BURTON CENTER FOR ARTS AND TECHNOLOGY

ARCHITECTURAL

Burton Center for the Arts and Technology (BCAT) was originally built in 1962. The buildings have since seen limited renovations, based on programmatic needs, and the addition of a new entry vestibule, in 2014. Most spaces do not comply with recent accessibility standards. Total square footage for the complex is 89,128 SF. The complex consists of three main classroom buildings, with additional storage structures serving various vocational/technical programs scattered on site. There are no mobile units serving as classrooms at the school, but storage units are present on site. The complex has recently had a fence installed for security purposes. This fence features gates for egress that are not entirely on accessible routes.

Exterior Finishes

Exterior Cladding:

Exterior wall material is, generally, brick. Brick was observed to be in good condition. Pre-finished metal flashings and drip edges occur at wall/roof intersections and are in, generally, good condition. Joints at these flashings and drip edges have suffered some degradation. Sealant should be replaced as required. Prefinished metal façade panels are present at the tops of exterior walls. The façade panels at Building A have been replaced with vinyl panels.

Roof:

Roofs are EPDM membranes at all three classroom buildings. The membranes are in good condition and sealants are in fair to good condition. Minor ponding was present as locations on all three roofs, generally, in the areas of roof drains. Minimal debris was observed on the roof, but roofs should be monitored and drains cleaned to avoid any clogging.

Gas lines and other metal conduit were observed lying on the membrane with no supporting pedestals. One gas line was in a position to rub a metal vent-through-roof pipe. Pedestals should be installed to avoid damage to roof during metal expansion and contraction. Metal pipes should not be allowed to rub.

Mechanical units have had their condensate pipes rotated so that the traps are completely draining. This is widespread, and appears to be intentional, but should be fixed so that the traps operate as they are intended.

Limited portions of the roof were covered in standing seam metal roofing. This roof is limited to a sloped area over the cafetorium that leads to another membrane roof. The

membrane roof has leaked and damaged portions of the interior, but according to staff this has not occurred in several years. The metal roof finish has completely degraded. The finish that is in place appears to have been applied after the original finish failed. EPDM splices have been installed at the bottoms of the panels, where they lap over pre-formed flashing. These splices are in fair to good condition, but have large bubbles forming at the joint between the two metals.

Additionally, some small, add-on structures have 3-tab shingles. These are in fair condition. But, generally, life span for these shingles is limited.

Sealants at fascia panels on the roof and at roof edges should be regularly monitored and replaced as needed. Several joints have experience sealant degradation and cracking and should be resealed.

Windows:

Windows in the buildings are a mix of hollow metal, steel, and aluminum. In most locations, operable hopper or awning windows are present. Some operable units have been removed and the opening reglazed with lexan or other materials. This occurs on the ground floor of Building A, at the southwestern classroom, and at other scattered locations. Glazing type varies by location within the building. Classrooms featured single pane, clear glazing while corridors and other areas have single pane wire glass installed. Insulated glazing units were only located at the cafetorium space, installed in hollow metal frames. Condition of sealants and glazing should be monitored. Sealant that is cracked or failing in any other way should be replaced.

Exterior Doors:

Exterior doors are hollow metal, installed in hollow metal frames. The glazing at most of these locations is wire glass. Glazing condition and door condition at all hollow metal doors should be monitored. Any rusting doors and frames should be replaced as required. Glazing can be replaced to improve overall energy efficiency of the system. Main access doors have had electric operators installed, but these are non-functional due to security systems.

Exterior entrance doors are equipped with card readers and included in the security/monitoring system.

Interior Finishes, Fixtures & Equipment

(See assessment tabulations for interior finish conditions).

Terrazzo, Vinyl Composition Tile, Quarry Tile and Ceramic Tile are the predominant floor finishes at BCAT. Other floor finishes include limited applications of parquet wood at the Cafetorium, and carpet in music spaces and scattered offices.

Interior wall finishes are generally painted concrete block and structural glazed wall tile. Office areas and built out areas have gypsum wall board partitions and lauan wood paneling clad partitions. Window treatments are typically vinyl roller shades.

Ceilings are generally suspended acoustical tile (lay-in) with some gypsum wall board ceilings and bulkheads. Painted tectum decking is present in the Cafetorium, and shop areas. Water damage is present in many of the suspended acoustic tile ceilings, other older tiles have begun to sag and deteriorate. New suspended acoustical tile ceilings are recommended as part of any renovations. Office space in the kitchen area has experienced extreme water damage at the SATC. The tiles are stained and stains are present at the light lenses.

Most interior doors are wood or hollow metal, with hollow metal frames, and are original to the buildings. Finishes are worn in many locations. Wood doors may be stripped, sanded, and refinished, while metal doors may be patched and repainted. Doors do not have accessible door hardware (at older, non-renovated, portions of the facility). All non-accessible, interior door hardware would be replaced during a substantial renovation. Some door frames would be replaced to achieve accessibility, or because of reconfigured spaces. Other door frames may be salvaged, patched, and painted. As program needs have changed, new spaces have been created and doors were added. Most of these doors are wood doors in wood frames.

