GLENVAR MIDDLE SCHOOL

ARCHITECTURAL

Glenvar Middle School (GMS) was originally occupied in 1996. The building had an addition and renovation project performed around 2000, bringing total square footage to 101,595 SF. In 2014, a classroom was converted to provide a secure entry vestibule and administration area for control of that secure vestibule.

The middle school is connected to the high school, and shares amenities, such as the kitchen. The kitchen is accessed via a vestibule, shared with the wood shop. Saw dust and scrap boards were observed in this area. Food for the cafeteria is carted through the shared vestibule to a serving line. There is a small ramp leading from the cafeteria to the doors to this vestibule. There is no landing provided at the top of the ramp. Refer to the Glenvar High School Architectural Narrative for shared amenities.

Exterior Finishes

Exterior Cladding:

Exterior wall material is, generally, brick with exterior insulating finish system (EIFS) seeing limited use around windows and other accenting locations. Brick was observed to be in good condition, with minor mortar repointing required. This repointing was limited to areas above lower roof lines, not visible from ground level. The EIFS has experienced some staining. Condition of the sealant should be monitored, and the sealant replaced as required.

Brick rowlock sills were present at windows. At locations where EIFS is used below the windows, an aluminum sill is provided.

Near the main entry, exterior walls of the ground floor are recessed under the upper floor. A gypsum type soffit is used at the overhang. One location, near the midpoint of the building wing, has had the soffit collapse due to water damage. At the time of the visit, brick below this collapse was wet, metal was hanging from the hole, and wet fiberglass insulation was visible.

Roof:

The EPDM roof system was observed to be in poor to fair condition. Based on renovation time frames, it is assumed the roof is nearing the end of its warranty period. As failures increase, replacement should be performed. Laps and splices were failing, as were patches. Flashing at skylights did not appear to be water tight. Rain, prior to the inspection, had left several ponding areas on the roof. Most of the system was a 60 mil, adhered membrane. But, one area appeared to be a 45 mil ballasted system. The ballast has been shifted on the roof, resulting in piling in some locations, and no

coverage in others. Debris should be removed from the roof. Moss was observed growing on piles of debris in corners.

Skylights were a mix of Kalwall and polycarbonate dome units. Both types showed evidence of water infiltration and should be replaced as required. Kalwall materials have experienced some surface degradation and moderate yellowing.

Over the former main entrance, there is a standing seam roof installed on a small tower. This roof has adhered snow guards which are falling off the roof. The metal slopes downward, and was then bent to cover the vertical face of the roof. The seam was cut to allow this bend. This creates a hole at each cut. At the vertical face, a second layer of metal was installed, to extend farther down the face. This was improperly lapped and is outside of the layer above. Water may be able to infiltrate the system at this location.

Standing seam copper was observed at one sloping application. The copper was in good condition, but sealants were observed to be failing in several areas. Provided sealants are replaced as required, the copper system should have many years of service life remaining.

Drip edge and prefinished metal copings were observed to be in fair condition. Sealants, at fascia panels on the roof and at roof edges, were failing and should be replaced as required. Several joints have experience sealant degradation and cracking, and should be resealed. Large, open gaps were visible in several coping sections. Sealant has been heavily applied to others, but appears to be ineffective. Counterflashings had pulled out of their reglet at one location.

Windows:

Windows around the building were aluminum framed units. Most were glazed with 1" insulated glazing. Most locations were equipped with an operable sash, in awning or hopper configuration. At the interior of the operable sash, screens are provided with a latchable opening.

Exterior Doors:

Main exterior doors are aluminum storefront entry systems. Secondary doors were hollow metal systems. Both were equipped with card reader systems for controlling access. Hollow metal doors and frames should be monitored for any rusting or damage and repainted as required. Doors 21 and 18 do not have weather stripping.

Interior Finishes, Fixtures & Equipment

(See assessment tabulations for interior finish conditions).

