BONSACK ELEMENTARY SCHOOL

ARCHITECTURAL

Bonsack Elementary School (BES) was originally built in 1999. The building has since had a classroom space addition, bringing total square footage to 69,212 SF. The building is equipped with a sprinkler system. There are no mobile units serving as classrooms at the school.

Exterior Finishes

Exterior Cladding:

Exterior wall material is, generally, brick with pre-finished metal panels occurring at eaves and other infill locations. A split face water table wraps the entire building. A line of tile occurs at the head height of the windows, and wraps the entire building. . Paint on the steel lintels has peeled at some locations and needs to be scraped and repainted.

Windows have brick rowlock sills. Joints in these sills should be monitored and resealed as sealant failure occurs.

Roof:

The roofing system employed at the school is a standing seam mansard with an EPDM membrane at the interior portions of the roof. Water problems have been a constant issue in recent years. Drains were observed with debris blocking passage of water. Debris, including deteriorating plywood that has been left on the roof, should be removed from the roof. Chairs that have been placed on the roof to allow for climbing to other areas should be removed. These cause point loading of the membrane and could damage the membrane and substrate. Sealants at EPDM laps, patches, and splices were in poor condition. Gaps and bubbles were present at many laps and splices. Evidence of ponding was visible at several locations, including space between the southern-most roof top unit and the mansard wall. Insulation under the areas of ponding was soft and spongy, indicative of saturation.

Broken PVC pipe was lying on the membrane surface at the northern portion of the membrane area. Wooden pedestals were in decaying condition, with several exposed fasteners in positions to damage the membrane.

Metal roofing was observed to be in good condition. Valley flashings have experienced finish wear at the base of each standing seam. Wear has extended through all finish to the base metal, and surface rust has formed.

Drip edge was observed to be in good condition, but, at many locations along the top of the mansard, fasteners were pulling out of the substrate. The building's lighting protection system is installed at the top of the mansard roof, and also has fasteners pulling out of substrates. Sealants, at fascia panels on the roof and at roof edges, should be regularly monitored and replaced as needed. Several joints have experienced sealant degradation and cracking and should be resealed.

Skylight glazing was observed to be in good condition. Joints in the three skylights varied. Some had no sealant and large gaps. Other locations had inconsistently applied sealants. Water damage observed at the interior is likely related to these inconsistencies. Sealants should be monitored for stability and replaced as required.

Windows:

Windows at the exterior of the building are generally aluminum storefront systems with insulated glazing. Operable windows occur at most locations around the building. Glazed block occurs at some locations, and is in good condition. Condition of sealants and glazing should be monitored. Sealant that is cracked or failing in any other way should be replaced. All glazing units were observed to be in good condition with no signs of seal failure.

Exterior Doors:

Exterior doors are a mix of storefront and hollow metal systems. At main entry points and egress doors, aluminum storefront systems are installed. These are powder coated systems with finish in good condition. Hollow metal doors are present at service and mechanical locations. Glazing condition and door condition at all hollow metal doors should be monitored. Rusting doors and frames should be replaced as required.

Interior Finishes, Fixtures & Equipment

(See assessment tabulations for interior finish conditions).

Vinyl Composition Tile and Ceramic Tile are the predominant floor finishes at BES. Other floor finishes include limited applications of glazed quarry tile in corridors, sheet vinyl in single occupant restrooms and closets, wood at the Gymnasium, and a fluid-applied traffic coating in the kitchen. The floor coating in the kitchen has cracked and chipped at locations where the concrete slab has cracked. Carpet is located in a limited number of classrooms, the library, and administrative spaces. The broadloom is worn and stained in many areas. Vinyl composition tile shows gaps and separation in many of the corridor spaces. This is likely due to cracking concrete substrate below.

Interior wall finishes are generally painted, stack bond and running bond, concrete block and painted gypsum wall board. Office areas and built out areas have gypsum wall board partitions. Window treatments are typically vinyl roller shades. Gymnasium walls are a mix standard and sound absorbing block.