Marker boards, chalk boards, and tack boards are present in classrooms. Most are in fair to good condition. Stained units should be replaced as required. Smart boards have been placed in rooms.

Casework (cabinets) condition varies across the facility. Most casework is original to the facility and consists of plastic laminate clad units. Lockers, in Building A, are in good condition and should be painted as required.

Most toilet rooms are single occupant and are not accessible. Without extensive space reconfiguration, little opportunity exists to make these rooms accessible. Floor tile was, generally, in good condition, while ceiling and wall finishes were in fair to poor condition. Fixtures and toilet accessories were in fair to good condition.

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.

General school storage is scattered throughout the buildings and consumes spaces intended for other functions. As part of future renovation plans, general school storage

should be planned in several strategic areas serving administration, faculty, and staff. Metal shelving units would be provided in dedicated general storage rooms.

Accessibility

At several exterior doors, there are steps up, or down, into the building, which are not accessible. While these no longer serve as entrances, due to security concerns, they should provide an accessible route for egress. As part of any substantial renovation all elements of the site and building entrances would be renovated to be accessible. Building A is the only multi-story building in the complex. It is not equipped with an elevator. Access from one floor to another would be achieved by an exterior ramp that is accessed through the security fence. This ramp does not appear to comply with accessibility requirements.

Most areas inside the buildings are not accessible. Restrooms are not accessible to the latest ADA standard, and without major building modification cannot be made to comply. Accessible urinals were not present in gang Men's rooms. Casework should be added which incorporates accessible work stations and storage units; most casework provided only a single, 36" high countertop. Signage, hardware, drinking fountains, etc., throughout the facility, do not comply with the most recent ADA standard. Accessibility throughout the facility would be achieved during any substantial renovation.

Safety and Security

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

Recent renovation work, undertaken by RCPS in 2014, involved the installation of secure entry vestibules at all schools. The vestibule at BCAT's admin building (Building A) provides minimal visibility from the office and limits control over the main entry. A window is present, but is located in a position where staff members seated at their stations cannot see people in the vestibule. Door position sensors and locks are provided at all other exterior doors. Entry at these points is limited to staff members with appropriate keys/cards. Control at buildings B and C is solely dependent upon locks and the fence installed at the perimeter of the facility. As each of the technical program areas has its own exterior access, and no central hall connects the spaces, it would be difficult to establish secure vestibules at every location. The facility is entirely dependent upon proper function of the fence and other physical security measures.

End of Burton Center for Arts and Technology Architectural Narrative

STRUCTURAL

During the Architectural investigation of the Burton Center for Arts and Technology, an issue was discovered warranting additional investigation from a structural standpoint.

Cracks in Masonry Walls in the Masonry Class

In the storage area of the masonry class, a fairly significant stairstep crack was observed in the wall common to the masonry classroom. This crack seems to show horizontal movement along with some less significant vertical movement. On the opposite wall of the storage area, another, less significant stairstep crack was observed. In addition to the cracks in the storage area, a crack over one of the doors to the corridor was also observed. Though unsightly, these cracks do not appear to pose a threat to the structural integrity of the building. However, due to the number of cracks in this general vicinity, it is recommended that, in addition to caulking, painting and observing the cracks for additional movement, these cracks should be monitored with crack gages to determine the direction and extent of any additional movement. OWPR, Inc. is happy to assist with setting up a monitoring program for this building.

End of Burton Center for Arts and Technology Structural Narrative

PLUMBING/FIRE PROTECTION

Plumbing Fixtures:

Water Closets: Water closets observed were floor mounted and wall mounted vitreous china with manual type flush valves. The age of the water closets is unknown but is estimated to be from the late 60's for Building A and the late 70's for Building B. 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 age of the urinals is unknown but is estimated to be from the late 60's for Building A and the late 70's for Building B. 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 age of the lavatories is unknown but is estimated to be from the late 60's for Building A and the late 70's for Building B. 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 semi recessed wall mounted type. The age of the water coolers is unknown.

Water Heaters:

For Building A, domestic water heating is done by two electric tank type heaters that have been installed within the past 2 years. For Building B, domestic water heating is done by a gas fired water heater with a storage tank. The water heater appeared to be 5-10 years old.

Piping:

Water: Copper with fiberglass insulation
Sanitary Piping: Cast iron
Storm Piping: Cast iron
Gas Piping: Black steel

Domestic Water Entrance:

Building A is served by a 1-1/4", Building B is served by a 3", and Building C is served by a 3" cold water line that is assumed to be from a municipal system.

Fire Protection:

The building is not sprinkled.

