ROANOKE COUNTY PUBLIC SCHOOLS
ADMINISTRATION BUILDING

ARCHITECTURAL

The Roanoke County Public Schools Administration Building was originally constructed as the Roanoke County Special Occupational School in 1971. It was renovated in 1994, but has seen multiple office fit-outs making overall ages of materials difficult to ascertain. Renovation work was on-going at the time of this visual inspection.

Exterior Finishes

Exterior Cladding:

Exterior wall material is, generally, brick. Several areas have mortar joints that are coming out and should be repointed during any major renovation. Expansion joints in the brick should be raked and resealed. Gaps and cracking in the sealant were observed at several locations. Precast concrete panels below windows were observed with aggregate falling off the surface. This does not affect the structural integrity of the material.

Soffits at the southeast face of the building had fasteners penetrating the material from above. These should be replaced or covered.

Roof:

The EPDM roof membrane is in good condition. Minimal ponding was observed and laps, splices, patches, and sealant were observed in good condition. The conditions should be monitored and failing materials replaced as required.

Metal gas condensate traps were observed sitting on the membrane surface. Expansion and contraction of horizontal runs of the pipe could cause wear to the membrane. Additionally, loose fasteners were observed on the roof surface. These should be removed to avoid damage to the membrane.

Coping caps were in fair to good condition. Sealant at joints should be monitored and replace should failure occur.

Debris should be removed from the roof, as required, to ensure proper, unobstructed, roof drainage.

Windows:

Windows were non-thermally broken aluminum units with operable sashes at the bottom. These were glazed with non-insulated glazing. As part of any major renovation, window replacement is recommended.

Exterior Doors:

Exterior doors were hollow metal units. Most were single glazed and had sidelites and/or transoms above. Most doors and frames should require general maintenance, including patching or painting. Doors at the rear of the building have heavy surface rust which may extend deeper into the material. Replacement for the doors at this face of the building is recommended. 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).

Interior finishes within the facility varied wildly. As needs have changed, limited area renovations have been performed leaving an array of finish types, ages, and conditions. Typical floor finishes include vinyl composition tile (VCT) and broadloom carpet. In most locations, both materials were aged and stained. Carpet was worn in most spaces. As part of any renovation, it is recommended that all older VCT and carpet be replaced. Those areas that have seen more recent renovation work may have usable finishes, but for material continuity, all finishes may be replaced. Limited applications of other floor materials were observed throughout the facility. The gymnasium has a maple parquet floor that appeared to be in good condition. Storage rooms at the rear of the building had exposed concrete floors. One vestibule had a faux slate floor material, and most bathrooms featured a 1” or 2” ceramic floor tile.

Interior partitions were a mix of painted concrete masonry units (CMU), painted gypsum wall board (GWB), and lauan paneling. Wall materials were typically in fair to good condition with minor exceptions around the facility. In the offices near room 197, bubbling of the paint was observed. Staff in this area stated this was a persistent problem, and noted there had been mold issues and some respiratory problems.

Toilet rooms in the original facility should be completely renovated as part of any major building renovation. Most rooms lacked accessible fixtures. Grab bars throughout the facility were non-compliant. Mirrors were mounted above accessible ranges, pipe wrap kits were not installed, and wall mounted elements were installed outside of accessible reach ranges. Painted steel partitions were in fair condition and lights were missing lenses.

Ceilings are generally suspended acoustical tile (lay-in) with gypsum wall board at bulkheads and accenting locations. Tiles were stained at many locations around the facility. Tile was aged and sagging in many areas, including the school board meeting room, and should be replaced. Tile, throughout the facility, is mismatched due to the nature of the constant renovation and space reconfiguration.

Most interior doors are wood in hollow metal frames. Veneers were observed to be in fair to good condition. The door to the school board meeting room had significant veneer damage. Minor damage can been sanded and refinished as required. Hollow metal frames should be repainted as required. Knob hardware was observed at scattered locations throughout the facility. This should be replaced with accessible hardware as part of any future work.

Loose furnishings are a mixture of tables and desks of varying ages. The flexibility required of 21st Century work environments is enabled by flexible, movable furnishings. All furniture and equipment should be replaced during a substantial renovation to provide a uniform appearance, enhance personnel 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 storage shelving and furnishings.