Ceilings are generally suspended acoustical tile (lay-in) with gypsum wall board at skylight locations. The suspended acoustical tile ceilings are damaged throughout the facility. Water staining has been a constant issue; there were buckets placed below saturated tiles at several corridor locations. New suspended acoustical tile ceilings are recommended as part of any renovations, but water issues should be rectified before any ceiling work takes place. The gypsum installed at skylights has experienced water damage at most locations. Bubbling of the paint and degradation of the wall board is common. Examples of this damage can be seen in the library, and in the corridor outside the library.

Most interior doors are wood in hollow metal frames. Most doors are in good condition with minimal damage to veneers. Frames should be repainted as required. Frames that have had holes drilled in them should be patched and repainted.

Marker boards and tack boards are present in classrooms. Most are in fair to good condition, with some exhibiting staining. Some would be replaced during renovations. Smart boards have been placed in rooms.

Plastic laminate-clad casework is common throughout the facility. Most units are 36”; in any renovation, efforts should be made to install accessible units.

Bathrooms have 2” ceramic floor tile, suspended acoustical tile ceilings, and painted block walls. As is common throughout the facility, the ceiling tiles show signs of water damage in most rooms. Faculty restrooms and restrooms in classrooms have sheet vinyl flooring. The sheet goods have been turned up the wall to form a coved base. This base is peeling away from the wall in many locations. Sealants should be monitored, especially those at fixtures and their connections to adjacent surfaces. Vertical grab bars are not installed in any of the bathrooms. These are not required by the ADA, but are required by ANSI A117.1, and installation will be required in any renovations. Gang bathrooms have high pressure laminate toilet partitions. These are in good condition, but should be monitored for any laminate damage that could lead to degradation of the substrate.

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.

Most classrooms are provided with a generously sized storage closet. Additional storage for general school use is provided at several locations throughout the facility. As needs change, additional storage may be incorporated into any renovations or additions.

Accessibility

As the project was constructed in 1999, and subsequent additions were performed before 2010, many features of the facility comply with the appropriate accessibility standards for the time, but do not comply with the 2010 ADA and current ANSI standards. As part of any renovation, alteration of existing, non-compliant elements will be required.

Safety and Security

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

The vestibule at BES provides visibility from the office and control over the main entry. Door position sensors and locks are provided at all other exterior doors. Sight lines and distance are reasonably long in most areas of the building.

End of Bonsack Elementary School Architectural 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 1999 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 1999 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 1999 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 1999 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 1999 and seemed to be in good working condition. The water coolers are expected to have a useful life of 15 years.

Water Heaters:

Domestic water heating is done by two gas fired units. Water heater #1 (WH-1) has recently been replaced and appeared to be less than 5 years old while WH-2 appeared to be from 1999. Both units feed a storage tank at 140°F. The domestic water heaters are expected to have a useful life of 15 years. A tempering valve manifold is installed which lowers hot water temperature to 120°F. Two hot water circulation pumps circulate the two hot water loops 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 1999. The backflow preventer is expected to have a useful life of 30 years.

Fire Protection:

The building is fully sprinkled. There is a 6" fire line into the building which has a double check assembly backflow preventer which was installed in 1999. The backflow preventer is expected to have a useful life of 30 years.

Recommendations:

Water heater #2 (WH-2) has reached the end of its expected useful life and should be replaced in the near future.

End of Bonsack Elementary School Plumbing/Fire Protection Narrative

MECHANICAL (HVAC)

Heating:

Two gas fired boilers provide heat to the building through a hot water circulation system. Hot water is circulated to the building's heating coils with two base mounted pumps. Coils are located in rooftop air handler units and in terminal units. It is believed that the boilers and pumps were installed in 1999 and seemed to be in good, working condition for their respective ages. The boilers are 17 years old and are expected to have a useful life of 30 years. The pumps are 17 years old and are expected to have a useful life of 25 years.