Recommendations:

Based on the overall condition of the building, it is recommended that the facility be replaced.

End of Burton Center for Arts and Technology Plumbing/Fire Protection Narrative

MECHANICAL (HVAC)

Heating:

Building A: Building A is heated by a combination of gas fired rooftop units and a variable refrigerant flow (VRF) system. The rooftop units are 2 years old and are expected to have a useful life of 18 years. The VRF system is 2 years old and is expected to have a useful life of 15 years.

Building B: Building B is primarily heated by a gas fired boiler. Hot water is pumped to heating coils throughout the building. The boiler is from 1978 and is expected to have a useful life of 30 years. The hot water pump is approximately 10 years old and expected to have a useful life expectancy of 25 years. The cafeteria is served by a gas fired rooftop unit

Building C: Building C is heated by gas fired rooftop units. The rooftop units appeared to be approximately 5 years old and are expected to have a useful life of 18 years.

Ventilation:

Ventilation is provided to all three buildings by rooftop air handling units.

Air Conditioning:

Building A: Building A is cooled by a combination of DX type rooftop air handling units and a variable refrigerant flow (VRF) system. The rooftop units are 2 years old and are expected to have a useful life of 18 years. The VRF system is 2 years old and is expected to have a useful life of 15 years.

Building B: Building B (except the cafeteria and kitchen) is cooled by DX type rooftop air handling units which were installed in 2015. The cafeteria is served by a DX type rooftop air handling unit rooftop unit which was installed in 2008. The rooftop units are expected to have a useful life of 18 years. The kitchen area is not cooled.

Building C: Building C is heated by gas fired rooftop units. The rooftop units appeared to be approximately 5 years old and are expected to have a useful life of 18 years.

Piping:

In Building B, there is hot water piping, black steel, insulated. The piping is from 1978 and has reached the end of its useful life expectancy.

Controls:

Building B has a mixture of old pneumatic controls by Johnson Controls and newer digital type (DDC) controls by Andover Controls.

Recommendations:

The central heating equipment serving Building B, including the boiler and hot water piping has reached the end of its useful life expectancy and should be replaced.

End of Burton Center for Arts and Technology Mechanical Narrative

ELECTRICAL

Main Switch Gear:

Main Switchboard: The main electrical service is not identifiable on the campus. There is a single meter at the utility transformer but no panels are labeled as service disconnect. There is a large 600 Amp, 480Y/277 volt main panel in Building B that appears to feed Building A. Building C appears to have its own electrical service located inside of the building, however it could be fed from Building B, but there is no information available indicating where Building C service comes from.

Recommendation: In the event of a substantial renovation or addition, existing services should be either consolidated with a single distribution point or each building have an exterior service disconnect that is labeled to make it clear how to shut off power to the facilities.

Transformers:

Transformers: Transformers were a combination of older Jefferson Electric power transformers or old Westinghouse and SBI transformers.

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

Panelboards:

Distribution and Branch Circuit Panelboards: The majority of panelboards are older Westinghouse panels, but there is a mixture of General Electric panels and Square D panels. There are a few new Square D panelboards which have been added for an HVAC renovation in the last few years.

Recommendation: Replace all older panelboards if a large renovation allows for it. Reuse some newer panelboards where available. Maintaining all existing panelboards will allow them to operate longer than average expected life.

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. 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 an older Bogen Desktop style PA 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 currently meets the needs of the building. Replacement of the headend is possibly with any maintenance, and the system could be upgraded with any large scale renovation.

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 Radionics fire control system installed around 1990. The system is operational. The current system devices consist of limited area manual pull stations, smoke detectors, and horn/strobe alarms. However, there are only a few devices located in classrooms.

Recommendation: Upgrade the fire alarm system to meet current code with pull stations at every door and audible and visual devices throughout the school including visual devices in classrooms and toilets.

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 Burton Center for Arts and Technology Electrical Narrative

CIVIL

Traffic Circulation

Buses: Due to the nature of the facility buses arrive at different times depending upon the day, and special needs buses arrive at various times each day. Approximately 7-8 regular buses serve the school in the morning, and 10 buses transport the students back to their respective schools after classes.

Morning: Buses enter the site and take an immediate right down to the second parking area to drop off students. Some of the parents also utilize this entrance, but drop off at the first parking area. The shared utilization of the entrance drive can cause traffic backups out to the adjacent roadway.

Afternoon: Buses enter the site and take an immediate right down to the first parking area to pick up students. There is adequate stacking area so that buses do not back up significantly.

Cars: Parents can drop their students off in the morning, but then they are bused back to their respective schools. Student drivers park on the east side of the school.

Drop off: Parents coming from the east enter through the east entrance, drop off their students at the front of the school and then exit through the west entrance. Parents coming from the west enter through the west entrance and take an immediate right down to the first parking lot to drop off their students. Buses also utilize this entrance which can cause traffic backups out to the adjacent roadway.

