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.

Brown, JH School

Governance	DISTRICT	Report Type	Elementary
Address	3600 Stanwood St.	Enrollment	581
	Philadelphia, Pa 19136	Grade Range	'00-06'
Phone/Fax	215-335-5650 / 215-335-5381	Admissions Category	Neighborhood
Website	Www.Philasd.Org/Schools/Jhbrown	Turnaround Model	N/A

Building/System FCI Tiers

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

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

Building and Grounds

	FCI	Repair Costs	Replacement Cost
Overall	**48.67%**	**$14,485,645**	**$29,760,198**
Building	50.29 %	$14,195,716	$28,226,719
Grounds	18.91 %	$289,929	$1,533,479

Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
Roof (Shows physical condition of roof)	75.75 %	$592,935	$782,798
Exterior Walls (Shows condition of the structural condition of the exterior facade)	05.18 %	$104,349	$2,016,135
Windows (Shows functionality of exterior windows)	116.98 %	$1,150,815	$983,760
Exterior Doors (Shows condition of exterior doors)	52.93 %	$41,924	$79,203
Interior Doors (Classroom doors)	135.58 %	$259,949	$191,727
Interior Walls (Paint and Finishes)	30.94 %	$267,717	$865,228
Plumbing Fixtures	32.78 %	$242,086	$738,503
Boilers	101.87 %	$1,038,883	$1,019,811
Chillers/Cooling Towers	65.60 %	$877,209	$1,337,171
Radiators/Unit Ventilators/HVAC	143.33 %	$3,365,637	$2,348,243
Heating/Cooling Controls	218.18 %	$1,608,907	$737,411
Electrical Service and Distribution	99.35 %	$526,376	$529,843
Lighting	46.03 %	$871,962	$1,894,326
Communications and Security (Cameras, Pa System and Fire Alarm)	50.00 %	$354,811	$709,553

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

S821001;Brown, J H

Final

Site Assessment Report

January 31, 2017

PARSONS

Table of Contents

Site Executive Summary

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

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

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

Gross Area (SF):	54,623
Year Built:	1937
Last Renovation:	
Replacement Value:	$29,760,198
Repair Cost:	$14,485,644.98
Total FCI:	48.67 %
Total RSLI:	59.34 %

Description:

Facility Condition Assessment
August 2015

School District of Philadelphia
Joseph H. Brown Elementary School
3600 Stanwood Street
Philadelphia, PA 19136

54,623sf / 600 students / LN 08

General

Joseph H. Brown Elementary School is located at 3600 Stanwood Street. The main entrance faces Stanwood Street. The building was constructed in 1937, has 54,623 square feet, and is 3 stories tall. There is a full basement. The building has an Art Deco entrance with decorative limestone elements over the doorway, along the parapet, and at the top of the pilasters around the building. Kevin Kelly, the Building Engineer and Patty Ellinger the engineer's assistant accompanied the team during the building inspection.

At the time of inspection, the team met with "Re" (Arthurea) Smith, the Principal. She indicated that the heating system controls are not functioning well causing the heat in the building to be poorly distributed and all or nothing, there are frequent univent freeze-ups during cold weather, bathroom stall doors are broken and missing, outside stairs needed repair, and outside lights are not functioning.

Architectural/Structural

Foundations appear to be constructed of concrete and brick. Joints are generally in good condition. Half of the basement walls and ceilings have been recently repainted. Peeling paint was observed on the other half of the basement walls and ceilings; those areas should also be repainted. Footings were not seen and their construction type or condition could not be ascertained.

Floor slabs in the basement are in good condition, covered with some dirt; slabs should be stripped, cleaned and resealed. Upper floor slabs are also constructed of cast-in-place concrete with cast-in-place concrete beams. Cracking and spalling of the concrete structure was not observed anywhere, although many rooms had ceilings that prevented view of the slab. There is a small crack in the ceiling under first floor Bathroom 113, seen from the boiler room.

Roof construction over the main building is reinforced concrete beams and deck, bearing on masonry walls. The superstructure is constructed of reinforced concrete columns, beams, and floor slabs. The entire roof deck is flat with minimum overall slope and gradual pitch to roof drains for drainage. There are no overflow drains or pipes; if all roof drains are clogged, roof water will collect until overflowing the parapet. As long as the roof is designed to carry the load of a flooded roof, this is not a structural problem. Roof access to the main roof is via a door out of a masonry penthouse. The lower roof over the auditorium (#4 on roof plan) is constructed of the same concrete flat roof system as the main building and accessed by two sets of double doors that open out from the third floor corridor onto two steps then onto the roof. The other low roof (#5 on the roof plan) over the west end of the building is also accessed from a door at the end of the third floor corridor. At the west end of this low roof (over the west end of the building), there is a very narrow roof (#6 on roof plan) a small first floor projection over the kindergartens. Since this roof is not accessible by any means other than a ladder, it has not been cleaned in years and consequently is filled with balls, bottles and other debris; undoubtedly, the roof drain in this element is partially or totally clogged; leaks were reported in the kindergarten space below, Room 107, which might be caused by the blocked drain. This area needs to be properly maintained to keep it from filling with water and continuing to seep into the building. All roofs have low parapets less than 24" in height and limestone coping, except for the roof over the stair and fresh air intake louver penthouse, which has aluminum coping.

Exterior walls and are constructed of brick and are mostly in good condition over most building wall surfaces. There are areas of concern on penthouse structures on the 3rd floor roof requiring attention. Lintels over windows and louvers in the brick penthouse structure are rusting and causing horizontal joint cracking around all sides of the penthouse. The western most exterior wall at the end of the 3rd floor has vertical and stepped joint failure with grout falling from the joints. The western most exterior wall at the end of the 2nd floor also has a vertical crack that has been repaired with caulk which is not a long-lasting or proper solution to repair brick masonry joint failure. The chimney has horizontal joint failure in a number of locations where grout has already fallen out. There are stepped cracks where grout has fallen out at the top of the brick recess in the south wall of the auditorium. Louvers at the roof level have significant paint peeling and should be replaced. The limestone base is cracked at the northwest corner of the gymnasium wall where it meets the asphalt. A thorough inspection of all walls is required and cracks found should be repointed to maintain the water tight integrity of the walls. The limestone coping is installed on top of building walls; the tops of brick pilasters located between groups of windows around the building have decorative, grooved limestone finishing elements. Decorative, grooved, limestone units are also used as cornices above the 3rd floor windows around the building. Limestone joints are generally tight and in good condition. After the masonry repointing and window replacement, recommended below, the exterior of the building should be powerwashed.

Exterior windows were replaced in the 1990's (approximately) with bronze anodized aluminum frame operable single hung units with single thickness clear plexiglass acrylic vision panel glazing. Windows are now in poor condition with oxidized frames and severely scratched single-pane plexiglass vision panels. Operable units are difficult to operate up and down or do not stay open due to broken internal counterbalance weights, accidentally slamming closed in some cases – a potential safety hazard. Single pane plexiglass units do not meet today's energy code requirements and are large sources of heat loss – they should be replaced with new insulated glazing units. Basement level windows are at grade when viewed from the outside on street sides of building; these windows have galvanized steel security screens attached to the windows, as do some of the upper level windows that could be considered accessible by climbing from the ground or a lower roof. Window gratings are generally in good condition.

Exterior doors are mostly constructed of painted steel frames with flush hollow metal door units, have been recently repainted by the maintenance staff and appear to be in good condition. However, some have broken or non-functioning panic hardware and are not ADA compliant. It should be noted that the main entrance doors on Stanwood Street which are raised panel wood doors have been recently repainted by the maintenance staff which brought back their style and decorative appearance, making a striking first impression of the building upon entrance.

Roof covering all flat roofs is a fully adhered rolled asphalt sheet system. The system had been painted silver when new and over its 20 or more years of lifespan, the paint has all but worn away leaving only the black asphalt membrane exposed to the elements. There are many soft areas indicating moisture in the insulation underneath. The roof membrane is in poor condition dried cracked asphalt seen along membrane joints and flashing. Some areas are stained with dirty marks and mildew indicating poor or no drainage; water can only evaporate from these areas. The membrane and flashing is weathered and is past its normal service life of 20 years and needs to be completely replaced. Roof openings include toilet room vents, ventilation ductwork, and roof drains. Flashing of the penetrations appears to be in fair condition and past its normal service life, although no leaks were reported at this time. The original penetrations for the house ventilation system on the western 2nd floor roof have been capped off and sealed with rectangular copper closures, which appear to be in good condition and water tight.

Partitions in basement mechanical rooms are constructed of painted brick masonry; basement corridors have glazed block wainscot with painted block above. The cafeteria has glazed block with painted block above. The upper 3 floors of the building have plaster on wood lath and/or terracotta partitions. There are wood framed clerestory glass panels located above classroom doors in the corridors. These panels are in generally good condition being above the reach of anyone, but the glass is not wired or fire rated and needs to be replaced with fire rated gypsum board infill. Between some classrooms are manually operated full height wood folding partitions which are inoperable and offer little sound attenuation between classrooms. These units need to be replaced with insulated, full height gypsum board partitions.

Interior classroom and office doors are either the original wood and plate glass (not fire rated or wired) raised panel doors with original hardware or replacement wood doors with narrow lite wired glass vision panels and replacement hardware at least 10 years of age. Some original wood doors are in good condition however many have non-fire rated glass, non-safety glass, and broken, non-ADA compliant security hardware. Stairway enclosures and doors are full height wired glass and steel door vision panel assemblies. This system exceeds the allowable glass size permitted by today's codes and is not a code-compliant fire rated assembly. Additionally, stairway doors do not positively latch as required of fire rated doors. Some interior basement doors are hollow metal in hollow metal frames, rusted where coming in contact with floors. All original corridor-facing doors need to be replaced throughout the building, since they are not ADA compliant, do not have ADA or proper locking hardware, and are not fire rated where required. Classroom doors do not have security feature which allows for locking by a key from inside classrooms – this is required to provide the best security today. The solid wood with narrow vision panel replaced doors could be saved and retrofitted with the proper ADA and security locking hardware. Closet and storage room doors inside offices and classrooms might be salvageable if refinished.

Interior fittings/hardware include black slate chalkboards with oak chalk trays or bulletin boards on walls and integral to the original dark oak folding wall partitions built into the folding panels. The full width folding partition units present in approximately 6 classrooms are no longer opened as they are heavy and most hinges and bearings are not operable. Wall panels need to be replaced with sturdier, safer, fixed partitions, offering better sound attenuation than the old, loose folding partitions. Toilet room partitions are solid plastic replacement partitions; some toilet compartment doors were broken or missing and need replacement, however most are in good condition. Toilet room accessories (toilet paper dispensers, soap, paper towel or dryers, grab bars, door latches) have been recently replaced. Most components seem to be in place and operating. There are no fully compliant ADA toilet rooms, although some toilet compartments have grab bars and adequate floor space for wheelchair movement, which could be considered minimally accessible spaces. With the addition of wrist blade lavatory faucets and drainpipe knee protection, these toilet rooms would be almost fully ADA compliant.

Stair construction consists of concrete treads, risers, and stringers with wood handrails (29" high), guards (36" high), and steel balusters with 3" spacing. The 3 stairs serving 1st thru 3rd floors have terrazzo finish, which has minor cracking in most landings, in need of repair. All stairways have been retrofitted with handrails and guards at 36" and 42" heights to bring the rail systems up to today's code height requirements. The handrails and guards should be repainted to refresh their appearance.

Wall finishes in all classrooms are plaster which is damaged in a number of locations at doorways and corners. A few classrooms have water damages from roof or window leaks. Damaged plaster walls should be patched and repainted. Folding wood panels are covered with staples, small gouges and many surface damages and should be replaced with gypsum board partitions, as mentioned earlier. Corridors have 48" high glazed block wainscots with plaster above and are generally in good condition. Stained wood trim in all rooms is worn but with refinishing can be returned to its original appearance. Toilet room walls have been recently refinished with ceramic tile from floor to ceiling and are in good condition.

Floor finish in the auditorium and classrooms is dark stained oak. Most floors are in good enough condition to be stripped, sanded, and refinished. Some offices have 12"x12" vinyl composition tile (VCT) over the wood; these VCT floors should be replaced. Parts of two kindergartens and an office has carpet, which needs replacement. The gymnasium has wood floors which should be refinished. The cafeteria and kitchen has concrete floors which need to be stripped, cleaned, and refinished. Stair walking surfaces and corridor floors are finished in a diamond patter terrazzo which is in good condition and highly durable. There are isolated cracks throughout the terrazzo corridors and stair platforms which should be repaired to minimize future damage. Toilet rooms have been recently

refinished with new fixtures, plastic partitions, ceramic tile walls and ceramic mosaic floors; however a thorough cleaning of these rooms is required.

Ceiling finishes are mostly exposed 2x4 suspended acoustical tile ceilings throughout the building with 1x4 surface mounted fluorescent lighting fixtures.

Furnishings include the original folding wood seating in the auditorium, still in use. Some seats need to be repaired to operate properly and many seatbacks are scratched. Approximately 33% now need repairs and refinishing. Casework and storage cabinets in the classrooms and the office should be repainted to maintain usability. The Library has wood bookcases which appear to be relatively new and in good condition.

There is no elevator in the building. There is an ADA ramp up that leads into the auditorium which allows wheelchair bound people to easily enter the first floor of the building. ADA accessible route signage is needed to help direct personnel to this accessible entrance.

Mechanical

Plumbing Fixtures – The building is equipped with wall hung urinals (flush valve type), wall hung water closets (flush valve type), and wall hung lavatories with wheel handle faucets. There is also a shared restroom between the two kindergarten classrooms. In addition there is a hand sink in each kindergarten class which appears to be original and should be replaced. The girls' and boys' restroom group fixtures were recently replace within the last ten years and should not need to be replaced for the next 15 to 20 years with normal maintenance and upkeep being performed. The bathrooms are also equipped with floor drains as well as locations where there are drinking fountains in the corridors.

Drinking fountains in the corridors and at the restrooms are wall hung fountains Drinking fountains are typically located in the hallways at the bathroom groups. There are drinking fountains located in each of the kindergarten classrooms. The fountains appear to have been installed to replace the original drinking fountains at some point in the past. The replacement of all drinking fountains is recommended as the equipment is beyond its service life.

Floor service sinks are original and are available on each floor located the near the main stairwell by the janitorial staff. The floor mop sinks do not appear to be original but show signs of heavy use and have exceeded their service life, therefore they should be replaced.

The general science classroom is equipped with three lab sinks and a lab prep sink.

Domestic Water Distribution – It appears that the 3" domestic water service piping is mostly soldered copper. Water service enters the building in the basement into a mechanical room, from Stanwood Street. The water service is equipped with a double check backflow preventer (RPZA – reduced pressure zone assembly) and a 3" water meter on the main line upon entering the building. There is a dedicated cold water make up line with a RPZA BFP which is connected to the boilers. The piping is copper with soldered joints. The distribution piping appears to be original and is at the end of its service life and is recommended to be inspected and repaired as needed. A domestic water booster pumps is also installed. The pump is beyond its service life and should be replaced.

