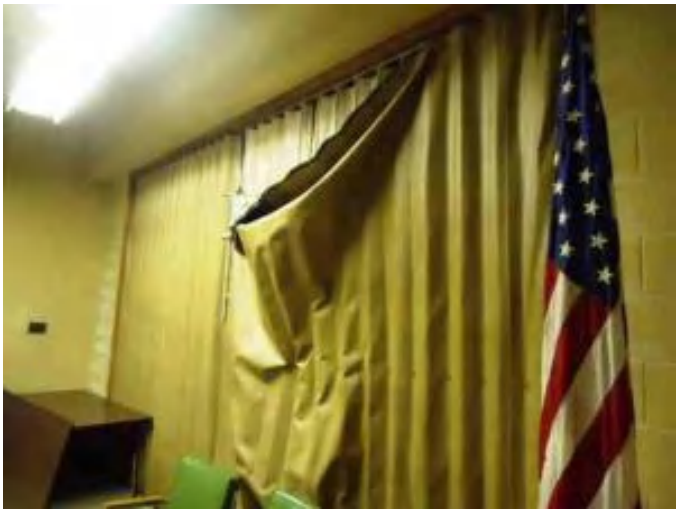
Estimate: $123,446.03

Assessor Name: System

Date Created: 02/17/2016

Notes: Replace video surveillance system equipment, including (16) interior cameras, one digital video recorder (DVR) and one security system monitor. Include allowance for six (6) additional cameras on the Second Floor at stair locations. Provide a second DVR and monitor for the additional cameras.

System: E2010 - Fixed Furnishings



Location: Stage

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $13,289.33

Assessor Name: System

Date Created: 02/03/2016

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

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

System: B2020 - Exterior Windows

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 120.00

Unit of Measure: Ea.

Estimate: $659,928.99

Assessor Name: System

Date Created: 02/03/2016

Notes: The exterior windows have been upgraded from the original applications. The window system is estimated to have been installed in the 1990's. Several of the windows are no longer functional and will require attention prior to an overall effort. The roof top windows are leaking into the interior spaces creating damage to the interior finishes. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: C3040 - Pool Finishes

Location: Pool

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace pool finishes - tile - SF of pool surface area

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $463,237.91

Assessor Name: System

Date Created: 02/02/2016

Notes: This school was originally constructed with a full functioning swimming pool and diving pool. Currently this entire pool facility is abandoned. This deficiency provides a budgetary consideration for the renovation of the pool finishes and surrounded finishes.

System: D5010 - Electrical Service/Distribution

Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Electrical Distribution System (U)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $957,690.32

Assessor Name: System

Date Created: 02/16/2016

Notes: Replace panelboards, transformers and feeder conductors for distribution equipment located in electrical rooms on the first and second floors in Areas A/B and C/D, in the Natatorium mechanical room, and in corridors, classrooms, gymnasium, IMC. Equipment includes:
(1) Distribution Panelboard, rated 600A, 480/277V
(3) Distribution Panelboards, rated 400A, 480/277V
(4) Panelboards, rated 225A, 480/277V
(2) Panelboards, rated 100A, 480/277V
(14) Panelboards, rated 225A, 208/120V
(10) Panelboards, rated 100A, 208/120V
(3) 60 kVA 480-208V step-down transformers
(1) 50 kVA 480-208V step-down transformer
(1) 37.5 kVA 480-208V step-down transformer
(1) 30 kVA 480-208V step-down transformer
(2) 25 kVA 480-208V step-down transformers
(1) 15 kVA 480-208V step-down transformer

System: D5010 - Electrical Service/Distribution

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Substation

Qty: 1.00

Unit of Measure: Ea.

Estimate: $661,731.93

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove the 1000/1333 kVA, 13.2 kV-480/277V, 3 phase, 4 wire substation, including the load interrupter switch, pull section, transformer section, 4000A main circuit breaker and 4000A Distribution Section MDP-1. Replace with a 3000A, 480/277V, 3 phase, 4 wire switchboard fed by a pad mounted utility transformer.

System: D5010 - Electrical Service/Distribution

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Motor Control Center

Qty: 1.00

Unit of Measure: Ea.

Estimate: $187,771.17

Assessor Name: System

Date Created: 02/16/2016

Notes: Replace 400A, three section motor control center containing (13) combination motor starters.

System: D5020 - Lighting and Branch Wiring

Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 78,000.00

Unit of Measure: S.F.

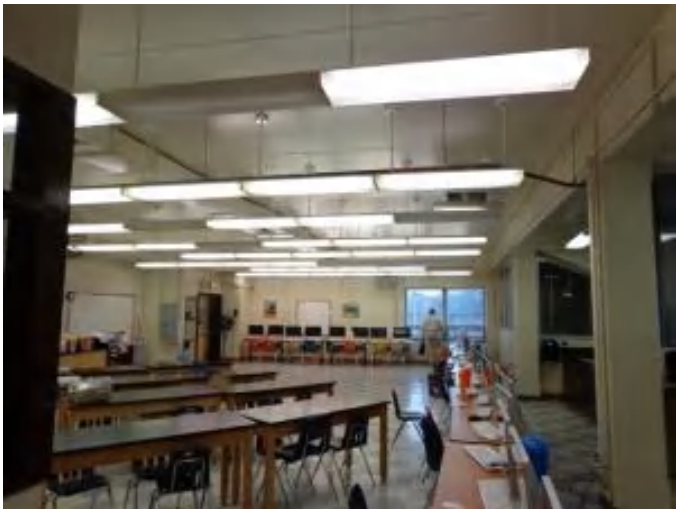
Estimate: $1,291,487.68

Assessor Name: System

Date Created: 02/17/2016

Notes: Replace fluorescent lighting fixtures having T12 lamps in corridors, offices, stairwells, restrooms, mechanical rooms, and classrooms (Industrial Arts, Arts Suite, Computer Room, Choral Room, Instrumental Room, Homemaking Department, IMC) with fixtures having T8 or T5 lamps. Estimate 41,000 SF @ 60FC, 21,000 SF @ 40FC and 16,000 SF @ 30 FC.

System: D5020 - Lighting and Branch Wiring



Location: Classrooms

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Lighting Fixtures (SF)

Qty: 37,000.00

Unit of Measure: S.F.

