GREENBRIER ELEMENTARY SCHOOL
2205 GREENBRIER DRIVE
CHARLOTTESVILLE, VIRGINIA

ECS PROJECT NO. 46:6713

FOR

CITY OF CHARLOTTESVILLE - FACILITIES DEVELOPMENT

OCTOBER 28, 2021

October 28, 2021

Mr. Josh Bontrager
City of Charlottesville - Facilities Development
305 4th Street NW
Charlottesville, Virginia, 22903

ECS Project No. 46:6713

Reference: Facility Condition Assessment Report for Greenbrier Elementary School, 2205 Greenbrier Drive, Charlottesville, Virginia

Dear Mr. Bontrager:

ECS Mid-Atlantic, LLC is pleased to provide the results of our Facility Condition Assessment (FCA) for the referenced property. The scope of the FCA was performed in general accordance with ASTM and industry guidelines and items contained within the ECS Proposal No. 46:7239-FP, dated June 12, 2020. We understand that our work is being performed under the City of Charlottesville Purchase Order Number 4500313133.

It has been our pleasure to be of service to you on this project. Should you have any questions or comments with regard to the findings and recommendations, please feel free to contact us at your convenience.

Respectfully,

ECS Mid-Atlantic, LLC

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Project Manager
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703-471-8400

Michael G. Doyle, AIA
Principal Architect
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703-471-8400

Project Summary

Construction System	Good	Fair	Poor	Action	Immediate	Over Term Years 1-20
3.2.1 Topography	X			None		
3.2.2 Storm Water Drainage	X			None		
3.2.3 Access and Egress	X			None		
3.2.4 Paving, Curbing, and Parking		X		Repair		$50,000
3.2.5 Flatwork		X		Replace		$20,000
3.2.6 Landscaping and Appurtenances	X	X		None		
3.2.7 Recreational Facilities		X		Replace		$55,000
3.2.8 Special Utility Systems		NA		None		
3.3.1 Foundation	X			None		
3.3.2 Building Frame	X			None		
3.3.3 Building Exteriors		X		Repair		$120,000
3.3.4 Exterior Doors	X	X		Replace		$10,000
3.3.5 Exterior Windows		X	X	Replace		$250,000
3.3.6 Roofing Systems	X	X		Replace		$633,928
3.4.1.1 Supply and Waste Piping		X		Replace		$80,000
3.4.1.2 Domestic Hot Water Production		X		Replace		$4,000
3.4.2.1 Equipment	X	X		Replace		$556,500
3.4.2.2 Distribution System	X			None		
3.4.2.3 Control Systems	X			None		
3.4.3.1 Service and Metering	X	X		Replace		$30,000
3.4.3.2 Distribution		X		Replace		$40,000
3.5 VERTICAL TRANSPORTATION SYSTEMS		NA		None		
3.6.1 Sprinklers and Suppression Systems	X	X		Replace		$20,000
3.6.2 Alarm Systems	X	X		Replace		$20,000
3.6.3 Security and Other Systems	X			None		
3.7.1 Interior Finishes		X		Refurbish		$85,000
3.8 Accessibility (ADA) Compliance		X		Refurbish	$43,000	
5.1 MOISTURE AND MOLD	X			None		
Totals					$43,000	$1,974,428

Summary	Today's Dollars	$/Square Feet
Immediate Repairs	$43,000	$0.98

	Today's Dollars	$/Square Feet	$/Square Feet/Year
Replacement Reserves, today's dollars	$1,974,428.00	$45.06	$2.25
Replacement Reserves, w/20, 2.5% escalation	$2,177,162.44	$49.68	$2.48

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1.0 EXECUTIVE SUMMARY

1.1 BACKGROUND

ECS Mid-Atlantic, LLC (ECS) performed a Facility Condition Assessment (FCA) in general conformance with ASTM guidelines and general scope items contained within the ECS Proposal 46:7239-FP dated June 12, 2020 for the Greenbrier Elementary School property in Charlottesville, Virginia - hereinafter known as the Property.

The FCA was conducted by ECS in response to the authorization of our Proposal by Ms. Susan Dyer on November 23, 2020. The report was completed and reviewed by the following team members:

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Reliance

This report is provided for the exclusive use of City of Charlottesville - Facilities Development. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties. The use of this report by any undesignated third party or parties will be at such party's sole risk and ECS disclaims liability for any such third party use or reliance.

1.2 METHODOLOGY

ECS observations and historical property data provided by the owner were utilized to determine the effective age of the property components. Various factors including exposure to weather elements, system manufacturer quality, level of maintenance, and usage determine the effective age of property components. Depending on the impact of these various factors, the effective age of property components can reduce the Remaining Useful Life (RUL) of a property component. The general requirements of the owner to address facility needs were requested to be prioritized based on the RUL and type of property component. The following Priorities were established by the Owner as follows:

Priority 1: Immediately Critical Items (Year 0)

Items in this Priority category include physical deficiencies that require immediate action as a result of (i) existing or potentially unsafe conditions, (ii) significant negative conditions impacting tenancy, (iii) material building code violations or Title II American with Disabilities Act (ADA) items.

Priority 2: Critical Items (Year 0-1)

Items in this Priority category include physical deficiencies that require immediate action as a result of (i) poor or deteriorated condition of critical element or system, or (ii) a condition that is left "as is," with an extensive delay in addressing same, would result in or contribute to critical element or system failure within one year.

Priority 3: Near Term Items (Years 2-5)

Items in this category include physical deficiencies that require near term action as a result of (i) poor or deteriorated condition of critical element or system, or (ii) a condition that is left "as is," with an extensive delay in addressing same, would result in or contribute to critical element or system failure within two to five years.

Priority 4: Reserve Items (Years 5-20)

Items in this Priority category include Capital Reserves for recurring probable expenditures, which are not classified as operational or maintenance expenses, which should be annually budgeted for in advance. Capital reserves are reasonably predictable both in terms of frequency and cost. However, they may also include components or systems that have an indeterminable life but nonetheless have a potential liability for failure within an estimated time period. A component method has also been included within this report as well.

Reserve items excludes systems or components that are estimated to expire after the reserve term and that are not considered material to the structural and mechanical integrity of the subject property. Furthermore, systems and components that were not deemed to have a material affect on the use were also excluded. Costs that are caused by acts of God, accidents or other occurrences that are typically covered by insurance, rather than reserved funds, are also excluded.

Replacement costs were solicited from ownership/property management, ECS' discussions with service companies, manufacturers' representatives, and previous experience in preparing such schedules for other similar facilities. Costs for work performed by ownership's or property management's maintenance staff were also considered.

ECS's reserve methodology involves identification and quantification of those systems or components requiring capital reserve funds within the evaluation period. Additional information concerning systems or components respective replacement costs (in today's dollars), typical expected useful lives, and remaining useful lives were estimated so that a funding schedule could be prepared. The Capital Reserve Schedule presupposes that all required remedial work has been performed or that monies for remediation have been budgeted for items defined in the Immediate Needs Cost Estimates.

1.3 PROPERTY DESCRIPTION

Greenbrier Elementary School, located at 2205 Greenbrier Drive, in Charlottesville, Virginia, consists of a One-story building. The building totals approximately 43,821 square feet. Parking is provided with At-grade parking with asphalt pavement. The School building was reportedly constructed in 1962.

SURVEY INFORMATION	
Date of Assessment	July 1, 2021
Assessor	William R. Pratt, P.E.
Weather Conditions	Partly sunny | 89
Property Contact	Josh Bontrager, Project Manager for the City of Charlottesville - Facilities Development

SITE INFORMATION	
Land Area	10.3 acres
Major Cross Streets	Greenbrier Drive/ Tarleton Drive
Pavement - Parking	At-grade parking with asphalt pavement
Number of Parking Spaces	71
Number of Accessible Spaces	Two
Number of Van Accessible Spaces	None
Pedestrian Sidewalks	Concrete sidewalks

BUILDING INFORMATION	
Building Type	School
Number of Buildings	One
Building Height	One-story
Square Footage	43,821
Year Constructed	1962
Year Remodeled	N/A

BUILDING CONSTRUCTION	
Foundation	Assumed shallow spread footings
Structural System	Concrete masonry unit bearing walls
Roof	Single-ply sheet membrane
Exterior Finishes	Brick veneer
Windows	Aluminum frame single pane - operable, aluminum frame single pane
Entrance	Storefront entrance

BUILDING SYSTEMS	
HVAC System	Central plant HVAC system with supplemental heating/cooling equipment
Domestic Hot Water	Gas domestic water heater
Water Distribution	Copper
Sanitary Waste Line	PVC and cast iron
Electrical Service	1,600 amps
Branch Wiring	Copper
Elevators	None
Fire Suppression System	Wet sprinkler system and fire extinguishers with automated fire alarm system with alarm bell, strobe, and pull down stations

UTILITY SERVICE PROVIDERS	
Water	Charlottesville Water
Sewer	Charlottesville Public Utilities - Wastewater
Electric	Dominion Virginia Power
Natural Gas	City of Charlottesville

1.4 OPINIONS OF COST

The opinions of cost are provided in the attached reserve replacement table and a summary of immediate repairs included in this report. The reserve replacement table covers capital expenditure items only. Items less than $1,000 in cost have been excluded, except for immediate repairs, ADA or safety issues. Please refer to section 6.0 of this report for a detailed explanation on how these costs are derived.

1.5 COST TABLES

Immediate Repair Cost

Item	Quantity	Unit	Unit Cost	Replacement Percent	Immediate Total
3.8 Accessibility (ADA) Compliance					
PROVIDE VAN ACCESSIBLE SPACES	1	EA	$500.00	100%	$500
PROVIDE ACCESSIBLE PARKING SPACE AND ACCESS AISLE	1	EA	$500.00	100%	$500
INSTALL LEVER DOOR HARDWARE	50	EA	$200.00	100%	$10,000
REPLACE OR RELOCATE DRINKING FOUNTAINS	4	EA	$3,000.00	100%	$12,000
RECONFIGURE ACCESSIBLE RESTROOM	1	EA	$20,000.00	100%	$20,000
Total Repair Cost					$43,000.00

Capital Reserve Schedule

Item	EUL	EFF AGE	RUL	Quantity	Unit	Unit Cost	Cycle Replace	Replace Percent	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Year 7 2027	Year 8 2028	Year 9 2029	Year 10 2030	Year 11 2031	Year 12 2032	Year 13 2033	Year 14 2034	Year 15 2035	Year 16 2036	Year 17 2037	Year 18 2038	Year 19 2039	Year 20 2040	Total Cost
3.2.4 Paving, Curbing, and Parking																													
MILL, OVERLAY AND RESTRIPE EXISTING ASPHALT	20	17	3	1	LS	$50,000.00	$50,000	100%			$50,000																		$50,000
3.2.5 Flatwork																													
REPLACE CONCRETE SIDEWALK SECTIONS AND REPAIR CONCRETE STAIRS AS NEEDED	25	24	1	4	EA	$5,000.00	$20,000	100%	$5,000					$5,000					$5,000					$5,000					$20,000
3.2.7 Recreational Facilities																													
REPLACE PLAYGROUND EQUIPMENT	20	15	5	1	EA	$45,000.00	$45,000	100%					$45,000																$45,000
RESURFACE BASKETBALL COURT	20	10	10	1	LS	$10,000.00	$10,000	100%										$10,000											$10,000
3.3.3 Building Exteriors																													
REPOINT BRICKWORK	20	19	1	1	LS	$30,000.00	$30,000	100%	$30,000																				$30,000
PAINT EXPOSED CONCRETE ELEMENTS	10	9	1	2	LS	$10,000.00	$20,000	100%	$10,000										$10,000										$20,000
REPAIR CRACKED CONCRETE	20	19	1	2	EA	$10,000.00	$20,000	100%	$10,000										$10,000										$20,000
REPLACE SEALANTS	12	11	1	2	LS	$25,000.00	$50,000	100%	$25,000												$25,000								$50,000
3.3.4 Exterior Doors																													
REPLACE EXTERIOR DOORS	20	15	5	10	EA	$1,000.00	$10,000	100%					$5,000															$5,000	$10,000
3.3.5 Exterior Windows																													
REPLACE WINDOWS	25	24	1	250	EA	$1,000.00	$250,000	100%	$125,000	$125,000																			$250,000
3.3.6 Roofing Systems																													

Item	EUL	EFF AGE	RUL	Quantity	Unit	Unit Cost	Cycle Replace	Replace Percent	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Year 7 2027	Year 8 2028	Year 9 2029	Year 10 2030	Year 11 2031	Year 12 2032	Year 13 2033	Year 14 2034	Year 15 2035	Year 16 2036	Year 17 2037	Year 18 2038	Year 19 2039	Year 20 2040	Total Cost
REPLACE SINGLE-PLY ROOFING SYSTEM	20	13	7	43,852	SF	$14.00	$613,928	100%							$613,928														$613,928
REPLACE SKYLIGHTS AS NEEDED	20	13	7	1	LS	$20,000.00	$20,000	100%							$20,000														$20,000
3.4.1.1 Supply and Waste Piping																													
REPLACE VALVES AND PIPING	40	39	1	4	LS	$20,000.00	$80,000	100%	$80,000																				$80,000
3.4.1.2 Domestic Hot Water Production																													
REPLACE WATER HEATERS	12	11	1	4	EA	$1,000.00	$4,000	100%	$4,000																				$4,000
3.4.2.1 Equipment																													
REPLACE BOILERS	20	14	6	2	EA	$25,000.00	$50,000	100%						$50,000															$50,000
REPLACE CONDENSERS	15	8	7	3	EA	$10,000.00	$30,000	100%							$30,000														$30,000
REPLACE AIR HANDLERS	15	5	10	4	EA	$10,000.00	$40,000	100%	$20,000		$20,000																		$40,000
REPLACE WATER SOURCE HEAT PUMPS	20	19	1	80	EA	$2,500.00	$200,000	100%	$40,000	$40,000	$40,000	$40,000	$40,000																$200,000
REPLACE VERTICAL HEAT PUMPS	15	14	1	3	EA	$7,500.00	$22,500	100%	$22,500																				$22,500
REPLACE PACKAGE UNITS	20	19	1	4	EA	$20,000.00	$80,000	100%	$40,000				$40,000																$80,000
REPLACE COOLING TOWER	18	15	3	1	EA	$30,000.00	$30,000	100%			$30,000																		$30,000
REPLACE SPACE HEATERS	20	15	5	2	EA	$1,000.00	$2,000	100%					$1,000										$1,000						$2,000
REPLACE SPLIT SYSTEM	15	9	6	1	EA	$2,000.00	$2,000	100%						$2,000															$2,000
REPLACE FAN COIL UNITS AND RADIATORS	20	19	1	50	EA	$2,000.00	$100,000	100%	$10,000		$10,000		$10,000		$10,000		$10,000		$10,000		$10,000		$10,000		$10,000		$10,000		$100,000
3.4.3.1 Service and Metering																													

City of Charlottesville - Facilities Development
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Item	EUL	EFF AGE	RUL	Quantity	Unit	Unit Cost	Cycle Replace	Replace Percent	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	Year 6 2026	Year 7 2027	Year 8 2028	Year 9 2029	Year 10 2030	Year 11 2031	Year 12 2032	Year 13 2033	Year 14 2034	Year 15 2035	Year 16 2036	Year 17 2037	Year 18 2038	Year 19 2039	Year 20 2040	Total Cost
REPLACE EMERGENCY POWER GENERATOR AND TRANSFER SWITCH	25	24	1	1	EA	$30,000.00	$30,000	100%	$30,000																				$30,000
3.4.3.2 Distribution																													
REPLACE CIRCUIT BREAKER PANELS	50	49	1	2	LS	$20,000.00	$40,000	100%	$20,000	$20,000																			$40,000
3.6.1 Sprinklers and Suppression Systems																													
REPLACE SPRINKLER HEADS	50	49	1	1	LS	$20,000.00	$20,000	100%	$20,000																				$20,000
3.6.2 Alarm Systems																													
REPLACE FIRE CONTROL PANEL	30	27	3	1	EA	$20,000.00	$20,000	100%			$20,000																		$20,000
3.7.1 Interior Finishes																													
REPLACE CRACKED TILES IN RESTROOMS	30	29	1	1	LS	$20,000.00	$20,000	100%	$10,000					$10,000															$20,000
REPAIR CRACKED TERRAZZO FLOORS IN CORRIDORS	30	29	1	4	LS	$10,000.00	$40,000	100%	$10,000					$10,000					$10,000					$10,000					$40,000
REPLACE VANITIES AND SINKS IN CLASSROOMS AS NEEDED	20	19	1	1	LS	$25,000.00	$25,000	100%	$25,000																				$25,000
Total (Uninflated)									$536,500.00	$185,000.00	$170,000.00	$40,000.00	$141,000.00	$77,000.00	$673,928.00	$0.00	$10,000.00	$10,000.00	$45,000.00	$0.00	$35,000.00	$0.00	$11,000.00	$15,000.00	$10,000.00	$0.00	$10,000.00	$5,000.00	$1,974,428.00
Inflation Factor (2.5%)									1.0	1.025	1.051	1.077	1.104	1.131	1.16	1.189	1.218	1.249	1.28	1.312	1.345	1.379	1.413	1.448	1.485	1.522	1.56	1.599	
Total (inflated)									$536,500.00	$189,625.00	$178,606.25	$43,075.62	$155,637.62	$87,118.43	$781,549.87	$0.00	$12,184.03	$12,488.63	$57,603.80	$0.00	$47,071.11	$0.00	$15,542.71	$21,724.47	$14,845.06	$0.00	$15,596.59	$7,993.25	$2,177,162.44

Evaluation Period:	20
# of Square Feet:	43,821
Reserve per Square Feet per year (Uninflated)	$2.25
Reserve per Square Feet per year (Inflated)	$2.48

2.0 PURPOSE AND SCOPE

2.1 SCOPE OF SERVICES

This Facility Condition Assessment (FCA) was conducted in general accordance with items and terminology requested by the Owner herein and ASTM E 2018-15, "Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process".