Casework varied throughout the facility. The rooms have a mix of storage unit styles, ranging from wood to plastic laminate clad units. No accessible work stations were observed and most countertops were not accessible. Additional storage for staff use and for general facility 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. Knob type hardware was scattered throughout the facility and should be replaced. Pipe wrap kits were not present in most toilet rooms, grab bars were non-compliant, and mirrors were mounted above accessible heights. High/low fountains should be installed to comply with accessibility standards. As part of space reconfigurations, attention should be paid to proper door clear floor areas.

Safety and Security

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

The vestibule 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, but the segmented nature of the building does limit visibility in some areas.

End of RCPS Administration Building Architectural Narrative

STRUCTURAL

During the Architectural investigation of the Central Office, a fairly significant vertical crack was observed in the rolling file storage room. The crack appeared to be slightly wider at the top than at the bottom, indicating potential vertical rotation of at least one portion of the wall. This particular room is located at the south corner of the building with a recessed entrance at the northeast corner of the room. Therefore, it is anticipated that the rotation may be occurring as a result of minor settlement of the south building corner. It is recommended that the crack be caulked, painted and then observed for any additional movement. It is possible that the building has reached a point of equilibrium and movement may have stopped. If additional movement is observed, monitoring of the movement by means of a crack gage may be necessary.

End of RCPS Administration Building 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 1971. 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 1971. 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 1971. The lavatories are expected to have a useful life of 30 years.

Electric Water Coolers: The water coolers are wall mounted type. The water coolers are approximately 10 years old and are expected to have a useful life of 15 years.

Water Heaters:

Domestic water heating is done by one gas fired water heater with storage tank which appeared to be 5-10 years old. The domestic water heaters are expected to have a useful life of 15 years. There is a hot water circulation pump installed and believed to be 5-10 years old. In-line circulation pumps are expected to have a useful life of 15 years.

Piping:

Water: Copper with fiberglass insulation
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 pressure booster pump from 1971 and is expected to have a useful life of 25 years.

Fire Protection:

The building is partially sprinkled. Several storage rooms are protected with the suppression systems that are tapped off of the domestic water system inside of the building.

Recommendations:

Replace the existing pressure booster pump for the incoming domestic water service. Add fire protection for the entire building.

End of RCPS Administration Building Plumbing/Fire Protection Narrative

MECHANICAL (HVAC)

Heating:

The building is primarily heated with gas fired rooftop air handling units. The entire building, except for the gym, is served by RTU's which are from 1994. These RTU's are 22 years old and are expected to have a useful life of 18 years. The gym is heated by two gas-fired rooftop air handling units that were installed in 2008. The gym RTU's are 8 years old and are expected to have a useful life of 18 years.

Ventilation:

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

Air Conditioning:

The building is primarily cooled with DX type rooftop air handling units. The entire building, except for the gym, is served by RTU's which are from 1994. These RTU's are 22 years old and are expected to have a useful life of 18 years. The gym is cooled by two DX type rooftop air handling units that were installed in 2008. The gym RTU's are 8 years old and are expected to have a useful life of 18 years.

The main server room is cooled by a dedicated split system cooling system by Leibert. This unit appeared to be in the 5-10 year age range and is expected to have a useful life of 15 years.

Piping:

There is copper refrigerant piping connecting the outdoor condenser units to the indoor cooling unit for the server room. The piping is 5-10 years old and appears to be in good condition. The refrigerant piping should be expected to have the same life expectancy as the A/C unit.

Controls:

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

Recommendations:

Replacing the 1994 rooftop units should be a top priority. It is also recommended that controls be upgraded when the air conditioner units are replaced.

End of RCPS Administration Building Mechanical Narrative

ELECTRICAL

Main Switch Gear:

Main Switchboard: The main switchboard is a grouped disconnect 480Y/277 volt service, there is a transformer inside of the main gear which creates a high leg delta on the C phase. The switchboard appears to be original to the building from 1971.

Recommendation: In the event of a substantial renovation or addition, existing switchboard can be replaced with a new breaker style switchboard.

Transformers:

Transformers: There is a large Sorgel Electric Company transformer inside of the main gear. This transformer generates the high leg delta system.

Recommendation: Replace existing transformer with standard 208Y/120 volt transformer and remove existing equipment requiring 240 Volt high leg service.

Panelboards:

Distribution and Branch Circuit Panelboards: The majority of panelboards installed in 1995. They are Square D and are a mixture of single phase and 3 phase. This is consistent with high leg delta systems.

Recommendation: If renovations and additions occur, existing panelboards can be reused where available. Newer panelboards should be added in restricted access rooms if possible.