The domestic water heating system consists of one vertical tank type, gas fired, Bradford White, model D75T-300-3NA, 75 gallon, 300,000 Btuh input, recovery rate of 272.7 GPH water heater. The hot water system is equipped with a recirculation pump as well but was not equipped with an expansion tank. The water heater appears to have been installed in 1994, is nearing over twenty years old. The heater has exceeded its expected useful service life and should be replaced. A water softener was located in the boiler room for treating the boiler make up water system.

Sanitary Waste - The sanitary waste piping system in the original building is extra heavy cast iron with lead and oakum seals and appears to be the original piping installed in the building. It is therefore recommended to inspect this piping and repair or replace sections as needed. The sanitary system leaves the building by gravity flow. The sanitary line exits the building toward Craig Street where there is a manhole located in the sidewalk.

Rain Water Drainage - The rain water drains from the roof are routed through mechanical chases in the building and connect to the underground site drainage system. There are no overflow scuppers for the building.

A sump pump handles drainage in the boiler mechanical equipment room. The pump should be replaced as it have surpassed its service life but was witnessed to operate during our field survey.

Energy Supply - Duplex fuel oil supply pumps provide the required fuel to the boilers when operating on fuel oil. The 10,000 gallon fuel storage tank is located underground in the paved playground area on the building side facing Frankford Avenue. The fuel pumps

and controls are original vintage, are beyond their serviceable life and therefore should be replaced. The fuel oil pumps are located in the old coal/ash storage area adjacent to the lockers and custodial services office. The fuel oil tank is equipped with a level monitoring and leak detection system which is located in the boiler room. The 6" natural gas enters the building in the basement in the old coal/ash storage area connected to the boiler mechanical equipment room. The natural gas main is welded, black steel piping while the branches are threaded, black steel. The gas system is equipped with a meter and a gas booster system.

Heat Generating Systems – Low pressure steam is generated at 15 lbs./sq. in. or less by two 4,061 MBH Weil McLain 94 series Model 1994, steam boilers with dual fuel burners. Both boilers are equipped with Power Flame dual fuel burners, natural gas and number 2 fuel oil, model CR4-GO-30. The boilers appear to have been install in the 1970's and are at the end of their service life and should be replaced. There is no draft control on the either boiler flue. Combustion air louvers serve the boiler room to provide combustion air for the boiler operation. Burner oil pumps are driven by independent motors. The gas train serving each boiler appears to have code required venting of the regulators and dual solenoid valves with venting of the chamber between. The oil supply to the burner is equipped with dual solenoid valves and strainer/disposable media filter.

Distribution Systems – The building steam distribution piping is black steel with welded fittings. The condensate piping is Schedule 80 black steel with threaded fittings. The piping has been in use beyond its service life and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes. The District should hire a qualified contractor to examine the distribution piping and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 5 years.

The boiler feed water is collected by a boiler feedwater pad mounted system and is treated with a combination of chemicals by a water treatment controller. There are no condensate receiver systems, so the condensate is returned directly to the boiler feedwater tank and then pumped back to the boiler. The feedwater tank is equipped with a deaerator option. The condensate return piping is black steel with threaded joints. The boiler feedwater assembly is equipped with three pumps and a pump control panel. It is recommended that the District conduct a steam trap survey to determine the quantity and condition of all steam taps. The boiler feed tank, pumps and associated components appear to have been replaced in the past 5 – 7 years, appear to be in satisfactory condition and should not need to be replaced within the next 20 years provided that routine maintenance is performed.

Ventilation and additional heating (steam heating coil) for the building was provided by a house fan in the basement which is not used due to ACM being present. The air was pushed into the various rooms of the building through ducts built into the walls. The air was exhausted from other ducts built into the walls, up through the attic space, and out through roof mounted vents. The auditorium was equipped with mushroom supply air diffusers beneath the auditorium seats. For the classrooms, fresh air is admitted into the building through the unit ventilators and by opening windows. Ventilation air is induced into the spaces through the outside air intake grilles located in the building exterior wall which are ducted to the unit ventilators. The previous third floor education storage area has been converted into an occupied office and requires ventilation and heating to be provided.

The building uses unit ventilators with steam coils in the classrooms and steam convectors in the hallways and currently is the sole source of heat for these areas. It appears that the unit ventilators have been replaced in the past 5 – 10 years with units manufactured by American Air Filter. During our survey most steam convection heaters in the corridors and stair landings were flat top, wall mounted as well as fully recessed models, if however there any steam radiators in service without guards or enclosures, these units should be replaced with finned tube convectors to protect students from exposure to the hot surfaces.

There appears to have been relief vents for a portion of the building, the two story wing, however, the vents have been capped and sealed with copper sheeting.

The gymnasium is served by flat top floor mounted console style steam convectors located at the perimeter walls of the space. It is recommended to replace these systems with a packaged unit and utilize an overhead supply air distribution system and return air ductwork and low return intake grilles which would be protected from damage.

The cafeteria is served by unit ventilators with steam coils. The unit ventilators here too have been replaced with AAF unit ventilators. To provide better comfort and air distribution a packaged unit could be provided with heating and cooling coils as well as ventilation to meet the outside air ventilation requirements for the cafeteria seating area.

The auditorium is heated by fully recessed steam convection heaters located below each window.

A split system cooling only air conditioning unit, manufactured by Mitsubishi, serves the LAN room. The condensing unit is mounted on the exterior wall near the main entrance to the building.

Terminal & Package Units - There are a few which have window air conditioning units but predominantly the building does not have

cooling systems. There is a roof mounted exhaust fan of which serves the restrooms.

Controls & Instrumentation - The original pneumatic systems still provide basic control functions. Pneumatic room thermostats drive the unit ventilators, the damper actuators and control valves. Wall mounted pneumatic thermostats on the corridor walls control the steam convectors. There are two air compressors which generate control air for the temperature control system which are located in the boiler room. A common refrigerated air dryer serves the compressors. The maintenance staff reports temperature control is generally lacking throughout the facility. Potential problems with oil, moisture or dirt in the pneumatic copper tubing can be one source of problems. The small rubber gaskets and tubing connections at control devices can become brittle over time and fail to compound control problems. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff. The original control valves, dampers and pneumatic actuators are over 78 years old and should be replaced. These controls should be converted to DDC.

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

Sprinklers - The school building is NOT covered by an automatic sprinkler system, however there is a standpipe riser located in the main entry stairwell which has an angle hose valve at each floor landing as well as a connection on the upper level roof. Installing a sprinkler system with quick response type heads should reduce insurance costs by providing protection for the property investment. A fire pump may be required depending on the available city water pressure.

Electrical

Electrical service and distribution system for the building is by 1600A, 208, 3PH, 4wire, switchboard located in building electrical room. This switchboard, which feeds all of the loads in the building, is fed from a pad mounted utility transformer located outside of the building close to building main entrance at Stanwood St. The utility meter is located adjacent to the utility transformer. The Service entrance and switchboard have been upgraded in 2007 and are in good condition, however, there may not be enough capacity for future HVAC loads.

Distribution system and raceway system is by several lighting and power panels located throughout the building. The distribution system was upgraded in 2007 and is working adequately without any major deficiencies.

Receptacles are not provided in adequate numbers in classrooms, computer room, etc. Recommendation is to have a minimum of two receptacles on each classroom wall. The computer room recommendation is one receptacle at three feet on center on each wall.

Majority of lighting fixtures (over 90%) are fluorescent fixtures with outdated T-12 lamps which should be replaced.

Fire Alarm System consists of a 120V manual fire alarm system. The system does not meet current fire alarm codes and should be replaced.

Telephone / LAN equipment/devices are located in the school information technology room. This room was not accessible at the time of assessment. The computer room, some classrooms, and some offices have data outlets. This system is new and working properly.

Public address / Music – The school does not have a separate PA system. The school has a telephone system for public announcements, which is working adequately.

Intercom System and paging – the existing paging system is completely functional. The paging system consists of one way communications from office to classrooms. Two way communications is accomplished through wall mounted phones in classrooms and other areas. The paging speakers are old and should be replaced.

Master clock system is not working properly. Classrooms are provided with a 12” round battery-type clock. A new master clock system is needed. The existing bell system is working adequately.

Television system is not provided in the school.

Security Systems, access control, and video surveillance systems are provided in the school. A sufficient number of cameras is installed at exit doors, corridors, and other critical areas, controlled by a Closed Circuit Television system (CCTV). The system is working properly.

Emergency Power System is provided in the school. A 15KW, 208/120V, 1PH, 3W diesel generator manufactured by "Onan" is installed in the Basement. This generator is old and has exceeded its useful life and should to be replaced.

The power source for IT servers was not been verified, since the IT room door was locked at the time of the field investigation. However it is assumed that servers are supported by a UPS, based on similar installations at other schools. If this is not the case, the recommendation is to provide UPS power to the IT equipment.

Emergency Lighting System and Exit Lighting is provided in the school. There is a sufficient number of the exit lighting fixtures. All exit signs are fed from existing backup generator.

Lightning Protection System is adequate. It is accomplished by use of air terminals mounted on the chimney, however, some repairs are needed. A study is needed to verify that the air terminals provide the proper coverage.

Grounding system is present and appears to be adequate.

Elevator is not provided in this school.

Theater lighting and dimming control systems are old should be replaced.

Sound System in auditorium is old and should be replaced.

Site Lighting is adequate. The exterior building areas are illuminated by a sufficient number of roof mounted floodlights.

Site Video Surveillance system is provided and monitored by the Closed Circuit Television (CCTV) system. It appears to be operating adequately.

Site Paging System is adequate.

Grounds

Paving for the play area and parking lot consist of asphalt paving. This expansive paved area serves as the playground and parking area. Parking area striping is worn and almost invisible. Clear separation of play area and parking is provided by a chain link fence. The number of required parking spaces for school staff is unknown. There are cracks in the faculty parking and playground areas which should be filled. A section of the play area needs to be repaved. Granite block stairways into the building on all three sides are need of some regrouting. There is an ADA accessible ramp with handrails into the auditorium door. Other handrails and guards are mostly compliant at other stairs. All handrail/guards are in need of repainting. Storm drains in the parking lot are said to be draining slowly and might be partially clogged; an inspection of the storm drain system is required.

The areaway wall in front of the building along Stanwood Street needs repointing in some areas. The guard rails secured to the top of the areaway retaining wall along Stanwood Street and at areaways in playground area need to be repainted; the limestone coping to which the rails are attached needs repointing.

Wrought iron site fencing is generally in fair condition with a coating of rust covering most of the fence. There are some damaged and bent fence panels in need of replacement. The damaged sections should be replaced and the remaining fence sections should be stripped and repainted.

The brick retaining wall along Stanwood Street and Frankford Avenue has serious cracks, the wall is beginning to bow and is showing signs of failing in need of repaired. Railings attached to the top of the wall are not all securely inserted into the walls. The steel pipe guards and chain link fencing that protect the window wells are rusting and need to be repainted.

Repoint selected stair treads (6 risers)

Rebuild concrete stair connecting higher and lower playground areas. (5 risers, 8 ft. long)

RECOMMENDATIONS

Architectural

- Strip and repaint concrete foundation (basement) walls in mechanical rooms (2000sf)
- Strip, clean and reseal basement floor in mechanical rooms and cafeteria. (10,000sf)
- Replace louvers and replace lintels on rooftop structure (200 sf louver and 30 ft. lintels, for louver and windows)
- Repair/repoint masonry in various locations around the building (1000sf)
- Replace 10 damaged univent louvers (36 in x 16 in each)
- Replace all exterior windows with insulated single hung units; repaint lintels when replacing (240 each)
- Replace all exterior door hardware with code compliant, latching, exit hardware (12 doors)
- Remove and replace existing flat roof and insulation; 6 levels (17,500sf)
- Remove non-rated glass panels between classrooms and corridors; fill with fire rated gyp bd sys. (40 @ 10sf each)
- Remove and replace all wood interior doors, frames and hardware in classrooms and offices (40)
- Provide security hardware for classrooms and offices, locking from inside classroom. (40)
- Refinish closet doors in classrooms and around building (70)
- Repaint all basement steel doors, frames, and hardware in mechanical rooms (8)
- Remove folding wood partitions; replace with gypsum board and metal stud walls (1000 sf)
- Repair water damage, cracks, and damages - repaint cafeteria, corridor, and classroom walls (50,000sf)
- Regrout joints between limestone block tread/risers at exterior stairs (80 lf)
- Cracks (small, cosmetic) in terrazzo in stairways and throughout building (300 lf)
- Strip, sand, repair and refinish all wood floors in classrooms, gymnasium, and in auditorium (24,000sf)
- Remove and replace all 12”x12” VCT floors in classrooms and offices with VCT (4800sf)
- Replace VAT floors using proper asbestos abatement procedures if determined asbestos is present. (500 sf)
- Replace acoustical tile ceiling in kindergarten resulting from roof leak (1000 sf)
- Repair or replace damaged folding wood auditorium chairs (125 each)
- Provide elevator to serve three floors and basement.

Mechanical

- Replace all lavatories kindergarten with lower flow fixtures, as the fixtures are original.
- Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms. These units are well beyond their service life and most are NOT accessible type.
- Replace service sinks (janitor sinks) in the building.
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Replace one vertical tank natural gas fired water heater.
- Inspect and replace the original domestic water piping in the building as needed
- Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures.
- Conduct a steam trap survey to identify and replace failed traps passing live steam into the condensate piping system.
- Hire a qualified contractor to examine the steam and condensate piping in service for 78 years and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years.
- Replace duplex fuel oil pumps.
- Replace the two 4.061 MBH Weil McLain 94 series steam boilers estimated to have been in service since the 1970s.
- Replace the steam convection units.
- Replace the existing unit ventilators throughout the building with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils.
- Remove the window air conditioning units and install a 250 ton air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room on the basement level to supply more reliable air conditioning for the building with a much longer service life.
- Provide ventilation, heating and cooling for the gymnasium by installing a packaged air conditioning unit.
- Provide ventilation for the corridors at seven first floor entryways by installing fan coil air handling units hung from the structure with outdoor air ducted to the unit from louvers in the window openings
- Provide ventilation, heating and cooling for the Cafeteria by removing the existing unit ventilators and installing a package constant volume air handling unit with distribution ductwork and registers.
- Provide ventilation, heating and cooling for the Auditorium by removing the existing convection heat and house fan and installing a package constant volume air handling unit with distribution ductwork and registers.
- Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency.
- Provide a new building automation system (BAS) with communication interface to the preferred system in use throughout the

District.
- Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.
- Install a new sprinkler system throughout the building
- Remove existing steam boilers and steam distribution system. Install hot water boilers and hot water distribution system.

