# RECAPP Facility Evaluation Report

## Calgary School District #19


## Sir William Van Horne High School

B2852A

Calgary

*Report run on: March 25, 2010 10:19 AM*

## Facility Details

**Building Name:** Sir William Van Horne High S
**Address:** 2215 Uxbridge Drive N. W.
**Location:** Calgary

**Building Id:** B2852A
**Gross Area (sq. m):** 9,670.16
**Replacement Cost:** $28,663,841
**Construction Year:** 1967

## Evaluation Details

**Evaluation Company:** Asset Evolution Inc. (AEI)
**Evaluation Date:** October 5 2009
**Evaluator Name:** Mario Plastina

**Total Maintenance Events Next 5 years:** **$7,305,000**
**5 year Facility Condition Index (FCI):** **25.49%**

**General Summary:**

Sir William Van Horne High School, originally a three storey structure was constructed in 1966-67 with an area of 8585 square meters. In 1975, 2 one-storey additions were added to the south end of the original school. A building construction shop and a fibre-glass greenhouse with an area of 255 square meters. In 1983, a two-storey addition with a mechanical penthouse of 872 m2 was added to the north-west corner of the original school. The 1983 addition houses the auto-body shop on the main level and the library on the second floor. The total area of the school is 9712 square meters. Interior renovation to the original 1966 section were conducted in the mid 1980's.

Sir William Van Horne High School is a technical high school of choice offering Knowledge and Employability courses based on the Alberta Learning Curriculum. The school focuses on work education and career exploration. The school includes 9 different shop facilities to support career endeavors.
The school includes Auto-body, Automotives, Cosmetology and Esthetics, Human Care, Commercial Food Preparation, Construction Studies, Art /Media, Art/Design and Metal Fabrication. Students attending the school have an interest in making a smooth transition from school to the world of work or post-secondary study with a particular focus on a trade, technical career or the service industry. The school also includes several classrooms, a gymnasium with a stage, fitness room, library, a cafeteria, science labs,a greenhouse, administrative offices and a courtyard.

The 2009 student enrollment - 300

**Structural Summary:**

Foundation consists of concrete piles supporting strip footings which support reinforced concrete wall. The building has a cast-in-place concrete slab-on-grade with conventional steel reinforcement. The floor slabs typically comprise of two-way waffle slabs supported by concrete block walls and/or poured concrete columns & beams. The waffle slab in the Auto-body shop is sprayed with fire-proofing material. Structural interior walls, columns and beams are all reinforced cast in place concrete or concrete block walls. The majority of the mezzanines in the shop areas are framed in wood construction. The mezzanine in the auto shop is framed in a steel assembly. Poured in place concrete stairs are located at the east elevation at the gymnasium exit. The stairs to the elevator machine room and upper roof levels are framed in steel. The roof structure of the original 1966-67 & 1983 Section has either a one way reinforced ribbed concrete slab or two way waffle slab. The 1975 building construction shop has a precast ribbed slab with a steel deck.

Overall the structural elements are in acceptable condition.

Recommendations:

Repair and /or replace concrete stairs and replace all handrails.

**Envelope Summary:**

Precast concrete wall panels are located along the perimeter of the second floor on the original 1966 section. Precast concrete panels are located on the 1975 Building Construction Shop. Brick cladding is the predominate exterior finish on elevations of the original 1966 section and 1983 addition. Ribbed & grooved concrete block walls are located around the 1st and 3rd floor levels of the original 1966 building. Prefinished vertical metal siding encloses the dust collectors along the east elevation. A cement plaster finish is located on the 3rd floor precast concrete panels. Expansion control joints are located throughout the exterior cladding assembly. Sealant is located around all window, doors, masonry cladding and wood assemblies. The exposed concrete block walls & columns, precast concrete panels and metal siding have a paint finish. The precast panels on the 1975 Section are not painted. A accent band of mosaic tiles is located on the exterior north, south & west walls of the 1983 Section. The concrete retaining walls in the shipping & receiving area are exposed along the roadway. The structural concrete beams & columns are exposed

throughout the exterior south elevation of the 1966 Section. The interior face of the exterior masonry walls has a concrete block wall assembly. The original 1966 Section has 2" rigid insulation bonded to the precast panels. The inside face of the exterior parapets have a prefinished metal panel or SBS assembly. Exterior louvres are located on the upper portion of the exterior walls in the shops & mechanical rooms. The exterior soffit above the main west, north & south entrance has a textured finish on the concrete structure. The windows are aluminum frame double glazed fixed & operable awning units. The main entrance with two sets of insulated metal doors with lites and steel framed glazing panels. The majority of the utility exit doors are insulated hollow metal doors and/or wood doors, complete with closures, panics, thresholds, push plates pull handles, locksets and weatherstripping. Wood overhead doors & metal overhead doors are located throughout the shop areas. Roof sections E,L,M,& N have a conventional built-up bituminous roof assembly. Roof Sections A,B,C,D,F,G, H,I,J & O have a modified bituminous membrane roof assembly (SBS). The prefinished metal gutters and downspouts are located at the base of the sloped roof sections and pond onto the flat areas. The central courtyard has a fibre-glass enclosure at roof level. Fully enclosed stairwell roof enclosure with man door and curb threshold access to roof. Several steel stairs and ladders are located on the roof levels.

Overall, the building envelope is in marginal condition.

Recommendations:

-Repair cement plaster finish on 3rd floor exterior concrete walls
-Replace sealant at precast connections, windows and doors.
-Repair & repaint all exterior precast concrete, concrete block and metal siding walls
-Repair & replace all missing ceramic tiles on the south & west walls
-Replace Aluminum Windows - 1966 Section - 1st & 2nd floor only ( 100 Units)
-Replace all utility doors including roof level doors - 22 Doors
-Replace all overhead doors in shop areas (including hardware) - 12 doors
-Replace skylight enclosure in Courtyard (Approx. Area 300m2)

**Interior Summary:**

The majority of the interior partitions have a of concrete block wall assembly. Metal stud walls with a gypsum board finish are located in several office areas and renovated areas. The interior courtyard includes precast concrete panels. Folding partitions are located between classrooms 305 and 306 and between classrooms 317 and 318. Interior aluminum framed fixed and operable casement windows with safety glass panels are located throughout the enclosed courtyard. Interior glazed steel framed windows are located in the kitchen, cafeteria and administration area. Interior glazed partitions with GWG are throughout the general office, vestibules and kitchen areas. The interior swing doors generally consist of solid core doors with a sealed or paint finish in a painted steel frames. The doors to the kitchen and courtyard are aluminum frame doors with safety glass panels or tempered glass. The doors are rated and labeled. The doors in the corridors and stairwells are metal and/or wood doors with painted steel frames and safety glass panels. Glazed side-lights and transoms are located in most corridors. The labels are painted on the doors & frames. Tackboards,chalkboards and whiteboards are located throughout all teaching areas. Prefinished metal washroom partitions are located in all men's & women's washrooms and change rooms. Painted steel & wood handrails are located on the shop mezzanine levels. The handrails do not conform to the current ABC standards. Signage panels are located above & on the interior doors & attached to the corridor & vestibule walls. Prefinished metal lockers are located throughout the corridors & change rooms. Metal & wood shelving are located in the shops, custodial and utility rooms. The washrooms are equipped with typical washroom accessories: Paper towel dispensers, toilet paper dispensers, hand-soap dispensers, waste bins and mirrors.
The main 4 stairwells have a poured in place concrete assembly. The stairwells to the mezzanines are framed in either wood or steel construction. The main stairwells, including landings and stairs at floor level changes have a quarry tile finish. The stairs to the stage area have a rubber floor finish on the stair treads. The stairs have painted steel handrails with steel pickets. Several of the mezzanine stairs have painted wood handrails. The ramps is framed in a wood and steel assembly. The ramp in the corridor has a non-slip vinyl finish. The interior ramp has painted steel handrails.
The concrete block walls in the utility areas and mechanical rooms are unfinished. Horizontal wood paneling is located in the staff room. All renovated areas, offices and meeting rooms have a gypsum board wall finish. Ceramic wall tile is located in the kitchen lab, washrooms, shower areas & change room. Acoustical wall panels are located in the fitness room. Painted cork acoustic treatment in Gym. The interior partitions throughout the school have a paint finish. The interior operable folding panel partitions and offices have a vinyl wall covering. Painted/sealed concrete floors are located in the shop areas, utility rooms and storage rooms. The main vestibule, foyer, kitchen lab, washrooms and change room showers have a quarry and/or ceramic tile floor finish. The gymnasium including stage, building construction shop and special class shop has parquet flooring with line markings. Rubber flooring is located throughout the new Fitness Centre. Sheet vinyl flooring is located throughout the corridors, most classrooms, cafeteria, storage rooms and the science rooms. Vinyl composite tiles (VCT) are located in the home care room, hair styling room, storage rooms, lecture rooms,and staff lounge area. Carpet flooring is located in the learning centre, 4

