

## 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.

### Bregy School

Governance	DISTRICT	Report Type	Elementarymiddle
Address	1700 Bigler St. Philadelphia, Pa 19145	Enrollment	350
Phone/Fax	215-952-6218 / 215-952-0858	Grade Range	'00-08'
Website	Www.Philasd.Org/Schools/Bregy	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>30.55%</b>	<b>\$10,663,301</b>	<b>\$34,904,401</b>
Building	31.67 %	\$10,479,964	\$33,091,312
Grounds	10.11 %	\$183,338	\$1,813,089

### Major Building Systems

Building System	System FCI	Repair Costs	Replacement Cost
<b>Roof</b> (Shows physical condition of roof)	00.00 %	\$0	\$798,317
<b>Exterior Walls</b> (Shows condition of the structural condition of the exterior facade)	01.35 %	\$32,935	\$2,436,060
<b>Windows</b> (Shows functionality of exterior windows)	112.50 %	\$1,337,228	\$1,188,660
<b>Exterior Doors</b> (Shows condition of exterior doors)	07.30 %	\$6,987	\$95,700
<b>Interior Doors</b> (Classroom doors)	134.96 %	\$312,655	\$231,660
<b>Interior Walls</b> (Paint and Finishes)	09.51 %	\$99,378	\$1,045,440
<b>Plumbing Fixtures</b>	14.07 %	\$125,543	\$892,320
<b>Boilers</b>	26.61 %	\$327,898	\$1,232,220
<b>Chillers/Cooling Towers</b>	46.12 %	\$745,092	\$1,615,680
<b>Radiators/Unit Ventilators/HVAC</b>	58.16 %	\$1,650,264	\$2,837,340
<b>Heating/Cooling Controls</b>	158.90 %	\$1,415,838	\$891,000
<b>Electrical Service and Distribution</b>	00.00 %	\$0	\$640,200
<b>Lighting</b>	00.77 %	\$17,634	\$2,288,880
<b>Communications and Security</b> (Cameras, Pa System and Fire Alarm)	49.53 %	\$424,633	\$857,340

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  
**S224001;Bregy**  
Final  
**Site Assessment Report**

January 30, 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):	45,300
Year Built:	1923
Last Renovation:	
Replacement Value:	\$34,904,401
Repair Cost:	\$10,663,301.17
Total FCI:	30.55 %
Total RSLI:	61.20 %



### Description:

Facility Assessment  
August 18th, 2015

School District of Philadelphia  
F. Amedee Bregy Elementary School  
1700 Bigler Street  
Philadelphia, PA 19145

66,000 SF / 616 Students / LN 01

Mr. Dave Loftus FAC, provided input to the assessment team on current problems. Mr. John Minniti Building Engineer accompanied us on our tour of the school and provided us with detailed information on the building systems and maintenance history. Early in the morning, we had a meeting with the Principal Warthen and we had a brief discussion of the school conditions. Principal Warthen is new in the school.

The 4 story, 66,000 square foot building was originally constructed in 1923. The building has a multi-level basement.

### STRUCTURAL / EXTERIOR CLOSURE

The building typically rests on concrete foundations and bearing walls that are not showing signs of settlement damage. The main structure typically consists of cast-in-place concrete columns, beams, and concrete one way ribbed slab. The main roof structure consists of concrete one-way slab supported by main structural frame. Main roofing is built up application in fair condition with some evidence of pooling. The building envelope is typically masonry and concrete with face brick in good condition. Parapet wall and cap stones are in need of re-pointing. Elevations are enhanced with decorative stonework around entrances. The original windows were replaced in the early 1990s with extruded aluminum, double hung sliding windows, Lexan Plexiglas with insect/security screens. All windows are generally in poor condition with heavy hazing. Exterior doors are typically hollow metal in good condition. Public access doors have granite stoops and stairs while service entrances have concrete stoops and stairs. The building is not accessible per ADA requirements due to first floor grade separation with no access ramp.

Partition walls are plastered ceramic hollow blocks in good condition. Interior doors are generally wood frame and rail and stile wood and glass doors in poor condition with cracks, fitment issues, and beyond service life. Doors leading to exit stairways are hollow metal frame and doors in good condition. Most interior doors do not have lever type handles. Fittings include: toilet accessories in good condition; composite plastic and marble toilet partitions in good condition; and handrails and ornamental metals, generally in fair condition. Some toilet partitions and accessories are ADA accessible. Interior identifying signage is typically directly painted on wall or door surfaces in fair condition. Stair construction is generally concrete with cast iron nosing in good condition. Stair railings are cast iron balusters and wood railing in good condition.

The interior wall finishes include: painted plaster with wood panel wainscot in auditorium in good condition; ceramic tile wainscot in toilets in good condition; and glazed brick wainscot in gym, IMC, cafeteria, fire towers, and basement areas in good condition. Paint is generally in good condition with small damaged areas throughout building due to water intrusion. Flooring includes patterned or bare concrete in stairways, corridors, toilets, storage, and basement service areas in good condition; hardwood in most classrooms, auditorium, stage, and office areas in good condition; and carpet in IMC and two partial classrooms in fair condition. Vinyl flooring is a mix of VCT and VAT in cafeteria, kitchen, gym, and some classrooms and office areas in fair condition with some damaged areas of VAT in need of replacement. Ceiling finishes include: suspended acoustic tile system in classrooms, corridors, cafeteria, and office areas in varying condition with some new and some beyond service life and in need of replacement; and painted plaster or structural concrete in toilets, stairways, gym, auditorium, and basement areas in good condition.

The building has no elevator and is not accessible.

Commercial and Institutional equipment includes: stage equipment in good condition, and gym equipment in fair condition. Other equipment includes: food service equipment in good condition.

Fixed furnishings include: fixed casework and large book lockers in classrooms, corridors and library, generally in fair to good condition; and fixed auditorium seating for 378 generally in poor condition with damaged and failing seats.

### MECHANICAL SYSTEMS

Fixtures in the restrooms on each floor consist of floor mounted water closets, wall hung urinals and lavatories with momentary action knob handle faucets. First floor kindergarten rooms have stainless steel, cabinet mounted lavatories with lever knob mixing faucets. The fixtures are not the original equipment, and their age is approximately 20 years old or newer, but they are in good condition and should provide reliable service for at least the next 10 years. The plumbing supplying the flush and faucet valves is exposed making it susceptible to physical damage, but the valves are in good condition and leak free. Valves can be expected to last 10 more years with routine maintenance.

The basement cafeteria kitchen has a stainless steel, two basin, floor standing, commercial, cook sink with commercial faucet. Two first floor autistic support rooms have contemporary, domestic, cabinet mounted, kitchen sinks with single lever operated faucet. Kitchen sinks are all in good condition, faucets drip free, and they should not need replacement for 10 to 15 years. The autistic support rooms are both plumbed for clothes washing machines with hot and cold supply lines with lever operated dual shutoff valve and also drain pipe, but only one room has a washing machine (and dryer) installed.

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The basement science room has a single basin, stainless steel, cabinet mounted sink with hot and cold lever operated faucet. There is also a lab sink at the front of the classroom for teacher use with hot and cold running water.

Service sinks are located in cleaning closets on each floor. They are cast iron with integral backsplash and trap and have stainless steel rims. Faucets are lever handle operated with mixing spout including vacuum breaker. Service sinks have 15 to 20 years remaining life.

There is a shower cabinet installed in the gym teacher office in the basement. It is not original to the building. It is not currently in use, but appears to be operational. It will not need replacement within 5 years.

Stainless steel drinking fountains in the corridors are non-accessible, wall hung, without integral refrigerated coolers. The first floor fountain drains slowly. They should be upgraded to accessible fountains with integrated coolers.

Domestic water distribution piping is soldered copper. The age is unknown, but it was installed and upgraded at multiple times, e.g. the autism support rooms have newer supply piping than toilet rooms. Surface corrosion is visible most areas where pipe is exposed. The majority of the pipe is estimated to be over 25 years old, and it should be replaced based upon age. Water service enters the building in the basement boiler room along the 17<sup>th</sup> Street side. The 4" water line T's before the upstream water meter isolation valve and water meter bypass line block valve. There is a bronze compound 4" meter. The meter and bypass rejoin before a 4" Y-strainer, gate valve, reduced pressure backflow preventer (without bypass), and downstream gate valve. This piping and valves are in good condition and have about 20 years useful life remaining. There is a single 48 gallon Bradford White gas fired water heater installed in January 2015. There is no thermal expansion tank for the hot water system, and one should be added. The hot water circulation pump motor was hot to the touch, but water was not flowing and the return water temperature was 88°F. The circulation pump system should be replaced.

Sanitary waste piping is hub and spigot cast iron with hub less banded cast iron repairs. Lavatory, kitchen, and lab sinks have copper traps. Due to age, a thorough inspection should be conducted and repairs made as needed. Roof drain piping is threaded galvanized steel pipe. Multiple areas have patches attached with U-bolts. This piping is most likely original to the building and should be replaced due to age.

There are two boilers. Boiler #1 is a H.B. Smith model 28A-S/W-16, sixteen section, cast iron, steam boiler with 3,180 MBH capacity. It was installed in 2007. There is a water leak from the feed water supply pipe that must be repaired before the boiler can be operated. Boiler #2 is a Weil McLain cast iron boiler installed in 1968. It has exceeded its expected lifespan and should be replaced. They are gas fired only. The boiler feed water tank has 2 primary pumps and one spare. Each primary pump has its own feed line to a single boiler. The two lines have a cross connection with block valve before they enter the boilers. Next to the feed water tank is the condensate collection tank. It has two transfer pumps and a single line connecting to the feed water tank. There is a chemical injection system and a water softener.

There is no central cooling generating system. Classrooms and offices are equipped with a total of 30 window unit air-conditioners; 9 of them were installed new this year. These units are inefficient and have short life spans, so a central system with 150 ton capacity should be installed to replace them.

There is one air handling unit located in the basement fan room. It is original to the building and includes steam, finned tube, replacement, primary heating coils, fan, air washer, and steam, cast iron, original secondary heating coils. The coils are 6 feet wide and 9 feet tall. There is a 25 HP fan motor and 5 HP washer motor. Air flow is estimated at 30,000 cfm. The entire air supply comes from outside through a roll top door to the paved play area at the back of building; there is no recirculation of building air. The air handler is runs, but it is obsolete and should be replaced with a new unit including cooling coils, humidification, and dehumidification sections. Un-insulated sheet metal ductwork along the basement ceiling and clay block vertical ducts supply conditioned air to the classrooms, auditorium, and larger offices. Room exhaust air discharges through clay block vertical ducts to the attic plenum and exits the building through gravity vents in the roof.

Toilet room exhaust ducts are sheet metal where visible and terminate at 4 roof top exhaust fans approximately 1/3 HP each. Fans are over 15 years old and are presently incapable of removing toilet room odors. They should all be replaced with more powerful ones.

Steam distribution and condensate return piping is threaded steel of unknown age. The building engineer did not report

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any problems. However, given the age of the building and the existing piping failures in the boiler room, the steam distribution piping should be examined more thoroughly including a steam trap survey.

Classrooms, offices, toilet rooms, and hallways in the building have cast iron radiators with thermostatic steam traps. The auditorium has cast iron convection units built into the air supply ducts along the sides. Some class rooms and the first floor girls' toilet have had the cast iron replaced with finned tube elements. The cast iron units are well beyond their expected lifespan with some showing severe rust. They should be replaced with finned tube units entirely. Toilet room heaters should be relocated from floor to ceilings to reduce the likelihood of rust, especially in the boys' rooms.

The building is equipped with a pneumatic control system for heating. Classrooms have wall mounted thermostats, but many are broken. Radiators have pneumatic steam flow control valves but some have been replaced with manual angle globe valves. The control system is obsolete and dysfunctional. It should be completely replaced with a modern digital control system.

The building does not have sprinklers or stand pipes. A sprinkler system should be added including a fire pump if needed.

### ELECTRICAL SYSTEMS

An underground lateral service and a pad mounted transformer provide the electrical service to this school. The pad mounted transformer is located on S. 18<sup>th</sup> street, utility meter is next to the pad mounted transformer. The electrical rooms are located in the basement, one of them houses pull section, main circuit breaker and a bus section, the other electrical room houses the distribution section. The electrical service is manufactured by Eaton/Cutler-Hammer rated 2000 Amperes 120/208V. The electrical service was installed in 2007 and is expected to provide 30 more years of useful life.