Electrical

- Upgrade the existing electrical service with a new service. Replace the existing switchboard with new 2000A, switchboard. Provide connection between existing switchboard with the new one.
- Install minimum two receptacles in each wall of every classroom. Provide a sufficient number of receptacles in other areas as required by NEC. It is recommended to add a two-compartment surface mounted raceway for data & power for the computer lab. Estimated 300 each.
- Replace all lighting fixtures with new fluorescent lighting fixtures with T-5 lamps, throughout the building.
- Replace existing fire alarm system with a new automatic fire alarm system, including smoke detectors in corridors and other recommended areas as required by NEC. Install horn/strobes in class rooms, corridors, offices, toilets, library and other recommended areas as required by codes.
- Provide master clock system including wireless master clock controller and new clocks in classrooms and offices.
- Replace the existing emergency generator with a new 100KW diesel generator.
- Provide lightning protection study to ascertain adequacy of the existing system.
- Provide new stage lighting and lighting controller in the Auditorium.

Grounds

- Repave damaged sections of asphalt parking / playground area (10,000sf)
- Fill cracks in other asphalt paved area (1500 lf)
- Repaint 5ft high wrought iron property fence (1200 lf)
- Replace chain link fence protecting window wells and exit wells. (150 ft)
- Rebuild 4 ft high brick retaining wall along Frankford Avenue (250ft)
- Rebuild 36” high concrete retaining wall between upper and lower playground areas (200sf)

Attributes:

General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 2
Status:	Accepted by SDP	Team:	Tm 2
Site ID:	S821001		

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	22.00 %	0.00 %	$0.00
A20 - Basement Construction	22.00 %	0.00 %	$0.00
B10 - Superstructure	22.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	48.47 %	42.13 %	$1,297,088.30
B30 - Roofing	110.00 %	75.75 %	$592,935.21
C10 - Interior Construction	32.66 %	21.85 %	$292,928.50
C20 - Stairs	22.00 %	1.55 %	$1,195.60
C30 - Interior Finishes	38.86 %	17.62 %	$637,735.61
D10 - Conveying	0.00 %	400.48 %	$643,131.77
D20 - Plumbing	102.55 %	75.44 %	$841,453.95
D30 - HVAC	107.77 %	113.40 %	$6,890,635.56
D40 - Fire Protection	105.71 %	177.49 %	$781,407.09
D50 - Electrical	110.11 %	62.76 %	$2,015,089.96
E10 - Equipment	14.29 %	12.08 %	$105,028.21
E20 - Furnishings	12.50 %	83.45 %	$97,086.43
G20 - Site Improvements	0.00 %	25.69 %	$289,928.79
G40 - Site Electrical Utilities	0.00 %	0.00 %	$0.00
Totals:	**59.34 %**	**48.67 %**	**$14,485,644.98**

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)
B821001;Brown, J H	54,623	50.29	$2,775,015.10	$4,820,159.13	$1,851,532.67	$134,904.88	$4,614,104.41
G821001;Grounds	69,700	18.91	$0.00	$251,833.15	$38,095.64	$0.00	$0.00
Total:		**48.67**	**$2,775,015.10**	**$5,071,992.28**	**$1,889,628.31**	**$134,904.88**	**$4,614,104.41**

Deficiencies By Priority

- 1 - Response Time (< 2 yr) - $2,775,015.10
- 2 - Response Time (2-3 yrs) - $5,071,992.28
- 3 - Response Time (3-4 yrs) - $1,889,628.31
- 4 - Response Time (4-5 yrs) - $134,904.88
- 5 - Response Time (> 5 yrs) - $4,614,104.41

Budget Estimate Total: $14,485,644.98

Executive Summary

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

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

Function:	Elementary School
Gross Area (SF):	54,623
Year Built:	1937
Last Renovation:	
Replacement Value:	$28,226,719
Repair Cost:	$14,195,716.19
Total FCI:	50.29 %
Total RSLI:	62.57 %

Description:

Attributes:

General Attributes:

Active:	Open	Bldg ID:	B821001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S821001		

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	22.00 %	0.00 %	$0.00
A20 - Basement Construction	22.00 %	0.00 %	$0.00
B10 - Superstructure	22.00 %	0.00 %	$0.00
B20 - Exterior Enclosure	48.47 %	42.13 %	$1,297,088.30
B30 - Roofing	110.00 %	75.75 %	$592,935.21
C10 - Interior Construction	32.66 %	21.85 %	$292,928.50
C20 - Stairs	22.00 %	1.55 %	$1,195.60
C30 - Interior Finishes	38.86 %	17.62 %	$637,735.61
D10 - Conveying	0.00 %	400.48 %	$643,131.77
D20 - Plumbing	102.55 %	75.44 %	$841,453.95
D30 - HVAC	107.77 %	113.40 %	$6,890,635.56
D40 - Fire Protection	105.71 %	177.49 %	$781,407.09
D50 - Electrical	110.11 %	62.76 %	$2,015,089.96
E10 - Equipment	14.29 %	12.08 %	$105,028.21
E20 - Furnishings	12.50 %	83.45 %	$97,086.43
Totals:	**62.57 %**	**50.29 %**	**$14,195,716.19**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
A1010	Standard Foundations	$18.40	S.F.	54,623	100	1937	2037		22.00 %	0.00 %	22			$1,005,063
A1030	Slab on Grade	$7.73	S.F.	54,623	100	1937	2037		22.00 %	0.00 %	22			$422,236
A2010	Basement Excavation	$6.55	S.F.	54,623	100	1937	2037		22.00 %	0.00 %	22			$357,781
A2020	Basement Walls	$12.70	S.F.	54,623	100	1937	2037		22.00 %	0.00 %	22			$693,712
B1010	Floor Construction	$75.10	S.F.	54,623	100	1937	2037		22.00 %	0.00 %	22			$4,102,187
B1020	Roof Construction	$13.88	S.F.	54,623	100	1937	2037		22.00 %	0.00 %	22			$758,167
B2010	Exterior Walls	$36.91	S.F.	54,623	100	1937	2037		22.00 %	5.18 %	22		$104,349.15	$2,016,135
B2020	Exterior Windows	$18.01	S.F.	54,623	40	1937	1977	2057	105.00 %	116.98 %	42		$1,150,815.47	$983,760
B2030	Exterior Doors	$1.45	S.F.	54,623	25	1985	2010	2020	20.00 %	52.93 %	5		$41,923.68	$79,203
B3010105	Built-Up	$37.76	S.F.	20,698	20	1937	1957	2037	110.00 %	75.87 %	22		$592,935.21	$781,556
B3010120	Single Ply Membrane	$38.73	S.F.		20				0.00 %	0.00 %				$0
B3010130	Preformed Metal Roofing	$54.22	S.F.		30				0.00 %	0.00 %				$0
B3010140	Shingle & Tile	$38.73	S.F.		25				0.00 %	0.00 %				$0
B3020	Roof Openings	$0.06	S.F.	20,698	20	1937	1957	2037	110.00 %	0.00 %	22			$1,242
C1010	Partitions	$17.91	S.F.	54,623	100	1937	2037		22.00 %	3.37 %	22		$32,979.21	$978,298
C1020	Interior Doors	$3.51	S.F.	54,623	40	1937	1977	2057	105.00 %	135.58 %	42		$259,949.29	$191,727
C1030	Fittings	$3.12	S.F.	54,623	40	1937	1977	2020	12.50 %	0.00 %	5			$170,424
C2010	Stair Construction	$1.41	S.F.	54,623	100	1937	2037		22.00 %	1.55 %	22		$1,195.60	$77,018

Site Assessment Report - B821001;Brown, J H

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.	54,623	10	1937	1947	2020	50.00 %	37.10 %	5		$267,717.25	$721,570
C3010231	Vinyl Wall Covering	$0.97	S.F.		15				0.00 %	0.00 %				$0
C3010232	Wall Tile	$2.63	S.F.	54,623	30	1995	2025		33.33 %	0.00 %	10			$143,658
C3020411	Carpet	$7.30	S.F.	1,100	10	2000	2010	2027	120.00 %	0.00 %	12			$8,030
C3020412	Terrazzo & Tile	$75.52	S.F.	13,109	50	1937	1987	2020	10.00 %	0.66 %	5		$6,535.69	$989,992
C3020413	Vinyl Flooring	$9.68	S.F.	5,460	20	2000	2020	2037	110.00 %	123.49 %	22		$65,267.48	$52,853
C3020414	Wood Flooring	$22.27	S.F.	24,580	25	1937	1962	2042	108.00 %	47.21 %	27		$258,406.56	$547,397
C3020415	Concrete Floor Finishes	$0.97	S.F.	10,374	50	1937	1987	2067	104.00 %	289.68 %	52		$29,150.13	$10,063
C3030	Ceiling Finishes	$20.97	S.F.	54,623	25	1937	1962	2020	20.00 %	0.93 %	5		$10,658.50	$1,145,444
D1010	Elevators and Lifts	$2.94	S.F.	54,623	35				0.00 %	400.48 %			$643,131.77	$160,592
D2010	Plumbing Fixtures	$13.52	S.F.	54,623	35	1937	1972	2052	105.71 %	32.78 %	37		$242,086.07	$738,503
D2020	Domestic Water Distribution	$1.68	S.F.	54,623	25	1937	1962	2042	108.00 %	361.13 %	27		$331,401.01	$91,767
D2030	Sanitary Waste	$2.90	S.F.	54,623	25	1937	1962	2042	108.00 %	169.16 %	27		$267,966.87	$158,407
D2040	Rain Water Drainage	$2.32	S.F.	54,623	30	1937	1967	2037	73.33 %	0.00 %	22			$126,725
D3020	Heat Generating Systems	$18.67	S.F.	54,623	35	1937	1972	2052	105.71 %	101.87 %	37		$1,038,883.34	$1,019,811
D3030	Cooling Generating Systems	$24.48	S.F.	54,623	30	1937	1967	2047	106.67 %	65.60 %	32		$877,208.67	$1,337,171
D3040	Distribution Systems	$42.99	S.F.	54,623	25	1937	1962	2042	108.00 %	143.33 %	27		$3,365,636.70	$2,348,243
D3050	Terminal & Package Units	$11.60	S.F.	54,623	20	1937	1957	2037	110.00 %	0.00 %	22			$633,627
D3060	Controls & Instrumentation	$13.50	S.F.	54,623	20	1937	1957	2037	110.00 %	218.18 %	22		$1,608,906.85	$737,411
D4010	Sprinklers	$7.05	S.F.	54,623	35	1937	1972	2052	105.71 %	202.91 %	37		$781,407.09	$385,092
D4020	Standpipes	$1.01	S.F.	54,623	35	1937	1972	2052	105.71 %	0.00 %	37			$55,169
D5010	Electrical Service/Distribution	$9.70	S.F.	54,623	30	2007	2037	2047	106.67 %	99.35 %	32		$526,375.50	$529,843
D5020	Lighting and Branch Wiring	$34.68	S.F.	54,623	20	1937	1957	2037	110.00 %	46.03 %	22		$871,962.38	$1,894,326
D5030	Communications and Security	$12.99	S.F.	54,623	15	1937	1952	2032	113.33 %	50.00 %	17		$354,811.01	$709,553
D5090	Other Electrical Systems	$1.41	S.F.	54,623	30	1937	1967	2047	106.67 %	340.10 %	32		$261,941.07	$77,018
E1020	Institutional Equipment	$4.82	S.F.	54,623	35	1937	1972	2020	14.29 %	39.89 %	5		$105,028.21	$263,283
E1090	Other Equipment	$11.10	S.F.	54,623	35	1937	1972	2020	14.29 %	0.00 %	5			$606,315
E2010	Fixed Furnishings	$2.13	S.F.	54,623	40	1937	1977	2020	12.50 %	83.45 %	5		$97,086.43	$116,347
								Total	**62.57 %**	**50.29 %**			**$14,195,716.19**	**$28,226,719**

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: C30 - Interior Finishes — This system contains no images

Note:
painted plaster or concrete - 90%
glazed brick/block 6%
ceramic tile 4%

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

Note:
Concrete: 19%
Wood: 45%
Terrazzo 18%
VCT 10%
VAT 0%
CT 6%
Carpet 2%

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

Note:
painted concrete deck above or plaster 30%
2x4 suspended acoustical tile ceiling 70%

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:	**$14,195,716**	**$0**	**$0**	**$0**	**$0**	**$5,218,863**	**$0**	**$0**	**$0**	**$0**	**$212,371**	**$19,626,950**
*** 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**
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	$104,349	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$104,349**
B2020 - Exterior Windows	$1,150,815	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,150,815**
B2030 - Exterior Doors	$41,924	$0	$0	$0	$0	$101,001	$0	$0	$0	$0	$0	**$142,924**
B30 - Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010 - Roof Coverings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010105 - Built-Up	$592,935	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$592,935**
B3010120 - Single Ply Membrane	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010130 - Preformed Metal Roofing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3010140 - Shingle & Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
B3020 - Roof Openings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C - Interiors	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C10 - Interior Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C1010 - Partitions	$32,979	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$32,979**