classrooms, library and office area. The concrete structure is exposed throughout the majority of the shop areas. Suspended wood trellis's are located in the staff room. A gypsum board ceiling is located throughout the kitchen, change rooms and washroom areas. The ceilings in the, offices, library and corridors have a 2'-0"x4'-0"suspended acoustical tile assembly. All the interior gypsum board ceilings and exposed concrete structures have a textured paint finish.

The interior finishes are in acceptable condition.

Recommendations:

-Replace broken quarry tiles where applicable & auto body entrance stairs
-Repair and /or replace all damaged vinyl covering on wall panels
-Refinish parquet flooring in shop offices. (Approx 200m2)
-Replace carpet flooring ( Approx Area - 1100m2)

**Mechanical Summary:**

MECHANICAL SUMMARY (October 2009)

The building is heated by hot water which is supplied from two hot water boilers to the building heating terminal units (reheat coils, induction units, force flow convection cabinets, finned tube radiation cabinets, and unit heaters), to the air handling unit heating coils (air handling units AHU1, AHU2 and AHU3), and to the glycol heat exchanger. The glycol heat exchanger provides glycol for the heating coil in the c.1983 building addition library air handling unit (AHU4), for the two reheat coils in the library air distribution system, and for the heating coil in the kitchen make-up air unit (MUA7). In the c.1975 building construction shop addition, heating is provided by two natural gas fired unit heaters, and in the greenhouse, heating is provided by two natural gas fired furnaces.

Ventilation for the original c.1967 building is provided by three air handling units (AHU1, AHU2 and AHU3). Air handling unit AHU1 is the main air handling unit and this unit supplies air to two building zones, a perimeter zone (perimeter induction units) and an interior zone. Air handling unit AHU2 serves the gymnasium and air handling unit AHU3 serves the shop areas. Ventilation for the c.1983 building addition library is provided by air handling unit AHU4. Eight make-up air units provide additional building ventilation for the kitchen area and the shop areas. The kitchen make-up air unit has a glycol heating coil and the other seven make-up air units are direct gas fired.

Fresh air supplied to the building by the air handling units and the packaged make-up air units is balanced by the exhaust flow from approximately 27 exhaust fans.

Building HVAC equipment actuators and thermostats are generally pneumatic (electric controls are used for the force flow convectors and the unit heaters), and the control air supply system for the building consists of an air compressor mounted on an air receiver tank, and includes a refrigerated air dryer.

Washroom plumbing fixtures include toilets, lavatories and urinals. There are 33 toilets, 16 urinals, and 36 lavatories in the building. Other plumbing fixtures in the building include drinking fountains (13), various sinks (50), two wash fountains, one bathtub, and showers. Two natural gas fired domestic hot water heaters provide domestic hot water for the building lavatories, sinks, wash fountains, showers, and bathtub.

Fire protection for the building consists of a deluge type sprinkler system for the enclosed courtyard, a standpipe system feeding fire hose cabinets located throughout the building, and fire extinguishers located on wall mount brackets and in the fire hose cabinets. The auto body paint shop is equipped with sprinklers fed from the standpipe system and the kitchen cooking hoods are equipped with wet chemical type automatic fire suppression systems.

Current mechanical system requirements include replacement of the showers, replacement of some of the original building sinks, replacement of the humidification system for air handling unit AHU1, and replacement of the greenhouse furnaces. Overall, the building mechanical equipment and systems are in acceptable condition.

**Electrical Summary:**

The incoming hydro service to William Van Horne High School is from a padmount transformer, located at the east side of the school. The main switchboard is a 2000A, 120/208V 3-phase, 4-wire Square D switchboard. Individual motor starters and two 4-plex units provide power for the mechanical equipment.

The wiring in the building is typically standard wiring in conduit.

A lighting retrofit was completed in 2002. The typical lighting within the school consists of surface mounted or

suspended T8 fluorescent wrap-around fixtures. The exit lighting in the building consists of incandescent exit signs. The emergency lighting is fed from battery powered emergency lighting units. The exterior lighting consists of surface mounted HID fixtures and incandescent lighting fixtures.

The building is equipped with a Pyrotronics System 3 fire alarm system. Detection and end devices include, smoke and heat detectors, bells and pull stations.
The various communications and security systems within the school include; a Silent Knight security system that monitors motion detectors and the exterior doors, a custom P.A. System, video surveillance system and a Nortel Norstar telephone system. A wireless network system has been installed within the school. Hard wired data network systems have also been installed.

It is recommended, as routine maintenance, that a program for annual examination of major electrical components be instituted. Maintenance should include thermographic scans for hot spots and power shut down to allow examination of interior components for accumulated debris and signs of corrosion.

The main concerns for William Van Horne High School are:
- The main switchboard is aged. Replacement components are not available and there is no surge protection.
- 1967 branch circuit panelboards are aged. Replacement breakers are not available.
- Original motor starters are aged. Replacement parts are not available.
- The Ariel Davis dimming system is obsolete.
- Emergency lighting units in the building are aged and not reliable.
- Incandescent exit signs are inefficient - several are damaged.
- Exterior incandescent fixtures are not energy efficient.
- Fire alarm system is obsolete. No strobe coverage has been provided.

