CLEARBROOK ELEMENTARY SCHOOL

ARCHITECTURAL

Clearbrook Elementary School (CES) was originally constructed in 1939. A classroom wing was added in the late 1950's or early 1960's. Another addition in 1968 added a kitchen and library wing, and the multi-purpose room was added around 1978. A classroom and lunchroom addition was performed in 1998. A secure vestibule was added in 2014, bringing total square footage to 44,020 SF. Materials and finishes tend to be specific to the construction era, and rarely match from addition to addition.

There is a mobile unit and a detached storage structure on the site.

Exterior Finishes

Exterior Cladding:

Exterior wall material is, generally, brick. Older portions of the building feature painted wood ornamentation at entrances and at the eaves. A large section covered in an exterior insulating finish system (EIFS) was observed on the northwest face of the building. The 1950's addition has had some sort of trim removed from the brick around the windows. This has damaged the face of the brick. Additionally, there is cracking and some signs of shifting brick at the heads of windows on both long faces of this wing. At the front of the building, a small crack leads up to a bulge in the brick. The brick then slowly tapers back to its proper location at the far end of the building. Refer to the structural notes for more information relating to conditions at this location.

Roof:

The original roof consists of slate shingles and a wood trimmed cupola. The slate shingles have cracked and broken in some places. These individual shingles may be replaced, or other measures taken to ensure a watertight assembly.

As part of the 1998 renovation and addition, built-up roofing over the guidance area was replaced with an EPDM system. Drawings indicate that the existing built-up roofing over the other areas was to remain, however, no built-up roofing was observed. It is assumed, based on observations at the building, that the roofing over the other building additions was replaced at this time. Given evidence of water infiltration at the interior of the building, and the age of the systems, roof replacement is advised as part of any future work, or within the next two to three years.

Standing seam metal roofing, installed over the new classroom wing, appeared to be in good condition.

Windows:

Windows around the building appear to have been replaced. Hung, aluminum-clad units are located in most classrooms, with windows in the older portions of the building matching those installed in the newest addition. Fixed units were located at limited locations in classroom wings. All windows were observed to be in good condition. Sealant conditions should be monitored and sealant replaced as required.

Exterior Doors:

Exterior doors are a mix of hollow metal, aluminum storefront systems, and wooden doors in wooden frames. The main entrance is an aluminum storefront system with sidelites and transoms. Corridor access points and service entrances and older wings had hollow metal doors in hollow metal frames. Hollow metal doors were observed to be in good condition, but requiring general maintenance. The original building had wood doors in wood frames. These are no longer used as main entrances and should have serviceable life remaining. Conditions of paint and wood substrate should be monitored to maintain door integrity and ensure proper function of the door in egress situations. Glazing at door lites, sidelites, and transoms was observed to be in good condition.

Interior Finishes, Fixtures & Equipment

(See assessment tabulations for interior finish conditions).

A mix of floor finishes was observed in the facility. Older wings had terrazzo floors in good condition. Vinyl composition tile (VCT) was observed to be in fair to good condition. Some VCT has reached the end of its life expectancy, but has serviceable life remaining, based on observed conditions. Replacement should be considered as part of any major renovation, but is not an immediate requirement. Stained/coated concrete floors were observed to be in good condition with the exception of limited cracking outside of room 208. Stair treads at the stairs in the kindergarten wing are in fair condition. These should be monitored and replaced as required. The gymnasium floor is a rubber system in fair to good condition. The stage in the gymnasium is a pine board floor with a finish in poor condition. Refinishing of this floor is recommended.

Interior walls exhibited an array of materials and finishes, each specific to the era of construction. The original building features glazed brick wainscots and painted CMU in the corridors. Classrooms have plaster walls that were in, generally, fair to good condition. The 1950's addition features structural glazed wall tile wainscots and painted CMU. Limited applications of painted brick were observed above the structural glazed wall tile wainscot. At locations where building additions abutted former exterior walls, the exposed brick of the former exterior is visible, and is in good condition.

Gang toilet rooms have had renovations that attempt to provide accessible fixtures in the spaces. The boys restroom near the gymnasium has stone partitions provided with

painted steel doors. The accessible stall has been enlarged and has a high-density polyethylene partition installed. No vertical grab bar was present. The terrazzo floor has been cut out at the urinal area and replaced with glazed ceramic tile. The accessible lavatory does not have pipe wrap installed. The office toilet room has a lavatory located in the clear floor area for the toilet. Single user toilets had an array of floor materials ranging from 1" and 2" ceramic floor tile to quarry tile, and VCT. These were all in fair to good condition. Gypsum wall board in the toilet room of classroom 102 has some bubbling behind the toilet. Suspended acoustical ceiling tile in the toilet rooms was typically stained.

Ceilings are generally suspended acoustical tile (lay-in) with gypsum wall board at some toilet room locations. Tiles were stained at many locations around the facility, including areas on lower levels. SATC replacement is recommended throughout. Classroom ceilings in the original building were plaster and were in fair to good condition. Lengths of crown moulding were missing in room 107. The gymnasium ceiling has a spray applied layer that has been stained by water around one of the roof drains. Per staff members, the issue at the drain pipe has been corrected.