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 renovation.

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 with LED replacement bulbs or LED lamps.

Recommendation: No Recommendations.

Lighting Controls:

Lighting Controls: Lighting controls throughout the building consist of toggle switches controlling fixtures within an area. Time clocks control exterior lighting.

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 Valcom headend system with speakers located in corridor only. The system is accessed through the phone system.

Recommendation: This PA system is adequate for a building with this operation and no recommendations are provided.

Security System:

Security System: Security system consists of electronic locks and motion sensors at exterior doors, keypads, and a locked lobby area.

Recommendation: This is consistent with a standard office building. Maintain system and upgrade as required.

Camera System:

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

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.

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 Simplex 4010. The current system devices consist of limited area manual pull stations, smoke detectors. No visible strobes were identified throughout the building.

Recommendation: Upgrade fire alarm system to meet current code with Audible and Visual devices throughout the building.

Generator:

Generator: The existing generator is a Diesel generator that feeds two transfer switches within the building. The generator manufacturer isn't identified. It is assumed this generator was installed in 1995.

Recommendation: Maintain existing generator and provide replacements as required.

Site Lighting:

Site Lighting: The site lighting consists of pole mounted LED lights and wall packs. There are also yoke mounted flood lights.

Recommendation: Maintain existing system during the life of the fixtures. Provide new general site lighting to maximize energy efficiency and minimize light contamination on neighboring properties and to the sky.

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 RCPS Administration Building Electrical Narrative

CIVIL

Traffic Circulation

Parking: 186 striped parking spaces are provided with 7 designated ADA spaces. Day to day parking is adequate for faculty / staff / visitors. Parking quantities meet Roanoke County requirements and State recommendations.

Service: Access to dumpsters and areas with overhead doors and delivery areas is good with adequate maneuvering area.

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

Adjacent Roadways: Adjacent roadway is a minor 2 lane road with light traffic. Sight distance is good in both directions.

ADA Accessibility

Parking: There are 5 spaces at the main entrance, and 2 spaces at the accessory building designated as ADA parking with 2 designated as van accessible.

Signage: Signage at main entrance is in good condition and code compliant. Signage at accessory building does not have the fine listed.

Recommendation: Provide signage for fine at the accessory building.

Ramps: Curb ramps are located appropriately and in fair condition. Wooden ramp at trailer north of the main building is code compliant and in good condition.

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

Parking Areas, Driveways, and Sidewalks

Asphalt Pavement: Good condition around main building, poor condition at accessory building to the east.

Recommendation: Mill and overlay asphalt at accessory building.

Concrete Pavement: Good condition.

Concrete Walks: Original concrete walks are aged, cracked, and spalling in poor condition. Newer concrete walks exist on site and are in good condition.

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

Stairs, Ramps, and Railings: Wooden stairs at dumpsters are in disrepair and are a safety concern.

Recommendation: Remove wooden stairs.

Concrete Curb and Gutter: Original concrete curbs are aged, cracked, and in poor condition.

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

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. Existing 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: Poor fire hydrant coverage with no spacing. The closest fire hydrant is located in parking lot of adjacent property. No paved fire lane around building, but fire truck access is present. No fire department connection or post indicator valve.

Recommendation: Consider planning for adding a hydrant for fire protection coverage.

Domestic Water System: Unclear from as-builts and field investigation as to where water enters the property and the building. Staff indicated no issues with water pressure or discoloration. Assuming fair condition based on age.

Sewer System: Only manhole located on site, between the administration building and the public safety building, could not be accessed. Both notches in lid had rusted away. Staff indicated no issues with stoppages. Assuming fair condition based on age.

Natural Gas System: Gas meter is located around the side of the building and protected with bollards, but in a non traffic a rea. The meter is in fair condition, but functional and shows signs of deterioration and rust.

Recommendation: Contact gas company to inspect condition of meter.

Electric: Electric service is provided via overhead poles to the property and overhead service to the building. Transformers are mounted on the service pole and the meter is mounted on the building.

Site Lighting: Small site lights illuminate the parking lot areas and building mounted lights illuminate sidewalks and entrances. Lighting is minimal for safety and security.

Grading and Drainage

Storm Water System: Roof drains and downspouts are piped underground and routed to the detention basin to the northeast, which is shared with adjacent properties. Majority of runoff sheet flows to ditches conveyed to the detention pond and only two drop inlets on site drain parking lot runoff to the detention pond. Inlets are in fair condition, but filled with sediment and debris.

