

## 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.

### Moore School

Governance	DISTRICT	Report Type	Elementary
Address	6900 Summerdale Ave. Philadelphia, Pa 19111	Enrollment	1184
Phone/Fax	215-728-5011 / 215-728-5692	Grade Range	'00-05'
Website	Www.Philasd.Org/Schools/Moore	Admissions Category	Neighborhood
		Turnaround Model	N/A

### Building/System FCI Tiers

Facility Condition Index (FCI) = $\frac{\text{Cost of Assessed Deficiencies}}{\text{Replacement Value}}$				
< 15%	15 to 25%	25 to 45%	45 to 60%	> 60%
<b>Buildings</b>				
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.
<b>Systems</b>				
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
<b>Overall</b>	<b>32.82%</b>	<b>\$17,585,516</b>	<b>\$53,581,534</b>
Building	46.42 %	\$17,390,769	\$37,467,886
Grounds	02.38 %	\$83,615	\$3,510,956

### Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
<b>Roof</b> (Shows physical condition of roof)	87.82 %	\$1,067,053	\$1,215,100
<b>Exterior Walls</b> (Shows condition of the structural condition of the exterior facade)	04.58 %	\$96,868	\$2,113,625
<b>Windows</b> (Shows functionality of exterior windows)	144.67 %	\$1,334,939	\$922,765
<b>Exterior Doors</b> (Shows condition of exterior doors)	96.66 %	\$109,288	\$113,061
<b>Interior Doors</b> (Classroom doors)	149.93 %	\$381,647	\$254,556
<b>Interior Walls</b> (Paint and Finishes)	00.00 %	\$0	\$894,330
<b>Plumbing Fixtures</b>	02.05 %	\$43,809	\$2,137,998
<b>Boilers</b>	02.11 %	\$26,678	\$1,263,978
<b>Chillers/Cooling Towers</b>	65.60 %	\$1,087,247	\$1,657,320
<b>Radiators/Unit Ventilators/HVAC</b>	145.91 %	\$4,246,754	\$2,910,466
<b>Heating/Cooling Controls</b>	158.90 %	\$1,452,329	\$913,964
<b>Electrical Service and Distribution</b>	149.14 %	\$979,398	\$656,700
<b>Lighting</b>	54.43 %	\$1,278,033	\$2,347,871
<b>Communications and Security</b> (Cameras, Pa System and Fire Alarm)	69.99 %	\$615,509	\$879,436

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.

## 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.

### Moore PEC School

Governance	DISTRICT	Report Type	Elementary
Address	6900 Summerdale Ave. Philadelphia, Pa 19111	Enrollment	
Phone/Fax	215-728-5011 / 215-728-5692	Grade Range	'00-05'
Website	Www.Philasd.Org/Schools/Moore	Admissions Category	Neighborhood
		Turnaround Model	N/A

### Building/System FCI Tiers

Facility Condition Index (FCI) = $\frac{\text{Cost of Assessed Deficiencies}}{\text{Replacement Value}}$				
< 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
<b>Overall</b>	<b>32.82%</b>	<b>\$17,585,516</b>	<b>\$53,581,534</b>
Building	00.88 %	\$111,132	\$12,602,692
Grounds	02.38 %	\$83,615	\$3,510,956

### Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
<b>Roof</b> (Shows physical condition of roof)	00.00 %	\$0	\$891,808
<b>Exterior Walls</b> (Shows condition of the structural condition of the exterior facade)	00.00 %	\$0	\$724,304
<b>Windows</b> (Shows functionality of exterior windows)	00.00 %	\$0	\$316,216
<b>Exterior Doors</b> (Shows condition of exterior doors)	00.00 %	\$0	\$38,744
<b>Interior Doors</b> (Classroom doors)	00.00 %	\$0	\$87,232
<b>Interior Walls</b> (Paint and Finishes)	00.00 %	\$0	\$272,616
<b>Plumbing Fixtures</b>	00.00 %	\$0	\$732,656
<b>Boilers</b>	00.00 %	\$0	\$433,144
<b>Chillers/Cooling Towers</b>	00.00 %	\$0	\$567,936
<b>Radiators/Unit Ventilators/HVAC</b>	00.00 %	\$0	\$997,368
<b>Heating/Cooling Controls</b>	00.00 %	\$0	\$313,200
<b>Electrical Service and Distribution</b>	00.00 %	\$0	\$225,040
<b>Lighting</b>	02.06 %	\$16,592	\$804,576
<b>Communications and Security</b> (Cameras, Pa System and Fire Alarm)	00.92 %	\$2,775	\$301,368

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  
**S831001;Moore**  
Final  
**Site Assessment Report**  
January 31, 2017



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## Site Executive Summary

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

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

Following are the cost model's system details for this facility. The Replacement Value is the amount needed to replace the property of the same present value. The Current Repair Amount, also known as Condition Needs, represents the budgeted contractor installed costs plus owner's soft costs for the repair, replacement or renewal for a component or system level deficiency. It excludes contributing costs for other components or systems that might also be associated with the corrective actions due to packaging the work. Facility Condition Index (FCI) is an industry-standard measurement calculated as the ratio of the repair costs to correct a facility's deficiencies to the facility's Current Replacement Value. Condition Index (CI) for a system is calculated as the sum of 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):	67,701
Year Built:	1952
Last Renovation:	
Replacement Value:	\$53,581,534
Repair Cost:	\$17,585,515.64
Total FCI:	32.82 %
Total RSLI:	62.55 %



**Description:**

**Attributes:**

**General Attributes:**

Active:	Open	Bldg Lot Tm:	Lot 3 / Tm 1
Status:	Accepted by SDP	Team:	Tm 1
Site ID:	S831001		

## 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	50.78 %	0.00 %	\$0.00
A20 - Basement Construction	37.00 %	0.00 %	\$0.00
B10 - Superstructure	52.08 %	0.00 %	\$0.00
B20 - Exterior Enclosure	43.72 %	36.44 %	\$1,541,095.71
B30 - Roofing	55.31 %	50.65 %	\$1,067,053.13
C10 - Interior Construction	47.79 %	60.96 %	\$1,263,896.78
C20 - Stairs	12.00 %	116.92 %	\$101,317.68
C30 - Interior Finishes	68.82 %	36.93 %	\$1,452,552.46
D10 - Conveying	106.67 %	163.86 %	\$387,153.48
D20 - Plumbing	40.24 %	21.11 %	\$780,370.03
D30 - HVAC	83.24 %	67.38 %	\$6,813,007.85
D40 - Fire Protection	97.69 %	118.25 %	\$968,495.16
D50 - Electrical	90.63 %	57.81 %	\$3,126,958.26
E10 - Equipment	44.49 %	0.00 %	\$0.00
E20 - Furnishings	42.12 %	0.00 %	\$0.00
G20 - Site Improvements	69.12 %	3.13 %	\$83,615.10
G40 - Site Electrical Utilities	70.00 %	0.00 %	\$0.00
<b>Totals:</b>	<b>62.55 %</b>	<b>32.82 %</b>	<b>\$17,585,515.64</b>

### 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)
B831001;Moore	67,701	46.42	\$847,050.27	\$220,002.86	\$4,753,711.36	\$7,920,029.43	\$3,649,974.80
B831002;Moore PEC	23,200	0.88	\$0.00	\$0.00	\$14,915.77	\$2,775.43	\$93,440.62
G831001;Grounds	192,500	2.38	\$0.00	\$0.00	\$64,762.58	\$0.00	\$18,852.52
<b>Total:</b>		<b>32.82</b>	<b>\$847,050.27</b>	<b>\$220,002.86</b>	<b>\$4,833,389.71</b>	<b>\$7,922,804.86</b>	<b>\$3,762,267.94</b>

### Deficiencies By Priority



- 1 - Response Time (< 2 yr) - \$847,050.27
- 2 - Response Time (2-3 yrs) - \$220,002.86
- 3 - Response Time (3-4 yrs) - \$4,833,389.71
- 4 - Response Time (4-5 yrs) - \$7,922,804.86
- 5 - Response Time (> 5 yrs) - \$3,762,267.94

**Budget Estimate Total: \$17,585,515.64**



## 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):	67,701
Year Built:	1952
Last Renovation:	
Replacement Value:	\$37,467,886
Repair Cost:	\$17,390,768.72
Total FCI:	46.42 %
Total RSLI:	58.12 %



### Description:

Facility Assessment  
October 2015

**School District of Philadelphia**  
**Hampton J Moore Elementary School**  
**6900 Summerdale Ave.**  
**Philadelphia, PA 19111**

Elementary School 67,701 SF / PEC 23,200 SF / 67,701 Students / LN 08

The Hampton J Moore Elementary School is one of the older schools in service to the Philadelphia communities and has a portrait and dedication plaque to Hampton J Moore in the main lobby. This unique site has two main structures that consist of the original school constructed in 1951 identified as B831001. This school is a two story V-shaped steel and concrete masonry supported structure and the new Primary Education Center (PEC) addition constructed in 2006 on the Northern side of the site. This school is a single story steel framed concrete and masonry constructed building. This new school consists of a 23,200 GSF and is identified as B831002. Both schools serve students in grades K to 6.

Overall the site is identified as B831001 and located at 4030 Brown St., Philadelphia, PA. The school has had one major addition that includes a masonry supported steel framed metal roof addition on the southern extension of the original building. This addition consists of classroom space only. General parking is west of the schools. This school has several classrooms, a library, kitchen and cafeteria, with supporting administrative spaces.

## Site Assessment Report - B831001;Moore

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The information for this report was collected during a site visit on October 8, 2015.

Ms. Eva McCarthy, Building Engineer, and Mr. Timothy Glynn, Principal, accompanied the assessment team on a tour of the school and provided detailed information on the building systems and maintenance history. Mr. Frank Milicia, Assistant Principal, and Mr. Marty Graham, General Cleaner, also shared information about the school with the assessment team.

### **ARCHITECTURAL / STRUCTURAL SYSTEMS**

Foundations are concrete and appear to be in very condition. The older schools basement walls are concrete and appear to be in good condition. The superstructure is steel framed masonry supported with concrete floor construction.

The existing built up roofing system has clear signs of ponding and there reportedly has been an increase of roofing maintenance on this single ply roofing system. During the time of the inspection several major issues were noted such as open holes in the roof, ripped membrane and open tears exposing the insulation to the elements. It is recommended that a new built-up roofing system be installed as this roof has clearly failed.

The existing metal roofing system over the temporary addition has clear signs of damage and reportedly has been an increase of roofing maintenance. During the time of the inspection several major issues were noted such as water leaking into the interior classrooms and damaging the finishes. It is recommended that a new metal roofing system be installed.

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

As indicated in the photos the single pane steel or aluminum framed windows appear to be original. Several of the windows no longer work and will require attention prior to an overall effort. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system, store front and service doors are recommended for upgrade.

Special consideration for those that may be physically challenged was a main factor in the newly constructed school. This school has all the modern considerations for those that may be physically challenged. However, the older school on this site lacks any consideration to meet the needs of the current legislation. The older school will require the addition of an elevator, Interior access ramps, some door hardware, hand rails and guard rails. Included in this report are modifications that allow for considerations to enhance the upgrades required to support the physically challenged.

Interior partitions include CMU and glazed block. A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically metal in metal frames with transom lites or sidelights, glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

This school's science labs have been upgraded from the original construction. The installation consist of an instruction demonstration desk with sink. Wall mounted storage cabinets and cabinets with sinks for student use. The system is showing signs of age and lack of maintenance such as broken sink fixtures missing cabinet doors and damaged shelves. This deficiency provides a budgetary consideration for the universal upgrade of the science teaching labs to include new counter tops, sink, cabinets, shelves and fixtures required to support a conducive level of education.

Interior doors are typically wood in wood frames with glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames. Doors are generally in good condition considering the age of the application. Universal upgrades are required for the interior door systems, it is recommended that the interior doors system be removed and replaced with a new modern metal framed wooden door system with consideration for ADA compliance.

Stair construction is a concrete design. Stair treads and landings are finished with concrete and metal nosings and are good condition. Current requirements for stairs indicate that they have graspable handrails on both sides, that the rails have a specific end geometry,

## Site Assessment Report - B831001;Moore

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

Interior wall finishes are typically painted or polished CMU walls in both schools. Other wall finishes include: ceramic tile at restrooms. Wall finishes are generally in very good condition.

The new school floor finishes are a mix of carpet, tile and concrete finishes. The restrooms are concrete finished for the student restrooms and ceramic finished for the staff restrooms. The interior carpet finish is original and is in good condition considering the age and high traffic conditions. This finish will exceed its expected life within the next ten years and is recommended for removal and replacement.

The floor finishes for the main school is a combination of 9x9 and 12x12 vinyl tile with sections of concrete. Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

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

There is no elevator that services this school. Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To assist those that may be physically challenged and to meet current accessibility legislation to provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the southern elevation of the building or at another suitable location. The new installation should blend as much as possible with the overall appearance of this structure and include all required ADA features, such as audible jewels and gongs, an accessible control panel, etc.

Institutional equipment includes: library equipment while furnishings include: fixed casework; window shades/blinds.

The classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade chalk boards to new marker board systems.

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

### **MECHANICAL SYSTEMS**

**PLUMBING-** Plumbing fixtures are standard china commercial quality with wall mounted lavatories, urinals and water closets. Most lavatories have dual wheel handle faucets and urinals and water closets have push button recessed flush valves. Custodial closets have cast iron service sinks and science classrooms have some lab tops with integral sinks. There are single level stainless steel water coolers with integral refrigeration and china drinking fountains with no refrigeration. The kitchen has a residential style counter top two compartment sink, and no stainless steel commercial sinks. There is an eighty gallon Bradford White electric water heater in the basement mechanical room with a small inline circulating pump installed in 2010. Two older duplex sump pumps in the mechanical room provide ground water removal, but run continuously reportedly due to an underground stream.

Water piping has been replaced since the original installation with copper, but may contain lead solder based on age. Sanitary, waste, vent and rainwater piping is original 1952 installation hub and spigot cast iron, with some hubless cast iron where additions or damage has occurred. A four inch water line and meter and a six inch gas line, meter and pressure boost system, both from Summerdale Ave. are in a space adjacent to the mechanical room. The water service includes a backflow preventer assembly.

The plumbing fixtures are estimated to be from 1975 installation and should have at least five more serviceable years. The water heater should have remaining service life of twenty years. The domestic water supply piping has exceeded the service life and should be replaced. The cast iron sanitary and waste piping should be inspected and repaired or replaced as required. The two duplex sump

## Site Assessment Report - B831001;Moore

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pumps should be replaced based on age and condition.

HVAC-The building is heated with steam generated by two HB Smith 450 Mills cast iron sectional boilers. The boilers are gas/oil fired seventy five hp each installed in 1993. Each unit has a Powerflame burner and control panel, separate oil pump, and code compliant gas train, connected to a common rectangular field fabricated externally insulated flue routed to a chimney. There is an underground oil storage tank, capacity and condition unknown. A duplex oil pump system in the mechanical room provides circulation. Boilers are served by a condensate receiver boiler feed unit in the mechanical room. The unit is a Shipco with three pumps; a chemical treatment system treats make up water. The annex has two small cast iron condensate return units in closets inside classrooms

Classrooms in the 1951 building, the annex and some other areas have Nesbitt unit ventilators with steam coil, outside air damper, filter, blower and motor, control valve and controls. Steam radiation units are located at corridors, toilets and other areas requiring heat. Reportedly steam valves and traps are inoperable.

A second floor mechanical room contains two older vertical heating and ventilating units. The units are Nesbitt and serve the auditorium and cafeteria/ gymnasium. The kitchen hood is a stainless steel single wall unit with no fire suppression system, ducted to a roof fan. There are four roof exhaust fans to provide toilet exhaust. The boiler room has combustion air louvers with motorized dampers.

There is no central air conditioning. The building has some window air conditioners in the old building, but none in the annex. A ductless split system with an exterior wall mounted condensing unit cools the IT room.

Steam and condensate piping is insulated welded black steel. One steam main has a leak. Fuel oil piping is black steel with screwed fittings.

There are no central control systems. There are two simplex control air compressors in the mechanical room.

The boilers should be serviceable up to fifteen more years. The unit ventilators, heating and ventilating units, fuel oil pump system, control system and steam distribution system including piping, and condensate return/boiler feed units have exceeded the service life and should be replaced.

FIRE PROTECTION-There is no sprinkler system in this building.

### **ELECTRICAL SYSTEMS**

Electrical Service-- The building is served by PECO Energy Company with underground service routed to a transformer vault in the Basement that houses two (2) 100 kVA, 4.16/7.2 kV - 120/240V, 1 phase, 3 wire utility transformers. The 120/240V secondary service enters a current transformer cabinet in the adjacent Mechanical Room where it is metered. The service disconnecting means is a 600A fused safety switch that supplies a 600A Distribution Panelboard, which feeds 11 panelboards in the building, all of which have exceeded their useful life and need to be replaced, including their feeder conductors.

It is recommended that the service be converted to 208/120V, 3 phase, 4 wire, and a 750 kVA unit substation with 2500A Main Switchboard be provided to serve existing loads, central air conditioning equipment, an elevator addition, and a fire pump (if required).

Receptacles-- Most of the classrooms are provided with only a few duplex receptacles. A few classrooms, such as science and computer rooms and the Library, have been renovated and provided with additional receptacles using a surface metal raceway system. All remaining classrooms should also be provided with additional duplex receptacles. Estimate 28 classrooms need additional receptacles. Some of the classrooms still have 2 wire, non-grounding type receptacles, which need to be replaced with 3 wire grounding type receptacles. All existing duplex receptacles in classrooms should be replaced due to their age.

Lighting-- Most of the fluorescent lighting fixtures in the building are 4 foot fluorescent wraparound fixtures with acrylic lenses and obsolete T12 lamps, including classrooms, corridors, restrooms, stairwells and offices. The science rooms and Library have been upgraded with 2x4 lay-in grid fluorescent fixtures with acrylic lenses and T8 lamps. Lighting in classrooms is controlled by multiple light switches; there are no occupancy sensors for lighting control. Industrial fluorescent fixtures with T12 lamps are provided in the Basement. There are also incandescent fixtures in the Basement.

The Cafeteria/Gymnasium has 20 surface mounted high intensity discharge lighting fixtures that should be replaced with LED fixtures for energy efficiency and reduced maintenance cost.

## Site Assessment Report - B831001;Moore

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The auditorium is illuminated with 20 pendant mounted cylindrical mercury vapor fixtures and 6 wall mounted cylindrical fixtures.

In general, lighting system replacement is recommended throughout the building, except in those few rooms that have already been upgraded.