Overall the electrical systems for William Van Horne High School are in marginal condition.

| Rating Guide | |
|---|---|
| **Condition Rating** | **Performance** |
| 1 - Critical | Unsafe, high risk of injury or critical system failure. |
| 2 - Poor | Does not meet requirements, has significant deficiencies. May have high operating/maintenance costs. |
| 3 - Marginal | Meets minimum requirements, has significant deficiencies. May have above average operating maintenance costs. |
| 4 - Acceptable | Meets present requirements, minor deficiencies. Average operating/maintenance costs. |
| 5 - Good | Meets all present requirements. No deficiencies. |
| 6 - Excellent | As new/state of the art, meets present and foreseeable requirements. |

# S1 STRUCTURAL

## A1010 Standard Foundations* - All Sections

Foundation consists of concrete piles supporting strip footings which support reinforced concrete wall.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## A1030 Slab on Grade* - All Sections

The building has a cast-in-place concrete slab-on-grade with conventional steel reinforcement.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## B1010.01 Floor Structural Frame (Building Frame)* - All Sections

The floor slabs typically comprise of two-way waffle slabs supported by concrete block walls and/or poured concrete columns & beams. The waffle slab in the Auto-body shop is sprayed with fire-proofing material.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## B1010.02 Structural Interior Walls Supporting Floors (or Roof)* - All Sections

Structural interior walls, columns and beams are all reinforced cast in place concrete or concrete block walls.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## B1010.05 Mezzanine Construction* - All Sections

The majority of the mezzanines in the shop areas are framed in wood construction. The mezzanine in the auto shop is framed in a steel assembly.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## B1010.07 Exterior Stairs* - All Sections

Poured in place concrete stairs are located at the east elevation at the gymnasium exit. The handrails are steel with a paint finish. The stair railings do not comply to the current building code. The stairs to the elevator machine room and upper roof levels are framed in steel.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 2 - Poor | 1966 | 40 | MAR-10 |

**Event: Repair and /or replace concrete stairs and replace all handrails.**

**Concern:**
The stair treads and risers are uneven from previous repairs, creating a potential tripping hazard. All the handrails do not conform to the current ABC standards.

**Recommendation:**
Repair and /or replace concrete stairs and replace all handrails.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Repair | 2010 | $40,000 | Medium |

**Updated:** MAR-10

Uneven treads throughout stairs. Handrails not to current ABC code standards.

## B1010.09 Floor Construction Fireproofing* - All Sections

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

## B1010.10 Floor Construction Firestopping* - All Sections

In visible areas, fire-stopping appeared to have been provided in the original construction.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

## B1020.01 Roof Structural Frame* - All Sections

The roof structure of the original 1966 & 1983 Section has either a one way reinforced ribbed concrete slab or two way waffle slab. The 1975 building construction shop has a precast ribbed slab with a steel deck.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## B1020.06 Roof Construction Fireproofing* - All Sections

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

# S2 ENVELOPE

## B2010.01.01 Precast Concrete: Exterior Wall Skin* - 1966 & 1975 Section

Precast concrete wall panels are located along the perimeter of the second floor on the original 1966 section. Precast concrete panels are located on the 1975 Building Construction Shop.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 75 | MAR-10 |

## B2010.01.02.01 Brick Masonry: Ext. Wall Skin* - 1966 & 1983 Section

Brick cladding is the predominate exterior finish on elevations of the original 1966 section and 1983 addition.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 75 | MAR-10 |

## B2010.01.02.02 Concrete Block: Ext. Wall Skin* - 1966 Section

Ribbed & grooved concrete block walls are located around the 1st and 3rd floor levels of the original 1966 building.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 75 | MAR-10 |

## B2010.01.06.03 Metal Siding** - 1966 Section

Prefinished vertical metal siding encloses the dust collectors along the east elevation.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 40 | MAR-10 |

**Event: Replace metal siding on east elevation.**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $80,000 | Unassigned |

**Updated:** MAR-10

## B2010.01.08 Cement Plaster (Stucco): Ext. Wall* - 1966 Section

A cement plaster finish is located on the 3rd floor precast concrete panels.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1966 | 75 | MAR-10 |

**Event: Repair cement plaster finish on 3rd floor exterior concrete walls**

**Concern:**
Several cracks were observed on the cement plaster finish on the 3rd floor level.

**Recommendation:**
Repair cement plaster finish on 3rd floor exterior concrete walls

| Type | Year | Cost | Priority |
|---|---|---|---|
| Repair | 2010 | $30,000 | Low |

**Updated:** MAR-10

Cracked cement plaster walls on west wall - 1966 Section

## B2010.01.09 Expansion Control: Exterior Wall Skin* - All Sections

Expansion control joints are located throughout the exterior cladding assembly.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 75 | MAR-10 |

## B2010.01.11 Joint Sealers (caulking): Ext. Wall** - All Sections

Sealant is located around all window, doors, masonry cladding and wood assemblies.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1966 | 20 | MAR-10 |

**Event: Replace sealant at precast connections, windows and doors (Based on SM per building)**

**Concern:**
The sealant is aged and brittle between & around doors,windows and exterior walls.

**Recommendation:**
Replace sealant on windows, doors and cladding assemblies. Replace sealant with window replacement.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $230,000 | Medium |

**Updated:** MAR-10

Caulk joint failure at precast connections.

## B2010.01.13 Paints (& Stains): Exterior Wall** - 1966 Section

The exposed concrete block walls & columns, precast concrete panels and metal siding have a paint finish. The precast panels on the 1975 Section are not painted.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1966 | 15 | MAR-10 |

**Event: Repair & repaint all exterior precast concrete, concrete block and metal siding walls**

**Concern:**
The paint finish on the concrete block walls and precast walls is worn and faded.

**Recommendation:**
Repair & repaint all exterior concrete, concrete block and metal siding walls

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $160,000 | Medium |

**Updated:** MAR-10

Deteriorated paint finish on concrete block walls

## B2010.01.99 Other Exterior Wall Skin* - 1983 Section

A accent band of mosaic tiles is located on the exterior north, south & west walls of the 1983 Section.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1983 | 0 | MAR-10 |

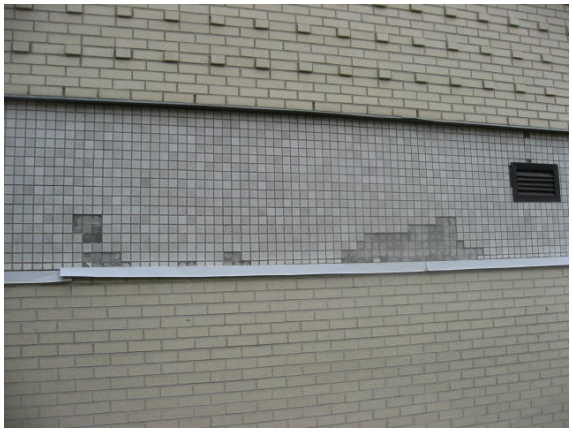
**Event: Repair & replace all missing ceramic tiles on the south & west walls**

**Concern:**
Several of the mosaic tiles are missing on the west wall of the 1983 Section.

**Recommendation:**
Repair & replace all missing ceramic tiles on the south & west walls

| Type | Year | Cost | Priority |
|---|---|---|---|
| Repair | 2010 | $3,000 | Low |

**Updated:** MAR-10



Missing tiles on west elevation of the 1983 Section.