Ventilation:

Ventilation is provided to the building by rooftop air handling units.

Air Conditioning:

The building is primarily cooled by air cooled DX type rooftop units. There are both packaged and "split" type units with a remote condensing unit sitting directly adjacent to the unit. These units are approximately 17 years old and are approaching the end of their useful life expectancy, which is 20 years.

Piping:

There is hot water piping, black steel, insulated. The piping is 17 years old and appears to be in good condition for its age.

Controls:

The building automation controls are digital type (DDC) are the Metasys Brand, by Johnson Controls.

Recommendations:

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 Bonsack Elementary School Mechanical Narrative

ELECTRICAL

Main Switch Gear:

Main Switchboard: The main switchboard is a 2000 Amp, 3 phase, 4 wire, 480Y/277 volt Square D, service entrance rated switchboard. The existing switchboard is new to the building with the 1999 major addition/renovation and has space and spares available.

Recommendation: In the event of a substantial renovation or addition, existing switchboard can be reused and expanded as necessary.

Transformers:

Transformers: Existing transformers are Square D. The transformer in the main electrical room is humming louder than normal. This is often a sign of potential problems or an adjustment that can be made to make the transformer last longer. This transformer is approximately 15 years old, over time transformers become less energy efficient.

Recommendation: If renovations and additions are pursued, maintain the existing transformer, if possible. This large transformer in the electrical room may need to be replaced sooner.

Panelboards:

Distribution and Branch circuit Panelboards: All of the panels are Square D that were added in 1999 or added a renovation in 2004.

Recommendation: If renovations and additions occur, reuse the existing panelboards and space available. 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 original or newer with the 2004 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.

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. Power poles have been added to the front office area.

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 or parabolic fixtures with T8 lamps, and 1x4 fixtures with T8 lamps, and 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 installed in 1999 or with new to the 2004 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 or bi level switch. Corridor lighting is controlled keyed switches.

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 Telecor 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; however the phone system is being utilized for all communications. In the event of a renovation or addition, the system could be reused and expanded as necessary.

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 Cerberus Protronics system installed in 1999. Additions were added during 2004. The current system consists of limited area manual pull stations, smoke detectors, and horn/strobe alarms. However, there are alarm devices located in classrooms.

Recommendation: Fire alarm is approaching life expectancy. However, with some minor adjustments and upgrades the fire alarm system can last many more years. Maintain existing system as required.

Generator:

Generator: None Installed.

Site Lighting:

Site Lighting: The site lighting consists of pole mounted lights for parking areas and wall packs around the building. The fixtures appear to be original and added with the addition.

Recommendation: Maintain fixtures by replacing bulbs and ballasts. When fixture has reached its end of life it is recommended to replace it with an LED fixture that has instant on capabilities and better energy savings.

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 Bonsack Elementary School Electrical Narrative

CIVIL

Traffic Circulation

Buses: School is served by 7 regular buses as well as special needs and daycare vans. There is a designated bus loop at the front of the school.

Morning: Buses use the bus loop to drop off. Moves quickly and smoothly with little to no backups.

Afternoon: Buses line up through bus loop. There is adequate stacking room for all buses. Buses remain stationary until all students are loaded and then exit the bus loop at the same time.

Cars: Good circulation through main parking area.

Morning: Cars line up along the east side of the school adjacent to the gym. Two staff members assist students getting out of cars, and two staff members are on the sidewalk to direct and assist students into the building. Once unloaded, cars are not allowed to pass, they must wait for the car ahead. No significant backups at drop off.

Afternoon: Similar to morning situation where cars line up along the east side to pick up students. Staff is on hand to assist students into cars. Once loaded, cars are allowed to pass to exit. This is due to some parents arriving early and may be waiting a longer time for their student. No significant backups at pick up.