Exterior wall mounted lighting fixtures are located at exit discharges. There are also recessed fixtures in the canopies at the two main entrances. These fixtures show age and should be replaced. There are three (3) locations where a lighting fixtures needs to be added at the exit discharge.

Fire Alarm System-- The fire alarm system is an obsolete 120V wired system that includes only manual pull stations and bell notification appliances. The fire alarm control panel (FACP) is by S.H. Couch Company, and is located in the Basement in the vicinity of the electrical service entrance. Pull station mounting heights exceed ADA requirements. There are no visual notification appliances in the building. The entire fire alarm system needs to be replaced with an addressable type to meet current NFPA codes and ADA requirements.

Telephone/LAN--The demarcation point is located in the Basement adjacent to the FACP. The Main Distribution Frame (MDF) and telephone distribution system is located behind the Main Office. A telephone and data outlet is provided in each classroom. Wireless access points are provided in classrooms, offices, auditorium and cafeteria/gymnasium for Wi-Fi service throughout the entire school.

Intercom/Paging/Sound Systems-- The paging system is accessed through the telephone system. A 250W amplifier is located in the MDF Room to provide paging interface with the telephone system. Each classroom has a wall mounted paging speaker. There are also wall mounted paging speakers in the corridors, auditorium and cafeteria/gymnasium. This system appears to be near end of its useful life and should be replaced within the next 4 to 5 years. There is a floor mounted sound cabinet on the platform in the auditorium and a portable sound system.

Clock and Program System-- There is a Simplex Time Control Center in the Main Office. Wall mounted speakers are provided throughout the building for paging and program. Clocks are provided in classrooms, auditorium, cafeteria/gymnasium and offices but are not operational from the Time Control Center. It is recommended that all clocks be replaced with battery operated synchronized clocks controlled by a wireless GPS master clock system.

Television System-- There are no television outlets in classrooms. Smart boards are provided in several classrooms.

Video Surveillance and Security Systems-- There are video surveillance cameras that provide coverage of corridors, auditorium, gymnasium and the site. The cameras are monitored in the Primary Education Center building. The age of the system is not known. An allowance for replacement and/or addition of 10 interior cameras is included in this report.

Emergency Power System-- There is an Onan 15 kW, 120/240V, 1 phase standby generator in the Basement that is no longer operational. There is no provision for a backup emergency power source, nor are there any individual unit equipment that provides emergency lighting anywhere in the building. The emergency power system is currently in violation of NFPA 70, National Electrical Code, Article 700 and NFPA 101, Life Safety Code. The priority for correcting this deficiency is categorized as severe.

The replacement standby generator should be increased in size to serve the addition of a hydraulic elevator.

Emergency Lighting System / Exit Lighting-- With the standby generator no longer in service, there is no emergency source of power to serve emergency egress and exit lighting. The priority for correcting this deficiency is categorized as severe. Exit signage in the school is in good condition with and estimated remaining useful life of 10 years.

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

Conveying Systems-- The building does not have an elevator.

## **GROUNDS**

Paved driveways and parking lots are asphalt in good condition. Pedestrian pavements are concrete pavers in good condition. Fencing is chain link in good condition. Landscaping is limited but in very health condition. The trash dumpster is located in the parking lot open to the students and to the public. The exterior services are not protected. Upgrades to protect the exterior services and trash area is necessary for the safety of the students and the general public. Construction of a secure lockable dumpster area is recommended.

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The parking play area is limited with few markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in fair condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. During the time of the inspection it was reported that this area between the schools often floods during the winter time. This project provides a budgetary consideration for a play lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement is recommended with care to insure proper drainage away from the school.

Site Lighting-- Site lighting is provided by exterior LED and HID floodlighting lighting fixtures on the building that are aimed to illuminate the site and paved play areas. Pole mounted luminaires on (6) 20 foot poles are provided in the parking lot on the north side of the site, west of the Primary Education Center Building.

Site video surveillance system--Exterior cameras are located at each of the two main entrances to the center portion of the building. There is also a camera on the northeast corner of the building that provides coverage of the play/parking areas. Exterior cameras appear to be in good condition.

### RECOMMENDATIONS - ELEMENTARY SCHOOL

- Remove and replace carpet
- Build secure trash dumpster enclosure
- Add hydraulic elevator - 2 floors
- Remove and replace suspended acoustic ceilings
- Remove VAT and replace with VCT
- Replace inadequate or install proper stair railing
- Replace missing or damaged signage
- Replace blackboards with marker boards
- Remove and replace interior doors
- Remodel existing classroom for lab use - approx 900 GSF
- Install fire rated walls and door where required
- Remove and replace standing seam metal roofing
- Remove and Replace Built Up Roof
- Remove and replace exterior doors
- Repair cracks in masonry
- Remove and replace aluminum windows
- Replace the existing unit ventilators with new units designed for quiet operation and equipped with hot water and chilled water coils, hydronic control valves with digital controls and integral heat exchangers to provide code required fresh air quantities. Connect to new chilled and hot water piping systems and building automation control system.
- Remove the existing window air conditioning units and install a two hundred ton air-cooled chiller on the roof with chilled water distribution piping, two pumps, chemical treatment and controls located in a mechanical room on the basement level.
- Install complete NFPA wet pipe automatic sprinkler system and standpipes. If required provide fire pump and jockey pump with controller.
- Replace existing unit and provide a new central station air handling unit for the auditorium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.
- Replace existing unit and provide a new central station air handling unit for the cafeteria/ gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.
- Install new direct digital control system and building automation system with remote computer control capability and graphics package.
- Replace domestic hot and cold water piping including valves, fittings, hangars and insulation.
- Replace two existing duplex sump pumps with new units. Connect to piping system and include electrical connections.
- Replace residential kitchen sink with new three compartment stainless steel commercial sink.
- Replace existing duplex fuel oil pump system.
- Remove the 600A, 120/240V, 2 phase, 5 wire service disconnecting means and 600A Distribution Panelboard and replace with a 750 kVA unit substation with 2500A, 208/120V, 3 phase, 4 wire main switchboard with main circuit breaker and feeder circuit breakers to serve the existing building loads and added central air conditioning equipment, an elevator addition, and a fire pump (if required).
- Replace all 120/240V, 1 phase panelboards in the building, including their feeder conductors. Total of (11) panelboards. Also, remove the 75 kVA phase changer transformer.
- Provide surface metal raceway system with 6 to 8 duplex receptacles in each of 28 classrooms. Replace all existing duplex receptacles in classrooms with new devices due to their age and condition. Several receptacles are not 3 wire grounding type



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(estimate 84 duplex receptacles to be replaced).

- Replace lighting system and branch circuit wiring throughout the building, except in those few rooms that have been previous upgraded (estimated 63,000 SF).
- Replace (10) exterior building mounted lighting fixtures at exit discharges and (8) recessed fixtures in the canopies at the two main entrances. Add a lighting fixture at the exit discharge at (3) locations.
- Replace fire alarm system with an addressable type system meeting current NFPA Codes and ADA requirements.
- Replace paging speakers and wiring throughout the building within the next 4 to 5 years.
- Remove all clocks and provide wireless GPS clock system with battery operated synchronized clocks.
- Provide allowance for replacement and/or addition of 10 interior video surveillance cameras.
- Remove existing 15 kW standby generator system equipment and replace with generator sized for all emergency egress and exit lighting and elevator (estimated size is 125 kW).

### GROUNDS

- Resurface parking lot

### Attributes:

#### General Attributes:

Active:	Open	Bldg ID:	B831001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S831001		

## Condition Summary

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

UNIFORMAT Classification	RSLI %	FCI %	Current Repair Cost
A10 - Foundations	37.00 %	0.00 %	\$0.00
A20 - Basement Construction	37.00 %	0.00 %	\$0.00
B10 - Superstructure	37.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	29.21 %	48.93 %	\$1,541,095.71
B30 - Roofing	55.54 %	87.82 %	\$1,067,053.13
C10 - Interior Construction	34.58 %	81.84 %	\$1,263,896.78
C20 - Stairs	12.00 %	116.92 %	\$101,317.68
C30 - Interior Finishes	72.33 %	45.83 %	\$1,360,788.23
D10 - Conveying	106.67 %	163.86 %	\$387,153.48
D20 - Plumbing	29.19 %	28.34 %	\$780,370.03
D30 - HVAC	89.49 %	90.47 %	\$6,813,007.85
D40 - Fire Protection	105.71 %	158.77 %	\$968,495.16
D50 - Electrical	102.80 %	76.82 %	\$3,107,590.67
E10 - Equipment	34.29 %	0.00 %	\$0.00
E20 - Furnishings	30.00 %	0.00 %	\$0.00
<b>Totals:</b>	<b>58.12 %</b>	<b>46.42 %</b>	<b>\$17,390,768.72</b>



## 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 the system 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 remainder 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.

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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	\$24.32	S.F.	67,701	100	1952	2052		37.00 %	0.00 %	37			\$1,646,488
A1030	Slab on Grade	\$15.51	S.F.	67,701	100	1952	2052		37.00 %	0.00 %	37			\$1,050,043
A2010	Basement Excavation	\$13.07	S.F.	67,701	100	1952	2052		37.00 %	0.00 %	37			\$884,852
A2020	Basement Walls	\$23.02	S.F.	67,701	100	1952	2052		37.00 %	0.00 %	37			\$1,558,477
B1010	Floor Construction	\$92.20	S.F.	67,701	100	1952	2052		37.00 %	0.00 %	37			\$6,242,032
B1020	Roof Construction	\$24.11	S.F.	30,000	100	1952	2052		37.00 %	0.00 %	37			\$723,300
B2010	Exterior Walls	\$31.22	S.F.	67,701	100	1952	2052		37.00 %	4.58 %	37		\$96,868.42	\$2,113,625
B2020	Exterior Windows	\$13.63	S.F.	67,701	40	1952	1992	2020	12.50 %	144.67 %	5		\$1,334,939.44	\$922,765
B2030	Exterior Doors	\$1.67	S.F.	67,701	25	1952	1977	2020	20.00 %	96.66 %	5		\$109,287.85	\$113,061
B3010105	Built-Up	\$37.76	S.F.	25,000	20	1952	1972	2027	60.00 %	89.73 %	12		\$847,050.27	\$944,000
B3010130	Preformed Metal Roofing	\$54.22	S.F.	5,000	30	1952	1982	2027	40.00 %	81.15 %	12		\$220,002.86	\$271,100
B3020	Roof Openings	\$0.68	S.F.	0	20	1952	1972	2027	60.00 %	0.00 %	12			\$0
C1010	Partitions	\$14.93	S.F.	67,701	100	1952	2052		37.00 %	78.62 %	37		\$794,681.74	\$1,010,776
C1020	Interior Doors	\$3.76	S.F.	67,701	40	1952	1992	2027	30.00 %	149.93 %	12		\$381,646.97	\$254,556
C1030	Fittings	\$4.12	S.F.	67,701	40	1952	1992	2027	30.00 %	31.39 %	12		\$87,568.07	\$278,928
C2010	Stair Construction	\$1.28	S.F.	67,701	100	1952	2052	2027	12.00 %	116.92 %	12		\$101,317.68	\$86,657
C3010230	Paint & Covering	\$13.21	S.F.	67,701	10	1952	1962	2027	120.00 %	0.00 %	12			\$894,330
C3020413	Vinyl Flooring	\$9.68	S.F.	67,701	20	1952	1972	2027	60.00 %	92.57 %	12		\$606,666.72	\$655,346
C3030	Ceiling Finishes	\$20.97	S.F.	67,701	25	1952	1977	2027	48.00 %	53.12 %	12		\$754,121.51	\$1,419,690
D1010	Elevators and Lifts	\$3.49	S.F.	67,701	30	1952	1982	2047	106.67 %	163.86 %	32		\$387,153.48	\$236,276
D2010	Plumbing Fixtures	\$31.58	S.F.	67,701	35	1975	2010	2020	14.29 %	2.05 %	5		\$43,808.66	\$2,137,998
D2020	Domestic Water Distribution	\$2.90	S.F.	67,701	25	1952	1977	2042	108.00 %	174.74 %	27		\$343,065.38	\$196,333
D2030	Sanitary Waste	\$2.90	S.F.	67,701	25	1952	1977	2042	108.00 %	200.42 %	27		\$393,495.99	\$196,333
D2040	Rain Water Drainage	\$3.29	S.F.	67,701	30	1952	1982	2025	33.33 %	0.00 %	10			\$222,736
D3020	Heat Generating Systems	\$18.67	S.F.	67,701	35	1993	2028		37.14 %	2.11 %	13		\$26,678.08	\$1,263,978
D3030	Cooling Generating Systems	\$24.48	S.F.	67,701	30			2047	106.67 %	65.60 %	32		\$1,087,247.07	\$1,657,320
D3040	Distribution Systems	\$42.99	S.F.	67,701	25	1952	1977	2042	108.00 %	145.91 %	27		\$4,246,754.06	\$2,910,466
D3050	Terminal & Package Units	\$11.60	S.F.	67,701	20	1993	2013	2024	45.00 %	0.00 %	9			\$785,332
D3060	Controls & Instrumentation	\$13.50	S.F.	67,701	20	1952	1972	2037	110.00 %	158.90 %	22		\$1,452,328.64	\$913,964
D4010	Sprinklers	\$8.02	S.F.	67,701	35			2052	105.71 %	178.37 %	37		\$968,495.16	\$542,962
D4020	Standpipes	\$0.99	S.F.	67,701	35			2052	105.71 %	0.00 %	37			\$67,024
D5010	Electrical Service/Distribution	\$9.70	S.F.	67,701	30	1952	1982	2047	106.67 %	149.14 %	32		\$979,398.49	\$656,700
D5020	Lighting and Branch Wiring	\$34.68	S.F.	67,701	20	1952	1972	2037	110.00 %	54.43 %	22		\$1,278,032.74	\$2,347,871
D5030	Communications and Security	\$12.99	S.F.	67,701	15	1952	1967	2027	80.00 %	69.99 %	12		\$615,508.70	\$879,436
D5090	Other Electrical Systems	\$2.38	S.F.	67,701	30	1952	1982	2047	106.67 %	145.63 %	32		\$234,650.74	\$161,128
E1020	Institutional Equipment	\$4.82	S.F.	67,701	35	1952	1987	2027	34.29 %	0.00 %	12			\$326,319
E1090	Other Equipment	\$11.10	S.F.	67,701	35	1952	1987	2027	34.29 %	0.00 %	12			\$751,481
E2010	Fixed Furnishings	\$2.13	S.F.	67,701	40	1952	1992	2027	30.00 %	0.00 %	12			\$144,203
<b>Total</b>									<b>58.12 %</b>	<b>46.42 %</b>			<b>\$17,390,768.72</b>	<b>\$37,467,886</b>

## 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.

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**System:** C3010 - Wall Finishes This system contains no images  
**Note:** Painted CMU finish 100%

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**System:** C3020 - Floor Finishes This system contains no images  
**Note:** 9x9 floor tile 100%

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**System:** D10 - Conveying This system contains no images  
**Note:** There is no existing elevator in this school.

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**System:** D5010 - Electrical Service/Distribution This system contains no images  
**Note:** There are two (2) 100 kVA, 4160/7200 - 120/240V, 1 phase, 3 wire service transformers and no secondary transformers.

## Renewal Schedule

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

*Inflation Rate: 3%*

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
<b>Total:</b>	<b>\$17,390,769</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,047,263</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,127,148</b>	<b>\$329,273</b>	<b>\$22,894,453</b>
<b>* A - Substructure</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>* A10 - Foundations</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A1010 - Standard Foundations</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A1030 - Slab on Grade</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>* A20 - Basement Construction</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A2010 - Basement Excavation</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>A2020 - Basement Walls</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B - Shell</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B10 - Superstructure</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B1010 - Floor Construction</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B1020 - Roof Construction</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B20 - Exterior Enclosure</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B2010 - Exterior Walls</b>	\$96,868	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$96,868
<b>B2020 - Exterior Windows</b>	\$1,334,939	\$0	\$0	\$0	\$0	\$1,176,711	\$0	\$0	\$0	\$0	\$0	\$2,511,650
<b>B2030 - Exterior Doors</b>	\$109,288	\$0	\$0	\$0	\$0	\$144,175	\$0	\$0	\$0	\$0	\$0	\$253,463
<b>B30 - Roofing</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B3010 - Roof Coverings</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B3010105 - Built-Up</b>	\$847,050	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$847,050
<b>B3010130 - Preformed Metal Roofing</b>	\$220,003	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$220,003
<b>B3020 - Roof Openings</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C - Interiors</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C10 - Interior Construction</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C1010 - Partitions</b>	\$794,682	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$794,682
<b>C1020 - Interior Doors</b>	\$381,647	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$381,647
<b>C1030 - Fittings</b>	\$87,568	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$87,568

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C20 - Stairs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C2010 - Stair Construction	\$101,318	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$101,318
C30 - Interior Finishes	\$0	\$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	\$0
C3010230 - Paint & Covering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020 - Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020413 - Vinyl Flooring	\$606,667	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$606,667
C3030 - Ceiling Finishes	\$754,122	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$754,122
D - Services	\$0	\$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	\$0
D1010 - Elevators and Lifts	\$387,153	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$387,153
D20 - Plumbing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2010 - Plumbing Fixtures	\$43,809	\$0	\$0	\$0	\$0	\$2,726,377	\$0	\$0	\$0	\$0	\$0	\$0	\$2,770,186
D2020 - Domestic Water Distribution	\$343,065	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$343,065
D2030 - Sanitary Waste	\$393,496	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$393,496
D2040 - Rain Water Drainage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$329,273	\$0	\$329,273
D30 - HVAC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3020 - Heat Generating Systems	\$26,678	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$26,678
D3030 - Cooling Generating Systems	\$1,087,247	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,087,247
D3040 - Distribution Systems	\$4,246,754	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,246,754
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,127,148	\$0	\$0	\$1,127,148
D3060 - Controls & Instrumentation	\$1,452,329	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,452,329
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$968,495	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$968,495
D4020 - Standpipes	\$0	\$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	\$0
D5010 - Electrical Service/Distribution	\$979,398	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$979,398
D5020 - Lighting and Branch Wiring	\$1,278,033	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,278,033
D5030 - Communications and Security	\$615,509	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$615,509
D5090 - Other Electrical Systems	\$234,651	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$234,651
E - Equipment & Furnishings	\$0	\$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	\$0
E1020 - Institutional Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