## B2010.02.01 Cast-in-place Concrete:Ext.Wall Const* - 1966 Section

The concrete retaining walls in the shipping & receiving area are exposed along the roadway. The structural concrete beams & columns are exposed throughout the exterior south elevation of the 1966 Section.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## B2010.02.03 Masonry Units: Ext. Wall Const.* - All Sections

The interior face of the exterior masonry walls has a concrete block wall assembly.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## B2010.03 Exterior Wall Vapor Retarders, Air Barriers, and Insulation* - All Section

The original 1966 Section has 2" rigid insulation bonded to the precast panels. Some water penetration was observed at the south-east corner of the 2nd floor, however it was noted the repairs have been completed.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## B2010.05 Parapets* - All Sections

The inside face of the exterior parapets have a prefinished metal panel or SBS assembly.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

## B2010.06 Exterior Louvers, Grilles, and Screens* - All Sections

Exterior louvres are located on the upper portion of the exterior walls in the shops & mechanical rooms.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

## B2010.09 Exterior Soffits*

The exterior soffit above the main west, north & south entrance has a textured finish on the concrete structure.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

## B2020.01.01.02 Aluminum Windows (Glass & Frame)** - 1966 Section - New

The windows are aluminum frame double glazed fixed & operable casement units.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 5 - Good | 2005 | 40 | MAR-10 |

**Event: Replace Aluminum Windows - 1966 Section - 3rd floor only ( 136 Units)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2045 | $350,000 | Unassigned |

**Updated:** MAR-10

## B2020.01.01.02 Aluminum Windows (Glass & Frame)** - 1983 Section

The windows are aluminum frame double glazed fixed & operable casement units.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 40 | MAR-10 |

**Event: Replace Aluminum Windows - 1983 Section - 41 windows**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2023 | $40,000 | Unassigned |

**Updated:** MAR-10

## B2020.01.01.02 Aluminum Windows** - 1966 Section - Original

The windows are aluminum frame double glazed fixed & operable casement units.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1966 | 35 | MAR-10 |

**Event: Replace Aluminum Windows - 1966 Section - 1st & 2nd floor only ( 100 Units)**

**Concern:**

The seals are deteriorated, air & moisture penetration was observed on several window intersections.

**Recommendation:**

Replace Aluminum Windows - 1966 Section - 1st & 2nd floor only ( 100 Units)

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $375,000 | Medium |

**Updated:** MAR-10

Water penetration on south wall.

## B2030.01.02 Steel-Framed Storefronts: Doors**

The main entrance with two sets of insulated metal doors with lites and steel framed glazing panels.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

**Event: Replace Steel-Framed Storefronts: 10 Doors**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $40,000 | Unassigned |

**Updated:** MAR-10

## B2030.02 Exterior Utility Doors** - All Section

The majority of the utility exit doors are insulated hollow metal doors and/or wood doors, complete with closures, panics, thresholds, push plates pull handles, locksets and weatherstripping.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 2 - Poor | 1966 | 40 | MAR-10 |

**Event: Replace all utility doors including roof level doors - 22 Doors**

**Concern:**
Several of the exterior wood doors on the roof level are deteriorated and no longer secure.

**Recommendation:**
Replace all utility doors including roof level doors - 22 Doors

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $66,000 | Medium |

**Updated:** MAR-10

Typical deteriorated wood door in 1966 Section

## B2030.03 Large Exterior Special Doors (Overhead)* - All Sections

Wood overhead doors & metal overhead doors are located throughout the shop areas.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 2 - Poor | 1966 | 30 | MAR-10 |

**Event: -Replace all overhead doors in shop areas (including hardware) - 12 doors**

**Concern:**
Several of the wood doors are deteriorated and not secure.

**Recommendation:**
Repair and/or replace all overhead doors in shop areas - 12 doors

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $120,000 | Medium |

**Updated:** MAR-10

Deteriorated door panels in 1975 Building Construction Shop.

## B3010.01 Deck Vapor Retarder and Insulation*

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 25 | MAR-10 |

## B3010.04.01 Built-up Bituminous Roofing (Asphalt & Gravel)** - Sections - E,L,M,& N

Roof sections E,L,M,& N have a conventional built-up bituminous roof assembly.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 25 | MAR-10 |

**Event: Replace Roof Sections - E,L,M,& N ( Approx. Area - 750m2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $120,000 | Unassigned |

**Updated:** MAR-10

## B3010.04.04 Modified Bituminous Membrane Roofing (SBS)** - Sections A,C,D,H,I,J & O

Roof Sections A,C,D,H,I,J & O have a modified bituminous membrane roof assembly (SBS)

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 5 - Good | 2009 | 25 | MAR-10 |

**Event: Replace Roof Sections A,C,D,H,I,J & O (Approx. Area - 2000m2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2034 | $325,000 | Unassigned |

**Updated:** MAR-10

## B3010.04.04 Modified Bituminous Membrane Roofing (SBS)** - Sections B,F & G

Roof sections B,F and G have a modified bituminous membrane roof assembly (SBS)

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1993 | 25 | MAR-10 |

**Event: Replace Roof sections B,F and G - (Approx. Area - 1300m2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2018 | $200,000 | Unassigned |

**Updated:** MAR-10

## B3010.08.02 Metal Gutters and Downspouts** - All Sections

The prefinished metal gutters and downspouts are located at the base of the sloped roof sections and pond onto the flat areas.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

**Event: Replace Metal Gutters and Downspouts**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $30,000 | Unassigned |

**Updated:** MAR-10

## B3020.01 Skylights**

The central courtyard has a fibre-glass enclosure at roof level.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 2 - Poor | 1966 | 25 | MAR-10 |

**Event: Replace skylight enclosure in Courtyard (Approx. Area 300m2)**

**Concern:**

The fibreglass enclosure has deteriorated and water penetrated at the seams. Aesthetically, the enclosure is not appealing.

**Recommendation:**

Replace skylight enclosure in Courtyard (Approx. Area 300m2)

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $300,000 | Medium |

**Updated:** MAR-10

Interior view on enclosed courtyard.

## B3020.02 Other Roofing Openings (Hatch,Vent, etc)*

Fully enclosed stairwell roof enclosure with man door and curb threshold access to roof. Several steel stairs and ladders are located on the roof levels.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 25 | MAR-10 |

# S3 INTERIOR

## C1010.01 Interior Fixed Partitions* - All Sections

The majority of the interior partitions have a of concrete block wall assembly. Metal stud walls with a gypsum board finish are located in several office areas and renovated areas. The interior courtyard includes precast concrete panels.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |

## C1010.03 Interior Operable Folding Panel Partitions** - 1966 Section

Folding partitions are located between classrooms 305 and 306 and between classrooms 317 and 318.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

**Event: Replace Interior Operable Folding Panel - 2 panels**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $20,000 | Unassigned |

**Updated:** MAR-10

## C1010.05 Interior Windows* - All Sections

Interior aluminum framed fixed and operable casement windows with safety glass panels are located throughout the enclosed courtyard. Interior glazed steel framed windows are located in the kitchen, cafeteria and administration area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 80 | MAR-10 |

## C1010.06 Interior Glazed Partitions and Storefronts* - All Sections

Interior glazed partitions with GWG are throughout the general office, vestibules and kitchen areas.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 80 | MAR-10 |

## C1010.07 Interior Partition Firestopping* - All Sections

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

## C1020.01 Interior Swinging Doors (& Hardware)* - All Sections

The interior swing doors generally consist of solid core doors with a sealed or paint finish in a painted steel frames. The doors to the kitchen and courtyard are aluminum frame doors with safety glass panels or tempered glass. The doors are rated and labeled

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 40 | MAR-10 |

## C1020.03 Interior Fire Doors* - All Sections

The doors in the corridors and stairwells are metal and/or wood doors with painted steel frames and safety glass panels. Glazed side-lights and transoms are located in most corridors. The labels are painted on the doors & frames.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

## C1030.01 Visual Display Boards** - All Sections

Tackboards,chalkboards and whiteboards are located throughout all teaching areas.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 20 | MAR-10 |

**Event: Replace Visual Display Boards - All Sections ( Based on per SM of building area)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $100,000 | Unassigned |

**Updated:** MAR-10

## C1030.02 Fabricated Compartments(Toilets/Showers)** - All Sections

Prefinished metal washroom partitions are located in all men's & women's washrooms and change rooms