Most interior doors are wood in hollow metal frames or wood in wood frames. Many of these doors have seen some veneer damage or general wear. Minor damage can be repaired by sanding and restaining. The seclusion room has non-accessible knob-type hardware. Cafeteria areas had metal doors. Some doors in this area were observed with knob-type hardware. Classroom doors in the older wings and original building were also equipped with knob-type hardware. These should be replaced with accessible levers.

Marker boards and tack boards are present in classrooms. Most are in fair condition with staining on most marker boards. Marker boards should be replaced in any future renovation. Smart boards have been placed in rooms.

Loose furnishings are a mixture of tables and desks of varying ages. The flexibility required of 21st Century classrooms is enabled by flexible, movable furnishings. All furniture and equipment should be replaced during a substantial renovation to provide a uniform appearance, enhance student comfort, and to provide flexibility. Furnishings, fixtures, and equipment design should occur in tandem with building design to achieve proper coordination between building utilities and furniture types and locations. This includes library shelving and furnishings.

Casework varied throughout the facility. The classrooms have a mix of storage unit styles, ranging from wood to plastic laminate clad units. A plastic laminate-clad island, in room 102, was observed with chipped laminate. No accessible work stations were observed and most countertops were not accessible. Additional casework with power for student work should be provided in any future renovation. Additional storage for classroom use, and for general school use should be planned for any future renovation work.

Accessibility

Building signage is compliant with older ADA standards, but is not compliant with current standards. Wall mounted features were typically installed above the reach ranges allowed by current standards. Much of the hardware was knob-type and is not accessible. Effort has been made to provide accessibility friendly gang toilet rooms. These should require minimal modification to meet the requirements of current standards. Single-user toilet rooms do not all comply. There is no ramp to the stage area in the gym. Single drinking fountains were installed at most locations. Hi-lo fountains should be installed to comply with accessibility standards. An elevator is provided for access to the upper level.

Safety and Security

This section addresses passive security measures, such as how entrances function, visibility within the building, etc.

The vestibule at CES provides visibility from the office and control over the secure entry. Door position sensors and locks are provided at all other exterior doors. Exterior doors providing access to corridors and other spaces, not accessed via the vestibule, are equipped with card readers. Due to the very segmented nature of the building, sight lines are extremely short. Crash bars are installed on both leaves of many double doors. These should be replaced with non-chainable hardware.

End of Clearbrook Elementary School Architectural Narrative

STRUCTURAL

During the Architectural investigation of the Clearbrook Elementary School, an issue was discovered warranting additional investigation from a structural standpoint.

Movement Near Window Heads of 1960's Wing

Movement of the brick wall above the windows appears to be pushing the wall outward from the building. This movement appears to be consistent along all three exposed faces of this wing of the building. The movement is somewhat unsightly but does not appear to pose a threat to the structural integrity of the building. Though the exact cause of the movement is unknown, it is anticipated that the movement is caused by an expansion of the roof and roof framing system creating movement outward on all faces of the building. When the roof expands, the framing, which is likely rigidly attached to the supporting walls, expands also, creating a push against the inside face of the wall. Even though the forces are occurring above the window heads, the movement occurs at the tops of the windows because the window openings create a weakened horizontal plane through the building. The wall is able to resist the movement until the forces reach the weakened plane. Joints where the movement has occurred should be repointed to prevent excessive moisture from entering the wall system.

End of Clearbrook Elementary School Structural Narrative

PLUMBING/FIRE PROTECTION

Plumbing Fixtures:

Water Closets: Water closets observed were floor mounted vitreous china with manual type flush valves. The water closets are from 1998 and seemed to be in good working condition. The flush valves are expected to have a useful life of 12 years and the water closets are expected to have a useful life of 30 years.

Urinals: Urinals observed were wall mounted vitreous china with manual type flush valves. The urinals are from 1998 and seemed to be in good working condition. The flush valves are expected to have a useful life of 12 years and the urinals are expected to have a useful life of 30 years.

Lavatories: Lavatories observed were wall mounted vitreous china with manual type faucets. The lavatories are from 1998 and seemed to be in good working condition. The lavatories are expected to have a useful life of 30 years.

Sinks: Classroom sinks observed were stainless steel with polished chrome gooseneck faucets and wrist blade handles. The sinks are from 1998 and are expected to have a useful life of 30 years.

Electric Water Coolers: The water coolers are wall mounted, ADA compliant high/low models. The water coolers are from 1998 and some of them have leaking issues. The water coolers are expected to have a useful life of 15 years.

Water Heaters:

Domestic water heating is done by one gas fired unit. Water heater #1 (WH-1) appeared to be manufactured in 2000. The domestic water heater is expected to have a useful life of 15 years. One hot water circulation pump circulates the hot water loop throughout the building.

Piping:

Water:3” and smaller is Copper with fiberglass insulation
3” and above is ductile iron pipe
Sanitary Piping: Cast iron and PVC
Storm Piping: Cast iron
Gas Piping: Black steel

Domestic Water Entrance:

The building is served by a 3" cold water line that is assumed to be from a municipal system. There is a double check backflow preventer which was installed in 1998. The backflow preventer is expected to have a useful life of 30 years.

Fire Protection:

The building is fully sprinkled. There is a 4" fire line into the building which has a double check assembly backflow preventer which was installed in 1998. The backflow preventer is expected to have a useful life of 30 years.

Recommendations:

Water heater #1 (WH-1) has reached the end of its expected useful life and should be replaced in the near future. The electric water coolers have reached the end of their expected useful life and should be replaced in the near future.