Recommendation: Explore alternate drop off patterns and locations in conjunction with possible adjacent roadway and entrance modifications (see below).

Parking: 198 striped parking spaces are provided with 8 designated ADA spaces. Day to day parking is adequate for faculty / staff / visitors. Parking quantities meet Roanoke County requirements and State recommendations. Event parking is an issue with parents parking wherever possible.

Service: Deliveries / service is located on the east side of the school, but is accessed through a narrow service drive around the south end of the school. There is adequate maneuvering room for smaller vehicles, but tractor trailer deliveries require the driver to back down the service drive.

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

Separation: Morning bus traffic and parent traffic sharing an entrance and utilizing adjacent drop off areas can cause issues and backups.

Recommendation: Explore alternate drop off patterns and locations in conjunction with possible adjacent roadway and entrance modifications (see below).

Adjacent Roadways: The adjacent roadway is extremely busy 2 lane road with extensive backups regularly.

Recommendation: Review the location and quantity of entrances and explore the possibilities of turn lanes with VDOT and adjacent properties.

Pedestrian: There are no pedestrians walking to the site.

ADA Accessibility

Parking: There are six spaces designated as ADA parking at the first parking area on the west side of the school. One space is designated as van accessible. Two spaces on the east side parking lot are designated as ADA parking. One space is designated as van accessible.

Signage: Signs at the west side parking spaces are beginning to fade and posts are rusting. There are two additional signs in this parking area located at regular parking spaces. Signs at the east side parking spaces are faded and posts are rusting.

Recommendation: Remove two extra signs from west parking spaces. Sand, prime, and paint posts. Replace signs as necessary.

Ramps: There are wooden ADA accessible ramps to two mobile classroom units. Both ramps have railings but they do not extend to the end of the ramp, and neither one has a handrail that meets current code. There are also curb ramps near the ADA parking spaces.

Recommendation: Extend existing wooden railings to the end of the ramp and add a code compliant handrail.

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

Parking Areas, Driveways, and Sidewalks

Asphalt Pavement: Poor condition with cracking and deterioration throughout. Some newer sections are in fair condition.

Recommendation: Replace all asphalt pavement.

Concrete Pavement: There are concrete pavements located at the shop areas which are in poor condition with cracking and deterioration throughout.

Recommendation: Replace all concrete pavement.

Concrete Walks: Poor condition with cracking and deterioration throughout.

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

Stairs, Ramps, and Railings: Concrete stairs are aged and in fair condition. Wooden stairs are in fair condition. Concrete ramp is aged and in fair condition. Wooden ramps are in fair condition. Metal and wooden railings do not meet current code. Paint on metal railings is faded and chipped. Section of railing is missing at a trailer on the south side of the building. Long section of railing at the northwest corner of the building meets code, but is faded and chipped.

Recommendation: Repaint northwest railings. Replace non-code compliant railings. Replace section of wood railing that is missing.

Concrete Curb and Gutter: Poor condition with cracking and deterioration throughout.

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

Concrete / Brick Pavers: There is a brick paver patio area which is in good condition.

Fire Lane: Paint on curbs and asphalt is faded. There is an insufficient quantity of fire lane signs.

Recommendation: Re-paint curbs and asphalt at fire lanes. Provide additional signs at all fire lane locations. Ensure that fire lane signs are turned toward oncoming traffic.

Utilities

Fire Lines and Hydrants: Insufficient fire hydrant coverage and spacing considering school activities (i.e. welding) and only partially sprinkled building. Closest fire hydrant is across the street. No designated paved fire lane around building, but there is fire truck access around all four sides.

Recommendation: Provide onsite fire hydrants.

Domestic Water System: Water system is in fair condition, but functional. Water is provided to school via public water network and meter is located in a meter box along Roanoke Boulevard. Staff indicated no pressure or water discoloration issues.

Sewer System: Sanitary sewer system is in fair condition, but functional around building. Staff indicated no issues with stoppages; however, a manhole to the west of

the school at the edge of the parking area has overflowed with waste. There may be possible infiltration issues and when it rains, the sewage backs up. A major sewer trunk line service runs between the school and the creek and needs to be evaluated by Roanoke County.

Recommendation: Sewer system should be flushed to clear and prevent blockages. Possible infiltration issues need to be evaluated. All sanitary sewer structures and piping allowing infiltration should be replaced.

Natural Gas System: Multiple gas meters located on site, but some appear to be abandoned. All meters are in fair to good condition and are not located in traffic areas.

Electric: Electric service provided via overhead poles to site. Service goes underground at pole to transformer next to school and meter is mounted on outside wall. Transformer is protected from traffic areas, but shows major signs of rust. Electric service provided to mobile classrooms via overhead lines.

Site Lighting: Overhead site lights are sufficient for safety and security of school parking lots, but considering the site is shared with recreational sports and many people are around in the evenings, more lighting is needed for safety and security.