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

**Event: Replace toilet partitions in the washrooms and change rooms**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $42,000 | Unassigned |

**Updated:** MAR-10

## C1030.06 Handrails* - All Sections

Painted steel & wood handrails are located on the shop mezzanine levels. The handrails do not conform to the current ABC standards.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 40 | MAR-10 |

## C1030.08 Interior Identifying Devices* - All Sections

Signage panels are located above & on the interior doors & attached to the corridor & vestibule walls.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 20 | MAR-10 |

## C1030.10 Lockers** - 1966 Section

Prefinished metal lockers are located throughout the corridors & change rooms

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

**Event: Replace Lockers - 800 Units**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $220,000 | Unassigned |

**Updated:** MAR-10

## C1030.12 Storage Shelving* - All Sections

Metal & wood shelving are located in the shops, custodial and utility rooms.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

## C1030.14 Toilet, Bath, and Laundry Accessories* -1966 Section

The washrooms are equipped with typical washroom accessories: Paper towel dispensers, toilet paper dispensers, hand-soap dispensers, waste bins and mirrors.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 20 | MAR-10 |

## C2010 Stair Construction* - All Sections

The main 4 stairwells have a poured in place concrete assembly. The stairwells to the mezzanines are framed in either wood or steel construction.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## C2020.01 Tile Stair Finishes* - All Sections

The main stairwells, including landings and stairs at floor level changes have a quarry tile finish.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1966 | 60 | MAR-10 |

**Event: Replace broken quarry tiles where applicable & auto body entrance stairs**

**Concern:**
Several quarry tiles are broken at the auto-body entrance.

**Recommendation:**
Replace broken quarry tiles where applicable & auto body entrance stairs

| Type | Year | Cost | Priority |
|---|---|---|---|
| Preventative Maintenance | 2010 | $3,500 | Low |

**Updated:** MAR-10

Cracked quarry tiles on stairs

## C2020.05 Resilient Stair Finishes** - 1966 Section

The stairs to the stage area have a rubber floor finish on the stair treads.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 20 | MAR-10 |

**Event: Replace rubber floor finish on stage stairs**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $12,000 | Unassigned |

**Updated:** MAR-10

## C2020.08 Stair Railings and Balustrades* - All Sections

The stairs have painted steel handrails with steel pickets. Several of the mezzanine stairs have painted wood handrails.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 40 | MAR-10 |

## C2030.01 Ramp Construction* - 1966 Section

The ramps is framed in a wood and steel assembly.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## C2030.02 Ramp Finishes* - 1966 Section

The ramp in the corridor has a non-slip vinyl finish.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

## C2030.03 Ramp Railings* - 1966 Section

The interior ramp has painted steel handrails.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

## C3010.01 Concrete Wall Finishes (Unpainted)* - All Sections

The concrete block walls in the utility areas and mechanical rooms are unfinished.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## C3010.02 Wall Paneling** - 1966 Section

Horizontal wood paneling is located in the staff room.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

**Event: Replace wood paneling in staff room**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $15,000 | Unassigned |

**Updated:** MAR-10

## C3010.04 Gypsum Board Wall Finishes (Unpainted)* - All Sections

All renovated areas, offices and meeting rooms have a gypsum board wall finish.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 60 | MAR-10 |

## C3010.06 Tile Wall Finishes** - 1966 Section

Ceramic wall tile is located in the kitchen lab, washrooms, shower areas & change room

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 40 | MAR-10 |

**Event: Replace ceramic wall tile in kitchen, washrooms, showers and change rooms ( Based on SM of building area)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $150,000 | Unassigned |

**Updated:** MAR-10

## C3010.09 Acoustical Wall Treatment** - 1966 Section

Acoustical wall panels are located in the fitness room. Painted cork acoustic treatment in Gym.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 20 | MAR-10 |

**Event: Replace Acoustical Wall Treatment in the Gym and fitness room.**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $80,000 | Unassigned |

**Updated:** MAR-10

## C3010.11 Interior Wall Painting* - All Sections

The interior partitions throughout the school have a paint finish.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 10 | MAR-10 |

## C3010.12 Wall Coverings* - 1966 Section

The interior operable folding panel partitions and offices have a vinyl wall covering.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1966 | 15 | MAR-10 |

**Event: Repair and /or replace all damaged vinyl covering on wall panels**

**Concern:**
Several isolated panels are damaged and the vinyl wall covering is torn.

**Recommendation:**
Repair and /or replace all damaged vinyl covering on wall panels

| Type | Year | Cost | Priority |
|---|---|---|---|
| Preventative Maintenance | 2010 | $2,500 | Low |

**Updated:** MAR-10

Damaged wall finish on folding partitions.

## C3020.01.02 Paint Concrete Floor Finishes* - All Sections

Painted/sealed concrete floors are located in the shop areas, utility rooms and storage rooms.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 0 | MAR-10 |

## C3020.02 Tile Floor Finishes** - 1966 Section

The main vestibule, foyer, kitchen lab, washrooms and change room showers have a quarry and/or ceramic tile floor finish.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 50 | MAR-10 |

**Event: Replace ceramic tile flooring ( Approx Area - 700m2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2016 | $95,000 | Unassigned |

**Updated:** MAR-10

## C3020.04 Wood Flooring** - 1966 Section

The gymnasium including stage, building construction shop and special class shop has parquet flooring with line markings.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

**Event: Refinish parquet flooring in shop offices. (Approx 200m2)**

**Concern:**
The parquet flooring finish is worn and deteriorated.
**Recommendation:**
Refinish parquet flooring in the shop areas.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Preventative Maintenance | 2010 | $12,000 | Low |

**Updated:** MAR-10

Deteriorated floor finish in the building construction shop area.

**Event: Replace hardwood flooring in gym and shop areas ( Approx Area - 750m2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $100,000 | Unassigned |

**Updated:** MAR-10

## C3020.07 Resilient Flooring** - Rubber

Rubber flooring is located throughout the new Fitness Centre

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 5 - Good | 2005 | 20 | MAR-10 |

**Event: Replace rubber flooring in the fitness room ( Approx. Area - 150m2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2025 | $20,000 | Unassigned |

**Updated:** MAR-10

## C3020.07 Resilient Flooring** - Sheet Vinyl

Sheet vinyl flooring is located throughout the corridors, most classrooms, cafeteria, storage rooms and the science rooms.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 5 - Good | 2005 | 20 | MAR-10 |

**Event: Replace sheet vinyl flooring (Approx area - 3800m2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2025 | $450,000 | Unassigned |

**Updated:** MAR-10

## C3020.07 Resilient Flooring** - VCT

Vinyl composite tiles (VCT) are located in the home care room, hair styling room, storage rooms, lecture rooms,and staff lounge area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1999 | 20 | MAR-10 |

**Event: Replace VCT fooring (Approx Area - 525m2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2019 | $55,000 | Unassigned |

**Updated:** MAR-10

## C3020.08 Carpet Flooring** - All Sections

Carpet flooring is located in the learning centre, 4 classrooms, library and office area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1966 | 15 | MAR-10 |

**Event: Replace carpet flooring ( Approx Area - 1100m2)**

**Concern:**
The majority of the carpet is worn, torn and stained.
**Recommendation:**
Replace carpet flooring ( Approx Area - 1100m2)

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2011 | $110,000 | Low |

**Updated:** MAR-10

Worn carpeting typical throughout the office areas.