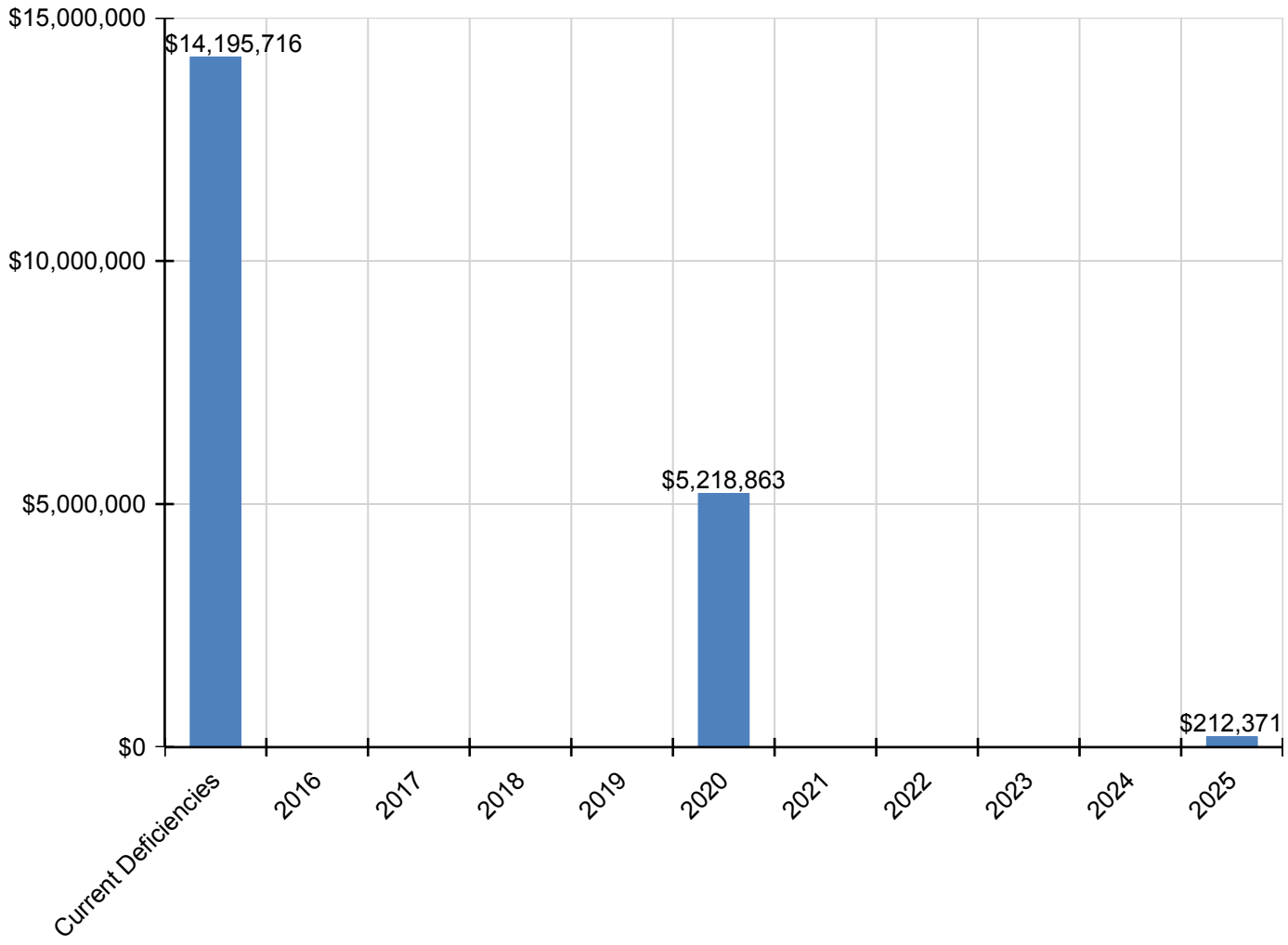
C1020 - Interior Doors	$259,949	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$259,949**
C1030 - Fittings	$0	$0	$0	$0	$0	$217,324	$0	$0	$0	$0	$0	**$217,324**
C20 - Stairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C2010 - Stair Construction	$1,196	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,196**
C30 - Interior Finishes	$0	$0	$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	$267,717	$0	$0	$0	$0	$920,147	$0	$0	$0	$0	$0	**$1,187,864**
C3010231 - Vinyl Wall Covering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
C3010232 - Wall Tile	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$212,371	**$212,371**
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	$6,536	$0	$0	$0	$0	$1,262,439	$0	$0	$0	$0	$0	**$1,268,975**
C3020413 - Vinyl Flooring	$65,267	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$65,267**
C3020414 - Wood Flooring	$258,407	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$258,407**
C3020415 - Concrete Floor Finishes	$29,150	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$29,150**
C3030 - Ceiling Finishes	$10,659	$0	$0	$0	$0	$1,460,673	$0	$0	$0	$0	$0	**$1,471,331**
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	$643,132	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$643,132**
D20 - Plumbing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D2010 - Plumbing Fixtures	$242,086	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$242,086**
D2020 - Domestic Water Distribution	$331,401	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$331,401**
D2030 - Sanitary Waste	$267,967	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$267,967**
D2040 - Rain Water Drainage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D30 - HVAC	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3020 - Heat Generating Systems	$1,038,883	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,038,883**
D3030 - Cooling Generating Systems	$877,209	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$877,209**
D3040 - Distribution Systems	$3,365,637	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$3,365,637**
D3050 - Terminal & Package Units	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D3060 - Controls & Instrumentation	$1,608,907	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$1,608,907**
D40 - Fire Protection	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
D4010 - Sprinklers	$781,407	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$781,407**
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	$526,376	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$526,376**
D5020 - Lighting and Branch Wiring	$871,962	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$871,962**
D5030 - Communications and Security	$354,811	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$354,811**
D5090 - Other Electrical Systems	$261,941	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$261,941**
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	$105,028	$0	$0	$0	$0	$335,739	$0	$0	$0	$0	$0	**$440,767**
E1090 - Other Equipment	$0	$0	$0	$0	$0	$773,174	$0	$0	$0	$0	$0	**$773,174**
E20 - Furnishings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
E2010 - Fixed Furnishings	$97,086	$0	$0	$0	$0	$148,366	$0	$0	$0	$0	$0	**$245,453**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

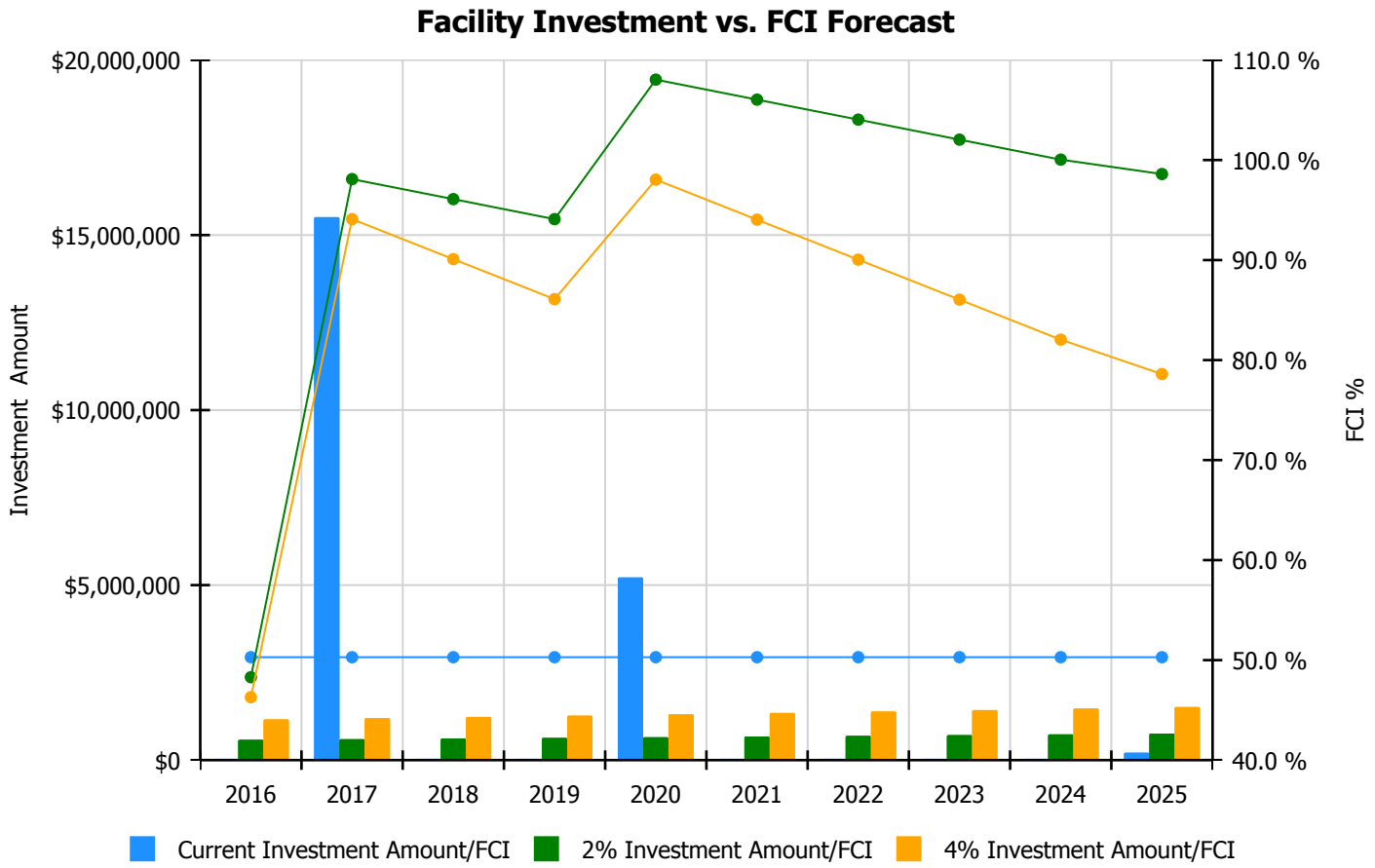
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



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:

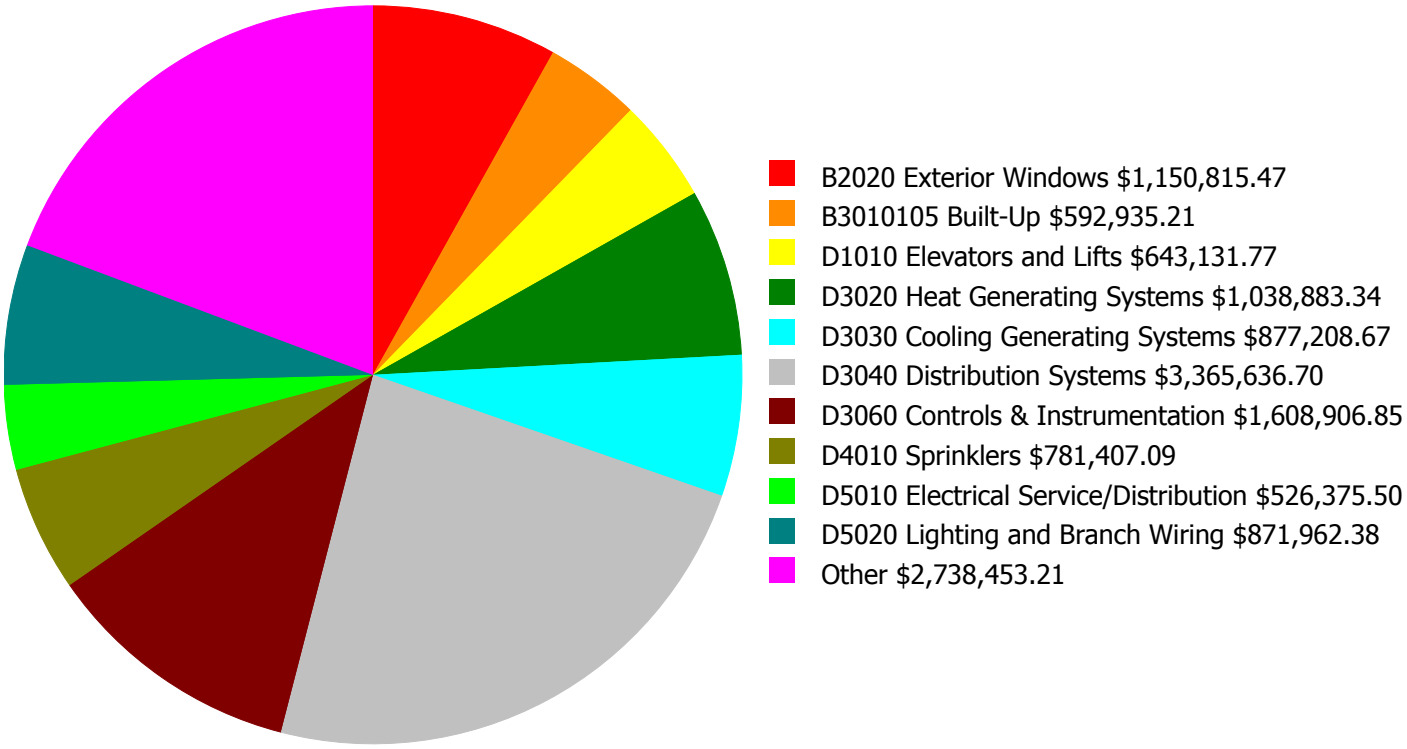
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 50.29%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$581,470.00	48.29 %	$1,162,941.00	46.29 %
2017	$15,512,290	$598,915.00	98.09 %	$1,197,829.00	94.09 %
2018	$0	$616,882.00	96.09 %	$1,233,764.00	90.09 %
2019	$0	$635,388.00	94.09 %	$1,270,777.00	86.09 %
2020	$5,218,863	$654,450.00	108.04 %	$1,308,900.00	98.04 %
2021	$0	$674,084.00	106.04 %	$1,348,167.00	94.04 %
2022	$0	$694,306.00	104.04 %	$1,388,612.00	90.04 %
2023	$0	$715,135.00	102.04 %	$1,430,271.00	86.04 %
2024	$0	$736,589.00	100.04 %	$1,473,179.00	82.04 %
2025	$212,371	$758,687.00	98.60 %	$1,517,374.00	78.60 %
Total:	**$20,943,524**	**$6,665,906.00**		**$13,331,814.00**	

Deficiency Summary by System

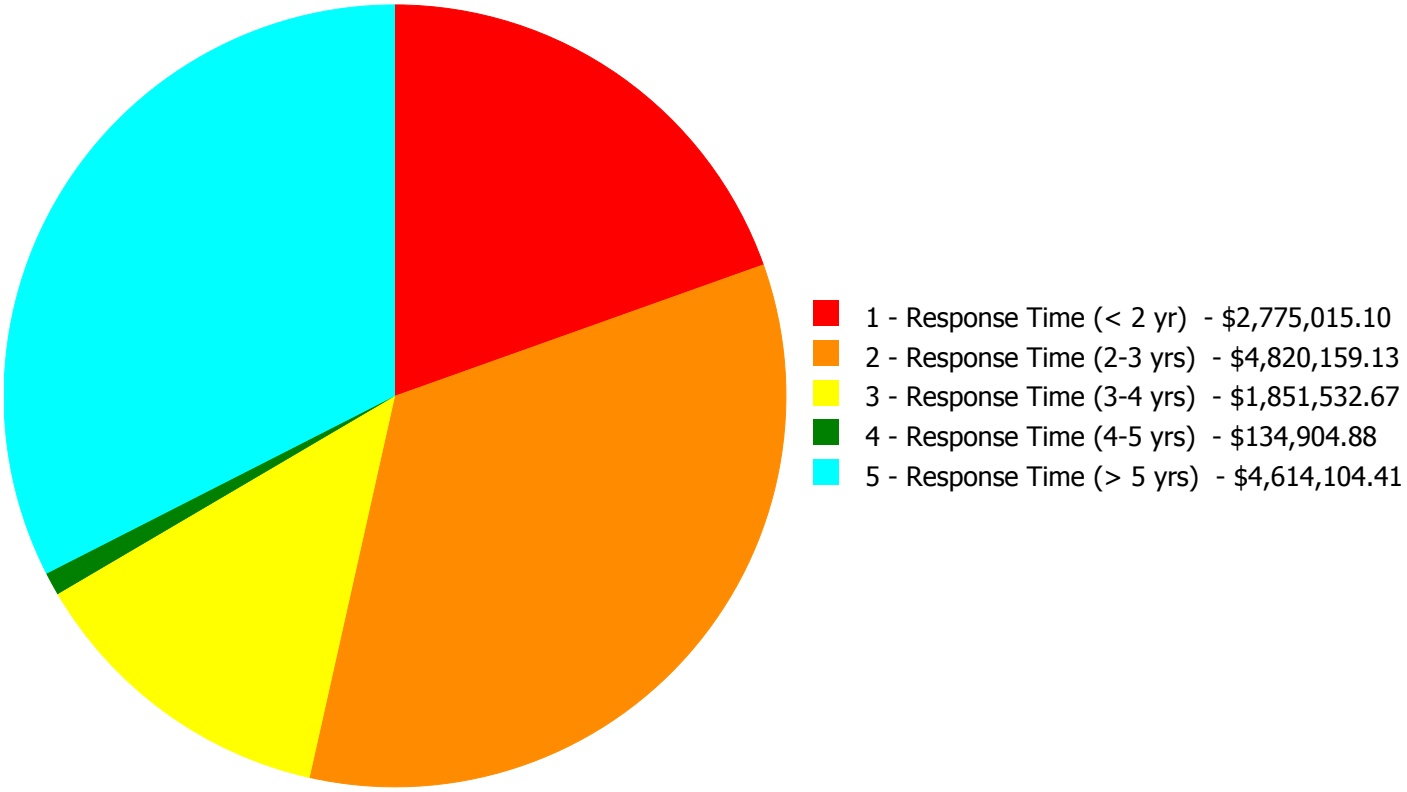
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $14,195,716.19