The primary purpose of a FCA is to note construction deficiencies and to identify components which appear to exhibit less than expected service life or which have been poorly maintained. The assessment is not intended to develop detailed remedial plans for identified problems. The services are qualitative in nature and do not include engineering calculations or design. Photographic documentation of our observations is attached.

The following building systems were observed in accordance with ASTM E 2018-15:

- Site Conditions
- Structural Frame and Building Envelope
- Plumbing, Mechanical and Electrical Systems
- Vertical Transportation Systems
- Life Safety and Fire Protection
- Interior Elements
- ADA Considerations
- Building Code Violations

Out of Scope Items

Environmental issues and concerns are considered to be outside of the ASTM scope of services for a Facility Condition Assessment. Although properties may have possible environmental contamination, including, but not limited to radon, mold, lead based paint, asbestos, lead piping, PCB's or volatile chemicals, these issues and concerns should be addressed by an Environmental Assessment, as defined by ASTM Guidelines. ECS recommends that properties be studied by a qualified environmental assessor who can appropriately access, identify, and quantify issues related to environmental safety concerns.

ECS is providing a Facility Condition Assessment consistent with commercial and customary practices and the ASTM E-2018, current at the time the services are provided. The parties expressly acknowledge and agree that ECS is not providing a Reserve Study, which is subject to the National Reserve Study Standards and requires much more detail than a typical Facility Condition Assessment.

2.2 Deviations from Guide (ASTM E2018-15)

ASTM E2018-15 requires that any deviations from the Guide be noted within the report. ECS reduced the cost threshold from $3,000 to $1,000 to allow for smaller items needing repair, replacement or refurbishment. Therefore items with costs less than $1,000 are typically not included in this report unless related to life, safety or accessibility items.

ECS interviewed personnel associated with the Greenbrier Elementary School facility and other government agencies based upon availability. These individuals are identified in Section 4.2. Information obtained from the interviews are included in the applicable sections of this report.

2.3 ASSESSMENT PROCEDURES

The FCA included site reconnaissance, limited interviews with property management, and inquiries or attempted inquiries with the local building and fire departments. Operational testing of building systems or components was not conducted. During the FCA, ECS conducted observations of the following facility features: site development systems; building structure systems; building exterior systems; building interior systems; roof systems; mechanical systems; electrical systems; plumbing systems; and life and fire safety systems.

This report is intended for review as a complete document. Therefore, interpretations and conclusions drawn from the review of any individual section are the sole responsibility of the User.

2.4 DEFINITIONS

Fair, adj - the property or component is functional but will likely require immediate maintenance or repairs during the duration of the term.

Good, adj - the property or component is functional and should continue to provide its intended service with continued routine maintenance through the duration of the term.

Poor, adj - the property or component is not functional. Immediate or near term repairs are required to bring the component back into service or replacement is expected during the duration of the term.

2.4.1 Partial List of ASTM Definitions

de minimis condition - a physical deficiency that is not material to the conclusions of the report.

deferred maintenance, n - physical deficiencies that could have been remedied with routine maintenance, normal operating maintenance, etc., excluding de minimis conditions that generally do not present a material physical deficiency to the subject property.

easily visible, adj - describes items, components, and systems that are conspicuous, patent, and which may be observed visually during the walk-though survey without: intrusion, relocation or removal of materials, exploratory probing, use of special protective clothing, or use of any equipment (hand tools, meters of any kind, telescope instruments, stools, ladders, lighting devices, etc.).

effective age, n - the estimated age of a building component that considers actual age as affected by maintenance history, location, weather conditions, and other factors. Effective age may be more or less than actual age.

expected useful life (EUL), n - the average amount of time in years that an item, component or system is estimated to function without material repair when installed new and assuming routine maintenance is practiced.

immediate cost, n - opinions of costs that require immediate action as a result of any of the following: (1) material existing or potentially unsafe conditions, (2) material building or fire code violations, (3) physical deficiencies that if left uncorrected would be expected to result in or contribute to critical element or system failure within on year or will result most probably in significant escalation of its remedial cost.

observation, n - the visual survey of items, systems, conditions, or components that are readily accessible and easily visible during a walk-through survey of the subject property.

observe, v - to conduct an observation pursuant to this guide within the context of easily visible and readily accessible.

obvious, adj - plain, evident, and readily accessible; a condition easily visible or fact not likely to be ignored or overlooked by a field observer when conducting a walk-through survey or that which is practically reviewable and would be understood easily by a person conducting the FCA.

opinions of costs, n - opinion of costs that may be encountered in correction of physical deficiencies.

physical deficiency, n - a conspicuous defect or deferred maintenance of a subject property's material systems, components, or equipment as observed during the completion of the FCA. - This definition specifically excludes deficiencies that may be remedied with routine maintenance, miscellaneous minor repairs, normal operating maintenance, etc., and excludes de minimis conditions that generally do not present material physical deficiencies of the subject property.

Point of Contact (POC), n - owner, owner's agent, or user-identified person or persons knowledgeable about the physical characteristics, maintenance, and repair of the subject property.

practically reviewable, adj - describes information that is provided by the source in a manner and form that, upon review, yields information relevant to the subject property without the need for significant analysis, measurements, or calculations. Records or information that feasibly cannot be retrieved by reference to the location of the subject property are not generally considered practically reviewable.

primary commercial real estate improvements, n - the site and building improvements that are of fundamental importance with respect to the commercial real estate. This definition specifically excludes ancillary structures, that may have been constructed to provide support uses such as maintenance sheds, security booths, utility garages, pool filter and equipment buildings, etc.

property, n - the site improvements, which are inclusive of both site work and buildings.

readily accessible, adj - describes areas of the subject property that are promptly made available for observation by the field observer at the time of the walk-through survey and do not require the removal or relocation of materials or personal property, such as furniture, floor, wall, or ceiling coverings; and that are safely accessible in the opinion of the field observer.

readily available, adj - describes information or records that are easily and promptly provided to the consultant upon making a request in compliance with an appropriate inquiry and without the need for the consultant to research archive files.

reasonably ascertainable, adj - describes information that is publicly available, as well as readily available, provided to the consultant's offices from either its source or an information research/ retrieval service within reasonable time, practically reviewable, and available at a nominal cost for either retrieval, reproduction or forwarding.

remaining useful life (RUL), n - a subjective estimate based upon observations, or average estimates of similar items, components, or systems, or a combination thereof, of the number of remaining years that an item, component, or system is estimated to be able to function in accordance with its intended purpose before warranting replacement. Such period of time is affected by the initial quality of an item, component, or system, the quality of the initial installation, the quality and amount of preventive maintenance exercised, climatic conditions, extent of use, etc.

representative observations, n - observations of a reasonable number of samples of repetitive systems, components, areas, etc., which are conducted by the field observer during the walk-through survey. The concept of representative observations extends to all conditions, areas, equipment, components, systems, buildings, etc., to the extent that they are similar and representative of one another.

routine maintenance, n - a repair that does not require specialized equipment, profession services, or contractors, but rather can be corrected within budget and skill set of typical property maintenance staff.

short term cost, n - opinions of costs to remedy physical deficiencies, such as deferred maintenance, that may not warrant immediate attention, but require repairs or replacements that should be undertaken on a priority basis in addition to routine preventive maintenance.

technically exhaustive, adj - describes the use of measurements, instruments, testing, calculations, exploratory probing or discovery, or other means to discover, or a combination thereof, or troubleshoot physical deficiencies or develop architectural or engineering findings, conclusions, and recommendations, or combination thereof.

3.0 SYSTEM DESCRIPTION AND OBSERVATIONS

3.1 PROPERTY DESCRIPTION

The Property contains a One-story School building.

3.1.1 Property Location

The Property is located at 2205 Greenbrier Drive in Charlottesville, Virginia.

Surrounding Properties	
North	Residential properties
East	Residential properties
South	Residential properties
West	Residential properties

A Site Location Map and Aerial View are included in Appendix I.

3.1.2 Construction History

We understand that the building was constructed approximately 59 years ago in 1962.

3.1.3 Current Property Improvements

The School building, located at 2205 Greenbrier Drive, in Charlottesville, Virginia, consists of a One-story building. The building totals approximately 43,821 square feet. Parking is provided with At-grade parking with asphalt pavement.

3.2 SITE CONDITIONS

3.2.1 Topography

TOPOGRAPHY		
Item	**Description**	**Condition**
Slope of the property	The property generally slopes to the north	Good
Adjoining Properties	Down gradient	Good

Comments

The property is generally level and slopes to the north. The adjoining properties are located down gradient from the property.

Photographs

General topography

3.2.2 Storm Water Drainage

STORM WATER DRAINAGE		
Item	**Description**	**Condition**
Storm Water Collection System	Municipal	Good
Storm Water (Retention) Pond		N/A
Storm Water Filtration Structure		N/A
Pavement Drainage	Curb inlets	Good
Landscape Drainage	Yard inlets	Good
Sump Pumps		N/A

Comments

The storm water collection system is a municipal system.

Photographs

Stormwater drainage

Stormwater drainage

3.2.3 Access and Egress

SITE ACCESS AND EGRESS		
Item	**Description**	**Condition**
Entrance Aprons	Asphalt	Good
Fire Truck Access	South side of the property	Good
Easements		N/A

Comments

Vehicular access to the site is located on the south side of the property. The entrance apron is constructed of asphalt and was observed to be in generally good condition. Fire truck access is available on the south side of the building.

3.2.4 Paving, Curbing, and Parking

PARKING		
Item	**Description**	**Condition**
Striping	Painted	Good
Quantity of Parking Spaces	71	Good

PARKING		
Item	**Description**	**Condition**
Quantity of Loading Spaces		N/A
Arrangement of Spaces	Perpendicular in lot, parallel on access road	Good
Site Circulation	Access road and circular drive lane	Good
Lighting		N/A
Accessible Spaces	Two	Poor
Accessible Aisles	One	Good

SURFACE PAVEMENT		
Item	**Description**	**Condition**
Pavement Surface	At-grade parking with asphalt pavement	Fair
Drainage	Curb inlets	Good
Repair History	Patching noted	Fair
Concrete Curbs and Gutters	Cracking observed	Fair
Dumpster Pad	Asphalt	Fair
Asphalt Curbs		N/A
Fire Lane Painting	Curb	Good

Comments

An asphalt-paved drive lane is located on the south side of the site which provides access to the parking lot. Additional parking is provided along the drive lane. The asphalt pavement was observed to be in generally fair condition with cracks and alligator cracking observed on the pavement. The expected useful life of asphalt pavement is 20 years. We have provided an allowance to overlay the asphalt pavement during the report period.

Photographs

Overview of asphalt pavement and parking lot

Overview of asphalt pavement and parking lot

Alligator cracking in asphalt pavement

Alligator cracking in asphalt pavement

Previous repair of asphalt pavement

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
MILL, OVERLAY AND RESTRIPE EXISTING ASPHALT	20	17	3	3	$50,000
Total					$50,000

3.2.5 Flatwork

SIDEWALKS		
Item	**Description**	**Condition**
Walkways	Concrete sidewalks	Fair
Patios	Concrete	Good
Steps	Concrete and brick	Fair
Landings	Concrete	Good
Handrails	Steel tube	Good
Ramps	Concrete	Good
Curb Ramps	Concrete	Good
Truncated Domes	Inset plastic	Good

Comments

At the perimeter of the building, concrete sidewalks sidewalks of undetermined thickness are provided. Regularly spaced control joints were observed. The concrete sidewalks were generally in fair condition, with some cracked sections observed. We recommend the cracked and settled sections be replaced as necessary.

The steps and ramps were observed to be in generally good to fair condition. Previously repaired concrete sidewalks appeared to be in good condition. The handrails adjacent to the steps and ramps were observed to be in generally good condition. There is a concrete patio on the east side of the building. The patio was generally in good condition.

Photographs

Concrete sidewalk

Concrete pavement - note sealant

Concrete sidewalk - cracking

Concrete curb ramp - note cracking

Concrete curb - note cracking

Concrete steps

Concrete steps

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE CONCRETE SIDEWALK SECTIONS AND REPAIR CONCRETE STAIRS AS NEEDED	25	24	1	1 6 11 16	$5,000 $5,000 $5,000 $5,000
Total					$20,000

3.2.6 Landscaping and Appurtenances

LANDSCAPING		
Item	**Description**	**Condition**
Trees	Mature	Good
Planting Beds	Small plants and shrubs	Good
Lawn Areas	Surrounding property	Good
Irrigation System		N/A
Monumental Sign	Brick and metal	Good
Landscape Lighting		N/A
Retaining Walls		N/A
Fences and Gates	Chain link	Good
Dumpster Enclosure		N/A
Fountains		N/A

Comments

The landscaping consists generally of mature trees, small shrubs, and grassed areas around the site. The landscaping was observed to be in generally good condition.

A metal chain link fence is located on the east side of the site and was generally in good condition.

Two signs are located on the east side of the property along Greenbriar Road. One sign is a metal fence with a brick base and was in good condition. The second sign is a painted wooden sign. The painted wooden sign was deteriorated at the top of the sign. We recommend the wood sign be painted.

Photographs

Typical landscape

Typical landscape

Typical landscape

Monument signage

Fencing

Typical dumpster

3.2.7 Recreational Facilities

BASKETBALL COURT		
Item	**Description**	**Condition**
Playing Surface	Asphalt	Good
Fencing		N/A
Lighting		N/A

PLAYGROUND		
Item	**Description**	**Condition**
Playing Surface	Mulch	Good
Fencing		N/A
Equipment	Plastic	Good
Lighting		N/A

SOFTBALL FIELD		
Item	**Description**	**Condition**
Playing Surface	Grass, soil	Good
Fencing	Chain link	Fair
Equipment		N/A
Lighting		N/A

Comments

Basketball Court

The basketball court was located on the northeast side of the property. The surface was in good condition. The expected useful life of the surface is approximately 20 years. We recommend an allowance be provided to resurface the basketball court.

Playground

Various playground equipment is located on the east side of the property. The playground consisted of various plastic play equipment and was located on a mulched play surface. The playground equipment was in good condition and was reportedly replaced in 2006. Mulching of the playground when required is considering a maintenance item. The expected useful life of playground equipment is 15 to 20 years with proper maintenance. An allowance for replacement of the equipment is included later in the study period.

Softball Field

The softball is located at the north side of the property. Chain link fencing was observed at home base and was in overall fair condition as portions of the fencing we bowed. The field did not have lighting.

Photographs

Basketball court

Softball field

Softball field fencing

Playground equipment

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE PLAYGROUND EQUIPMENT	20	15	5	5	$45,000
RESURFACE BASKETBALL COURT	20	10	10	10	$10,000
Total					$55,000

3.2.8 Special Utility Systems

Item	Description	Condition
Water Well		N/A
Lift Station		N/A
Septic Field		N/A
Solar Power		N/A
Wind Power		N/A

Comments

The Property does not contain special utility systems.

3.3 STRUCTURAL FRAME AND BUILDING EXTERIOR

3.3.1 Foundation

FOUNDATION		
Item	**Description**	**Condition**
Load Bearing Support	Assumed shallow spread footings	Good
Basement		N/A
Crawl Space		N/A

Comments

The foundation of the building includes Assumed shallow spread footings. Large cracks were not observed in the exterior walls. The foundation system appeared to provide adequate structural support to the building. The foundation was generally in good condition.

3.3.2 Building Frame

BUILDING FRAME		
Item	**Description**	**Condition**
Floor Framing	Concrete	Good
Roof Framing	Steel trusses	Good
Columns	Concrete	Good
Load Bearing Walls	CMU	Good
Balconies		N/A
Decks		N/A

Comments

The structure of the building consists of Concrete masonry unit bearing walls with steel truss and beam roof framing. The structural frame of the building was generally in good condition.