## C3030.01 Concrete Ceiling Finishes (Unpainted)* - All Sections

The concrete structure is exposed throughout the majority of the shop areas.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 100 | MAR-10 |

## C3030.02 Ceiling Paneling (Wood)* - 1966 Section

Suspended wood trellis's are located in the staff room.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 60 | MAR-10 |

## C3030.04 Gypsum Board Ceiling Finishes (Unpainted)* - All Sections

A gypsum board ceiling is located throughout the kitchen, change rooms and washroom areas.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 60 | MAR-10 |

## C3030.06 Acoustic Ceiling Treatment (Susp.T-Bar)** - All Sections

The ceilings in the, offices, library and corridors have a 2'-0"x4'-0"suspended acoustical tile assembly

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 25 | MAR-10 |

**Event: Replace suspended acoustical tile ceiling - (Approx. Area - 2000m2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $175,000 | Unassigned |

**Updated:** MAR-10

## C3030.07 Interior Ceiling Painting* - All Sections

All the interior gypsum board ceilings and exposed concrete structures have a textured paint finish.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 20 | MAR-10 |

## D1010.01.02 Hydraulic Passenger Elevators**

Montgomery/Kone Elevator Company geared traction type passenger elevator, three stops (1-2-3), 2,000 pound capacity (907 kg), 7.5 hp (5.59 kW). Controls upgraded in c.2000.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

**Event: Replace Passenger Elevators No. 1**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $170,000 | Unassigned |

**Updated:** MAR-10

# S4 MECHANICAL

## D2010.04 Sinks** - c.1967

This element covers the c.1967 original sinks in the building, including ten enameled cast iron janitor service sinks, two enameled steel laundry tubs, one plastic mop sink, four vitreous china hair wash sinks, one vitreous china lab bench sink, and 25 standard general purpose stainless steel sinks.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

**Event: Replace the c.1967 original sinks in the building (45)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $78,000 | Unassigned |

**Updated:** MAR-10

## D2010.04 Sinks** - c.1983

This element covers the original sinks in the c.1983 building addition, including one enameled cast iron janitor service sink and one standard general purpose stainless steel sink.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

**Event: Replace the c.1983 original sinks in the building (2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $4,000 | Unassigned |

**Updated:** MAR-10

## D2010.04 Sinks** - c.2000

This element covers the c.2000 sinks in the renovated home economics room (room 215), including five standard general purpose double bowl stainless steel sinks.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 30 | MAR-10 |

**Event: Replace the five c.2000 stainless steel sinks in room 215**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2030 | $8,000 | Unassigned |

**Updated:** MAR-10

## D2010.05 Showers** - c.1967

Original c.1967 showers in the building include the boy's locker room showers (a communal shower with eight stations), and one individual shower stall in each of two physical education instructor's offices. The boy's locker room shower has architectural floor and wall finishes (ceramic tile), one of the individual shower stalls is a prefabricated metal stall, and one individual shower stall has architectural floor and wall finishes (ceramic tile). For the showers with architectural floor and wall finishes, this element covers only the shower heads and shower controls.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1967 | 30 | MAR-10 |

**Event: Replace the individual metal shower stall in one of the physical education instructor's offices, and replace the shower heads and controls for the showers with architectural finishes (nine stations)**

**Concern:**

The shower heads and controls are in marginal condition due to scaling and corrosion.

**Recommendation:**

Replace the individual metal shower stall in one of the physical education instructor's offices, and replace the shower heads and controls for the showers with architectural finishes (nine stations).

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2012 | $11,500 | Low |

**Updated:** MAR-10

## D2010.05 Showers** - c.1983

The girl's locker room on the third floor has six shower stalls with architectural floor and wall finishes (ceramic tile). For these showers, this element covers only the shower heads and shower controls.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

**Event: Replace the shower heads and controls for the girl's locker room showers (six stations)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $6,000 | Unassigned |

**Updated:** MAR-10

## D2010.05 Showers** - c.2000

This element covers the prefabricated fiberglass shower stall located in one of the physical education instructor's offices.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 30 | MAR-10 |

**Event: Replace the prefabricated fiberglass shower stall located in one of the physical education instructor's offices**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2030 | $2,000 | Unassigned |

**Updated:** MAR-10

## D2010.06 Bathtubs**

There is a bathtub located in room 102.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

**Event: Replace the bathtub in room 102**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $2,000 | Unassigned |

**Updated:** MAR-10

## D2010.08 Drinking Fountains / Coolers** - c.1967

There are five c.1967 original drinking fountains in the building including three vitreous china wall mounted units located in the corridors and two enameled steel units located in rooms 104 and 106. The original drinking fountains are not equipped with coolers.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 35 | MAR-10 |

**Event: Replace the five c.1967 drinking fountains in the building**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $8,000 | Unassigned |

**Updated:** MAR-10

## D2010.08 Drinking Fountains / Coolers** - c.1983

There is one wall mounted refrigerated type drinking fountain located in the auto body shop in the c.1983 building addition (room 114).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 35 | MAR-10 |

**Event: Replace the refrigerated drinking fountain in the auto body shop (room 114)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2018 | $3,000 | Unassigned |

**Updated:** MAR-10

## D2010.08 Drinking Fountains / Coolers** - c.2000

This element covers the c.2000 (estimated) wall mounted vitreous china drinking fountains (5) and the c.2000 (estimated) wall mounted refrigerated drinking fountains (2).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 35 | MAR-10 |

**Event: Replace the c.2000 wall mounted vitreous china drinking fountains (5) and wall mounted refrigerated drinking fountains (2)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2035 | $14,000 | Unassigned |

**Updated:** MAR-10

## D2010.09 Other Plumbing Fixtures* - Wash Fountains

There are two half Bradley type stainless steel wash fountains located in rooms 105 and 106.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 0 | MAR-10 |

## D2010.10 Washroom Fixtures (WC, Lav, Urnl)** - c.1967

Most of the building washrooms are equipped with original plumbing fixtures. Original plumbing fixtures include 30 floor mounted vitreous china flush valve type toilets, 25 wall mounted vitreous china lavatories, eight counter mounted enameled steel lavatories, and 15 floor mounted vitreous china tank type urinals. Approximately eight of the toilets appear to have been replaced at some time over the years but are of unknown vintage.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 35 | MAR-10 |

**Event: Replace the eight c.1967 original counter mounted enameled steel lavatories**

**Concern:**
The eight enameled steel lavatories are in marginal condition due to deterioration of the surface finish.

**Recommendation:**
Replace the eight c.1967 original counter mounted enameled steel lavatories.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2012 | $13,000 | Low |

**Updated:** MAR-10

**Event: Replace the original c.1967 washroom plumbing fixtures (30 flush valve type toilets, 25 wall mounted lavatories, and 15 floor mounted tank type urinals)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $132,000 | Unassigned |

**Updated:** MAR-10

## D2010.10 Washroom Fixtures (WC, Lav, Urnl)** - c.2000

This element covers the c.2000 (estimated) washroom plumbing fixtures including three floor mounted vitreous china flush valve type toilets, one wall mounted vitreous china lavatory, two counter mounted stainless steel lavatories, and one wall mounted vitreous china flush valve type urinal.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 35 | MAR-10 |

**Event: Replace the c.2000 washroom plumbing fixtures (three toilets, three lavatories, and one urinal)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2035 | $12,000 | Unassigned |