Vinyl Composition Tile (VCT) was the predominant floor finish at the facility. VCT was in fair to good condition throughout the facility, with some joint separation. Corridors on

the lower floor have terrazzo, in good condition. The auditorium, computer rooms, library and admin offices have broadloom carpet in fair to ok condition. As it has exceeded its life expectancy, a replacement can be performed when convenient or required. Carpet tiles in the new entry area and the Principal office were in good condition. The auditorium stage was a maple board floor, in good condition. Nosings were observed to be loose at the front of the stage. These should be reattached, and provided with additional support to prevent rolling. Regular maintenance of the floor finish is recommended. Maple flooring in the two gymnasiums was observed to be in good condition.

Interior walls were primarily painted concrete masonry units. Limited areas of the additions had exposed brick walls where the original building's exterior walls have been left in place. These typically occurred in corridors. Joint sealants at these brick locations should be monitored for degradation and replaced as required. Window treatments are typically vinyl roller shades.

Most bathrooms were provided with high pressure laminate toilet partitions. These were in poor condition with missing laminate at edges and damaged hardware. Ventilation in these bathrooms seemed to be minimal; odors were present. The damage to the toilet partitions may be a result of excess humidity, due to lack of ventilation. The bathrooms near the gymnasium have high density polyethylene partitions that are in fair to good condition. The locker rooms were provided with stainless steel toilet partitions that were in good condition.

Ceilings are generally suspended acoustical tile (lay-in) with gypsum wall board at bulkheads and accenting locations. The suspended acoustical tile ceilings have experienced water staining, throughout the facility. Tectum in the auxiliary gymnasium was in good condition. Exposed metal decking at the main gymnasium is in good condition, but should be repainted as required.

Most interior doors are wood in hollow metal frames. Veneers were observed to be in good condition. Limited applications of hollow metal doors were observed, again in good condition. Hollow metal doors and frames should be repainted as required.

Marker boards and tack boards are present in classrooms. Most are in fair to good condition with staining on many marker boards. Stained marker boards would be replaced during renovations. 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.

Boards on the wooden gymnasium bleachers had been broken and damaged. An example of this damage is visible nearest the corridor entry to the gym. Broken boards should be replaced to avoid issues with splinters or cuts.

Most classrooms are not provided with fixed casework for storage. Science labs have some plastic laminate casework installed. Student storage is provided in the form of hallway lockers, which appeared to be in good condition. Casework in the work room is provided with a sink that has a leaking faucet. Water damage to the casework is very likely. Additional storage for classroom use, and for general school use should be planned for any future renovation work.

Counter tops in bathrooms were observed to be in poor to fair condition. At one location, side braces were no longer attached allowing the countertop to give under downward pressure.

In the elevator car, wall panels are cracked and should be replaced if material failure continues.

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. Doors are equipped with electric operators, but these are non-functional due to security systems. The stage is accessible via a hallway behind the stage. There is no access from inside the auditorium. The auditorium seating area is not accessible. Restrooms were provided with accessible fixtures.

Safety and Security

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

The vestibule at GMS 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. Sight lines and distance are reasonably long in most areas of the building.

End of Glenvar Middle 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 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 one 399,900 Btu/hr input gas fired water heater with 85 gallon storage tank. This heater was installed in 2006. The domestic water heaters are expected to have a useful life of 15 years. It appeared that a second water heater had been removed and not replaced.

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:

None.

End of Glenvar Middle School Plumbing/Fire Protection Narrative

MECHANICAL (HVAC)

Heating:

The building is primarily heated by 4 pipe fan coil units and gas fired rooftop air handling units which are from 1999. The fan coils are 17 years old and are expected to have a useful life of 20 years. The RTU's are 17 years old and are expected to have a useful life of 18 years.

Ventilation:

Ventilation is provided to the building by rooftop air handler units as well as indoor air handlers. The eastern wing of the school was at one point ventilated by a large rooftop unit that is no longer in service and has been abandoned in place.