Photographs

Steel roof framing

Steel roof framing

3.3.3 Building Exteriors

EXTERIOR FINISHES		
Item	**Description**	**Condition**
Masonry	Brick	Fair
Glass Store Front	Entrance doors	Good
Glass Curtain Wall		N/A
Metal		N/A
Concrete	Accents	Fair
Wood Siding		N/A
Accent/Trim	Metal	Good
Covered Soffits	Metal	Good
Awnings	Concrete and steel	Good
Paint	Various	Good
Sealants	Various	Poor

Comments

The primary exterior of the building consists of Brick veneer. Painted exposed concrete beams and columns were located on the west side of building. The building exteriors were generally in good condition with limited deterioration observed. The expected useful life of mortared joints is approximately 20 years before re-pointing is required. Limited deterioration of mortar joints was

observed. We recommend re-pointing of the deteriorated mortar joints. Cracking was observed in the exposed concrete elements. We recommend a concrete repair project to seal cracks and repair delaminated concrete, as required. The paint was in good condition.

Exterior sealants are located around the window and door frames. The expected useful life of exterior sealants is approximately 10 to 12 years before replacement is needed. The exterior sealants were generally in poor condition. The sealants were observed to be hard and separated from the substrate. We recommend that the exterior sealants be replaced.

Various awning structures are located at the over entrance doors throughout the building. The awnings consist of a concrete deck with metal columns. The underside of the concrete and the metal columns were painted. The paint was observed to be peeling at the underside of the awning at the main entrance. The awnings should be painted in conjunction with the exposed concrete beams and columns painting project.

Photographs

Exterior overview

Exterior overview - note efflorescence

Exterior overview - note efflorescence

Exterior overview - note deterioration

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPOINT BRICKWORK	20	19	1	1	$30,000
PAINT EXPOSED CONCRETE ELEMENTS	10	9	1	1 11	$10,000 $10,000
REPAIR CRACKED CONCRETE	20	19	1	1 11	$10,000 $10,000
REPLACE SEALANTS	12	11	1	1 13	$25,000 $25,000
Total					$120,000

3.3.4 Exterior Doors

DOORS		
Item	**Description**	**Condition**
Main Entrance Doors	Storefront entrance	Good
Personnel Doors	Metal	Good
Door Hardware	Operable	Good
Accessibility Controls	Push buttons	Good
Overhead/Roll-up Doors		N/A

Comments

The main entrance is located at the southwest portion of the building and consists of a Storefront entrance. The main entrance doors were generally in good condition.

Steel personnel doors are located throughout the building. The personnel doors were generally in good condition. It also appeared that many of the doors had been replaced over time. Some of the personnel doors were observed to contain ADA approved hardware. Exterior doors typically have an expected useful life of 20 to 30 years. Allowances have been included to replace doors during the study period.

Photographs

Main entrance doors

Typical personnel door

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE EXTERIOR DOORS	20	15	5	5 20	$5,000 $5,000
Total					$10,000

3.3.5 Exterior Windows

WINDOWS		
Item	**Description**	**Condition**
Window Frame	Aluminum framed	Fair
Glass Pane	Single-pane	Good

WINDOWS		
Item	**Description**	**Condition**
Operation	Tilt	Fair
Screen	Where operable	Good
Exterior Header	Steel lintel	Good
Exterior Sill	Precast concrete	Fair
Gaskets or Glazing	Varies	Poor

Comments

The window system for the building primarily consists of aluminum frame single pane window units. It was reported that the windows were drafty and caused temperature control issues in some of the classrooms. Aluminum single-pane windows have a typical expected useful life of 25 years. Replacement of windows has been included in the study period.

Concrete window sills are located beneath the windows. One window sill was observed to be cracked. It is recommended that the cracked window sill be repaired in conjunction with the concrete repair project.

Photographs

Typical window

Deteriorated window sealant and glazing

Deteriorated window glazing

Deteriorated window sealant

Deteriorated window sealant and glazing

Deteriorated window sealant and glazing

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE WINDOWS	25	24	1	1 2	$125,000 $125,000
Total					$250,000

3.3.6 Roofing Systems

ROOFING		
Item	**Description**	**Condition**
Single-Ply Sheet Membrane	EPDM	Fair
Parapet Walls	Membrane faced	Good
Cap Flashing/Coping	Metal	Good
Insulation	Rigid	Good
Substrate/Deck	Metal deck	Good
Slope/Pitch		Good
Drainage	Internal drains, scuppers, gutters, and downspouts	Good
Plumbing Vents	Clamped collars	Good
Exhaust Vents	Counter flashed	Good
Equipment Curbs	Counter flashed	Good
Pitch Pockets		N/A
Skylights	Various	Fair
Flashing	Metal	Good
Expansion Joints	Raised bellows	Good
Roof Age	Reportedly replaced in 2008	Fair
Warranty		N/A

Comments

The main roofing system consists of an single-ply EPDM roofing system. The roofing system was reportedly replaced in 2008 and no leaks were reported. The sealant in the flashing appeared to be experiencing UV deterioration, but was still adhered to the surface. The expected useful life of a sheet membrane roofing system is typically 15 years. We recommend replacing the roofing system during the report period.

Skylights varied in condition and appearance. One skylight had a broken dome. We have provided an allowance to replace the skylights as needed.

Drainage for the roofing system is provided by internal drains with overflow scuppers. Gutters and downspouts provided drainage from higher roofs to lower roofs at some locations. Roofing penetrations included plumbing vents and exhaust vents throughout the roofing system.

Photographs

Roof overview

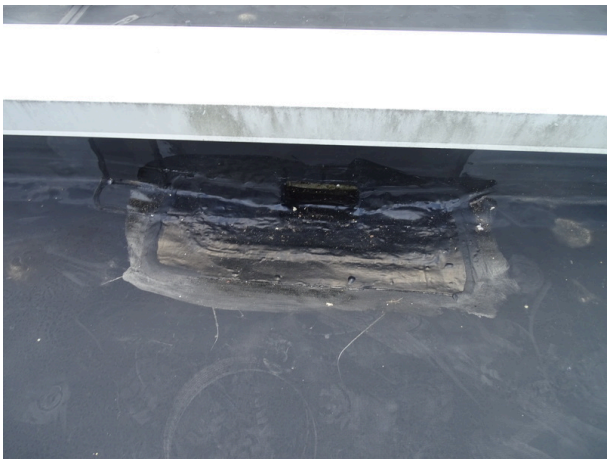
Roof overview

Roof overview

Roof overview

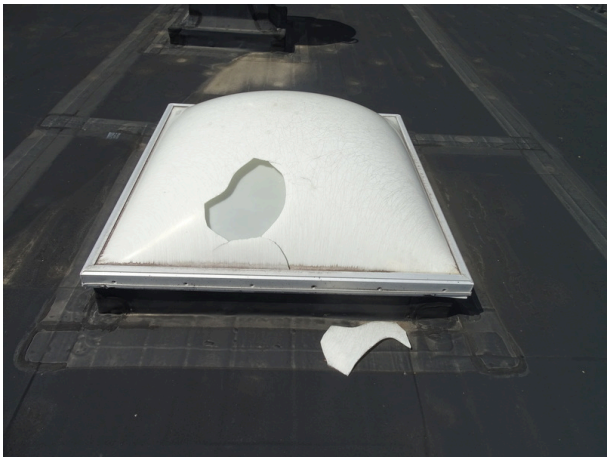
Typical patching

Roof drain



Roof parapet and scupper

Typical gutters



Typical skylight

Typical penetration pipe

Typical skylight

Typical skylight

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE SINGLE-PLY ROOFING SYSTEM	20	13	7	7	$613,928
REPLACE SKYLIGHTS AS NEEDED	20	13	7	7	$20,000
Total					$633,928

3.4 PLUMBING, MECHANICAL, AND ELECTRICAL SYSTEMS

3.4.1 Plumbing Systems

3.4.1.1 Supply and Waste Piping

PLUMBING - WATER SUPPLY SYSTEM		
Item	**Description**	**Condition**
Piping Material	Copper	Fair
Pipe Insulation	Fiberglass	Good
Water Shut-offs	Various	Good
Water Flow and Pressure		Good

PLUMBING - WASTE SUPPLY SYSTEM		
Item	**Description**	**Condition**
Piping Material	PVC and cast iron	Good
Vertical Vent Stacks	PVC and cast iron	Good
Clean-outs	PVC and cast iron	Good

Comments

Water Lines
The main water supply lines inside the building are Copper. The expected useful life of Copper piping is approximately 40 years. The water supply pipes were generally in fair condition. Minor surface rust was observed on the surface of some pipes although no issues were reported.

Waste Lines
The waste lines in the building are PVC and cast iron. The expected useful life of PVC and cast iron waste line is approximately 50 years. The waste lines were generally in good condition and it was observed that some pipes had been replaced over time.

Allowances have been included during the study period for pipe replacement as needed.

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE VALVES AND PIPING	40	39	1	1	$80,000
Total					$80,000

3.4.1.2 Domestic Hot Water Production

HOT WATER PRODUCTION		
Item	**Description**	**Condition**
Heating Equipment	Gas domestic water heater	Fair
Water Storage	In water heater	Good
Circulation Pumps		Good

Comments

Domestic hot water to the building is provided by three Gas domestic water heaters. One 50 gallon Gas domestic water heater is located in the mechanical room on the south side of the building and was manufactured by AO Smith in 2012. A second water heater is located in the mechanical room adjacent to the kitchen. The 75 gallon gas domestic water heater was manufactured by RUUD in 1996. A third water heater is located in the main mechanical room on the north side of the building. The 74 gallon gas domestic water heater was manufactured by AO Smith in 2013.

The expected useful life of a Gas domestic water heater is approximately 15 years with proper maintenance. We recommend the Gas domestic water heaters be replaced during the study period.

Photographs

Water heater

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE WATER HEATERS	12	11	1	1	$4,000

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
Total					$4,000

3.4.2 HVAC Systems

3.4.2.1 Equipment

EQUIPMENT		
Item	**Description**	**Condition**
Boilers	PX	Good
Chillers		N/A
Cooling Towers	Evapco	Good
Fan Coil Units	Located in corridors	Good
Heat Exchangers		N/A
Radiators	Located in restrooms	Good
Variable Air Volume (VAV) Boxes		N/A
Condensing Units	Aaon	Good
Air Handlers	Aaon	Good
Package Units	Located on roof	Good
Ceiling Fans	Located in classrooms	Good
Exhaust Fans	Various	Good
Split System	Located in Library IT room	Good
Vertical Heat Pumps	McQuay	Fair
Water Source Heat Pumps (WSHP)	Various	Fair
Space Heaters (wall or ceiling mounted)	Located in mechanical room	Good
Air Conditioners (Window)		N/A

Comments

The building is served by a Central plant HVAC system with supplemental heating/cooling equipment and includes a cooling tower, boilers, package units, air handlers, condensers, radiators, fan coil units, and water source heat pumps.

Boilers
The PX Mach Boilers have an expected useful life of 20 years with proper maintenance. The two boilers were located in the mechanical room at the north side of the building. The boilers were installed in 2006 and were generally in good condition. We recommend replacing the boilers during the report period.

Cooling Tower
The cooling tower is located at the north side of the building at the exterior enclosure near the mechanical room. The Evapco cooling tower was installed in 2006 and was in good condition. Cooling towers have a typical expected useful life of approximately 18 years. The cooling tower should be replaced during the study period.

Fan Coil Units & Radiators
Fan coil units are located throughout corridors and were original to the building. Radiators were located in restrooms and were original to the building. Fan coils and radiators have a typical expected life of 20 years. Replacement or refurbishment of the units is recommended during the study period.

Condenser Units
Three condenser units are located at the north side of the building at the exterior enclosure near the mechanical room. The condensing units were manufactured by AAON in 2013. The expected useful life of a condensing unit is 15 years with proper maintenance. The condensing units were observed to be in good condition. We recommend that the condensing units be replaced during the report period.

Air Handlers
Three of the air handlers are located in the mechanical room on the north side of the building and two of the units are located at the northwest corner of the building exterior . The units in the mechanical room were manufactured by AAON in 2013 and were in good condition. The units at the exterior of the building were manufactured by AAON in 2011 and were in good condition The expected useful life of air handlers is 15 years with proper maintenance. We recommend that the air handlers be replaced during the report period.

Rooftop Package Units
Four package units are located on the roof; two of the units serviced the auditorium and two serviced the gym. The two Carrier roof top units were installed in approximately 2006 and serviced the auditorium. The two Trane roof top units were manufactured in 2010 and serviced the gym. The expected useful life of package units is 15 years with proper maintenance. We recommend that the units be replaced during the report period.

Water Source Heat Pumps (WSHP)
There are two WSHP units in each classroom and approximately 80 WSHP units within the building. The typical expected useful life of the heat pumps is 20 years and they were installed in 1996. We recommend a scheduled replacement of the units.

Vertical Heat Pumps

Two McQuay vertical heat pumps are located in each the kitchen mechanical room and one is located in the library mechanical room. The heat pumps were manufactured in 1996 and were in overall fair condition. The typical expected useful life of the heat pumps is 20 years. We recommend a scheduled replacement of the units.

Split System

A Sanyo split system was located in the library IT room. The system was installed in 2011 and was in good condition. Split systems have an expected useful life of 15 years and should be replaced during the study period.

Space Heaters

McQuay ceiling mounted space heaters were located in the mechanical room. The space heaters were in good condition. Replacement of the space heaters is included during the study period.

Various classrooms contained ceiling fans that were in good condition.

The City of Charlottesville self performs the mechanical service for the equipment.

Photographs

Typical boilers

Condensers

Air handler in mechanical room

Air handler at building exterior

Vertical heat pump

Water source heat pump

Water source heat pumps

Fan coil unit

Carrier package unit

Trane package unit

Cooling tower

Space heater

Split system

Split system

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE BOILERS	20	14	6	6	$50,000
REPLACE CONDENSERS	15	8	7	7	$30,000
REPLACE AIR HANDLERS	15	5	10	1 3	$20,000 $20,000

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE WATER SOURCE HEAT PUMPS	20	19	1	1 2 3 4 5	$40,000 $40,000 $40,000 $40,000 $40,000
REPLACE VERTICAL HEAT PUMPS	15	14	1	1	$22,500
REPLACE PACKAGE UNITS	20	19	1	1 5	$40,000 $40,000
REPLACE COOLING TOWER	18	15	3	3	$30,000
REPLACE SPACE HEATERS	20	15	5	5 15	$1,000 $1,000
REPLACE SPLIT SYSTEM	15	9	6	6	$2,000
REPLACE FAN COIL UNITS AND RADIATORS	20	19	1	1 3 5 7 9 11 13 15 17 19	$10,000 $10,000 $10,000 $10,000 $10,000 $10,000 $10,000 $10,000 $10,000 $10,000
Total					$556,500

3.4.2.2 Distribution System

HVAC DISTRIBUTION		
Item	**Description**	**Condition**
Ducts	Sheet metal and spiral duct	Good
Return Air	Metal	Good

Comments

The distribution system includes ducted supply and a plenum return. Exposed ductwork was observed to located throughout the building and was in generally good condition.

3.4.2.3 Control Systems

HVAC CONTROL SYSTEMS		
Item	**Description**	**Condition**
Thermostats	Digital	Good
Variable Frequency Drives	Located in main mechanical room	Good
Energy Management System	Novar	Good

Comments

The thermostats are located throughout the interior spaces. The thermostats were observed to be in generally good condition. It was reported that the existing NOVAR BAS system is being phased out and an Allerton system that was installed in 2015 is replacing it. The BAS system was in good condition.

3.4.3 Electrical Systems

3.4.3.1 Service and Metering

SERVICE AND METERING		
Item	**Description**	**Condition**
Service Entrance	North side of building	Good
Master (House) Meter	Located in the main mechanical room	Good
Emergency Power	Kohler gas generator	Fair
Transfer Switch	Kohler	Fair

Comments

Electricity is provided to the building by Dominion Virginia Power. The main electrical entrance is located on the north side of the building and provides 1,600 amp, 3-phase, 4-wire service.

A Kohler emergency power generator is located at the north side of the building at the exterior enclosure near the mechanical room. The generator was installed in 1996 and has a typical expected useful life of 25 years. Based on the age of the emergency generator and typical replacement schedule, we recommend replacing the emergency generator during the report period.

The emergency back up power generator transfer switch was manufactured by Kohler and is located in the main mechanical room. The transfer switch was installed in 1996 and has an expected useful life of 25 years with proper maintenance. The transfer switch should be replaced in conjunction with the generator.

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE EMERGENCY POWER GENERATOR AND TRANSFER SWITCH	25	24	1	1	$30,000
Total					$30,000

3.4.3.2 Distribution

ELECTRICAL DISTRIBUTION SYSTEM		
Item	**Description**	**Condition**
Electrical Sub-panels	Various	Fair
Branch Wiring	Copper	Good
GFCI Devices		Good
Building Transformers	Pad mounted	Good
Sub-Meters		N/A

Comments

Power is distributed by copper wire from circuit breaker panels located throughout the building. The expected useful life of sub-panels is 50 years with proper maintenance. The circuit breaker panels were observed to be in generally fair condition with minor rust observed on the surface of some panels. It appeared that some panels had been replaced over time, but some were original to construction. The electrical panels should be replaced based on condition and expected useful life.

