ROANOKE COUNTY PUBLIC SCHOOLS
TRANSPORTATION BUILDING

ARCHITECTURAL

The Roanoke County Public Schools Transportation Building is assumed to have been, originally constructed in the 1930's. The building appears to have had multiple additions of vehicle bays, wash bays, and most recently, an administration area. The vast majority of the main building is in poor to fair condition. Storage buildings, on site, have begun to collapse and rot. These should be demolished and replaced with newer units. The pole shed, on site, is in fair condition, with some holes in the metal siding, and needing paint. This building has some serviceable life remaining.

Basic repairs at the facility may prolong its useful life, but renovation of any significant level, would prove cost prohibitive. Long term planning should include a new transportation facility and relocation or acquisition of new equipment for the facility.

Exterior Finishes

Exterior Cladding:

Exterior wall material is, generally, painted block. Cracks were visible at the heads of several openings. The worst of the cracking is visible at the wash bay doors. These should be pointed and monitored for continued movement. Jambs at these openings need to be protected from impact by moving vehicles.

Roof:

Most of the building is covered with an EPDM membrane. A mix of through-wall scuppers, and scupper notches serve to move water from the roof. These scuppers were obstructed by debris in several locations. This debris is piled deeply and needs to be removed from the roof. Tapered insulation saddles do not direct water to the notches and scupper boxes, which results in significant ponding before water is able to flow out. Additionally, the scupper notches appear to be elevated above the lowest roof surfaces, again contributing to ponding. The membrane, itself, is in good condition with minimal issues at laps and splices. A bump out at a lower roof has flashing that is pulling away from the membrane and should be replaced. Terra cotta copings were present at several of the membrane roof areas. These do not match from section to section. Cracked and broken tiles were still installed, but some have been removed and stored on the roof surface. Matching replacement tiles will be difficult to source. Alternatives should be considered if replacement is to take place.

A single section of built-up roofing remains at the facility. The aggregate has shifted or fallen off the roof, exposing the bituminous materials and felts below to UV degradation. Wall flashings are unprotected and are suffering UV degradation and are disintegrating. Shingle roofing was applied at some overhangs and small storage areas. These shingles are in poor condition and have exceeded their life expectancy. The administration wing is newer, and the singles there are in fair to good condition. Age of the shingles is unknown.

Windows:

Windows at the administration wing are single glazed, hollow metal units. The remainder of the facility windows are single glazed, steel windows. These are in poor to fair condition.

Exterior Doors:

Exterior doors are hollow metal doors in hollow metal frames. Several exit doors at the vehicle bays are 24" wide and are not provided with proper signage. This does not comply with building code requirements for egress width.

Interior Finishes, Fixtures & Equipment

(See assessment tabulations for interior finish conditions).

Vehicle bays feature exposed concrete floors. These are cracked in most bays. Equipment changes, over the years, have left holes in the floors that have either been patched or covered with plates. Administration areas have vinyl composition tiles that are in poor to fair condition. Tiles in the conference room are cracked and joints are separating. The upstairs break room and the storage mezzanine both have wood board flooring. The finish has worn through at most locations leading to wear of the surface of the wood. Overall condition of the wood is poor. The downstairs breakroom has 9" floor tile that likely contains asbestos.

Interior wall finishes are generally painted concrete block at the vehicle bays. These should be cleaned before any repainting takes place. Offices have painted GWB partitions in fair condition.

Most vehicle bay areas have exposed metal decking at the ceilings. Paint is in poor to fair condition. One vehicle bay has a 24" wide ceiling tile system that should be tested for asbestos content. The system is no longer securely fastened to the structure above. Administration areas have suspended acoustical tile ceilings in poor condition. These should be replaced.

Most interior doors at the vehicle bays are hollow metal in hollow metal frames. At administrative areas, the doors are wood in hollow metal frames. A rated wood door separates the administration area from the vehicle bays area.

Marker boards and tack boards are present in offices and conference rooms. Most are in fair condition with light staining.

Wooden casework in the conference room is in good condition. The remaining casework in the facility is in poor condition.