Parking: 91 striped parking spaces are provided with 3 designated ADA spaces. Day to day parking is adequate for faculty / staff / visitors. Parking quantities meet Roanoke County requirements and State recommendations. Event parking is an issue with parents parking wherever possible and sometimes in fire lanes.

Service: Service area is adjacent to the parking lot and access is through the parking lot. Deliveries need to be scheduled around drop off / pick up times or delivery vehicles can get stuck in the traffic. Maneuvering space is adequate.

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

Separation: Separation is good. Buses and cars have separate areas. Service vehicles share access with cars which is not an issue if scheduled appropriately. All vehicles share one entrance in and out, however it is a long access drive which allows adequate stacking for exiting the site.

Adjacent Roadways: Sight distance is minimal with a tree blocking vision to the right and a steep hill to the left. The speed limit is low, so is not a major issue.

Recommendation: Trim or remove tree to the right of the entrance.

Pedestrian: Very few pedestrians entering the site, no more than 3 per year, and mostly when the weather is good.

ADA Accessibility

Parking: Three spaces are designated as ADA parking. One space is designated as van accessible. Four spaces are required. Pavement markings are faded.

Recommendation: Re-stripe parking spaces and create an additional parking space.

Signage: Signage is faded, posts are leaning and rusted, and none have the penalty indication (not code compliant).

Recommendation: Replace posts and signage with concrete foundations, aluminum posts, and code compliant signs.

Ramps: Curb ramps only in the parking areas are in good condition. There is a ramp leading to the play equipment which is in good condition with the exception of the paint on the railing which is faded and worn.

Recommendation: Sand, prime, and paint handrail.

Access to all areas: There is ADA access to all areas and activities on site.

Parking Areas, Driveways, and Sidewalks

Asphalt Pavement: Asphalt pavement is in generally poor condition with alligator cracking throughout.

Recommendation: Repair areas with alligator cracking (subgrade deficiencies) mill and overlay the parking lot area.

Asphalt Walks: Asphalt track is in fair condition with minor cracking and grass encroaching in cracks and edges.

Recommendation: Remove grass from cracks, fill and seal cracks. Trim grass back from edges.

Concrete Pavement: Concrete pavement located at the dumpster pad only. Concrete is aged but in good condition.

Concrete Walks: Concrete walks are in good condition with only minor cracking.

Stairs, Ramps, and Railings: Curb ramps only in the parking areas are in good condition. There is a ramp leading to the play equipment which is in good condition with the exception of the paint on the railing which is faded and worn. There are no stairs on site.

Recommendation: Sand, prime, and paint handrail.

Concrete Curb and Gutter: Some areas are broken and cracked, but overall good to fair condition.

Recommendation: Repair areas of broken curb.

Guardrail, Parking Bumpers, and Miscellaneous: Guardrail along entrance is in good condition.

Fire Lane: Fire lanes are marked by painted curb and signage. Signage is in fair condition and is turned toward oncoming traffic. Painted curbs are faded.

Recommendation: Re-paint curbs at fire lanes.

Utilities

Fire Lines and Hydrants: Sufficient fire hydrant coverage and spacing with three fire hydrants located around the school and post indicator valve adjacent to loading dock area. No paved fire lane around building, but fire truck access is present. A fire department connection is mounted on the building at the front, but is hidden behind vegetation with no signage.

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. Water meter is located adjacent to loading dock area in manhole.

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

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

Natural Gas System: Gas meter is located at the loading dock area and protected from vehicular traffic with bollards. The meter is in good condition and shows no signs of deterioration.

Electric: Electric service provided via overhead poles to back of school property. Service is taken underground to a transformer in the loading dock area and then into the building. The meter is mounted on the building beside the transformer. The

transformer sits right on the edge of the curb and is prone to damage from vehicular traffic.

Recommendation: Install bollards to protect transformer from vehicular traffic.