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: $14,195,716.19

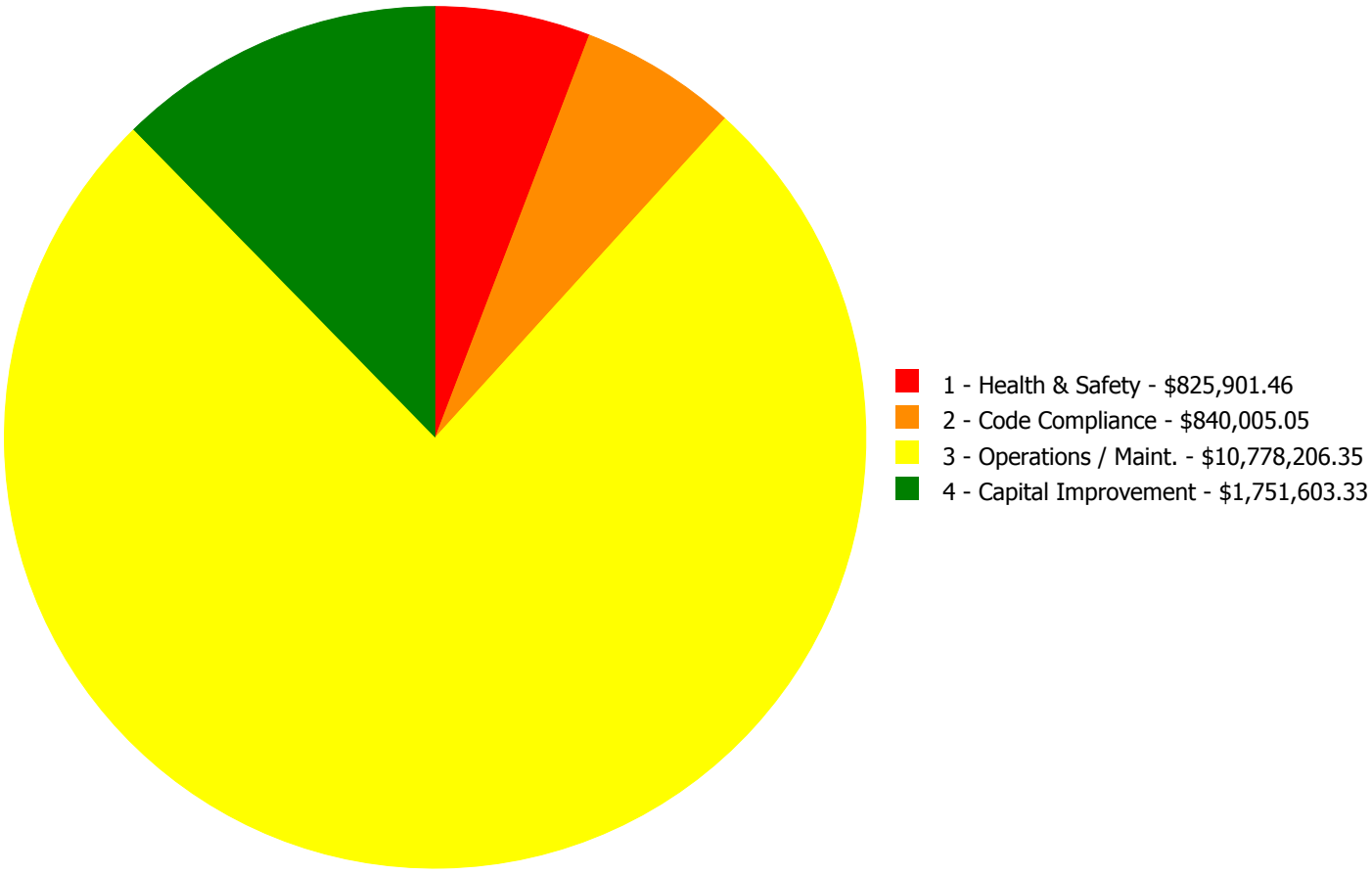
Deficiency By Priority Investment Table

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	$104,349.15	$0.00	$0.00	$0.00	$104,349.15
B2020	Exterior Windows	$0.00	$1,150,815.47	$0.00	$0.00	$0.00	$1,150,815.47
B2030	Exterior Doors	$0.00	$41,923.68	$0.00	$0.00	$0.00	$41,923.68
B3010105	Built-Up	$592,935.21	$0.00	$0.00	$0.00	$0.00	$592,935.21
C1010	Partitions	$0.00	$32,979.21	$0.00	$0.00	$0.00	$32,979.21
C1020	Interior Doors	$0.00	$259,949.29	$0.00	$0.00	$0.00	$259,949.29
C2010	Stair Construction	$0.00	$1,195.60	$0.00	$0.00	$0.00	$1,195.60
C3010230	Paint & Covering	$0.00	$267,717.25	$0.00	$0.00	$0.00	$267,717.25
C3020412	Terrazzo & Tile	$0.00	$6,535.69	$0.00	$0.00	$0.00	$6,535.69
C3020413	Vinyl Flooring	$0.00	$65,267.48	$0.00	$0.00	$0.00	$65,267.48
C3020414	Wood Flooring	$0.00	$258,406.56	$0.00	$0.00	$0.00	$258,406.56
C3020415	Concrete Floor Finishes	$0.00	$29,150.13	$0.00	$0.00	$0.00	$29,150.13
C3030	Ceiling Finishes	$0.00	$10,658.50	$0.00	$0.00	$0.00	$10,658.50
D1010	Elevators and Lifts	$0.00	$643,131.77	$0.00	$0.00	$0.00	$643,131.77
D2010	Plumbing Fixtures	$0.00	$242,086.07	$0.00	$0.00	$0.00	$242,086.07
D2020	Domestic Water Distribution	$0.00	$0.00	$54,606.72	$0.00	$276,794.29	$331,401.01
D2030	Sanitary Waste	$0.00	$0.00	$267,966.87	$0.00	$0.00	$267,966.87
D3020	Heat Generating Systems	$0.00	$0.00	$1,012,205.26	$0.00	$26,678.08	$1,038,883.34
D3030	Cooling Generating Systems	$0.00	$0.00	$0.00	$0.00	$877,208.67	$877,208.67
D3040	Distribution Systems	$196,866.60	$0.00	$516,753.82	$0.00	$2,652,016.28	$3,365,636.70
D3060	Controls & Instrumentation	$0.00	$1,608,906.85	$0.00	$0.00	$0.00	$1,608,906.85
D4010	Sprinklers	$0.00	$0.00	$0.00	$0.00	$781,407.09	$781,407.09
D5010	Electrical Service/Distribution	$526,375.50	$0.00	$0.00	$0.00	$0.00	$526,375.50
D5020	Lighting and Branch Wiring	$871,962.38	$0.00	$0.00	$0.00	$0.00	$871,962.38
D5030	Communications and Security	$324,934.34	$0.00	$0.00	$29,876.67	$0.00	$354,811.01
D5090	Other Electrical Systems	$261,941.07	$0.00	$0.00	$0.00	$0.00	$261,941.07
E1020	Institutional Equipment	$0.00	$0.00	$0.00	$105,028.21	$0.00	$105,028.21
E2010	Fixed Furnishings	$0.00	$97,086.43	$0.00	$0.00	$0.00	$97,086.43
	Total:	$2,775,015.10	$4,820,159.13	$1,851,532.67	$134,904.88	$4,614,104.41	$14,195,716.19

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: $14,195,716.19

Deficiency Details by Priority

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

Priority 1 - Response Time (< 2 yr):

System: B3010105 - Built-Up

Location: roofs
Distress: Failing
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Remove and Replace Built Up Roof
Qty: 17,500.00
Unit of Measure: S.F.
Estimate: $592,935.21
Assessor Name: System
Date Created: 10/19/2015

Notes: Remove and replace existing flat roof and insulation; 6 levels (17,500sf)

System: D3040 - Distribution Systems

Location: Throughout the building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 1 - Response Time (< 2 yr)
Correction: Conduct a steam trap survey and replace failed units.
Qty: 60,000.00
Unit of Measure: S.F.
Estimate: $196,866.60
Assessor Name: System
Date Created: 11/17/2015

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

System: D5010 - Electrical Service/Distribution

Location: Basement

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Switchboard

Qty: 1.00

Unit of Measure: Ea.

Estimate: $526,375.50

Assessor Name: System

Date Created: 09/17/2015

Notes: Upgrade the existing electrical service with a new service. Replace the existing switchboard with new 2000A, switchboard. Provide connection between existing switchboard with the new one.

System: D5020 - Lighting and Branch Wiring

Location: Entire Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace Lighting Fixtures (SF)

Qty: 1.00

Unit of Measure: S.F.

Estimate: $832,420.02

Assessor Name: System

Date Created: 09/17/2015

Notes: Replace all lighting fixtures with new fluorescent lighting fixtures with T-5 lamp throughout all buildings.

System: D5020 - Lighting and Branch Wiring

Location: Classrooms

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Add wiring device

Qty: 1.00

Unit of Measure: Ea.

Estimate: $39,542.36

Assessor Name: System

Date Created: 09/17/2015

Notes: Install minimum two receptacles in each wall of class rooms and sufficient number of receptacles in other areas per NEC. We recommend adding a two-compartment surface mounted raceway, for data power, for the computer lab room. Estimated 300 each.

System: D5030 - Communications and Security

Location: Entier Building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 1 - Response Time (< 2 yr)

Correction: Replace fire alarm system

Qty: 1.00

Unit of Measure: S.F.

Estimate: $280,541.70

Assessor Name: System

Date Created: 09/17/2015

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

System: D5030 - Communications and Security

Location: Auditorium

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Add/Replace Sound System

Qty: 1.00

Unit of Measure: LS

Estimate: $44,392.64

Assessor Name: System

Date Created: 09/17/2015

Notes: Provide new sound system including a freestanding 19" rack backstage area with a mixer, amplifiers, CD player, cassette player, AM-FM radio, graphic or parametric equalizer, and receivers.

System: D5090 - Other Electrical Systems

Location: Basement

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 1 - Response Time (< 2 yr)

Correction: Add Standby Generator System

Qty: 1.00

Unit of Measure: Ea.

Estimate: $234,207.49

Assessor Name: System

Date Created: 09/17/2015

Notes: Replace the existing emergency generator with a 100KW diesel generator.

System: D5090 - Other Electrical Systems

Location: Roof

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 1 - Response Time (< 2 yr)

Correction: Repair Lightning Protection System

Qty: 1.00

Unit of Measure: Job

Estimate: $27,733.58

Assessor Name: System

Date Created: 09/17/2015

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

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

System: B2010 - Exterior Walls

Location: rooftop structures

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 200.00

Unit of Measure: Ea.

Estimate: $50,324.21

Assessor Name: System

Date Created: 10/19/2015

Notes: Replace louvers and replace lintels on rooftop structure (200 sf louver and 30 ft lintels, for louver and windows)

System: B2010 - Exterior Walls

Location: exterior walls

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $32,289.47

Assessor Name: System

Date Created: 10/19/2015

Notes: Repair/repoint masonry in various locations around the building (1000sf)

System: B2010 - Exterior Walls

Location: rooftop structures

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 30.00

Unit of Measure: L.F.

Estimate: $12,272.57

Assessor Name: System

Date Created: 10/19/2015

Notes: Repaint louver and replace lintels on rooftop structure (200 sf louver and 30 ft lintels, for louver and windows)

System: B2010 - Exterior Walls

Location: rear walls facing playground

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 10.00

Unit of Measure: Ea.

Estimate: $9,462.90

Assessor Name: System

Date Created: 10/19/2015

Notes: Replace 10 damaged univent louvers (36 in x 16 in each)

System: B2020 - Exterior Windows

Location: windows

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 240.00

Unit of Measure: Ea.

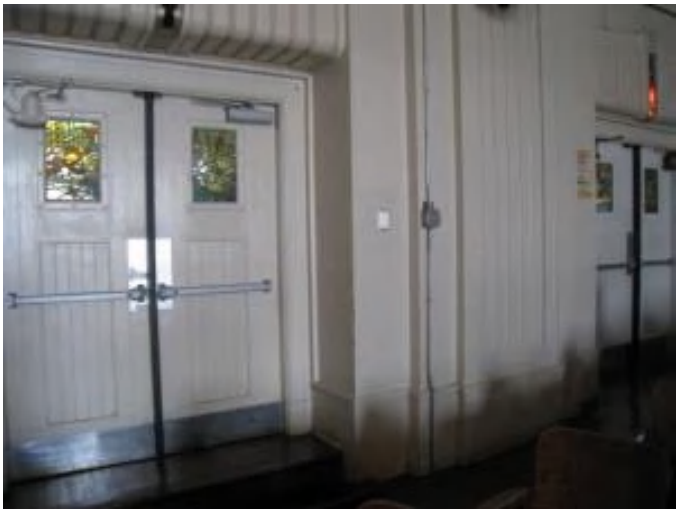
Estimate: $1,150,815.47

Assessor Name: System

Date Created: 10/19/2015

Notes: Replace all exterior windows with insulated single hung units; repaint lintels when replacing (240 each)

System: B2030 - Exterior Doors



Location: exterior doors

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Replace hardware with compliant hardware, paint and weatherstrip - per leaf

Qty: 12.00

Unit of Measure: Ea.