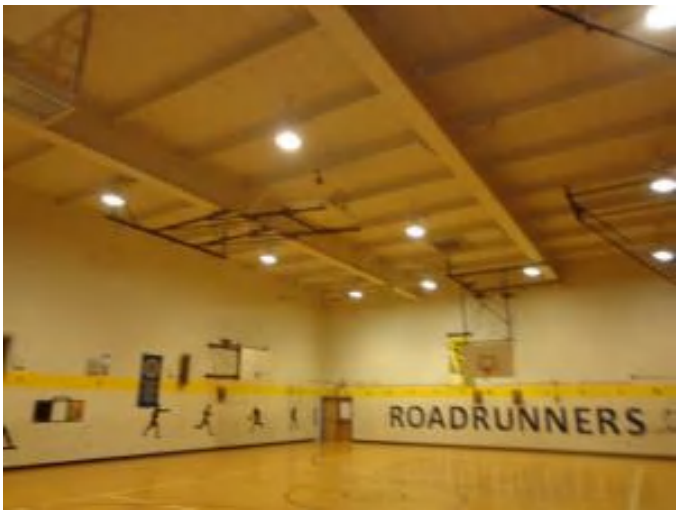
Estimate: $783,963.95

Assessor Name: System

Date Created: 02/17/2016

Notes: Replace stem mounted fluorescent wraparound fixtures in 48 classrooms with fixtures having T8 or T5 lamps (estimate 37,000 SF).

System: D5020 - Lighting and Branch Wiring



Location: Gymnasiums
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace lighting fixtures
Qty: 32.00
Unit of Measure: Ea.
Estimate: $113,165.63
Assessor Name: System
Date Created: 02/17/2016

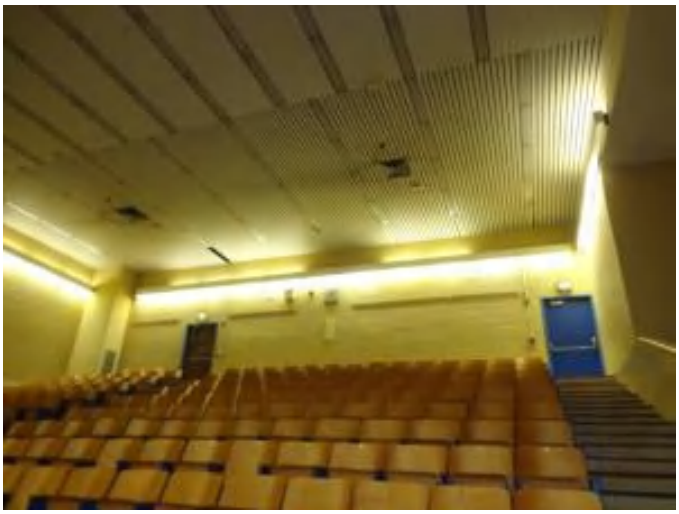
Notes: Replace (32) metal halide industrial lighting fixtures in the gymnasiums with LED industrial fixtures.

System: D5020 - Lighting and Branch Wiring

Location: Natatorium
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace lighting fixtures
Qty: 21.00
Unit of Measure: Ea.
Estimate: $100,997.62
Assessor Name: System
Date Created: 02/17/2016

Notes: Replace (21) metal halide industrial fixtures in the Natatorium with LED fixtures.

System: D5020 - Lighting and Branch Wiring



Location: Auditorium
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace lighting fixtures
Qty: 98.00
Unit of Measure: Ea.
Estimate: $90,778.09
Assessor Name: System
Date Created: 02/17/2016

Notes: Provide an allowance for replacing fluorescent cove lighting fixtures with up/down lighting around the perimeter of the Auditorium with fixtures having T8 lamps (estimate 98 fixtures).

System: D5020 - Lighting and Branch Wiring

Location: IMC
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Replace lighting fixtures
Qty: 20.00
Unit of Measure: Ea.
Estimate: $86,396.37
Assessor Name: System
Date Created: 02/17/2016

Notes: Replace (20) metal halide industrial fixtures in the IMC with surface mounted LED fixtures.

System: D5020 - Lighting and Branch Wiring

Location: Roof
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 3 - Response Time (3-4 yrs)
Correction: Add Lighting Fixtures
Qty: 3.00
Unit of Measure: Ea.
Estimate: $18,623.75
Assessor Name: System
Date Created: 02/17/2016

Notes: Provide LED wall pack lighting fixtures at the access to the roof and at the cooling tower location.

System: D5030 - Communications and Security

Location: Building wide
Distress: Damaged
Category: 3 - Operations / Maint.
Priority: 3 - Response Time (3-4 yrs)
Correction: Provide wireless GPS clock system
Qty: 180,000.00
Unit of Measure: LS
Estimate: $62,352.59
Assessor Name: System
Date Created: 02/17/2016

Notes: Replace existing clock system and clocks with a wireless GPS master clock system with battery operated synchronized clocks. Replace stand-alone clocks and those mounted in clock speaker assemblies (estimate 114 clocks).

System: D5090 - Other Electrical Systems

Location: Boiler Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace standby generator system

Qty: 1.00

Unit of Measure: Ea.

Estimate: $188,031.86

Assessor Name: System

Date Created: 02/17/2016

Notes: Replace standby power system, including generator, automatic transfer switch, step-down transformers and emergency lighting panelboards. Generator size should be increased to connect the hydraulic elevator on standby power. Estimated size is 80 KW.

System: D5090 - Other Electrical Systems

Location: Building wide

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace Emergency/Exit Lighting

Qty: 130.00

Unit of Measure: Ea.

Estimate: $112,195.78

Assessor Name: System

Date Created: 02/17/2016

Notes: Replace all exit signs with LED type. Estimate a total of 130 exit signs to be replaced.

System: E1090 - Other Equipment

Location: Pool

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Remove and replace pool circulation and filtering equipment - per 6000 gal/hr

Qty: 6.00

Unit of Measure: Ea.

Estimate: $51,089.09

Assessor Name: System

Date Created: 02/02/2016

Notes: The support equipment for the pool up to and including all mechanical and electrical support functions appear to be functional but damaged from exposure to the elements. To re-establish this pool into a functioning system this system is recommended for universal upgrade. This effort is expected to be completed as part of an overall renovation effort for the pool.

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

System: B2010 - Exterior Walls

Location: Exterior Elevation

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 5,000.00

Unit of Measure: S.F.

Estimate: $161,447.36

Assessor Name: System

Date Created: 02/03/2016

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

System: B2030 - Exterior Doors

Location: Exterior Elevaiton

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace exterior doors - per leaf

Qty: 40.00

Unit of Measure: Ea.

Estimate: $364,292.83

Assessor Name: System

Date Created: 02/03/2016

Notes: The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system with the exception of the exterior doors to the pool section. The pool doors although are not being used currently, rust is a factor. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system and service doors are recommended for upgrade. The new doors are expected to retain their dimensions and profiles, but that incorporate updated energy-efficient features.

System: C1010 - Partitions

Location: Pods

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $133,676.98

Assessor Name: System

Date Created: 02/03/2016

Notes: There are several movable partitions that remain in classrooms. These wall systems are no longer used and in most cases cannot be used due to damage or wall modifications to support classroom needs. This deficiency provides a budgetary consideration to remove and replace the wall systems with universal removal of the existing movable partitions and upgrades to a permeate wall systems.

System: C1030 - Fittings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 200.00

Unit of Measure: Ea.