Recommendation: Provide more site lighting in all the parking lots to keep school property safe and secure.

Grading and Drainage

Storm Water System: Roof drains and downspouts are piped underground into the building storm water network. Runoff from the parking lot and yard areas collect in curb and drop inlets around the parking lot. Runoff also sheet flows into adjacent creek. All storm water inlets, manholes and pipes are in fair condition and functional, but filled with sediment and debris.

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

Slopes, Ponding, and other Drainage Issues: Minor erosion at rear of school and sediment accumulation around low points of the side parking lots. Rear of school contains junkyard with oil-stained pavement.

Site Features

Vegetative Landscaping: Vegetation, including trees and shrubs, are healthy. Minor pruning or removal recommended at greenhouse.

Recommendation: Recommend the removal of shrubs next to greenhouse. Continue general maintenance of pruning and mulching.

Lawns: Generally good condition. Courtyard between buildings will require repair after construction of brick pillars. Some areas not suitable for repair on back of school due to traffic.

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

Fencing and Gates: CLF provided at Headstart playground and around back of school. Both are in good condition. Wrought iron fencing to limit access to courtyard between buildings is in good condition.

Signage: ADA signage not to code and some signs are fading. Provide parking blocks for ADA spaces in lower lot to prevent damage to poles. No fire lane signage present. 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 fire lane signage. Provide directional signage. Provide parking blocks at ADA signage. .

Flagpoles: Poles are in fair condition. Age is showing.

Recommendation: Monitor condition to replace flag poles in future.

Site Furnishings: Limited site furnishings. 6 wood picnic tables in courtyard in fair condition.

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

Awnings / Canopies: Large canopy provided for building construction classes. Canopy is in good condition with the exception of a crushed downspout.

Recommendation: Repair downspout as soon as possible. Add bollards at two outer downspouts to protect them from vehicular traffic.

Site Retaining Walls: One retaining wall on east side of building with minor damage at railing connection. Railing at top meets code. Short 2.5' high wall in courtyard in good condition, no railing required.

Recommendation: Repair railing connection.

Accessory Structures: Tire shop on east side is of CMU construction in excellent condition. Small storage buildings on south side are of CMU and brick construction are

functional, but require new roofs. Outdoor learning area on west side with wood benches in good condition.

Recommendation: Reroof storage buildings to preserve structural integrity and use. Clean and treat wood benches to extend useful life.

Play Areas

Playgrounds / Stationary Play Equipment: Small PreK-1 playground for Headstart provided. Equipment in fair condition. Area needs fresh mulch.

Recommendation: Add mulch to playground area.

End of Burton Center for Arts and Technology Civil Narrative

OWPR
ARCHITECTS AND ENGINEERS

Notes

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

Subject: Burton Center for Arts and Technology	**Total Pages:**
Date: 9/14/2016	**Location: Salem, VA**
Copies To:	**Report Prepared By: AHW**

General:

Staff requests a better view of new entry vestibule. Views are limited making ingress control difficult.
Staff would like staff showers and other showers for special needs students.
Building A has HM window frames with wire glass at most locations.
Staff claims current buildings are all constructed in a flood plain.
HM doors and Frames need paint.
No Accessible signage. Limited accessible hardware and toilet rooms.

Building A:

General:

HM doors and frames w/wire glass. Crash bars have been replaced at double doors. One crash bar remains, one standard exit device has been installed.
Automatic operators are installed at exterior doors, but are non-functional due to security system.
Staff in rooms for children with special needs voiced concern about building accessibility. Say students downstairs have to exit the building, go through a non-accessible gate, and around the building to access the upper floor. No elevator present.

Administration Area:

Needs new SATC, throughout offices and support spaces. Hallway in admin has new, lowered, SATC to accommodate new HVAC. This was installed approximately 3 years ago.
Existing SATC, painted block walls, terrazzo floors, stained wood doors with knob hardware in HM frames in most locations. A few infilled partitions have wood doors in wood frames.
Carpet in copy room needs to be replaced. Minimal life remaining.
Toilet room in admin has stone partitions, not accessible. Glazed structural wall tile, terrazzo floor.
Break room has no casework and minimal accommodations for staff.
New Aluminum storefront entry vestibule has been installed for ingress control.

Large panel for fan control is in office. Staff has never used it or seen it function.

Hallways:

Glazed structural wall tile, full height. Exposed brick at limited locations.. SATC in decent shape. Terrazzo floors in good shape.
Open guards (3 horizontal bars with verticals for support, only) at stairs.
Lockers in good condition. GWB infill above lockers.
Single EWC's located in hallway. Non-accessible.