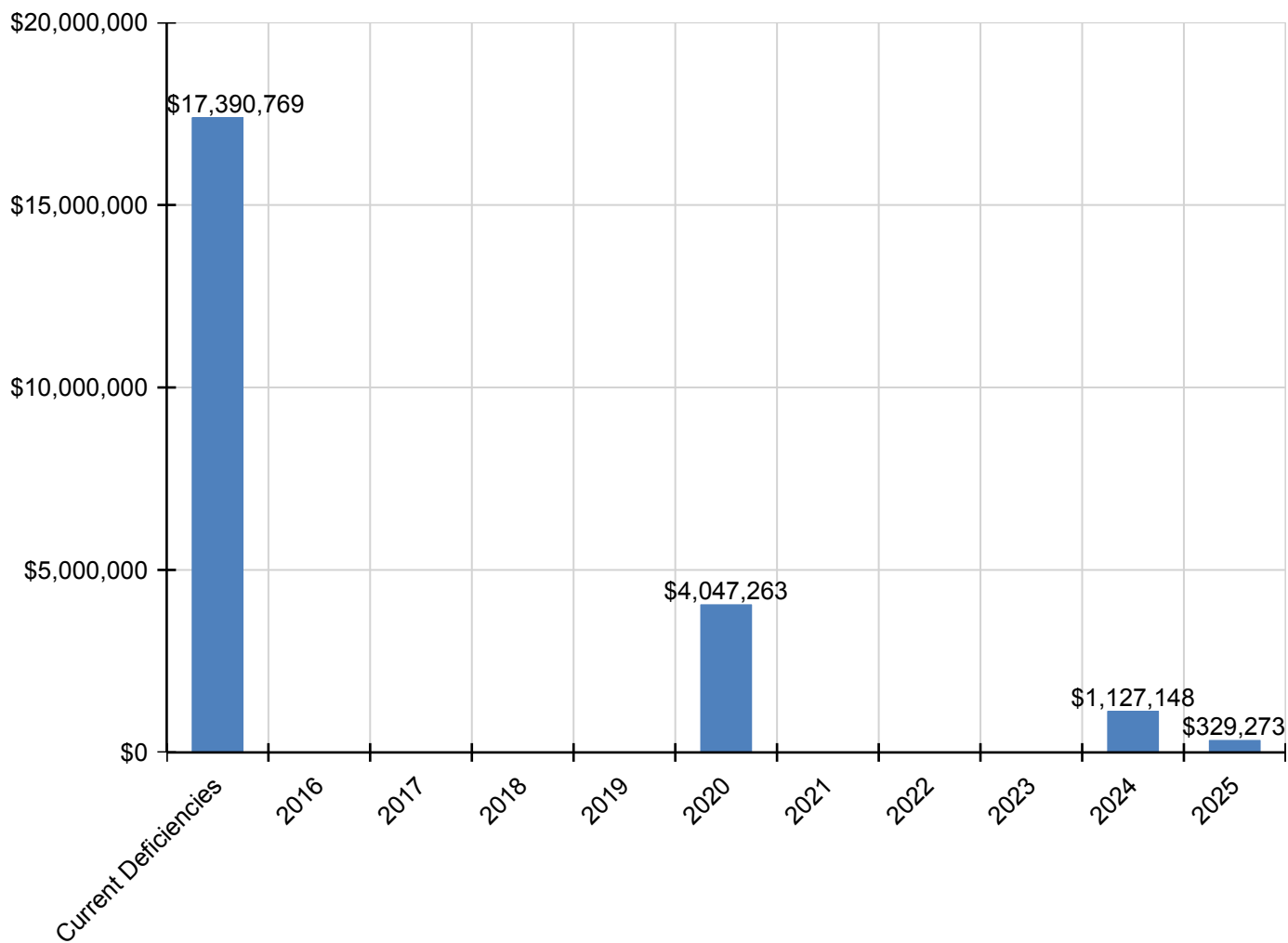
## Site Assessment Report - B831001;Moore

E1090 - Other Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E20 - Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E2010 - Fixed Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

\* Indicates non-renewable system

## Forecasted Sustainment Requirement

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



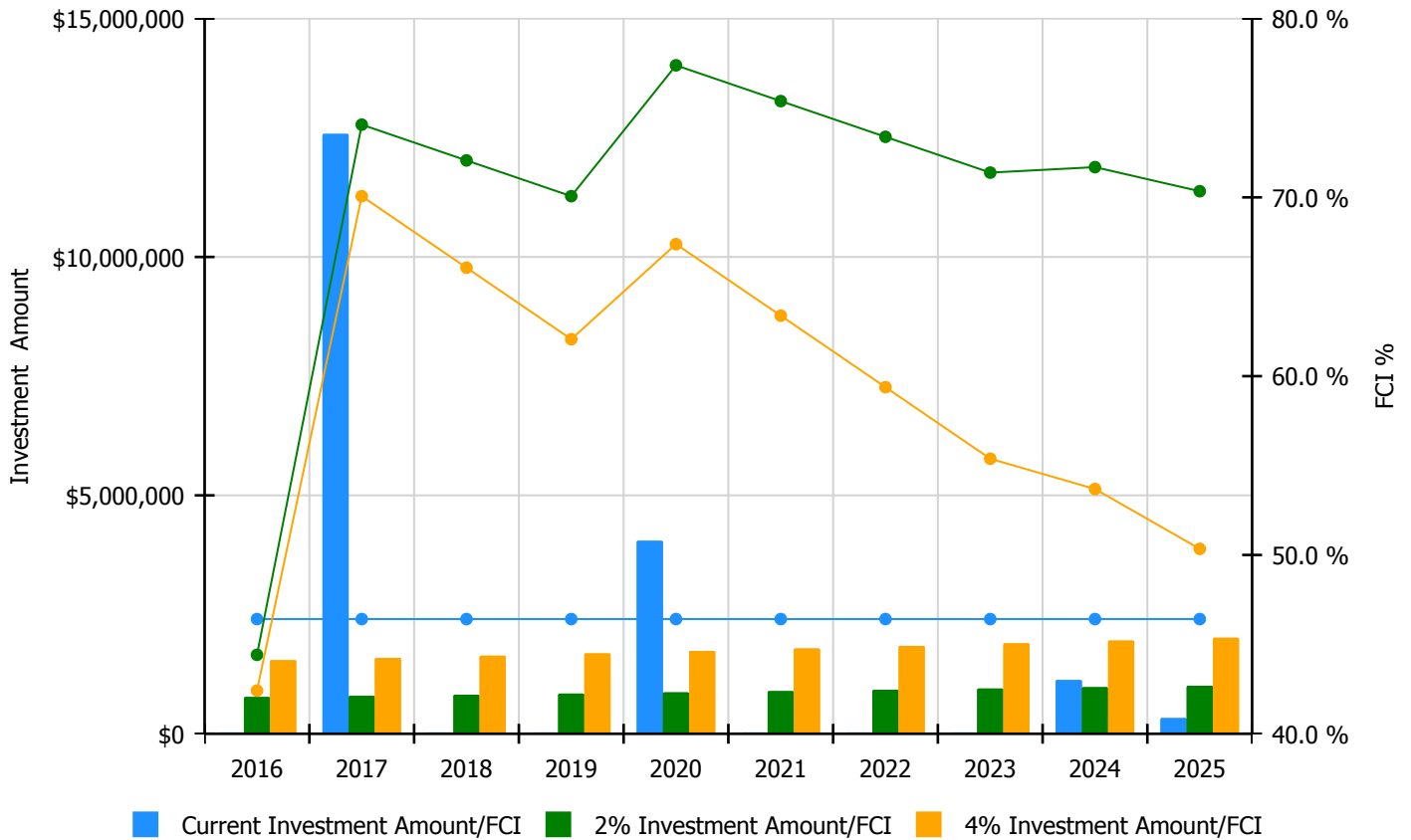


## 10 Year FCI Forecast by Investment Scenario

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

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

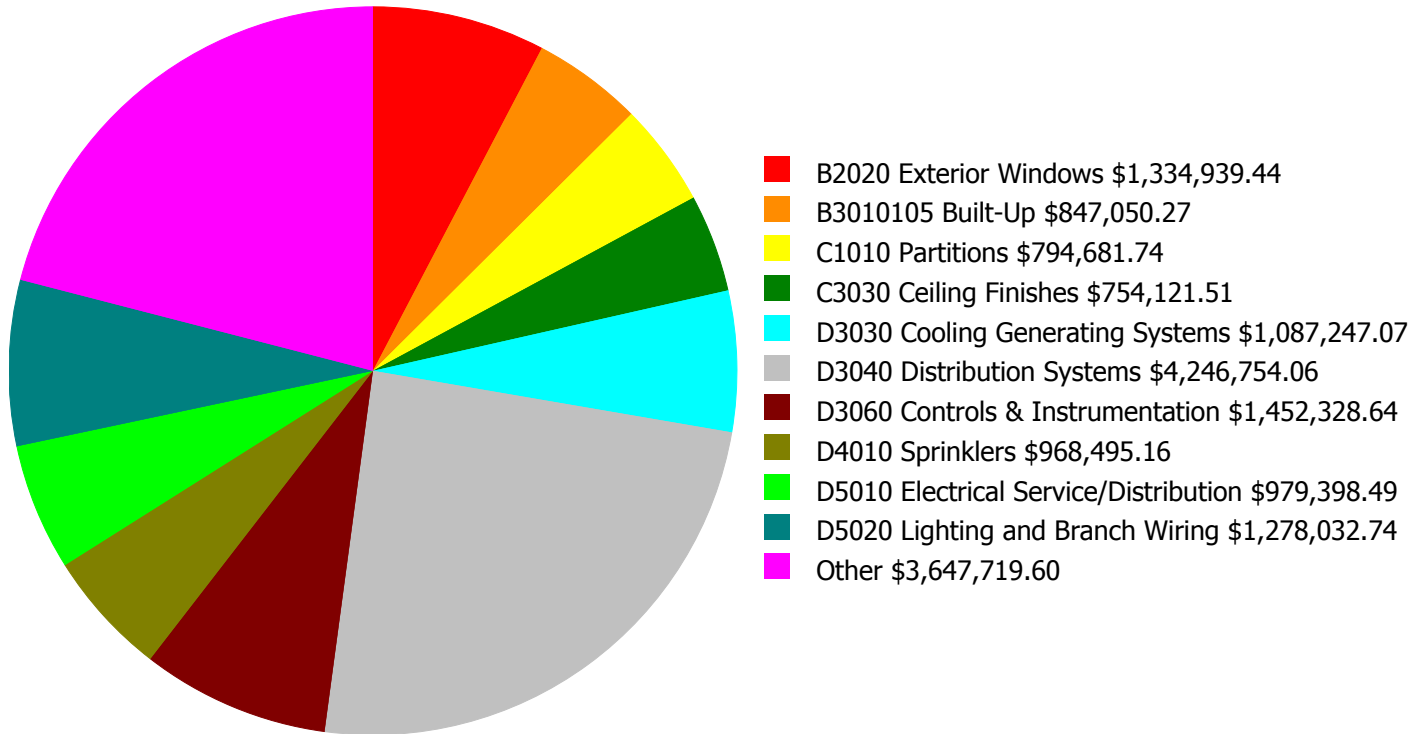
**Facility Investment vs. FCI Forecast**



Year	Investment Amount Current FCI - 46.42%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$771,838.00	44.42 %	\$1,543,677.00	42.42 %
2017	\$12,580,978	\$794,994.00	74.07 %	\$1,589,987.00	70.07 %
2018	\$0	\$818,843.00	72.07 %	\$1,637,687.00	66.07 %
2019	\$0	\$843,409.00	70.07 %	\$1,686,817.00	62.07 %
2020	\$4,047,263	\$868,711.00	77.38 %	\$1,737,422.00	67.38 %
2021	\$0	\$894,772.00	75.38 %	\$1,789,545.00	63.38 %
2022	\$0	\$921,615.00	73.38 %	\$1,843,231.00	59.38 %
2023	\$0	\$949,264.00	71.38 %	\$1,898,528.00	55.38 %
2024	\$1,127,148	\$977,742.00	71.69 %	\$1,955,484.00	53.69 %
2025	\$329,273	\$1,007,074.00	70.34 %	\$2,014,148.00	50.34 %
<b>Total:</b>	<b>\$18,084,662</b>	<b>\$8,848,262.00</b>		<b>\$17,696,526.00</b>	

## Deficiency Summary by System

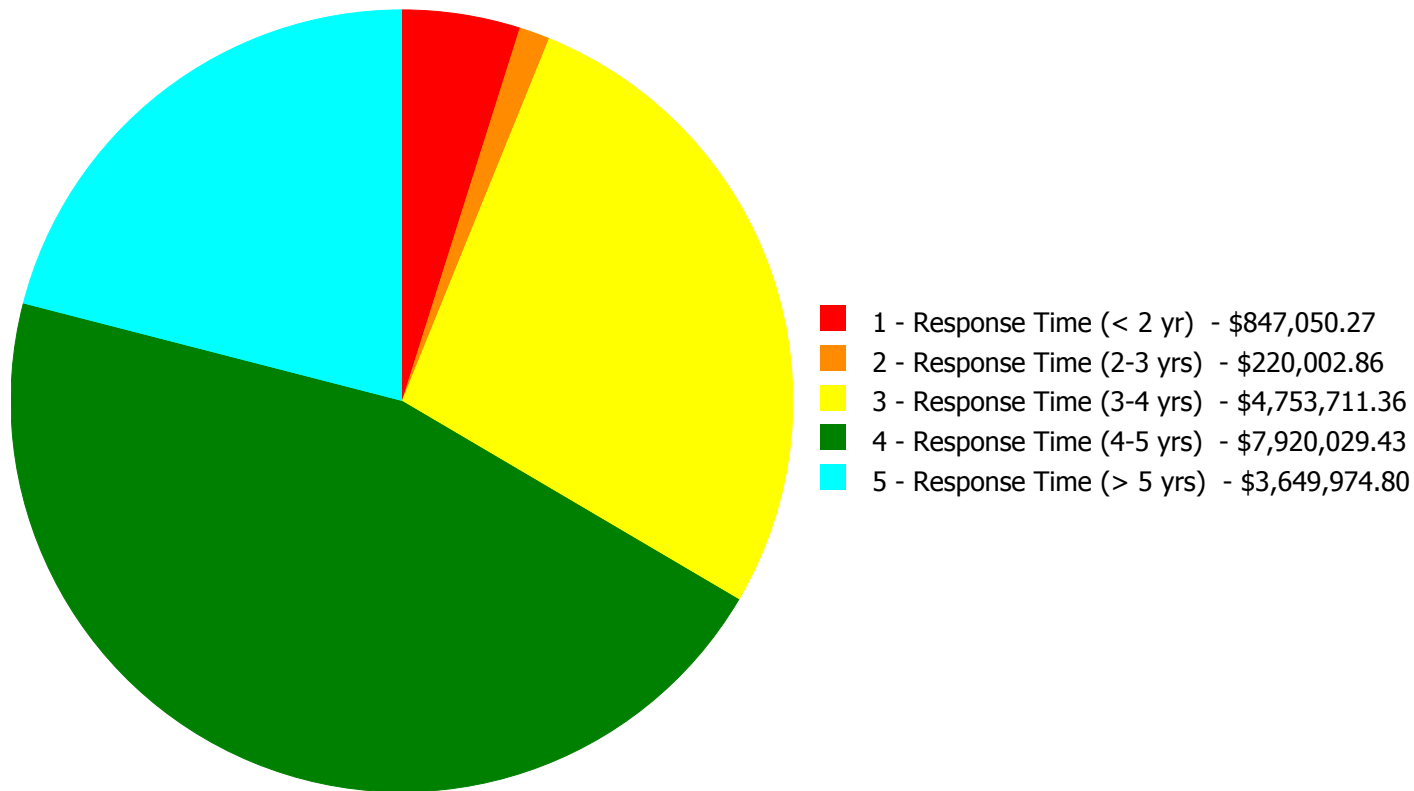
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



**Budget Estimate Total: \$17,390,768.72**

## 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: \$17,390,768.72**

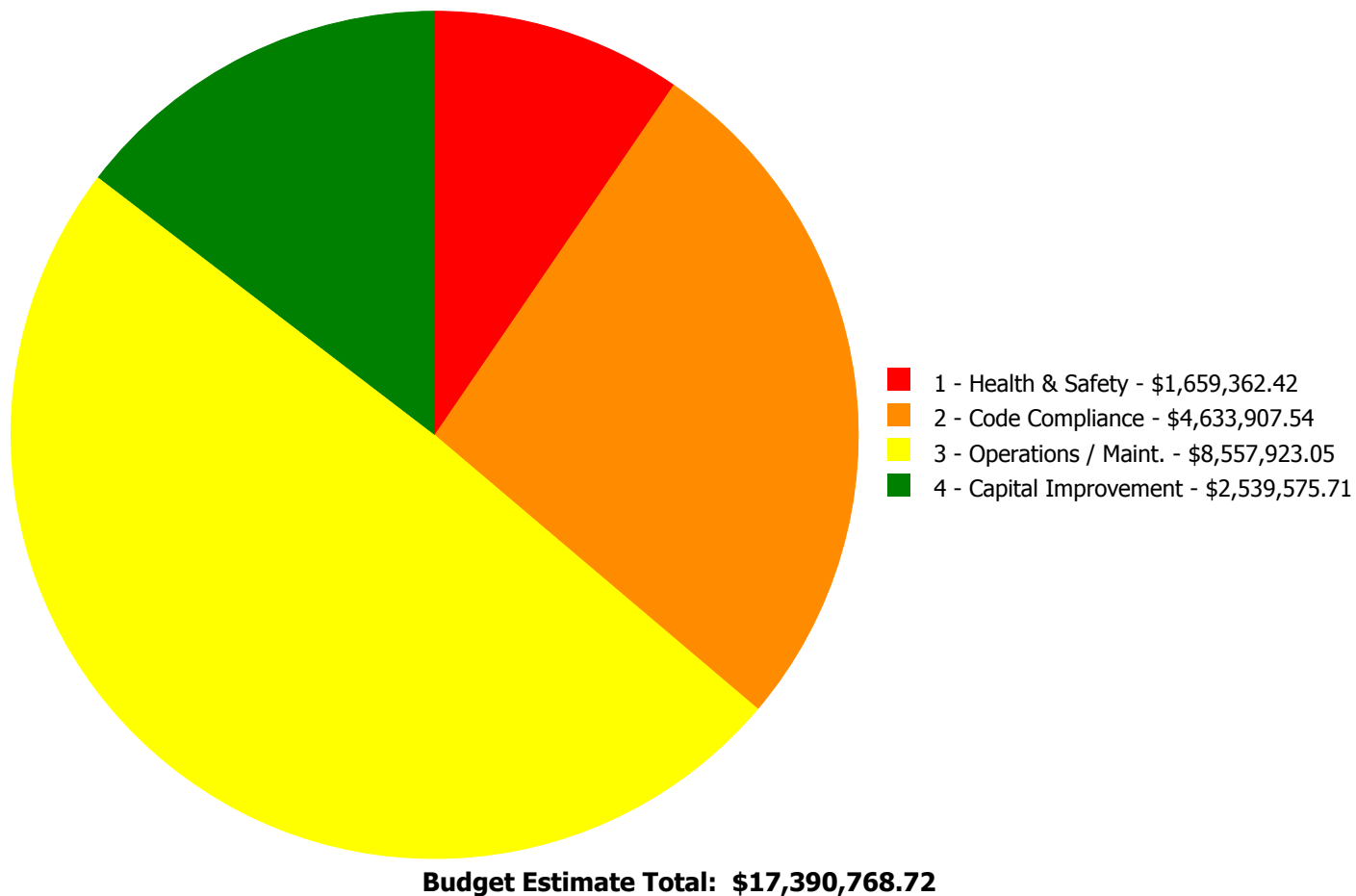
## Deficiency By Priority Investment Table