Toilet rooms are not accessible, despite signage indicating accessibility. The walls of the downstairs bathrooms have been damaged by removal of older soap dispensers. New dispensers do not completely cover the damage. A hole has been cut in the gypsum wall board, but the cutout was not removed. No repair has been made.

Accessibility

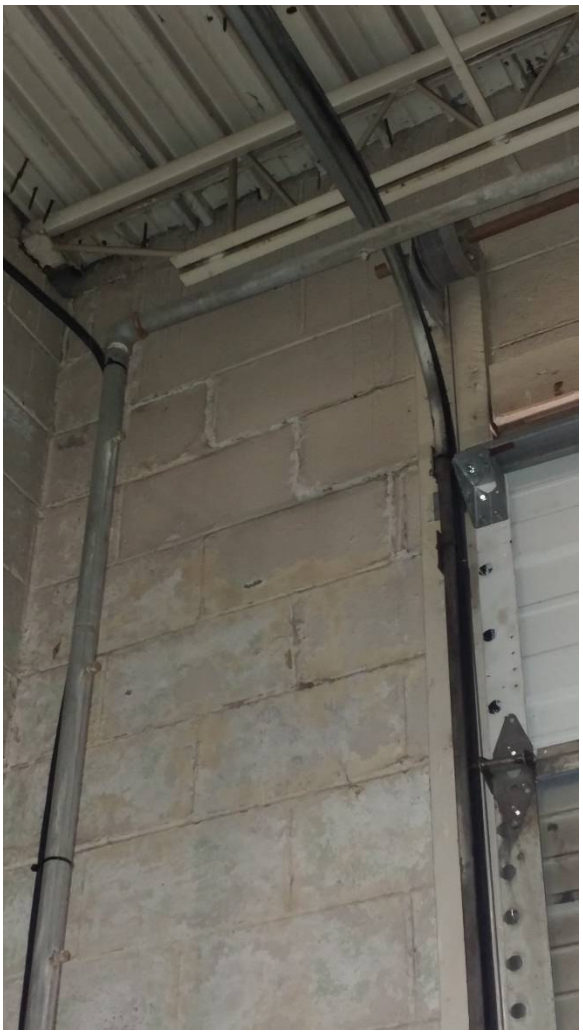
The facility is not accessible.

End of RCPS Transportation Building Architectural Narrative

STRUCTURAL

During the Architectural investigation of the Transportation / Bus Facility, some damage above the wash bay doors was noted. Upon a second, structural investigation, cracking was observed above both doors to the wash bay, on both the interior and exterior faces of the wall. The location and configuration of the cracking would seem to suggest that settlement is taking place on this end of the building.

It is suggested that the cracks be repointed, painted, then monitored for additional movement. Sealing the cracks is particularly important given that this wall is exposed to moisture from both the interior and exterior faces. During the winter, moisture entering the wall through these cracks can potentially freeze and expand and exacerbate the condition.



End of RCPS Transportation Building Structural Narrative

PLUMBING/FIRE PROTECTION

Plumbing Fixtures:

Water Closets: Water closets observed were floor mounted vitreous china with manual type flush valves and floor mounted tank type. The age of the water closets is unknown and their condition ranged from very poor to good.

Lavatories: Lavatories observed were wall mounted vitreous china with manual type faucets. The age of the lavatories are unknown and they seemed to be in good working condition.

Electric Water Coolers: The water cooler is a floor mounted pedestal type. The age of the water cooler is not known and seemed to be in very poor condition. The water coolers are expected to have a useful life of 15 years.

Water Heaters:

Domestic water heating is done by two electric 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 2011. The domestic water heaters are expected to have a useful life of 15 years.

Piping:

Water: Copper with fiberglass insulation
Sanitary Piping: Cast iron and PVC
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 not sprinkled.

Recommendations:

A full plumbing renovation is needed, but would be cost prohibitive considering the condition and age of this facility.

End of RCPS Transportation Building Plumbing/Fire Protection Narrative

MECHANICAL (HVAC)

Heating:

The building is primarily heated by a gas boiler from 1971. Hot water is circulated to radiators throughout the building. The boiler has passed is useful life expectancy. The garage bays are also heated with gas-fired infrared heaters.