End of Clearbrook Elementary School Plumbing/Fire Protection Narrative

MECHANICAL (HVAC)

Heating:

The older portion of the building is heated by a combination of rooftop units with electric heat and by a steam boiler system with radiant heaters. The rooftop units serving this portion of the building appear to have been installed in 1994 and have passed their useful life expectancy of 18 years. The Steam boiler is believed to have been installed in 1994 and has a useful life expectancy of 30 years. The steam boiler appeared to be operational and functioning properly.

The gym is heated by a gas fired rooftop units that was installed in 2012. This rooftop unit has a useful life expectancy of 18 years.

The newer building addition is heated by a gas fired boiler and hot water circulation system. Water is pumped from the boiler to a rooftop unit and to terminal units. The boiler is 18 years old and is expected to have a useful life of 30 years. The pumps are 18 years old and are expected to have a useful life of 25 years.

Ventilation: Ventilation is provided to the building by rooftop air handler units.

Air Conditioning:

The older portion of the building is cooled by DX type rooftop units which were installed in 1994 and have passed their useful life expectancy. The kitchen area is not cooled and can get very hot during the summer. The cafeteria is conditioned by through the wall type unit ventilators.

The gym is cooled by a DX type rooftop unit that was installed in 2012. This rooftop unit has a useful life expectancy of 18 years.

The newer building addition is cooled by a DX type rooftop unit that was installed in 1998. This rooftop unit has a useful life expectancy of 18 years and has currently reached that age.

Piping:

The black steel steam piping is at least 22 years old and has a useful life expectancy of 30 years. The hot water piping is black steel, insulated and is 18 years old and has a useful life expectancy of 30 years.

Controls: The building automation controls are digital type (DDC) and are by Andover Continuum.

Recommendations: Replacing the rooftop units serving the original portion of the building should be first priority for this building. Additional improvements are recommended for the kitchen and cafeteria including increasing cooling capacity and ventilation.

Based on conversations with school staff, there seems to be temperature control problems with the building. Sporadic temperature swings have been reported. It is recommended that zoning and controls be examined when the air conditioner units are replaced.

End of Clearbrook Elementary School Mechanical Narrative

ELECTRICAL

Main Switch Gear:

Main Switchboard: The main switchboard is a Siemens 1000 amp, 3 phase, 240 volt high leg delta system from the utility. Transformers are added to get 208Y/120 volt 3 phase, 4 wire. The existing switchboard is new to the building with the 1998 major addition/renovation and has space and spares available.

Recommendation: In the event of a substantial renovation or addition, replacement of existing switchboard and electrical service is recommended to remove the High Leg Delta system from the school.

Transformers:

Transformers: There is a 240 Volt primary, 208Y/120 volt transformer used to remove the high leg delta feed to the building to feed new equipment and branch circuit panels. This was likely installed in 1998.

Recommendation: If renovations and additions are pursued, remove the high leg delta feed to the building and place with a more traditional 208Y/120 volt or 480Y/120 volt system.

Panelboards:

Distribution and Branch Circuit Panelboards: There are a mixture of panelboards inside of the building. General Electric load centers were installed in 1994 and Cutler Hammer panels installed when the cafeteria was added. There are some older Kinney panels from the kitchen. Also, there is an original fuse panel in the original panel that appears to be original to the 1938 building.

Recommendation: If renovations and additions occur, replace existing panels that have reached their useful life. Also the replacement of the 1938 panel is recommended immediately. Expand as necessary to accommodate new or modified spaces and locate any new panels in areas to minimize student access and to meet National Electrical Code working clearances.

Cabling:

Cabling: Most of the building wiring is newer with the 1998 renovation. All visible wiring appears to be in conduit. Classrooms in older sections of the building have had original outlets capped off and are now provided power through all new cabling in surface raceway.

Recommendation: If renovations and additions occur, inspect and reuse existing wiring as appropriate. Remove and replace any wiring identifiable as having exceeded its useful lifespan.

Conduit/Raceway:

Conduit/Raceway: The conduit and raceway above ceiling is still in good condition. Classrooms in older sections of the building have had original outlets capped off and are now provided power and data through surface raceway.

Recommendation: All surface raceway should be evaluated regularly and securely reattached to the wall if it becomes loose. All raceway would be reused if the building were renovated. Conduit would be salvaged where practical.

Light Fixtures:

Light Fixtures: The light fixtures consist of primarily 2x4 flat lens fixtures with T8 lamps, 1x4 fixtures with T8 lamps, fluorescent can lighting, and some decorative fluorescent pendants. The T8 lamps are current technology, and meet the current needs of the school. Various emergency wall pack light fixtures are also utilized. The majority of the fixtures are new to the 1998 renovation.

Recommendation: To accommodate a new addition or renovation, provide a new lighting design and reuse existing fixtures. Consider LED fixtures where practical.

Lighting Controls:

Lighting Controls: Lighting controls throughout the building consist of toggle switches controlling fixtures within an area, most classrooms have zoned switching. Corridor lighting is controlled through switch bank in the front office.

Recommendation: In the event of a renovation or addition, add automatic lighting controls to each room to comply with building energy codes.

Public Address System:

Public Address System: The public address system is currently a Bogen headend system with speakers located throughout the school. Each classroom has a PA speaker and an unused push-to-talk button.