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE CIRCUIT BREAKER PANELS	50	49	1	1 2	$20,000 $20,000
Total					$40,000

3.5 VERTICAL TRANSPORTATION SYSTEMS

Comments

There are no vertical transportation systems at the property.

3.6 LIFE SAFETY AND FIRE PROTECTION

3.6.1 Sprinklers and Suppression Systems

SPRINKLER AND SUPPRESSION SYSTEMS		
Item	**Description**	**Condition**
Sprinkler System (wet)	Automatic	Good
Sprinkler Heads	Various	Fair
Date of Last Inspection (sprinkler system)	4/5/2021	Good
Sprinkler Pump		Good
Fire Extinguishers	Located throughout building	Good
Date of Last Inspection (Fire Extinguishers)	June 15, 2021	Good
Fire Standpipes		Good
Fire Department Connections	Located on east side of building	Good
Hose Cabinets		N/A
Fire Hydrants	South and east sides of the building	Good

Comments

The fire suppression system is a Wet sprinkler system and fire extinguishers. The fire suppression system was observed but not tested. The sprinklers are connected to the fire alarm. The sprinkler risers are located in the mechanical room.

Sprinkler heads are located throughout the building. The expected useful life of sprinkler heads is 20 years. Some of the sprinkler heads had minor surface corrosion. The sprinkler heads should be replaced during the study period.

Fire extinguishers were observed throughout the building including in mechanical rooms. The fire extinguishers were observed to have recent inspection tags issued by Fire Solutions in June of 2021. These devices are required to be inspected annually. Replacement of the fire extinguishers is considered routine maintenance.

Fire hydrants are located on the south and east sides of the building. The fire hydrants were observed to be in good condition.

Photographs

Sprinkler system

Sprinkler head

Sprinkler head

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE SPRINKLER HEADS	50	49	1	1	$20,000
Total					$20,000

3.6.2 Alarm Systems

ALARM SYSTEMS		
Item	**Description**	**Condition**
Public Address System	In the Main Office	Good
Central Fire Alarm Control Panel	In the Main Office	Good
Automatic Notification	Monitored	Good
Bells	Located throughout the building	Good
Strobes	Located throughout the building	Good
Exit Signs	Located throughout the building	Good
Exit Lights	Located throughout the building	Good
Pull Stations	Located throughout the building	Good
Smoke Detectors	Located throughout the building	Good
Carbon Monoxide Detectors		N/A

Comments

The fire alarm system was observed but not tested.

A fire control panel, manufactured by Fire Lite Alarms, Inc., is located in the Main Office. The fire control panel was reportedly replaced in 1994 and was observed to be in good condition. The estimated useful life of fire control panels is approximately 30 years and should be replaced during the study period.

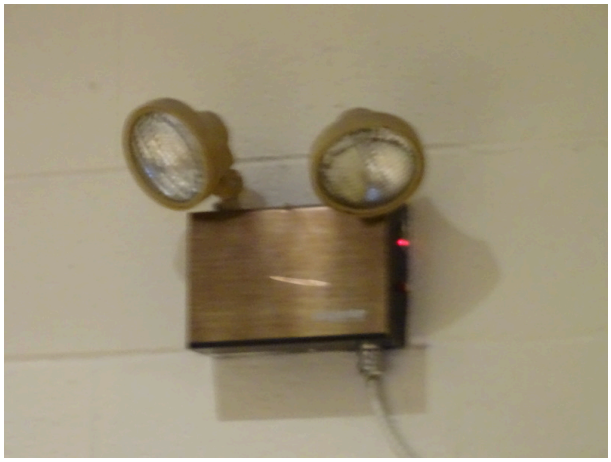
Emergency exit signs and lighting, pull stations, fire extinguishers, smoke detectors, and alarm bells and strobes are located throughout the building.

Photographs

Fire alarm bell and strobe

Pull down station

Exit sign above door



Emergency exit light

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE FIRE CONTROL PANEL	30	27	3	3	$20,000
Total					$20,000

3.6.3 Security and Other Systems

SECURITY AND OTHER SYSTEMS		
Item	**Description**	**Condition**
Security Cameras		N/A
Alarm System	Monitored	Good
Access Control		Good
Security Fencing		N/A
Lightning Protection		N/A
Roof Anchors		N/A

Comments

The building is monitored by a motion detector security system with alarms. The security system was reported to be in good condition.

3.7 INTERIOR BUILDING COMPONENTS

3.7.1 Interior Finishes

MAIN OFFICE		
Item	**Description**	**Condition**
Floor Finishes	Carpet	Good
Wall Finishes	Painted gypsum board	Good
Ceiling Finishes	Suspended acoustical tile, painted gypsum board	Good
Lighting	Various	Good
Accessories	Built-in millwork	Good
Drinking Fountains		N/A

RESTROOMS		
Item	**Description**	**Condition**
Floor Finishes	Ceramic tile, terrazzo	Fair
Wall Finishes	Ceramic tile, painted gypsum board	Fair
Ceiling Finishes	Suspended acoustical tile	Good
Fixtures	Toilets, urinals, wall hung lavatories	Good

RESTROOMS		
Item	**Description**	**Condition**
Accessories	Grab bars, mirrors, soap and towel dispensers	Good
Ventilation	Exhaust fans	Good
Lighting	Fluorescent fixtures	Good
Doors	Wood	Good
Door Hardware	Operable	Fair

CORRIDORS		
Item	**Description**	**Condition**
Floor Finishes	Terrazzo	Fair
Wall Finishes	Glazed CMU block	Good
Ceiling Finishes	Suspended acoustical tile	Fair
Lighting	Fluorescent fixtures	Good
Doors	Wood	Good
Door Hardware	Operable	Fair
Drinking Fountains	Protruded into hallway	Poor

KITCHEN		
Item	**Description**	**Condition**
Floor Finishes	Ceramic tile	Good
Wall Finishes	Ceramic tile	Good
Ceiling Finishes	Suspended acoustical tile	Good
Counters	Stainless	Good
Sink	Stainless	Good
Cabinets	Stainless	Good
Appliances	Commercial	Good
Stove/Range	Vulcan gas	Good
Exhaust Vent/Hood	Commercial	Good
Refrigerator	Commercial stainless	Good
Dish Washer	Commercial stainless	Good

KITCHEN		
Item	**Description**	**Condition**
Microwave Oven	Commercial stainless	Good

UTILITY ROOMS/ MECHANICAL ROOMS		
Item	**Description**	**Condition**
Floor Finishes	Unfinished concrete	Good
Wall Finishes	Painted gypsum board/ CMU	Good
Ceiling Finishes	Unfinished	Good
Janitor Sink Area	Soiled	Fair
Lighting	Fluorescent fixtures	Good

AUDITORIUM		
Item	**Description**	**Condition**
Floor Finishes	Vinyl tile	Good
Wall Finishes	Painted CMU	Good
Ceiling Finishes	Painted gypsum board	Good
Lighting	Fluorescent fixtures	Good
Accessories	Stage with curtains	Good
Seating	Theater, wood	Fair
Stage	Wood	Good

GYM		
Item	**Description**	**Condition**
Floor Finishes	Wood	Good
Wall Finishes	Glazed block CMU	Good
Ceiling Finishes	Unfinished	Good
Lighting	Fluorescent fixtures	Good
Accessories	Basketball hoops	Good

CLASSROOMS		
Item	**Description**	**Condition**
Floor Finishes	Vinyl tile	Good
Wall Finishes	Painted gypsum board/ painted CMU	Good
Ceiling Finishes	Suspended acoustical tile/unfinished	Good
Lighting	Fluorescent fixtures	Good
Doors	Wood	Good
Door Hardware	Operable	Fair

LIBRARY		
Item	**Description**	**Condition**
Floor Finishes	Carpet	Good
Wall Finishes	Painted gypsum board/ painted CMU	Good
Ceiling Finishes	Unfinished & acoustical ceiling tile	Good
Lighting	Fluorescent fixtures	Good
Doors	Wood	Good
Door Hardware	Operable	Good

Comments

The interior building areas include a main office, restrooms, corridors, classrooms, a kitchen, an auditorium, a gym, a library, and mechanical/utility spaces. We understand that the interiors are largely original to construction.

The finishes in the main office include carpet floors, painted gypsum board walls, and both painted gypsum board and suspended acoustical ceiling tile ceilings. A glass wall and door assembly was installed at the office entrance. The finishes in the main office were observed to be in generally good condition.

Restrooms are located throughout the building as accessed from corridors and are also located in classrooms. The finishes in the restrooms include ceramic tile and terrazzo floors, ceramic tile and painted gypsum board walls, and suspended acoustical tile ceilings. Cracked ceramic tiles were observed. The door hardware was generally twist action, but one restroom denoted as accessible, had lever hardware. The restrooms were observed to be in generally fair condition.

The finishes in the corridors include terrazzo floors, glazed CMU block walls walls, and suspended acoustical tile ceilings. Cracks were observed in the terrazzo. The finishes in the corridors were observed to be in generally fair condition.

The finishes in the kitchens include ceramic tile floors and walls and suspended acoustical tile ceilings. The finishes in the kitchens were observed to be in generally good condition.

The utility and mechanical rooms were generally unfinished, with concrete floors and CMU walls. Some utility rooms had painted gypsum board walls. One utility room had deteriorated gypsum board walls adjacent to the utility sink. The wall should be repaired as a maintenance item.

The finishes in the auditorium consist of vinyl tile flooring in the seating area and the stage consisted of wood. The walls consisted of painted CMU and the ceiling was painted gypsum board. It was reported that the auditorium seating is no longer being manufactured and it is difficult to find replacement parts when needed. The finishes were generally in good condition.

The finishes in the gym consisted of wood flooring, glazed block CMU walls, and an unfinished ceiling. The finishes were generally in good condition.

The classrooms consisted of vinyl tile flooring, painted gypsum board and painted CMU walls, and suspended acoustical tile ceilings. The doors generally had knob hardware, which are not ADA compliant. The finishes were generally in good condition.

The finishes in the library consist of carpet flooring, painted CMU and painted gypsum board walls, and both unfinished and acoustical ceiling tile ceilings. The finishes in the library were generally in good condition.

There were no stairs in the building.

Photographs

Auditorium

Gym overview

Typical classroom

Typical classroom

Typical restroom

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE CRACKED TILES IN RESTROOMS	30	29	1	1 6	$10,000 $10,000
REPAIR CRACKED TERRAZZO FLOORS IN CORRIDORS	30	29	1	1 6 11 16	$10,000 $10,000 $10,000 $10,000

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
REPLACE VANITIES AND SINKS IN CLASSROOMS AS NEEDED	20	19	1	1	$25,000
Total					$85,000

3.8 Accessibility (ADA) Compliance

Comments

Facilities, including site features and buildings, completed and occupied after January 26, 1992 are required to comply fully with the Americans with Disabilities Act (ADA). Facilities constructed after this date must be maintained and operated to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Existing facilities constructed prior to this date are held to the lesser standard of complying with the extent allowed by structural feasibility and the financial resources available, or a reasonable accommodation must be made. Title III, for the purposes of the ECS scope of work is to address public accommodations. ECS will note work that shall remove architectural barriers in existing facilities, including communication barriers, that are structural in nature, where such removal is readily achievable and able to be carried out without much difficulty or expense.

The Greenbrier Elementary School property is considered by the City of Charlottesville - Facilities Development to be within "areas of public accommodations" or a "commercial facility" and is therefore is subject to compliance with Title III of the ADA.

The parking area serving the property has a total of approximately 71 parking spaces. Of the parking spaces, Two are accessible with None being van accessible. Accessibility requires that three accessible parking spaces be provided in parking areas with a total of 51 to 75 spaces. One in six of the accessible parking spaces are required to be van accessible. A minimum of a 60-inch wide access aisle is required to be provided for every two accessible parking spaces. Accessible aisles were observed to be provided. The number of parking spaces provided does not meet accessibility requirements.

One unisex accessible restroom is located in the corridor near the main office. The restroom did not provide the required clear floor space and the door opened into the clear space in the restroom.

The doors throughout the building generally contained twist action handles. We recommend that the twist action handles be replaced with lever action hardware.

Photographs

Accessible restroom

Accessible curb ramp

Accessible concrete ramp

Accessible concrete ramp

Accessible parking spaces

Recommendations

Cost Recommendation	EUL	EFF AGE	RUL	Year	Cost
PROVIDE VAN ACCESSIBLE SPACES	20	20	0	Immediate	$500
PROVIDE ACCESSIBLE PARKING SPACE AND ACCESS AISLE	20	20	0	Immediate	$500
INSTALL LEVER DOOR HARDWARE	25	25	0	Immediate	$10,000
REPLACE OR RELOCATE DRINKING FOUNTAINS	20	20	0	Immediate	$12,000
RECONFIGURE ACCESSIBLE RESTROOM	25	25	0	Immediate	$20,000
Total					$43,000

Uniform Abbreviated Screening Checklist for the 2010 Americans with Disabilities Act			
	Item	**Yes/ No**	**Comments**
A.	**History**		
1.	Has an ADA Survey been completed for this property?	No	
2.	Have any ADA improvements been made to the property since original construction?	Yes	installation of ramps and curb cuts at exterior

Uniform Abbreviated Screening Checklist for the 2010 Americans with Disabilities Act			
	Item	**Yes/ No**	**Comments**
3.	Has building ownership/management reported any ADA complaints or litigation?	No	
B.	**Parking**		
1.	Does the required number of standard ADA-designated spaces appear to be provided?	No	Two out of the 71 are accessible.
2.	Does the required number of van-accessible designated spaces appear to be provided?	No	zero out of the Two accessible spaces are van accessible
3.	Are accessible spaces part of the shortest accessible route to an accessible building entrance?	Yes	
4.	Is a sign with the International Symbol of Accessibility at the head of each space?	Yes	
5.	Does each accessible space have an adjacent access aisle?	Yes	
6.	Do parking spaces and access aisles appear to be relatively level and without obstruction?	Yes	
C.	**Exterior Accessible Route**		
1.	Is an accessible route present from public transportation stops and municipal sidewalks in the property?	Yes	
2.	Are curb cut ramps present at transitions through curbs on an accessible route?	Yes	
3.	Do curb cut ramps appear to have the proper slope for all components?	Yes	
4.	Do ramps on an accessible route appear to have a compliant slope?	Yes	
5.	Do ramps on an accessible route appear to have a compliant length and width?	Yes	
6.	Do ramps on an accessible route appear to have a compliant end and intermediate landings?	Yes	

Uniform Abbreviated Screening Checklist for the 2010 Americans with Disabilities Act			
	Item	**Yes/ No**	**Comments**
7.	Do ramps on an accessible route appear to have compliant handrails?	Yes	
D.	**Building Entrances**		
1.	Do a sufficient number of accessible entrances appear to be provided?	Yes	
2.	If the main entrance is not accessible, is an alternate accessible entrance provided?	N/A	
3.	Is signage provided indicating the location of alternate accessible entrances?	N/A	
4.	Do doors at accessible entrances appear to have compliant clear floor area on each side?	Yes	
5.	Do doors at accessible entrances appear to have compliant hardware?	Yes	
6.	Do doors at accessible entrances appear to have complaint opening width?	Yes	
7.	Do pairs of accessible entrance doors in series appear to have the minimum clear space between them?	N/A	
8.	Do thresholds at accessible entrances appear to have compliant height?	Yes	
E.	**Interior Accessible Routes and Amenities**		
1.	Does an accessible route appear to connect with all public areas inside the building?	Yes	
2.	Do accessible routes appear free of obstructions and/or protruding objects?	No	drinking fountains
3.	Do ramps on accessible routes appear to have compliant slope?	N/A	
4.	Do ramps on accessible routes appear to have compliant length and width?	N/A	
7.	Are adjoining public areas and areas of egress identified with accessible signage?	Yes	
8.	Do public transaction areas have an accessible, lowered counter section?	Yes	

Uniform Abbreviated Screening Checklist for the 2010 Americans with Disabilities Act			
	Item	**Yes/ No**	**Comments**
9.	Do public telephones appear mounted with an accessible height and location?	N/A	
10.	Are publicly-accessible swimming pools equipped with an entrance lift?	N/A	
F.	**Interior Doors**		
1.	Do doors at interior accessible routes appear to have compliant clear floor area on each side?	Yes	
2.	Do doors at interior accessible routes appear to have compliant hardware?	No	replace twist action with lever hardware
3.	Do doors at interior accessible routes appear to have compliant opening force?	Yes	
4.	Do doors at interior accessible routes appear to have a compliant clear opening width?	Yes	
G.	**Elevators**		
1.	Are hallway call buttons configured with the "UP" button above the "DOWN" button?	N/A	no elevators at the property
2.	Is accessible floor identification signage present on the hoistway sidewalls?	N/A	
H.	**Toilet Rooms**		
1.	Do publicly-accessible toilet rooms appear to have a minimum compliant floor area?	No	reconfigure space to provide ample clear floor area
2.	Does the lavatory appear to be mounted at a compliant height and with compliant knee area?	Yes	
3.	Does the lavatory faucet have compliant handles?	Yes	
4.	Is the plumbing piping under lavatories configured to protect against contact?	Yes	
5.	Are grab bars provided at compliant locations around the toilet?	Yes	
6.	Do toilet stall doors appear to provide the minimum compliant clear width?	N/A	

Uniform Abbreviated Screening Checklist for the 2010 Americans with Disabilities Act			
	Item	**Yes/ No**	**Comments**
7.	Do toilet stalls appear to provide the minimum compliant clear floor area?	N/A	
8.	Do urinals appear to be mounted at a compliant height and with compliant approach width?	N/A	
9.	Do accessories and mirrors appear to be mounted at a compliant height?	Yes	

4.0 DOCUMENT REVIEW

4.1 DOCUMENTATION REVIEW

ECS requested relevant documentation from Josh Bontrager, to gain insight into the subject property's physical improvements, extent and type of use, and/or assist in identifying material discrepancies between reported information and observed conditions. ECS' review of documents submitted does not include commenting on the accuracy of such documents or their preparation, methodology, or protocol.