Air Conditioning:

The building is primarily cooled by two air cooled chillers located on grade. Chilled water is then pumps to cooling coils located in air handler units and fan coil units. The newer chiller, which was relocated from the High School in 2015 is years old and expected to have a useful life of 20 years. The older chiller is believed to be 17 years old and expected to have a useful life of 20 years. The pumps are approximately 17 years old and are expected to have a useful life of 25 years. The chiller and chilled water pumps seemed to be in fair condition for their respective ages.

Several portions of the building are served by packaged DX type rooftop units. The RTU's are 17 years old and are expected to have a useful life of 18 years.

Piping:

There is chilled water and hot water piping, black steel, insulated. The piping is approximately 20 years old and expected to have a useful life of 30 years.

Controls:

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

Recommendations:

The majority of mechanical equipment serving the middle school is quickly approaching the end of its useful life expectancy. A full HVAC renovation is recommended in the next 5 years.

End of Glenvar Middle School Mechanical Narrative

ELECTRICAL

Main Switch Gear:

Main switchboard: The new main switchboard is a 1000 Amp 480Y/277 volt, Siemens panel installed in 2001. There is also a 400 amp, 480Y/277 volt square D service panel. The Siemens building backfed the existing service. The oldest panelboards are from 1996 with a 2000 remodel and a 2014 renovation. All panelboards are in good condition and should be able to last with preventative maintenance.

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

Transformers:

Transformers: The transformers that are Square D are original to the building. There are some ACME transformers installed in 2009.

Recommendation: If renovations and additions are pursued, maintain the existing transformers, if possible.

Panelboards:

Distribution and Branch circuit Panelboards: There are a various types of panels within the building. There are Square D panels that are existing; they are full, but in good condition. There are also some 2009 panelboards from Siemens.

Recommendation: If renovations and additions occur, reuse existing panelboards and locate them in areas to minimize student access and to meet National Electrical Code working clearances. Expand as necessary to accommodate new or modified spaces. The newer panelboards may be reused.

Cabling:

Cabling: Much of the building wiring is original. Some new wiring has been added for the addition of receptacle. All visible wiring appears to be in conduit. Most of the wiring is past its rated useful life and should be replaced.

Recommendation: During a renovation some new wiring may be salvageable, but because of the tedious process of identifying and preserving this wire, it is recommended that all wiring be replaced during renovations.

Conduit/Raceway:

Conduit/Raceway: The conduit and raceway above ceiling is still in good condition. There is not much surface raceway throughout the building, but it could potentially become dislodged from the wall creating a potential shock hazard.

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, some fluorescent can lighting, and 1x4 fixtures with T8 lamps and some 2x2 parabolic fixtures. The T8 lamps are current technology, and meet the current needs of the school. Various emergency wall pack light fixtures are also utilized. Lamps are likely changed as lamps burn out; however, many of the ballasts and optics have likely not been changed and have exceeded their useful life.

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

Lighting Controls:

Lighting Controls: Lighting controls throughout the building consist of toggle switches controlling fixtures within an area, some 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. Consider providing additional control in the classroom areas for multiple scenes for different types of media.

Public Address System:

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

Recommendation: The PA system is current technology and can be expanded as needed. Maintain existing system and replace components as required.

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 system is a Notifier AFP -200 fire alarm system. The current system devices consist of limited area manual pull stations, smoke detectors, and horn/strobe alarms. However, there are no alarm devices located in classrooms.

Recommendation: Maintain existing fire alarm system with standard maintenance and replace components as required.

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 of pole mounted lights for parking areas, wall packs around the building, exterior door canopy lighting, and ground based flood lights. These lamps are likely changed as lamps burn out; however, the ballasts and optics have likely not been changed and have exceeded their useful life.