The office area of the building is heated by a rooftop heat pump type unit with electric heat. The rooftop unit was installed in 2004 and has a useful life expectancy of 18 years.

Ventilation:

Ventilation is provided to the office portion of the building by the rooftop heat pump unit.

Air Conditioning:

The office area of the building is heated by a rooftop heat pump type unit with electric heat. The rooftop unit was installed in 2004 and has a useful life expectancy of 18 years.

Piping:

There is hot water piping, black steel, insulated. The piping is original and has passed is useful life expectancy.

Controls:

The building does not have centralized controls.

Recommendations:

The boiler, hot water piping, and radiators which are all from 1971 should all be replaced.

End of RCPS Transportation Building Mechanical Narrative

ELECTRICAL

Main Switch Gear:

Main Switchboard: The main service is an overhead service from a pole. The existing service enters the building into a wireway and is taped multiple times for a grouped disconnect service. The voltage is 208Y/120 volt. The service has been added to multiple times over the years and there is no method of determining the age of the service. Given the building age and look of existing panels all panels and service disconnects are past expected useful life.

Recommendation: In the event of a substantial renovation or addition, replace existing disconnects and provide a single panelboard with feeder breakers to feed panels.

Transformers:

Transformers: None installed.

Panelboards:

Distribution and Branch Circuit Panelboards: Multiple types of panelboards are located around the building. There are some newer Murray load centers and older Square D and Siemens panels. Some panels are in good condition, but are also only single phase.

Recommendation: Replacement of the entire electrical distribution system is recommended to consolidate breakers and provide a system that will be able to last.

Cabling:

Cabling: Much of the building wiring is added at multiple stages. Wiring doesn't tend to go bad without identifying problems with breakers or panelboards.

Recommendation: Replace wiring circuits if breakers continue to trip or there is equipment failure determined to be by the breaker or wiring.

Light Fixtures:

Light Fixtures: The light fixtures consist of some newer T5 high bay fluorescents and T8 industrials that are approximately 20 years old. There are also some Lens fixtures with broken lenses that need to be repaired.

Recommendation: Repair and replace fixtures as needed.

Lighting Controls:

Lighting Controls: Lighting controls throughout the building consist of toggle 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: None installed.

Security System:

Security System: None installed.

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. The system is inside of an unconditioned room.

Recommendation: Provide additional cooling for IT equipment.

Fire Alarm System:

Fire Alarm System: None installed

Generator:

Generator: None installed

Site Lighting:

Site Lighting: Dusk to Dawn lights are installed over Bus Storage.

Recommendation: Retain and replace existing lights as required. If Owner installs new lights, provide full cut off LED fixture for better lighting control and greater energy savings.

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 Transportation Building Electrical Narrative

CIVIL

Traffic Circulation

Parking: Site is located in the City with the bulk of the parking located on the street. There are approximately 69 parking spaces along the street on the east side of the bus lot which are available for use. Parking appears to be adequate for day to day operations. One space adjacent to the gate is designated as an ADA accessible space.

Service: There is adequate maneuvering area throughout the site to reach various buildings, garage bays, and fueling area.

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

Adjacent Roadways: There is adequate sight distance along the adjacent street in both directions.

ADA Accessibility

Parking: There is one ADA accessible parking space provided adjacent to the main gate. It is not designated as a van accessible space.

Recommendation: Improve pavement striping so that the space is easily located.

Signage: Sign provided is not code compliant.

Recommendation: Provide code compliant signage with van accessible designation and fine displayed.

Ramps: Curb ramp located in the accessible route from the ADA parking space to the main office doors

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

Parking Areas, Driveways, and Sidewalks

Asphalt Pavement: Asphalt is in very poor condition.

Recommendation: Replace all asphalt paving.

Concrete Pavement: Some areas are relatively new and good. Loading dock area is old but fair condition. Other areas, particularly at garage entrance aprons are very poor with cracking and broken areas.

Recommendation: Replace concrete aprons and old concrete at fueling areas.