4.2 INTERVIEW SUMMARY

ECS was escorted through the property by Josh Bontrager and Shannon Yowell who provided information about the property.

5.0 ADDITIONAL CONSIDERATIONS

5.1 MOISTURE AND MOLD

Comments

If present, evidence of mold and moisture issues are noted in the interior section of the report.

6.0 RECOMMENDATIONS AND OPINIONS OF COST

The opinion of cost are based upon approximate quantities, costs, and published information, and they include labor, material, design fees, and appropriate overhead, general conditions, and profit. A detailed analysis of quantities for cost estimating purposes is not included. The opinion of cost to repair, replace, or upgrade the improvements are considered typical for the marketplace. No contractors have provided pricing. The actual cost of repairs may vary from our opinions. ECS has not included contingency funds in our opinions. Amounts indicated represent today's dollars. ECS offers the following comments relative to Immediate and Capital Reserves criteria:

Immediate Issues

Physical deficiencies that require immediate action as a result of (i) existing or potentially unsafe conditions, (ii) significant negative conditions impacting tenancy, (iii) material building code violations, (iv) poor or deteriorated condition of critical element or system, or (v) a condition that is left "as is," with an extensive delay in addressing same, would result in or contribute to critical element or system failure within one year.

ECS has also included physical deficiencies inclusive of deferred maintenance that may not warrant immediate attention, but requiring repairs or replacements that should be undertaken on a priority basis, taking precedence over routine preventative maintenance work within a zero to one year time frame. Included are such physical deficiencies resulting from improper design, faulty installation, and/or substandard quality of original systems or materials. Components or systems that have realized or exceeded their Expected Useful Life (EUL) that may require replacement to be implemented within a zero to one year time frame are also included.

Capital Reserves

Capital Reserves are for recurring probable expenditures, which are not classified as operational or maintenance expenses, which should be annually budgeted for in advance. Capital reserves are reasonably predictable both in terms of frequency and cost. However, they may also include components or systems that have an indeterminable life but nonetheless have a potential liability for failure within an estimated time period. A component method has also been included within this report as well.

Capital Reserves excludes systems or components that are estimated to expire after the reserve term and that are not considered material to the structural and mechanical integrity of the subject property. Furthermore, systems and components that were not deemed to have a material affect on the use were also excluded. Costs that are caused by acts of God, accidents or other occurrences that are typically covered by insurance, rather than reserved funds, are also excluded.

Replacement costs were solicited from ownership/property management, ECS' discussions with service companies, manufacturers' representatives, and previous experience in preparing such schedules for other similar facilities. Costs for work performed by ownership's or property management's maintenance staff were also considered.

ECS's reserve methodology involves identification and quantification of those systems or components requiring capital reserve funds within the evaluation period. Additional information concerning systems or components respective replacement costs (in today's dollars), typical expected useful lives, and remaining useful lives were estimated so that a funding schedule could be prepared. The Capital Reserve Schedule presupposes that all required remedial work has been performed or that monies for remediation have been budgeted for items defined in the Immediate Needs Cost Estimates.

7.0 LIMITATIONS AND QUALIFICATIONS

ECS's FCA cannot wholly eliminate the uncertainty regarding the presence of physical deficiencies and the performance of a property's building systems. Preparation of a FCA in accordance with ASTM E 2018-15 “Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process” is intended to reduce, but not eliminate, the uncertainty regarding the potential for component or system failure and cannot reduce the potential that such component or system may not be initially observed.

This FCA was prepared recognizing the inherent subjective nature of ECS's opinions as to such issues as workmanship, quality of original installation, and estimating the remaining useful life of any given component or system. It should be understood that ECS's suggested remedy may be determined under time constraints, formed without the aid of engineering calculations, testing, exploratory probing, the removal of materials, or design. Furthermore, there may be other alternate or more appropriate schemes or methods to remedy the physical deficiency. ECS’s opinions are generally formed without detailed knowledge from individuals familiar with the component’s or system’s performance.

The opinions ECS expresses in this report were formed utilizing the degree of skill and care ordinarily exercised by a prudent professional in the same community under similar circumstances. ECS assumes no responsibility or liability for the accuracy of information contained in this report which has been obtained from the Client or the Client's representatives, from other interested parties, or from the public domain. The conclusions presented represent ECS' professional judgment based on information obtained during the course of this assignment. ECS's evaluations, analyses and opinions are not representations regarding the design integrity, structural soundness, or actual value of the property. Factual information regarding operations, conditions and test data provided by the Client or their representative has been assumed to be correct and complete. The conclusions presented are based on the data provided, observations made, and conditions that existed specifically on the date of the assessment.

8.0 FACILITY CONDITION INDEX (FCI)

In accordance with our proposal add alternate, ECS determined the Facility Condition Index (FCI) value for the Greenbrier Elementary School buildings. ECS determined the FCI value in accordance with industry standards and methodology sponsored by The National Association of College and University Business Officers (NACUBO). The FCI calculation methodology consists of dividing the total cost of Maintenance, Repair, and Replacement Deficiencies of the Facility by the Current Replacement Value of the Facility. FCI values and condition of the buildings based on the industry accepted interpretation of FCI values with ratings: good (under 0.05), fair (0.05 to 0.10), and poor (over 0.10).

Based on our Facility Condition Assessment, the total repair and replacement costs for the Greenbrier Elementary School is $1,974,428. The replacement construction cost value obtained from the RS MEANS square foot estimator application is $8,526,158. Please see attached documentation from RS MEANS program output as an appendix to the report. The calculated FCI value is determined to be 0.23. In accordance with the industry standards and methodology sponsored by The National Association of College and University Business Officers (NACUBO), the condition of the Greenbrier Elementary School is rated as poor.

The letter rating for the school buildings is based on the FCI values with the ratings system provided by you referenced from the City of Alexandria as follows : A (under 0.10), B (0.11 to 0.20), C (0.21 to 0.40), D (0.41 to 0.60), and F (0.61 to 1.00+).

The letter rating for the Greenbrier Elementary School was determined to be C.

Appendix I: SITE MAP AND AERIAL PHOTOGRAPH

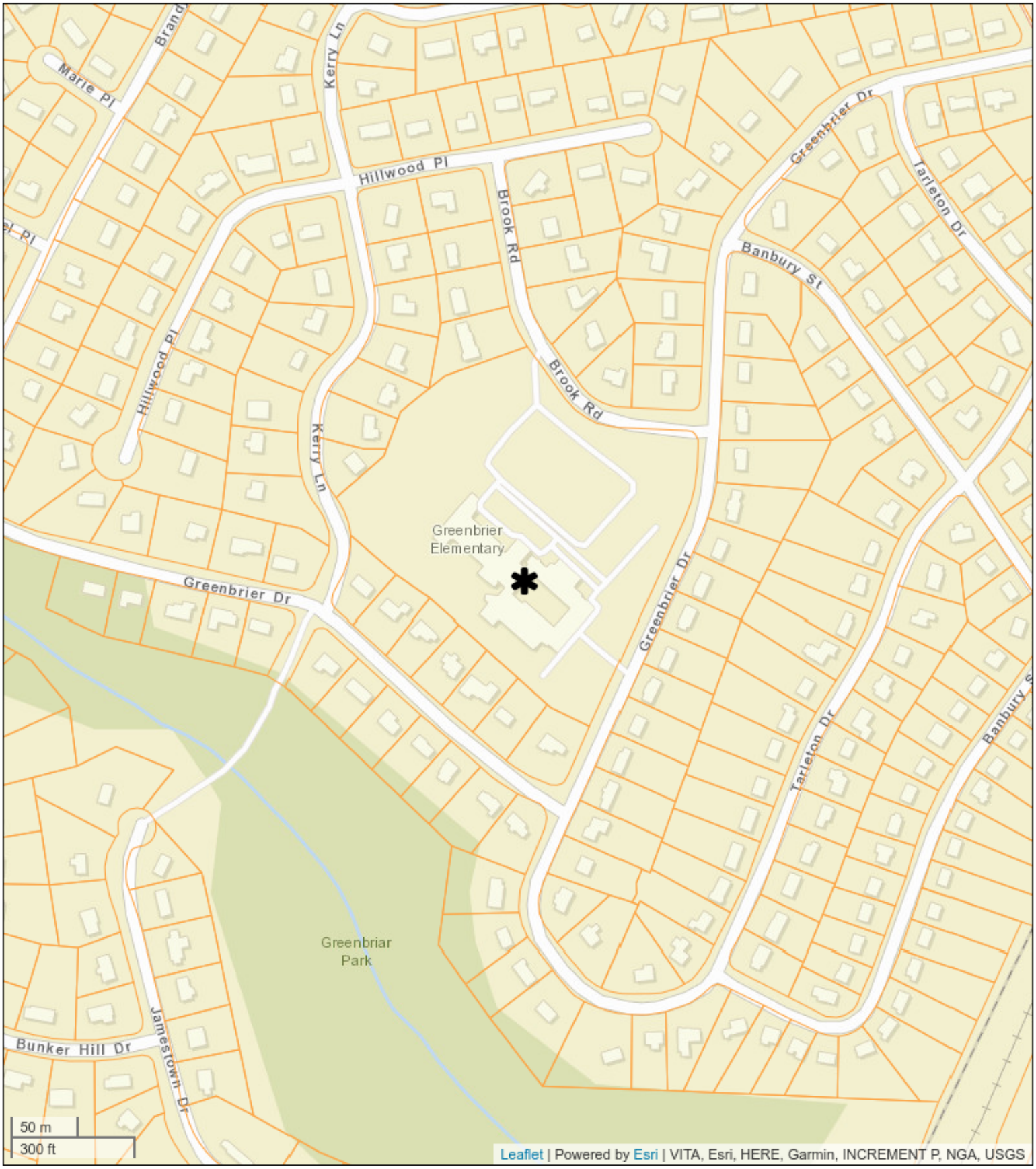


Figure 1

Site Location Map
Greenbrier Elementary School
2205 Greenbrier Drive
Charlottesville, Virginia 22901

Figure 1

Site Location Map
Greenbrier Elementary School
2205 Greenbrier Drive
Charlottesville, Virginia 22901

Appendix II: FIRE SPRINKLER INSPECTION

INSPECTION AND TESTING FORM OF WATER BASED FIRE PROTECTION SYSTEMS

1. PROPERTY INFORMATION

Name of property: Greenbrier Elementary (4433-22901-00040)
Address:
Description of property:
Name of property representative: City of Charlottesville (30548899), Jason Davis (434-964-6771) davisja@charlottesville.org
Address: 315 4th St NW, Charlottesville, VA 22903
Phone: 434-962-3643 Fax: 434-970-3026 E-mail: staplesk@charlottesville.org

2. TESTING INFORMATION

Testing Organization: SIEMENS Organization License No.:
Address: 5106 Glen Alden Drive, Richmond, VA 23231
Phone: 804-222-6680 Fax: None E-mail: None
Start Date/Time: Completion Date/Time: 4.5.21
Contract Info: City of Charlottesville (2600106465) Notification Number: 5102050593
Inspection Type: Quarterly

NOTES: 1) All questions are to be answered Yes, No, or Not Applicable (NA). Explain all No answers in Parts 6, 7, or 8 of this form.
2) Inspection, Testing, and Maintenance are to be performed with water supplies (including fire pumps) in service, unless the impairment procedures of NFPA 25 are followed.

3. GENERAL INFORMATION (TO BE COMPLETED BY OWNER)

Is the building fully sprinklered?	
Has the occupancy classification and hazard of contents remained the same since last inspection?	
Are all fire protection systems in service?	
Has the system remained in service without modification since last inspection?	
Have any fire systems, devices or alarms activated since the last inspection?	
If a fire has occurred since the last inspection, have all damaged sprinkler system components been replaced?	

4. INSPECTOR'S SECTION

4.1 Inspections

Control valves in the correct (open or closed) position and free from external leaks?	Yes
Control valves locked, sealed or supervised?	Yes
Hydraulic nameplate (calculated systems) securely attached and legible?	No
Alarm and/or dry pipe valves free from physical damage, trim valves in appropriate position and no leakage?	Yes
Water flow alarm devices free from physical damage?	Yes
Fire department connections visible, signage, accessible, free from damage, couplings free, and caps in place?	Yes
Gauges in good condition showing normal pressure?	Yes
Adequate heat in areas with wet piping?	Yes
Post indicator valves are provided with a correct wrench and in the normal position?	(NA)
Backflow preventers relief port on RPZ device not discharging?	(NA)
For freezer systems, is the gauge near the compressor reading the same as the gauge near the dry-valve?	(NA)
Pressure Reducing valves are in the open position, not leaking, maintain downstream pressure accordance with the design criteria, good condition, and handwheels not broken?	(NA)
Valve encloser for pre-action, deluge and dry systems are above 40f?	(NA)

4.2 Testing

Post indicating valves opened until spring or torsion is felt in the rod, then backed off one-quarter turn?	(NA)
Valve supervisory switches indicate movement?	(NA)
Mechanical water flow alarm device passed tests by opening the inspector's test or bypass connection with alarms actuating and flow observed?	(NA)

Electrical Waterflow (Vane type, Paddle-type, and Pressure Switch-type) alarm devices passed tests by opening the inspector's test connection or bypass connection with alarm actuating, and flow is observed?	(NA)
Priming level of dry pipe valves correct?	(NA)
Quick opening devices of dry pipe systems passed?	(NA)
Air compressor or nitrogen system in good condition per manufacture maintenance procedure?	(NA)
Low air pressure signal of dry pipe system passed?	(NA)
Main Drain Test water pressure is within 10% reduction in full flow pressure compared to previous test?	(NA)

5. MAIN DRAIN / TRIP TESTS RESULTS

5.1 Report Totals

Total Qty	Functionally Tested Qty	Functionally Tested %	Visually Tested Qty	Visually Tested %	Failed Qty	Failed %
6	1	16.7%	0	0%	0	0%

5.2 Report Totals by Type

Total Qty	Functionally Tested Qty	Functionally Tested %	Visually Tested Qty	Visually Tested %	Failed Qty	Failed %	Device or System Type
1	1	100%	0	0%	0	0%	Wet Sprinkler Systems
1	0	0%	0	100%	0	0%	Sprinkler FDC - 2 Inlets
2	0	0%	0	100%	0	0%	Sprinkler Water Control Valves
2	0	0%	0	100%	0	0%	Sprinkler Waterflow Alarm Devices

5.3 Report Details by Type

Wet Sprinkler Systems

Row	Date	Address	Location	Model	Water Source	Source PSI	Test Pipe Size	Static PSI	5 Year Performed	Visual/ Functional	Pass/ Fail
1	04/05/21	01:Wet Riser	Mech Room	CSC	City	95	2 Inch	110	Yes	Functional	Pass

Sprinkler FDC - 2 Inlets

Row	Date	Address	Location	Type	Visual/ Functional	Pass/ Fail
1		01:Wet Riser:1	Riser Room	2 inlet		

Sprinkler Water Control Valves

Row	Date	Address	Location	Fitting Type	Control Valve Type	Supervision Type	Size	Visual/ Functional	Pass/ Fail
1		01:Wet Riser:2	Backflow#1	Grv/Grv	OSY	Electronic			
2		01:Wet Riser:3	Backflow#2	Grv/Grv	OSY	Electronic	6		

Sprinkler Waterflow Alarm Devices

Row	Date	Address	Location	Model	Type	Size	Visual/ Functional	Pass/ Fail
1		01:Wet Riser:M12	Riser	Potter VSR-F	Vane	4		
2		01:Wet Riser:WMG	Riser Room	Central F-1	Mechanical			

6. COMMENTS

Address	Location	NFPA Classification	Comment:
01:Wet Riser	Mech Room	Wet Sprinkler	5 Year next due in 2022.

7. DEFICIENCIES (ONLY RELATED TO NFPA 25)

A condition that will or has the potential to adversely impact the performance of a system or portion thereof but does not rise to the level of an impairment.

Address	Location	NFPA Classification	Deficiencies:
01:Wet Riser	Mech Room	Wet Sprinkler	None to report.

8. IMPAIRMENTS

A condition where a fire protection system or unit or portion thereof is out of order, and the condition can result in the fire protection system or unit not functioning in a fire event.