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

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
B2010	Exterior Walls	\$0.00	\$0.00	\$0.00	\$96,868.42	\$0.00	\$96,868.42
B2020	Exterior Windows	\$0.00	\$0.00	\$1,334,939.44	\$0.00	\$0.00	\$1,334,939.44
B2030	Exterior Doors	\$0.00	\$0.00	\$0.00	\$0.00	\$109,287.85	\$109,287.85
B3010105	Built-Up	\$847,050.27	\$0.00	\$0.00	\$0.00	\$0.00	\$847,050.27
B3010130	Preformed Metal Roofing	\$0.00	\$220,002.86	\$0.00	\$0.00	\$0.00	\$220,002.86
C1010	Partitions	\$0.00	\$0.00	\$0.00	\$89,183.57	\$705,498.17	\$794,681.74
C1020	Interior Doors	\$0.00	\$0.00	\$0.00	\$381,646.97	\$0.00	\$381,646.97
C1030	Fittings	\$0.00	\$0.00	\$0.00	\$87,568.07	\$0.00	\$87,568.07
C2010	Stair Construction	\$0.00	\$0.00	\$0.00	\$101,317.68	\$0.00	\$101,317.68
C3020413	Vinyl Flooring	\$0.00	\$0.00	\$0.00	\$0.00	\$606,666.72	\$606,666.72
C3030	Ceiling Finishes	\$0.00	\$0.00	\$0.00	\$0.00	\$754,121.51	\$754,121.51
D1010	Elevators and Lifts	\$0.00	\$0.00	\$0.00	\$0.00	\$387,153.48	\$387,153.48
D2010	Plumbing Fixtures	\$0.00	\$0.00	\$0.00	\$43,808.66	\$0.00	\$43,808.66
D2020	Domestic Water Distribution	\$0.00	\$0.00	\$0.00	\$343,065.38	\$0.00	\$343,065.38
D2030	Sanitary Waste	\$0.00	\$0.00	\$0.00	\$393,495.99	\$0.00	\$393,495.99
D3020	Heat Generating Systems	\$0.00	\$0.00	\$0.00	\$26,678.08	\$0.00	\$26,678.08
D3030	Cooling Generating Systems	\$0.00	\$0.00	\$0.00	\$0.00	\$1,087,247.07	\$1,087,247.07
D3040	Distribution Systems	\$0.00	\$0.00	\$594,571.55	\$3,652,182.51	\$0.00	\$4,246,754.06
D3060	Controls & Instrumentation	\$0.00	\$0.00	\$0.00	\$1,452,328.64	\$0.00	\$1,452,328.64
D4010	Sprinklers	\$0.00	\$0.00	\$0.00	\$968,495.16	\$0.00	\$968,495.16
D5010	Electrical Service/Distribution	\$0.00	\$0.00	\$979,398.49	\$0.00	\$0.00	\$979,398.49
D5020	Lighting and Branch Wiring	\$0.00	\$0.00	\$1,153,593.79	\$124,438.95	\$0.00	\$1,278,032.74
D5030	Communications and Security	\$0.00	\$0.00	\$456,557.35	\$158,951.35	\$0.00	\$615,508.70
D5090	Other Electrical Systems	\$0.00	\$0.00	\$234,650.74	\$0.00	\$0.00	\$234,650.74
	<b>Total:</b>	\$847,050.27	\$220,002.86	\$4,753,711.36	\$7,920,029.43	\$3,649,974.80	\$17,390,768.72

## 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:



## Deficiency Details by Priority

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

### Priority 1 - Response Time (< 2 yr):

#### **System: B3010105 - Built-Up**



**Location:** Roof

**Distress:** Failing

**Category:** 3 - Operations / Maint.

**Priority:** 1 - Response Time (< 2 yr)

**Correction:** Remove and Replace Built Up Roof

**Qty:** 25,000.00

**Unit of Measure:** S.F.

**Estimate:** \$847,050.27

**Assessor Name:** System

**Date Created:** 10/30/2015

**Notes:** The existing built up roofing system has clear signs of ponding and there reportedly has been an increase of roofing maintenance on this single ply roofing system. During the time of the inspection several major issues were noted such as open holes in the roof, ripped membrane and open tears exposing the insulation to the elements. It is recommended that a new built-up roofing system be installed as this roof has clearly failed.

---

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

**System: B3010130 - Preformed Metal Roofing**



**Location:** Roof

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Remove and replace standing seam metal roofing

**Qty:** 5,000.00

**Unit of Measure:** S.F.

**Estimate:** \$220,002.86

**Assessor Name:** System

**Date Created:** 10/30/2015

**Notes:** The existing metal roofing system over the temporary addition has clear signs of damage and reportedly has been an increase of roofing maintenance. During the time of the inspection several major issues were noted such as water leaking into the interior classrooms and damaging the finishes. It is recommended that a new metal roofing system be installed.

---

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

**System: B2020 - Exterior Windows**



**Location:** Exterior Elevation

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

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

**Qty:** 320.00

**Unit of Measure:** Ea.

**Estimate:** \$1,334,939.44

**Assessor Name:** System

**Date Created:** 10/29/2015

**Notes:** As indicated in the photos the single pane steel or aluminum framed windows appear to be original. Several of the windows no longer work and will require attention prior to an overall effort. Overall, the windows are in fair condition based on the year of installation or last renovation. The entire exterior window system is recommended to be replaced with units that retain their dimensions and profiles, but that incorporate updated energy-efficient features.

---

**System: D3040 - Distribution Systems**



**Location:** auditorium

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

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

**Qty:** 357.00

**Unit of Measure:** Seat

**Estimate:** \$594,571.55

**Assessor Name:** System

**Date Created:** 01/15/2016

**Notes:** Replace existing unit and provide a new central station air handling unit for the auditorium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water systems.

---



**System: D5010 - Electrical Service/Distribution**



**Location:** Mechanical Room 005

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace Service Transformer, Add Switchboard

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$521,124.89

**Assessor Name:** System

**Date Created:** 12/18/2015

**Notes:** Remove the 600A, 120/240V, 2 phase, 5 wire service disconnecting means and 600A Distribution Panelboard and replace with a 750 kVA unit substation with 2500A, 208/120V, 3 phase, 4 wire main switchboard with main circuit breaker and feeder circuit breakers to serve the existing building loads and added central air conditioning equipment, an elevator addition, and a fire pump (if required).

---

**System: D5010 - Electrical Service/Distribution**



**Location:** Building wide

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace Panelboard

**Qty:** 11.00

**Unit of Measure:** Ea.

**Estimate:** \$458,273.60

**Assessor Name:** System

**Date Created:** 12/18/2015

**Notes:** Replace all 120/240V, 1 phase panelboards in the building, including their feeder conductors. Total of (11) panelboards. Also, remove the 75 kVA phase changer transformer.

---

**System: D5020 - Lighting and Branch Wiring**



**Location:** Building wide

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace Lighting Fixtures (SF)

**Qty:** 63,000.00

**Unit of Measure:** S.F.

**Estimate:** \$1,125,945.24

**Assessor Name:** System

**Date Created:** 12/18/2015

**Notes:** Replace lighting system and branch circuit wiring throughout the building, except in those few rooms that have been previous upgraded (estimated 63,000 SF).

---

**System: D5020 - Lighting and Branch Wiring**



**Location:** Exit discharges

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace lighting fixtures

**Qty:** 21.00

**Unit of Measure:** Ea.

**Estimate:** \$27,648.55

**Assessor Name:** System

**Date Created:** 12/19/2015

**Notes:** Replace (10) exterior building mounted lighting fixtures at exit discharges and (8) recessed fixtures in the canopies at the two main entrances. Add a lighting fixture at the exit discharge at (3) locations.

---

**System: D5030 - Communications and Security**



**Location:** Building wide  
**Distress:** Life Safety / NFPA / PFD  
**Category:** 1 - Health & Safety  
**Priority:** 3 - Response Time (3-4 yrs)  
**Correction:** Replace fire alarm system  
**Qty:** 67,701.00  
**Unit of Measure:** S.F.  
**Estimate:** \$456,557.35  
**Assessor Name:** System  
**Date Created:** 12/19/2015

**Notes:** Replace fire alarm system with an addressable type system meeting current NFPA Codes and ADA requirements.

---

**System: D5090 - Other Electrical Systems**



**Location:** Boiler Room 002  
**Distress:** Beyond Service Life  
**Category:** 3 - Operations / Maint.  
**Priority:** 3 - Response Time (3-4 yrs)  
**Correction:** Replace standby generator system  
**Qty:** 1.00  
**Unit of Measure:** Ea.  
**Estimate:** \$234,650.74  
**Assessor Name:** System  
**Date Created:** 12/19/2015

**Notes:** Remove existing 15 kW standby generator system equipment and replace with generator sized for all emergency egress and exit lighting and elevator (estimated size is 125 kW).

---

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

**System: B2010 - Exterior Walls**



**Location:** Exterior Elevation

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

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

**Qty:** 3,000.00

**Unit of Measure:** S.F.

**Estimate:** \$96,868.42

**Assessor Name:** System

**Date Created:** 10/30/2015

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

---

**System: C1010 - Partitions**

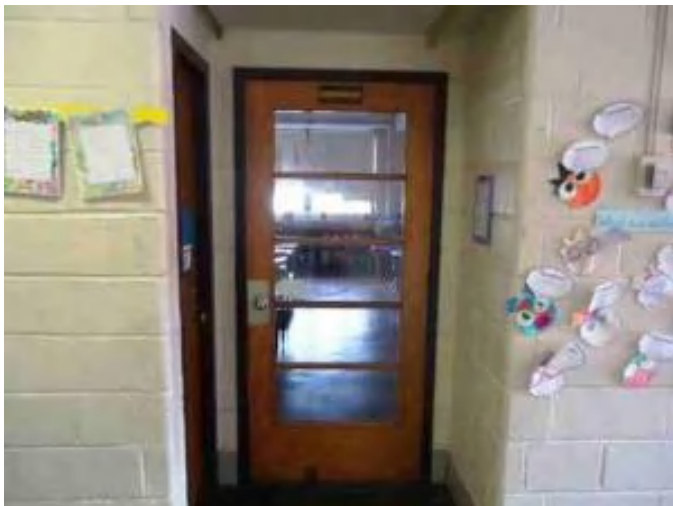


**Location:** Corridor Doors  
**Distress:** Life Safety / NFPA / PFD  
**Category:** 1 - Health & Safety  
**Priority:** 4 - Response Time (4-5 yrs)  
**Correction:** Install fire rated walls and door where required  
- insert number of doors  
**Qty:** 10.00  
**Unit of Measure:** S.F.  
**Estimate:** \$89,183.57  
**Assessor Name:** System  
**Date Created:** 10/30/2015

**Notes:** A large portion of the interior corridor, exit stair doors are not code compliant. Several doors are typically metal in metal frames with transom lites or sidelights, glass glazing. The older doors are generally in good condition considering the age of the application. To restore the door finishes, universal upgrades are required for the older door applications. Remove and replace original door systems with new code compliant fire rated door system.

---

**System: C1020 - Interior Doors**



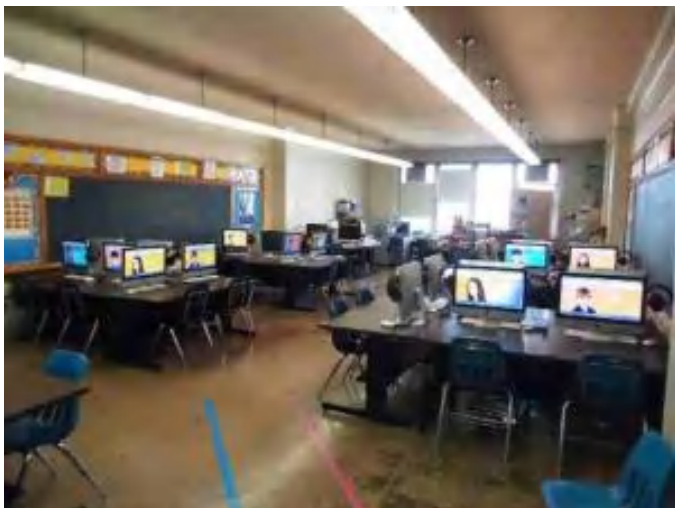
**Location:** Classroom Doors  
**Distress:** Damaged  
**Category:** 3 - Operations / Maint.  
**Priority:** 4 - Response Time (4-5 yrs)  
**Correction:** Remove and replace interior doors - wood doors with hollow metal frames - per leaf  
**Qty:** 80.00  
**Unit of Measure:** Ea.  
**Estimate:** \$381,646.97  
**Assessor Name:** System  
**Date Created:** 10/30/2015

**Notes:** Interior doors are typically wood in wood frames with glass glazing. Other interior doors include wooden glass pane doors with original wooden pane frames, hollow metal in hollow metal frames. Doors are generally in good condition considering the age of the application. Universal upgrades are required for the interior door systems, it is recommended that the interior doors system be removed and replaced with a new modern metal framed wooden door system with consideration for ADA compliance.

---



**System: C1030 - Fittings**



**Location:** Classrooms  
**Distress:** Damaged  
**Category:** 3 - Operations / Maint.  
**Priority:** 4 - Response Time (4-5 yrs)  
**Correction:** Replace blackboards with marker boards - pick the appropriate size and insert the quantities  
**Qty:** 80.00  
**Unit of Measure:** Ea.  
**Estimate:** \$55,058.57  
**Assessor Name:** System  
**Date Created:** 10/30/2015

**Notes:** The classroom chalk boards are original to the buildings construction. This system is damaged and beyond its expected life, universal upgrades are warranted. Remove and upgrade chalk boards to new marker board systems.

---

**System: C1030 - Fittings**



**Location:** Building Wide  
**Distress:** Damaged  
**Category:** 3 - Operations / Maint.  
**Priority:** 4 - Response Time (4-5 yrs)  
**Correction:** Replace missing or damaged signage - insert the number of rooms  
**Qty:** 120.00  
**Unit of Measure:** Ea.  
**Estimate:** \$32,509.50  
**Assessor Name:** System  
**Date Created:** 10/30/2015

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

---

**System: C2010 - Stair Construction**



**Location:** Stairs

**Distress:** Life Safety / NFPA / PFD

**Category:** 1 - Health & Safety

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

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

**Qty:** 600.00

**Unit of Measure:** L.F.

**Estimate:** \$101,317.68

**Assessor Name:** System

**Date Created:** 10/30/2015

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

---

**System: D2010 - Plumbing Fixtures**



**Location:** kitchen

**Distress:** Health Hazard / Risk

**Category:** 1 - Health & Safety

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

**Correction:** Replace 3 compartment sink with sanitizing basin.

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$43,808.66

**Assessor Name:** System

**Date Created:** 01/16/2016

**Notes:** Replace residential kitchen sink with new three compartment stainless steel commercial sink.

---

**System: D2020 - Domestic Water Distribution**



**Location:** entire building

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace domestic water piping (75 KSF)

**Qty:** 67,701.00

**Unit of Measure:** S.F.

**Estimate:** \$343,065.38

**Assessor Name:** System

**Date Created:** 01/15/2016

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

---

**System: D2030 - Sanitary Waste**



**Location:** entire building

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

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

**Qty:** 67,701.00

**Unit of Measure:** S.F.

**Estimate:** \$332,124.08

**Assessor Name:** System

**Date Created:** 01/16/2016

**Notes:** Inspect cast iron plumbing piping including camera survey. Repair or replace as required.

---



**System: D2030 - Sanitary Waste**



**Location:** mechanical room

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace sanitary sewage ejector pit and pumps. (48" dia.)

**Qty:** 2.00

**Unit of Measure:** Ea.

**Estimate:** \$61,371.91

**Assessor Name:** System

**Date Created:** 01/16/2016

**Notes:** Replace two existing duplex sump pumps with new units. Connect to piping system and include electrical connections.

---

**System: D3020 - Heat Generating Systems**



**Location:** mechanical room

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace fuel oil pumps

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$26,678.08

**Assessor Name:** System

**Date Created:** 01/16/2016

**Notes:** Replace existing duplex fuel oil pump system.

---

**System: D3040 - Distribution Systems**



**Location:** entire building

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

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

**Qty:** 67,701.00

**Unit of Measure:** S.F.

**Estimate:** \$3,265,841.08

**Assessor Name:** System

**Date Created:** 01/15/2016

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

---

**System: D3040 - Distribution Systems**



**Location:** cafeteria/gymnasium

**Distress:** Building / MEP Codes

**Category:** 2 - Code Compliance

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

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

**Qty:** 755.00

**Unit of Measure:** Pr.

**Estimate:** \$386,341.43

**Assessor Name:** System

**Date Created:** 01/15/2016

**Notes:** Replace existing unit and provide a new central station air handling unit for the cafeteria/ gymnasium with hot and chilled water coils, filters, outside and return air dampers, hydronic valves and controls, blower and motor. Connect to hot and chilled water piping systems.

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**System: D3060 - Controls & Instrumentation**



**Location:** entire building  
**Distress:** Inadequate  
**Category:** 4 - Capital Improvement  
**Priority:** 4 - Response Time (4-5 yrs)  
**Correction:** Replace pneumatic controls with DDC (75KSF)  
**Qty:** 67,701.00  
**Unit of Measure:** S.F.  
**Estimate:** \$1,452,328.64  
**Assessor Name:** System  
**Date Created:** 01/15/2016

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

---

**System: D4010 - Sprinklers**



**Location:** entire building  
**Distress:** Life Safety / NFPA / PFD  
**Category:** 1 - Health & Safety  
**Priority:** 4 - Response Time (4-5 yrs)  
**Correction:** Install a fire protection sprinkler system  
**Qty:** 67,701.00  
**Unit of Measure:** S.F.  
**Estimate:** \$968,495.16  
**Assessor Name:** System  
**Date Created:** 01/15/2016

**Notes:** Install complete NFPA wet pipe automatic sprinkler system and standpipes. If required provide fire pump and jockey pump with controller.