Recommendation: The PA system is current technology and was installed in 1998. The system is older, but still operates. The speakers and wiring seem to last much longer than life expectancy when maintain or replaced. Replace speakers and devices as required to maintain an operating system.

Security System:

Security System: Security system consists of electronic locks and motion sensors at exterior doors, keypads, and AI phone/Lobbyguard system at entrance. The current system meets the needs of the school and utilizes current technology.

Recommendation: Upgrade, expand, and reconfigure zones of the system as necessary if renovations and additions are pursued.

Camera System:

Camera System: A building wide IP based camera system is installed. It is current technology that meets the current needs of the school.

Recommendation: In renovations and additions, provide additional cameras and Digital video recorders as required for additional areas with desired coverage.

Data System:

Data System: The Data system consists of newer Category 6 and 5e cable. The building is equipped with wireless internet through Cisco access points throughout. Teacher and student computers are provided with access to a local area network.

Recommendation: The current system meets the needs of the building and switches and patch panels could be reused in any renovation or new construction.

Fire Alarm System:

Fire Alarm System: The fire alarm control panel is a Simplex 4020 fire alarm system that was added during the 1998 renovations. The current system consists of limited area manual pull stations, smoke detectors, and horn/strobe alarms.

Recommendation: If renovations and additions are pursued, expand existing fire alarm system with audible and visual notification devices throughout the school and in classrooms. Reconfigure the existing system as necessary for renovations.

Generator:

Generator: No generator is installed to serve this building. Emergency lighting is provided by emergency battery units in the corridors, large rooms, and at exits.

Recommendation: For any renovations or addition, a new generator should be considered, sized to provide power for life safety features and other equipment that the school would like to operate.

Site Lighting:

Site Lighting: The site lighting consists dusk to dawn lights and building mounted lights.

Recommendation: Retain existing lighting as desired. This building is located in a public area and dusk to dawn lights could be desired. Full cut off LED lights are commended for any owner added lighting.

Classroom Media (TV, Projector, ETC):

Classroom Media: Classroom media typically consists of an Activeboard with attached projector, a teacher computer, printer, and a wall mounted phone. Laptop and iPad carts are also in use. Most classrooms also contain an older CRT TV that appears to be unused; the Activeboard can be used for most media requirements.

Recommendation: Periodic upgrade of equipment will maintain a strong inventory of new equipment and keep students aware of current technology.

Phone System:

Phone System: The phone system consists of a new Cisco IP phone system. Each classroom has a phone connected through the PA system. The system is operational.

Recommendation: It is possible to retain and expand the existing phone system through additions and renovations.

End of Clearbrook Elementary School Electrical Narrative

CIVIL

Traffic Circulation

Buses: School is served by 5 regular buses, 2 special needs bus, and 4 daycare vans. There is a dedicated bus loop at the main entrance on the southwest side of the building. There is one entrance that is shared with buses and cars. The entrance is very narrow.

Morning: All buses utilize the bus loop at the main entrance for morning drop off. Buses move through quickly and there is minimal backup.

Afternoon: All buses utilize the bus loop at the main entrance for afternoon pick up as well. Buses stack up along the sidewalk and there is adequate stacking space to fit all the buses in the loop. Daycare buses pick up at designated parking spaces at the back (northwest) side of the building.

Cars: There is one entrance shared with buses and cars. The maneuvering and parking area is tight and small. There is a turn-around loop at the northeast corner of the building for drop off / pick up.

Morning: Cars loop through the turn around at the northeast corner of the building and drop students off at the sidewalk at the southeast corner. Drop off runs relatively smoothly with some conflicts with cars exiting the site and buses entering the bus loop.

Afternoon: Cars loop through the turn around and stack up along the sidewalk to pick students up on the east side of the school. Cars will stack up through the entrance road and onto the adjacent roadway.

Recommendation: Explore the potential of using some of the park land and access drive to help with traffic flow.

Parking: 59 striped parking spaces are provided with 2 designated ADA spaces. Staff indicates that day to day parking is not adequate for faculty / staff / visitors. Some cars park at the adjacent tennis courts for overflow. Parking quantities meet Roanoke County requirements and State recommendations. Event parking is an issue with parents parking wherever possible, including on the sidewalks and adjacent properties.

Recommendation: Explore the potential of using some of the park land and access drive to help with parking issues.

Service: The service area is accessed through the parent drop off / pick up area and the main parking lot. The maneuvering is very tight and difficult.

Recommendation: Explore the potential of using some of the park land and access drive to help with service access issues.

Fire Access: Fire apparatus have adequate access around the building. Only issue is during events if cars park in designated fire lanes.

Separation: Very poor. All vehicles use the same entrance which is very narrow. Entering buses and exiting cars conflict.

Recommendation: Explore the potential of using some of the park land and access drive to help with traffic and parking issues.

Adjacent Roadways: There is good sight distance at the main entrance. The entrance is close to Route 220 which can be a concern for traffic backups. The school being close to Route 220 which is very busy is a safety concern.

Pedestrian: Generally there are not many pedestrians who access the school. There are no sidewalks adjacent to the school.

ADA Accessibility

Parking: Two spaces are designated as ADA parking. None are designated as van accessible, but the aisle is large enough to provide van accessibility. Three spaces are required.

Recommendation: Restripe parking and add signage to increase the quantity of ADA spaces to 3.

Signage: Signs are in good condition. Painted posts are chipping / peeling. There is no “Van Accessible” signage.