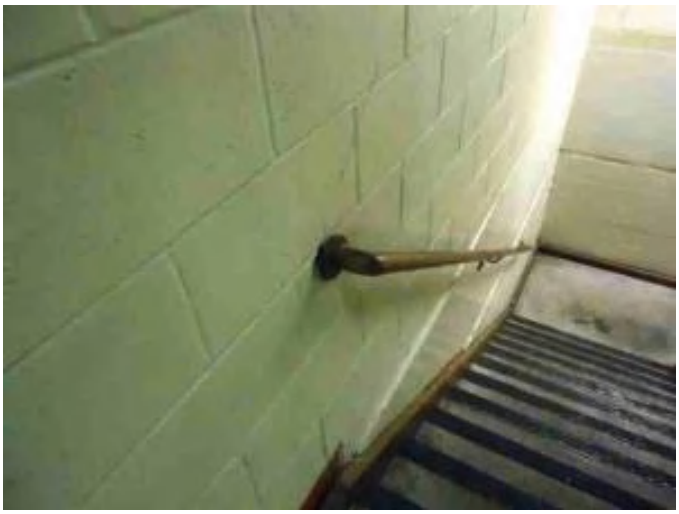
Estimate: $54,182.50

Assessor Name: System

Date Created: 02/03/2016

Notes: There is no directional signage and room signage is a custom design in places and scarce or painted with no consistency in others. Accessibility signage criteria have been established for the physically challenged. These include mounting heights, contrast and finish, raised and Braille characters and pictograms, and character proportions and heights. It is recommended that compliant signage be installed throughout the building.

System: C2010 - Stair Construction



Location: Stairs

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

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

Qty: 1,200.00

Unit of Measure: L.F.

Estimate: $202,635.36

Assessor Name: System

Date Created: 02/04/2016

Notes: Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry, and that the handrails continue horizontally at the landings. In addition, guardrails must prevent the passage of a 4 inch diameter sphere (6 inches in the triangle formed by the lower rail and tread/riser angle). Although the stairs are compliant with the code enforced at the time of construction until a major renovation occurs, they are deficient in handrail and guardrail design relative to current standards. Future efforts should include comprehensive stair railing removal and replacement upgrades.

System: C3020413 - Vinyl Flooring

Location: Building Wide

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

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

Qty: 30,000.00

Unit of Measure: S.F.

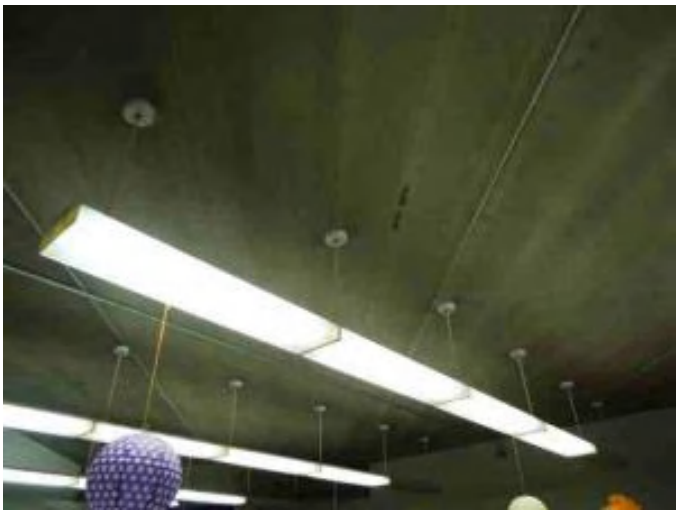
Estimate: $455,000.04

Assessor Name: System

Date Created: 02/03/2016

Notes: The floor finish for this school is a combination of carpet in the administrative area, tile in the kitchen and service line areas, wood stage and vinyl classrooms with vinyl hallways and concrete and vinyl stirs finishes. The vinyl tile finish is a mix of 12 x 12 and 9 x 9 application. The 9 x 9 application and is suspect to contain asbestos. This finish is recommended for upgrade to a new 12 x 12 vinyl tile application.

System: C3030 - Ceiling Finishes



Location: Building

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 50,000.00

Unit of Measure: S.F.

Estimate: $754,121.51

Assessor Name: System

Date Created: 02/03/2016

Notes: The ceiling finish is a mix of painted and 2 x 4 Acoustical tile finish. Ceilings have been repaired in several areas and is in good condition considering the age of the application and the current condition of the school. Repairs are needed near the leaking windows and near the exterior ceiling finishes in the classroom. The ceiling finish is expected to require upgrades to support the recommended efforts in this report prior to re-opening. This deficiency provides a budgetary consideration for repair, removal and replacement of the current ceiling finish to a new acoustical tile finish. Considering the recommended mechanical and electrical upgrades this effort should be completed as part of an overall renewal program for the school.

System: D2020 - Domestic Water Distribution

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace domestic water piping (150 KSF)

Qty: 180,000.00

Unit of Measure: S.F.

Estimate: $746,472.45

Assessor Name: System

Date Created: 02/16/2016

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

System: D2030 - Sanitary Waste

Location: entire building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Inspect sanitary waste piping and replace damaged sections. (+200KSF)

Qty: 180,000.00

Unit of Measure: S.F.

Estimate: $781,195.25

Assessor Name: System

Date Created: 02/16/2016

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

System: D3040 - Distribution Systems

Location: interior space

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 50.00

Unit of Measure: C

Estimate: $4,153,049.46

Assessor Name: System

Date Created: 02/16/2016

Notes: Provide new fan coil units for interior classrooms, offices and other spaces. Units to have hot and chilled water coils, fan, motor, valves and controls. Connect to new chilled water and existing hot water systems. Install roof mounted outside air system ducted to each unit.

System: D3040 - Distribution Systems

Location: classrooms

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace the existing unit ventilators with new units designed to provide adequate ventilation per ASHRAE Std 62 - insert the SF of bldg. in the qty.

Qty: 40,000.00

Unit of Measure: S.F.

Estimate: $2,894,351.11

Assessor Name: System

Date Created: 02/16/2016

Notes: Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.

System: D3040 - Distribution Systems

Location: pool

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Install pool environmental unit with Dx condenser and pool heater

Qty: 6,000.00

Unit of Measure: S.F.

Estimate: $1,474,029.74

Assessor Name: System

Date Created: 02/16/2016

Notes: Install new HVAC/dehumidification DX system for pool area. Locate indoor section in third floor mechanical room and outdoor section on roof. Unit to be specifically designed for pool application, with heating, cooling, dehumidification, and heat recovery for pool water heating. Include new aluminum duct system with linear diffusers and separate exhaust system.