The electrical distribution is obtained using recessed and surface mounted, 120/208V panel-boards located at each corridor floor. Panel-boards are manufactured by Eaton/Cutler-Hammer, recessed panel-boards were installed in 2007 and surface panel-boards on 2010. They are expected to provide 30 more years of useful life. Raceways are concealed in ceiling or wall spaces.

There number of receptacles in classrooms varies, approximate 90% of the classrooms have been remodeled and provided with the proper amount of receptacles but 10% of them the quantity of receptacles are inadequate. The 10% of the classrooms need to be provided with the teacher's whiteboard wall and the opposite of it with double compartment surface raceways, the other two walls with minimum two-duplex outlets each, when feasible.

Most of the classrooms, offices and corridors are illuminated with recessed mounted fluorescent fixtures with T-8 lamps. Fixtures were installed in 2011.

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

The present telephone system is adequate.

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

The school is provided with a Simplex central clock system. The present clocks are old and difficult to find parts and repair. Replace clock system with wireless, battery operated, atomic clock system.

There is not television system.

The security system consists of CCTV cameras at first and second floor corridors and student dining. To provide a total interior coverage CCTV cameras are required at the third floor, gymnasium, auditorium, stairways.

The emergency power system consists of an indoor, diesel powered generator, manufactured by Cummins with subbase



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tank rated 25KW, 120/208V. The present emergency power system serves the corridor, exit signs, generator louver, stair ways, boiler and fire tower. Diesel generator was installed in 2010 and is expected to provide 15 more years of useful service life.

There is adequate UPS in the IT room.

The emergency lighting is obtained with dedicated fixtures connected to the emergency generator. Exit signs are located at each exit door and corridors and are connected to the school emergency system.

The lightning protection is obtained with air terminals at the school chimney. A study should be conducted to determine if the existing lightning system provide the proper protection to the school building.

The stage theatrical lighting is composed of ceiling mounted one single row of downlights that are ON/OFF from local panel-board. Provide a dimming panel and additional theatrical lighting.

The auditorium stage is not provided with a sound system. Provide a sound system.

The school perimeter is illuminated via wall mounted lighting fixtures. Provide 6 more wall mounted lighting fixtures to provide complete building perimeter coverage.

CCTV cameras are installed around the building perimeter. Provide 2 more CCTV cameras for complete building perimeter coverage.

There is a wall mounted loud speaker facing the playground area

### GROUNDS SYSTEMS

The site surrounds the building on all four sides which is set back from the street. Play yard and 1<sup>st</sup> floor court yard are concrete paving in good condition. Yard area on the south side is asphalt paving in fair condition with multiple cracks that have grass growing up through. Parking for staff vehicles is asphalt paving in fair condition on the southeast corner and is accessible via S. 17<sup>th</sup> St. Metal and chain link fence surrounding and separating yard and parking area is in good condition. Landscaping is extensive on north, east, and west sides of the building and is mature and in good condition covering 25% of the site.

Accessibility: the building does have an accessible entrance or accessible routes. Some of the toilets are equipped with accessible fixtures, partitions and accessories, such as grab bars and accessible partitions. Most of the doors in the building do not have lever type door handles

The school perimeter is illuminated via wall mounted lighting fixtures. Provide 6 more wall mounted lighting fixtures to provide complete building perimeter coverage.

CCTV cameras are installed around the building perimeter. Provide 2 more CCTV cameras for complete building perimeter coverage.

There are wall mounted loud speaker facing the playground area

### RECOMMENDATIONS

- Re-point parapet wall and capstones - allowing water intrusion
- Replace Plexiglas window - hazed
- Install accessible door hardware on at least one entrance door
- Replace interior doors and frames - beyond service life and failing
- Replace interior door handles with lever type handles and latch sets
- Repair and paint interior plaster walls - damaged (10% of plaster area)
- Replace damaged VAT with VCT tiles
- Replace suspended acoustic tile ceiling system - beyond service life (50% of suspended ceiling)
- Install acoustic panels in gym for sound absorption

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- Install elevator for accessibility
- Replace auditorium seats - damaged
- Install accessible ramp on at least one entrance
- Repair asphalt paving - cracked
- Replace drinking fountains with refrigerated, accessible fountains.
- Replace domestic water distribution piping due to age.
- Replace nonfunctional hot domestic water circulation pump system and add thermal expansion tank.
- Inspect and repair sanitary drain piping due to age.
- Replace roof drain piping due to age.
- Replace one boiler due to age.
- Repair boiler feed water piping.
- Install 150 ton air-conditioning system to replace inadequate window units.
- Replace obsolete air handler.
- Replace aged and insufficient roof top toilet room exhaust fans with more powerful ones.
- Inspect steam and condensate piping, and survey steam traps and repair or replace as needed due to age and unknown history.
- Replace cast iron radiators with finned tube units due to age and rust.
- Upgrade obsolete pneumatic control system to digital.
- Install fire sprinkler system and fire pump if needed.
- Provide receptacles outlets at 10% of the classrooms. Provide (2)25FT of surface raceways with 24" receptacles on center and two-duplex wall mount receptacles. Approximate 48
- Provide new fire alarm system. Approximate 88 devices
- Provide a new clock system, wireless battery operated. Approximate 50 clocks
- Provide CCTV cameras to provide complete interior coverage. Approximate 30 cameras
- Prepare a study to determine if the existing lightning protection system provides proper coverage for the school building.
- Provide a dimming panel and additional theatrical lighting.
- Provide the auditorium with a sound system.
- Provide 6 more wall mounted lighting fixtures to provide complete building perimeter coverage.
- Provide 2 more CCTV cameras for complete building perimeter coverage.

### Attributes:

#### General Attributes:

Active:	Open	Bldg Lot Tm:	Lot 2 / Tm 3
Status:	Accepted by SDP	Team:	Tm 3
Site ID:	S224001		

## Site Condition Summary

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

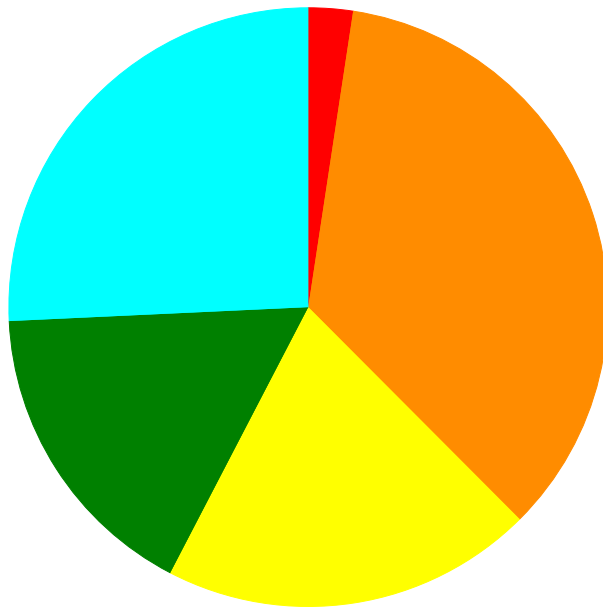
### Current Investment Requirement and Condition by Uniformat Classification

UNIFORMAT Classification	RSLI%	FCI %	Current Repair
A10 - Foundations	37.00 %	0.00 %	\$0.00
A20 - Basement Construction	37.00 %	0.00 %	\$0.00
B10 - Superstructure	37.00 %	0.00 %	\$0.00
B20 - Exterior Enclosure	36.23 %	37.02 %	\$1,377,150.73
B30 - Roofing	50.00 %	0.00 %	\$0.00
C10 - Interior Construction	42.90 %	19.30 %	\$312,654.51
C20 - Stairs	37.00 %	0.00 %	\$0.00
C30 - Interior Finishes	60.43 %	14.55 %	\$484,629.38
D10 - Conveying	0.00 %	273.97 %	\$1,012,601.25
D20 - Plumbing	59.04 %	80.85 %	\$1,089,588.37
D30 - HVAC	104.52 %	56.38 %	\$4,139,092.80
D40 - Fire Protection	67.48 %	177.49 %	\$944,159.46
D50 - Electrical	75.11 %	11.95 %	\$463,739.12
E10 - Equipment	57.40 %	30.75 %	\$323,055.06
E20 - Furnishings	105.00 %	237.08 %	\$333,292.87
G20 - Site Improvements	58.59 %	9.30 %	\$126,985.78
G40 - Site Electrical Utilities	66.67 %	12.59 %	\$56,351.84
<b>Totals:</b>	<b>61.20 %</b>	<b>30.55 %</b>	<b>\$10,663,301.17</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)
B224001;Bregy	66,000	31.67	\$229,700.76	\$3,689,294.57	\$2,143,737.08	\$1,672,429.49	\$2,744,801.65
G224001;Grounds	102,900	10.11	\$25,981.81	\$56,351.84	\$0.00	\$101,003.97	\$0.00
<b>Total:</b>		<b>30.55</b>	<b>\$255,682.57</b>	<b>\$3,745,646.41</b>	<b>\$2,143,737.08</b>	<b>\$1,773,433.46</b>	<b>\$2,744,801.65</b>

### Deficiencies By Priority



- 1 - Response Time (< 2 yr) - \$255,682.57
- 2 - Response Time (2-3 yrs) - \$3,745,646.41
- 3 - Response Time (3-4 yrs) - \$2,143,737.08
- 4 - Response Time (4-5 yrs) - \$1,773,433.46
- 5 - Response Time (> 5 yrs) - \$2,744,801.65

**Budget Estimate Total: \$10,663,301.17**

**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):	66,000
Year Built:	1923
Last Renovation:	
Replacement Value:	\$33,091,312
Repair Cost:	\$10,479,963.55
Total FCI:	31.67 %
Total RSLI:	61.23 %



**Description:**

**Attributes:**

**General Attributes:**

Active:	Open	Bldg ID:	B224001
Sewage Ejector:	No	Status:	Accepted by SDP
Site ID:	S224001		

## 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	36.23 %	37.02 %	\$1,377,150.73
B30 - Roofing	50.00 %	0.00 %	\$0.00
C10 - Interior Construction	42.90 %	19.30 %	\$312,654.51
C20 - Stairs	37.00 %	0.00 %	\$0.00
C30 - Interior Finishes	60.43 %	14.55 %	\$484,629.38
D10 - Conveying	0.00 %	273.97 %	\$1,012,601.25
D20 - Plumbing	59.04 %	80.85 %	\$1,089,588.37
D30 - HVAC	104.52 %	56.38 %	\$4,139,092.80
D40 - Fire Protection	67.48 %	177.49 %	\$944,159.46
D50 - Electrical	75.11 %	11.95 %	\$463,739.12
E10 - Equipment	57.40 %	30.75 %	\$323,055.06
E20 - Furnishings	105.00 %	237.08 %	\$333,292.87
<b>Totals:</b>	<b>61.23 %</b>	<b>31.67 %</b>	<b>\$10,479,963.55</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	RSLT%	FCI%	RSL	eCR	Deficiency \$	Replacement Value \$
A1010	Standard Foundations	\$18.40	S.F.	66,000	100	1923	2023	2052	37.00 %	0.00 %	37			\$1,214,400
A1030	Slab on Grade	\$7.73	S.F.	66,000	100	1923	2023	2052	37.00 %	0.00 %	37			\$510,180
A2010	Basement Excavation	\$6.55	S.F.	66,000	100	1923	2023	2052	37.00 %	0.00 %	37			\$432,300
A2020	Basement Walls	\$12.70	S.F.	66,000	100	1923	2023	2052	37.00 %	0.00 %	37			\$838,200
B1010	Floor Construction	\$75.10	S.F.	66,000	100	1923	2023	2052	37.00 %	0.00 %	37			\$4,956,600
B1020	Roof Construction	\$13.88	S.F.	66,000	100	1923	2023	2052	37.00 %	0.00 %	37			\$916,080
B2010	Exterior Walls	\$36.91	S.F.	66,000	100	1923	2023	2052	37.00 %	1.35 %	37		\$32,935.26	\$2,436,060
B2020	Exterior Windows	\$18.01	S.F.	66,000	40	1989	2029		35.00 %	112.50 %	14		\$1,337,228.19	\$1,188,660
B2030	Exterior Doors	\$1.45	S.F.	66,000	25	1998	2023		32.00 %	7.30 %	8		\$6,987.28	\$95,700
B3010105	Built-Up	\$37.76	S.F.	21,037	20	2005	2025		50.00 %	0.00 %	10			\$794,357
B3020	Roof Openings	\$0.06	S.F.	66,000	20	2005	2025		50.00 %	0.00 %	10			\$3,960
C1010	Partitions	\$17.91	S.F.	66,000	100	1923	2023	2052	37.00 %	0.00 %	37			\$1,182,060
C1020	Interior Doors	\$3.51	S.F.	66,000	40	1973	2013	2047	80.00 %	134.96 %	32		\$312,654.51	\$231,660
C1030	Fittings	\$3.12	S.F.	66,000	40	1989	2029		35.00 %	0.00 %	14			\$205,920
C2010	Stair Construction	\$1.41	S.F.	66,000	100	1923	2023	2052	37.00 %	0.00 %	37			\$93,060
C3010230	Paint & Covering	\$13.94	S.F.	66,000	10	2011	2021		60.00 %	10.80 %	6		\$99,378.08	\$920,040
C3010232	Wall Tile	\$1.90	S.F.	66,000	30	1989	2019	2020	16.67 %	0.00 %	5			\$125,400
C3020411	Carpet	\$7.30	S.F.	660	10	2012	2022		70.00 %	0.00 %	7			\$4,818