Recommendation: To accommodate a new addition or renovations, replace light fixtures around exit doors or lighting areas of egress. Connect these lights to an emergency circuit. Provide new general site lighting to maximize energy efficiency and minimize light contamination on neighboring properties and to the sky.

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. Some classrooms contain a TV; however, TVs were not consistently present.

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 Glenvar Middle School Electrical Narrative

CIVIL

Traffic Circulation

Buses: There is a dedicated bus loop that is shared by the middle school and high school on the west side of the building. There are 16 striped spaces in the bus loop. Special needs buses utilize the parent drop off at the main entrance.

Morning: Buses utilize the main entrance road and pass through the student parking area to access the bus loop. Students are dropped off at the end of the bus loop, and buses exit the bus loop and continue to the bus parking area at the top of the hill to the west.

Afternoon: Buses utilize the main entrance road and pass through the student parking area to access the bus loop. Buses park in the designated spaces to load students. There are adequate parking spaces for all buses.

Cars: Pick up and drop off are around the main parking lot and is accessed by the drive shared with the elementary school.

Morning: Cars enter and stack around the main parking area and drop off at the main entrance. Drop off moves smoothly and quickly with no significant backups.

Afternoon: Similar to the morning, cars stack up around the main parking area to pick up at the main entrance. Cars will stack up to the softball field area.

Parking: 59 striped parking spaces are provided with 3 designated ADA spaces. Day to day parking is not adequate for faculty / staff / visitors. Parking quantities meet Roanoke County requirements and State recommendations. Event parking is an issue with parents parking wherever possible. The bus loop and high school parking lot are used as overflow parking.

Recommendation: Consider additional parking at the rear of the building.

Service: Service area is shared with the bus loop and has adequate maneuvering area for delivery vehicles. Deliveries are scheduled around drop off / pick up times to avoid conflicts.

Fire Access: Fire apparatus have adequate access around the building.

Separation: Good separation with the cars at the front of the building and the bus / service area at the rear.

Adjacent Roadways: There is one main two lane entrance road for the elementary school, middle school, and high school. Due to staggered schedules, there are typically

no conflicts with elementary school traffic and the middle school / high school traffic. Sight distance is adequate.

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

ADA Accessibility

Parking: There are 3 spaces provided adjacent to the main entrance drop off.

Signage: Signage is in good condition.

Ramps: Curb ramps are in appropriate locations and good condition.

Access to all areas: Access at the softball field is gravel only. The asphalt path to the PE field is too steep.

Parking Areas, Driveways, and Sidewalks

Asphalt Pavement: Good condition with some minor cracking and ponding.

Asphalt Walks: Path to athletic field is in fair condition with moderate to severe cracking and some undermining and erosion along the edges.

Recommendation: Repair erosion and add stone to edges of asphalt path. Repair cracked sections.

Concrete Walks: Good condition with some minor cracking.

Concrete Curb and Gutter: Good condition with some minor cracking.

Concrete / Brick Pavers: Good condition with some minor cracking.

Fire Lane: Paint on curbs and asphalt is faded. Some fire lane signs are faded and posts are rusting. 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 and spacing for three fire hydrants located around the Middle School portion of the building. No paved fire lane

around building, but fire truck access present. Near the mechanical service area, there is a standalone fire department connection and a post indicator valve.

Domestic Water System: The water system is in good condition and still has much of its useful life remaining. Staff indicated no pressure or water discoloration issues. Water is provided via public water network. Water vault located beside the retention pond and secure.

Sewer System: Staff indicated the sewer system was replaced during the construction of the adjacent High school due to a crushed pipe. Observations indicate that the concrete manholes are in good condition and pipes are flowing well with proper invert shaping.

Natural Gas System: Gas meter is located in the mechanical service area and protected by a perimeter brick wall with locked gate. The meter is safe from vehicular traffic, in fair condition and functional, although it's starting to show signs of deterioration and rust.