System: D3040 - Distribution Systems

Location: IMC

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 600.00

Unit of Measure: Student

Estimate: $314,594.69

Assessor Name: System

Date Created: 02/16/2016

Notes: Provide a new central station air handling unit for the IMC area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: multi purpose room

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 15.00

Unit of Measure: TonAC

Estimate: $281,099.01

Assessor Name: System

Date Created: 02/16/2016

Notes: Provide a new central station air handling unit for the multi purpose area with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: gymnasiums

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Install HVAC unit for Gymnasium (single station).

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $172,430.18

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove existing and install new central station air handling units for the two gymnasium sections with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: gymnasiums

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Install HVAC unit for Gymnasium (single station).

Qty: 3,000.00

Unit of Measure: S.F.

Estimate: $172,430.18

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove existing and install new central station air handling units for the two gymnasium sections with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 300.00

Unit of Measure: Student

Estimate: $81,655.02

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove existing and provide new central station air handling units for the four cafeteria sections with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 300.00

Unit of Measure: Student

Estimate: $81,655.02

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove existing and provide new central station air handling units for the four cafeteria sections with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 300.00

Unit of Measure: Student

Estimate: $81,655.02

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove existing and provide new central station air handling units for the four cafeteria sections with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3040 - Distribution Systems

Location: cafeteria

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Replace HVAC unit for Cafeteria (850)

Qty: 300.00

Unit of Measure: Student

Estimate: $81,655.02

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove existing and provide new central station air handling units for the four cafeteria sections with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems. Include electrical connections.

System: D3060 - Controls & Instrumentation

Location: entire building

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Replace pneumatic controls with DDC (150KSF)

Qty: 180,000.00

Unit of Measure: S.F.

Estimate: $3,224,052.40

Assessor Name: System

Date Created: 02/16/2016

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

System: D4010 - Sprinklers

Location: entire building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

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

Correction: Install a fire protection sprinkler system

Qty: 175,000.00

Unit of Measure: S.F.

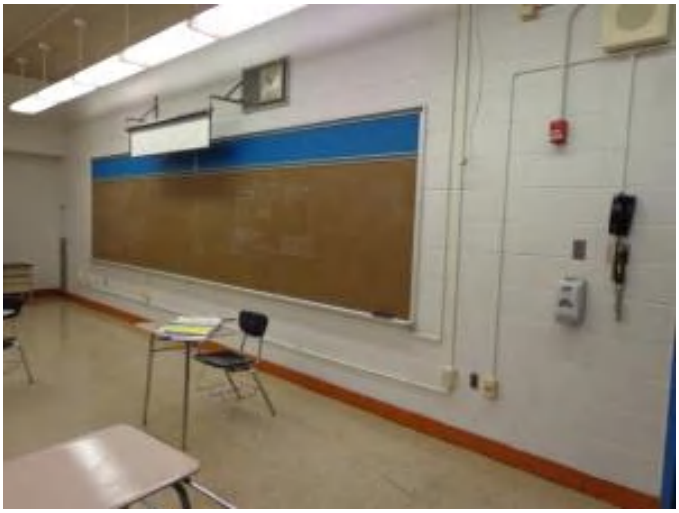
Estimate: $2,503,454.55

Assessor Name: System

Date Created: 02/16/2016

Notes: Install complete NFPA wet pipe automatic sprinkler system and standpipes in areas not protected. If required provide fire pump and jockey pump with controller.

System: D5020 - Lighting and Branch Wiring



Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

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

Correction: Provide surface raceway system and wiring devices

Qty: 1,440.00

Unit of Measure: L.F.

Estimate: $199,874.22

Assessor Name: System

Date Created: 02/16/2016

Notes: Provide allowance for adding surface metal raceway system with eight (8) receptacles in each of 48 classrooms.

Priority 5 - Response Time (> 5 yrs):

System: D3030 - Cooling Generating Systems

Location: roof, mechanical room

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 180,000.00

Unit of Measure: S.F.

Estimate: $2,993,670.85

Assessor Name: System

Date Created: 02/16/2016

Notes: Remove or abandon the existing chiller and install a new chilled water system with air cooled chillers, pumps, insulated chilled water distribution piping, chemical treatment and controls. Include electrical connections. Total capacity five hundred fifteen tons.

System: E2010 - Fixed Furnishings

Location: Building Wide

Distress: Damaged

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 500.00

Unit of Measure: Ea.

Estimate: $450,952.76

Assessor Name: System

Date Created: 02/03/2016

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

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D1010 Elevators and Lifts	Hydraulic, passenger elevator, 2500 lb, 5 floors, 100 FPM	1.00	Ea.	Basement Mechanical Room	Not Labeled	Electro-Hydraulic Poer Unit U/O #2	NA		30			$142,170.00	$156,387.00
D2020 Domestic Water Distribution	Pump, pressure booster system, 5 HP pump, includes diaphragm tank, control and pressure switch	1.00	Ea.	mechanical room					25	2005	2030	$10,972.50	$12,069.75
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, hot water, gross output, 4488 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	mechanical room	weil mclain	model 94 series 3			35	1971	2006	$68,695.50	$151,130.10
D3030 Cooling Generating Systems	Absorption water chiller, indirect-fired, steam or hot water, water cooled, single stage, 420 ton	1.00	Ea.	mechanical room	carrier	16jb03643696	c692669		30	1971	2001	$440,913.00	$485,004.30
D3030 Cooling Generating Systems	Cooling tower, packaged unit, galvanized steel, induced air, double flow, vertical, gear drive, 582 ton, includes standard controls, excludes pumps and piping	400.00	TonAC	roof	evapco	atli1dff			30	2005	2035	$81.33	$35,785.20
D3040 Distribution Systems	Pump, circulating, cast iron, close coupled, end suction, bronze impeller, flanged joints, 25 H.P., to 1550 GPM, 5" size	1.00	Ea.	mechanical room	armstrong				25	2005	2030	$10,858.50	$11,944.35
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, horizontal split case, rated @ 100' head, single stage, 1000 GPM, 40 H.P., 5" discharge, includes drip proof motor	1.00	Ea.	mechanical room	aurora				25	1990	2015	$19,380.00	$21,318.00
D3040 Distribution Systems	Pump, general utility, centrifugal, end suction, horizontal base mounted, horizontal split case, rated @ 100' head, single stage, 1000 GPM, 40 H.P., 5" discharge, includes drip proof motor	2.00	Ea.	mechanical room	armstrong				25	1990	2015	$19,380.00	$42,636.00
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.	Basement Mechanical Room	Federal Pacific Electric	Type LI	Cat. No. 2651 D 1595		30			$42,849.00	$47,133.90
D5010 Electrical Service/Distribution	Motor control center, starters, class 1, type B, combination MCP, FVNR, with control XFMR, size 3, 50 HP, 24" high, incl starters & structures	13.00	Ea.	Boiler Room 001	Federal Pacific Electric	NA	NA		30			$4,936.95	$70,598.39
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NEHB, 277/480 V, 400 A, 1 stories, 25' horizontal	1.00	Ea.	Second Floor Electrical Room C/D Side	Federal Pacific Electric	Type NHDP	AJ-850271		30			$17,698.50	$19,468.35
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NEHB, 277/480 V, 400 A, 1 stories, 25' horizontal	1.00	Ea.	First Floor Electrical Room A/B Side	Federal Pacific Electric	Type NHDP	AJ-850268		30			$17,698.50	$19,468.35
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NEHB, 277/480 V, 600 A, 1 stories, 25' horizontal	1.00	Ea.	Stagecraft (Auditorium)	Federal Pacific Electric	Type FDP	S.O. No. 12 81 125		30			$27,075.60	$29,783.16