**Updated:** MAR-10

## D2020.01.01 Pipes and Tubes: Domestic Water*

There are two municipal water supplies to the building including the original c.1967 100 mm diameter domestic water supply and a c.1983 200 mm diameter water supply for the building sprinkler system. There is a water meter for the building domestic water distribution system (75 mm diameter). The domestic water distribution system piping in the buildings is generally copper. The domestic water distribution piping is generally original (primarily c.1967 with some c.1983).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 40 | MAR-10 |

## D2020.01.02 Valves: Domestic Water**

Domestic water system valves include the domestic water supply system main isolation valves, the domestic water distribution system zone isolating valves, and fixture isolating valves. The main isolation valves were replaced in c.1983.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 40 | MAR-10 |

**Event: Replace the domestic water distribution system isolation valves**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $68,000 | Unassigned |

**Updated:** MAR-10

## D2020.01.03 Piping Specialties (Backflow Preventors)** - c.1996

There is one 19 mm diameter backflow prevention device for the water supply to the humidification system for air handling unit AHU1 located in the ground floor mechanical room (fan room).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1996 | 20 | MAR-10 |

**Event: Replace the 19 mm diameter backflow prevention device for the water supply to the humidification system for air handling unit AHU1 located in the ground floor mechanical room (fan room)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2016 | $1,000 | Unassigned |

**Updated:** MAR-10

## D2020.01.03 Piping Specialties (Backflow Preventors)** - c.1998

There is one 19 mm diameter backflow prevention device for the make-up water supply to the hot water heating boiler in the ground floor boiler room.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1998 | 20 | MAR-10 |

**Event: Replace the 19 mm diameter backflow prevention device for the make-up water supply to the hot water heating boiler in the ground floor boiler room**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2018 | $1,000 | Unassigned |

**Updated:** MAR-10

## D2020.01.03 Piping Specialties (Backflow Preventors)** - c.2000

There are two 50 mm diameter backflow prevention devices in parallel for the building domestic water distribution system, one 100 mm diameter backflow prevention device for the building standpipe system, and one 150 mm diameter backflow prevention device for the building sprinkler system. The backflow prevention devices are c.2000 and c.2001.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 20 | MAR-10 |

**Event: Replace the backflow prevention devices in the water meter room in the building construction shop room 108 (one at 150 mm diameter, one at 100 mm diameter, and two at 50 mm diameter)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2020 | $25,000 | Unassigned |

**Updated:** MAR-10

## D2020.02.02 Plumbing Pumps: Domestic Water**

There is a domestic hot water circulation pump (estimated c.1995) for the domestic hot water heaters located in the ground floor boiler room.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1995 | 20 | MAR-10 |

**Event: Replace the domestic hot water circulation pump for the domestic hot water heaters located in the ground floor boiler room**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2015 | $3,000 | Unassigned |

**Updated:** MAR-10

## D2020.02.06 Domestic Water Heaters**

The original domestic hot water system consisted of two domestic hot water storage tanks with internal hot water to domestic hot water heat exchangers. This system does not appear to be used and domestic hot water is now supplied from two gas fired domestic hot water heaters. The domestic hot water heaters are A.O. Smith model BTRC199-118 with an input heating capacity of 179,100 Btu/h (52.49 kW) and a volume of 81 us gallons (307 L) each.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 5 - Good | 2009 | 20 | MAR-10 |

**Event: Replace the two gas fired domestic hot water heaters located in the boiler room**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2029 | $8,000 | Unassigned |

**Updated:** MAR-10

## D2020.03 Water Supply Insulation: Domestic*

Where visible, the domestic cold water piping is insulated to prevent condensation and the domestic hot water pining is insulated to reduce heat loss.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 40 | MAR-10 |

## D2030.01 Waste and Vent Piping*

Visible waste and vent piping is generally copper in smaller diameters and cast iron in larger diameters. The below grade sanitary sewer piping is probably cast iron.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 50 | MAR-10 |

## D2030.02.04 Floor Drains*

Floor drains are used throughout the building in various areas including the washrooms and the shops. The floor drains discharge to the building sanitary drainage system.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 50 | MAR-10 |

## D2030.03 Waste Piping Equipment*

There is a sanitary sump pit equipped with duplex submersible sump pumps, as well as a storm water sump pit equipped with a simplex sump pump (for the building perimeter weeping tile system).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

## D2040.01 Rain Water Drainage Piping Systems*

The building flat roof areas are drained via roof drains and internal storm drainage piping. The storm water drainage piping in the building is generally cast iron. The roof of the elevator machine room penthouse is drained via a scupper and downspout to the main roof level.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 50 | MAR-10 |

## D2040.02.04 Roof Drains*

Storm water drainage for the building flat roof area is via roof drains with internal drainage piping. The roof drains are equipped with metal strainers.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 40 | MAR-10 |

## D2090.01 Compressed Air Systems (Non Controls)** - Original (c.1967 and c.1983)

There are three original process air compressors in the building including a c.1967 air compressor in the third floor mechanical room (fan room) and two c.1983 air compressors in the auto body shop (room 114). The c.1983 air compressors in the auto body shop include an associated air dryer. This element includes the compressed air distribution systems which consist of piping, fittings, isolation valves, pressure reducing valves, filters, and other compressed air specialties.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

**Event: Replace the compressed air distribution systems and the three of the process air compressors**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $120,000 | Unassigned |

**Updated:** MAR-10

## D2090.01 Compressed Air Systems (Non Controls)** - c.1991

There is a c.1991 process air compressor located in the third floor mechanical room (fan room). For the compressed air distribution systems, see D2090.01 Compressed Air Systems (Non Controls)** - Original.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1991 | 30 | MAR-10 |

**Event: Replace the c.1991 process air compressor located in the third floor mechanical room (fan room)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2021 | $15,000 | Unassigned |

**Updated:** MAR-10

## D3010.02 Gas Supply Systems*

The natural gas supply to the building is underground from a gas main in the lane on the east side of the building. The gas supply line runs around the north side of the building to the gas meter room on the west side of the building where the gas meter and pressure reducing station are located. Natural gas is supplied to the heating boilers, to the domestic hot water heaters, to the greenhouse furnaces, to the building construction shop unit heaters, and to the various make-up air units.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 60 | MAR-10 |

## D3020.02.01 Heating Boilers and Accessories: H.W.**

There are two Cleaver Brooks model CB-760- 150 fire tube type hot water boilers located in the boiler room. The boilers have an input heating capacity of 6,275,000 Btu/h (1,839.20 kW) each.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 35 | MAR-10 |

**Event: Replace the two hot water heating boilers located in the ground floor boiler room**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $350,000 | Unassigned |

**Updated:** MAR-10

## D3020.02.02 Chimneys (&Comb. Air): H.W. Boiler**

The combustion gases from the hot water boilers discharge through insulated breeching to a common stack which penetrates the roof above the boiler room. There is a combustion air supply to the boiler room equipped with a fan.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

**Event: Replace the hot water boiler breeching, the common combustion gas discharge stack, and the combustion air supply ducts and fan**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $45,000 | Unassigned |

**Updated:** MAR-10

## D3020.02.03 Water Treatment: H. W. Boiler*

Water treatment for the hot water boilers in the boiler room consists of manual chemical addition via a pot feeder and sidestream filtration in parallel with the hot water circulation pumps.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

## D3020.03.01 Furnaces**

There are two natural gas furnaces located in the greenhouse area. One of the furnaces is a Lennox model G8-150-1 (c.1975) and one of the furnaces is an Airco model U5-180 (c.1967).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1967 | 25 | MAR-10 |