Electric: Electric service is provided via overhead poles with pole mounted transformer to the school property. Adjacent to mechanical service area, electrical service goes underground from the transformer pole to the building. Electrical cabinets and meter are located inside mechanical service area and protected from vehicular traffic.

Site Lighting: Large site lights illuminate the parking lot while building mounted lights and pedestrian site lights illuminate sidewalks around the building. Lighting is sufficient for safety and security.

Grading and Drainage

Storm Water System: Roof drains and downspouts are piped underground. All storm water is piped off-site to the southeast. The existing curb inlets, drop inlets, storm manholes and underground piping system are in good condition and have not exceeded their useful life. Inlets and structures are filled with sediment, trash and debris and require flushing.

Recommendation: Inlets and structures should be cleaned of sediment and debris. Underground piping system should be flushed and pipe outlets should be cleaned out and inspected for erosion potential.

Detention / Retention Ponds: Detention pond in good shape with minimal erosion. Outlet flow control structure clogged preventing full design flow into orifice. There is only a couple feet between the edge of the sidewalk and the slopes of the retention pond which contains at least 10 feet elevation difference. Possible safety concern.

Recommendation: Perform general maintenance more often and unclog outlet structure. Provide fencing around pond to ensure safety.

Slopes, Ponding, and other Drainage Issues: There appears to be significant ponding at the base of the parking lot due to negative slopes throughout the parking lot. Minor accumulation of sediment is present which clogs storm water pipes and inlets.

Recommendation: Mill and overlay the bottom portion of the parking lot to create positive drainage towards drop inlets and restripe parking spaces.

Site Features

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

Recommendation: Continue general maintenance of pruning and mulching.

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

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

Fencing and Gates: Limited fencing for campus. Wrought iron fence between GMS and GES in excellent condition.

Signage: Minor damage to some signs. Some posts leaning due to lack of foundations. No directional signage provided.

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: Good condition.

Site Furnishings: Site furnishings are limited and are generally in good condition. Outdoor learning space of wood furnishings requires maintenance to prevent mold.

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

Play Areas and Physical Education

Play / PE Areas (General):

Play / PE Fields: Shared practice/PE field above school for GMS and GHS use. Turf condition in poor to fair condition due to heavy use. Field drainage largely adequate, however, there is evidence of ponding in some areas. A multipurpose games field is provided in conjunction with Glenvar Elementary School. Turf condition is fair. Infield condition is fair. Fencing in good condition. Accessory structures in good condition. Drainage requires improvement to improve outfield condition.

Recommendation: Site constraints limit improvement of the practice / PE field above the school without significant investment in storm drainage systems. At the multipurpose games field the outfield area should be regraded to direct water to existing inlets. Infield requires re-grading to ensure positive drainage off the field or Turface soil amendments.

Athletics

Track and Field Events: Refer to GHS assessment.

Competition Softball Field: A multipurpose games field is provided in conjunction with Glenvar Elementary School. Turf condition is fair. Infield condition is fair. Fencing in good condition. Accessory structures in good condition. Drainage requires improvement to improve outfield condition.

Lighting: N/A

Bleachers / Stadium: Aluminum bleachers are in good condition. ADA access is not provided to bleachers.

Accessory Structures: Fencing is in good condition.

Recommendation: Work with GES to improve drainage in outfield.

Competition Baseball Field: Refer to GHS assessment.

Competition Football Field: Refer to GHS assessment.

Competition Soccer Field: Refer to GHS assessment.

End of Glenvar Middle School Civil Narrative

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Notes

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

Subject: Glenvar Middle School	**Total Pages:**
Date: 9/15/2016	**Location: Roanoke, VA**
Copies To:	**Report Prepared By: AHW**

General:

School started operation there in 1996. Remodeled around 2000.
All door signage complies with 2004 ADA, but not 2010.
Aluminum storefront window systems with 1" glazing and small operable portions at most locations.
Stains on SATC in much of the newer building addition.