D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NEHB, 277/480 V, 600 A, 1 stories, 25' horizontal	1.00	Ea.	Stagecraft (Auditorium)	Federal Pacific Electric	Type CDP	AK-142438		30			$27,075.60	$29,783.16
D5010 Electrical Service/Distribution	Switchboards, pressure switch, 4 wire, 120/208 V, 4000 amp, incl CT compartment, excl CT's or PT's	1.25	Ea.	Boiler Room 001	FPE Main CB and Siemens ITE Distribution	FC-II	S.O. 18-58685-A01		30			$69,552.00	$95,634.00
D5010 Electrical Service/Distribution	Transformer, dry-type, 3 phase 15 kV primary 277/480 volt secondary, 1500 kVA	1.00	Ea.	Boiler Room 001	Federal Pacific Electric	NA	20011-001		30			$125,442.00	$137,986.20
												Total:	**$1,366,130.21**

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):	1,166,100
Year Built:	1971
Last Renovation:	
Replacement Value:	$17,697,741
Repair Cost:	$1,448,894.40
Total FCI:	8.19 %
Total RSLI:	66.20 %

Description:

Attributes:

General Attributes:

Bldg ID:	S415001	Site ID:	S415001

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	48.60 %	10.34 %	$1,305,610.57
G40 - Site Electrical Utilities	110.00 %	2.82 %	$143,283.83
Totals:	**66.20 %**	**8.19 %**	**$1,448,894.40**

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 $
G2020	Parking Lots	$7.65	S.F.	31,000	30	1971	2001	2027	40.00 %	184.85 %	12		$438,368.10	$237,150
G2030	Pedestrian Paving	$11.52	S.F.	389,300	40	1971	2011	2027	30.00 %	6.41 %	12		$287,657.01	$4,484,736
G2040	Site Development	$4.36	S.F.	1,166,100	25	1971	1996	2027	48.00 %	11.40 %	12		$579,585.46	$5,084,196
G2050	Landscaping & Irrigation	$3.78	S.F.	745,800	15	1971	1986	2027	80.00 %	0.00 %	12			$2,819,124
G4020	Site Lighting	$3.58	S.F.	1,166,100	20	1971	1991	2037	110.00 %	2.06 %	22		$85,988.68	$4,174,638
G4030	Site Communications & Security	$0.77	S.F.	1,166,100	20	1971	1991	2037	110.00 %	6.38 %	22		$57,295.15	$897,897
								Total	**66.20 %**	**8.19 %**			**$1,448,894.40**	**$17,697,741**

System Notes

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

No data found for this asset

Renewal Schedule

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

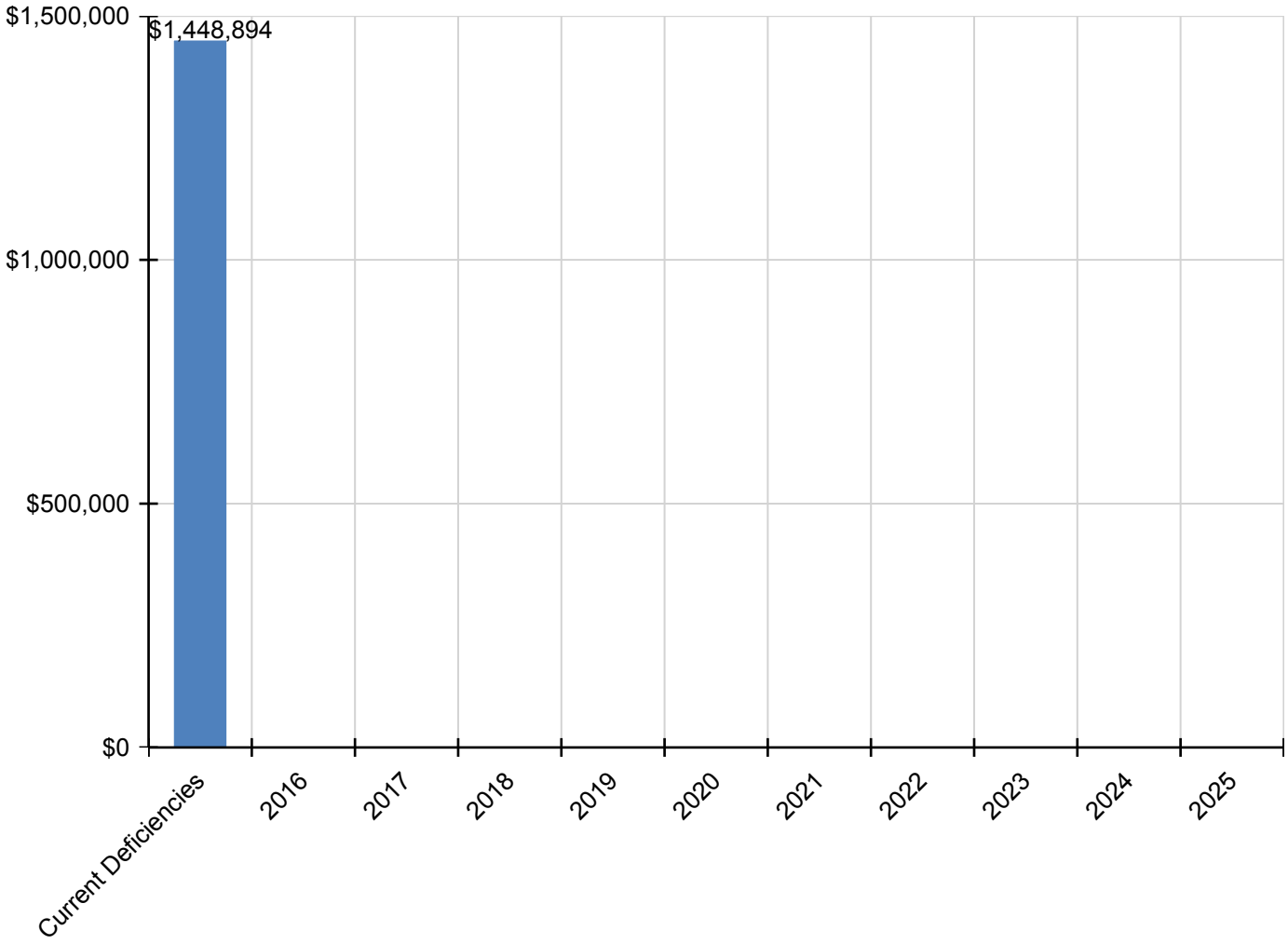
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$1,448,894**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,448,894**
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**
G2020 - Parking Lots	$438,368	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$438,368**
G2030 - Pedestrian Paving	$287,657	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$287,657**
G2040 - Site Development	$579,585	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$579,585**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$85,989	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$85,989**
G4030 - Site Communications & Security	$57,295	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$57,295**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