Recommendation: Sand, prime, and paint posts. Add van accessible sign.

Ramps: One wooden ADA ramp at the mobile classroom in good condition.

Access to all areas: There is no ADA access to the seating areas at the ballfields, the tennis courts, or the playground to the south of the ballfields.

Recommendation: Provide asphalt path walkways to remote play areas.

Parking Areas, Driveways, and Sidewalks

Asphalt Pavement: Asphalt is in generally poor condition.

Recommendation: Replace all asphalt pavement.

Asphalt Walks: One asphalt walk at dumpster / service area is relatively new and in good condition.

Concrete Pavement: Concrete at the dumpster pad is in fair condition with some cracking.

Concrete Walks: Concrete is in fair condition with some cracking. There are many older sections of concrete.

Recommendation: Replace sections as necessary when cracking and deterioration become hazardous.

Stairs, Ramps, and Railings: One set of stairs at the west parking area has no railings. One set of stairs at the main entrance area has only a railing at the middle with none on the sides with a drop off.

Recommendation: Add railings to stairs at west parking area. Add stairs to the sides of the stairs adjacent to the main entrance.

Concrete Curb and Gutter: Concrete curb is in fair condition. Old but still has useful life.

Recommendation: Replace sections as necessary when cracking and deterioration become hazardous.

Guardrail, Parking Bumpers, and Miscellaneous: Guardrail on the west side of the entrance is loose. Guardrail on the east side of the entrance has surface rust.

Recommendation: Repair loose guardrail.

Fire Lane: Paint on curbs and asphalt is faded. Some fire lane signs are faded and illegible. There is an insufficient quantity of fire lane signs. Fire lane signs are not turned toward oncoming traffic.

Recommendation: Re-paint curbs and asphalt at fire lanes. Replace fire lane signs and provide additional signs as necessary. Ensure that fire lane signs are turned toward oncoming traffic.

Utilities

Fire Lines and Hydrants: Sufficient fire hydrant coverage with no spacing. Only one fire hydrant located in the drop off loop. No paved fire lane around building, but fire truck access is present to three of four sides. Fire station located across the street.

Domestic Water System: The water system is in good condition. Staff indicated no pressure or water discoloration issues. Water is provided to school via tap into public water main. The water meter is located in a vault at the service area of the building.

Sewer System: The sanitary sewer system consists of concrete manholes and pipes in fair condition. System is functional with proper invert shaping. Staff indicated no issues with stoppages, but observations show signs of stagnant waste.

Recommendation: Sewer system should be flushed to clear and prevent blockages.

Natural Gas System: Gas meter is located at the service area of the school and not located in a vehicular traffic area. The meter is in fair condition and functional, but shows signs of rust and deterioration.

Recommendation: Contact gas company to inspect condition of meter.

Electric: Electric service to the school is provided via overhead poles to school property. Transformers are mounted on service pole. Service is taken underground into the building. Electric service to mobile classrooms at rear of the school is provided via overhead poles with pole mounted transformers and meters mounted on the service pole.

Site Lighting: No site lighting for parking lots. Building mounted lights illuminate sidewalks and entrances.

Recommendation: Provide lighting for safety and security.

Grading and Drainage

Storm Water System: Half of site drains to detention pond and half to roadside ditch along Route 220. Majority of runoff is sheet flow to ditches and drop inlets. Inlet structures contain minor sediment buildup and need flushing.

Recommendation: Underground piping system should be flushed and pipe outlets should be cleaned out and inspected for sediment.

Detention / Retention Ponds: Fair condition, but contains lots of sediment. Inlet pipes have eroded channels due to lack of rip rap to dissipate energy. Fenced off for protection.

Recommendation: Provide additional rip rap to dissipate energy and prevent erosion.

Slopes, Ponding, and other Drainage Issues: Minor erosion and sedimentation at rear loading dock area. Gravel at rear of school has been eroded due to downspout concentrated flow. Ponding in bus loop at center due to lack of positive drainage to drop inlet.

Recommendation: Provide splash blocks or underground piping at downspouts causing erosion. Repair lawn area at front loop to allow for drainage.

Site Features

Vegetative Landscaping: Vegetation, including trees and shrubs, are healthy.

Recommendation: Continue general maintenance of pruning and mulching. Provide remediation with mulch and shrubs to planter bed on north side of school.

Lawns: Lawn area at front turnaround requires repair. Sediment and lawn is 3" above curb openings which blocks storm runoff. Ponding water on asphalt will significantly decrease the lifespan of the material. Lack of drainage is also a safety concern due in winter conditions. Remainder of site in good condition with minor areas in need of repair due to high foot traffic.

Recommendation: Repair lawn area at front loop to allow for drainage. Repair and reseed bare areas. Provide erosion control mat to protect seed in high traffic areas.

Fencing and Gates: 10' CLF at paved play area in good condition, gates need repairs. Wrought iron in front of school in good condition. Vinyl coated CLF at PreK-1 playground in excellent condition.

Recommendation: Repair gates at paved play area.

Signage: ADA signage is not code compliant. Overall signage legibility is good. Poles are fair with significant age, some are leaning or without foundations. Monument sign showing age, no LED message sign provided. Minimal directional signage.

Recommendation: Repair or replace damaged or leaning signs. Future signs should utilize 2"x2" square posts in sleeves with concrete foundations. Provide directional signage.