Estimate: $41,923.68

Assessor Name: System

Date Created: 10/19/2015

Notes: Replace all exterior door hardware with code compliant, latching, exit hardware (12 doors)

System: C1010 - Partitions

Location: classrooms

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 1,000.00

Unit of Measure: S.F.

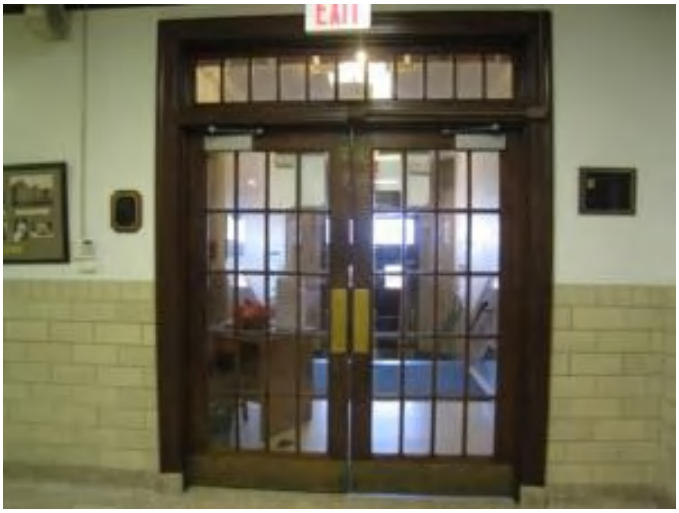
Estimate: $22,279.49

Assessor Name: System

Date Created: 10/19/2015

Notes: Remove folding wood partitions; replace with gypsum board and metal stud walls (1000 sf)

System: C1010 - Partitions



Location: corridors, above doors

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

Correction: Remove non-rated interior glass panels and replace with studs, gypsum board, paint (E) wall

Qty: 400.00

Unit of Measure: S.F.

Estimate: $10,699.72

Assessor Name: System

Date Created: 10/19/2015

Notes: Remove non-rated glass panels between classrooms and corridors; fill with fire rated gyp bd sys. (40 @ 10sf each)

System: C1020 - Interior Doors

Location: classroom doors in corridors

Distress: Building / MEP Codes

Category: 2 - Code Compliance

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

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

Qty: 40.00

Unit of Measure: Ea.

Estimate: $186,173.56

Assessor Name: System

Date Created: 10/19/2015

Notes: Remove and replace all wood interior doors, frames and hardware in classrooms and offices (40)

System: C1020 - Interior Doors

Location: closet and storage area doors in classrooms

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Refinish interior doors

Qty: 70.00

Unit of Measure: Ea.

Estimate: $57,972.81

Assessor Name: System

Date Created: 10/19/2015

Notes: Refinish closet doors in classrooms and around building (70)

System: C1020 - Interior Doors

Location: classroom and office doors

Distress: Security Issue

Category: 1 - Health & Safety

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

Correction: Provide security hardware for classroom and office doors

Qty: 40.00

Unit of Measure: Ea.

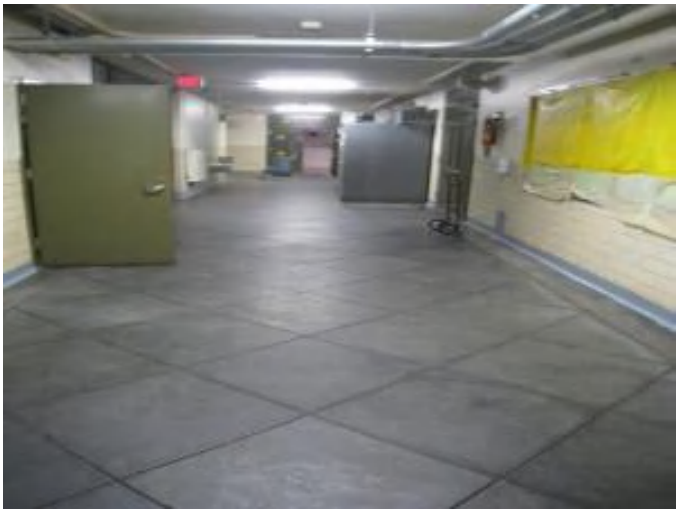
Estimate: $9,177.46

Assessor Name: System

Date Created: 10/19/2015

Notes: Provide security hardware for classrooms and offices, locking from inside classroom. (40)

System: C1020 - Interior Doors



Location: mechanical rooms

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Refinish interior doors

Qty: 8.00

Unit of Measure: Ea.

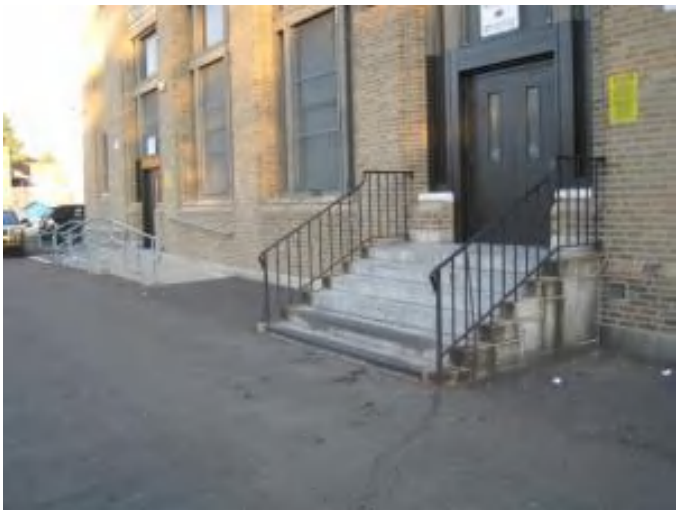
Estimate: $6,625.46

Assessor Name: System

Date Created: 10/19/2015

Notes: Repaint all basement steel doors, frames, and hardware in mechanical rooms (8)

System: C2010 - Stair Construction



Location: exterior stairs

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 80.00

Unit of Measure: L.F.

Estimate: $1,195.60

Assessor Name: System

Date Created: 10/19/2015

Notes: Regrout joints between limestone block tread/risers at exterior stairs (80 lf)

System: C3010230 - Paint & Covering

Location: stairway, classrooms, corridor walls

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: 50,000.00

Unit of Measure: S.F.

Estimate: $255,424.35

Assessor Name: System

Date Created: 10/19/2015

Notes: Repair water damage, cracks, and damages - repaint cafeteria, corridor, and classroom walls (50,000sf)

System: C3010230 - Paint & Covering

Location: mechanical rooms

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 2,000.00

Unit of Measure: S.F.

Estimate: $12,292.90

Assessor Name: System

Date Created: 10/19/2015

Notes: Strip and repaint concrete foundation (basement) walls in mechanical rooms (2000sf)

System: C3020412 - Terrazzo & Tile

Location: stairways and corridors

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Refinish terrazzo or tile flooring

Qty: 300.00

Unit of Measure: S.F.

Estimate: $6,535.69

Assessor Name: System

Date Created: 10/19/2015

Notes: Cracks (small, cosmetic) in terrazzo in stairways and throughout building (300 lf)

System: C3020413 - Vinyl Flooring

Location: offices and classroom

Distress: Appearance

Category: 3 - Operations / Maint.

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

Correction: Remove and replace VCT

Qty: 4,800.00

Unit of Measure: S.F.

Estimate: $57,684.15

Assessor Name: System

Date Created: 10/19/2015

Notes: Remove and replace all 12”x12” VCT floors in classrooms and offices with VCT (4800sf)

System: C3020413 - Vinyl Flooring

Location: classroom

Distress: Health Hazard / Risk

Category: 1 - Health & Safety

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

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

Qty: 500.00

Unit of Measure: S.F.

Estimate: $7,583.33

Assessor Name: System

Date Created: 10/19/2015

Notes: Replace VAT floors using proper asbestos abatement procedures if determined asbestos is present. (500 sf)

System: C3020414 - Wood Flooring

Location: classrooms, gym, and auditorium
Distress: Appearance
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Refinish wood floors
Qty: 24,000.00
Unit of Measure: S.F.
Estimate: $258,406.56
Assessor Name: System
Date Created: 10/19/2015

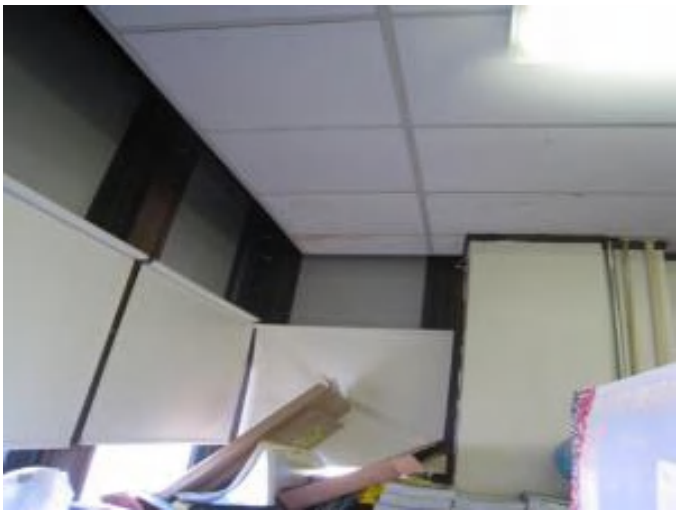
Notes: Strip, sand, repair and refinish all wood floors in classrooms, gymnasium, and in auditorium (24,000sf)

System: C3020415 - Concrete Floor Finishes

Location: mechanical rooms and cafeteria
Distress: Appearance
Category: 3 - Operations / Maint.
Priority: 2 - Response Time (2-3 yrs)
Correction: Clean and reseal concrete floors
Qty: 10,000.00
Unit of Measure: S.F.
Estimate: $29,150.13
Assessor Name: System
Date Created: 10/19/2015

Notes: Strip, clean and reseal basement floor in mechanical rooms and cafeteria. (10,000sf)

System: C3030 - Ceiling Finishes



Location: kindergarten

Distress: Damaged

Category: 3 - Operations / Maint.

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

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

Qty: 1,000.00

Unit of Measure: S.F.

Estimate: $10,658.50

Assessor Name: System

Date Created: 10/19/2015

Notes: Replace acoustical tile ceiling in kindergarten resulting from roof leak (1000 sf)

System: D1010 - Elevators and Lifts

This deficiency has no image.

Location: to be determined

Distress: Accessibility

Category: 2 - Code Compliance

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

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

Qty: 1.00

Unit of Measure: Ea.

Estimate: $643,131.77

Assessor Name: System

Date Created: 10/19/2015

Notes: Provide elevator to serve three floors and basement.

System: D2010 - Plumbing Fixtures

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 13.00

Unit of Measure: Ea.

Estimate: $204,007.66

Assessor Name: System

Date Created: 11/17/2015

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

System: D2010 - Plumbing Fixtures

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Remove and replace floor janitor or mop sink - insert the quantity

Qty: 4.00

Unit of Measure: Ea.

Estimate: $27,264.37

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace service sinks (janitor sinks) in the building.

System: D2010 - Plumbing Fixtures

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $10,814.04

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace all lavatories kindergarten with lower flow fixtures, as the fixtures are original.

System: D3060 - Controls & Instrumentation

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace pneumatic controls with DDC (75KSF)

Qty: 75,000.00

Unit of Measure: S.F.

Estimate: $1,608,906.85

Assessor Name: System

Date Created: 11/18/2015

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

System: E2010 - Fixed Furnishings

Location: auditorium seating

Distress: Appearance

Category: 3 - Operations / Maint.

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

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

Qty: 125.00

Unit of Measure: Ea.

Estimate: $97,086.43

Assessor Name: System

Date Created: 10/19/2015

Notes: Repair or replace damaged folding wood auditorium chairs (125 each)

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

System: D2020 - Domestic Water Distribution

Location: Boiler Mechancial Equipment Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Replace vertical tank type gas-fired water heater (75 gal)

Qty: 1.00

Unit of Measure: Ea.

Estimate: $54,606.72

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace one vertical tank natural gas fired water heater.

System: D2030 - Sanitary Waste

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

Correction: Inspect sanitary waste piping and replace damaged sections. (+50KSF)

Qty: 54,623.00

Unit of Measure: S.F.

Estimate: $267,966.87

Assessor Name: System

Date Created: 11/17/2015

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

System: D3020 - Heat Generating Systems

Location: Boiler Mechanical Equipment Room

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 2.00

Unit of Measure: Ea.

Estimate: $1,012,205.26

Assessor Name: System

Date Created: 11/17/2015

Notes: Replace the two 4.061 MBH Weil McLain 94 series steam boilers estimated to have been in service since the 1970s.

System: D3040 - Distribution Systems

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

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

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

Qty: 54,623.00

Unit of Measure: S.F.

Estimate: $516,753.82

Assessor Name: System

Date Created: 11/17/2015

Notes: Hire a qualified contractor to examine the steam and condensate piping in service for 78 years and perform additional testing to locate and replace any damaged piping and to further quantify the extent of potential failures. The District should budget for replacing this piping over the next 10 years

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

System: D5030 - Communications and Security

Location: Entire Buiding
Distress: Inadequate
Category: 4 - Capital Improvement
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Clock System or Components
Qty: 0.00
Unit of Measure: Ea.
Estimate: $29,876.67
Assessor Name: System
Date Created: 09/17/2015

Notes: Provide master clock system including wireless master clock controller and new clock in the classes and offices.

System: E1020 - Institutional Equipment

Location: B821001;Brown, J H
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 4 - Response Time (4-5 yrs)
Correction: Add/Replace Stage Theatrical Lighting System
Qty: 1.00
Unit of Measure: Ea.
Estimate: $105,028.21
Assessor Name: System
Date Created: 09/17/2015

Notes: Provide new stage lighting and lighting controller in the Auditorium.

Priority 5 - Response Time (> 5 yrs):

System: D2020 - Domestic Water Distribution

Location: Throughout the building
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace domestic water piping (75 KSF)
Qty: 54,623.00
Unit of Measure: S.F.
Estimate: $276,794.29
Assessor Name: System
Date Created: 11/17/2015

Notes: Inspect and replace the original domestic water piping in the building as needed

System: D3020 - Heat Generating Systems

Location: Boiler Mechanical Equipment Room
Distress: Beyond Service Life
Category: 3 - Operations / Maint.
Priority: 5 - Response Time (> 5 yrs)
Correction: Replace fuel oil pumps
Qty: 1.00
Unit of Measure: Ea.
Estimate: $26,678.08
Assessor Name: System
Date Created: 11/17/2015

Notes:

System: D3030 - Cooling Generating Systems

Location: Adjacent to building

Distress: Inadequate

Category: 4 - Capital Improvement

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 54,623.00

Unit of Measure: S.F.

Estimate: $877,208.67

Assessor Name: System

Date Created: 11/18/2015

Notes: Remove the window air conditioning units and install a 250 ton air-cooled chiller on the roof with chilled water distribution piping and pumps located in a mechanical room on the basement level to supply more reliable air conditioning for the building with a much longer service life.