Entry Office:

Classroom has been converted to serve as the secure entry.
Carpet tile in good condition. Painted CMU and SATC good. Has some GWB bulkheads.
Staff is running a dehumidifier in the space. Say that the HVAC was down over the summer while they installed a "new" (former high school chiller) chiller at the school. Humidity built up then. Has continued to run it since, but it doesn't fill as often.

Restrooms:

2" tile. High pressure laminate partitions in poor condition. Delaminating surfaces/or missing strips on edges.
Cracked tile base. Downstairs boys counter top is loose and can be pushed downward.
Rooms do have accessible fixtures.
Ventilation in bathroom spaces is minimal. Very strong odors.
Small fin type radiators.

Corridors:

Terrazzo in good condition.
Painted CMU. HM Frames. Wood doors. Some veneer damage on doors.
SATC ceilings in corridors in ok condition. GWB bulkheads at sides and some crossings.

Classrooms:

Generally have VCT in ok condition. SATC in ok condition.
Aluminum windows with small operable units.
Some ceilings have been replaced. Some have not.
Staining is present on many marker boards.

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Notes

132 Work Room:

Leaky faucet handles at casework mounted faucet. High pressure laminate clad casework.
VCT ok condition. SATC ok condition.

133:

VCT in poor condition. Broken light lenses. Spotting on SATC. Some of the spots are near sprinkler head. Others are not.

Elevator car:

Wall panels are cracked.
VCT in ok condition.

Bathrooms at Gym:

Have HDPE partitions in ok condition. GWB ceiling.

136 Gym:

Exposed metal deck at roof.
Bleachers have broken boards.
Floor is strip maple in ok condition.

Exterior doors to Gym wing:

Have electric operator, but no pad to be found.

150 Cafeteria:

VCT in ok condition. Painted CMU in ok condition. SATC has some spots. GWB bulkheads have some damage.
There is a small ramp up from cafeteria to doors to kitchen. No landing at top of ramp.
The kitchen is shared with the high school. To access kitchen from cafeteria, you pass through a shared vestibule with wood shop. There was saw dust and scraps of wood lying in the vestibule.

Shared Kitchen:

Has textured coated concrete floor. VCT in storage room in ok condition. SATC in good condition. Toilet room in kitchen has texted coated concrete floor.

Auditorium:

Maple stage in ok condition. Needs wax, as a minimum. Nosings are rolling off the front of the stage.
Carpet in room is in fair to ok condition.
Stage is accessible from hallway behind the stage. No access from inside auditorium.
Auditorium seating area is not accessible.
SATC in good condition.
Seating is loose chairs with upholster in fair condition.
Exit device on egress door is damaged.

Corridor beside auditorium:

VCT ok. SATC fair. Brick needs new sealants at expansion joints.

Doors 21 and 18:

No weather stripping.

Auxiliary gym:

Maple floor in good condition. Tectum in good condition. Bleachers in ok condition.

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Notes

Boys locker room:

SS toilet partitions. Single EWC with broken enclosure panels. Some ceramic floor tile damage. SATC ceilings in poor to fair condition.

Principal office area:

Broadloom carpet in fair/ok condition except for principal's office. It has newer carpet tile.
VCT in work rooms in ok condition
Marker boards in conference room stained.
Some staining on SATC throughout Principal office area.

Library:

Broadloom in good condition.
SATC in good condition.

Media Workroom:

Casework in ok condition. VCT in ok condition. SATC in ok condition.

Guidance Secretary:

Typical finishes. VCT and SATC in fair to ok condition.

Second floor classroom wing:

VCT joints separating. May be settlement?