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

Detention / Retention Ponds: Detention pond is in fair shape, but too overgrown to determine proper outlet protection or signs of erosion. The detention pond has not seen any maintenance.

Recommendation: Provide general maintenance to outlet structures, berm and detention pond.

Slopes, Ponding, and other Drainage Issues: Minor accumulation of sediment in the parking lot.

Site Features

Vegetative Landscaping: Mature vegetation near the main entrance and visitor parking are in healthy condition. Several pine trees are part of the newer RCPS car pool maintenance building.

Recommendation: Evergreens along parking area are mature and have crowded out deciduous trees. Plan for eventual need to remove and replace evergreens. Continue general maintenance of pruning and mulching of trees and shrubs at main entrance. Pine trees at car pool maintenance building are spaced too close together (three to four feet.) This will inhibit growth. Recommend to thin out.

Lawns: Lawn areas are limited with the exception of a large field also utilized for youth soccer activities on the northwest side of the building. Turf is in good condition.

Fencing and Gates: Bollards along front entrance drive are in poor condition. New CLF between staff parking and material lay down area is in good condition. CLF around the transformer/generator area is in good condition.

Recommendation: Remove and replace bollards if limiting access to field is deemed necessary.

Signage: ADA signage is to code. Directional signage not provided. Other signage is in poor condition. A majority of the poles for site signage are in leaning due to lack of foundations or material type.

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 are in fair condition. Age is showing.

Recommendation: Monitor condition to replace flag poles in future.

Site Furnishings: Site furnishings limited to single wood picnic bench in fair condition.

Recommendation: Monitor condition and replace when necessary.

Awnings / Canopies: Small canopy at rear of building in good condition. Large canopy on east side of building against staff parking in good condition.

Accessory Structures: Several buildings are on site, including three CMU storage structures, a small wood with vinyl siding building, two mobile units, and a new building for RCPS motor pool maintenance. Conditions of buildings are in fair to good condition. A separate dumpster enclosure in fair condition is provided.

Recommendation: CMU buildings are structurally sound but need minor repairs and painting to the fascia and soffit. Mobile units are aging and should be monitored for retirement or replacement. The dumpster enclosure is constructed of wood and should be monitored for replacement with composite PVC boards.

End of RCPS Administration Building Civil Narrative

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Notes

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

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General:

Originally constructed as the Roanoke County Special Occupational School in 1971. Renovated in 1994. The building has seen multiple office fit-outs making overall ages of materials hard to ascertain. As such, the condition and need for replacement varies wildly.

Vestibule:

Brick, broadloom. HM windows at exterior and reception window. Storefront partition separating vestibule from corridor.

125:

Broadloom carpet with some stains and light wear. GWB and exposed brick walls. SATC ceiling. Wood doors in HM frames.

Men's Room:

No accessible stall or sinks. Stains on SATC near exhaust fan. 2" floor tile with 4" tile base. Painted CMU. Lenses have been removed from light fixtures.

Corridors:

VCT. 12" tile base. Painted CMU. Some former open areas have been infilled with partitions that have Lauan and Gypsum Wall Board.

Conference Room E:

Broadloom carpet with some spots. Painted CMU walls. SATC in good condition.

Mechanical Room:

Doors are HM and rusted.

Exterior Door 8:

HM with wire glass. Crash bars on both leaves. No weatherstripping.

School Board Meeting Room:

Broadloom carpet with some wear. SATC with sagging tiles. Wood elevated platforms have scuffed finish on the wood trim. Door to hallway has damaged veneer at bottom.

190:

Exposed concrete floor and 1" tile. Appears to have formerly had a bathroom in one area, but walls and fixtures have been removed. Floor finish was left in place and the floor was patched. Painted CMU wall around the exterior of the room with GWB partitions built on the interior. Partitions do not extend full height.

195:

PLAM casework with lavatories. No accessible workstation VCT is aged. There are patched holes in the floor. Stained and worn broadloom is in the corridor that connects to the front hallway.

197:

Water in the walls is causing bubbling in paint. According to staff, mold has been a problem. Staff complained of respiratory issues.
New VCT has been installed in this area.

199:

New VCT. Painted CMU and GWB in good condition. Spot on SATC. Two ceiling tiles have been replaced.