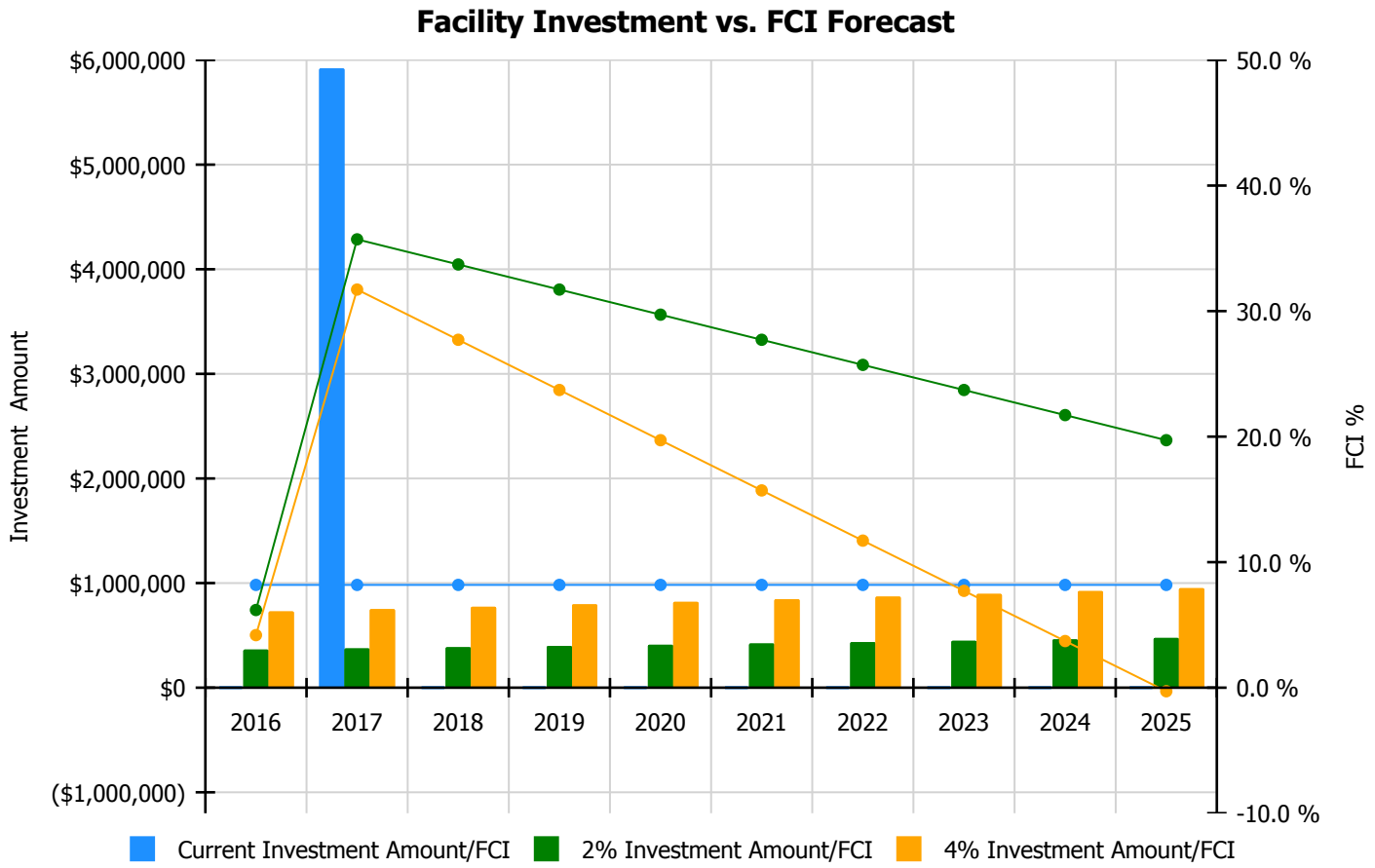
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

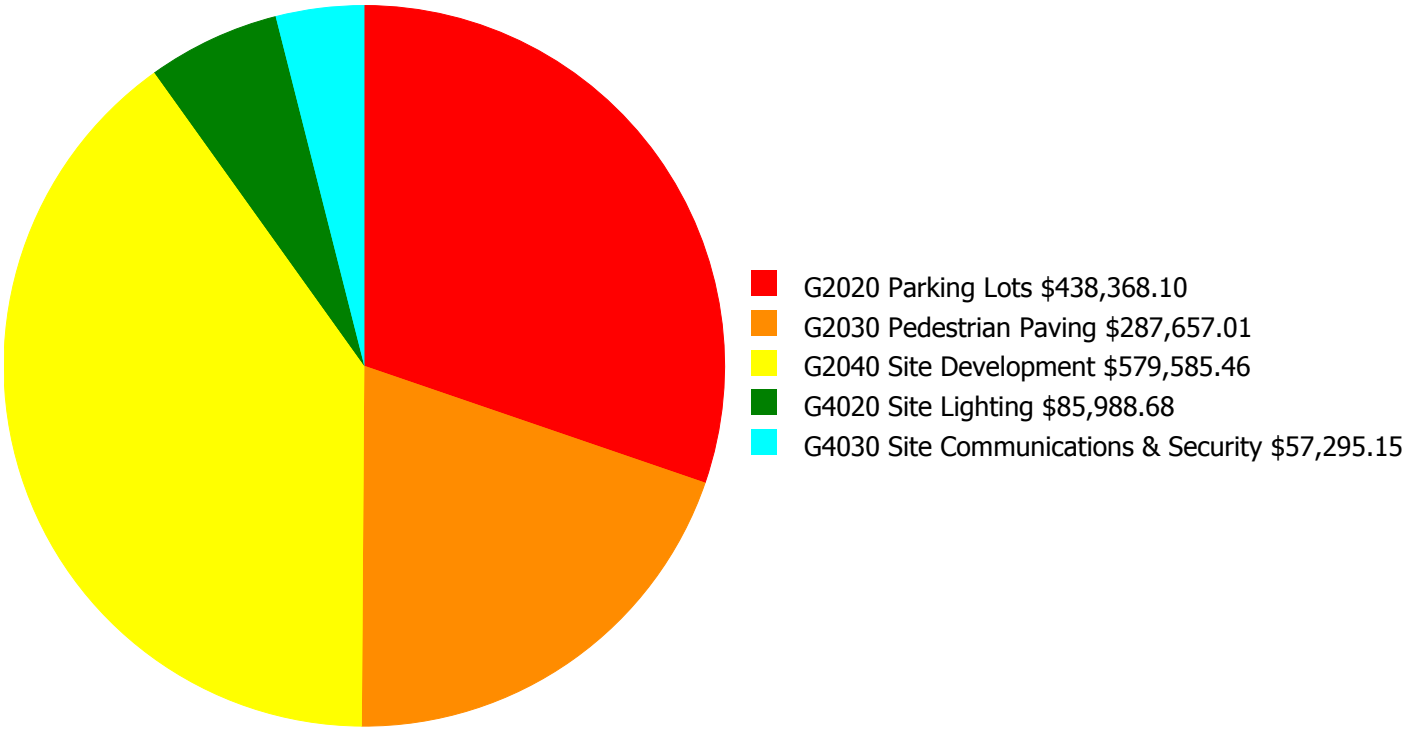
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 8.19%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$364,573.00	6.19 %	$729,147.00	4.19 %
2017	$5,919,598	$375,511.00	35.72 %	$751,021.00	31.72 %
2018	$0	$386,776.00	33.72 %	$773,552.00	27.72 %
2019	$0	$398,379.00	31.72 %	$796,759.00	23.72 %
2020	$0	$410,331.00	29.72 %	$820,661.00	19.72 %
2021	$0	$422,641.00	27.72 %	$845,281.00	15.72 %
2022	$0	$435,320.00	25.72 %	$870,640.00	11.72 %
2023	$0	$448,379.00	23.72 %	$896,759.00	7.72 %
2024	$0	$461,831.00	21.72 %	$923,662.00	3.72 %
2025	$0	$475,686.00	19.72 %	$951,371.00	-0.28 %
Total:	**$5,919,598**	**$4,179,427.00**		**$8,358,853.00**	