Roof:

Large areas of ponding.
Kalwall Skylights surface is lightly deteriorated.
Splices and patches are peeling in many locations.
Some laps are no longer tight.
Sealant is failing at some pipe boots.
Skylights have had sealant added at polycarbonate/aluminum joints. Most of that sealant has failed and peeled off.
Gaps in coping caps have been filled with sealant. Some other gaps are fairly large and retainer clips below are visible.
Fasteners installed through coping caps have had sealant placed on heads.
Sealant at some counter flashings is failing. Counter flashings have separated from the walls.
One counterflashing has pulled out of its reglet.
Moss growing on debris in some corners of roof.
Many walk pads missing on some sections of roof.
Some mortar popping out of joints at walls where roof height changes.
One ballasted portion of the roof at the connector to the high school. Ballast has been pulled off certain sections and piled on the roof. Small piles. Ballasted section is 45 mil EPDM. There is a copper roof adjacent to this section in good condition. Copings and flashings at this portion are not in good condition.
Coping cap from Middle school abuts the ballasted area. There is no closure on the end of this cap.
Over main entry to school, there is a pop up that is clad with green standing seam metal. The metal wraps down from the sloped portion of the roof and covers the vertical faces. The standing seams were cut to allow this bend. Then, an additional piece of metal was

added below. The two pieces are improperly lapped, with the upper piece running behind the lower piece.
Stick on snow guards are falling off the assembly.

Glenvar Middle 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	4	Life	20	Life	
CMU walls	5	Life	20	Life	
EIFS	4	10	16	0	
Interior doors	5	20	20	0	
Exterior doors	5	50	20	30	
Door hardware	5	7	16	0	
Electronic door hardware	2	5	10	0	
Vinyl floor tile	4	12	16	0	
Ceramic/Porcelain floor tile	5	50	16	34	
Wood gym floor	5	10	16	0	
Other wood floors	5	10	16	0	
Carpet	2	5	16	0	
Exterior windows	5	30	16	14	
Interior windows	5	30	2	28	
Roof (Including flashings, coping, etc.)	3	20	16	4	
Standing Seam Roof (Including flashings, coping, etc.)	3	20	16	4	
Suspended acoustical tile ceilings (lay-in)	3	25	16	9	
Ceiling/exposed structure finish (paint)	2	5	16	0	
Interior wall finishes (paint)	2	5	16	0	
Marker boards or chalk boards	2	N/A	16		
Tack boards	5	N/A	16		
Projection screens	5	N/A	16		
Casework	4	N/A	16		
Window treatments	5	N/A	16		
Toilet partitions	3	20	16	4	
Toilet accessories	4	N/A	16		
Interior railings	5	30	16	14	
Exterior railings	5	30	16	14	

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

Glenvar Middle 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	N/A				
Chiller (older)	5	20 years	17 years	3 years	
Chiller (2015)	5	20 years	1 year	19 years	
Mechanical piping	5	30 years	20 years	10 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	2	18 years	17 years	1 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	15 years	9 years	6 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	2	15 years	17 years	0 years	
Eye wash stations	5	20 years	17 years	3 years	
Emergency showers	5	20 years	17 years	3 years	
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					

Glenvar Middle 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	21	19	5	
Panelboards	30	21	9	5	Some newer panels installed 2 years agoand some 17 years ago and some 6 years ago
Cabling	40	21	19	5	Some newer installed 2 years ago and some 17 years ago
Conduit/raceway	40	21	19	5	
Light fixtures	20	21	-1	5	Fixtures all have current T8 lamps
Lighting controls	30	21	9	5	
Public address system - Headend	30	21	9	5	
Public address system - Devices	30	21	9	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