System: D3040 - Distribution Systems

Location: Throughout the building

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 20.00

Unit of Measure: C

Estimate: $1,661,219.77

Assessor Name: System

Date Created: 11/18/2015

Notes: Replace the existing unit ventilators throughout the building with new units designed to provide adequate ventilation per ASHRAE Std 62. The new units shall be equipped with hot water / chilled water coils and integral heat recovery wheels. Install steam converters in the existing boiler room with circulating pumps, distribution piping and controls to provide heating hot water for the new coils

System: D3040 - Distribution Systems

Location: Cafeteria

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 850.00

Unit of Measure: Pr.

Estimate: $397,410.06

Assessor Name: System

Date Created: 11/18/2015

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

System: D3040 - Distribution Systems

Location: Gym

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 6,000.00

Unit of Measure: Ea.

Estimate: $308,301.04

Assessor Name: System

Date Created: 11/18/2015

Notes: Provide ventilation, heating and cooling for the gymnasium by installing a packaged air conditioning unit.

System: D3040 - Distribution Systems

Location: Auditorium

Distress: Beyond Service Life

Category: 3 - Operations / Maint.

Priority: 5 - Response Time (> 5 yrs)

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

Qty: 200.00

Unit of Measure: Seat

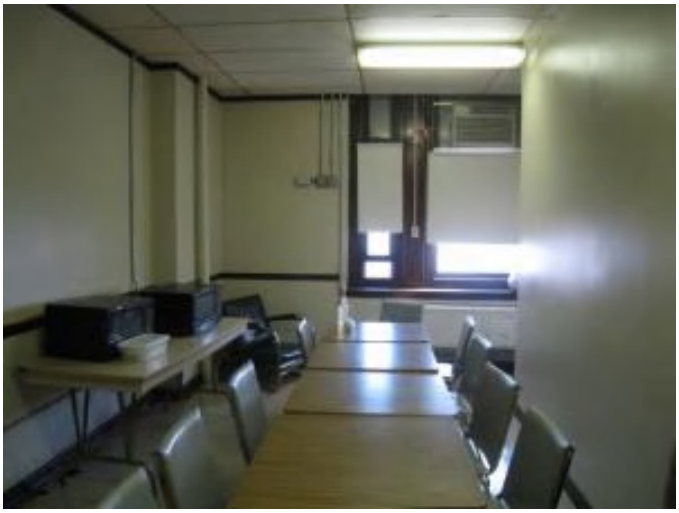
Estimate: $285,085.41

Assessor Name: System

Date Created: 11/18/2015

Notes: Provide ventilation, heating and cooling for the Auditorium by removing the existing convection heat and house fan and installing a package constant volume air handling unit with distribution ductwork and registers.

System: D4010 - Sprinklers



Location: Throughout the building

Distress: Life Safety / NFPA / PFD

Category: 1 - Health & Safety

Priority: 5 - Response Time (> 5 yrs)

Correction: Install a fire protection sprinkler system

Qty: 54,623.00

Unit of Measure: S.F.

Estimate: $781,407.09

Assessor Name: System

Date Created: 11/18/2015

Notes: Install a fire protection sprinkler system with quick response type heads to reduce insurance costs by providing protection for the property. A fire pump may be required depending on the available city water pressure.
Install a new sprinkler system throughout the building

Equipment Inventory

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

Subsystem	Inventory	Qty	UoM	Location	Manufacturer	Model Number	Serial Number	Barcode	Life	Install Date	Next Renewal	Raw Cost	Inventory Cost
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 4070 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Boiler Mechanical Equipment Room	Weil McLain	1994			35			$106,115.00	$233,453.00
D3020 Heat Generating Systems	Boiler, gas/oil combination, cast iron, steam, gross output, 4070 MBH, includes burners, controls and insulated jacket, packaged	2.00	Ea.	Boiler Mechanical Equipment Room	Weil McLain	1994			35			$106,115.00	$233,453.00
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 1200 amp, excl breakers	1.00	Ea.	Electrical Room					30	1937	2027	$6,551.55	$7,206.71
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 400 amp, excl breakers	1.00	Ea.	Electrical Room					30	1937	2037	$3,291.30	$3,620.43
D5010 Electrical Service/Distribution	Switchboards, pressure switch, 4 wire, with ground fault, 120/208 V, 1600 amp, incl CT compartment, excl CT's or PT's	1.00	Ea.	Electrical Room					30	1937	2017	$35,024.40	$38,526.84
												Total:	**$516,259.98**

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):	69,700
Year Built:	1937
Last Renovation:	
Replacement Value:	$1,533,479
Repair Cost:	$289,928.79
Total FCI:	18.91 %
Total RSLI:	0.00 %

Description:

Attributes:

General Attributes:

Bldg ID:	S821001	Site ID:	S821001

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	0.00 %	25.69 %	$289,928.79
G40 - Site Electrical Utilities	0.00 %	0.00 %	$0.00
Totals:	**0.00 %**	**18.91 %**	**$289,928.79**

Condition Detail

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

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

System Listing

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

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

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

System Code	System Description	Unit Price $	UoM	Qty	Life	Year Installed	Calc Next Renewal Year	Next Renewal Year	RSLI%	FCI%	RSL	eCR	Deficiency $	Replacement Value $
G2010	Roadways	$11.52	S.F.		30				0.00 %	0.00 %				$0
G2020	Parking Lots	$8.50	S.F.	8,600	30				0.00 %	75.28 %			$55,030.33	$73,100
G2030	Pedestrian Paving	$12.30	S.F.	61,100	40				0.00 %	0.00 %				$751,530
G2040	Site Development	$4.36	S.F.	69,700	25				0.00 %	77.30 %			$234,898.46	$303,892
G2050	Landscaping & Irrigation	$4.36	S.F.		15				0.00 %	0.00 %				$0
G4020	Site Lighting	$4.84	S.F.	69,700	30				0.00 %	0.00 %				$337,348
G4030	Site Communications & Security	$0.97	S.F.	69,700	30				0.00 %	0.00 %				$67,609
								Total	**0.00 %**	**18.91 %**			**$289,928.79**	**$1,533,479**

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.

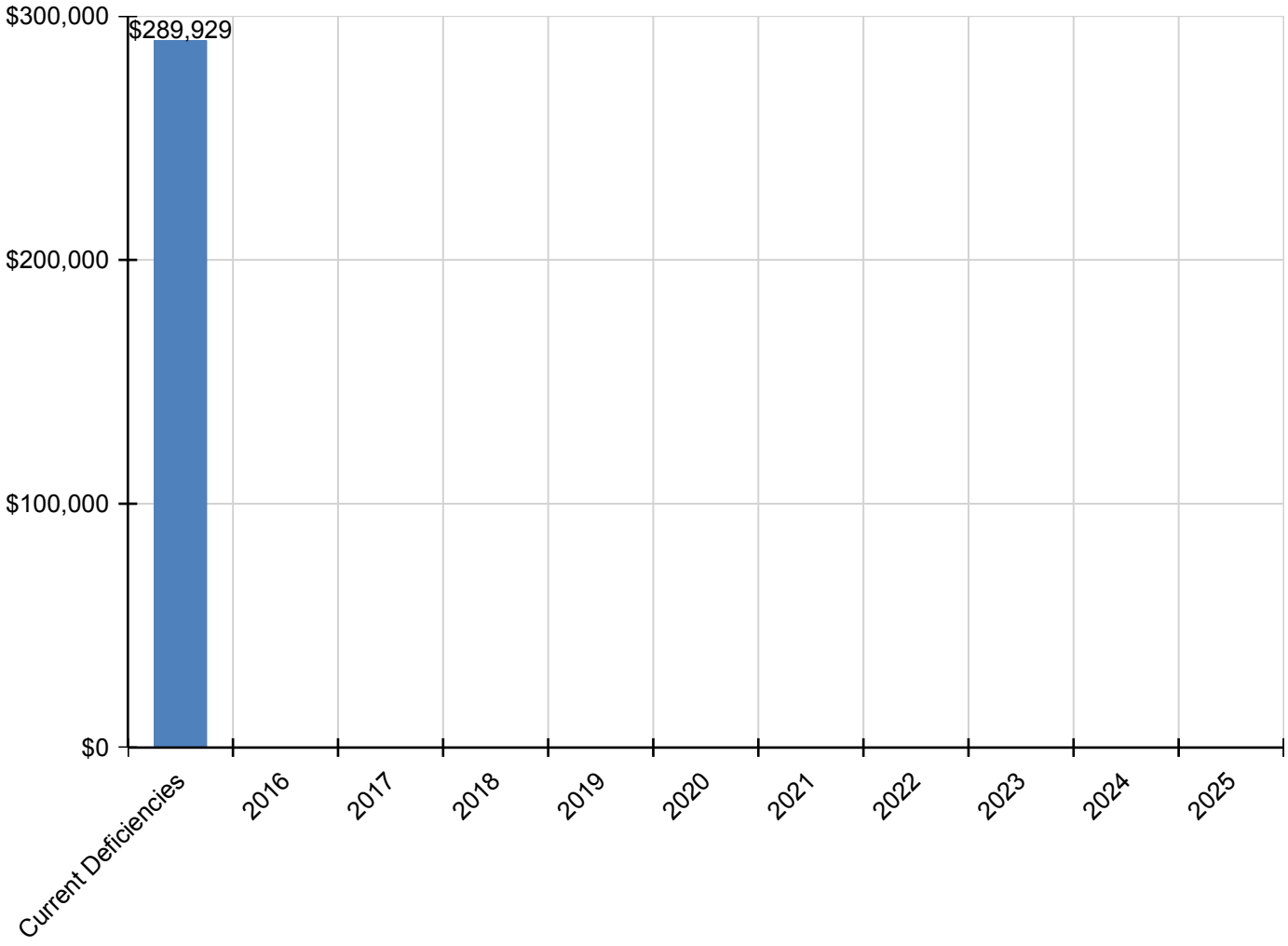
Inflation Rate: 3%

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Total:	**$289,929**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$289,929**
G - Building Sitework	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G20 - Site Improvements	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2010 - Roadways	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2020 - Parking Lots	$55,030	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$55,030**
G2030 - Pedestrian Paving	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G2040 - Site Development	$234,898	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$234,898**
G2050 - Landscaping & Irrigation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G40 - Site Electrical Utilities	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4020 - Site Lighting	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
G4030 - Site Communications & Security	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**

** Indicates non-renewable system*

Forecasted Sustainment Requirement

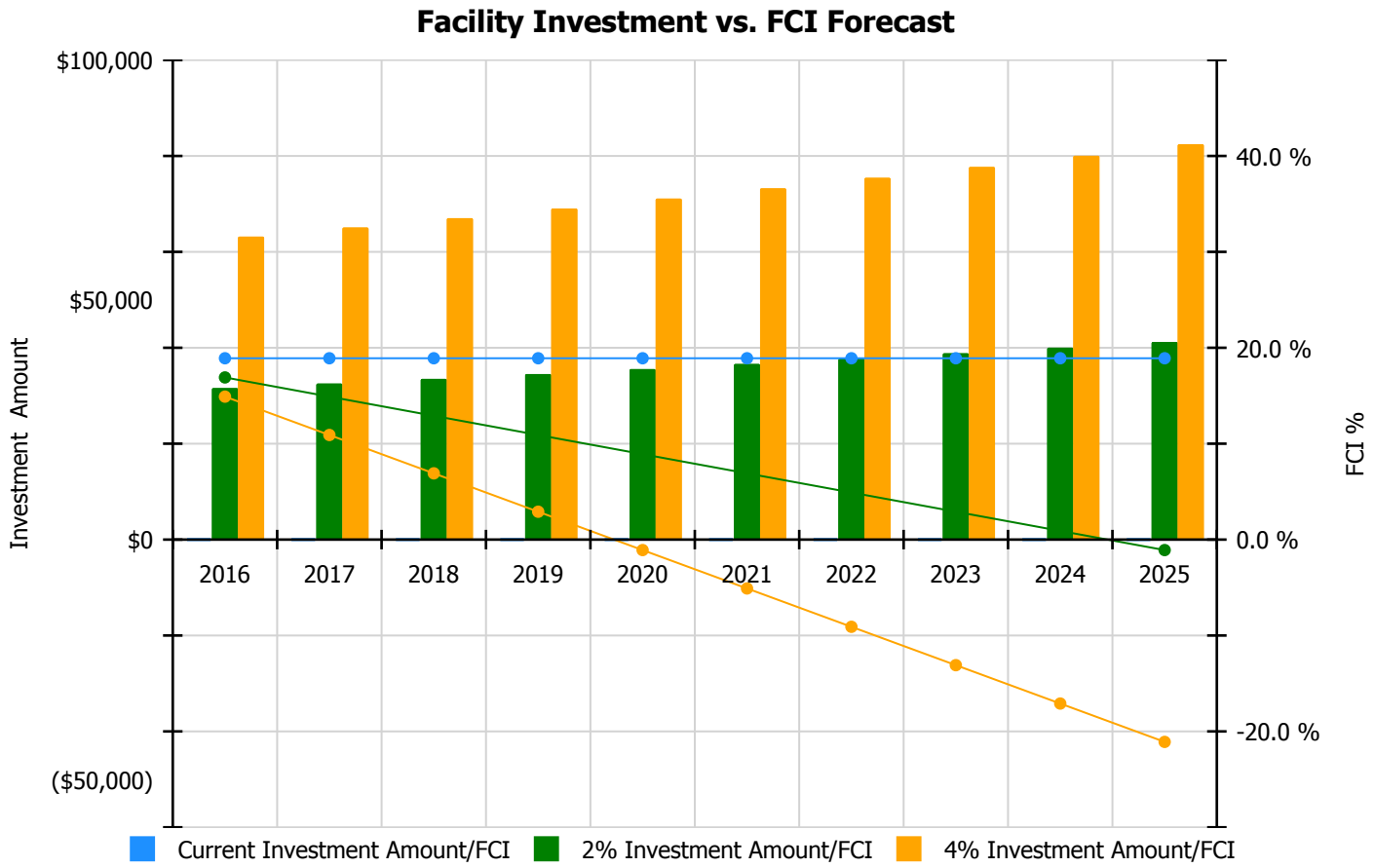
The following chart shows the current building deficiencies and forecasting sustainment requirements over the next ten years.