Flagpoles: Poles show signs of aging. Poles do not meet expected standards to have crowns or foot covers.

Recommendation: Plan to replace flag poles in near future.

Site Furnishings: Limited site furnishings. Stone benches in good condition.

Accessory Structures: Wood dumpster enclosure is in fair condition. One storage building of CMU construction in good condition.

Recommendation: Replace wooden dumpster enclosure with composite PVC boards in near future.

Play Areas and Physical Education

Play / PE Areas (General):

Playgrounds / Stationary Play Equipment: PreK-1 playground equipment in good condition. Year 2-5 playground equipment in good to excellent condition. Mulch fair to good condition.

Paved Play Areas: Asphalt paving in good condition. Tennis equipment in good condition. Basketball hoops in fair condition, but wood backboards will deteriorate quickly.

Recommendation: Monitor backboards and replace with metal when needed.

Play / PE Fields: Two multipurpose games provided by Roanoke County Parks and Recreation adjacent to campus. Infield conditions are good. Shared outfields/PE field turf condition is poor due to extensive use for youth soccer. Fencing in fair condition. Accessory structures including lighting, benches, and bleachers in fair to good condition.

Recommendation: None. The field is for community use and likely not able to be repaired by RCPS. Any improvements will require coordination with the Parks and Recreation department.

End of Clearbrook Elementary School Civil Narrative

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Notes

Project Name: RCPS Facilities Assessment	**Comm. #: 1637**

Subject: Clearbrook Elementary School	**Total Pages:**
Date: 9/22/2016	**Location: Roanoke, VA**
Copies To:	**Report Prepared By: AHW**

General:

Original building constructed in 1939 with an addition in the late 1950's or early 1960's (based on visual clues. No drawings available.). Addition in 1968 added kitchen and library. Multipurpose room added around 1978. Mechanical renovation around 1994. Classroom and lunchroom addition in 1998.

Crash bars were observed on both leaves of double doors at older sections of the facility. These should be replaced with non-chainable hardware.

Roof:

Original slate over original building. The slate has many broken pieces, but is in decent condition. EPDM replaced over older addition in 1998, but roofing over 1950's addition and kitchen wing were not replaced, per drawings.

Principal claims that there are areas of the roof where water comes over the edge and flows down the face of the building. Specific locations were not given, no visual evidence of issues arising from this condition was observed.

110, 111, 205:

Per staff, there have been mold issues in the areas of these rooms.

205:

Outside of the room, tile ceiling is always wet when it rains, per staff.

Gymnasium:

Has had a condensation problem or leak around a roof drain that stained the decking.

Gym floor is a rubber system in ok condition.

Stage in the gym has a pine floor with finish in poor condition.

Walls are glazed brick and painted block. Wood doors with painted wood frames. Finish on doors in fair condition.

Per principal, gym doors do not latch consistently.

Principal office:

VCT SATC GWB and some painted brick. All in good condition.

Kitchen:

Coated, textured concrete floor in ok condition. Painted brick and block walls. SATC with facing in fair condition. No A/C in kitchen.

Entry Area:

Coated concrete. Painted CMU. SATC.

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Notes

Original corridors:
Glazed brick and painted CMU. SATC and Terrazzo.

1950's addition corridors:
Structural Glazed wall tile and painted CMU. SATC and Terrazzo.

Nurse:
VCT, SATC, and GWB all in good condition.

Copy room:
VCT, SATC, and GWB all in good condition. Has PLAM casework in fair to good condition. Not accessible.

Office toilet room:
Sink is in the clear floor area for the toilet.
2" floor tile.

101:
VCT. SATC has water stains. 36" casework.

102:
SATC cracked and has water spots. VCT in ok condition. Ceiling fans. Bathroom in room has quarry tile and a 2'-0" wide door. GWB ceilings and walls in bathroom. Wood casework in room in ok condition. PLAM island has chipped laminate.

103:
SATC in poor condition.

Corridor from 103 to higher numbered rooms:
Terrazzo, SATC, glazed brick, and painted CMU. SATC above door to 103 is in poor condition.

105:
Marker boards heavily stained. Plaster ceiling ok. VCT ok. Plaster Walls ok.

107:
VCT ok. Plaster OK. Missing bits of crown moulding. Has toilet room with a lavatory. Slight spotting on SATC in toilet room.

Boys room near Gymnasium:
Terrazzo. Stone partitions with metal doors. Glazed CT wainscot. Accessible stall has no vertical grab bar. ACC stall has an HDPE partition.
SATC poor condition. Plaster walls ok.

Cafeteria:
VCT. Painted brick and block in ok condition. SATC poor condition with spots. One tile appears to be wet. Odd odor in space.
One HM door at rear of the room has weather seals. Aluminum windows with hopper and ¼" glazing.

Stair at kindergarten wing:
Treads in fair condition. Mag locks have been installed on exterior door 2.

Corridor at 211/212:
Coated concrete floor. SATC. Painted CMU. HM frames with wood doors.

211:
VCT good. SATC in ok condition.

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Notes

208:

Has a seclusion room. SATC in the seclusion room is damaged.
Some chipping of concrete coating outside of the door to 208.

Atrium:

SATC has some spots. Single EWC. No Hi-Lo.

Boys room at atrium:

Glazed Wall tile. 2" floor tile. Stains on SATC. Rusting steel partitions.

Corridor outside 200:

Some holes in terrazzo. Glazed brick and painted block in ok condition. SATC in fair condition with spots and damage.