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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 \$
C3020413	Vinyl Flooring	\$9.68	S.F.	16,500	20	1989	2009	2026	55.00 %	31.34 %	11		\$50,050.00	\$159,720
C3020414	Wood Flooring	\$22.27	S.F.	32,340	25	1998	2023		32.00 %	0.00 %	8			\$720,212
C3020415	Concrete Floor Finishes	\$0.97	S.F.	16,500	50	1998	2048		66.00 %	0.00 %	33			\$16,005
C3030	Ceiling Finishes	\$20.97	S.F.	66,000	25	2010	2035		80.00 %	24.22 %	20		\$335,201.30	\$1,384,020
D1010	Elevators and Lifts	\$5.60	S.F.	66,000	35				0.00 %	273.97 %			\$1,012,601.25	\$369,600
D2010	Plumbing Fixtures	\$13.52	S.F.	66,000	35	1923	1958	2027	34.29 %	14.07 %	12		\$125,543.18	\$892,320
D2020	Domestic Water Distribution	\$1.68	S.F.	66,000	25	1923	1948	2042	108.00 %	313.49 %	27		\$347,593.25	\$110,880
D2030	Sanitary Waste	\$2.90	S.F.	66,000	25	1923	1948	2042	108.00 %	169.16 %	27		\$323,779.55	\$191,400
D2040	Rain Water Drainage	\$2.32	S.F.	66,000	30	1923	1953	2047	106.67 %	191.14 %	32		\$292,672.39	\$153,120
D3020	Heat Generating Systems	\$18.67	S.F.	66,000	35	1923	1958	2042	77.14 %	26.61 %	27		\$327,898.44	\$1,232,220
D3030	Cooling Generating Systems	\$24.48	S.F.	66,000	30			2047	106.67 %	46.12 %	32		\$745,092.16	\$1,615,680
D3040	Distribution Systems	\$42.99	S.F.	66,000	25	1923	1948	2043	112.00 %	58.16 %	28		\$1,650,264.19	\$2,837,340
D3050	Terminal & Package Units	\$11.60	S.F.	66,000	20	1923	1943	2037	110.00 %	0.00 %	22			\$765,600
D3060	Controls & Instrumentation	\$13.50	S.F.	66,000	20	1923	1943	2037	110.00 %	158.90 %	22		\$1,415,838.01	\$891,000
D4010	Sprinklers	\$7.05	S.F.	66,000	35			2042	77.14 %	202.91 %	27		\$944,159.46	\$465,300
D4020	Standpipes	\$1.01	S.F.	66,000	35				0.00 %	0.00 %				\$66,660
D5010	Electrical Service/Distribution	\$9.70	S.F.	66,000	30	2007	2037		73.33 %	0.00 %	22			\$640,200
D5020	Lighting and Branch Wiring	\$34.68	S.F.	66,000	20	2007	2027		60.00 %	0.77 %	12		\$17,633.81	\$2,288,880
D5030	Communications and Security	\$12.99	S.F.	66,000	15	1923	1938	2032	113.33 %	49.53 %	17		\$424,633.01	\$857,340
D5090	Other Electrical Systems	\$1.41	S.F.	66,000	30	1923	1953	2047	106.67 %	23.07 %	32		\$21,472.30	\$93,060
E1020	Institutional Equipment	\$4.82	S.F.	66,000	35	1998	2033		51.43 %	101.55 %	18		\$323,055.06	\$318,120
E1090	Other Equipment	\$11.10	S.F.	66,000	35	2001	2036		60.00 %	0.00 %	21			\$732,600
E2010	Fixed Furnishings	\$2.13	S.F.	66,000	40	1973	2013	2057	105.00 %	237.08 %	42		\$333,292.87	\$140,580
<b>Total</b>									<b>61.23 %</b>	<b>31.67 %</b>			<b>\$10,479,963.55</b>	<b>\$33,091,312</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> 88% - Paint & Coverings 12% - Wall Tile (10% glazed brick, 2% ceramic)	

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<b>System:</b> C3020 - Floor Finishes	This system contains no images
<b>Note:</b> 1% - Carpet 25% - Vinyl Flooring 49% - Wood Flooring 25% - Concrete Floor Finishes	

## 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>\$10,479,964</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$159,910</b>	<b>\$1,208,433</b>	<b>\$6,518</b>	<b>\$1,136,930</b>	<b>\$0</b>	<b>\$1,180,159</b>	<b>\$14,171,914</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>	\$32,935	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32,935
<b>B2020 - Exterior Windows</b>	\$1,337,228	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,337,228
<b>B2030 - Exterior Doors</b>	\$6,987	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$133,353	\$0	\$0	\$140,340
<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>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,174,305	\$1,174,305
<b>B3020 - Roof Openings</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,854	\$5,854
<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>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C1020 - Interior Doors</b>	\$312,655	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$312,655
<b>C1030 - Fittings</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C20 - Stairs</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

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C2010 - Stair Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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	\$99,378	\$0	\$0	\$0	\$0	\$0	\$1,208,433	\$0	\$0	\$0	\$0	\$0	\$1,307,812
C3010232 - Wall Tile	\$0	\$0	\$0	\$0	\$0	\$159,910	\$0	\$0	\$0	\$0	\$0	\$0	\$159,910
C3020 - Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3020411 - Carpet	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,518	\$0	\$0	\$0	\$0	\$6,518
C3020413 - Vinyl Flooring	\$50,050	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50,050
C3020414 - Wood Flooring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,003,577	\$0	\$0	\$0	\$1,003,577
C3020415 - Concrete Floor Finishes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C3030 - Ceiling Finishes	\$335,201	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$335,201
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	\$1,012,601	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,012,601
D20 - Plumbing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D2010 - Plumbing Fixtures	\$125,543	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$125,543
D2020 - Domestic Water Distribution	\$347,593	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$347,593
D2030 - Sanitary Waste	\$323,780	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$323,780
D2040 - Rain Water Drainage	\$292,672	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$292,672
D30 - HVAC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3020 - Heat Generating Systems	\$327,898	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$327,898
D3030 - Cooling Generating Systems	\$745,092	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$745,092
D3040 - Distribution Systems	\$1,650,264	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,650,264
D3050 - Terminal & Package Units	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D3060 - Controls & Instrumentation	\$1,415,838	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,415,838
D40 - Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
D4010 - Sprinklers	\$944,159	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$944,159
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	\$17,634	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,634
D5030 - Communications and Security	\$424,633	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$424,633
D5090 - Other Electrical Systems	\$21,472	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,472

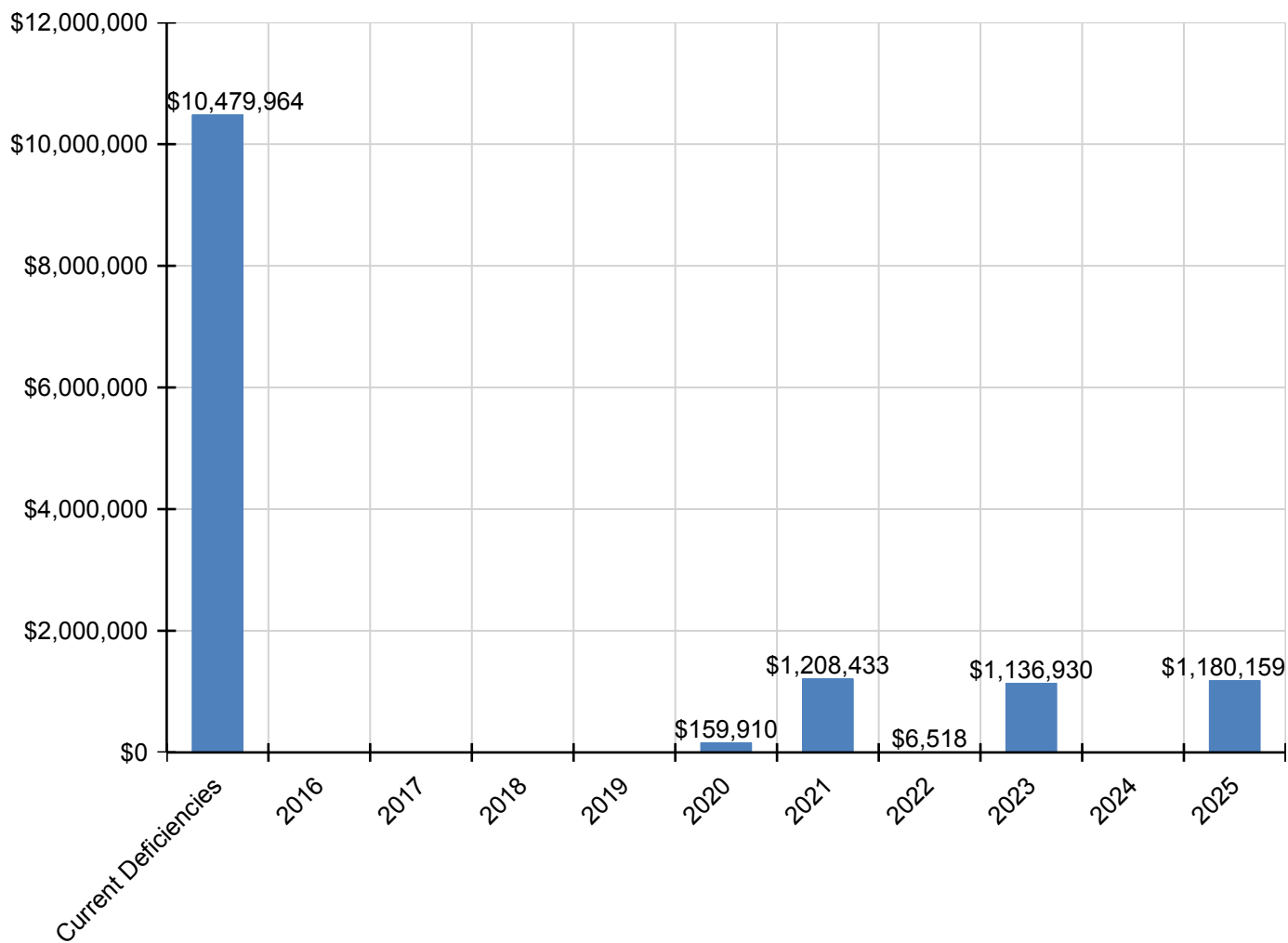
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<b>E - Equipment &amp; Furnishings</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>E10 - Equipment</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>E1020 - Institutional Equipment</b>	\$323,055	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$323,055
<b>E1090 - Other Equipment</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>E20 - Furnishings</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>E2010 - Fixed Furnishings</b>	\$333,293	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$333,293