---

**System: D5020 - Lighting and Branch Wiring**



**Location:** Classrooms

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Provide surface raceway system and wiring devices

**Qty:** 840.00

**Unit of Measure:** L.F.

**Estimate:** \$124,438.95

**Assessor Name:** System

**Date Created:** 12/18/2015

**Notes:** Provide surface metal raceway system with 4 to 6 duplex receptacles in each of 28 classrooms. Replace all existing duplex receptacles in classrooms with new devices due to their age and condition. Several receptacles are not 3 wire grounding type (estimate 84 duplex receptacles to be replaced).

---

**System: D5030 - Communications and Security**



**Location:** Building wide

**Distress:** Failing

**Category:** 3 - Operations / Maint.

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

**Correction:** Add/Replace Paging System

**Qty:** 112.00

**Unit of Measure:** Ea.

**Estimate:** \$80,048.31

**Assessor Name:** System

**Date Created:** 12/19/2015

**Notes:** Replace paging speakers and wiring throughout the building within the next 4 to 5 years.

---

**System: D5030 - Communications and Security**



**Location:** Building wide

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Add/Replace Video Surveillance System

**Qty:** 10.00

**Unit of Measure:** Ea.

**Estimate:** \$48,655.30

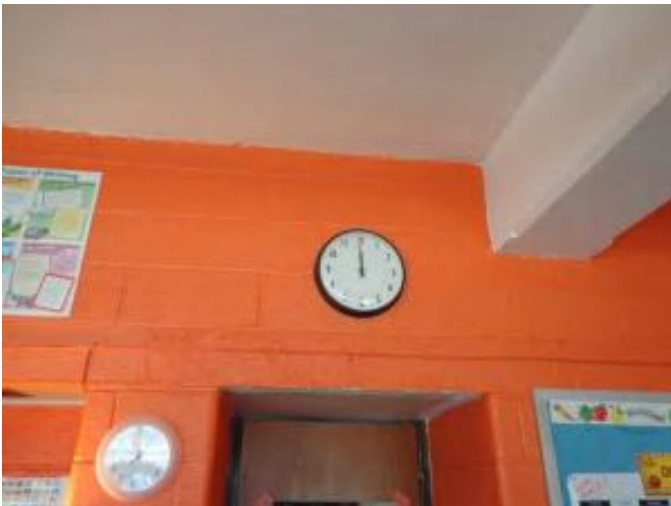
**Assessor Name:** System

**Date Created:** 12/19/2015

**Notes:** Provide allowance for replacement and/or addition of 10 interior video surveillance cameras.

---

**System: D5030 - Communications and Security**



**Location:** Building wide

**Distress:** Beyond Service Life

**Category:** 3 - Operations / Maint.

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

**Correction:** Provide wireless GPS clock system

**Qty:** 52.00

**Unit of Measure:** LS

**Estimate:** \$30,247.74

**Assessor Name:** System

**Date Created:** 12/19/2015

**Notes:** Remove all clocks and provide wireless GPS clock system with battery operated synchronized clocks.

---



**Priority 5 - Response Time (> 5 yrs):**

**System: B2030 - Exterior Doors**



**Location:** Exterior Elevation

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

**Priority:** 5 - Response Time (> 5 yrs)

**Correction:** Remove and replace exterior doors - per leaf

**Qty:** 12.00

**Unit of Measure:** Ea.

**Estimate:** \$109,287.85

**Assessor Name:** System

**Date Created:** 10/30/2015

**Notes:** The exterior doors are metal applications with metal frames. The exterior door system for this school is a very high traffic system. The doors are in fair condition but are aging at a faster rate than expected based on traffic and condition. The exterior door system, store front and service doors are recommended for upgrade.

---

**System: C1010 - Partitions**



**Location:** Science Classrooms

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

**Priority:** 5 - Response Time (> 5 yrs)

**Correction:** Remodel existing classroom for lab use - approx 900 GSF - with chemical storage room, 15 tables + instructors table

**Qty:** 2.00

**Unit of Measure:** Ea.

**Estimate:** \$705,498.17

**Assessor Name:** System

**Date Created:** 10/30/2015

**Notes:** This schools science labs have been upgraded from the original construction. The installation consist of an instruction demonstration desk with sink. Wall mounted storage cabinets and cabinets with sinks for student use. The system is showing signs of age and lack of maintenance such as broken sink fixtures missing cabinet doors and damaged shelves. This deficiency provides a budgetary consideration for the universal upgrade of the science teaching labs to include new counter tops, sink, cabinets, shelves and fixtures required to support a conducive level of education.

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**System: C3020413 - Vinyl Flooring**

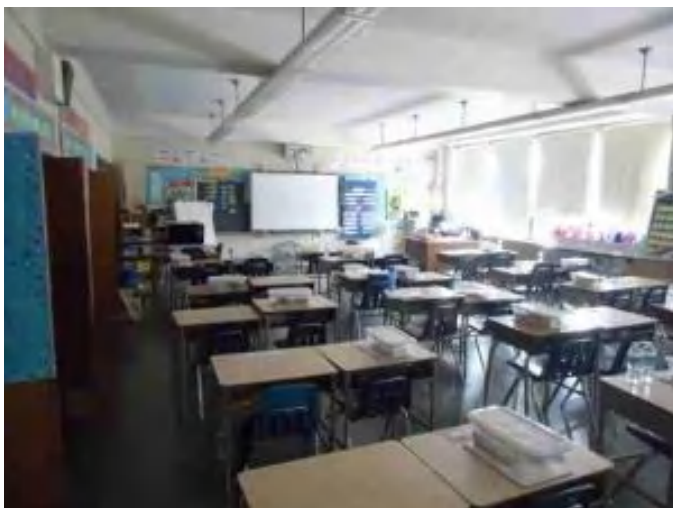


**Location:** Building Wide  
**Distress:** Damaged  
**Category:** 3 - Operations / Maint.  
**Priority:** 5 - Response Time (> 5 yrs)  
**Correction:** Remove VAT and replace with VCT - SF of area  
**Qty:** 40,000.00  
**Unit of Measure:** S.F.  
**Estimate:** \$606,666.72  
**Assessor Name:** System  
**Date Created:** 10/30/2015

**Notes:** Suspected asbestos containing materials (ACM) are believed to be limited to the original vinyl floor tile and mastic. While currently sound and manageable in place, future renovation efforts should include provision to test and abate any and all ACM.

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**System: C3030 - Ceiling Finishes**

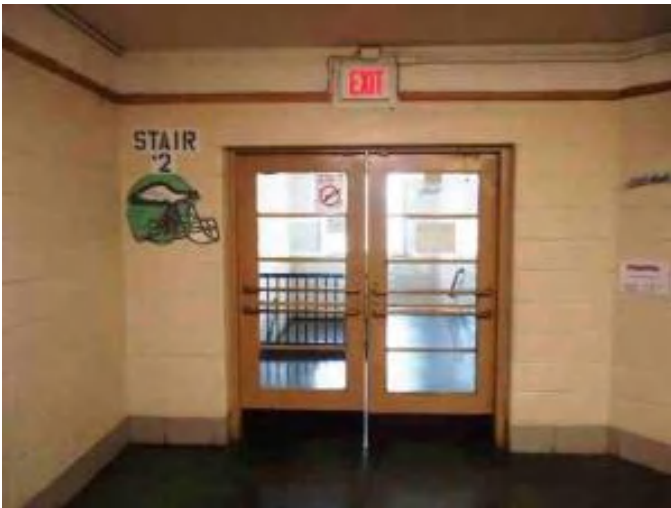


**Location:** Building Wide  
**Distress:** Damaged  
**Category:** 3 - Operations / Maint.  
**Priority:** 5 - Response Time (> 5 yrs)  
**Correction:** Remove and replace suspended acoustic ceilings - lighting not included  
**Qty:** 50,000.00  
**Unit of Measure:** S.F.  
**Estimate:** \$754,121.51  
**Assessor Name:** System  
**Date Created:** 10/30/2015

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

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**System: D1010 - Elevators and Lifts**



**Location:** Building Wide  
**Distress:** Accessibility  
**Category:** 2 - Code Compliance  
**Priority:** 5 - Response Time (> 5 yrs)  
**Correction:** Add interior hydraulic elevator - 2 floors - adjust the electrical run lengths to hook up the elevator  
**Qty:** 1.00  
**Unit of Measure:** Ea.  
**Estimate:** \$387,153.48  
**Assessor Name:** System  
**Date Created:** 10/30/2015

**Notes:** There is no elevator that services this school. Goods, services, and amenities offered in public buildings are generally required to be available to all persons. To assist those that may be physically challenged and to meet current accessibility legislation to provide wheelchair access to the upper floors of this facility, the installation of a new hydraulic elevator has been recommended on the southern elevation of the building or at another suitable location. The new installation should blend as much as possible with the overall appearance of this structure and include all required ADA features, such as audible jewels and gongs, an accessible control panel, etc.

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**System: D3030 - Cooling Generating Systems**



**Location:** roof, mechanical room  
**Distress:** Inadequate  
**Category:** 4 - Capital Improvement  
**Priority:** 5 - Response Time (> 5 yrs)  
**Correction:** Install chilled water system with distribution piping and pumps. (+75KSF)  
**Qty:** 67,701.00  
**Unit of Measure:** S.F.  
**Estimate:** \$1,087,247.07  
**Assessor Name:** System  
**Date Created:** 01/15/2016

**Notes:** Remove the existing window air conditioning units and install a two hundred ton air-cooled chiller on the roof with chilled water distribution piping, two pumps, chemical treatment and controls located in a mechanical room on the basement level.

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## 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 fired, natural or propane, cast iron, steam, gross output, 2675 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	mechanical room	hb smith	450 mills			35	1993	2028	\$50,376.70	\$110,828.74
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 600 A, 1 stories, 25' horizontal	1.00	Ea.	Basement Mechanical Room	Park Metal Products, Co.	NHB CDP	EU 27608		30			\$18,536.85	\$20,390.54
D5010 Electrical Service/Distribution	Transformer, oil-filled, single phase 13.8 kV primary, 120/240 V secondary, 100 kVA, residential distribution type, pole mounted	2.00	Ea.	Basement Transformer Vault	Line Material Co.	NA	1313433		30			\$6,272.10	\$13,798.62
												<b>Total:</b>	<b>\$145,017.90</b>

## 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:	Primary Education Center
Gross Area (SF):	23,200
Year Built:	2006
Last Renovation:	
Replacement Value:	\$12,602,692
Repair Cost:	\$111,131.82
Total FCI:	0.88 %
Total RSLI:	73.83 %



### Description:

#### **PRIMARY EDUCATION CENTER (PEC)**

#### **ARCHITECTURAL / STRUCTURAL SYSTEMS**

Refer to the Architectural Structural Systems narrative for the Elementary School.

#### **MECHANICAL SYSTEMS**

PLUMBING- Plumbing fixtures are standard china commercial quality with wall mounted lavatories, urinals and water closets. Most lavatories have single lever handle faucets and urinals and water closets have manual lever exposed flush valves. The kindergarten classrooms have individual toilet rooms in each room. Custodial closets have fiberglass mop basins. There are some stainless steel counter top sinks. Water coolers are dual level with integral refrigeration. There are two Nordix gas instantaneous water heaters in the mechanical room with a small inline circulating pump installed. There is no domestic water booster pump system.

Water piping is insulated rigid copper tubing. Sanitary, waste, vent and rainwater piping is hubless cast iron. The water service is a four inch line and meter from Tyson Ave. located in the mechanical room. The service includes a backflow preventer assembly. Gas service is a three inch line with the assembly in the chiller enclosure.

Plumbing fixtures have a remaining service life of twenty five years. Water heaters and distribution should remain serviceable fifteen more years.

## Site Assessment Report - B831002;Moore PEC

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HVAC-This building has a four pipe heating-cooling system with equipment in a ground level mechanical room. Heating hot water is generated by two Buderus cast iron sectional boilers. The boilers are gas fired thirty hp each installed in 2006. Each unit has a Powerflame burner and control panel, and is connected to a common double wall manufactured vent system routed to a roof cap. Two five hp B&G end suction pumps in the mechanical room circulate hot water to air handling units.

Cooling is provided by a Carrier 105 ton air cooled package chiller in an exterior block wall enclosure. Two 7 ½ hp B&G end suction pumps circulate chilled water through the building. These two pumps are connected to variable frequency drives. Classrooms have four pipe unit ventilators. Eight ducted fan coil units above corridor ceilings serve the cafeteria, offices, corridors and other interior areas in the building.

There is a single wall stainless steel heat removal hood in the kitchen, with a roof exhaust fan. Four centrifugal roof ventilators provide toilet exhaust. A Carrier building automation and digital control system with the computer terminal in room P120 operates the HVAC system.

The boilers have a remaining service life of twenty five years. Chillers should remain serviceable twenty years and distribution systems have a remaining service life of fifteen years.

**FIRE PROTECTION-** The building is completely protected by a sprinkler system. There are concealed heads with flush cover plates in ceiling areas and exposed heads in areas without ceilings. The fire protection service is a four inch line from Tyson Ave.

There are no recommended corrections or modifications for this building. All systems and components are from the 2006 installation and are in good condition.

### **ELECTRICAL SYSTEMS**

**Electrical Service--** The PEC is served by PECO Energy Company from a utility-owned pad mount transformer located on the north side of building with underground secondary service routed to Main Switchboard MDP, rated 1200A, 208/120V, 3 phase 4 wire, and located in Electrical Room P122. Switchboard MDP feeds panelboards located in Room P122 and in Electrical Closet P104. All of the electrical distribution equipment was installed in 2008 and has a remaining useful life of more than 20 years.

**Receptacles--** All of the classrooms are provided with an adequate quantity of duplex receptacles. All duplex receptacles located within 6 feet of a sink are ground-fault circuit interrupting (GFCI) type, as required by Code.

**Lighting--** Fixtures in classrooms are cable suspended, direct/indirect fluorescent with blade louvers and T8 lamps arranged in continuous rows. The cafetorium has cable suspended 8 foot fluorescent fixtures with blade louvers and T5 lamps. Some of the fixtures are missing louvers and need to be replaced and maintained. There are also 2x2 recessed grid indirect fluorescent lighting fixtures in the lower ceiling area in the cafetorium, classrooms and in corridor ceilings. Some of the fixtures in the corridors have defective lampholders and need to be repaired or the fixtures replaced.

There are surface mounted round fluorescent fixtures with opal lenses main entrance lobby and in some areas in the corridors. Industrial fluorescent fixtures are provided in the Boiler Room and Electrical Closet. There are 2x4 recessed grid fluorescent lensed troffers in the kitchen.

There is a lighting control system provided for the classrooms and cafetorium that includes digital wall control stations, occupancy sensors and outdoor photocells. The system is by Lighting Control and Design. The Blue Box GR 1400 series relay cabinets are located in each of the electrical rooms. It was reported by staff that the wall control stations in 6 of the 12 classrooms are not operational and lighting fixtures are not able to be controlled.

Wall mounted cylinder fixtures are located on the building exterior at each exit discharge.

**Fire Alarm System--** The fire alarm system control panel (FACP) is a General Electric EST 2 panel located in Electrical Closet P104. A remote fire alarm annunciator panel is located in the Building Engineer's Office P120A and in Clerical Office P101. The addressable system consists of manual pull stations and audible and visual notification appliances located to comply with current NFPA codes and ADA requirements. A heat detector is installed in the kitchen. The system is in good condition with an estimated remaining useful life of 13 years.

**Telephone/LAN--**The demarcation point is located in the Main Distribution Frame (MDF) Room 109A. A telephone and data outlet is provided in each classroom and cafetorium. Wireless access points are located to provide Wi-Fi coverage throughout the entire school.

## Site Assessment Report - B831002;Moore PEC

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Intercom/Paging/Sound Systems-- The paging system is accessed through the telephone system. A wall mounted paging speaker is located in each classroom and the cafetorium. Recessed ceiling speakers are located in corridors and rooms with lay-in ceiling grid. This system is in good condition with a remaining useful life of more than 15 years.

There is an Aiphone intercom station in the Visitors entrance vestibule with communications to the clerical office.

Clock and Program System—The program system is accessed through the telephone system. There is a Primex GPS wireless clock system in the school with battery operated synchronized clocks provided in classrooms, cafetorium and offices. The master clock transmitter is located in MDF Room P109A. The clock system was reported by staff to be not operating. The issue appears to be with the clock transmitter. The clock system needs to be serviced to restore it to operating condition.

Television System-- There is no television system in this school. Overhead projectors are provided in classrooms.

Video Surveillance and Security Systems-- Video surveillance cameras provide coverage of entrances and cafetorium. Exterior cameras are mounted on the northeast and southeast corners of the building. The video surveillance equipment cabinet and monitor are located in Faculty Room P103. There is also a monitor in Clerical Office P101.

There is a Honeywell Security Panel located in the Visitors entrance vestibule. Security motion sensors are provided in the corridors and cafetorium.

Emergency Power System-- There is no standby generator for the PEC.

Emergency Lighting System / Exit Lighting-- Emergency egress lighting is provided by wall mounted battery powered emergency lighting units. Remote emergency lighting heads are located outside at the exit discharges. Exit signs are provided with battery backup. Locations of emergency lighting units and exit signs meet code. Estimated remaining life of fixtures is 12 years.

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

### RECOMMENDATIONS - PEC

- Replace missing blade louvers on four (4) fluorescent lighting fixtures in Cafetorium 102.
- Repair or replace three (3) defective 2x2 recessed indirect fluorescent grid troffers in the corridor.
- Repair or replace non-functional digital wall control stations for lighting control system in six (6) classrooms.
- Repair or replace non-functional transmitter for Primex wireless GPS master clock system.

### Attributes:

#### General Attributes:

Active:	Open	Bldg ID:	B831002
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S831001		

## 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	91.00 %	0.00 %	\$0.00
B10 - Superstructure	91.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	86.08 %	0.00 %	\$0.00
B30 - Roofing	55.00 %	0.00 %	\$0.00
C10 - Interior Construction	86.34 %	0.00 %	\$0.00
C30 - Interior Finishes	57.99 %	9.52 %	\$91,764.23
D20 - Plumbing	72.47 %	0.00 %	\$0.00
D30 - HVAC	65.02 %	0.00 %	\$0.00
D40 - Fire Protection	74.29 %	0.00 %	\$0.00
D50 - Electrical	54.52 %	1.42 %	\$19,367.59
E10 - Equipment	74.29 %	0.00 %	\$0.00
E20 - Furnishings	77.50 %	0.00 %	\$0.00
<b>Totals:</b>	<b>73.83 %</b>	<b>0.88 %</b>	<b>\$111,131.82</b>

## 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 remainder 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.