Vestibule at door 12:

Faux slate floor. Vinyl base. SATC, Painted GWB in good condition. No weatherstripping on door. Knob hardware. Doors into the vestibule swing against the direction of egress, but the occupancy in the space these doors serve is likely less than 50, and no swing modification is needed.

Finance Area:

Broadloom in decent condition. Brandon Lee's office has VCT. SATC ceilings throughout. Painted GWB partitions.
Susan Peterson's office has a coffered ceiling with GWB at lower levels and SATC at higher levels.

Superintendent's area:

Broadloom carpet in good condition. SATC in good condition. Painted CMU and GWB.
Superintendent has door to exterior that is having water infiltration issues. Assistant says a work order has been put in and a solution is being implemented. This is at exterior door #9.
SATC in the office is old. There are insulation fibers sticking out at between the tile and the tracks.
Exterior Door 10: Wood door in hollow metal frame.
Ceiling has been lowered in this area.
One office has chair rail and another office has no corridor access. It is accessed via one door in another office, and another door in the conference room.

175:

Small step in height between floor of it and the corridor. Key given by staff would not open door.

Accessible men's room:

Has no pipe wrap on piping. Non-compliant grab bars installed. Mirror mounted too high. Painted steel partitions. 2" floor tile. Stained SATC track. SATC is in ok condition, but there is a stain on the tile above the door. No lenses installed on lighting.

Gifted education:

Carpet is wrinkled and worn and should be replaced.

148:

Worn and wrinkled broadloom carpet. There has been a recent renovation that included newer VCT.

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Notes

Facilities area:

Being renovated.
Newly coated CMU has swirl patterns and joints are showing through. As work is ongoing, it is assumed this will be painted.
Broadloom strips in this area were in fair condition. SATC was in ok condition, but is mismatched.
Lenora office: SATC track is scratched near the diffuser.

Director of Administration:

Worn broadloom
SATC, CMU, and GWB in good condition.

104:

Broadloom in ok condition, but is worn in the meeting space. SATC has a few spots.
Extra office in the 104 suit has a closet with heavy staining on the ceiling.

Reception:

Broadloom strips
SATC is old but in ok condition. Tracks are stained.

Rolling file storage room:

Crack in the wall extending from the top down.

HR area:

Ceiling tiles were stained during a recent rain.
The offices were created within the last 6 months. Was a conference space previously.
New Broadloom carpet. Damaged veneer on door.

Gymnasium:

Maple parquet floor. Exposed metal deck. Open web steel joists. Painted CMU.

RCPS Adminstration Building 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	45	Life	
CMU walls	5	Life	45	Life	
Interior doors	4	20	22	0	
Exterior doors	4	50	45	5	
Door hardware	2	7	22	0	
Electronic door hardware	2	5	10	0	
Vinyl floor tile	2	12	22	0	
Ceramic/Porcelain floor tile	5	50	45	5	
Carpet	2	5	10	0	
Wood gym floor	4	10	22	0	
Exposed concrete floors	4	50	45	5	
Exterior windows	4	30	22	8	
Interior windows	5	30	22	8	
Roof (Including flashings, coping, etc.)	4	20	22	0	
Suspended acoustical tile ceilings (lay-in)	4	25	22	3	
Plaster/GWB ceilings	5	30	22	8	
Ceiling/exposed structure finish (paint)	2	5	22	0	
Interior wall finishes (paint)	2	5	22	0	
Projection screens	5	N/A	22		
Casework	4	N/A	22		
Window treatments	5	N/A	22		
Toilet partitions	2	20	22	0	
Toilet accessories	2	N/A	22	0	
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					

RCPS Administration Building 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 or Cooling tower	N/A				
Mechanical piping	N/A				
Refrigerant piping (1994)	5	30 years	22 years	8 years	
Refrigerant piping (2008)	5	30 years	8 years	22 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 (2008)	5	18 years	8 years	10 years	
Controls	2	20 years	22 years	0 years	
Exhaust fans	5	25 years	22 years	3 years	
Plumbing					
Plumbing fixtures and controls	2	30 years	45 years	0 years	
Floor drains	2	30 years	45 years	0 years	
Water heaters	5	15 years	5-10 years	5-10 years	
Pumps	5	15 years	5-10 years	5-10 years	
Potable water piping & valves	2	30 years	45 years	0 years	
Sprinkler system	2	30 years	45 years	0 years	
Back-flow preventer	N/A				
Service line & meter (size appropriate)	2	30 years	45 years	0 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					