Roof:

60 mil EPDM roof system. Carlisle branding on pipe boots.
Areas of ponding evident based on deposited dirt and debris.
Condensate piping traps have been rotated so that the traps completely drain. Not acting as a trap.
Pipe supports are not present for many of the metal piping on the roof.
Some Sealant at laps and pipe penetrations is cracking and aged.
Roof hatch needs new paint. A rope is tied to the handle and extends to floor level below. No purpose for the rope could be ascertained. Latch was functioning properly.
Strainer baskets are missing retainer screws.
Shingle roof present at small building addition. Appears to be in fair condition.

Room 206, 207, 208:

Marker boards are stained.

Rooms 203, 205, 207, 208:

SATC needs to be replaced.

Corridor and 206:

Have new SATC.

Rooms 204/205/208:

Lauan partitions have been built to split the spaces. Wood doors with wood frames.

Building B:

General:

Non insulated glazing in aluminum exterior windows except at cafetorium/assembly space.

Assembly Space:

Water damage at HVAC bulkhead in space. Staff says the damage is older. Paint has bubbled and is peeling.
Exposed brick walls. Parquet floor, finish in good shape. Wood base is in rough condition. Painted 8x8 stack bond CMU walls in portions. HM frames with stained wood doors. Tectum ceilings in good shape.

HM window frames have insulated lites.

Kitchen:

Quarry tile floor and base. Painted block walls. Ceilings are SATC in ok to good condition except near exhaust fan. 7-8 tiles in this area are water stained.
Major SATC damage in kitchen office from leaks. VCT in this room is heavily stained and needs to be replaced.
No accessible bathrooms or sinks in kitchen. Kitchen is an instructional space, and is occupied by students.

315:

Replace marker board.
VCT in roof is in good condition. Replace SATC.

314:

Door is splitting.
SATC is mismatched but in good shape. VCT in good shape. Rubber base good.

Corridor:

SATC good but there are small water spots on tiles near B20 door. VCT good.

310:

Stained marker board.
VCT and Rubber base good. Some staining on tiles, and one missing tile.
SATC mismatched and in fair condition.

311:

Mismatched SATC in fair condition. VCT in OK condition.

312:

SATC mismatched in fair condition. VCT in OK condition. Chalk board and smart board. No marker board.

313-320:

SATC mismatched in fair condition. VCT is mismatched. Per instructor, internet capacity is insufficient for program.
Sinks are in space, but no accessible ones. Casework in OK condition.
Program has had to adapt spaces for their uses. Green rooms have been created but have outdoor lighting problems. Closets are being used for audio work.

Center for Performing Arts:

SATC has been painted black
Carpet is in ok condition but has some stains.

OSB partition has been built in the roof for a costume storage area. This is on an elevated platform with no ramp for access.

Dance Studio:

Studio has a sprung/floating wood floor which is elevated above surrounding floors.
Threshold has been sloped to avoid a tripping hazard but is too steep for accessibility.
At the exterior wall, there is a garage door that has been painted. Is not in use.
As a result of the built up floor, there are some doors that do not have ramped thresholds and present a tripping hazard.
Wood floor is in good condition.
SATC ceiling in good condition.
SATC and VCT in associated offices in fair condition.

"Accessible" Mens and Women's Bathrooms:

Are not accessible. At all. Lavatory is in clear floor area of toilet. Utility Shelf/hook combo is mounted too high. Hook on door too high. Knob hardware.
Quarry tile floor and base in good condition. Painted CMU walls good.

339:

SATC ceilings damaged. VCT in rough to fair condition.

Automotive Area:

Painted CMU, non-coated concrete. Tectum ceiling in ok condition. All other materials in middling condition. Typical shop. Everything is dirty and beaten. Could it be better? Yes. Will it stay that way? No.

Welding:

Finishes in fair condition. New paint needed along with general maintenance.
All welding tables have an overhead, upward exhaust system.
Cracked concrete floor, looks slightly settled.
Door to bathroom has a large manual bolt welded to the face of the frame.

Auto Classroom:

VCT OK. SATC rough.

Roof:

Some evidence of ponding at most drains. Standing water at some.
Sealants in ok condition. Laps in good condition.
Abandoned electrical penetrations through roof near mechanical units over main portion of building.
Standing seam over Cafetorium/Assembly area. Finish in rough condition. Metal base in ok condition with some rust due to lack of finish. EPDM splice tape has been installed where standing seam transitions to a flat sheet flashing. Reason for this installation is

unknown. Large bubbles are present at the seam between the two metals. Copper gutter in ok condition.
EPDM over Cafetorium/Assembly area. Sealant in poor condition. Evidence of ponding. Patches are peeling away from membrane.

Building C:

General:

No ladder to roof was present. Judged from adjacent buildings, roof appeared to be in similar condition to the others.

458/459:

VCT in ok condition Some water staining of tiles at exterior door.
SATC is in OK condition with some stains.
Cord reels are hanging from the ceiling in 458 to provide power to users.
No accessible lab tables

Corridor:

Has a single EWC.