Address	Location	NFPA Classification	Impairments:
01:Wet Riser	Mech Room	Wet Sprinkler	None to report.

9. CERTIFICATION

This Testing Was Performed in Accordance with Applicable NFPA Standards.

I state that the information on this form is correct at the time and place of my inspection and that all equipment tested at this time was left in operational condition upon completion of this inspection except as noted in Parts 6, 7, and 8 above.

Name of Inspector:_ Inspector License #:

Signature: CRAIG BROWN Date: 4.5.21

10. ACCEPTANCE BY OWNER OR OWNER'S REPRESENTATIVE

Name of Owner or Representative:

Signature: _____ Date: _____

The owner and/or designated representative acknowledges the responsibility of the operating condition of the component parts at the time of this inspection. Pursuant to the National Fire Protection Association Form 25, Chapter 4, the owner is responsible for proper maintenance and care of the sprinkler system. It is agreed that the inspection service provided by the contractor as prescribed herein is limited to performing a visual inspection and/or routine testing, and any investigation or unscheduled testing, modification, maintenance, repair, etc., of the component parts is not included as part of the inspection work performed. It is understood that this inspection pertains to the condition of the sprinkler system on the day of inspection only. This inspection meets or exceeds NFPA 25 requirements and or local AHJ requirements. AHJ requirements supersede all other code requirements. The inspector shall not be liable for future defaults or defects in the sprinkler system which are beyond the inspector's control, including, but not limited to, failure from malicious tampering, accidents, lack of proper inspection, material failure or inadequate heating. The inspector can give no assurance, nor will be held liable, with regard to work that may have been previously performed or work performed at a future date by other companies. It is further understood that all information contained herein is provided to the best of the knowledge of the party providing such information.

Appendix III: FIRE EXTINGUISHER INSPECTION

Inspection Certificate

For

Charlottesville-Greenbrier
Elementary
2228 Greenbrier Dr
Charlottesville, VA 22901

This Inspection was performed in accordance with applicable Standards. The subsequent pages of this report provide performance measurements, listed ranges of acceptable results, and complete documentation of the inspection. Whenever discrepancies exist between acceptable performance standards and actual test results, notes and/or recommended solutions have been proposed or provided for immediate review and approval.

Inspection Date
Jun 15, 2021

Building: Charlottesville-Greenbrier Elementary
Contact: Jason Davis
Title: Security Maint.

Company: Fire Solutions
Contact: Tommy VO
Title: Technician

Executive Summary

Generated by: BuildingReports.com

Building Information

Building: Charlottesville-Greenbrier Elementary
Address: 2228 Greenbrier Dr
Address:
City/State/Zip: Charlottesville, VA 22901
Country: United States of America

Contact: Jason Davis
Phone: 434-964-6771
Fax:
Mobile:
Email: davisja@charlottesville.org

Inspection Performed By

Company: Fire Solutions
Address: 205 Haley Road
Address:
City/State/Zip: Ashland, Virginia 23005
Country: United States

Inspector: Tommy VO
Phone: 804-385-3301
Fax:
Mobile: 804-385-3301
Email: tommyv@firesolutionsinc.com

Inspection Summary

Category:	Total Items		Serviced		Passed		Failed/Other	
	Qty	%	Qty	%	Qty	%	Qty	%
Fire	17	100.00%	17	100.00%	17	100.00%	0	0%
Totals	**17**	**100%**	**17**	**100.00%**	**17**	**100.00%**	**0**	**0%**

Verification

Company: Fire Solutions

Inspector: Tommy VO

Building: Charlottesville-Greenbrier Elementary

Contact: Jason Davis

Fire Solutions Certifications

Certification Type	Number
WBENC Certified	2005121836

Inspection & Testing

Generated by: BuildingReports.com

Building: Charlottesville-Greenbrier Elementary

The Inspection & Testing section lists all of the items inspected in your building. Items are grouped by Passed or Failed /Other. Items are listed by Category. Each item includes the services performed, and the time & date at which testing occurred.

Device Type	Location	ScanID : S/N	Service	Date Time
Passed				
Fire				
Fire Extinguisher, 5 Lbs, A.B.C.	Basement Boiler Room @ entrance N 415.07	39853139 B-14706178	Inspected	06/15/21 9:08:54 AM
Fire Extinguisher, 5 Lbs, A.B.C.	Basement Boiler Room @ entrance NE 415.06	39853138 XF-108317	Inspected	06/15/21 9:08:31 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st hallway by gym 415.10	49753262 YU31037	Inspected	06/15/21 8:57:24 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st hallway by room 12 415.08	49753261 B-04195912	Inspected	06/15/21 8:56:01 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st hallway by room 16 415.09	39853137 RU-535645	Inspected	06/15/21 8:56:53 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st hallway by room 22 415.11	39853142 B-04195880	Inspected	06/15/21 8:58:31 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st hallway by room 24 415.12	39853143 B-04195866	Inspected	06/15/21 8:58:48 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st hallway by room 5 415.05	39853133 XS066657	Inspected	06/15/21 8:52:57 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st hallway by room 9 415.17	49753258 B-04195861	Inspected	06/15/21 8:54:45 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st in gym 415.13	39853141 YC-954955	Inspected	06/15/21 8:57:40 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st in room RM 6A 415.16	49753259 XS306077	Inspected	06/15/21 8:53:31 AM
Fire Extinguisher, 6 Ltr, Class K	1st Kitchen 415.18	39853132 AD-831905	Inspected	06/15/21 8:51:55 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st Main Entrance hallway 415.01	39853131 C89888740	Inspected	06/15/21 8:50:42 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st Main Stage Area 415.02	49753257 XR941980	Inspected	06/15/21 8:51:25 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st Mechanical Room beside Kitchen 415.19	49753256 XK-297358	Inspected	06/15/21 9:02:59 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st trailer 502 415.20	49753260 XA198302	Inspected	06/15/21 9:07:39 AM
Fire Extinguisher, 5 Lbs, A.B.C.	1st trailer 503 415.21	61768882 YY-44159	Inspected	06/15/21 9:00:18 AM

Service Summary

Generated by: BuildingReports.com

Building: Charlottesville-Greenbrier Elementary

The Service Summary section provides an overview of the services performed in this report.

Device Type	Service	Quantity
	Passed	
Fire Extinguisher, 5 Lbs, A.B.C.	Inspected	16
Fire Extinguisher, 6 Ltr, Class K	Inspected	1
Total		**17**
Grand Total		**17**

Fire Extinguisher Maintenance Report

Generated by: BuildingReports.com

Building: Charlottesville-Greenbrier Elementary

This report provides details on the Hydrostatic Test and Maintenance/Breakdown dates for fire extinguishers. Items that will need either of these services at any time in the next two years are displayed. Items are grouped together by year for budgeting purposes.

ScanID	Location	Serial #	Hydro	Breakdown	Mfr Date
Due in 2022					
Breakdown/Maintenance					
Fire Extinguisher, A.B.C., 5 Lbs					
39853131	1st Main Entrance hallway 415.01	C89888740	08/28/16	08/28/16	08/28/16
				Total Fire Extinguisher, A.B.C., 5 Lbs:	**1**
Due in 2023					
Breakdown/Maintenance					
Fire Extinguisher, A.B.C., 5 Lbs					
49753256	1st Mechanical Room beside Kitchen 415.19	XK-297358	04/05/17	04/05/17	04/05/05
39853138	Basement Boiler Room @ entrance NE 415.06	XF-108317	04/05/17	04/05/17	04/05/05
				Total Fire Extinguisher, A.B.C., 5 Lbs:	**2**

Inventory & Warranty Report

Generated by: BuildingReports.com

Building: Charlottesville-Greenbrier Elementary

The Inventory & Warranty Report lists each of the devices and items that are included in your Inspection Report. A complete inventory count by device type and category is provided. Items installed within the last 90 days, within the last year, and devices installed for two years or more are grouped together for easy reference.

Device or Type	Category	% of Inventory	Quantity
Fire Extinguisher	Fire	100.00%	17

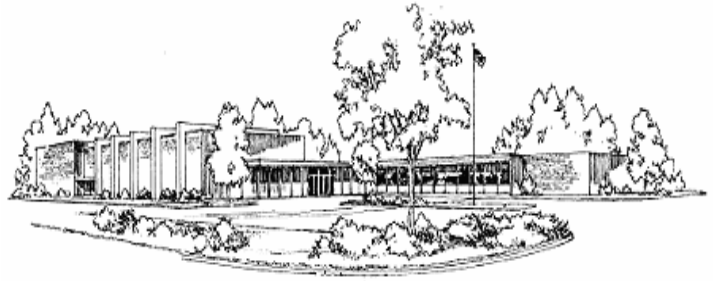
Type	Qty	Model #	Description	Manufacture Date
In Service - 3 Years to 5 Years				
Ansul				
Fire Extinguisher	1	X-A05S	A.B.C.	10/05/2016
Amerex				
Fire Extinguisher	1	AB402-16	A.B.C.	08/28/2016
In Service - 5 Years to 10 Years				
Ansul				
Fire Extinguisher	3	X-A05	A.B.C.	10/05/2015
Badger				
Fire Extinguisher	1	X-A05	A.B.C.	10/05/2015
Ansul				
Fire Extinguisher	1	K01-3	Class K	08/28/2013
In Service - 10 Years to 15 Years				
Ansul				
Fire Extinguisher	1	XA05	A.B.C.	10/05/2007
Badger				
Fire Extinguisher	1	B5M-07	A.B.C.	04/05/2007
Ansul				
Fire Extinguisher	1	XA05	A.B.C.	10/05/2006
Fire Extinguisher	1	XAA05	A.B.C.	10/05/2006
Amerex				
Fire Extinguisher	1	AB402-06	A.B.C.	08/28/2006
Badger				
Fire Extinguisher	1	5MB-6H-06	A.B.C.	08/28/2006
In Service - 15 Years to 25 Years				
Ansul				
Fire Extinguisher	1	XA05	A.B.C.	04/05/2005
Badger				
Fire Extinguisher	2	B5M-05	A.B.C.	04/05/2005
Fire Extinguisher	1	5MB-6H	A.B.C.	08/28/2000

Appendix IV: RS MEANS ESTIMATE

Square Foot Cost Estimate Report

Date: **10/26/2021**

Estimate Name	**Greenbrier Elementary School**
	City of Charlottesville 2205 Greenbrier Drive Charlottesville Virginia 22903
Building Type	School, Elementary with Brick Veneer / Reinforced Concrete
Location	CHARLOTTESVILLE, VA
	1.00
Stories Height	12.00
Floor Area (S.F.)	61,720.00
LaborType	OPN
Basement Included	No
Data Release	Year 2021
Cost Per Square Foot	$138.14
Total Building Cost	**$8,526,157.98**



Costs are derived from a building model with basic components. Scope differences and market conditions can cause costs to vary significantly.

Assembly Customization Type :

⊕ Added

◐ Partially Swapped

● Fully Swapped

		Quantity	% of Total	Cost Per SF	Cost
A Substructure			**7.9%**	**$8.20**	**$506,016.90**
A1010	**Standard Foundations**			**$3.06**	**$188,658.53**
	Foundation wall, CIP, 4' wall height, direct chute, .148 CY/LF, 7.2 PLF, 12" thick	1,431.00		$1.57	**$96,794.27**
	Strip footing, concrete, reinforced, load 11.1 KLF, soil bearing capacity 6 KSF, 12" deep x 24" wide	1,431.00		$0.84	**$51,806.49**
	Spread footings, 3000 PSI concrete, load 100K, soil bearing capacity 6 KSF, 4' - 6" square x 15" deep	109.72		$0.65	**$40,057.76**
A1030	**Slab on Grade**			**$4.93**	**$304,174.68**
	Slab on grade, 4" thick, non industrial, reinforced	61,720.00		$4.93	**$304,174.68**

		Quantity	% of Total	Cost Per SF	Cost
A2010	**Basement Excavation**			**$0.21**	**$13,183.70**
	Excavate and fill, 30,000 SF, 4' deep, sand, gravel, or common earth, on site storage	108,010.00		$0.21	**$13,183.70**
B Shell			**31.3%**	**$32.35**	**$1,996,810.26**
B1010	**Floor Construction**			**$0.75**	**$46,317.69**
	Cast-in-place concrete column, 12", square, tied, minimum reinforcing, 150K load, 10'-14' story height, 135 lbs/LF, 4000PSI	858.60		$0.75	**$46,317.69**
B1020	**Roof Construction**			**$14.66**	**$905,065.17**
	Roof, concrete, beam and slab, 25'x25' bay, 40 PSF superimposed load, 20" deep beam, 9" slab, 152 PSF total load	61,720.00		$14.66	**$905,065.17**
B2010	**Exterior Walls**			**$5.80**	**$358,176.67**
	Brick wall, composite double wythe, standard face/CMU back-up, 8" thick, perlite core fill, 3" XPS	12,020.40		$5.80	**$358,176.67**
B2020	**Exterior Windows**			**$3.10**	**$191,633.93**
	Windows, aluminum, awning, insulated glass, 4'-5" x 5'-3"	149.32		$1.69	**$104,483.11**
	Aluminum flush tube frame, for 1/4"glass, 1-3/4"x4", 5'x20' opening, three intermediate horizontals	1,717.20		$0.62	**$38,157.13**
	Glazing panel, insulating, 1" thick units, 2 lites, 1/4" float glass, clear	1,717.20		$0.79	**$48,993.69**
B2030	**Exterior Doors**			**$0.84**	**$51,874.73**
	Door, aluminum & glass, with transom, narrow stile, double door, hardware, 6'-0" x 10'-0" opening	5.49		$0.59	**$36,541.53**
	Door, steel 18 gauge, hollow metal, 1 door with frame, no label, 3'-0" x 7'-0" opening	5.49		$0.25	**$15,333.20**
B3010	**Roof Coverings**			**$6.94**	**$428,532.47**
	Roofing, single ply membrane, EPDM, 60 mils, loosely laid, stone ballast	61,720.00		$1.73	**$106,744.74**
	Insulation, rigid, roof deck, extruded polystyrene, 40 PSI compressive strength, 4" thick, R20	61,720.00		$3.96	**$244,551.92**
	Base flashing, rubber, neoprene, 1/16" thick, 24 ga galv reglet, 24 ga galv counter flashing	1,431.00		$0.55	**$34,214.78**
	Roof edges, aluminum, duranodic, .050" thick, 8" face	1,431.00		$0.60	**$37,106.12**
	Flashing, aluminum, no backing sides, .019"	1,431.00		$0.10	**$5,914.91**
B3020	**Roof Openings**			**$0.25**	**$15,209.61**
	Roof hatch, with curb, 1" fiberglass insulation, 2'-6" x 3'-0", galvanized steel, 165 lbs	5.49		$0.11	**$6,897.28**
	Smoke hatch, unlabeled, galvanized, 2'-6" x 3', not incl hand winch operator	5.49		$0.13	**$8,312.33**
C Interiors			**19.4%**	**$20.00**	**$1,234,320.60**

		Quantity	% of Total	Cost Per SF	Cost
C1010	**Partitions**			**$3.45**	**$213,012.69**
	Concrete block (CMU) partition, light weight, hollow, 6" thick, no finish	30,860.00		$3.45	**$213,012.69**
C1020	**Interior Doors**			**$1.55**	**$95,563.28**
	Door, single leaf, kd steel frame, hollow metal, commercial quality, flush, 3'-0" x 7'-0" x 1-3/8"	88.17		$1.55	**$95,563.28**
C1030	**Fittings**			**$1.05**	**$64,911.32**
	Toilet partitions, cubicles, ceiling hung, painted metal	61.72		$0.71	**$43,975.93**
	Chalkboards, liquid chalk type, aluminum frame & chalktrough	1,234.40		$0.34	**$20,935.39**
C3010	**Wall Finishes**			**$2.96**	**$182,807.63**
	2 coats paint on masonry with block filler	61,720.00		$2.00	**$123,210.40**
	2 coats paint on masonry with block filler	12,020.40		$0.39	**$23,996.08**
	Ceramic tile, thin set, 4-1/4" x 4-1/4"	6,172.00		$0.58	**$35,601.15**
C3020	**Floor Finishes**			**$5.76**	**$355,210.94**
	Carpet, tufted, nylon, roll goods, 12' wide, 36 oz	6,172.00		$0.49	**$30,108.50**
	Carpet, padding, add to above, 2.7 density	6,172.00		$0.09	**$5,539.49**
	Terrazzo, maximum	6,172.00		$1.88	**$116,118.77**
	Vinyl, composition tile, maximum	37,032.00		$1.46	**$90,357.71**
	Oak strip, sanded and finished, minimum	12,344.00		$1.44	**$89,173.30**
	Underlayment, plywood, 3/8" thick	12,344.00		$0.39	**$23,913.17**
C3030	**Ceiling Finishes**			**$5.23**	**$322,814.73**
	Acoustic ceilings, 3/4"mineral fiber, 12" x 12" tile, concealed 2" bar & channel grid, suspended support	61,720.00		$5.23	**$322,814.73**
D Services			**41.1%**	**$42.45**	**$2,619,969.66**
D2010	**Plumbing Fixtures**			**$6.93**	**$427,672.08**
	Water closet, vitreous china, bowl only with flush valve, wall hung	61.72		$3.31	**$204,308.63**
	Urinal, vitreous china, wall hung	20.57		$0.40	**$24,610.13**
	Lavatory w/trim, wall hung, PE on CI, 20" x 18"	61.72		$1.66	**$102,243.81**
	Kitchen sink w/trim, countertop, stainless steel, 43" x 22" double bowl	8.23		$0.31	**$19,082.18**
	Service sink w/trim, PE on CI,wall hung w/rim guard, 24" x 20"	2.74		$0.19	**$11,924.10**
	Water cooler, electric, wall hung, wheelchair type, 7.5 GPH	31.55		$1.06	**$65,503.23**
D2020	**Domestic Water Distribution**			**$0.73**	**$44,819.34**
	Gas fired water heater, commercial, 100< F rise, 300 MBH input, 278 GPH	2.33		$0.73	**$44,819.34**
D2040	**Rain Water Drainage**			**$0.89**	**$54,950.24**