Site Lighting: Large site lights illuminate school parking lots and bus loop and building mounted lights illuminate sidewalks and entrances. Lighting is sufficient for safety and security.

Grading and Drainage

Storm Water System: Roof drains and downspouts are piped underground into the school storm water network. Runoff from the parking lot and yard areas are collected in curb and drop inlets. All runoff is conveyed to the north where it drains into a large rock swale adjacent to the school site. All storm water inlets, manholes and pipes are in fair condition and functional, but filled with sediment and debris.

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

Slopes, Ponding, and other Drainage Issues: Minor erosion is present across entire site, but major erosion is present at outlet point due to ongoing construction and lack of erosion and sediment control measures. Buses parking in low point of parking lot leak oil which is conveyed off-site by storm water runoff and untreated.

Recommendation: Provide rip rap at outlet point to prevent erosion and dissipate energy. Install temporary erosion control measures to protect school site from adjacent construction.

Site Features

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

Recommendation: Remove shrubs in front of monument sign at entrance for visibility Continue general maintenance of pruning and mulching.

Lawns: Generally good condition. Minor areas in need of repair in heavily trafficked areas.

Recommendation: Repair and reseed bare areas. Provide fencing and erosion control mat to protect seed in high traffic areas.

Fencing and Gates: Limited site fencing. CLF in excellent condition.

Signage: ADA signage is not to code. No directional signage provided.

Recommendation: Replace ADA signage. Provide directional signage.

Flagpoles: Excellent condition.

Site Furnishings: Site furnishings limited to wood picnic tables and playground seating.

Recommendation: Clean and treat wood furnishings to extend useful life.

Awnings / Canopies: Limited canopies. Good condition.

Accessory Structures: Storage structures with wood framing and vinyl coating. Roofs in good condition.

Play Areas and Physical Education

Play / PE Areas (General):

Playgrounds / Stationary Play Equipment: Grade PreK-1 play equipment in good condition. Two areas of grade 2-5 play equipment are provided and are in good condition. All areas require fresh mulch.

Recommendation: Provide additional playground mulch.

Paved Play Areas: Asphalt play areas exhibits signs of failure with grass growing through cracks.

Recommendation: Useful life can be extended by cleaning and sealing cracks. Remove grass from cracks, fill and seal cracks. Trim grass back from edges.

Play / PE Fields: Fields in good condition.

End of Bonsack Elementary School Civil Narrative

OWPR
ARCHITECTS AND ENGINEERS

Notes

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

Subject: Bonsack Elementary School	**Total Pages:**
Date: 9/14/2016	**Location: Roanoke, VA**
Copies To:	**Report Prepared By: AHW**

General:

All door signage complies with 2004 ADA, but not 2010.
1999 building with addition 5 or 6 years later.
Staff says roof leaks are a constant problem.
Evidence of leaks is present throughout the facility. Ceiling tiles are stained and/or saturated. Several have had holes drilled in them to allow for water to drip into waste cans.

Roof:

Mansard style roof with standing seam and EPDM systems.
Roof insulation near W-SW mechanical unit is spongy. May be wet under membrane.
Fair amount of ponding was observed around mechanical units with similar proximity to mansard wall.
Sealants are in poor shape.
Splice tape was observed separating from membrane in several locations.
Ponding in several locations. Some near drains.
Walk pads are peeling up from roof membrane.
Organic matter has accumulated in several corners. Moss/plants
Valley flashing at standing seam areas is worn from flow wear at every seam. Finish is worn through and base metal is rusting.
Attempts have been made to seal joints in ridge caps with white sealant.
Chairs have been placed on roof to provide staff with a method of crossing higher walls.
Feet are point loading the membrane.
Some lightning protection wire mounting brackets are pulling out of the flashing they're attached to, creating open holes in flashing.
Drip edge screws were observed backing out from wall.
Gaps were observed in skylight framing. Some had been crudely filled with sealant. Some were left open.
Several roof drain strainer baskets were clogged with debris.
Unknown abandoned and broken PVC pipes were lying on the roof surface. These formerly had PT wood pedestals which are breaking apart leaving sharp fasteners exposed on membrane.