Deficiency Summary by System

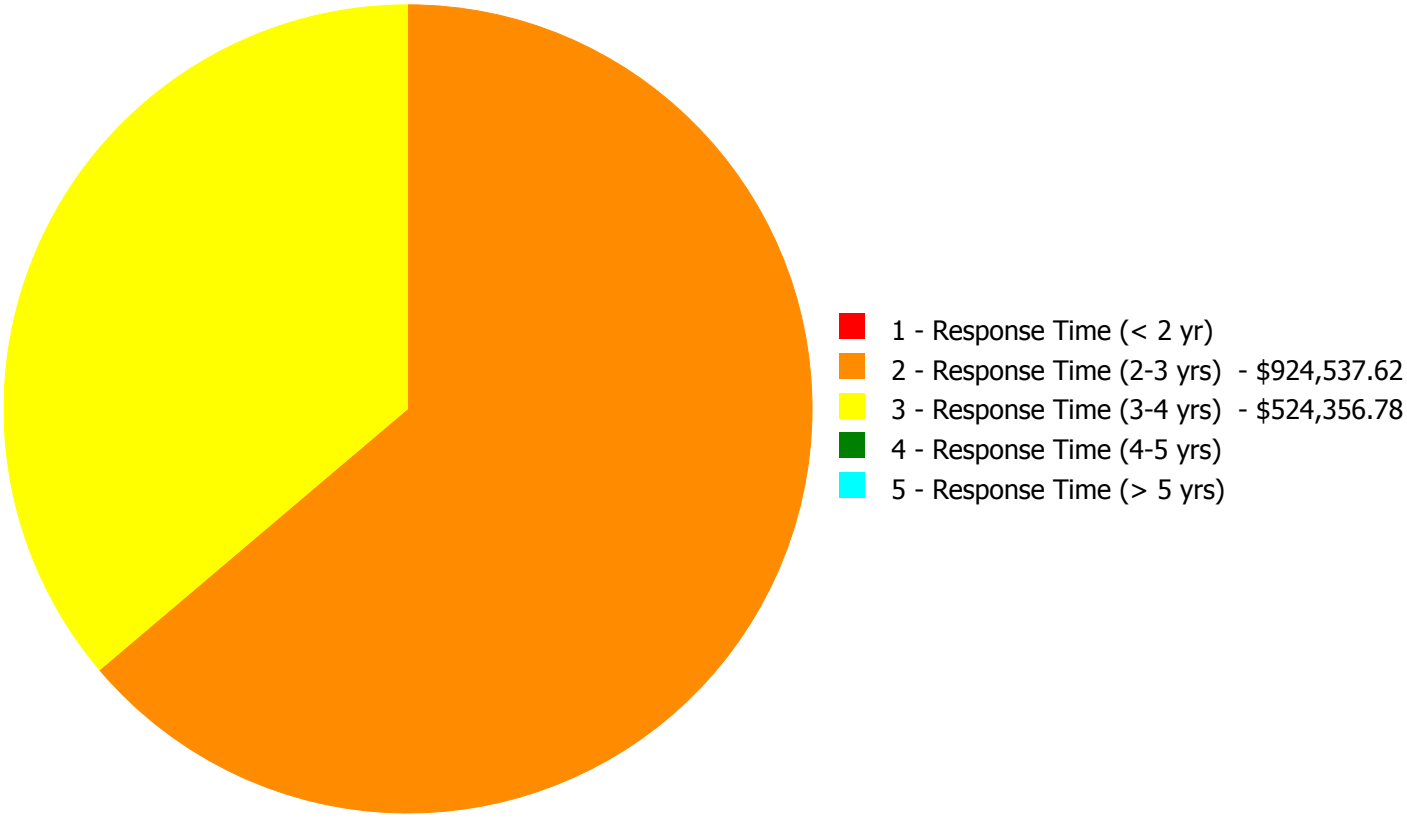
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $1,448,894.40