\* Indicates non-renewable system

## Forecasted Sustainment Requirement

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

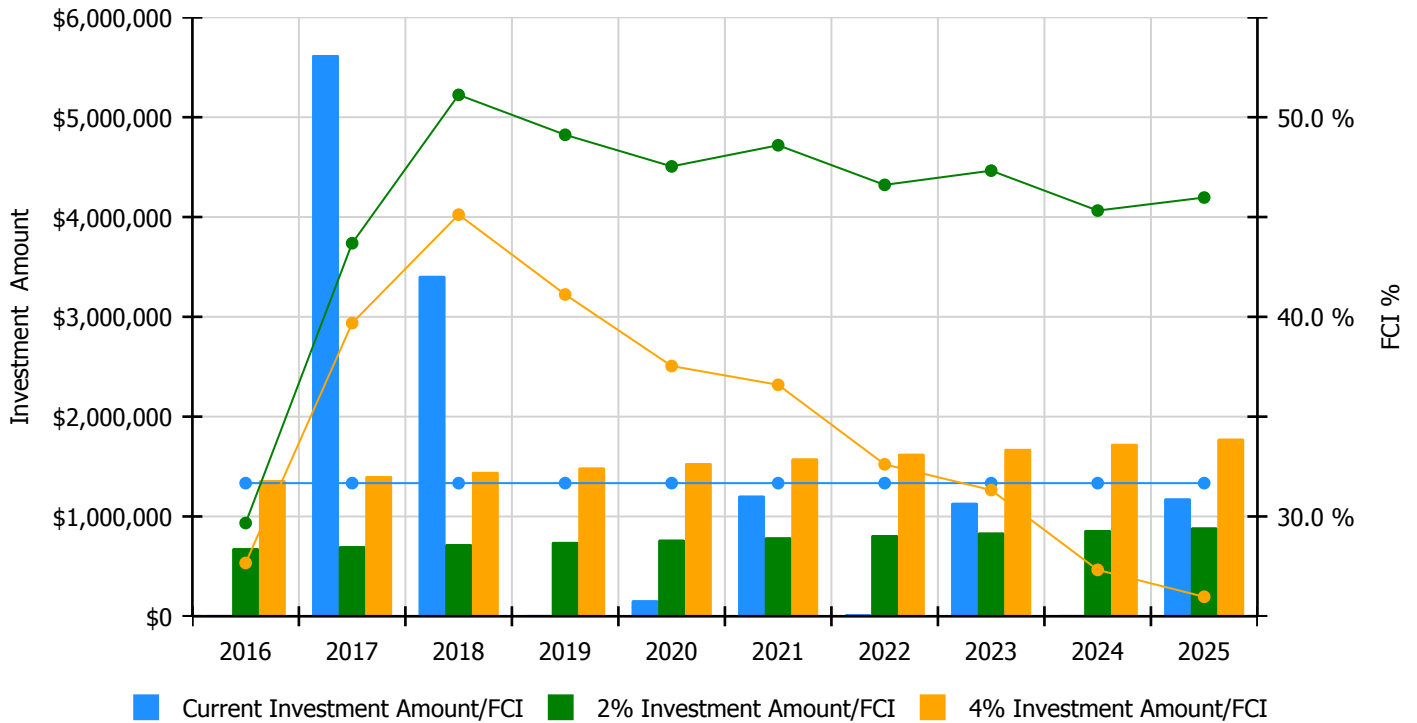


## 10 Year FCI Forecast by Investment Scenario

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

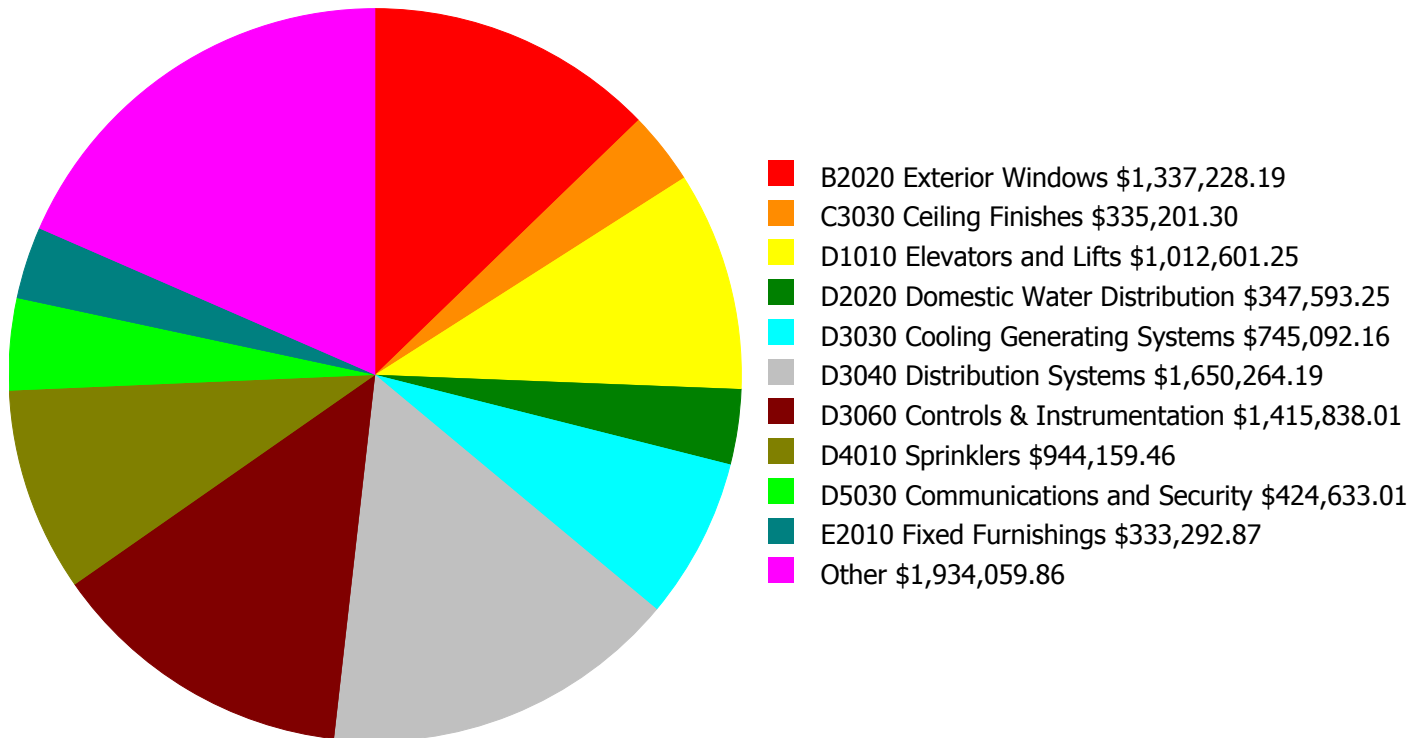
**Facility Investment vs. FCI Forecast**



Year	Investment Amount Current FCI - 31.67%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$681,681.00	29.67 %	\$1,363,362.00	27.67 %
2017	\$5,623,328	\$702,131.00	43.69 %	\$1,404,263.00	39.69 %
2018	\$3,410,482	\$723,195.00	51.12 %	\$1,446,391.00	45.12 %
2019	\$0	\$744,891.00	49.12 %	\$1,489,783.00	41.12 %
2020	\$159,910	\$767,238.00	47.54 %	\$1,534,476.00	37.54 %
2021	\$1,208,433	\$790,255.00	48.59 %	\$1,580,510.00	36.59 %
2022	\$6,518	\$813,963.00	46.61 %	\$1,627,926.00	32.61 %
2023	\$1,136,930	\$838,382.00	47.32 %	\$1,676,763.00	31.32 %
2024	\$0	\$863,533.00	45.32 %	\$1,727,066.00	27.32 %
2025	\$1,180,159	\$889,439.00	45.98 %	\$1,778,878.00	25.98 %
<b>Total:</b>	<b>\$12,725,761</b>	<b>\$7,814,708.00</b>		<b>\$15,629,418.00</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.