OWPR
ARCHITECTS AND ENGINEERS

Notes

Gym:
Replace marker board.
All other finishes in good condition.

Bathrooms:
Have 2" CT mosaic floor tile. SATC and Painted block

Utility Spaces:
Exposed concrete floor and painted block. Painted hard ceilings. Generally in good condition.

Kitchen:
Coated concrete floor. Painted block. SATC. Light cracking of floor slab. Few spots where the floor coating has popped off at the cracks.

Cafeteria:
Hi-Lo EWC in space.
Stained marker board.
Staining of SATC at lower level of ceiling. Some of the stains are in-line with assumed sprinkler piping routing.
VCT floors in good condition.

Corridors:
Some have a glazed quarry tile. Most have VCT. At "T" intersections, gaps were often present at VCT.

Mailroom:
Worn carpet.

Guidance:
Carpet ok. SATC in good condition.

Clinic:
SATC has signs of leaks and is damaged. VCT is in good condition. GWB and Painted block walls in good condition.

Clinic Bathroom:
SATC has signs of leaks. 2" floor tile good condition.

Office area:
Carpet wear is medium. SATC has water spots. GWB walls in good condition.

Office toilet:
Painted GWB good. 2" tile good. SATC water damaged.

Principal office/Assistant principal/Conference:
Carpet good. SATC good. Painted block & GWB good.

Records:
VCT, Painted CMU, SATC good.

210:
VCT, Painted CMU, folding partition, SATC, all in good condition.

OWPR
ARCHITECTS AND ENGINEERS

Notes

209:
VCT, Painted CMU, folding partition all in good condition. Water spots on SATC.
208:
VCT, Painted CMU, SATC all good.
207:
VCT, Painted CMU in good condition. SATC has water spots.
206:
VCT Painted CMU in good condition. One small water spot on SATC.
Faculty Restroom:
Typical finishes, typical water spots.
205:
VCT, Painted Block, SATC in good condition.
Girls Room:
Typical bathroom finishes. Water spots on ceiling.
Boys Room:
Typical bathroom finishes. All good condition.
204:
Typical finishes. All good condition.
203:
Typical finishes. One water spot on SATC
202:
Typical finishes. Good condition
Bathroom in the classroom has no lavatory in toilet room. Lavatory is located outside of bathroom in casework. VUSBC modifies IPC to allow this with 1 door in between. Non-issue (in hindsight)
201:
Typical finishes. Water spots and cracked SATC. Has bathroom in classroom.
200 Corridor:
At "T" intersections of this corridor, gaps at joints of VCT, consistent with some slab movement or shifting?
Major leak at corridor connection. Has drilled hole in SATC to allow drip into trash can.
303
Finishes typical with exception of Carpet. Carpet has light wear.
305:
Finishes typical with exception of Carpet. Carpet has light wear. SATC has water spots. GWB at skylights has been damaged by leaking water.
308:
Typical finishes. Spots on SATC.
Corridor:
Typical finishes. Spots on SATC.
All skylights in corridor have damaged GWB.
307:
Carpet in good condition. All other finishes typical.