Concrete Walks: Walks along building are in fairly good condition with some minor cracking.

Stairs, Ramps, and Railings: Paint on railing at loading dock is faded, and is beginning to rust.

Recommendation: Sand, prime, and paint railing.

Guardrail, Parking Bumpers, and Miscellaneous: Guardrail along street outside fence is solid, but is rusting.

Recommendation: Monitor guardrail and replace when rust causes structural issues.

Fire Lane: There is no designated fire lane present.

Utilities

Fire Lines and Hydrants: Fair fire hydrant coverage and spacing, but no fire hydrant located on site. The closest fire hydrant is located across the road and a block away owned by City of Salem.

Domestic Water System: The water system is in fair condition. Staff indicated no pressure or water discoloration issues. Water is provided to building via City of Salem public water network. Meter is located in manhole at S. Market Street.

Sewer System: The sanitary sewer system consists of older manholes and pipes in fair condition, but functional. Staff indicated no issues with stoppages, but observations show signs of stagnant waste. Laterals tie into City of Salem sanitary sewer network.

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

Natural Gas System: Gas meter is located at the rear of the building next to the alley and protected by bollards. Meter is in fair condition and functional, but shows signs of deterioration and rust. Meter is overgrown with vines and weeds.

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: Very few small site lights illuminate the asphalt area. Lighting is not sufficient for safety and security.

Recommendation: Provide additional site lighting.

Grading and Drainage

Storm Water System: Downspouts daylight and are not piped underground. Runoff either sheet flows across site to inlets in right-of-way, owned by City of Salem and conveyed off site, or sheet flows into adjacent stream. Downspouts are rusted and site is littered with leaves, debris and sediment.

Recommendation: Site should be cleaned of litter and sediment.

Slopes, Ponding, and other Drainage Issues: Runoff sheet flows across oil-stained parking lot into river without being treated. Minor sediment accumulation in paved areas.

Site Features

Vegetative Landscaping: Limited site vegetation. However, there is natural vegetation that requires either pruning or removal.

Recommendation: For general maintenance and avoiding further damage to buildings two areas should be addressed. Overgrowth at repair building on Market Street needs to be cleared. Overgrowth at open bay building on south side of site needs to be cleared. This will require coordination with VDOT as the trees to be on their property.

Lawns: No turf areas noted.

Recommendation: Continue maintenance of natural grass.

Fencing and Gates: In general, CLF is in poor condition with significant rust, failing three strand barbed wire at top, and mesh pulling away. Damage to posts due to bus strikes also evident.

Recommendation: Replace fencing.

Signage: Limited signage, but in good condition.

Awnings / Canopies: One canopy over gas pumps in fair condition.

Recommendation: Monitor for future replacement.

Site Retaining Walls: Timber wall with I-Beam piles is constructed along creek bed at back of property. Condition could not be evaluated due to lack of access and significant vegetation. Areas that could be viewed appeared in fair condition, but a comment regarding integrity cannot be provided without a detailed a more extensive investigation.

Recommendation: Recommend further investigation and verification of structural integrity by a qualified structural engineer and geotechnical engineer.

Accessory Structures: Wooden structures on north side of site in poor condition. CMU building mid-site in fair condition. Open bay building on south side of site in fair condition.

Recommendation: Buildings on north side need of new roofs or will need to be demolished in the future. Monitor mid-site building for signs deterioration. South side building is solid but has significant damage to rear gutter system. As provided under the Vegetative Landscape section, coordination with VDOT for removal of trees should be undertaken.

End of RCPS Transportation Building Civil Narrative

OWPR
ARCHITECTS AND ENGINEERS

Notes

Project Name: RCPS Facilities Assessment	Comm. #: 1637

Subject: RCPS Transportation Building	Total Pages:
Date: 10/6/2016	Location: Salem, VA
Copies To:	Report Prepared By: AHW

General:

Storage buildings have rotted and or collapsed at the back half of the buildings. Walls have been built to section off the collapsed areas and allow continued use. Demolish the buildings.

Finishes in the main building are, generally, in poor condition. The office area is much newer than the old portion, but finishes in the offices are fair, at best.