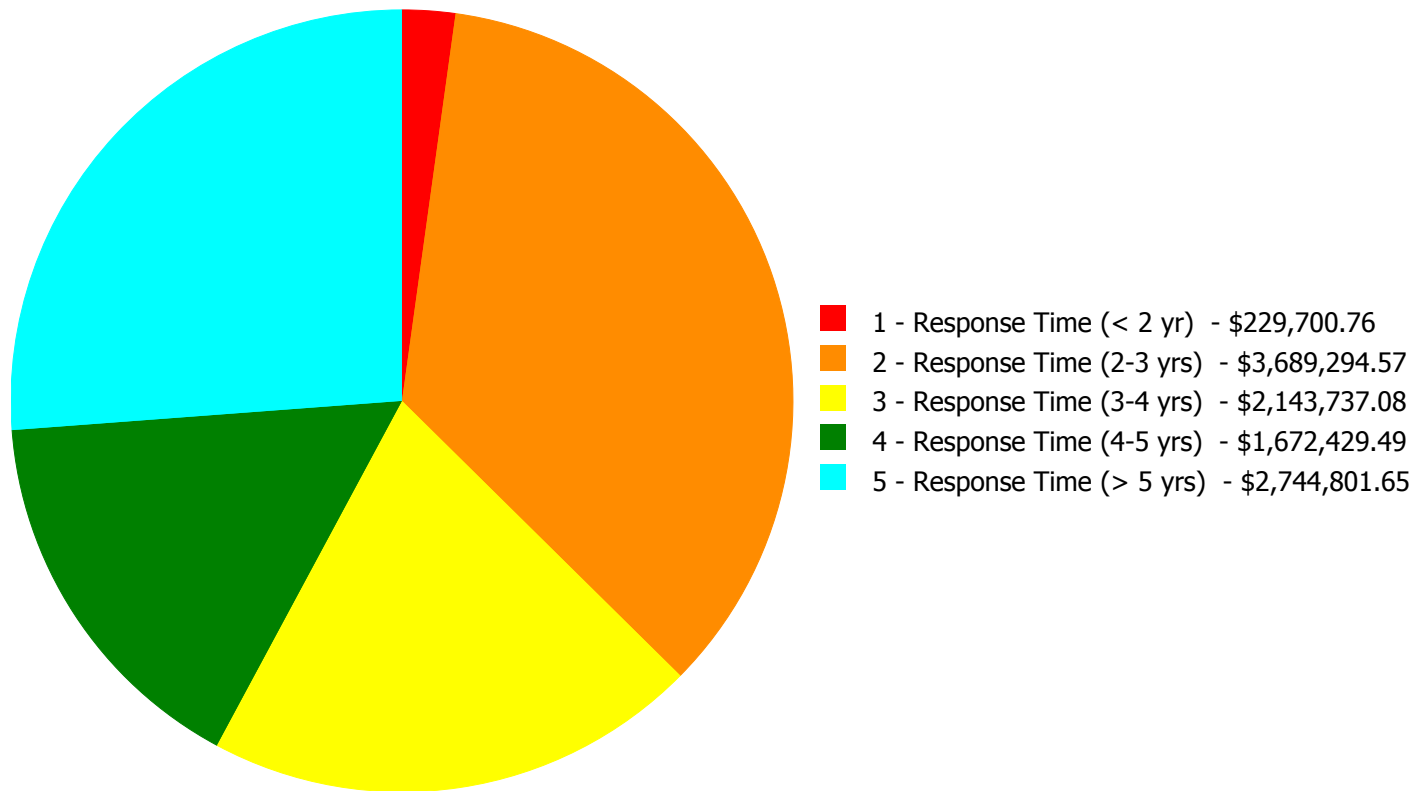


**Budget Estimate Total: \$10,479,963.55**



## 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: \$10,479,963.55**

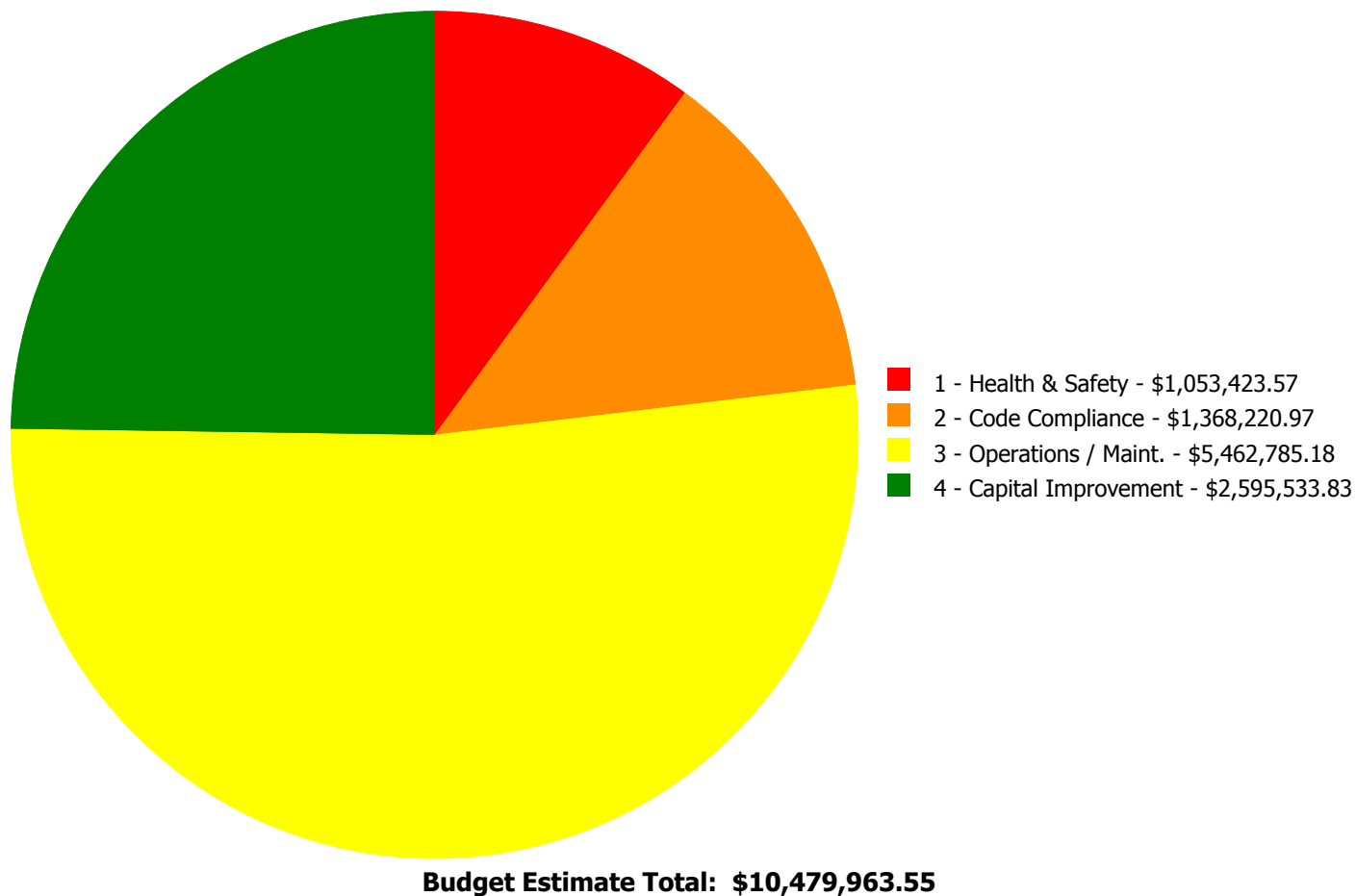
## Deficiency By Priority Investment Table

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	\$32,935.26	\$0.00	\$0.00	\$32,935.26
B2020	Exterior Windows	\$0.00	\$0.00	\$0.00	\$1,337,228.19	\$0.00	\$1,337,228.19
B2030	Exterior Doors	\$0.00	\$6,987.28	\$0.00	\$0.00	\$0.00	\$6,987.28
C1020	Interior Doors	\$0.00	\$33,394.17	\$279,260.34	\$0.00	\$0.00	\$312,654.51
C3010230	Paint & Covering	\$0.00	\$0.00	\$99,378.08	\$0.00	\$0.00	\$99,378.08
C3020413	Vinyl Flooring	\$0.00	\$50,050.00	\$0.00	\$0.00	\$0.00	\$50,050.00
C3030	Ceiling Finishes	\$0.00	\$0.00	\$0.00	\$335,201.30	\$0.00	\$335,201.30
D1010	Elevators and Lifts	\$0.00	\$1,012,601.25	\$0.00	\$0.00	\$0.00	\$1,012,601.25
D2010	Plumbing Fixtures	\$0.00	\$125,543.18	\$0.00	\$0.00	\$0.00	\$125,543.18
D2020	Domestic Water Distribution	\$13,147.48	\$0.00	\$0.00	\$0.00	\$334,445.77	\$347,593.25
D2030	Sanitary Waste	\$0.00	\$0.00	\$323,779.55	\$0.00	\$0.00	\$323,779.55
D2040	Rain Water Drainage	\$0.00	\$292,672.39	\$0.00	\$0.00	\$0.00	\$292,672.39
D3020	Heat Generating Systems	\$0.00	\$0.00	\$327,898.44	\$0.00	\$0.00	\$327,898.44
D3030	Cooling Generating Systems	\$0.00	\$0.00	\$0.00	\$0.00	\$745,092.16	\$745,092.16
D3040	Distribution Systems	\$216,553.28	\$0.00	\$712,606.65	\$0.00	\$721,104.26	\$1,650,264.19
D3060	Controls & Instrumentation	\$0.00	\$1,415,838.01	\$0.00	\$0.00	\$0.00	\$1,415,838.01
D4010	Sprinklers	\$0.00	\$0.00	\$0.00	\$0.00	\$944,159.46	\$944,159.46
D5020	Lighting and Branch Wiring	\$0.00	\$17,633.81	\$0.00	\$0.00	\$0.00	\$17,633.81
D5030	Communications and Security	\$0.00	\$390,047.12	\$34,585.89	\$0.00	\$0.00	\$424,633.01
D5090	Other Electrical Systems	\$0.00	\$21,472.30	\$0.00	\$0.00	\$0.00	\$21,472.30
E1020	Institutional Equipment	\$0.00	\$323,055.06	\$0.00	\$0.00	\$0.00	\$323,055.06
E2010	Fixed Furnishings	\$0.00	\$0.00	\$333,292.87	\$0.00	\$0.00	\$333,292.87
	<b>Total:</b>	\$229,700.76	\$3,689,294.57	\$2,143,737.08	\$1,672,429.49	\$2,744,801.65	\$10,479,963.55

## 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: D2020 - Domestic Water Distribution



**Location:** Entire building

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

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

**Correction:** Provide expansion tank for water heater.

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$13,147.48

**Assessor Name:** System

**Date Created:** 10/14/2015

**Notes:** Replace nonfunctional hot domestic water circulation pump system and add thermal expansion tank.

---

#### System: D3040 - Distribution Systems



**Location:** Entire building

**Distress:** Maintenance Required

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

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

**Correction:** Conduct a steam trap survey and replace failed units.

**Qty:** 66,000.00

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

**Estimate:** \$216,553.28

**Assessor Name:** System

**Date Created:** 10/14/2015

**Notes:** Conduct steam trap survey and replace as needed.

---

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

**System: B2030 - Exterior Doors**



**Location:** Entrance

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

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

**Qty:** 2.00

**Unit of Measure:** Ea.

**Estimate:** \$6,987.28

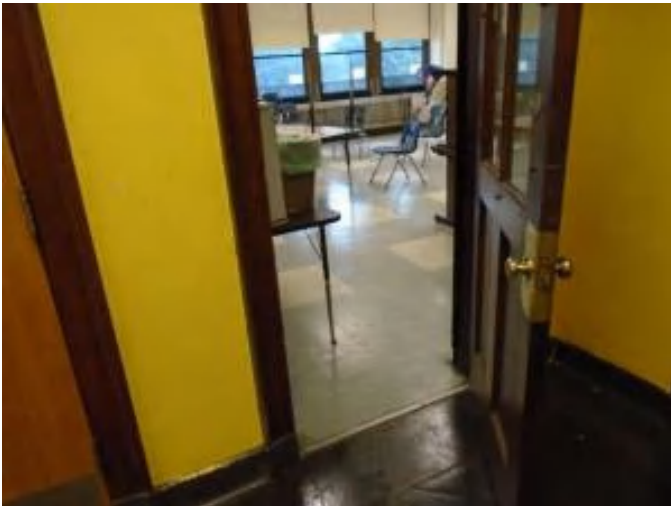
**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Install accessible door hardware on at least one entrance door

---

**System: C1020 - Interior Doors**



**Location:** Throughout

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

**Correction:** Replace door knobs with compliant lever type

**Qty:** 60.00

**Unit of Measure:** Ea.

**Estimate:** \$33,394.17

**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Replace interior door handles with lever type handles and latch sets

---

**System: C3020413 - Vinyl Flooring**



**Location:** Various

**Distress:** Damaged

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

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

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

**Qty:** 3,300.00

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

**Estimate:** \$50,050.00

**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Replace damaged VAT with VCT tiles

---

**System: D1010 - Elevators and Lifts**



**Location:** TBD

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

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

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$1,012,601.25

**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Install elevator for accessibility

---

**System: D2010 - Plumbing Fixtures**

This deficiency has no image.

**Location:** Hallways

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

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

**Qty:** 8.00

**Unit of Measure:** Ea.

**Estimate:** \$125,543.18

**Assessor Name:** System

**Date Created:** 10/14/2015

**Notes:** Replace drinking fountains with refrigerated, accessible fountains.

---

**System: D2040 - Rain Water Drainage**



**Location:** Entire building

**Distress:** Beyond Service Life

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

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

**Correction:** Inspect internal rain water drainage piping and replace pipe - based on SF of multi-story building - insert SF of building

**Qty:** 66,000.00

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

**Estimate:** \$292,672.39

**Assessor Name:** System

**Date Created:** 10/14/2015

**Notes:** Replace roof drain piping due to age.

---

**System: D3060 - Controls & Instrumentation**



**Location:** Entire building  
**Distress:** Obsolete  
**Category:** 3 - Operations / Maint.  
**Priority:** 2 - Response Time (2-3 yrs)  
**Correction:** Replace pneumatic controls with DDC (75KSF)  
**Qty:** 66,000.00  
**Unit of Measure:** S.F.  
**Estimate:** \$1,415,838.01  
**Assessor Name:** System  
**Date Created:** 10/14/2015

**Notes:** Upgrade obsolete pneumatic control system to digital.

---

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



**Location:** Classrooms  
**Distress:** Inadequate  
**Category:** 4 - Capital Improvement  
**Priority:** 2 - Response Time (2-3 yrs)  
**Correction:** Add wiring device  
**Qty:** 48.00  
**Unit of Measure:** Ea.  
**Estimate:** \$17,633.81  
**Assessor Name:** System  
**Date Created:** 10/19/2015

**Notes:** Provide receptacles outlets at 10% of the classrooms. Provide (2)25FT of surface raceways with 24" receptacles on center and two-duplex wall mount receptacles. Approximate 48

---



**System: D5030 - Communications and Security**



**Location:** Entire Building  
**Distress:** Building / MEP Codes  
**Category:** 2 - Code Compliance  
**Priority:** 2 - Response Time (2-3 yrs)  
**Correction:** Replace fire alarm system  
**Qty:** 1.00  
**Unit of Measure:** S.F.  
**Estimate:** \$168,222.79  
**Assessor Name:** System  
**Date Created:** 10/19/2015

**Notes:** Provide new fire alarm system. Approximate 88 devices.

---

**System: D5030 - Communications and Security**

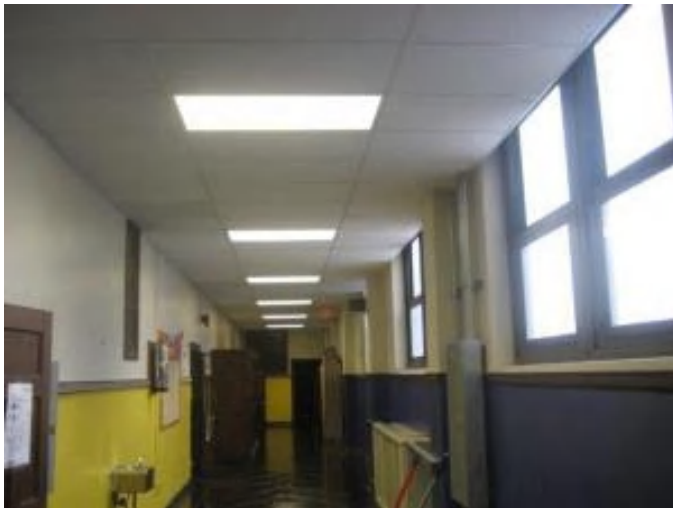


**Location:** Entire Building  
**Distress:** Obsolete  
**Category:** 3 - Operations / Maint.  
**Priority:** 2 - Response Time (2-3 yrs)  
**Correction:** Add/Replace Clock System or Components  
**Qty:** 50.00  
**Unit of Measure:** Ea.  
**Estimate:** \$112,560.22  
**Assessor Name:** System  
**Date Created:** 10/19/2015