OWPR
ARCHITECTS AND ENGINEERS

Notes

306:
Typical finishes w/ spots on SATC. Casework in good condition.
101:
Typical finishes w/ spots on SATC.
Unisex restroom:
Typical toilet room finishes with spots on SATC.
102:
Typical finishes with spots. Has bathroom in classroom.
113:
Mix of carpet and VCT. Has accessible shower which is being used to store artificial Christmas trees.
103:
Typical finishes with spots on SATC. Some VCT tiles are lifting/separating at joints.
114/115:
Typical finishes. Has folding partition. SATC has water spots.
104:
Typical finishes. Has toilet room. No spots on SATC.
117:
Typical finishes in good condition.
Electrical Closet:
Staining/damage to VCT. Roof hatch in closet.
105/106:
Typical finishes. Has restroom.
Faculty Restroom:
Typical toilet room finishes, but has sheet good floor material. Coved base of sheet is peeling off the wall.
118:
Typical finishes.
116:
Typical Finishes. VCT separating at some joints.
107/109:
Typical finishes. Spots on SATC. Sheet good flooring in toilet room.
108:
Typical finishes. Spots on SATC. Sheet good flooring in toilet room peeling up.
110:
Typical finishes. Sheet good flooring in toilet room.
111 Corridor area:
VCT joints separating.
111:
Typical finishes. Spots on SATC. Toilet with 2" floor tile.
112:
Typical finishes. Spots on SATC. Toilet with 2" floor tile. Veneer damage on door.
409:
Typical finishes. Spots on SATC. Folding partition.

OWPR
ARCHITECTS AND ENGINEERS

Notes

401/402/403/404:
Typical finishes.

405:
Typical finishes. Spots on SATC.

406:
Typical finishes. Spots on SATC. Has casework

407/408:
Typical finishes. Has casework.

Bonsack 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	5	Life	17	Life	
CMU walls	5	Life	17	LIfe	
Interior doors	5	20	17	3	
Exterior doors	5	50	17	33	
Door hardware	4	7	17	0	
Electronic door hardware	2	5	17	0	
Vinyl floor tile	4	12	17	0	
Ceramic/Porcelain floor tile	5	50	17	33	
Quarry floor tile	5	50	17	33	
Wood gym floor	5	10	17	0	
Other wood floors	5	10	17	0	
Exposed concrete floors	5	50	17	33	
Carpet	2	5	17	0	
Exterior windows	5	30	17	13	
Interior windows	5	30	17	13	
Membrane Roof (Including flashings, coping, etc.)	3	20	17	3	
Standing Seam Metal Roof	4	25	17	8	
Suspended acoustical tile ceilings (lay-in)	3	25	17	8	
Plaster/GWB ceilings	4	30	17	13	
Sound control panels (wall and ceiling)	5	N/A	17		
Ceiling/exposed structure finish (paint)	2	5	17	0	
Interior wall finishes (paint)	2	5	17	0	
Marker boards or chalk boards	4	N/A	17		
Tack boards	4	N/A	17		
Projection screens	5	N/A	17		
Casework	5	N/A	17		
Window treatments	5	N/A	17		
Toilet partitions	5	20	17	3	
Toilet accessories	5	N/A	17		
Interior railings	5	30	17	13	
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					

Bonsack 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					
Boiler	5	30 years	17 years	13 years	
Chiller or Cooling tower	N/A				
Mechanical piping	5	30 years	17 years	13 years	
Refrigerant piping	5	30 years	17 years	13 years	
Duct	5	30 years	17 years	13 years	
Outdoor air units	N/A				
Terminal units	5	20 years	17 years	3 years	
Package units	5	20 years	17 years	3 years	
Controls	5	20 years	17 years	3 years	
Exhaust fans	5	25 years	17 years	8 years	
Plumbing					
Plumbing fixtures and controls	5	30 years	17 years	13 years	
Floor drains	5	30 years	17 years	13 years	
Water heaters	5	25 years	17 years	8 years	
Pumps	2	15 years	17 years	0 years	
Potable water piping & valves	5	30 years	17 years	13 years	
Sprinkler system	5	30 years	17 years	13 years	
Back-flow preventer	5	30 years	17 years	13 years	
Service line & meter (size appropriate)	5	30 years	17 years	13 years	
Wall and yard hydrants	N/A				
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					