		Quantity	% of Total	Cost Per SF	Cost
	Roof drain, CI, soil,single hub, 5" diam, 10' high	20.57		$0.81	**$49,920.68**
	Roof drain, CI, soil,single hub, 5" diam, for each additional foot add	102.87		$0.08	**$5,029.56**
D3010	**Energy Supply**			**$9.19**	**$567,140.14**
	Commercial building heating system, fin tube radiation, forced hot water, 10,000 SF, 100,000 CF, total 2 floors	61,720.00		$9.19	**$567,140.14**
D3050	**Terminal & Package Units**			**$9.72**	**$600,208.48**
	Splt sys, air cooled condensing unit, schools and colleges, 20,000 SF, 76.66 ton	61,720.00		$9.72	**$600,208.48**
D4010	**Sprinklers**			**$2.47**	**$152,293.48**
	Wet pipe sprinkler systems, steel, light hazard, 1 floor, 50,000 SF	61,720.00		$2.47	**$152,293.48**
D4020	**Standpipes**			**$0.45**	**$27,836.95**
	Wet standpipe risers, class III, steel, black, sch 40, 4" diam pipe, 1 floor	1.37		$0.21	**$13,216.17**
	Wet standpipe risers, class III, steel, black, sch 40, 4" diam pipe, additional floors	6.86		$0.24	**$14,620.78**
D5010	**Electrical Service/Distribution**			**$0.70**	**$42,899.14**
	Overhead service installation, includes breakers, metering, 20' conduit & wire, 3 phase, 4 wire, 120/208 V, 800 A	1.25		$0.21	**$12,698.44**
	Feeder installation 600 V, including RGS conduit and XHHW wire, 800 A	60.00		$0.15	**$9,386.70**
	Switchgear installation, incl switchboard, panels & circuit breaker, 120/208 V, 3 phase, 800 A	1.20		$0.34	**$20,814.00**
D5020	**Lighting and Branch Wiring**			**$8.30**	**$512,315.81**
	Receptacles incl plate, box, conduit, wire, 8 per 1000 SF, .9 W per SF, with transformer	61,720.00		$2.43	**$150,146.24**
	Wall switches, 2.0 per 1000 SF	61,720.00		$0.33	**$20,244.16**
	Miscellaneous power, 1.2 watts	61,720.00		$0.25	**$15,355.94**
	Central air conditioning power, 4 watts	61,720.00		$0.51	**$31,705.56**
	Fluorescent fixtures recess mounted in ceiling, 1.6 watt per SF, 40 FC, 10 fixtures @32watt per 1000 SF	70,978.00		$4.78	**$294,863.91**
D5030	**Communications and Security**			**$3.01**	**$185,570.72**
	Communication and alarm systems, includes outlets, boxes, conduit and wire, sound systems, 12 outlets	0.85		$0.24	**$14,842.47**
	Communication and alarm systems, fire detection, addressable, 100 detectors, includes outlets, boxes, conduit and wire	1.71		$1.68	**$103,770.18**
	Fire alarm command center, addressable with voice, excl. wire & conduit	1.37		$0.26	**$16,117.15**

		Quantity	% of Total	Cost Per SF	Cost
	Communication and alarm systems, includes outlets, boxes, conduit and wire, master clock systems, 10 rooms	0.92		$0.28	**$17,016.28**
	Communication and alarm systems, includes outlets, boxes, conduit and wire, master TV antenna systems, 12 outlets	1.43		$0.28	**$17,013.95**
	Internet wiring, 2 data/voice outlets per 1000 S.F.	37.03		$0.27	**$16,810.68**
D5090	**Other Electrical Systems**			**$0.07**	**$4,263.28**
	Generator sets, w/battery, charger, muffler and transfer switch, gas/gasoline operated, 3 phase, 4 wire, 277/480 V, 15 kW	6.51		$0.07	**$4,263.28**
E Equipment & Furnishin			**0.3%**	**$0.28**	**$17,580.14**
E1020	**Institutional Equipment**			**$0.28**	**$17,580.14**
	Architectural equipment, laboratory equipment, counter tops, stainless steel	68.58		$0.28	**$17,580.14**
E1090	**Other Equipment**			**$0.00**	**$0.00**
F Special Construction			**0.0%**	**$0.00**	**$0.00**
G Building Sitework			**0.0%**	**$0.00**	**$0.00**
Sub Total			**100%**	**$103.28**	**$6,374,697.56**
Contractor's Overhead & Profit			**25.0 %**	**$25.82**	**$1,593,674.39**
Architectural Fees			**7.0 %**	**$9.04**	**$557,786.04**
User Fees			**0.0 %**	**$0.00**	**$0.00**
Total Building Cost				**$138.14**	**$8,526,157.98**

Appendix V: SITE PHOTOGRAPHS

1 - Overview

2 - General topography

3 - Stormwater drainage

4 - Stormwater drainage

5 - Entrance apron

6 - Overview of asphalt pavement and parking lot

7 - Overview of asphalt pavement and parking lot

8 - Alligator cracking in asphalt pavement

9 - Alligator cracking in asphalt pavement

10 - Previous repair of asphalt pavement

11 - Concrete ramp

12 - Concrete sidewalk

13 - Concrete sidewalk

14 - Concrete pavement - note sealant

15 - Concrete sidewalk - cracking

16 - Concrete curb ramp - note cracking

17 - Concrete curb - note cracking

18 - Concrete steps

19 - Brick steps

20 - Concrete steps

21 - Concrete steps

22 - Typical landscape

23 - Typical landscape

24 - Typical landscape

25 - Typical landscape

26 - Typical landscape

27 - Typical landscape

28 - Typical landscape

29 - Monument signage

30 - Deterioration at top of sign

31 - Fencing

32 - Basketball court

33 - Softball field

34 - Softball field fencing

35 - Playground equipment

36 - Playground equipment

37 - Typical dumpster

38 - Steel roof framing

39 - Steel roof framing

40 - Exterior overview

41 - Exterior overview

42 - Exterior overview - note efflorescence

43 - Exterior overview

44 - Exterior overview - note efflorescence

45 - Exterior overview - note deterioration

46 - Main entrance doors

47 - Typical personnel door

48 - Typical window

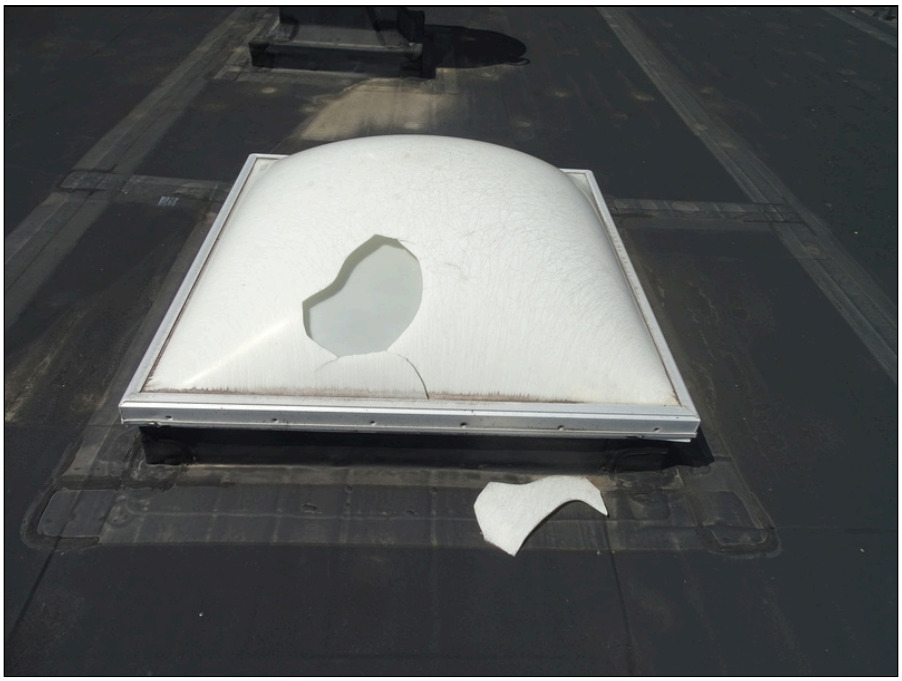
49 - Deteriorated window sealant and glazing