**Notes:** Provide a new clock system, wireless battery operated. Approximate 50 clocks

---

**System: D5030 - Communications and Security**



**Location:** Entire School  
**Distress:** Security Issue  
**Category:** 1 - Health & Safety  
**Priority:** 2 - Response Time (2-3 yrs)  
**Correction:** Add/Replace Video Surveillance System  
**Qty:** 30.00  
**Unit of Measure:** Ea.  
**Estimate:** \$109,264.11  
**Assessor Name:** System  
**Date Created:** 10/19/2015

**Notes:** Provide CCTV cameras to provide complete interior coverage. Approximate 30 cameras

---

**System: D5090 - Other Electrical Systems**

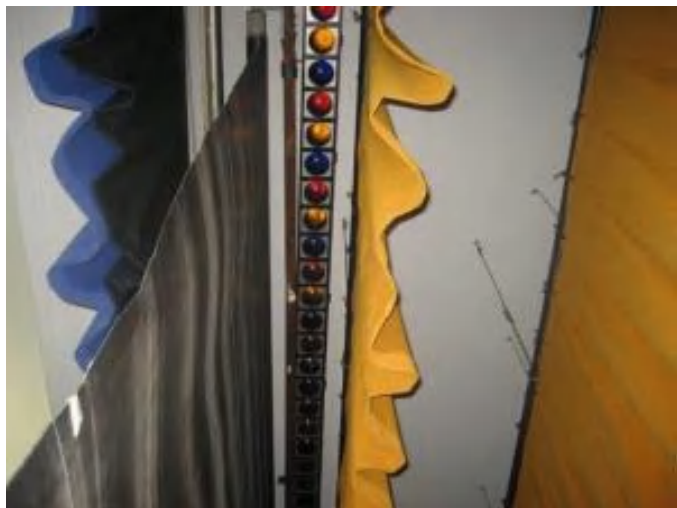


**Location:** Roof  
**Distress:** Building / MEP Codes  
**Category:** 2 - Code Compliance  
**Priority:** 2 - Response Time (2-3 yrs)  
**Correction:** Provide Lightning Protection System  
**Qty:** 1.00  
**Unit of Measure:** LS  
**Estimate:** \$21,472.30  
**Assessor Name:** System  
**Date Created:** 10/19/2015

**Notes:** Prepare a study to determine if the existing lightning system provide the proper protection to the school building.

---

**System: E1020 - Institutional Equipment**



**Location:** Auditorium

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

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

**Correction:** Add/Replace Stage Theatrical Lighting System

**Qty:** 1.00

**Unit of Measure:** Ea.

**Estimate:** \$323,055.06

**Assessor Name:** System

**Date Created:** 10/19/2015

**Notes:** Provide a dimming panel and additional theatrical lighting

---

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

**System: B2010 - Exterior Walls**



**Location:** Parapet wall

**Distress:** Maintenance Required

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

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

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

**Qty:** 1,020.00

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

**Estimate:** \$32,935.26

**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Re-point parapet wall and capstones – allowing water intrusion

---

**System: C1020 - Interior Doors**



**Location:** Throughout

**Distress:** Beyond Service Life

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

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

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

**Qty:** 60.00

**Unit of Measure:** Ea.

**Estimate:** \$279,260.34

**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Replace interior doors and frames – beyond service life and failing

---

**System: C3010230 - Paint & Covering**



**Location:** Throughout  
**Distress:** Damaged  
**Category:** 3 - Operations / Maint.  
**Priority:** 3 - Response Time (3-4 yrs)  
**Correction:** Repair substrate and repaint interior walls - SF of wall surface  
**Qty:** 11,600.00  
**Unit of Measure:** S.F.  
**Estimate:** \$99,378.08  
**Assessor Name:** System  
**Date Created:** 09/16/2015

**Notes:** Repair and paint interior plaster walls – damaged (10% of plaster area)

---

**System: D2030 - Sanitary Waste**



**Location:** Entire building  
**Distress:** Beyond Service Life  
**Category:** 3 - Operations / Maint.  
**Priority:** 3 - Response Time (3-4 yrs)  
**Correction:** Inspect sanitary waste piping and replace damaged sections. (+50KSF)  
**Qty:** 66,000.00  
**Unit of Measure:** S.F.  
**Estimate:** \$323,779.55  
**Assessor Name:** System  
**Date Created:** 10/14/2015

**Notes:** Inspect and repair sanitary drain piping due to age.

---

**System: D3020 - Heat Generating Systems**



**Location:** Boiler Room  
**Distress:** Beyond Service Life  
**Category:** 3 - Operations / Maint.  
**Priority:** 3 - Response Time (3-4 yrs)  
**Correction:** Replace boiler, cast iron sectional (100 HP)  
**Qty:** 1.00  
**Unit of Measure:** Ea.  
**Estimate:** \$327,898.44  
**Assessor Name:** System  
**Date Created:** 01/19/2016

**Notes:** Boiler #2 is a Weil McLain cast iron boiler installed in 1968. It has exceeded its expected lifespan and should be replaced. It is gas fired only.

---

**System: D3040 - Distribution Systems**



**Location:** Entire building  
**Distress:** Failing  
**Category:** 3 - Operations / Maint.  
**Priority:** 3 - Response Time (3-4 yrs)  
**Correction:** Perform testing to identify and replace damaged steam and condensate piping.  
**Qty:** 66,000.00  
**Unit of Measure:** S.F.  
**Estimate:** \$624,384.59  
**Assessor Name:** System  
**Date Created:** 10/14/2015

**Notes:** Inspect and repair steam and condensate lines including boiler feed water piping including crossover block valve replacement.

---

**System: D3040 - Distribution Systems**



**Location:** Roof top  
**Distress:** Inadequate  
**Category:** 4 - Capital Improvement  
**Priority:** 3 - Response Time (3-4 yrs)  
**Correction:** Replace power roof ventilator (24" dia.)  
**Qty:** 4.00  
**Unit of Measure:** Ea.  
**Estimate:** \$88,222.06  
**Assessor Name:** System  
**Date Created:** 10/14/2015

**Notes:** Replace aged and insufficient roof top toilet room exhaust fans with more powerful ones.

---

**System: D5030 - Communications and Security**



**Location:** Auditorium  
**Distress:** Inadequate  
**Category:** 4 - Capital Improvement  
**Priority:** 3 - Response Time (3-4 yrs)  
**Correction:** Add/Replace Sound System  
**Qty:** 1.00  
**Unit of Measure:** LS  
**Estimate:** \$34,585.89  
**Assessor Name:** System  
**Date Created:** 10/19/2015

**Notes:** Provide the auditorium with a sound system.

---

**System: E2010 - Fixed Furnishings**



**Location:** Auditorium

**Distress:** Failing

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

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

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

**Qty:** 378.00

**Unit of Measure:** Ea.

**Estimate:** \$333,292.87

**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Replace auditorium seats - damaged

---



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

**System: B2020 - Exterior Windows**



**Location:** Windows

**Distress:** Energy Efficiency

**Category:** 4 - Capital Improvement

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

**Correction:** Remove and replace double slider windows

**Qty:** 265.00

**Unit of Measure:** Ea.

**Estimate:** \$1,337,228.19

**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Replace Plexiglas window – hazed

---

**System: C3030 - Ceiling Finishes**



**Location:** Various

**Distress:** Beyond Service Life

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

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

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

**Qty:** 19,800.00

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

**Estimate:** \$298,632.12

**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Replace suspended acoustic tile ceiling system – beyond service life (50% of suspended ceiling)

---

**System: C3030 - Ceiling Finishes**



**Location:** Gym

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

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

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

**Qty:** 3,792.00

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

**Estimate:** \$36,569.18

**Assessor Name:** System

**Date Created:** 09/16/2015

**Notes:** Install acoustic panels in gym for sound absorption

---

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

**System: D2020 - Domestic Water Distribution**



**Location:** Entire building

**Distress:** Beyond Service Life

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

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

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

**Qty:** 66,000.00

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

**Estimate:** \$334,445.77

**Assessor Name:** System

**Date Created:** 10/14/2015

**Notes:** Replace domestic water distribution piping due to age.

---

**System: D3030 - Cooling Generating Systems**



**Location:** Roof top

**Distress:** Inadequate

**Category:** 4 - Capital Improvement

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

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

**Qty:** 49,500.00

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

**Estimate:** \$745,092.16

**Assessor Name:** System

**Date Created:** 10/14/2015

**Notes:** Install 165 ton air-conditioning system to replace inadequate window units.

---

**System: D3040 - Distribution Systems**



**Location:** Basement mechanical room

**Distress:** Beyond Service Life

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

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

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

**Qty:** 200.00

**Unit of Measure:** Seat

**Estimate:** \$721,104.26

**Assessor Name:** System

**Date Created:** 01/19/2016

**Notes:** Replace basement AHU and radiators

---

**System: D4010 - Sprinklers**

This deficiency has no image.

**Location:** Entire building

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

**Category:** 1 - Health & Safety

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

**Correction:** Install a fire protection sprinkler system

**Qty:** 66,000.00

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

**Estimate:** \$944,159.46

**Assessor Name:** System

**Date Created:** 10/14/2015

**Notes:** Install fire sprinkler system and fire pump if needed.

---

## 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, 3060 MBH, includes standard controls and insulated jacket, packaged	1.00	Ea.	Boiler room	Weil McLain	PS2600			35			\$52,610.70	\$57,871.77
D3020 Heat Generating Systems	Boiler, gas fired, natural or propane, cast iron, steam, gross output, 3060 MBH, includes standard controls and insulated jacket, packaged	1.00	Ea.	Boiler room	Smith	28A-S/W-16			35	2007	2042	\$52,610.70	\$57,871.77
D3040 Distribution Systems	Air-handling unit, built-up, horizontal/vertical, constant volume, single zone, 34,000 CFM, with cooling/heating coil section, filters, mixing box	1.00	Ea.	Basement mechanical room					25	1923	2042	\$89,512.50	\$98,463.75
D5010 Electrical Service/Distribution	Switchboards, distribution section, aluminum bus bars, 4 W, 120/208 or 277/480 V, 1600 amp, excl breakers	1.00	Ea.	Basement	Eaton/Cutler-Hammer	Pow-R-Line C switchboard			30	2007	2037	\$7,358.85	\$8,094.74
												<b>Total:</b>	<b>\$222,302.03</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):	102,900
Year Built:	1923
Last Renovation:	
Replacement Value:	\$1,813,089
Repair Cost:	\$183,337.62
Total FCI:	10.11 %
Total RSLI:	60.59 %



### Description:

### Attributes:

#### General Attributes:

Bldg ID:	S224001	Site ID:	S224001
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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	58.59 %	9.30 %	\$126,985.78
G40 - Site Electrical Utilities	66.67 %	12.59 %	\$56,351.84
<b>Totals:</b>	<b>60.59 %</b>	<b>10.11 %</b>	<b>\$183,337.62</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 \$
G2020	Parking Lots	\$7.65	S.F.	11,000	30	2001	2031		53.33 %	120.03 %	16		\$101,003.97	\$84,150
G2030	Pedestrian Paving	\$11.52	S.F.	62,700	40	2001	2041		65.00 %	3.60 %	26		\$25,981.81	\$722,304
G2040	Site Development	\$4.36	S.F.	102,900	25	2001	2026		44.00 %	0.00 %	11			\$448,644
G2050	Landscaping & Irrigation	\$3.78	S.F.	29,200	15	2001	2016	2027	80.00 %	0.00 %	12			\$110,376
G4020	Site Lighting	\$3.58	S.F.	102,900	30	2005	2035		66.67 %	7.98 %	20		\$29,390.84	\$368,382
G4030	Site Communications & Security	\$0.77	S.F.	102,900	30	2005	2035		66.67 %	34.03 %	20		\$26,961.00	\$79,233
<b>Total</b>									<b>60.59 %</b>	<b>10.11 %</b>			<b>\$183,337.62</b>	<b>\$1,813,089</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.