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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	\$24.32	S.F.	23,200	100	2006	2106		91.00 %	0.00 %	91			\$564,224
A1030	Slab on Grade	\$15.51	S.F.	23,200	100	2006	2106		91.00 %	0.00 %	91			\$359,832
B1010	Floor Construction	\$92.20	S.F.	23,200	100	2006	2106		91.00 %	0.00 %	91			\$2,139,040
B1020	Roof Construction	\$24.11	S.F.	23,200	100	2006	2106		91.00 %	0.00 %	91			\$559,352
B2010	Exterior Walls	\$31.22	S.F.	23,200	100	2006	2106		91.00 %	0.00 %	91			\$724,304
B2020	Exterior Windows	\$13.63	S.F.	23,200	40	2006	2046		77.50 %	0.00 %	31			\$316,216
B2030	Exterior Doors	\$1.67	S.F.	23,200	25	2006	2031		64.00 %	0.00 %	16			\$38,744
B3010105	Built-Up	\$37.76	S.F.	23,200	20	2006	2026		55.00 %	0.00 %	11			\$876,032
B3020	Roof Openings	\$0.68	S.F.	23,200	20	2006	2026		55.00 %	0.00 %	11			\$15,776
C1010	Partitions	\$14.93	S.F.	23,200	100	2006	2106		91.00 %	0.00 %	91			\$346,376
C1020	Interior Doors	\$3.76	S.F.	23,200	40	2006	2046		77.50 %	0.00 %	31			\$87,232
C1030	Fittings	\$4.12	S.F.	23,200	40	2006	2046		77.50 %	0.00 %	31			\$95,584
C3010230	Paint & Covering	\$13.21	S.F.	20,000	10	2006	2016	2020	50.00 %	0.00 %	5			\$264,200
C3010232	Wall Tile	\$2.63	S.F.	3,200	30	2006	2036		70.00 %	0.00 %	21			\$8,416
C3020411	Carpet	\$7.30	S.F.	8,200	10	2006	2016	2020	50.00 %	153.30 %	5		\$91,764.23	\$59,860
C3020413	Vinyl Flooring	\$9.68	S.F.	15,000	20	2006	2026		55.00 %	0.00 %	11			\$145,200
C3030	Ceiling Finishes	\$20.97	S.F.	23,200	25	2006	2031		64.00 %	0.00 %	16			\$486,504
D2010	Plumbing Fixtures	\$31.58	S.F.	23,200	35	2006	2041		74.29 %	0.00 %	26			\$732,656
D2020	Domestic Water Distribution	\$2.90	S.F.	23,200	25	2006	2031		64.00 %	0.00 %	16			\$67,280
D2030	Sanitary Waste	\$2.90	S.F.	23,200	25	2006	2031		64.00 %	0.00 %	16			\$67,280
D2040	Rain Water Drainage	\$3.29	S.F.	23,200	30	2006	2036		70.00 %	0.00 %	21			\$76,328
D3020	Heat Generating Systems	\$18.67	S.F.	23,200	35	2006	2041		74.29 %	0.00 %	26			\$433,144
D3030	Cooling Generating Systems	\$24.48	S.F.	23,200	30	2006	2036		70.00 %	0.00 %	21			\$567,936
D3040	Distribution Systems	\$42.99	S.F.	23,200	25	2006	2031		64.00 %	0.00 %	16			\$997,368
D3050	Terminal & Package Units	\$11.60	S.F.	23,200	20	2006	2026		55.00 %	0.00 %	11			\$269,120
D3060	Controls & Instrumentation	\$13.50	S.F.	23,200	20	2006	2026		55.00 %	0.00 %	11			\$313,200
D4010	Sprinklers	\$8.02	S.F.	23,200	35	2006	2041		74.29 %	0.00 %	26			\$186,064
D4020	Standpipes	\$0.99	S.F.	23,200	35	2006	2041		74.29 %	0.00 %	26			\$22,968
D5010	Electrical Service/Distribution	\$9.70	S.F.	23,200	30	2006	2036		70.00 %	0.00 %	21			\$225,040
D5020	Lighting and Branch Wiring	\$34.68	S.F.	23,200	20	2006	2026		55.00 %	2.06 %	11		\$16,592.16	\$804,576
D5030	Communications and Security	\$12.99	S.F.	23,200	15	2006	2021		40.00 %	0.92 %	6		\$2,775.43	\$301,368
D5090	Other Electrical Systems	\$1.41	S.F.	23,200	30	2006	2036		70.00 %	0.00 %	21			\$32,712
E1020	Institutional Equipment	\$4.82	S.F.	23,200	35	2006	2041		74.29 %	0.00 %	26			\$111,824
E1090	Other Equipment	\$11.10	S.F.	23,200	35	2006	2041		74.29 %	0.00 %	26			\$257,520
E2010	Fixed Furnishings	\$2.13	S.F.	23,200	40	2006	2046		77.50 %	0.00 %	31			\$49,416
<b>Total</b>									<b>73.83 %</b>	<b>0.88 %</b>			<b>\$111,131.82</b>	<b>\$12,602,692</b>



## 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.

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<b>System:</b> C3010 - Wall Finishes	This system contains no images
<b>Note:</b> Painted CMU 85% Ceramic Wall Tile 15%	

---

<b>System:</b> C3020 - Floor Finishes	This system contains no images
<b>Note:</b> Carpet 35% Vinyl 65%	

---

<b>System:</b> D5010 - Electrical Service/Distribution	This system contains no images
<b>Note:</b> There is a pad mounted 208/120V, 3 phase, 4 wire utility transformer and no secondary transformers.	

## Renewal Schedule

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

*Inflation Rate: 3%*

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
<b>Total:</b>	\$111,132	\$0	\$0	\$0	\$0	\$413,242	\$395,834	\$0	\$0	\$0	\$0	\$920,208
<b>* A - Substructure</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>* A10 - Foundations</b>	\$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
<b>B - Shell</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B10 - Superstructure</b>	\$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
<b>B20 - Exterior Enclosure</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B2010 - Exterior Walls	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B2020 - Exterior Windows	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
B2030 - Exterior Doors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>B30 - Roofing</b>	\$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	\$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
<b>C - Interiors</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C10 - Interior Construction</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C1010 - Partitions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C1020 - Interior Doors	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C1030 - Fittings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C30 - Interior Finishes</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3010 - Wall Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3010230 - Paint & Covering	\$0	\$0	\$0	\$0	\$0	\$336,908	\$0	\$0	\$0	\$0	\$0	\$336,908
C3010232 - Wall Tile	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

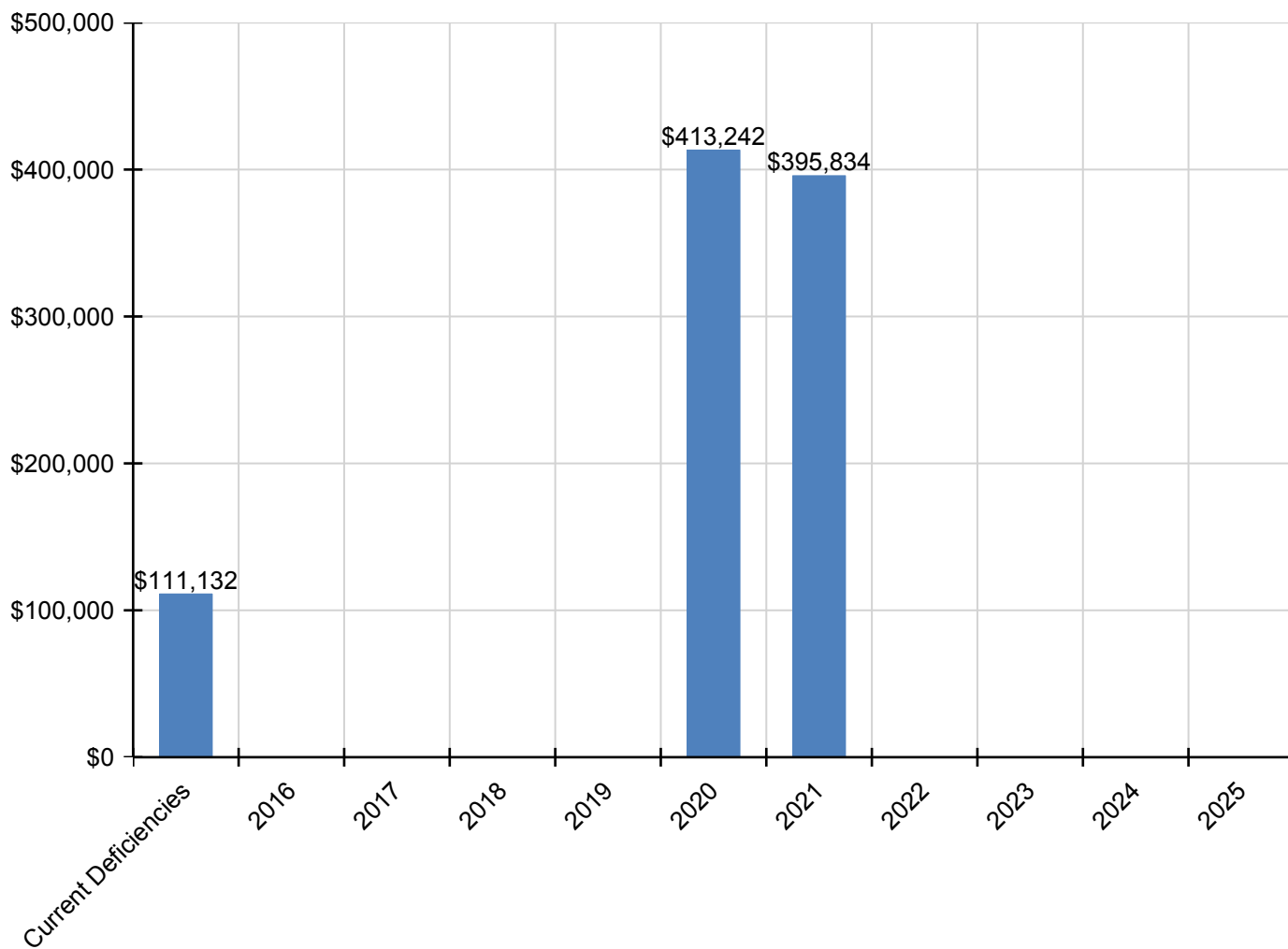
# Site Assessment Report - B831002;Moore PEC

C3020 - Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020411 - Carpet	\$91,764	\$0	\$0	\$0	\$0	\$76,334	\$0	\$0	\$0	\$0	\$0	\$0	\$168,098
C3020413 - Vinyl Flooring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3030 - Ceiling Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D - Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D20 - Plumbing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2010 - Plumbing Fixtures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2020 - Domestic Water Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2030 - Sanitary Waste	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2040 - Rain Water Drainage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D30 - HVAC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3020 - Heat Generating Systems	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3030 - Cooling Generating Systems	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3040 - Distribution Systems	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3060 - Controls & Instrumentation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4020 - Standpipes	\$0	\$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	\$0
D5010 - Electrical Service/Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D5020 - Lighting and Branch Wiring	\$16,592	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,592
D5030 - Communications and Security	\$2,775	\$0	\$0	\$0	\$0	\$0	\$395,834	\$0	\$0	\$0	\$0	\$0	\$398,610
D5090 - Other Electrical Systems	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E - Equipment & Furnishings	\$0	\$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	\$0
E1020 - Institutional Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E1090 - Other Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E20 - Furnishings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E2010 - Fixed Furnishings	\$0	\$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.

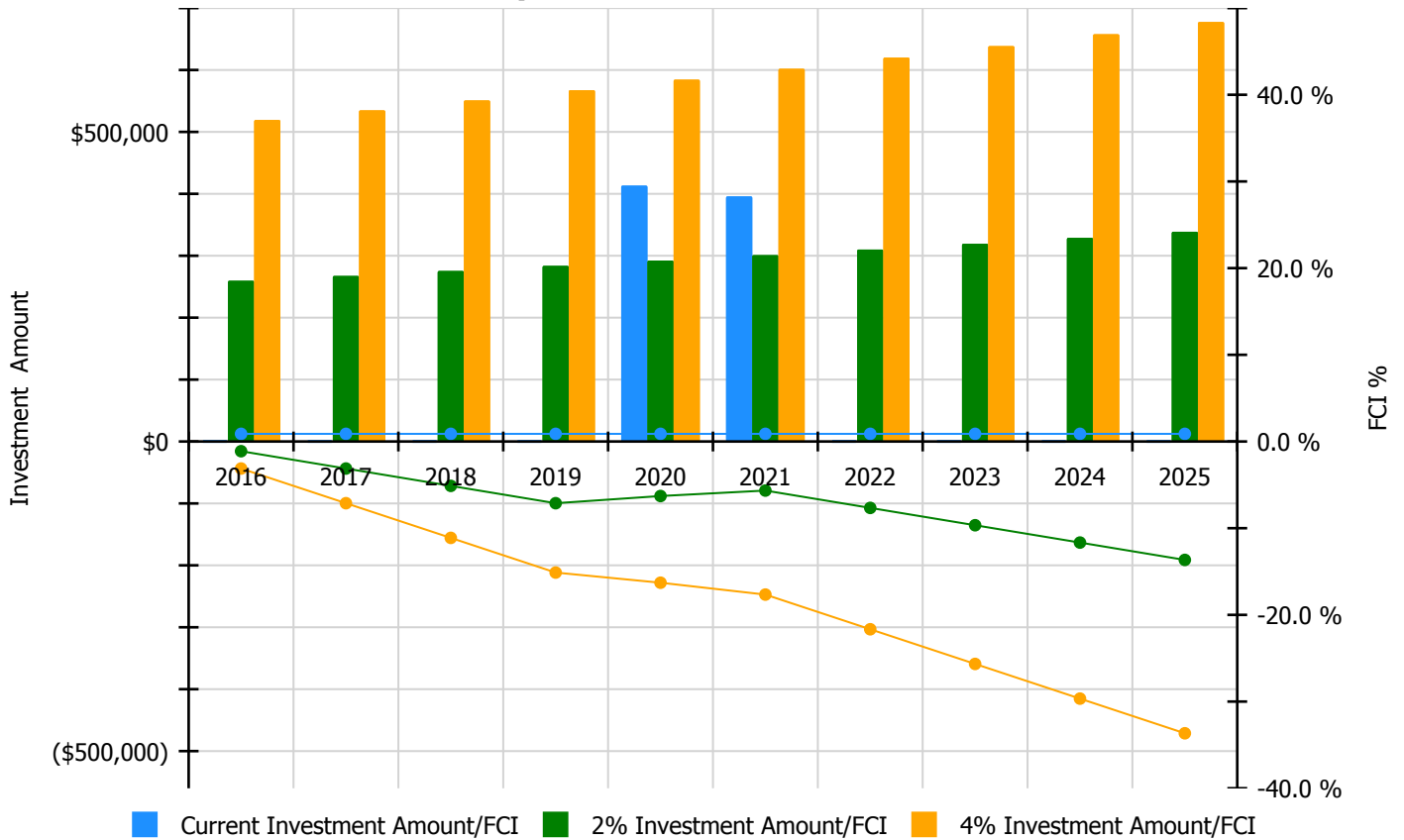


## 10 Year FCI Forecast by Investment Scenario

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

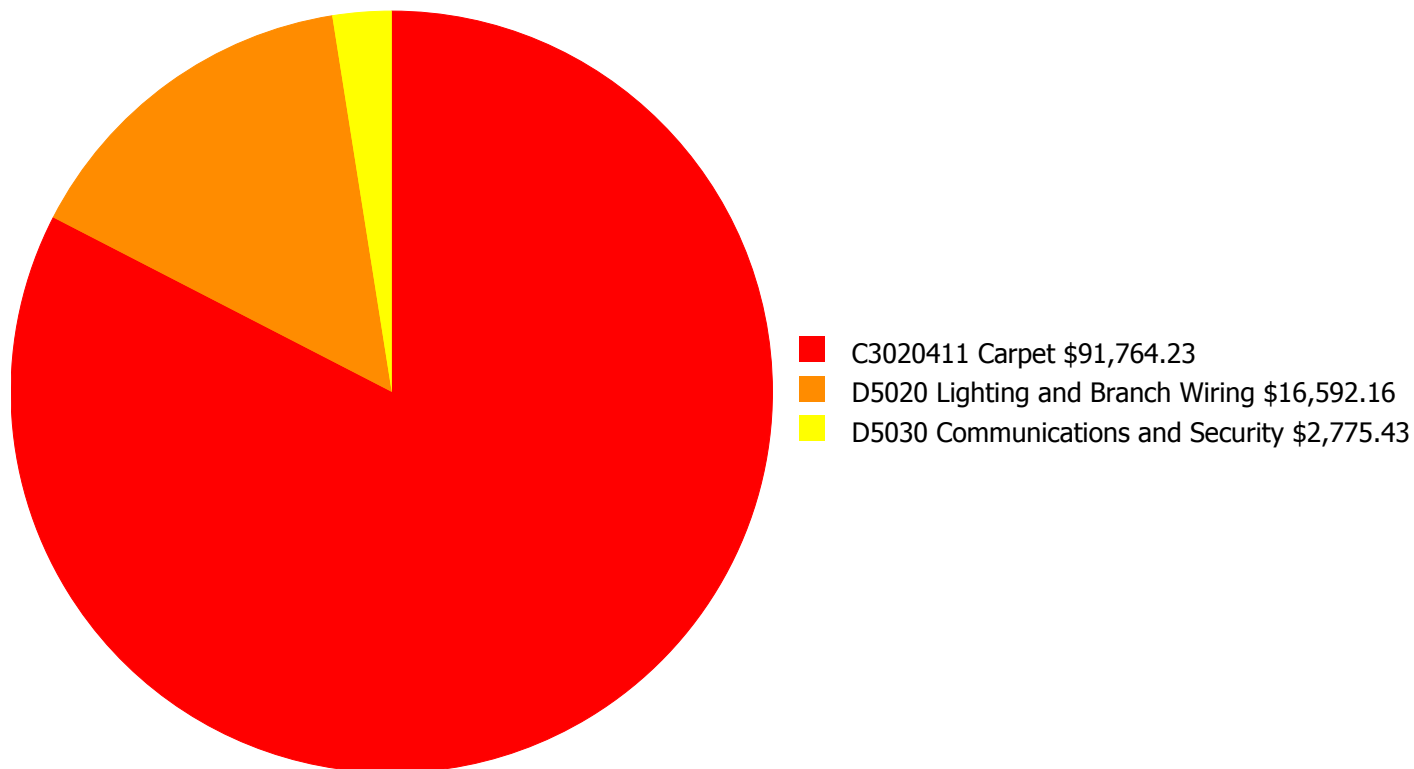
**Facility Investment vs. FCI Forecast**