10 Year FCI Forecast by Investment Scenario

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

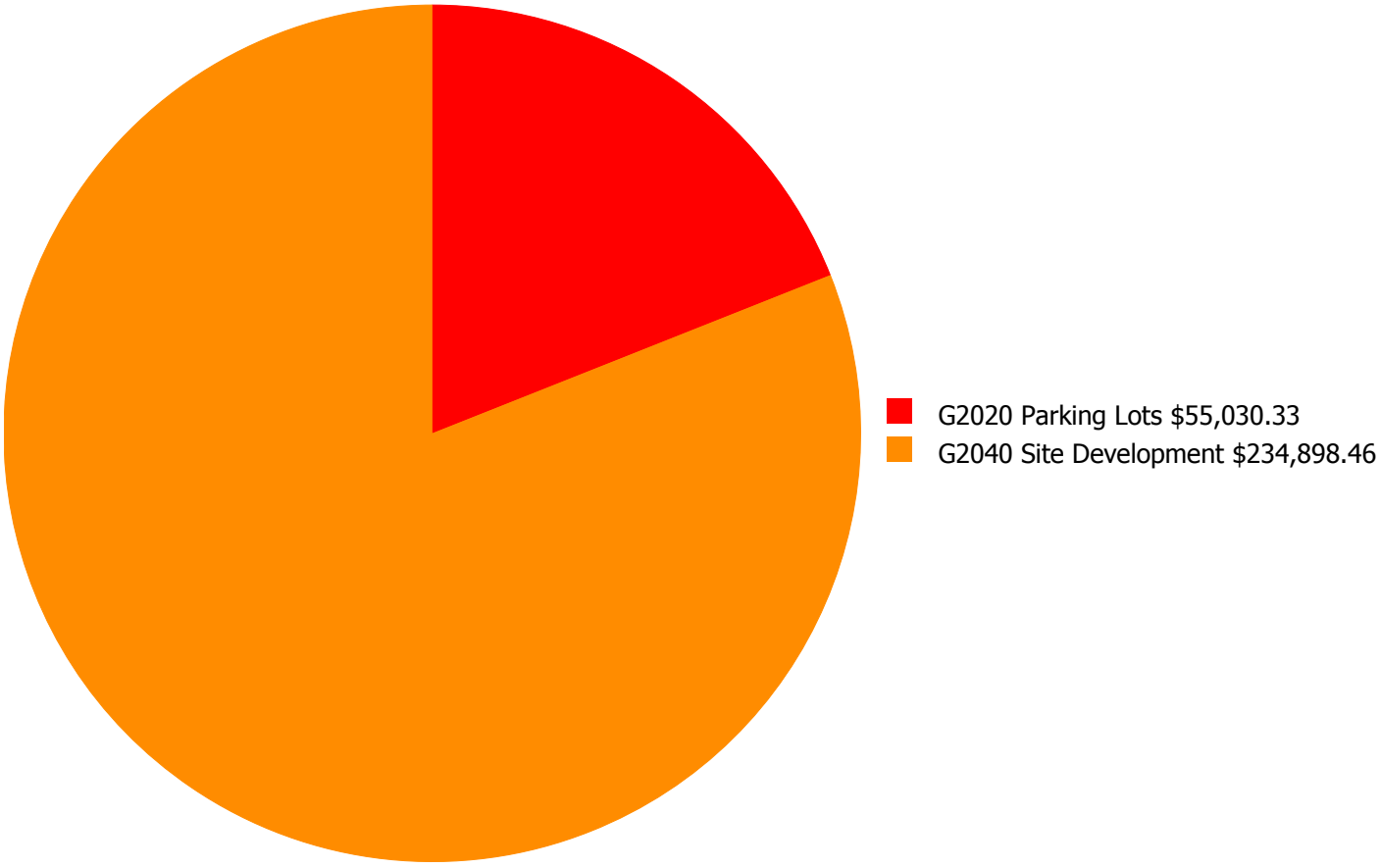
- Current FCI: a variable investment amount based on renewing expired systems to maintain the current FCI for the building
- 2% Investment: an annual investment of 2% of the replacement value of the building, escalated for inflation
- 4% Investment: an annual investment of 4% of the replacement value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



Year	Investment Amount Current FCI - 18.91%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	$0	$31,590.00	16.91 %	$63,179.00	14.91 %
2017	$0	$32,537.00	14.91 %	$65,075.00	10.91 %
2018	$0	$33,513.00	12.91 %	$67,027.00	6.91 %
2019	$0	$34,519.00	10.91 %	$69,038.00	2.91 %
2020	$0	$35,554.00	8.91 %	$71,109.00	-1.09 %
2021	$0	$36,621.00	6.91 %	$73,242.00	-5.09 %
2022	$0	$37,720.00	4.91 %	$75,439.00	-9.09 %
2023	$0	$38,851.00	2.91 %	$77,703.00	-13.09 %
2024	$0	$40,017.00	0.91 %	$80,034.00	-17.09 %
2025	$0	$41,217.00	-1.09 %	$82,435.00	-21.09 %
Total:	**$0**	**$362,139.00**		**$724,281.00**	

Deficiency Summary by System

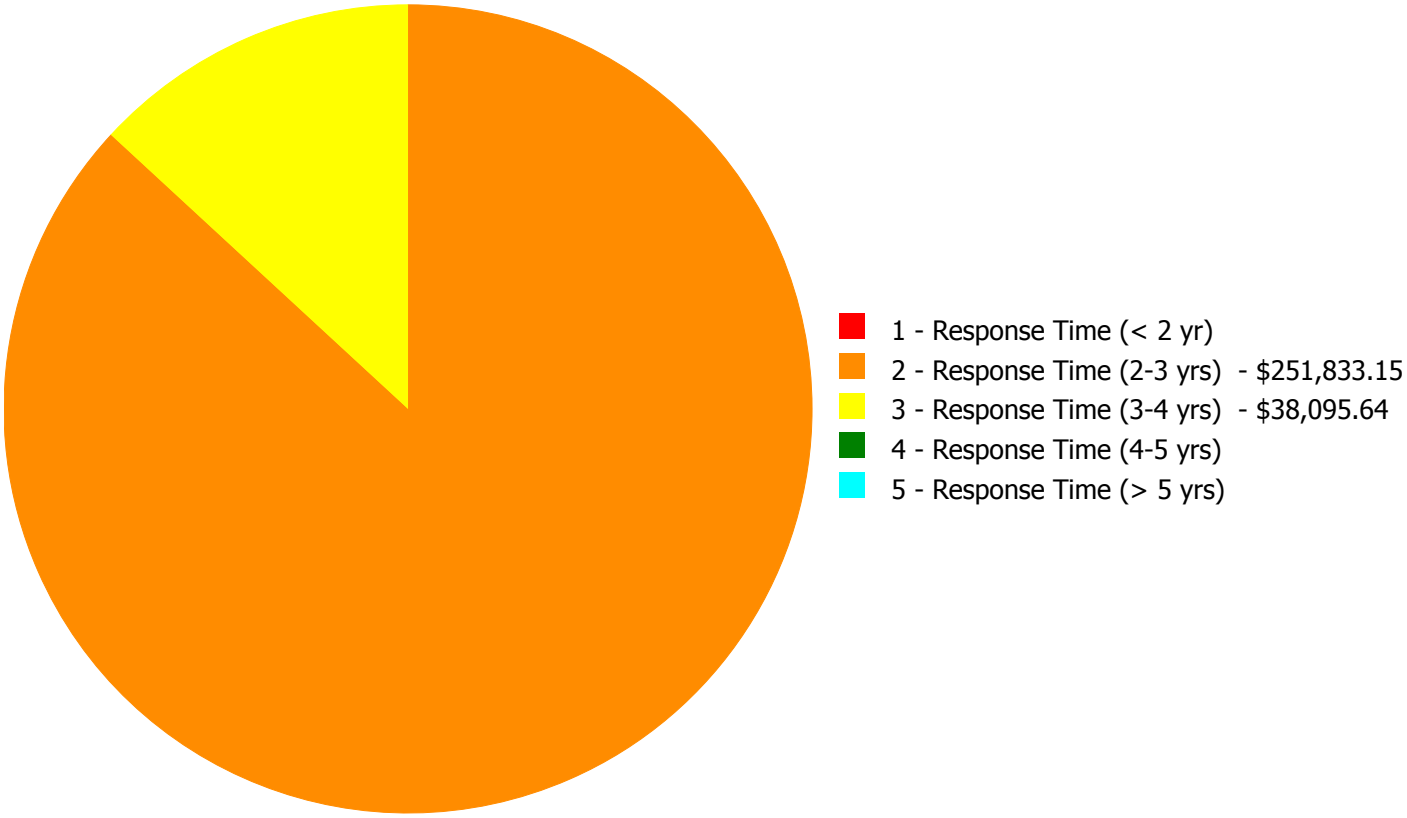
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



Budget Estimate Total: $289,928.79

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: $289,928.79

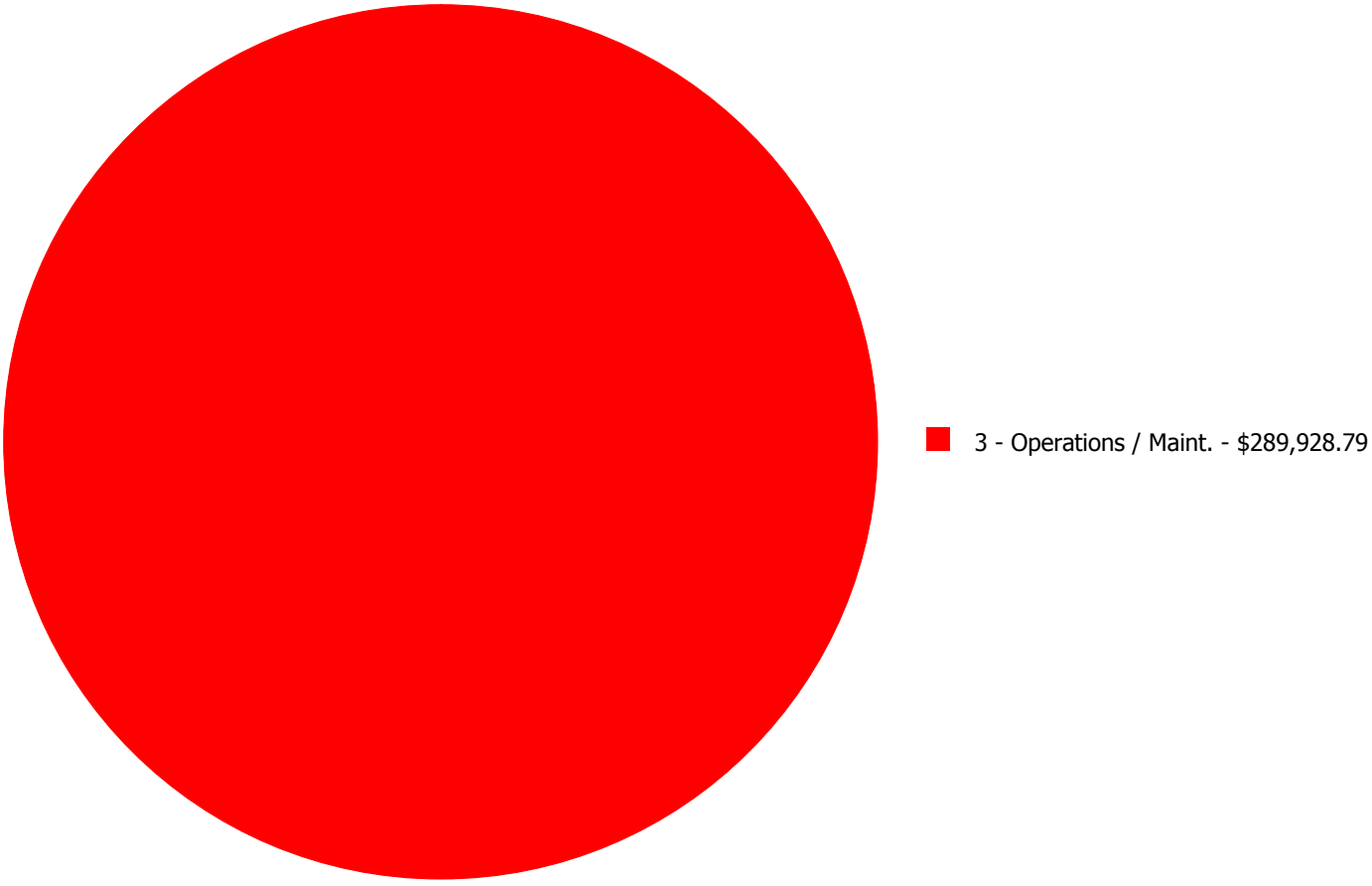
Deficiency By Priority Investment Table

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	$16,934.69	$38,095.64	$0.00	$0.00	$55,030.33
G2040	Site Development	$0.00	$234,898.46	$0.00	$0.00	$0.00	$234,898.46
	Total:	$0.00	$251,833.15	$38,095.64	$0.00	$0.00	$289,928.79

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: $289,928.79

Deficiency Details by Priority

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

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

System: G2020 - Parking Lots

Location: parking lots / play areas

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 1,500.00

Unit of Measure: L.F.

Estimate: $16,934.69

Assessor Name: Ben Nixon

Date Created: 10/19/2015

Notes: Fill cracks in other asphalt paved area (1500 lf)

System: G2040 - Site Development

Location: Retaining wall - Frankford Ave

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 250.00

Unit of Measure: L.F.

Estimate: $128,906.30

Assessor Name: Ben Nixon

Date Created: 10/19/2015

Notes: Rebuild 4 ft high brick retaining wall along Frankford Avenue (250ft)

System: G2040 - Site Development

Location: wrought iron site fence

Distress: Failing

Category: 3 - Operations / Maint.

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

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

Qty: 1,200.00

Unit of Measure: L.F.

Estimate: $78,312.06

Assessor Name: Ben Nixon

Date Created: 10/19/2015

Notes: Repaint 5ft high wrought iron property fence (1200 lf)

System: G2040 - Site Development

Location: between high and low parking areas

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Repair concrete retaining wall in poor condition including rebar doweling - insert the SF of wall area

Qty: 200.00

Unit of Measure: S.F.

Estimate: $14,222.39

Assessor Name: Ben Nixon

Date Created: 10/19/2015

Notes: Rebuild 36” high concrete retaining wall between upper and lower playground areas (200sf)

System: G2040 - Site Development

Location: window wells and exit wells

Distress: Damaged

Category: 3 - Operations / Maint.

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

Correction: Replace chain link fence - 6' high

Qty: 150.00

Unit of Measure: L.F.

Estimate: $13,457.71

Assessor Name: Ben Nixon

Date Created: 10/19/2015

Notes: Replace chain link fence protecting window wells and exit wells. (150 ft)

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

System: G2020 - Parking Lots

Location: asphalt play area

Distress: Failing

Category: 3 - Operations / Maint.

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

Correction: Resurface parking lot - grind and resurface including striping

Qty: 10,000.00

Unit of Measure: S.F.

Estimate: $38,095.64

Assessor Name: Ben Nixon

Date Created: 10/19/2015

Notes: Repave damaged sections of asphalt parking / playground area (10,000sf)

Equipment Inventory

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

No data found for this asset

Glossary

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

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

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

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

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

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

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

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

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

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

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