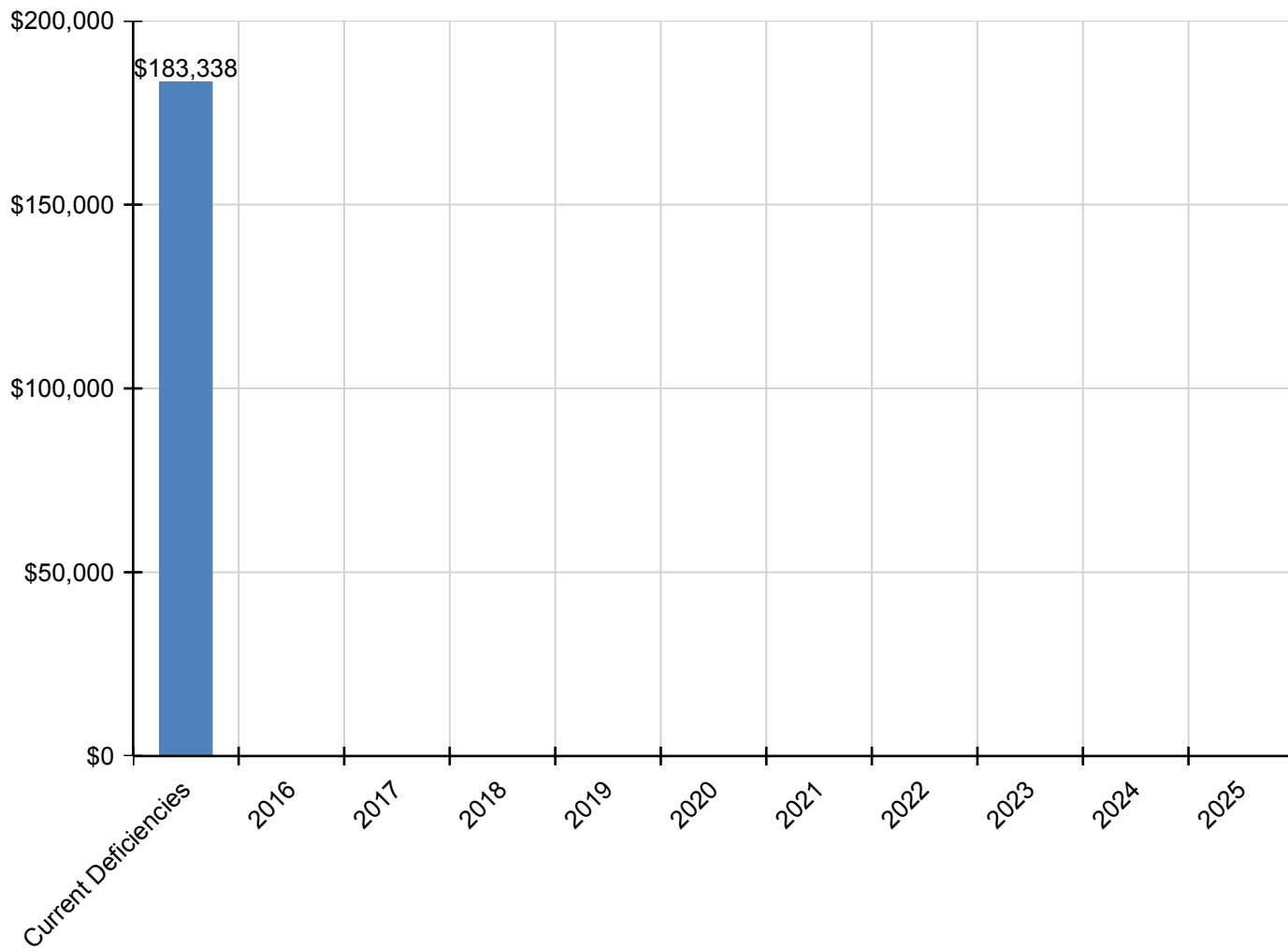
*Inflation Rate: 3%*

System	Current Deficiencies	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
<b>Total:</b>	\$183,338	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$183,338
G - Building Sitework	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G20 - Site Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2020 - Parking Lots	\$101,004	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$101,004
G2030 - Pedestrian Paving	\$25,982	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,982
G2040 - Site Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G2050 - Landscaping & Irrigation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G40 - Site Electrical Utilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
G4020 - Site Lighting	\$29,391	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$29,391
G4030 - Site Communications & Security	\$26,961	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$26,961

*\* Indicates non-renewable system*

## Forecasted Sustainment Requirement

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

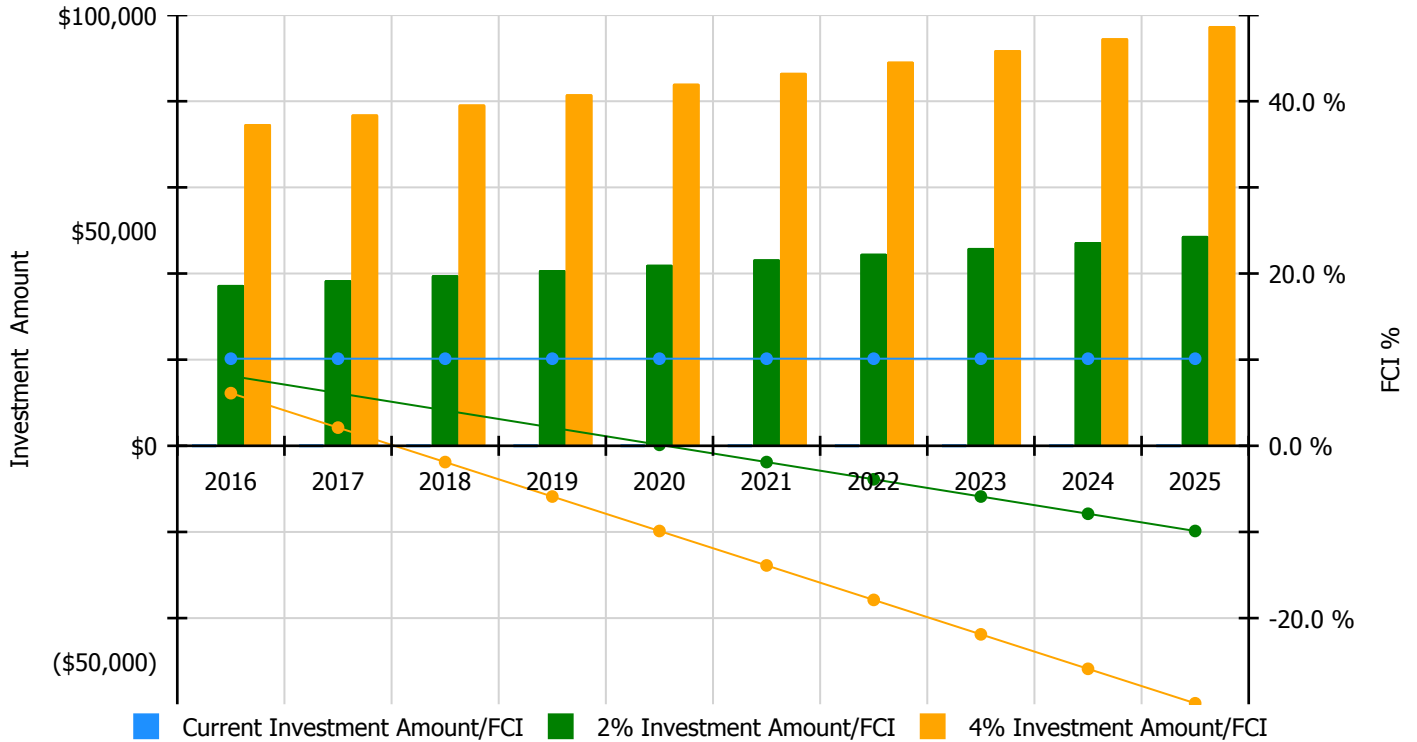


## 10 Year FCI Forecast by Investment Scenario

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

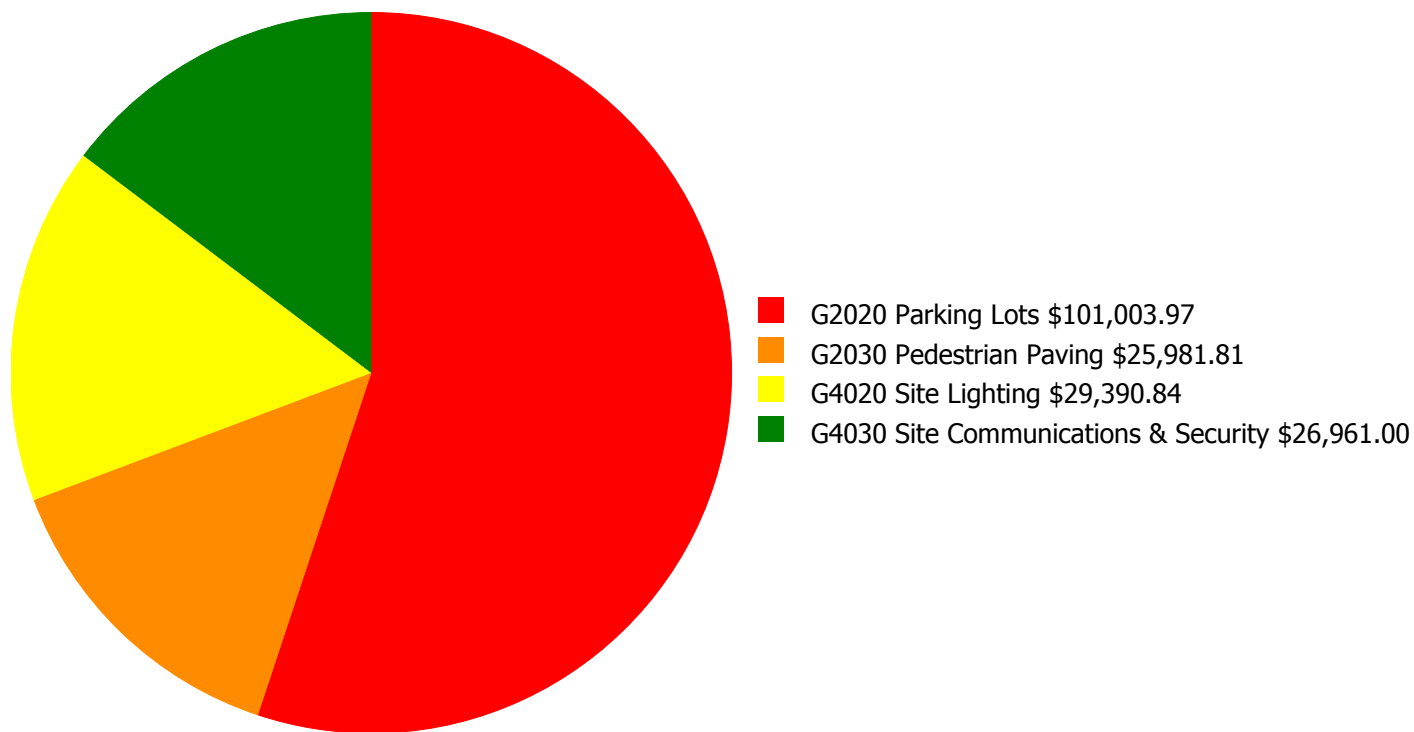
### Facility Investment vs. FCI Forecast



Year	Investment Amount Current FCI - 10.11%	2% Investment		4% Investment	
		Amount	FCI	Amount	FCI
2016	\$0	\$37,350.00	8.11 %	\$74,699.00	6.11 %
2017	\$0	\$38,470.00	6.11 %	\$76,940.00	2.11 %
2018	\$0	\$39,624.00	4.11 %	\$79,248.00	-1.89 %
2019	\$0	\$40,813.00	2.11 %	\$81,626.00	-5.89 %
2020	\$0	\$42,037.00	0.11 %	\$84,075.00	-9.89 %
2021	\$0	\$43,298.00	-1.89 %	\$86,597.00	-13.89 %
2022	\$0	\$44,597.00	-3.89 %	\$89,195.00	-17.89 %
2023	\$0	\$45,935.00	-5.89 %	\$91,871.00	-21.89 %
2024	\$0	\$47,313.00	-7.89 %	\$94,627.00	-25.89 %
2025	\$0	\$48,733.00	-9.89 %	\$97,466.00	-29.89 %
<b>Total:</b>	<b>\$0</b>	<b>\$428,170.00</b>		<b>\$856,344.00</b>	