201:

Plaster ceiling. VCT. Plaster Walls. All ok.

Library:

Spotting on SATC at painted brick wall and other locations. Broadloom carpet ok. Some unravelling at edges at joints between rolls.

204:

Stains on marker board.

Title 1 room:

Plaster wall in fair condition. SATC in ok condition.
Broadloom carpet is worn and stained.
Toilet room has subway tile, ½" floor tile.

Clearbrook Elementary School Architectural Condition Assessment

Reference Building Owners and Managers Association International (BOMA)
Preventative Maintenance Guidebook

System/Components	Condition Category	Expected Useful Life	Current Age	Expected Life Remaining	Notes
Architectural					
Brick at Original Building	5	Life	77	Life	
Brick at 1950's Wing	5	Life	57	Life	
Brick at 1998 Wing	5	Life	18	Life	
CMU walls	5	Life	77	Life	
Wood trim	4	15	77	0	
EIFS	5	10	18	0	
Interior doors at Original Building	4	20	77	0	
Interior doors at 1950's Wing	4	20	57	0	
Interior doors at 1998 Wing	5	20	18	2	
Exterior doors at Original Building	4	50	77	0	
Exterior doors at 1950's Wing	4	50	57	0	
Exterior doors at 1998 Wing	5	50	18	32	
Door hardware	2	7	18	0	
Electronic door hardware	2	5	10	0	
Terrazzo	4	50	77	0	
Vinyl floor tile	4	12	18	0	
Ceramic/Porcelain floor tile	5	50	18	32	
Quarry floor tile	5	50	77	0	
Rubber gym floor	5	10	57	0	
Other wood floors	3	10	57	0	
Stained concrete floors	4	50	18	32	
Coated concrete floors	4	15	18	0	
Carpet	2	5	18	0	
Exterior windows	5	30	18	12	
Interior windows	5	30	18	12	
Slate Roof (Including flashings, coping, etc.)		Life	77	Life	
Membrane Roof (Including flashings, coping, etc.)	3	20	18	2	
Standing Seam Roof (Including flashings, coping, etc.)	5	20	18	2	
Suspended acoustical tile ceilings (lay-in)	3	25	18	7	
Plaster/GWB ceilings	4	30	77	0	
Ceiling/exposed structure finish (spray applied)	4	5	18	0	
Structural Glazed Wall Tile	5	50	57		
Glazed Brick	5	Life	77	Life	
Interior wall finishes (paint)	2	5	18	0	
Marker boards or chalk boards	4	N/A	18		
Tack boards	4	N/A	18		
Projection screens	5	N/A	18		
Casework at Original Building	4	N/A	77		
Casework at Additions	4	N/A	18		
Window treatments	5	N/A	18		
Toilet partitions	4	20	18	2	
Toilet accessories		N/A			
Interior railings	4	30	18	12	
Exterior railings	4	30	18	12	
Condition Categories					
1 Immediate replacement required, life saftey concern					
2 System has reached it's useful life					
3 Major repair or modifications required, useful life remaining					
4 Minor repair required					
5 General maintenance required					

Clearbrook Elementary School Mechanical Plumbing Condition Assessment

Reference Building Owners and Managers Association International (BOMA)

Preventative Maintenance Guidebook

System/Components	Condition Category	Expected Useful Life	Current Age	Expected Life Remaining	Notes
Mechanical					
Gas Boiler	5	30 years	18 years	12 years	
Steam Boiler	5	30 years	22 years	8 years	
Chiller or Cooling tower	N/A				
Mechanical piping	5	30 years	22 years	8 years	
Refrigerant piping	5	30 years	22 years	8 years	
Duct	5	30 years	22 years	8 years	
Outdoor air units	N/A				
Terminal units	N/A				
Package units (1994)	2	18 years	22 years	0 years	
Package units (1998)	2	18 years	18 years	0 years	
Package units (2012)	5	18 years	4 years	14 years	
Controls	5	20 years	22 years	0 years	
Exhaust fans	5	25 years	18 years	7 years	
Plumbing					
Plumbing fixtures and controls	5	30 years	18 years	12 years	
Floor drains	5	30 years	18 years	12 years	
Water heaters	2	15 years	16 years	0 years	
Pumps	2	15 years	18 years	0 years	
Potable water piping & valves	5	30 years	18 years	12 years	
Sprinkler system	5	30 years	18 years	12 years	
Back-flow preventer	5	30 years	18 years	12 years	
Service line & meter (size appropriate)	5	30 years	18 years	12 years	
Wall and yard hydrants	2	15 years	18 years	0 years	
Eye wash stations	N/A				
Emergency showers	N/A				
Condition Categories					
1 Immediate replacement required, life saftey concern					
2 System has reached it's useful life					
3 Major repair or modifications required, useful life remaining					
4 Minor repair required					
5 General maintenance required					

Clearbrook Elementary School Electrical Condition Assessment

Reference Building Owners and Managers Association International (BOMA)
Preventative Maintenance Guidebook