Year	Investment Amount Current FCI - 0.88%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$259,615.00	-1.12 %	\$519,231.00	-3.12 %
2017	\$0	\$267,404.00	-3.12 %	\$534,808.00	-7.12 %
2018	\$0	\$275,426.00	-5.12 %	\$550,852.00	-11.12 %
2019	\$0	\$283,689.00	-7.12 %	\$567,378.00	-15.12 %
2020	\$413,242	\$292,199.00	-6.29 %	\$584,399.00	-16.29 %
2021	\$395,834	\$300,965.00	-5.66 %	\$601,931.00	-17.66 %
2022	\$0	\$309,994.00	-7.66 %	\$619,989.00	-21.66 %
2023	\$0	\$319,294.00	-9.66 %	\$638,589.00	-25.66 %
2024	\$0	\$328,873.00	-11.66 %	\$657,746.00	-29.66 %
2025	\$0	\$338,739.00	-13.66 %	\$677,479.00	-33.66 %
<b>Total:</b>	<b>\$809,076</b>	<b>\$2,976,198.00</b>		<b>\$5,952,402.00</b>	

## Deficiency Summary by System

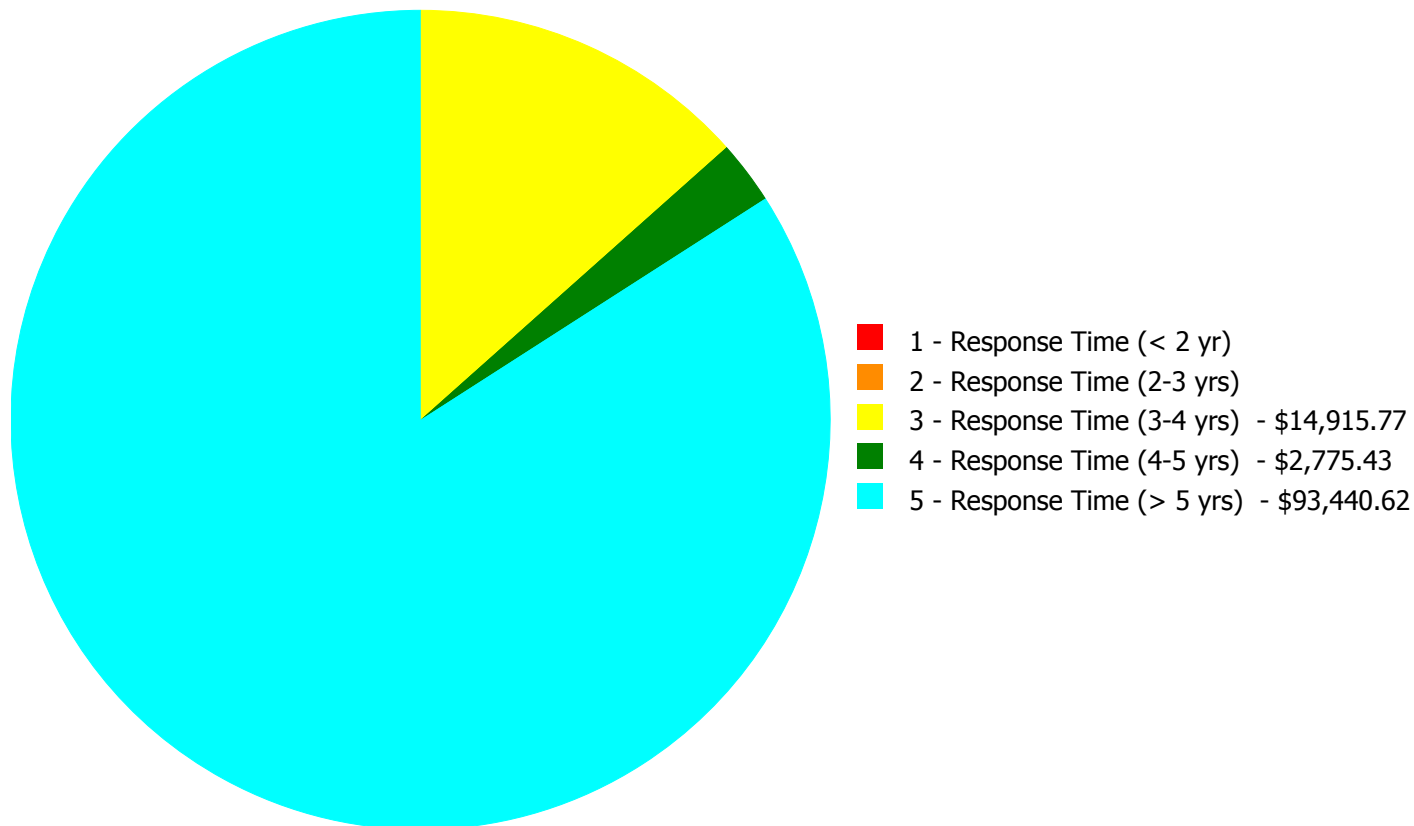
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



**Budget Estimate Total: \$111,131.82**

### 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: \$111,131.82**

## Deficiency By Priority Investment Table

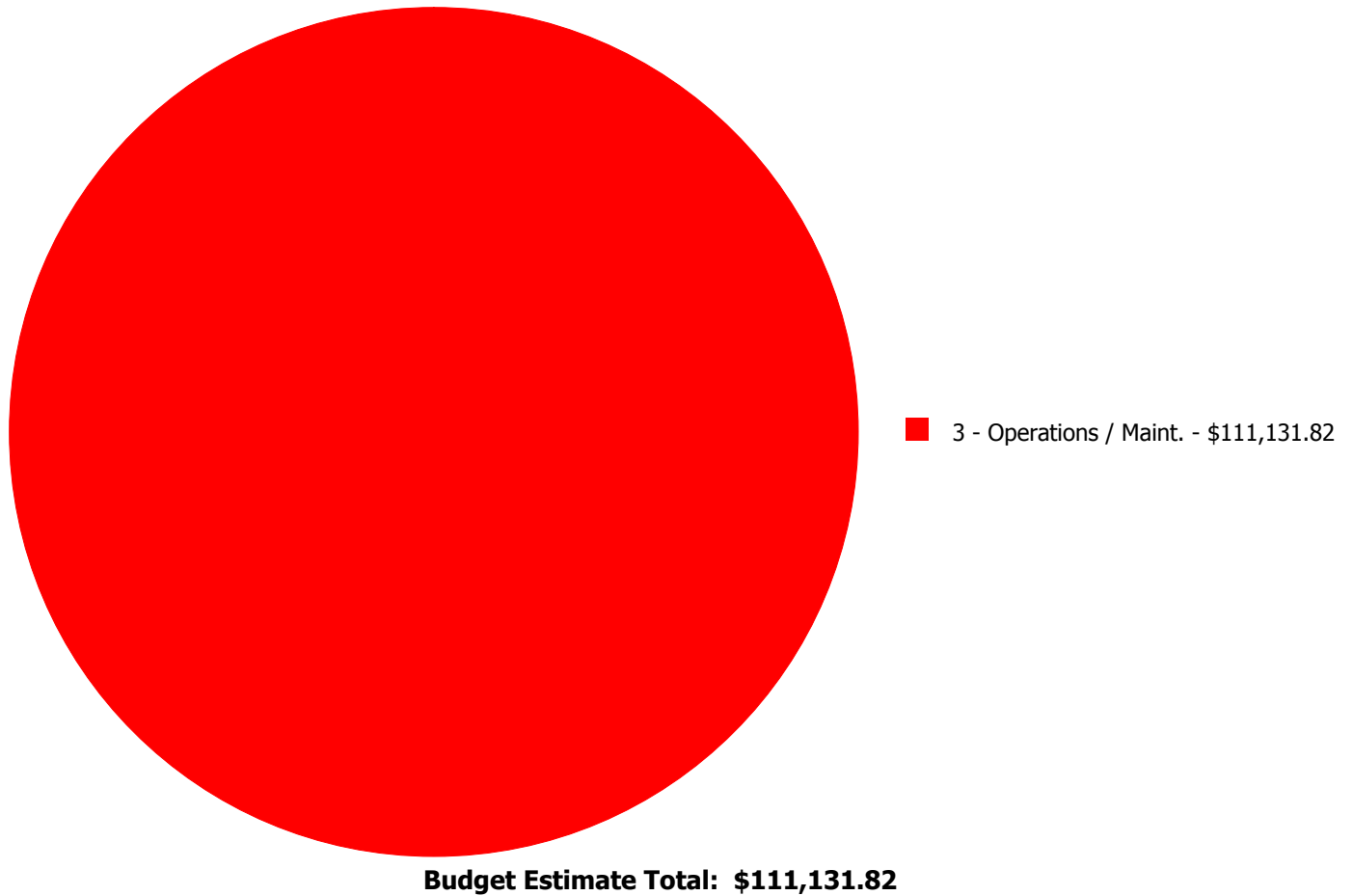
The table below shows the current investment cost grouped by deficiency priority and building system.

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
C3020411	Carpet	\$0.00	\$0.00	\$0.00	\$0.00	\$91,764.23	\$91,764.23
D5020	Lighting and Branch Wiring	\$0.00	\$0.00	\$14,915.77	\$0.00	\$1,676.39	\$16,592.16
D5030	Communications and Security	\$0.00	\$0.00	\$0.00	\$2,775.43	\$0.00	\$2,775.43
<b>Total:</b>		\$0.00	\$0.00	\$14,915.77	\$2,775.43	\$93,440.62	\$111,131.82



## 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:



## Deficiency Details by Priority

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

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

#### System: D5020 - Lighting and Branch Wiring



**Location:** Classrooms

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace/Repair low voltage lighting system

**Qty:** 6.00

**Unit of Measure:** Ea.

**Estimate:** \$12,749.06

**Assessor Name:** Gerald Petric

**Date Created:** 12/20/2015

**Notes:** Repair or replace non-functional digital wall control stations for lighting control system in six (6) classrooms.

---

#### System: D5020 - Lighting and Branch Wiring



**Location:** Corridor

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Replace lighting fixtures

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$2,166.71

**Assessor Name:** Gerald Petric

**Date Created:** 12/20/2015

**Notes:** Repair or replace three (3) defective 2x2 recessed indirect fluorescent grid troffers in the corridor.

---

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

**System: D5030 - Communications and Security**



**Location:** MDF Room P109A

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Add/Replace Clock System or Components

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$2,775.43

**Assessor Name:** Gerald Petric

**Date Created:** 12/20/2015

**Notes:** Repair or replace non-functional transmitter for Primex wireless GPS master clock system.

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**Priority 5 - Response Time (> 5 yrs):**

**System: C3020411 - Carpet**



**Location:** Classrooms

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

**Priority:** 5 - Response Time (> 5 yrs)

**Correction:** Remove and replace carpet

**Qty:** 8,200.00

**Unit of Measure:** S.F.

**Estimate:** \$91,764.23

**Assessor Name:** Ben Nixon

**Date Created:** 10/30/2015

**Notes:** The floor finishes are a mix of carpet, tile and concrete finishes. The restrooms are concrete finished for the student restrooms and ceramic finished for the staff restrooms. The interior carpet finish is original and is in good condition considering the age and high traffic conditions. This finish will exceed its expected life within the next ten years and is recommended for removal and replacement.

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**System: D5020 - Lighting and Branch Wiring**



**Location:** Cafetorium

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

**Priority:** 5 - Response Time (> 5 yrs)

**Correction:** Maintain Lighting Fixtures

**Qty:** 4.00

**Unit of Measure:** Ea.

**Estimate:** \$1,676.39

**Assessor Name:** Gerald Petric

**Date Created:** 12/20/2015

**Notes:** Replace missing blade louvers on four (4) fluorescent lighting fixtures in Cafetorium 102.

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## 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 fired, natural or propane, cast iron, hot water, gross output, 1275 MBH, includes standard controls and insulated jacket, packaged	2.00	Ea.	mechanical room	buderus	logano ge 515			35	2006	2041	\$29,823.90	\$65,612.58
D3030 Cooling Generating Systems	Water chiller, screw liquid chiller, air cooled, insulated evaporator, 130 ton, includes standard controls	1.00	Ea.	exterior	carrier	38rba110	1406081191		30	2006	2036	\$122,760.00	\$135,036.00
D5010 Electrical Service/Distribution	Panelboard, 4 wire w/conductor & conduit, NQOD, 120/208 V, 400 A, 1 stories, 25' horizontal	1.00	Ea.	Electrical Room P122	General Electric	A Series II			30	2007	2037	\$12,109.50	\$13,320.45
D5010 Electrical Service/Distribution	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 1200 A	2.00	Ea.	Electrical Room P122	General Electric	A Series II			30	2007	2037	\$27,696.60	\$60,932.52
												<b>Total:</b>	<b>\$274,901.55</b>

**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):	192,500
Year Built:	2006
Last Renovation:	
Replacement Value:	\$3,510,956
Repair Cost:	\$83,615.10
Total FCI:	2.38 %
Total RSLI:	69.33 %



**Description:**

**Attributes:**

**General Attributes:**

Bldg ID:	S831001	Site ID:	S831001
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## 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	69.12 %	3.13 %	\$83,615.10
G40 - Site Electrical Utilities	70.00 %	0.00 %	\$0.00
<b>Totals:</b>	<b>69.33 %</b>	<b>2.38 %</b>	<b>\$83,615.10</b>

## 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 the system 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.	15,000	30	2006	2036		70.00 %	0.00 %	21			\$172,800
G2020	Parking Lots	\$7.65	S.F.	29,300	30	2006	2036		70.00 %	28.89 %	21		\$64,762.58	\$224,145
G2030	Pedestrian Paving	\$11.52	S.F.	106,000	40	2006	2046		77.50 %	0.00 %	31			\$1,221,120
G2040	Site Development	\$4.36	S.F.	192,500	25	2006	2031		64.00 %	2.25 %	16		\$18,852.52	\$839,300
G2050	Landscaping & Irrigation	\$3.78	S.F.	57,200	15	2006	2021		40.00 %	0.00 %	6			\$216,216
G4020	Site Lighting	\$3.58	S.F.	192,500	30	2006	2036		70.00 %	0.00 %	21			\$689,150
G4030	Site Communications & Security	\$0.77	S.F.	192,500	30	2006	2036		70.00 %	0.00 %	21			\$148,225
<b>Total</b>									<b>69.33 %</b>	<b>2.38 %</b>			<b>\$83,615.10</b>	<b>\$3,510,956</b>

## 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.

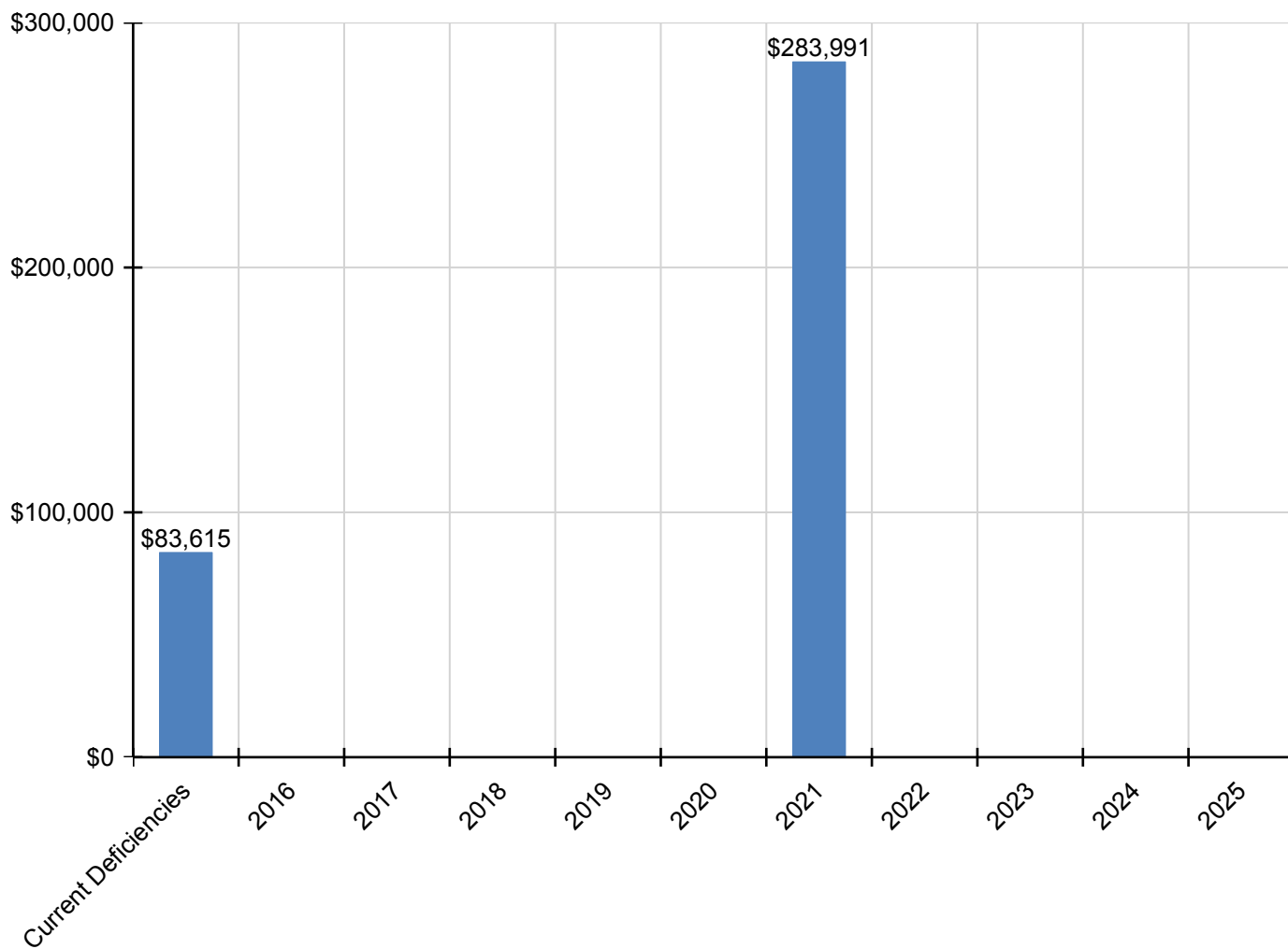
*Inflation Rate: 3%*

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
<b>Total:</b>	\$83,615	\$0	\$0	\$0	\$0	\$0	\$283,991	\$0	\$0	\$0	\$0	\$367,606
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	\$64,763	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$64,763
G2030 - Pedestrian Paving	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2040 - Site Development	\$18,853	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,853
G2050 - Landscaping & Irrigation	\$0	\$0	\$0	\$0	\$0	\$0	\$283,991	\$0	\$0	\$0	\$0	\$283,991
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.