## Deficiency Summary by System

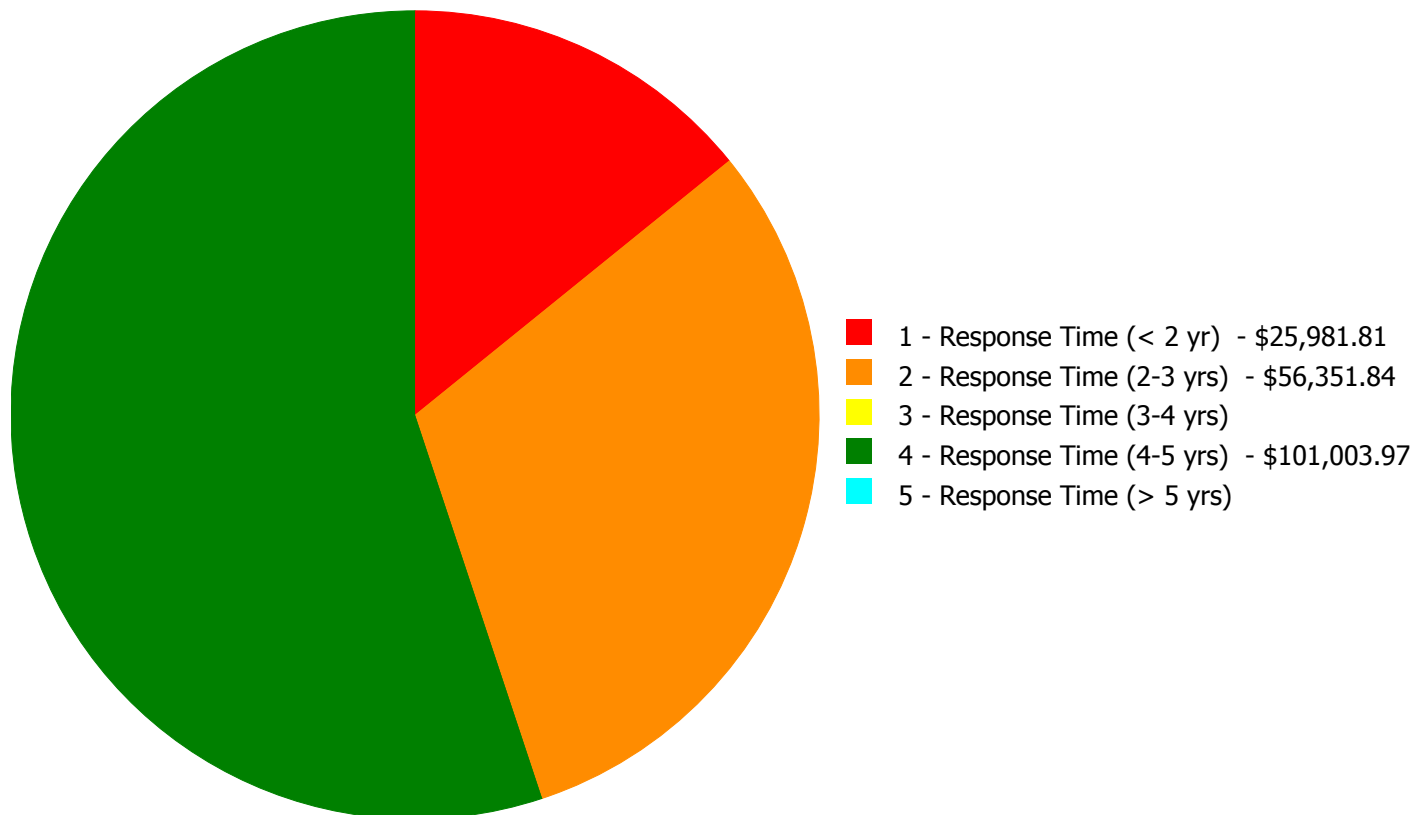
Current deficiencies included assemblies that have reached or exceeded their design life or components of the assemblies that are in need of repair. Assemblies that have reached their design life are identified as current deficiencies and assigned the distress 'Beyond Useful Life'. The following chart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



**Budget Estimate Total: \$183,337.62**

## 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: \$183,337.62**

## Deficiency By Priority Investment Table

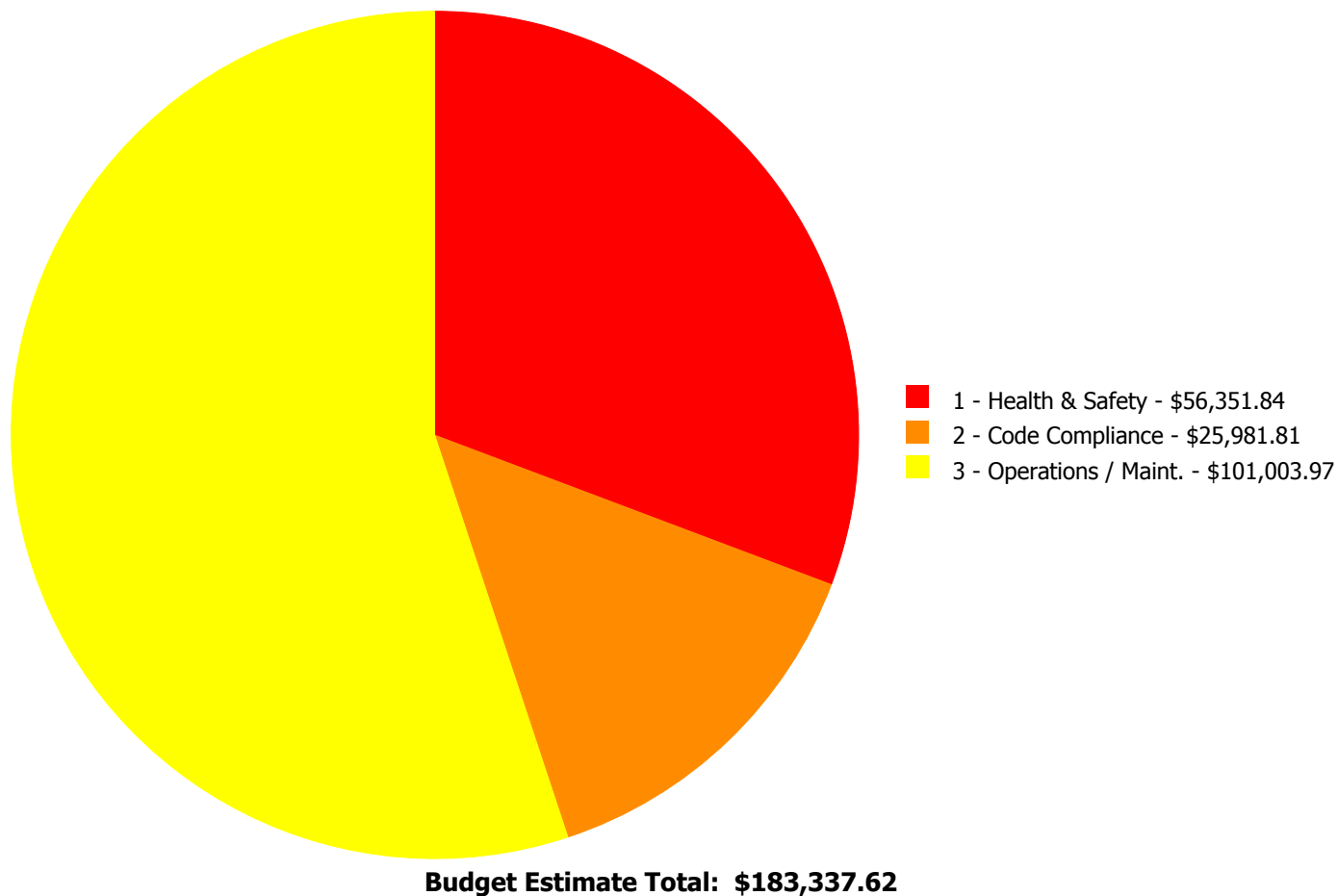
The table below shows the current investment cost grouped by deficiency priority and building system.

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	\$0.00	\$101,003.97	\$0.00	\$101,003.97
G2030	Pedestrian Paving	\$25,981.81	\$0.00	\$0.00	\$0.00	\$0.00	\$25,981.81
G4020	Site Lighting	\$0.00	\$29,390.84	\$0.00	\$0.00	\$0.00	\$29,390.84
G4030	Site Communications & Security	\$0.00	\$26,961.00	\$0.00	\$0.00	\$0.00	\$26,961.00
	<b>Total:</b>	\$25,981.81	\$56,351.84	\$0.00	\$101,003.97	\$0.00	\$183,337.62



## 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:

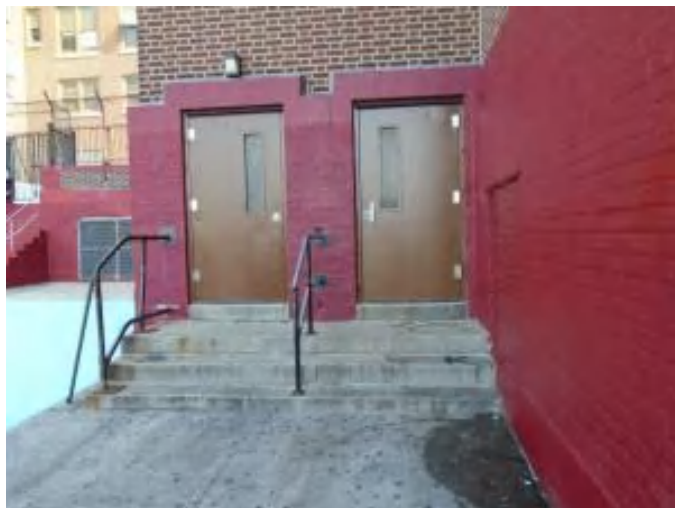


## Deficiency Details by Priority

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

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

#### System: G2030 - Pedestrian Paving



**Location:** Entrance

**Distress:** Accessibility

**Category:** 2 - Code Compliance

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

**Correction:** Install an exterior ADA ramp - based on 5' wide by the linear foot - up to a 48" rise - per LF of ramp - figure 1 LF per inch of rise

**Qty:** 20.00

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

**Estimate:** \$25,981.81

**Assessor Name:** Ben Nixon

**Date Created:** 09/16/2015

**Notes:** Install accessible ramp on at least one entrance

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

**System: G4020 - Site Lighting**

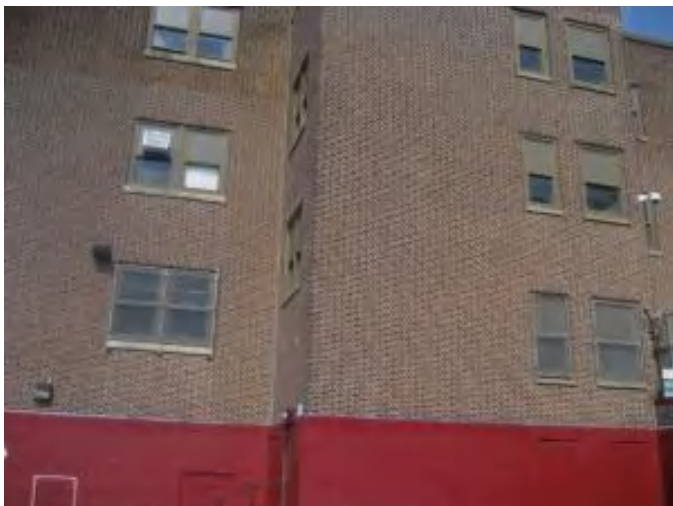


**Location:** Outdoor  
**Distress:** Security Issue  
**Category:** 1 - Health & Safety  
**Priority:** 2 - Response Time (2-3 yrs)  
**Correction:** Add site lighting fixtures  
**Qty:** 6.00  
**Unit of Measure:** Ea.  
**Estimate:** \$29,390.84  
**Assessor Name:** Ben Nixon  
**Date Created:** 10/19/2015

**Notes:** Provide 6 more wall mounted lighting fixtures to provide complete building perimeter coverage

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**System: G4030 - Site Communications & Security**



**Location:** Outdoor  
**Distress:** Security Issue  
**Category:** 1 - Health & Safety  
**Priority:** 2 - Response Time (2-3 yrs)  
**Correction:** Add Video Surveillance System  
**Qty:** 2.00  
**Unit of Measure:** Ea.  
**Estimate:** \$26,961.00  
**Assessor Name:** Ben Nixon  
**Date Created:** 10/19/2015

**Notes:** Provide 2 more CCTV cameras for complete building perimeter coverage

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

**System: G2020 - Parking Lots**



**Location:** Yard/Parking

**Distress:** Maintenance Required

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

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

**Correction:** Fill cracks in AC paving - by the LF - average size and depth of crack

**Qty:** 10,000.00

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

**Estimate:** \$101,003.97

**Assessor Name:** Ben Nixon

**Date Created:** 09/16/2015

**Notes:** Repair asphalt paving - cracked

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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

## Site Assessment Report - S224001;Bregy

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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