System/Components	Average Useful Life	Current Age	Expected Life Remaining	Condition Category	Notes
Electrical					
Main switch gear	40	20	20	5	
Panelboards	30	57	-27	1	One panelboard past useful life, some from the 60, most from 19 years ago, One 60 plus year old panel needs replaced
Cabling	40	20	20	5	Some newere installed 7 years ago
Conduit/raceway	40	20	20	5	
Light fixtures	20	20	0	5	
Lighting controls	30	20	10	5	
Public address system - Headend	30	20	10	5	
Public address system - Devices	30	20	10	5	
Security system	10	5	5	5	
Camera system	10	5	5	5	
Data system	15	5	10	5	
Fire alarm system - Headend	30	20	10	5	
Fire alarm system - Devices	30	20	10	5	
Site lighting	20	20	0	2	
Classroom media systems (TV, projector, etc.)	10	5	5	5	
Phone system	10	5	5	5	
Condition Categories					
1 Immediate replacement required, life safety concern					
2 System has reached it's useful life					
3 Major repair or modifications required, useful life remaining					
4 Minor repair required					
5 General maintenance required					

Clearbrook Elementary School Civil Condition Assessment

Reference Building Owners and Managers Association International (BOMA)

Preventative Maintenance Guidebook

System/Components	Condition Category	Expected Useful Life	Current Age	Expected Life Remaining	Notes
Civil					
Asphalt pavement	2	15 years	18 years	0 years	
Asphalt walks	5	20 years	Unknown	15 years	
Concrete pavement	4	30 years	18 years	12 years	
Concrete walks	4	30 years	18-78 years	0-12 years	
Stairs	5	30 years	18 years	12 years	
Ramps	5	30 years	18 years	12 years	
Railings	1	15 years	18 years	3 years	
Concrete curb and gutter	4	30 years	18 years	12 years	
Concrete / Brick Pavers	N/A	N/A	N/A	N/A	
Guardrail, Parking Bumpers, Misc.	2	Varies	18 years	Varies	
Fire lane	3	Varies by Material	18 years	0 years	
Fire lines and hydrants	4	40 years	18 years	22 years	
Domestic Water system	4	40 years	18 years	22 years	
Sewer system	4	40 years	18+ years	0-22 years	
Natural Gas system	4	40 years	18 years	0-22 years	
Electrical System	4	25 years	Unknown	5-10 years	
Exterior Lighting	3	25 years	18+ years	0-22 years	
Storm water system	4	40 years	18+ years	0-22 years	
Detention / Retention ponds	4	Life	18 years	22 years	
Stormwater Management BMP's	N/A	N/A	N/A	N/A	
Surface drainage and grading	4	N/A	N/A	N/A	
Vegetative landsaping	5	Life	18-78 years	Varies	
Lawns	3/5	Life	18-78 years	Life	
Fencing and gates	5	20 years	Unknown	10-15+ years	
Signage	4	10 years	Unknown	5+ years	
Flagpoles	4	50 years	Unknown	5+ years	
Site furnishings	5	15 years	Unknown	10+ years	
Awnings / Canopies	N/A	N/A	N/A	N/A	
Site retaining walls	N/A	N/A	N/A	N/A	
Accessory structures	5	50 years	16+ years	5+ years	
Playgrounds	5	10 years	Unknown	8+ years	
Paved play areas	5	20 years	Unknown	10+ years	
Play / PE fields	4	Life	Unknown	Life	
Condition Categories					
1 Immediate replacement required, life saftey concern					
2 System has reached it's useful life					
3 Major repair or modifications required, useful life remaining					
4 Minor repair required					
5 General maintenance required					

Budgetary Cost Estimate

Estimate Date 12/7/2016
Facility Name **Clearbrook Elementary School**
Client Name Roanoke County Schools

OWPR ARCHITECTS AND ENGINEERS

Quantity	Description	Unit	Cost / unit	Total w/ OH&P
	ARCHITECTURAL			
25,706	Replace suspended ceiling system	SF	$5.50	$169,659.60
2,417	Replace Carpet, broadloom 32 oz, glue down	SF	$4.00	$11,601.60
150	New Interior Signage-adheasive back/braille	EA	$42.00	$7,560.00
	ADA compliant			
99	Door Hardware	EA	$800.00	$95,040.00
1	Repoint Cracks at head of Windows	LS	$1,250.00	$1,500.00
	CIVIL			
2	ADA signage	EA	$500.00	$1,200.00
1,500	Asphalt pavement	SF	$3.00	$5,400.00
28,000	Mill and overlay asphalt pavement	SF	$1.00	$33,600.00
40	Provide handrails	LF	$50.00	$2,400.00
5	Install site lighting	EA	$5,000.00	$30,000.00
2	Provide outlet protection	EA	$200.00	$480.00
6	Provide splash blocks	EA	$25.00	$180.00
2	Provide erosion control mat	EA	$50.00	$120.00
1	Repair lawn at cul de sac at main entrance	LS	$4,000.00	$4,800.00
	MECHANICAL / PLUMBING			
31,000	Replace HVAC systems for original portion of building	SF	$35.00	$1,085,000.00
1	Water Heater	EA	$10,000.00	$10,000.00
6	Replace water coolers	EA	$1,500.00	$9,000.00
1	Replace domestic hot water circulation pump	EA	$3,000.00	$3,000.00
	ELECTRICAL			
31,000	Replace HVAC systems for original portion of building	SF	$1.50	$46,500.00
1	Water Heater	EA	$1,000.00	$1,000.00
6	Replace water coolers	EA	$100.00	$600.00
31,000	Panelboard Replacement	SF	$7.00	$217,000.00
	TOTAL Budgetary Cost			**$1,735,641**