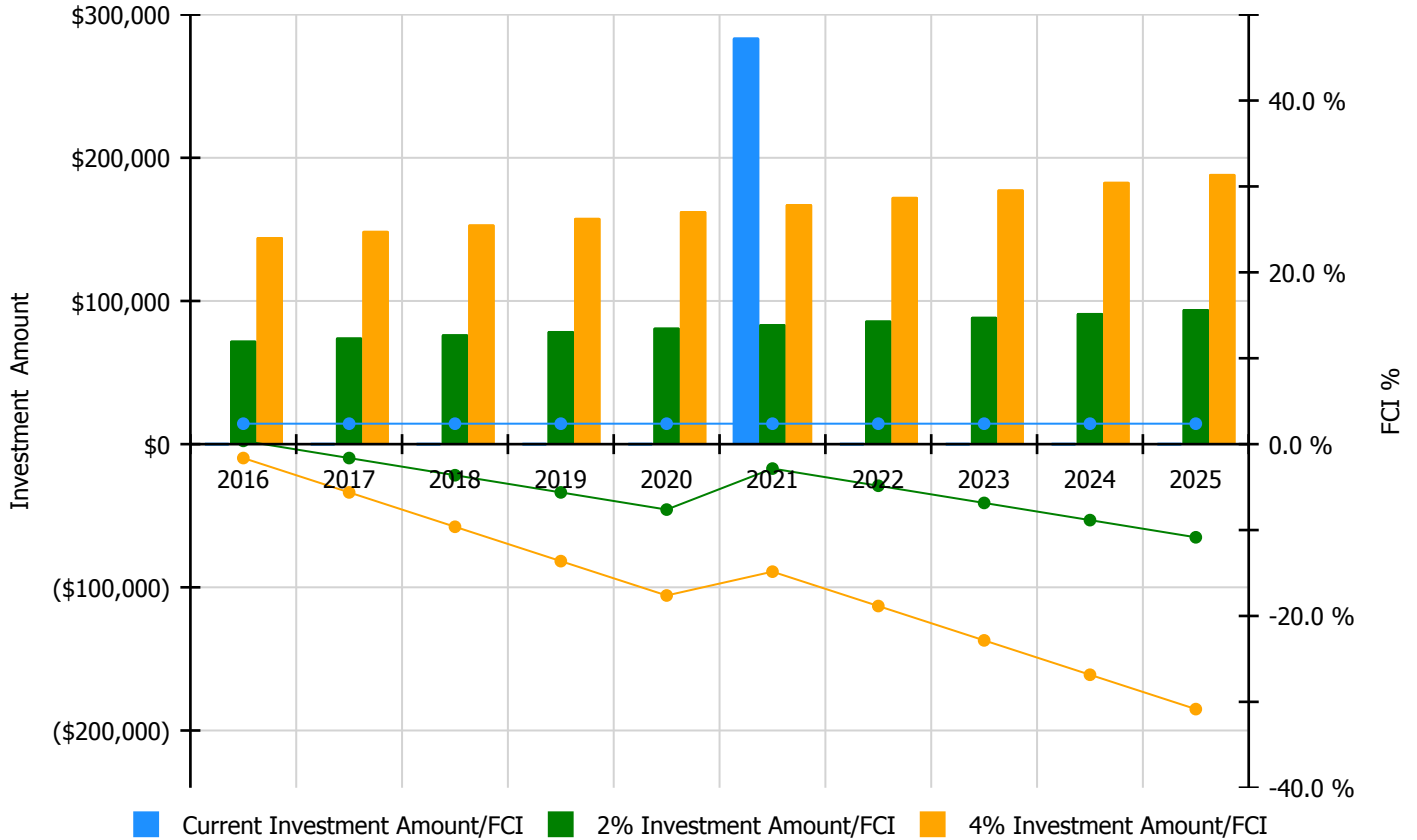


## 10 Year FCI Forecast by Investment Scenario

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

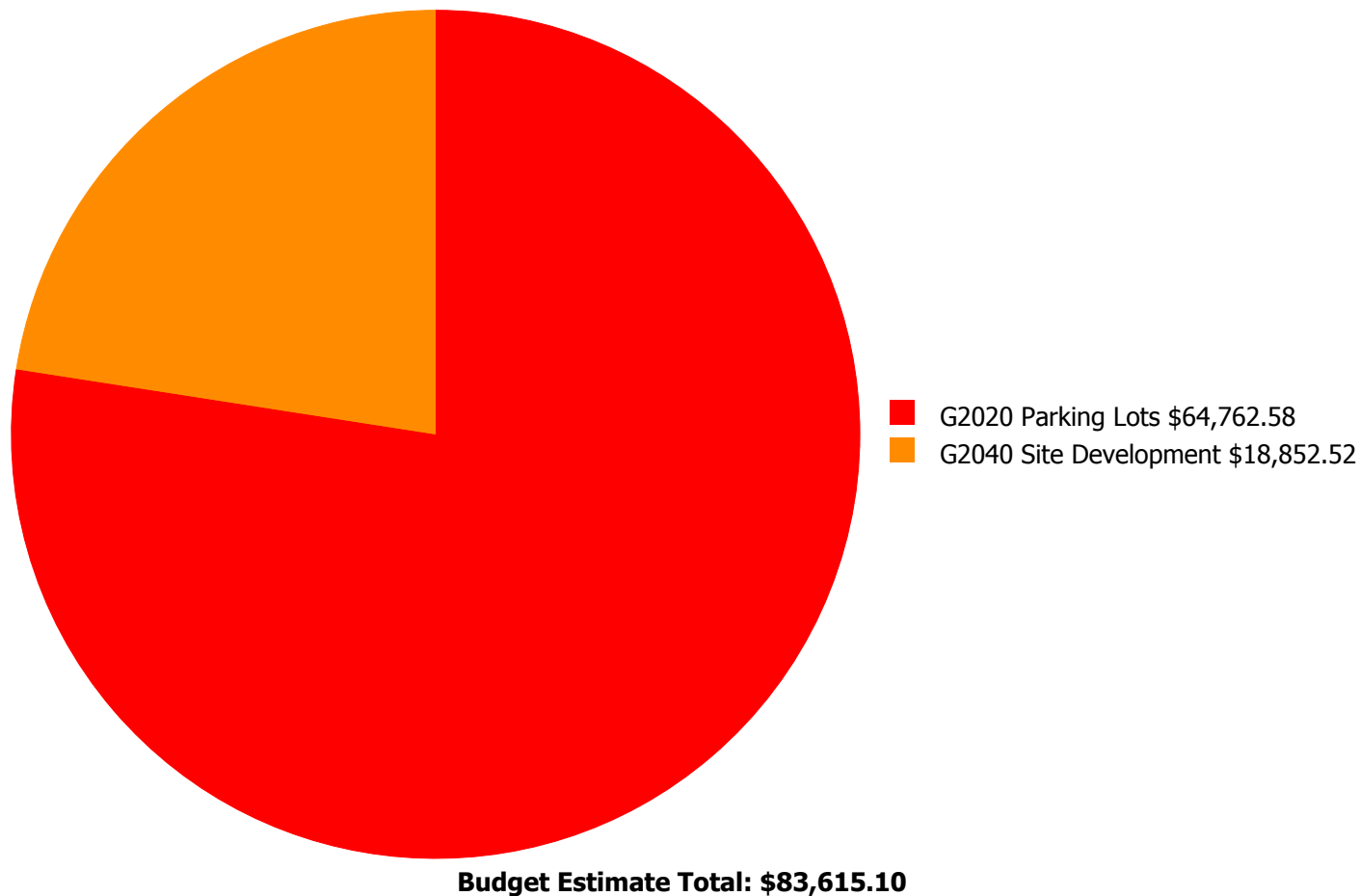
**Facility Investment vs. FCI Forecast**



Year	Investment Amount Current FCI - 2.38%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$72,326.00	0.38 %	\$144,651.00	-1.62 %
2017	\$0	\$74,495.00	-1.62 %	\$148,991.00	-5.62 %
2018	\$0	\$76,730.00	-3.62 %	\$153,461.00	-9.62 %
2019	\$0	\$79,032.00	-5.62 %	\$158,064.00	-13.62 %
2020	\$0	\$81,403.00	-7.62 %	\$162,806.00	-17.62 %
2021	\$283,991	\$83,845.00	-2.84 %	\$167,691.00	-14.84 %
2022	\$0	\$86,361.00	-4.84 %	\$172,721.00	-18.84 %
2023	\$0	\$88,951.00	-6.84 %	\$177,903.00	-22.84 %
2024	\$0	\$91,620.00	-8.84 %	\$183,240.00	-26.84 %
2025	\$0	\$94,369.00	-10.84 %	\$188,737.00	-30.84 %
<b>Total:</b>	<b>\$283,991</b>	<b>\$829,132.00</b>		<b>\$1,658,265.00</b>	

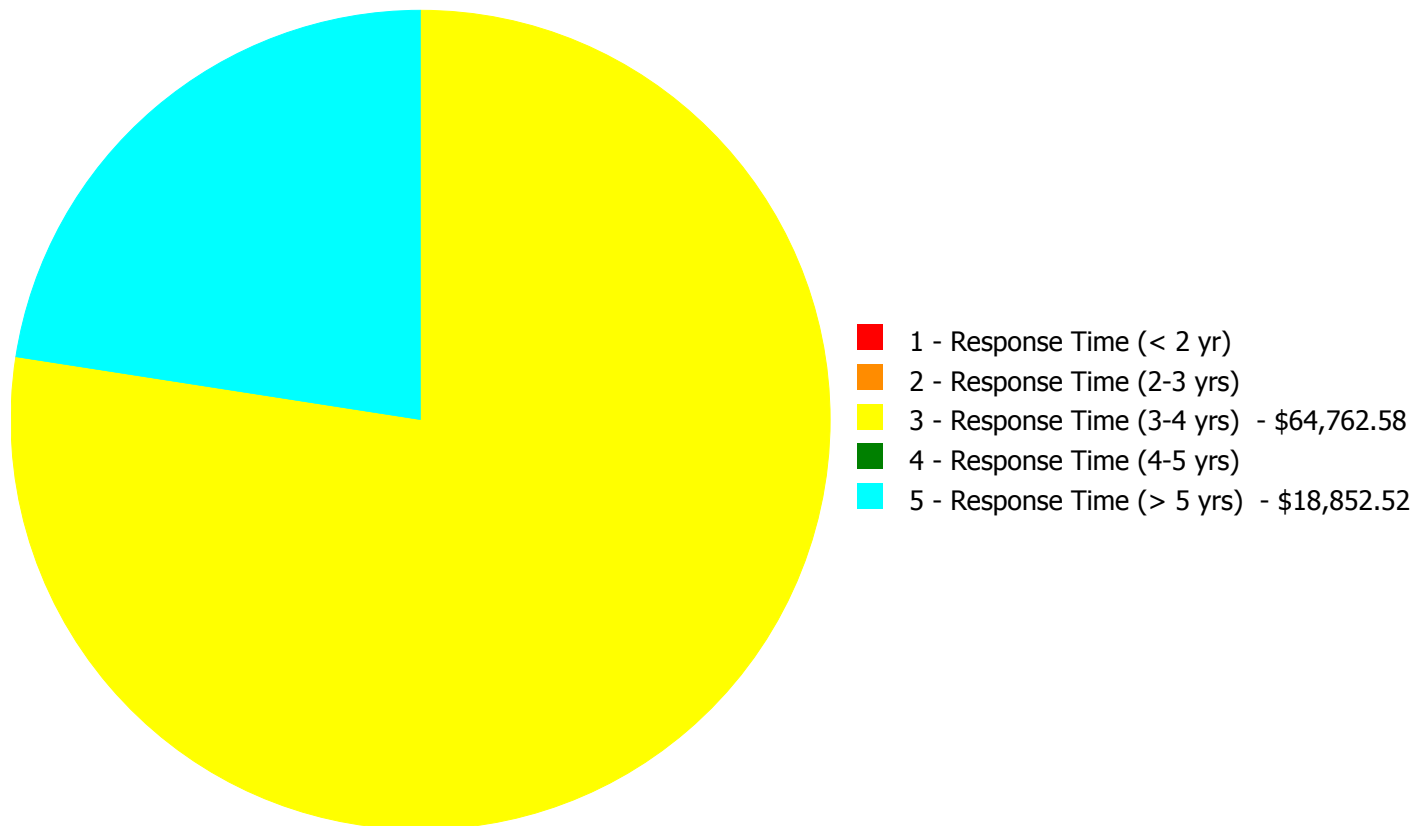
## Deficiency Summary by System

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.



## 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: \$83,615.10**

## Deficiency By Priority Investment Table

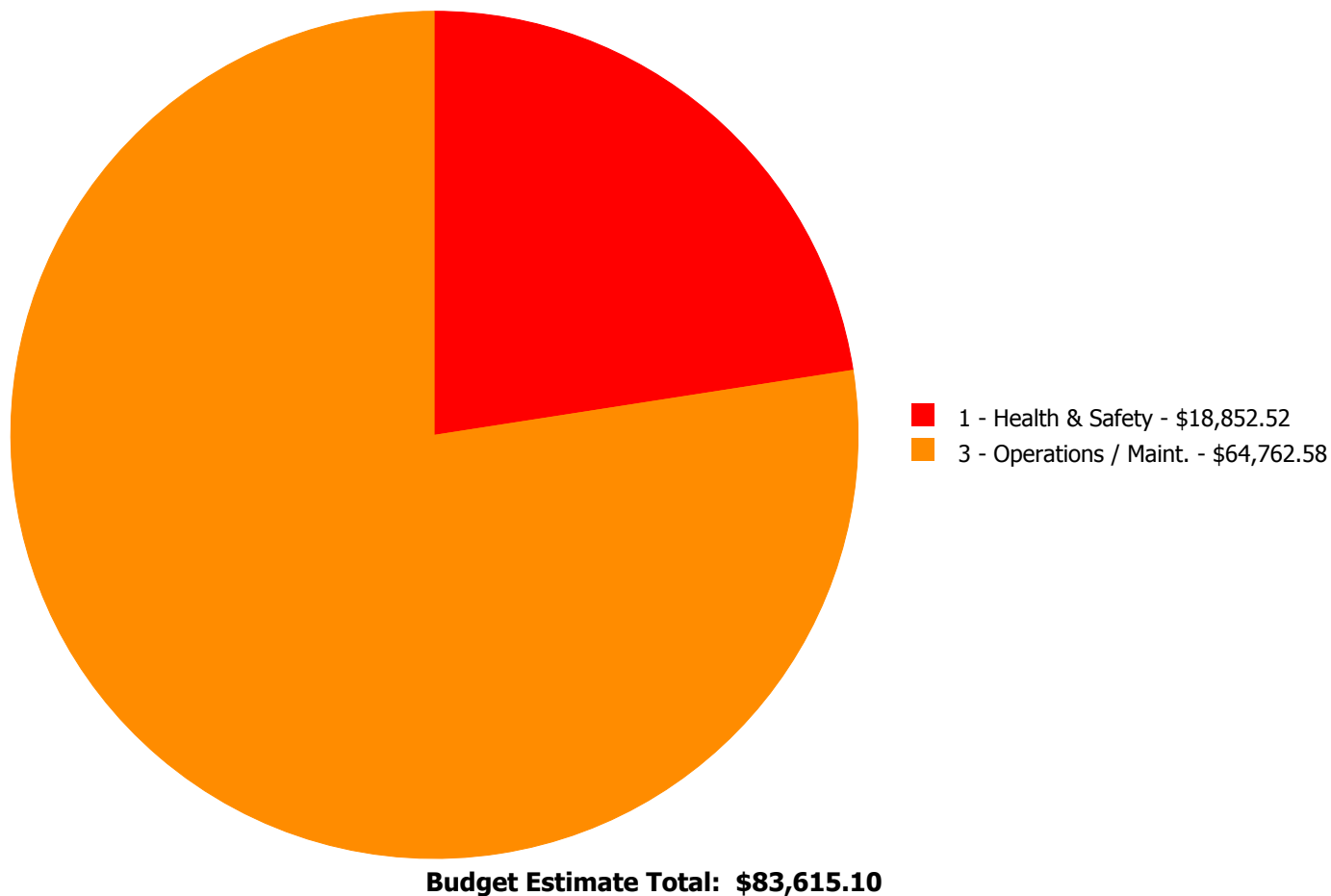
The table below shows the current investment cost grouped by deficiency priority and building system.

System Code	System Description	1 - Response Time (< 2 yr)	2 - Response Time (2-3 yrs)	3 - Response Time (3-4 yrs)	4 - Response Time (4-5 yrs)	5 - Response Time (> 5 yrs)	Total
G2020	Parking Lots	\$0.00	\$0.00	\$64,762.58	\$0.00	\$0.00	\$64,762.58
G2040	Site Development	\$0.00	\$0.00	\$0.00	\$0.00	\$18,852.52	\$18,852.52
	<b>Total:</b>	\$0.00	\$0.00	\$64,762.58	\$0.00	\$18,852.52	\$83,615.10



### 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:



## Deficiency Details by Priority

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

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

#### **System: G2020 - Parking Lots**



**Location:** Playground

**Distress:** Damaged

**Category:** 3 - Operations / Maint.

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

**Correction:** Resurface parking lot - grind and resurface including striping

**Qty:** 17,000.00

**Unit of Measure:** S.F.

**Estimate:** \$64,762.58

**Assessor Name:** Ben Nixon

**Date Created:** 10/29/2015

**Notes:** The parking play area is limited with few markers for approved activity areas. No curb cuts for access to the sidewalks that lead to the ADA main entrance. The parking play lot is in fair condition, the harsh environmental conditions associated with snow removal have taken its toll on the asphalt surface. Also, there is no marked path of ingress to the main entrance. During the time of the inspection it was reported that this area between the schools often floods during the winter time. This project provides a budgetary consideration for a play lot renewal program that includes all aspects of the current ADA legislation. Asphalt removal and replacement is recommended with care to insure proper drainage away from the school.

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**Priority 5 - Response Time (> 5 yrs):**

**System: G2040 - Site Development**



**Location:** Site

**Distress:** Health Hazard / Risk

**Category:** 1 - Health & Safety

**Priority:** 5 - Response Time (> 5 yrs)

**Correction:** Build secure trash dumpster enclosure

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$18,852.52

**Assessor Name:** Ben Nixon

**Date Created:** 10/30/2015

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

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## 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 <a href="http://www.abma.com/">http://www.abma.com/</a>
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

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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

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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

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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.



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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

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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

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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.

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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	Photovoltaic system

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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

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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

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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