50 - Deteriorated window glazing

51 - Deteriorated window sealant

52 - Deteriorated window sealant and glazing

53 - Deteriorated window sealant and glazing



54 - Typical skylight

55 - Typical skylight

56 - Typical skylight

57 - Roof overview

58 - Roof overview

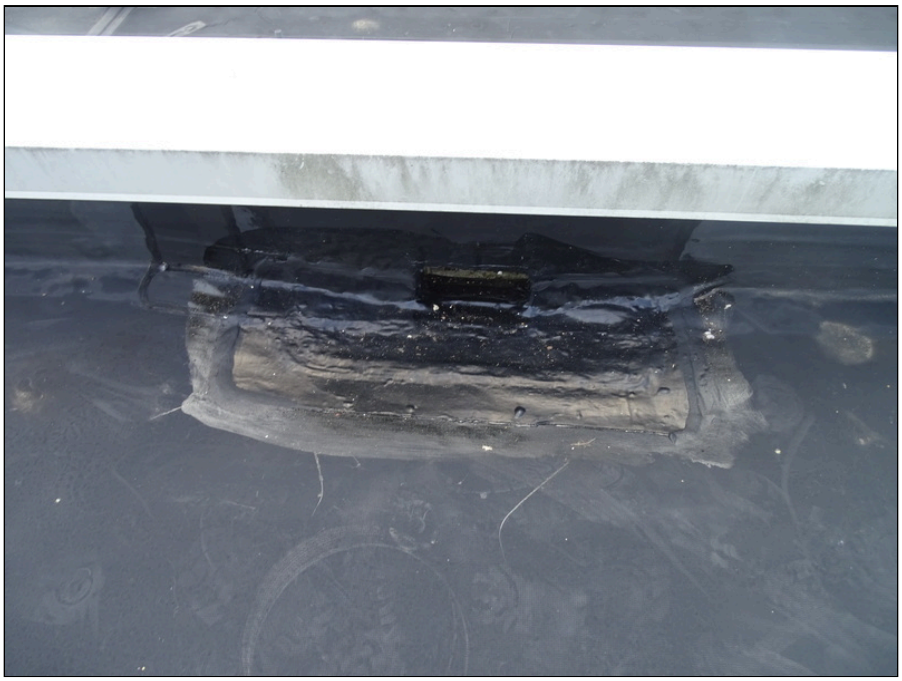
59 - Roof overview

60 - Roof overview

61 - Roof overview

62 - Typical patching

63 - Roof drain



64 - Roof parapet and scupper

65 - Typical gutters

66 - Typical penetration pipe

67 - Water heater

68 - Typical boilers

69 - Condensers

70 - Air handler in mechanical room

71 - Air handler at building exterior

72 - Vertical heat pump

73 - Water source heat pump

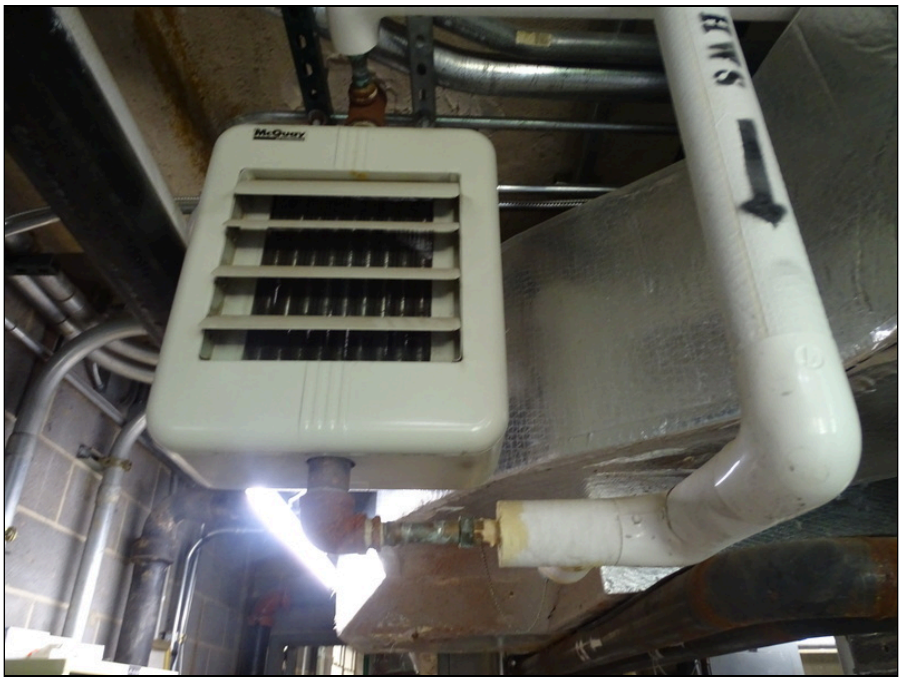
74 - Water source heat pumps

75 - Fan coil unit

76 - Carrier package unit

77 - Trane package unit

78 - Cooling tower



79 - Space heater

80 - Split system

81 - Split system

82 - Wall mounted condenser

83 - Exposed ductwork

84 - Mechanical ductwork

85 - Thermostat

86 - VFD

87 - Electric meter

88 - Gas meter

89 - Transfer switch

90 - Emergency generator

91 - Transformer

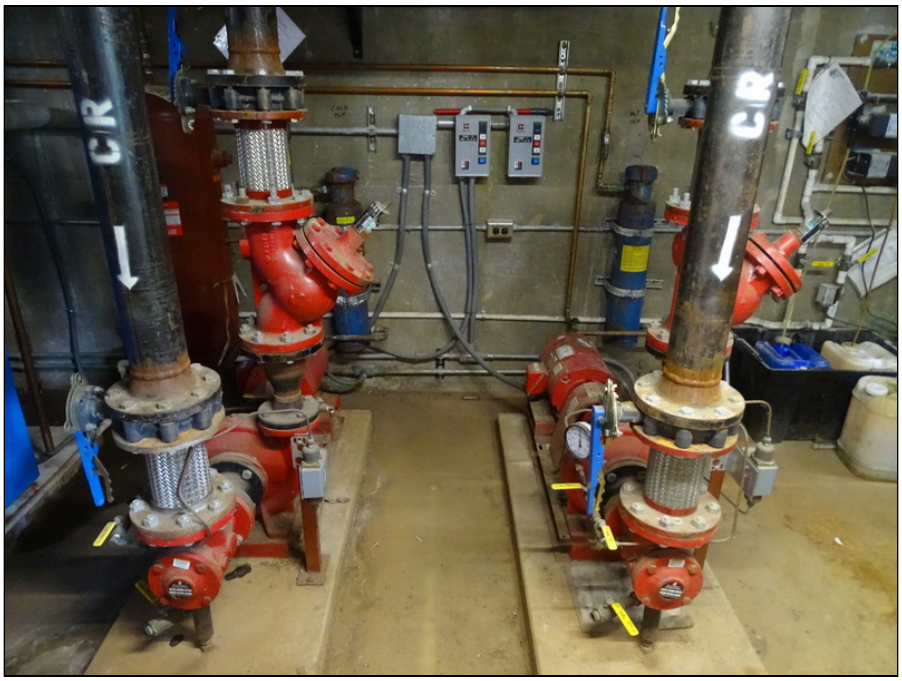
92 - Main switch

93 - Electrical panel

94 - Sub-panel

95 - Sub-panel

96 - Sprinkler system



97 - Hydronic pumps

98 - Sprinkler head

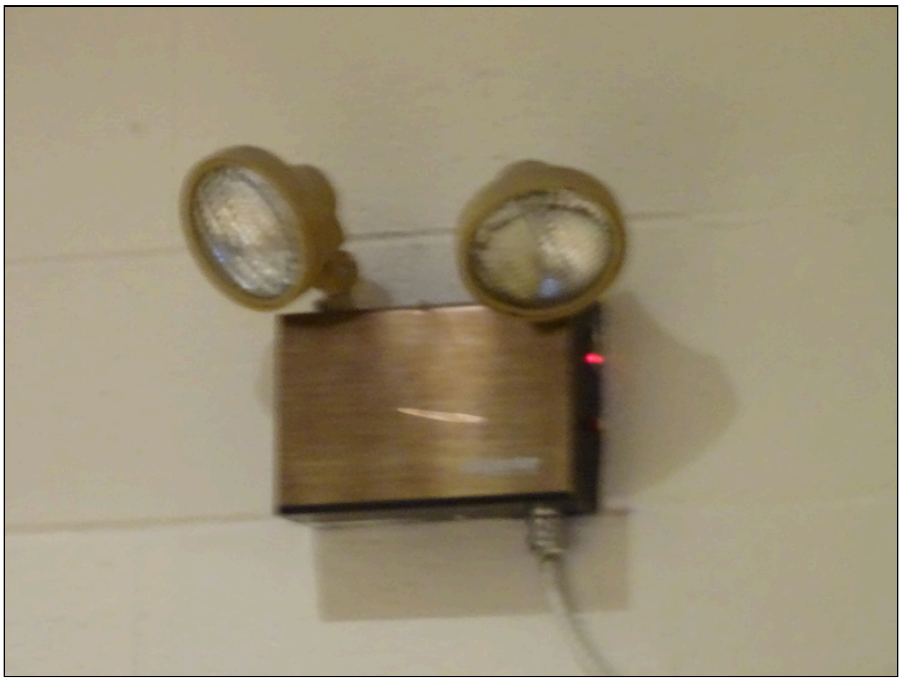
99 - Sprinkler head

100 - Fire hydrant

101 - Fire alarm bell and strobe

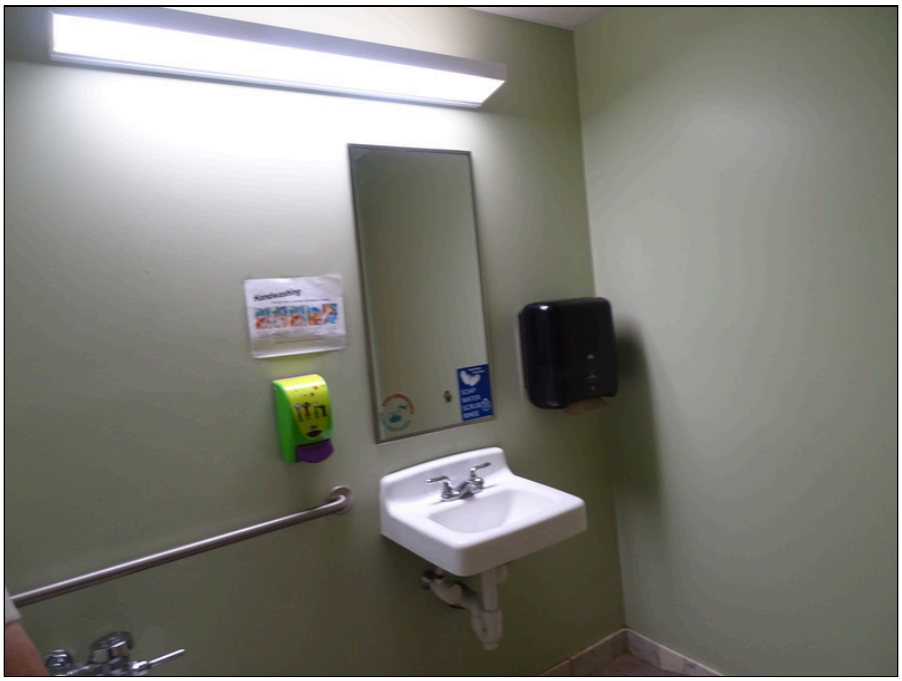
102 - Pull down station

103 - Exit sign above door



104 - Emergency exit light

105 - Restroom sink



106 - Restroom mirror

107 - Typical restroom

108 - Corridor overview

109 - Corridor overview

110 - Corridor overview

111 - Cracked terrazzo in corridor

112 - Cracked terrazzo in corridor

113 - Cracked terrazzo in corridor

114 - Cracked terrazzo in corridor

115 - Cracked terrazzo in corridor

116 - Kitchen overview

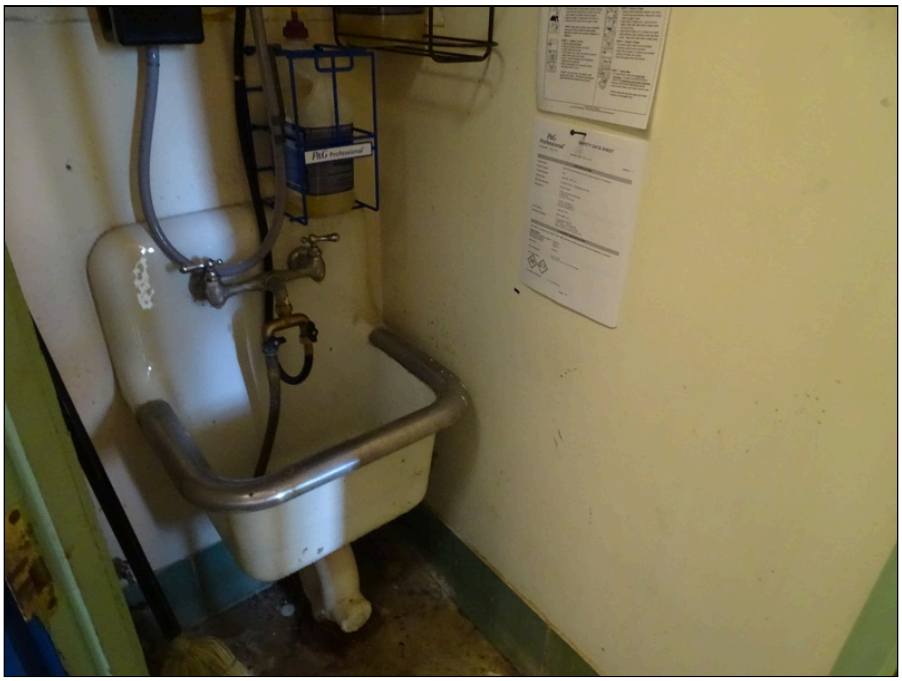
117 - Kitchen overview

118 - Kitchen overview

119 - Kitchen overview

120 - Kitchen overview

121 - Kitchen overview



122 - Utility room

123 - Auditorium

124 - Auditorium

125 - Gym overview

126 - Typical classroom

127 - Typical classroom

128 - Typical classroom

129 - Typical restroom

130 - Typical restroom

131 - Drinking fountain in corridor

132 - Accessible restroom

133 - Accessible curb ramp

134 - Accessible concrete ramp

135 - Accessible concrete ramp

136 - Accessible parking spaces

Appendix VI: RESUMES

Michael G. Doyle, AIA

Principal Architect – Facilities Department

Education

Bachelor of Architecture, 1987, Architecture, Virginia Polytechnic Institute and State University, Blacksburg, VA

Registrations

Registered Architect: AZ, DC, MD, VA, NC, IL
The Leadership in Energy and Environmental Design (LEED) Accredited Professional: 2009

Mr. Doyle serves as a Principal Architect for the Facilities Engineering Group in ECS Chantilly. He has over 25 years of experience in the construction industry, and his expertise includes the Americans with Disabilities Act, Property Condition Surveys, Pre and Post Construction Survey Services, Pavement Assessments, and Third-Party Plan Review. He has worked with numerous government agencies and has significant experience with local government and educational facilities; commercial high-rise buildings; multi-unit, residential, and correctional facilities. Mr. Doyle also has had experience on several high-profile historic projects, including the Jefferson Memorial, the Tivoli Theater, the Tariff Building, The White House, the Court of Appeals in Washington, DC; the Valley Bank Building in Leesburg, Virginia; and the Shenandoah Courthouse at Woodstock, Virginia.

Property Condition Assessments - Mr. Doyle has extensive experience performing property condition assessments from small commercial properties, large high rise buildings, to government-owned properties. Mr. Doyle has performed assessment in general accordance with ASTM E 2018, Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process. Mr. Doyle also has experience in performing property condition assessments in accordance with lender and specific client requirements. Mr. Doyle has worked with teams of experts in providing detailed reports and simple reserve analysis for properties.

Relevant Project Experience

Darien Lake, Darien Center, NY – Mr. Doyle was the Principal Architect for the property assessment of the Darien Lake amusement park. The property included over 200 buildings including buildings within the park, maintenance and administration buildings, hotel, campground buildings, and sewer treatment center.

Ballston Park Apartments, Arlington, VA (2014) - originally developed in 1938, this complex includes 50 two-story apartment buildings, one three-story apartment building, one single-family residence, and a single-story office/clubhouse. A PCA and a Phase I Environmental Site Assessment was conducted and documented.

Hyatt House Lodging, Sterling, VA (2014) - This six-story, 162-room, 98,793-square-foot hotel with surface parking was constructed in 2007 as a Sierra Suites and subsequently converted to a Hyatt House. Recreational facilities include a swimming pool, fitness center, a grill area, and a fire pit. Building systems observed per ASTM E 2018 included site conditions, the structural frame and building envelope; plumbing, mechanical and electrical systems, vertical transportation Systems, life safety and fire protection, and ADA Considerations. A Phase I Environmental Site Assessment was also conducted.

WHMO Facilities Assessment, Washington, DC (2015) - This is a privately owned, government-leased facility with a sensitive mission. The structure is believed to be a 1920s vintage building designed as a multi-story car dealership. The government has occupied this space continuously since 1963. Mr. Doyle conducted a survey of the complete facility, identified and documented areas of concerns. He also provide a recommendation for remediation for each area of concern, a Rough Order Magnitude (ROM) cost for remediation, and categorized each area of concern as critical, non-critical or aesthetic.

Additional Project Experience

- City of Charlottesville Portfolio, Charlottesville, VA
- Liberty Park, Herndon, VA
- Oakcrest School, McLean, VA
- Signature Flight Support, Arlington, VA
- The Gap, Washington, DC
- Lanham Crossing, Lanham, MD
- ZIM American Headquarters Building, Sulfolk, VA
- The Portrait Building, Washington, DC
- The Aventine of Alexandria, Alexandria, VA

DONALD GOGLIO

CODE COMPLIANCE PROJECT MANAGER

CERTIFICATIONS

Master Plumber
Master Gasfitter
Cross Connection Technician
Commercial Building Inspector
Commercial Plumbing Inspector
Commercial Mechanical Inspector
Accessibility Inspector/Plan Reviewer
Fire Inspector I and II
LEED Green Associate
CPR/First Aid Training
OSHA 30 hr Training

SKILLS

Code Compliance
Construction Administration
Special Inspection Services
Condition Assessments
Forensic Consultation

PROFESSIONAL MEMBERHSHIPS

American Wood Council
USGBC

EDUCATION

Montgomery College, 1991
Silver Spring, MD

YEARS OF EXPERIENCE

ECS: <1 Other: 38

PROFESSIONAL PROFILE

Mr. Goglio has 38 years of construction, mechanical trade, and management experience. He manages code compliance projects, including reviewing plans, providing technical support, and conducting inspections.

PROJECT EXPERIENCE

Fort Lee AIT Barracks, Ft. Lee, VA – Quality Control Manager – The Fort Lee AIT Barracks project is a soldiers' basic combat training facility for over 1,200 Army personnel. The complex is a cohesive development, providing both housing and affiliated functions for soldiers in the AIT program. In addition to housing, the facility includes an outdoor jogging track, physical training pits, and access drivers and parking areas that meet USACE requirements. The project's five-story brick buildings meet DoD Minimum Antiterrorism Standards for Buildings and obtained LEED® Gold certification from the US Green Building Council. The Fort Lee project is part of the Northeast Region Multiple Award Task Order Contract (MATOC).

Terrapin Row, College Park, MD – Assistant Superintendent – Terrapin Row is a transformative student housing complex located on the University of Maryland's historic South Campus. The mixed-use community features 1,493 beds across 418 apartments as well as a 489-space parking garage. Terrapin Row boasts ample amenities centered around a college lifestyle, including a swimming pool, volleyball court, outdoor kitchens and fire pits, exterior TVs, a fitness center, bike storage, a cyber cafe and game room, and numerous live-learn spaces. The multi-phase project consists of seven buildings and encompasses a pedestrian and bike-friendly Village Green surrounded by over 11,856 square feet of retail space. The Village Green flows into a grand stairway and amphitheater that opens to a pedestrian plaza to welcome pedestrians towards the main academic centers of campus.

The Hartley at the Parks, Washington, DC – Assistant Superintendent – The Hartley is a 323-unit mixed-use apartment community with a Whole Foods Market as its retail anchor in Northwest DC. This six-story community consists of five stories of wood framing over a one-story concrete podium with 317 apartments and six townhomes. It is a part of The Parks at Walter Reed, a mixed-use master-planned redevelopment of the 66-acre historic Walter Reed Army Medical Center with 2,200 residential units plus office and retail. The Hartley features two interior courtyards: the north courtyard includes pool and amenity space, and the south courtyard includes a Zen Garden. The second-floor amenity space includes a lounge, multi-purpose room, fitness center, and pet spa. The studio, one-, two-, and three-bedroom units feature high-end finishes, including quartz countertops and EnergyStar® appliances.

DONALD GOGLIO

CODE COMPLIANCE PROJECT MANAGER

CERTIFICATIONS

Master Plumber
Master Gasfitter
Cross Connection Technician
Commercial Building Inspector
Commercial Plumbing Inspector
Commercial Mechanical Inspector
Accessibility Inspector/Plan Reviewer
Fire Inspector I and II
LEED Green Associate
CPR/First Aid Training
OSHA 30 hr Training

SKILLS

Code Compliance
Construction Administration
Special Inspection Services
Condition Assessments
Forensic Consultation

PROFESSIONAL MEMBERHSHIPS

American Wood Council
USGBC

EDUCATION

Montgomery College, 1991
Silver Spring, MD

YEARS OF EXPERIENCE

ECS: <1 Other: 38

PROFESSIONAL PROFILE

Mr. Goglio has 38 years of construction, mechanical trade, and management experience. He manages code compliance projects, including reviewing plans, providing technical support, and conducting inspections.

PROJECT EXPERIENCE

- Fort Lee AIT Barracks, Ft. Lee, VA
- Terrapin Row, College Park, MD
- The Hartley at the Parks, Washington, DC
- River Point, Washington, DC
- Juniper, Columbia, MD
- The Smith, King of Prussia, PA
- Banner Hill, Baltimore, MD
- Jefferson Square, Baltimore, MD
- Metropolitan at Largo Station, Largo, MD
- The Village at Leesburg, Leesburg, VA
- The Elms at Clarksburg Village, Clarksburg, MD
- Hidden Creek, Gaithersburg, MD
- Paramount, Gaithersburg, MD
- Thayer & Spring, Silver Spring, MD

William R. Pratt, PE

Principal Engineer, ECS Mid-Atlantic, LLC
Professional-In-Charge

Education

Bachelor of Science, 1989, Mechanical Engineering, University of Massachusetts

Registrations

Professional Engineer: DC, VA, MD

ICC Commercial Building, Plumbing, and Mechanical Inspector

Mr. Pratt serves as Senior Project Engineer for ECS Mid-Atlantic, LLC. Mr. Pratt is responsible as the Professional-In-Charge of the code compliance group and provides supervision of code compliance inspection programs for the local jurisdictions. Additionally, he oversees execution of project management for construction materials testing, property condition assessments.

Property Condition Assessments - Bill has extensive experience in performing property condition assessments for a variety of properties and structures. These assessments include evaluation of site improvements, building components, roofing, pavements, electrical systems, mechanical systems, and HVAC systems. He performs assessment in general accordance with ASTM E 2018 – 08, Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process. Bill also has experience in performing property condition assessments that meet with lender and specific client requirements. He works with teams of experts in providing detailed reports and simple reserve analysis for properties.

Select Project Experience – PCA

- City of Charlottesville, VA - 51 Property Portfolio including schools, libraries, museums, fire and police stations, and court buildings
- Home Properties 800+ Apartment Units, 4-Property Portfolio to Freddie Mac Standard, Hampton and Virginia Beach, VA
- Boulders Office Park 300,000+ SF, 3-Property Portfolio , Richmond, VA
- Darien Lake Theme Park, Darien Center, NY
- Madison Place Office Building, Alexandria, VA
- King of Glory Lutheran Church, Williamsburg, VA
- Comfort Inn, Charlottesville, VA
- The Wisconsin Building, Washington, DC

Select Project Experience – Code Compliance and Special Inspections

- City Center DC, Washington, DC
- DC Courts Judiciary Square, IDIQ Contract, Washington, DC
- Hilton Garden Inn, Washington, DC
- Waterfront Mall, Washington, DC
- 4th Street Reconstruction, Washington, DC
- Sibley Memorial Hospital Addition, Cancer Center, Washington, DC
- Washington Headquarters Services, Arlington, VA
- Walmart #5968-00, Washington, DC
- Progression Place, 7th Street, NW, Washington, DC
- National Gallery of Art, Washington, DC
- City Market @ O, Washington, DC