Richard Turner Office:

Has padded carpet, painted CMU, and painted hard ceiling in good condition.

448:

VCT OK, SATC OK but not great. Stained marker board.
Connects to roof 440 and via an inbetween classroom and office.

In-between Classroom:

No corridor access or exterior access. Egress is through adjacent rooms.
VCT is in OK-ish condition.
SATC has stains on many of the tiles.
Marker boards are stained.

Office:

VCT in private bathroom in poor condition.

440:

VCT in part of space in good condition. Tectum in good condition. Sealed concrete floors in remainder of space are in ok condition.
There is a large hole cut through the tectum at the perimeter of the space. Assume it was for former piece of equipment with roof mounted element.
Space has steel windows w/ non-insulated lites. Operable hoppers.

Woodshop classroom:

Hole in masonry next to door.

SATC in ok condition with stains.

Woodshop:

Concrete floors in ok-ish condition. Has some cracks
Tectum in OK condition with what appears to be some water staining. Could be other staining. With all the wood dust on the surface, hard to tell.
Exterior doors have two swing-down crash bars.
Storage room used to be a paint booth. There is an exhaust through ceiling that still works but is not attached to any equipment in the space.
Smaller storage room has rough patched areas in the CMU.

C2 Corridor:

Replace SATC.
Crack in CMU over door to masonry room.
Good sized crack in slab.

Masonry Room:

Storage room has cracks in the CMU. Several bearing points in this space are near the cracks.

"Accessible" Womens:

Not accessible.

"Accessible" Mens"

Partitions have been removed and the spaces infilled with non-matching tiles.

Door C1:

Sidelites cracked.

402:

Replace marker boards. VCT in ok-ish condition. SATC has stains and is mismatched. Has single EWC in space.

400:

VCT in fair to ok condition. SATC is mismatched in fair to ok condition.
Door is delaminating.

Burton Center for Arts and Technology 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	54	Life	
CMU walls	4	Life	54	Life	
Wood trim	4	15	54	0	
Interior doors	4	20	54	0	
Exterior doors	4	50	54	0	
Door hardware	3	7	54	0	
Electronic door hardware	2	5	10	0	
Terrazzo	4	50	54	0	
Vinyl floor tile	2	12	15	0	
Ceramic/Porcelain floor tile	4	50	54	0	
Quarry floor tile	5	50	54	0	
Wood gym floor	5	10	30	0	
Exposed concrete floors	4	50	54	0	
Carpet	2	5	10	0	
Exterior windows	2	30	54	0	
Interior windows	2	30	54	0	
Roof (Including flashings, coping, etc.)	4	20	15	5	
Suspended acoustical tile ceilings (lay-in)	2	25	26	0	
Ceiling/exposed structure finish (paint)	2	5	30	0	
Interior wall finishes (Lauan Wood Paneling)	2	15	30	0	
Interior wall finishes (paint)	2	5	10	0	
Marker boards or chalk boards	2	N/A	10		
Tack boards	4	N/A	10		
Projection screens	4	N/A	10		
Casework	2	N/A	30		
Window treatments	4	N/A	10		
Toilet partitions	2	20	30	0	
Toilet accessories	2	N/A	30	0	
Interior railings	2	30	54	0	
Exterior railings	2	30	30	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

Burton Center For Arts and Technology Mechanical Plumbing Condition Assessment

Reference Building Owners and Managers Association International (BOMA)

Preventative Maintenance Guidebook

System/Components	Condition Category	Expected Useful Life	Current Age	Expected Life Remaining	Notes
Mechanical					
Gas Fired Boiler	2	30 years	38 years	0 years	
Chiller or Cooling tower	N/A				
Mechanical piping	5	30 years	5-8 years	22-25 years	
Refrigerant piping	5	30 years	5-8 years	22-25 years	
Duct	5	30 years	5-8 years	22-25 years	
Outdoor air units	N/A				
Terminal units	N/A				
Package units (Building A)	5	18 years	2 years	16 years	
Package units (Building B - 2015)	5	18 years	1 year	17 yeers	
Package units (Building B - 2008)	5	18 years	8 years	10 years	
Package units (Building C)	5	18 years	5 years	13 years	
Controls - pneumatic	2	18 years	38 years	0 years	
Controls - DDC	5	20 years	8 years	12 years	
Exhaust fans	5	25 years	8 years	17 years	
Plumbing					
Plumbing fixtures and controls		30 years	30 + years	0 years	
Floor drains		30 years	30 + years	0 years	
Water heaters (Building A)		15 years	2 years	13 years	
Water heaters (Building B)		15 years	5-10 years	5-10 years	
Pumps		15 years	30 + years	0 years	
Potable water piping & valves		30 years	30 + years	0 years	
Sprinkler system	N/A				
Back-flow preventer	N/A				
Service line & meter (size appropriate)		30 years	30 + 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					