Deficiency Summary by Priority

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



Budget Estimate Total: $1,448,894.40

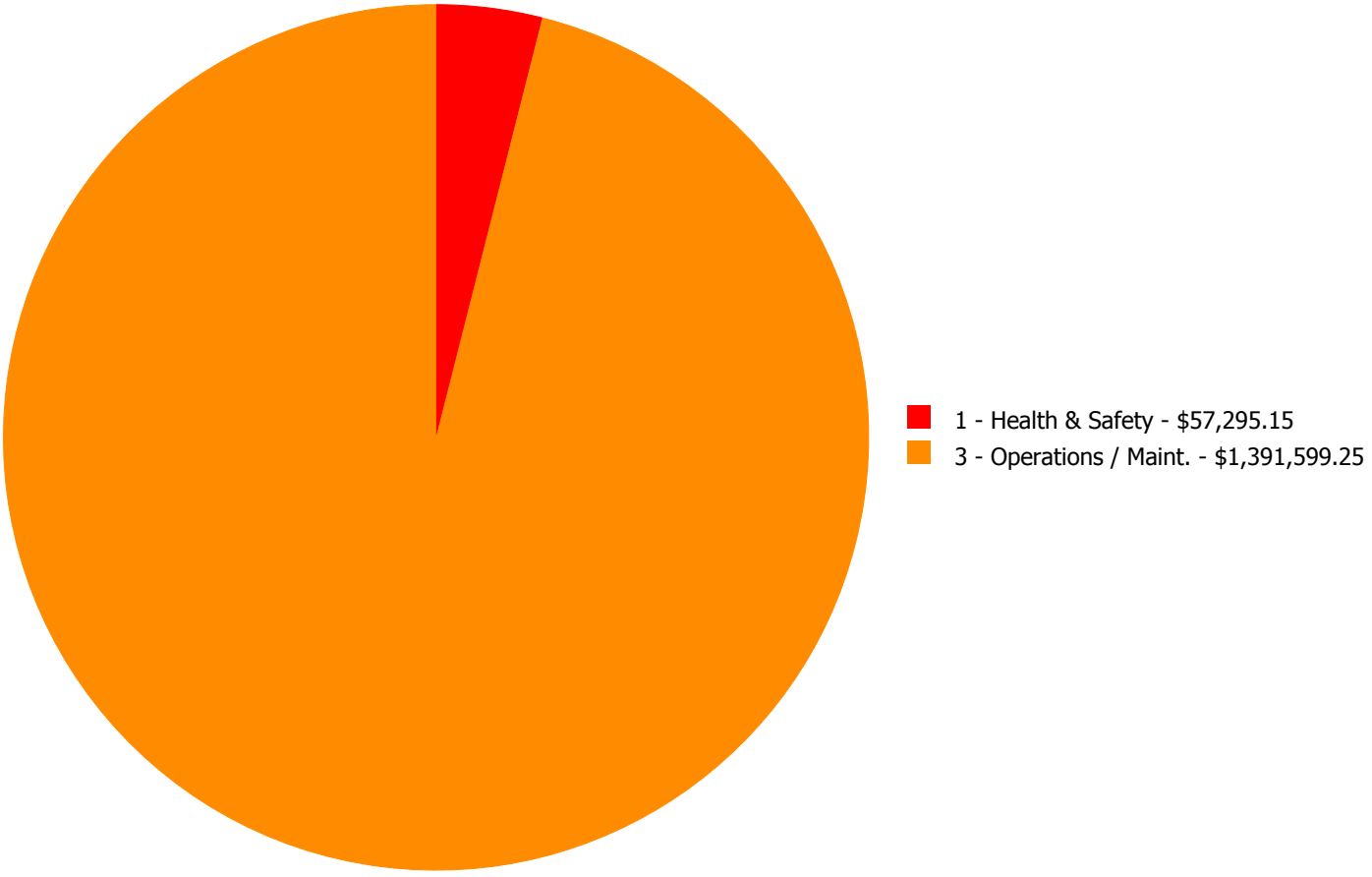
Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	$0.00	$0.00	$438,368.10	$0.00	$0.00	$438,368.10
G2030	Pedestrian Paving	$0.00	$287,657.01	$0.00	$0.00	$0.00	$287,657.01
G2040	Site Development	$0.00	$579,585.46	$0.00	$0.00	$0.00	$579,585.46
G4020	Site Lighting	$0.00	$0.00	$85,988.68	$0.00	$0.00	$85,988.68
G4030	Site Communications & Security	$0.00	$57,295.15	$0.00	$0.00	$0.00	$57,295.15
	Total:	$0.00	$924,537.62	$524,356.78	$0.00	$0.00	$1,448,894.40

Deficiency Summary by Category

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



Budget Estimate Total: $1,448,894.40

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: G2030 - Pedestrian Paving

Location: Site

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: 20,000.00

Unit of Measure: S.F.

Estimate: $287,657.01

Assessor Name: Gerald Petric

Date Created: 02/04/2016

Notes: The existing sidewalk system is a mix of the original sidewalks installed during the construction of the school and sections that have been replaced over the years. There are a several areas of cracking concrete but no tripping hazards. Sections of the sidewalk system is expected to expire in the near future. Removal of the damaged sections is recommended. Upgrades are required and should include repairs to exterior concrete stairs and all aspects of current ADA legislation.

System: G2040 - Site Development

Location: site

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace metal picket fence - input number of gates

Qty: 2,000.00

Unit of Measure: L.F.

Estimate: $336,757.35

Assessor Name: Gerald Petric

Date Created: 02/04/2016

Notes: This school has a perimeter fence surrounding the parking / playground area. The fence consist of either a chain link or metal picket fence and has several areas in need of repairs. The mounting post are damaged in several areas, gates are damaged and locking units no longer function. Overall the fence is in poor condition considering the age of the application. This picket fence system is recommended to be removed and replaced with a new system.

System: G2040 - Site Development

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace chain link fence - 8' high

Qty: 2,000.00

Unit of Measure: L.F.

Estimate: $223,975.59

Assessor Name: Gerald Petric

Date Created: 02/04/2016

Notes: This school has a perimeter fence surrounding the parking / playground area. The fence consist of either a chain link or metal picket fence and has several areas in need of repairs. The mounting post are damaged in several areas, gates are damaged and locking units no longer function. Overall the fence is in poor condition considering the age of the application. This chain link fence system is recommended to be removed and replaced with a new system.

System: G2040 - Site Development

Location: Site

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Build secure trash dumpster enclosure

Qty: 1.00

Unit of Measure: Ea.

Estimate: $18,852.52

Assessor Name: Gerald Petric

Date Created: 02/04/2016

Notes: The trash dumpster is located in the parking lot open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

System: G4030 - Site Communications & Security

Location: Site

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Add Video Surveillance System

Qty: 6.00

Unit of Measure: Ea.

Estimate: $57,295.15

Assessor Name: Gerald Petric

Date Created: 02/17/2016

Notes: Provide six (6) exterior surveillance cameras to provide coverage of the east and west entrances, the play area on the south side and the play and parking areas on the west side.

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

System: G2020 - Parking Lots

Location: Parking Lot

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Remove and replace AC paving parking lot

Qty: 31,000.00

Unit of Measure: S.F.

Estimate: $438,368.10

Assessor Name: Craig Anding

Date Created: 02/03/2016

Notes: The parking play area has no assigned parking and limited markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in very poor condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. This project provides a budgetary consideration for a play, parking lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement site wide is recommended.

System: G4020 - Site Lighting

Location: Site Parking and Play Areas

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace site lighting fixture

Qty: 12.00

Unit of Measure: Ea.

Estimate: $85,988.68

Assessor Name: Gerald Petric

Date Created: 02/17/2016

Notes: Replace (12) floodlighting fixtures on five (5) site lighting poles, including site lighting circuit conductors.

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