Glenvar Middle 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	4	15 years	16 years	0 years	
Asphalt walks	4	20 years	16 years	4 years	
Concrete pavement	N/A	N/A	N/A	N/A	
Concrete walks	4	30 years	16 years	14 years	
Stairs	N/A	N/A	N/A	N/A	
Ramps	N/A	N/A	N/A	N/A	
Railings	N/A	N/A	N/A	N/A	
Concrete curb and gutter	4	30 years	16 years	14 years	
Concrete / Brick Pavers	4	30 years	16 years	14 years	
Guardrail, Parking Bumpers, Misc.	N/A	N/A	N/A	N/A	
Fire lane	4	Varies by Material	16 years	5-10 years	
Fire lines and hydrants	5	40 years	20 years	20 years	
Domestic Water system	5	40 years	20 years	20 years	
Sewer system	5	40 years	1-20 years	20-39 years	
Natural Gas system	4	40 years	20 years	20 years	
Electrical System	5	25 years	20 years	5 years	
Exterior Lighting	5	25 years	20 years	5 years	
Storm water system	4	40 years	20 years	20 years	
Detention / Retention ponds	4	Life	16 years	15-20 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 landscaping	5	Life	16-20 years	Varies	
Lawns	5	Life	16-20 years	Life	
Fencing and gates	5	20 years	Unknown	4+ years	
Signage	4	10 years	Unknown	8+ years	
Flagpoles	5	50 years	20 years	30 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	N/A	N/A	N/A	N/A	
Play / PE fields	5	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					

Glenvar Middle 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					
Competition fields (Tennis)	5	10 years	6 years	4 years	Refer to GHS Competition Fields
Lighting	N/A				
Bleachers / Stadium	N/A				
Accessory structures	N/A				
Competition Fields (Track)	N/A				
Lighting	N/A				
Bleachers	N/A				
Accessory structures	N/A				
Competition fields (Softball)	5	25 years	Unknown	Life	Refer to GHS Competition Fields
Lighting	N/A				
Bleachers / Stadium	N/A				
Accessory structures	N/A				
Competition fields (Baseball)	5	25 years	Unknown	Life	Refer to GHS Competition Fields
Lighting	N/A				
Bleachers / Stadium	N/A				
Accessory structures	N/A				
Competition fields (Football)	5	25 years	Unknown	Life	Refer to GHS Competition Fields
Lighting	N/A				
Bleachers / Stadium	N/A				
Accessory structures	N/A				
Competition fields (Soccer)	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					

Budgetary Cost Estimate

Estimate Date 12/7/2016
Facility Name **Glenvar Middle School**
Client Name Roanoke County Schools

OWPR ARCHITECTS AND ENGINEERS

Quantity	Description	Unit	Cost / unit	Total w/ OH&P
	ARCHITECTURAL			
76,537	Remove Existing Roof	SF	$2.25	$206,649.90
76,537	Single-ply EPDM Roof membrane	SF	$7.00	$642,910.80
3,171	Pre-finish aluminum coping and fascia	LF	$26.00	$98,935.20
7	Replace dome skylights	EA	$975.00	$8,190.00
597	Replace Kalwall Skylights	SF	$120.00	$85,968.00
324	Replace Standing Seam at Entry	SF	$10.00	$3,888.00
340	New Interior Signage-adhesive back/ braille. ADA compliant	EA	$42.00	$17,136.00
13,020	Replace Carpet, broadloom 32 oz, glue down	SF	$4.00	$62,496.00
	CIVIL			
12,000	Aspahlt pavement (ADA parking)	SF	$3.00	$43,200.00
2,500	Remove and repair asphalt pavement	SF	$3.00	$9,000.00
400	Repaint curbs and fire lanes	LF	$0.10	$48.00
4	Fire lane signage	EA	$500.00	$2,400.00
6	Directional signage	EA	$1,500.00	$10,800.00
	MECHANICAL / PLUMBING			
101,595	Replace HVAC system	SF	$35.00	$3,555,825.00
2	Replace domestic hot water circulation pumps	EA	$3,000.00	$6,000.00
	ELECTRICAL			
101,595	Replace HVAC system	SF	$1.50	$152,392.50
101,595	Replace Ceiling	SF	$1.00	$101,595.00
	TOTAL Budgetary Cost			**$5,007,434**