Burton Center for Arts and Technology 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	38	2	5	
Panelboards	30	38	-8	5	Some newer panels installed last year
Cabling	40	38	2	5	
Cabling	40	38	2	5	
Conduit/raceway	40	38	2	5	
Light fixtures	20	20	0	5	Light fixtures have been updaded to T8
Lighting controls	30	17	13	5	
Public address system - Headend	30	17	13	5	
Public address system - Devices	30	17	13	5	
Security system	10	5	5	5	
Camera system	10	5	5	5	
Data system	15	5	10	5	
Fire alarm system - Headend	30	17	13	5	
Fire alarm system - Devices	30	17	13	5	
Site lighting	20	17	3	2	
Classroom media systems (TV, projector, etc.)	10	5	5	5	
Phone system	10	5	5	5	

Condition Categories

1 Immediate replacement required, life safety concern
2 System has reached it's useful life
3 Major repair or modifications required, useful life remaining
4 Minor repair required
5 General maintenance required

Burton Center for Arts and Technology Civil Condition Assessment

Reference Building Owners and Managers Association International (BOMA)

Preventative Maintenance Guidebook

System/Components	Condition Category	Expected Useful Life	Current Age	Expected Life Remaining	Notes
Civil					
Asphalt pavement	2/4	15 years	Varies	0-5 years	
Asphalt walks	N/A	N/A	N/A	N/A	
Concrete pavement	2/3	30 years	38-53 years	0 years	
Concrete walks	2/3	30 years	38-53 years	0 years	
Stairs	3/4	30 years	5-53 years	0-10 years	
Ramps	4	30 years	5-53 years	0-10 years	
Railings	1/4	15 years	5-53 years	0-10 years	
Concrete curb and gutter	2/3	30 years	38-53 years	0 years	
Concrete / Brick Pavers	5	30 years	Unknown	25 years	
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 years	
Domestic Water system	4	40 years	38 years	2 years	
Sewer system	4	40 years	53 years	0 years	
Natural Gas system	4	40 years	Unknown	5-10 years	
Electrical System	3	25 years	Unknown	5 years	
Exterior Lighting	3	25 years	Unknown	0 years	
Storm water system	4	40 years	53 years	0 years	
Detention / Retention ponds	N/A	N/A	N/A	N/A	
Stormwater Management BMP's	N/A	N/A	N/A	N/A	
Surface drainage and grading	4	N/A	N/A	N/A	
Vegetative landsaping	4	Life	Unknown	Varies	
Lawns	5	Life	Unknown	Life	
Fencing and gates	5	20 years	Unknown	15+ years	
Signage	3	10 years	Unknown	5+ years	
Flagpoles	5	50 years	38 years	12 years	
Site furnishings	5	15 years	Unknown	5+ years	
Awnings / Canopies	4	50 years	Unknown	30+ years	
Site retaining walls	5	50 years	38 years	12 years	
Accessory structures	4	50 years	Unknown	10+ years	
Playgrounds	4	10 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 **Burton Center for The Arts and Technology**
Client Name Roanoke County Schools

OVPR ARCHITECTS AND ENGINEERS

Quantity	Description	Unit	Cost / unit	Total w/ OH&P
	ARCHITECTURAL			
34,010	Complete renovation including door hardware, all new doors, roof replacement, replace windows, new flooring, partitions, and marker/tack boards: Building A	SF	$195.00	$7,958,340.00
37,156	Complete renovation including door hardware, all new doors, roof replacement, replace windows, new flooring, partitions, and marker/tack boards: Building B	SF	$195.00	$8,694,504.00
25,830	Complete renovation including door hardware, all new doors, roof replacement, replace windows, new flooring, partitions, and marker/tack boards: Building C	SF	$195.00	$6,044,220.00
	CIVIL			
8	ADA signage	EA	$500.00	$4,800.00
8	Directional signage	EA	$1,500.00	$14,400.00
160,000	Mill and overlay asphalt pavement	SF	$1.00	$192,000.00
9,000	Replace concrete pavement	SF	$7.00	$75,600.00
10	Fire lane signage	EA	$500.00	$6,000.00
1,000	Repaint curbs and fire lanes	LF	$0.10	$120.00
10	Install site lighting	EA	$5,000.00	$60,000.00
1	Install bollards	EA	$650.00	$780.00
1	Remove shrubs/trees at greenhouse	EA	$1,000.00	$1,200.00
2	Bollards	EA	$650.00	$1,560.00
	MECHANICAL / PLUMBING			
1	Replace Boiler in Building B	EA	$100,000.00	$100,000.00
	ELECTRICAL			
34,010	Electrical Renovation Building A	SF	$19.00	$646,190.00
37,156	Electrical Renovation Building B	SF	$19.00	$705,964.00
25,830	Electrical Renovation Building C	SF	$19.00	$490,770.00
	TOTAL Budgetary Cost			**$24,996,448**