Roof:

Membrane and splices are in good condition. The roof does not drain well. Saddles do not direct water straight to the scuppers. As a result, there is some ponding.

The scuppers may actually be above the roof line. Some of the ponding seemed to be related to this, and not the taper layout.

There are several types of terra cotta coping caps. Many are broken, and pieces have been laid off onto the roof membrane. Matching the existing copings may be difficult, and alternatives should be considered.

Roof hatch is new. Angle of the ladder into the roof hatch makes passing through a little difficult.

Shingles are in poor to fair condition and have exceeded life expectancy at the older portion of the building. Shingles at the newer addition are in fair to good condition. Age is difficult to ascertain.

Heavy accumulations of debris were present on the roof. This was blocking scuppers at several locations.

A gas line runs along the bottom of the coping caps at the rear of the building. At one location, it rests on the conductor head and has a piece of membrane installed between it to prevent rubbing. Piping should be properly secured to the wall and not allowed to rub against other metal.

One section of built up roof remains on the building. Aggregate is not completely covering the surface and the bituminous materials have suffered some UV damage. Drip edge at the built up roof is in poor condition. Flashings turned up the wall are in poor condition and has disintegrated in some areas.

There is a bump out at one of the lower roofs that has been flashed with EPDM splices. These have peeled away from the membrane.

OWPR
ARCHITECTS AND ENGINEERS

Notes

Upstairs Break room:

Has multiple window units. One window unit is in an interior window that faces the vehicle bays.
Wood floors and vinyl tile are in poor condition.
Folding door is in poor condition.
Steam radiator is in the room, but piping has been capped.

Downstairs breakroom:

Has 9" floor tile. Suspect asbestos.

Work Bay:

Has 24" wide panels on ceiling. May be asbestos? Panels are not securely fastened.
24" exit door with a stick on sign saying exit. No proper exit signage.

Repair bay:

24" exit door with a stick on sign saying exit. No proper exit signage.
Exposed metal decking at ceiling.

Admin area:

Wood doors and HM frames in fair to good condition.
GWB in fair condition.
VCT in fair condition.
Stained SATC in fair to good condition.
Has a rated wood door in HM frame separating the admin from the vehicle bays.

Mezzanine:

Wood floor in rough condition.
Server is in the space, but supply from HVAC is on other side of the room.
Low head height in several areas.

Offices:

GWB, SATC, VCT all fair.
Vinyl base.
Markerboards in ok condition. Light staining.
Windows are single glazed in HM frames.

Bathrooms:

Walls damaged. Hole has been cut but piece left in the cutout.
Soap dispenser was replaced. Old one peeled off wall finish. New one doesn't cover it.
Bathrooms are not accessible, but are provided with signs indicating they are accessible.

Upstairs:

No elevator to upstairs.
Bathroom is not accessible, but is in better condition than ones downstairs.

Conference Room:

Heavy staining on SATC.
VCT poor to fair condition. Broken tiles, joints separating.
Casework in good condition.
Marker board ok condition
Projector screen ok condition

OWPR
ARCHITECTS AND ENGINEERS

Notes

Pole shed:

Some holes in aluminum siding.
Steel framing needs to be scraped and painted.
Plants growing in the gutters.

Wash bay:

Cracks in CMU at openings at both ends. Cracks should be monitored for movement and jambs of openings should be protected from impact from vehicles.