RCPS Administration Building 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	46	-6	5	
Panelboards	30	46	-16	5	Some newer panels installed 23 years ago
Cabling	40	46	-6	5	Some newer cabling installed 23 years ago
Conduit/raceway	40	23	17	5	
Light fixtures	20	23	-3	5	LED replacment lamps, current technology
Lighting controls	30	23	7	5	
Public address system - Headend	30	23	7	5	
Public address system - Devices	30	23	7	5	
Security system	10	5	5	5	
Camera system	10	5	5	5	
Data system	15	5	10	5	
Fire alarm system - Headend	30	15	15	5	
Fire alarm system - Devices	30	15	15	5	
Site lighting	20	23	-3	2	Site lighting was LED, appear to have been replacement lamps
Phone system	10	5	5	5	
Portions of this building were being renovated during our visit.					
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					

RCPS Adminstration Building 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	2/5	15 years	Unknown	13 years	
Asphalt walks	N/A	N/A	N/A	N/A	
Concrete pavement	5	30 years	Unknown	20 years	
Concrete walks	2/5	30 years	Varies	0 years	
Stairs	1	30 years	Unknown	0 years	
Ramps	5	30 years	Unknown	10 years	
Railings	5	15 years	Unknown	10 years	
Concrete curb and gutter	3	30 years	46 years	0 years	
Concrete / Brick Pavers	N/A	N/A	N/A	N/A	
Guardrail, Parking Bumpers, Misc.	N/A	N/A	N/A	N/A	
Fire lane	4	Varies by Material	Unknown	0 years	
Fire lines and hydrants	3	40 years	Unknown	0-5 years	
Domestic Water system	4	40 years	46 years	0 years	
Sewer system	4	40 years	46 years	0 years	
Natural Gas system	4	40 years	46 years	0 years	
Electrical System	4	25 years	Unknown	5-10 years	
Exterior Lighting	4	25 years	Unknown	5-10 years	
Storm water system	4	40 years	46 years	0 years	
Detention / Retention ponds	4	Life	Unknown	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 landsaping	4	Life	Unknown	Varies	
Lawns	5	Life	Unknown	Life	
Fencing and gates	2/5	20 years	Unknown	0+ years	
Signage	3	10 years	Unknown	1+ years	
Flagpoles	5	50 years	46 years	4 years	
Site furnishings	N/A	N/A	N/A	N/A	
Awnings / Canopies	5	50 years	46 years	4 years	
Site retaining walls	N/A	N/A	N/A	N/A	
Accessory structures	4	50 years	Unknown	5+ 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					

Budgetary Cost Estimate

Estimate Date 12/7/2016
Facility Name **RCPS Administration Building**
Client Name Roanoke County Schools

OWPR ARCHITECTS AND ENGINEERS

Quantity	Description	Unit	Cost / unit	Total w/ OH&P
	ARCHITECTURAL			
11,794	Replace Carpet, broadloom 32 oz, glue down	SF	$4.00	$56,611.20
40	Door Hardware	EA	$800.00	$38,400.00
24,000	Vinyl Composition Tile	SF	$2.50	$72,000.00
21	Toilet Partitions	EA	$1,215.00	$30,618.00
12	Urinal screen	EA	$515.00	$7,416.00
21	Toilet Accessories	EA	$550.00	$13,860.00
	CIVIL			
2	ADA signage	EA	$500.00	$1,200.00
6	Fire lane signage	EA	$500.00	$3,600.00
17,000	Mill and overlay asphalt pavement	SF	$1.00	$20,400.00
350	Repaint curbs and fire lanes	LF	$0.10	$42.00
1	6" Sprinkler System	LS	$20,000.00	$24,000.00
	MECHANICAL / PLUMBING			
52,000	Replace HVAC systems for building	SF	$35.00	$1,820,000.00
52,000	Add Sprinkler System - includes ceiling modifications	SF	$6.00	$312,000.00
1	Replace Domestic Water Booster Pump	EA	$10,000.00	$10,000.00
	ELECTRICAL			
52,000	Replace HVAC systems for building	SF	$1.50	$78,000.00
52,000	Ceiling Modifications	SF	$1.00	$52,000.00
1	Replace Domestic Water Booster Pump	EA	$1,000.00	$1,000.00
52,000	Replace Electrical Distribution	EA	$7.00	$364,000.00
	TOTAL Budgetary Cost			**$2,905,147**