Bonsack 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	17	23	5	
Panelboards	30	17	13	5	
Panelboards	30	11	19	5	
Cabling	40	17	23	5	
Cabling	40	17	23	5	
Conduit/raceway	40	17	23	5	
Light fixtures	20	17	3	5	
Lighting controls	30	17	13	5	
Public address system - Headend	30	17	13	5	
Public address system - Devices	30	17	13	5	
Security system	10	5	5	5	
Camera system	10	5	5	5	
Data system	15	5	10	5	
Fire alarm system - Headend	30	17	13	5	
Fire alarm system - Devices	30	17	13	5	
Site lighting	20	17	3	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

Bonsack 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	2/4	15 years	17 years	0 years	
Asphalt walks	4	20 years	17 years	3 years	
Concrete pavement	5	30 years	17 years	13 years	
Concrete walks	5	30 years	17 years	13 years	
Stairs	N/A	N/A	N/A	N/A	
Ramps	5	30 years	17 years	13 years	
Railings	4	15 years	17 years	0 years	
Concrete curb and gutter	4	30 years	17 years	13 years	
Concrete / Brick Pavers	N/A	N/A	N/A	N/A	
Guardrail, Parking Bumpers, Misc.	5	Varies	17 years	13 years	
Fire lane	4	Varies by Material	17 years	13 years	
Fire lines and hydrants	5	40 years	17 years	23 years	
Domestic Water system	5	40 years	17 years	23 years	
Sewer system	4	40 years	17 years	23 years	
Natural Gas system	5	40 years	17 years	23 years	
Electrical System	4	25 years	17 years	23 years	
Exterior Lighting	5	25 years	17 years	23 years	
Storm water system	4	40 years	17 years	23 years	
Detention / Retention ponds	N/A	N/A	N/A	N/A	
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	17 years	Life	
Lawns	5	Life	17 years	Life	
Fencing and gates	5	20 years	17 years	10 years	
Signage	4	10 years	11 years	10 years	
Flagpoles	5	40 years	11 years	29 years	
Site furnishings	4	10 years	Unknown	5 years	
Awnings / Canopies	5	50 years	12 years	38 years	
Site retaining walls	N/A	N/A	N/A	N/A	
Accessory structures	4	20 years	Unknown	15 years	
Playgrounds	4	10 years	Unknown	5 years	
Paved play areas	4	20 years	17 years	3 years	
Play / PE fields	5	Life	Life	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 **Bonsack Elementary School**
Client Name Roanoke County Schools

OWPR ARCHITECTS AND ENGINEERS

Quantity	Description	Unit	Cost / unit	Total w/ OH&P
	ARCHITECTURAL			
63,400	Replace suspended ceiling system	SF	$5.50	$418,440.00
63,400	Remove Existing Membrane Roof	SF	$2.25	$171,180.00
63,400	Single-ply EPDM Roof membrane	SF	$7.00	$532,560.00
141	New Interior Signage-adhesive back/braille	EA	$42.00	$7,106.40
	ADA compliant			
10,000	Replace Carpet, broadloom 32 oz, gluedown	SF	$4.00	$48,000.00
	CIVIL			
1	Remove shrubs	EA	$500.00	$600.00
100	Pavement restriping	LF	$0.20	$24.00
4	ADA signage	EA	$500.00	$2,400.00
4	Directional signage	EA	$1,500.00	$7,200.00
100,000	Mill and overlay asphalt pavement	SF	$1.00	$120,000.00
700	Repaint curbs and fire lanes	LF	$0.10	$84.00
3	Install bollards	EA	$650.00	$2,340.00
2	Provide outlet protection	EA	$200.00	$480.00
	MECHANICAL / PLUMBING			
1	Replace water heater (WH-2)	EA	$15,000.00	$15,000.00
2	Replace domestic hot water circulation pumps	EA	$3,000.00	$6,000.00
	ELECTRICAL			
	Replace Water Heater	EA	$2,000.00	$2,000.00
	TOTAL Budgetary Cost			**$1,333,414**