RCPS Transportation 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					
CMU walls	4	Life	80	Life	
Wood trim	2	15	18	0	
Interior doors	2	20	80	0	
Interior doors at Addition	4	20	18	2	
Exterior doors	1	50	80	0	
Exterior doors at Addition	4	50	18	32	
Door hardware	1	7	80	0	
Door hardware at Addition	2	7	18	0	
Asbestos floor tile					
Vinyl floor tile at Addition	2	12	18	0	
Other wood floors	2	10	80	0	
Exposed concrete floors	2	50	80	0	
Exterior windows	2	30	80	12	
Exterior windows At addition	4	30	18	12	
Interior windows	2	30	80	0	
Roof (Including flashings, coping, etc.)	3	20	18	2	
Suspended acoustical tile ceilings (lay-in)	3	25	18	7	
Interlocking tile ceilings	2	25	80	0	
Ceiling/exposed structure finish (paint)	2	5	18	0	
Interior wall finishes (paint)	2	5	18	0	
Marker boards or chalk boards	4	N/A	18		
Tack boards	4	N/A	18		
Projection screens	5	N/A	18		
Casework	5	N/A	18		
Window treatments	5	N/A	18		
Toilet partitions	2	20	80	0	
Toilet accessories	2	N/A	80	0	
Toilet accessories at Addition	4	N/A	18		
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 Transportation 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 (gas)	5	30-40 years	10 years	20-30 years	
Refrigerant piping	5	30 years	10 years	20 years	
Duct	5	30 years	10 years	20 years	
Outdoor air units	N/A				
Terminal units (Unit Heaters)	5	13 years	10 years	3 years	
Package units	N/A				
Controls	N/A				
Exhaust fans	5	25 years	10 years	15 years	
Dust collection	N/A				
Science fume hoods	N/A				
Dust collection system (shop)	N/A				
Kitchen hood	N/A				
Plumbing					
Plumbing fixtures and controls	5	30 years	10 years	20 years	
Floor drains	5	30 years	10 years	20 years	
Water heaters	5	15 years	10 years	5 years	
Pumps	5	15 years	10 years	5 years	
Potable water piping & valves	5	30 years	10 years	20 years	
Sprinkler system	N/A				
Back-flow preventer	5	30 years	10 years	20 years	
Service line & meter (size appropriate)	5	30 years	10 years	20 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 Transportation 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	40	0	2	Need Replacement
Panelboards	30	40	-10	2	Some panels are newer, but most need replacement
Cabling	40	40	0	2	Need Replacement
Conduit/raceway	40	40	0	2	Need Replacement
Light fixtures	20	40	-20	2	Need Replacement
Lighting controls	30	40	-10	2	Need Replacement
Public address system - Headend	30	40	-10	2	Need Replacement
Public address system - Devices	30	40	-10	2	Need Replacement
Security system	10	5	5	5	Need Replacement
Camera system	10	5	5	5	Need Replacement
Data system	15	5	10	2	Need Replacement
Site lighting	20	40	-20	2	Need Replacement
Phone system	10	5	5	5	Need Replacement

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

OWPR ARCHITECTS AND ENGINEERS

Quantity	Description	Unit	Cost / unit	Total w/ OH&P
	ARCHITECTURAL			
3	Demo CMU and Add Exit Door/Frame/hardware	EA	$2,500.00	$9,000.00
200	Remove Vinyl Asbestos Tile	SF	$4.00	$960.00
10	Door Hardware at original Building	EA	$800.00	$9,600.00
1,000	Interlocking Tile Ceilings	SF	$6.00	$7,200.00
300	Exterior Windows	SF	$45.00	$16,200.00
280	New Wood Floors	SF	$4.50	$1,512.00
2,600	Vinyl Composition Tile	SF	$2.50	$7,800.00
6	Toilet Partitions	EA	$1,215.00	$8,748.00
8	Toilet Accessories	EA	$550.00	$5,280.00
1	Demolish Collapsed Storage Building	LS	$4,167.00	$5,000.40
	CIVIL			
1,500	Pavement restriping	LF	$0.20	$360.00
1	ADA signage	EA	$500.00	$600.00
74,000	Mill and overlay asphalt pavement	SF	$1.00	$88,800.00
10,000	Asphalt pavement	SF	$3.00	$36,000.00
4,000	Replace concrete apron	SF	$10.00	$48,000.00
4	Install site lighting	EA	$5,000.00	$24,000.00
775	10' Chain link fencing with 3 strand barbed wire	LF	$50.00	$46,500.00
	MECHANICAL / PLUMBING			
25,000	Replace Boiler and heating system	SF	$10.00	$250,000.00
	ELECTRICAL			
25,000	Full Electrical Renovation	SF	$19.00	$475,000.00
	TOTAL Budgetary Cost			**$1,040,560**