**Event: Replace the two gas fired furnaces in the greenhouse**

**Concern:**
The greenhouse furnaces are in marginal condition due to wear and corrosion.

**Recommendation:**
Replace the greenhouse furnaces.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2012 | $12,000 | Low |

**Updated:** MAR-10

## D3020.03.02 Chimneys (&Comb. Air): Furnace*

Each gas fired furnace in the greenhouse has an independent stack for the discharge of combustion gases. The stacks discharge through the roof of the greenhouse.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 25 | MAR-10 |

## D3020.04.03 Fuel-Fired Unit Heaters**

There are two natural gas fired unit heaters in the c.1975 addition to the building construction shop.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1975 | 30 | MAR-10 |

**Event: Replace the two natural gas fired unit heaters in the c.1975 addition to the building construction shop**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $10,000 | Unassigned |

**Updated:** MAR-10

## D3020.04.04 Chimney (&Comb.Air):Fuel-Fired Heater*

Each gas fired unit heater in the c.1975 addition to the building construction shop has an independent stack for the discharge of combustion gases. The stacks discharge through the roof of the building construction shop addition.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1975 | 30 | MAR-10 |

## D3030.06.01 Refrigeration Compressors**

The walk-in refrigerator and freezer in the kitchen area each have integral refrigeration systems which include an interior evaporator fan coil and an exterior compressor and air cooled condenser unit.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 25 | MAR-10 |

**Event: Replace the refrigeration systems for the kitchen area walk-in refrigerator and freezer**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $16,000 | Unassigned |

**Updated:** MAR-10

## D3040.01.01 Air Handling Units: Air Distribution** - c.1967

There are three original air handling units serving the building. The main air handling unit (AHU1) is located in the ground floor mechanical room (fan room) and is a mixed air unit equipped with dampers, filters, a supply air fan, a spray type humidification system, and a hot water heating coil. This air handling unit supplies air to two building zones, a perimeter zone (perimeter induction units) and an interior zone. Air handling units AHU2 and AHU3 are located in the third floor mechanical room (fan room). Air handling unit AHU2 serves the gymnasium and is a mixed air unit equipped with dampers, filters, a supply air fan, and a hot water heating coil. Air handling unit AHU3 serves the shop areas and is a mixed air unit equipped with dampers, filters, a supply air fan, and a hot water heating coil. The three air handling units each have an associated return air fan (see D3040.01.02 Fans: Air Distribution (Remote from AHU)*).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

**Event: Replace the original c.1967 air handling units (AHU1, AHU2 and AHU3)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $320,000 | Unassigned |

**Updated:** MAR-10

## D3040.01.01 Air Handling Units: Air Distribution** - c.1983

The c.1983 addition library is served by an air handling unit located in the addition penthouse mechanical room. The library air handling unit AHU4 is a mixed air unit equipped with dampers, filters, a supply air fan, a spray humidification system, and a glycol heating coil.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

**Event: Replace the library air handling unit AHU4 located located in the c.1983 building addition penthouse mechanical room**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $75,000 | Unassigned |

**Updated:** MAR-10

## D3040.01.02 Fans: Air Distribution (Remote from AHU)*

The building air handling units (AHU1, AHU2, AHU3 and AHU4) each have an associated return air fan. This element also includes the fresh air supply fan for the enclosed courtyard area (located on the roof).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

## D3040.01.03 Air Cleaning Devices:Air Distribution* - Dust Collectors - c.1980

There are two dust collection systems for the shop area (one for room 106 and for room 108). Each dust collection system consists of a dust collector and associated collection and return ducts.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1980 | 30 | MAR-10 |

## D3040.01.03 Air Cleaning Devices:Air Distribution* - Electrostatic Filter - c.1983

The auto body shop (room 114) is equipped with a suspended electrostatic filter unit.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

## D3040.01.04 Ducts: Air Distribution*

The air distribution ducts include the supply air, return air, exhaust air, and fresh air duct systems, as applicable, for the four air handling units serving the building (AHU1, AHU2, AHU3 and AHU4), and for the eight packaged make-up air units serving the kitchen and shop areas. The duct systems include associated components not specifically listed elsewhere, including duct insulation, turning vanes, dampers, mixing boxes, etc. The duct systems are generally original (c.1967 for air handling units AHU1, AHU2 and AHU3, and c.1983 for AHU4 and the make-up air units).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 50 | MAR-10 |

## D3040.01.07 Air Outlets & Inlets:Air Distribution*

Air outlets and inlets include supply air diffusers and return air grilles for the air distribution systems associated with the building air handling units and packaged make-up air units. Typical supply air diffusers are square ceiling mounted diffusers in the suspended ceiling T-bar grid. Typical return air grilles include ceiling mounted eggcrate type grilles in the suspended ceiling T-bar grid and wall mounted rectangular grilles.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

## D3040.03.01 Hot Water Distribution Systems** - Glycol - c.1983

There is a glycol heating system which provides glycol for the heating coil in the library air handling unit (AHU4), for the two reheat coils which are part of the library air distribution system, and for the heating coil in the make-up air unit serving the kitchen (MUA7). The glycol distribution system includes all components of the closed loop glycol heating system including piping, valves, piping insulation, piping specialties, circulation pumps (P5 and P8), and the glycol expansion tank.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 40 | MAR-10 |

**Event: Replace the glycol distribution system serving the c.1983 building addition**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2023 | $60,000 | Unassigned |

**Updated:** MAR-10

## D3040.03.01 Hot Water Distribution Systems** - c.1967

The original building is heated with a hot water heating system. The hot water heating system provides hot water to the hydronic terminal units (including reheat coils, induction units, finned tube radiation cabinets, force flow convectors, and unit heaters), to the air handling unit heating coils (for air handling units AHU1, AHU2 and AHU3), and to the glycol heat exchanger. There are two primary hot water circulation pumps (P1 and P2) located in the boiler room, and the two hot water heating system expansion tanks are also located in the boiler room. The hot water distribution system includes all components of the closed loop hot water heating system including piping, valves, piping insulation, piping specialties, circulation pumps, and the expansion tanks.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 40 | MAR-10 |

**Event: Replace the hydronic heating system hot water distribution system in thec.1967 original building**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $800,000 | Unassigned |

**Updated:** MAR-10

## D3040.03.01 Hot Water Distribution Systems** - c.1983

The c.1983 building addition is heated using hot water from the original building hot water heating system. Hot water is used in finned tube radiation cabinets for perimeter heating. Hot water pumps P2A and P3 in the boiler room provide hot water circulation for the c.1983 building addition and hot water pumps P6 and P7 provide hot water circulation to the glycol heat exchanger. The hot water distribution system includes all components of the closed loop hot water heating system including piping, valves, piping insulation, piping specialties, and the circulation pumps.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 40 | MAR-10 |

**Event: Replace the hydronic heating system hot water distribution system in the c.1983 building addition**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2023 | $50,000 | Unassigned |

**Updated:** MAR-10

## D3040.04.01 Fans: Exhaust** - Original (c.1967 and c.1983)

There are approximately 27 exhaust fans for the building including 16 roof mounted exhaust fans, one wall mounted exhaust fan for science room 305, and ten shop area exhaust fans. The exhaust fans are original c.1967 and c.1983.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

**Event: Replace the building exhaust fans (27)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $108,000 | Unassigned |

**Updated:** MAR-10

## D3040.04.03 Ducts: Exhaust*

Exhaust duct systems include the collection and discharge ducts associated with the 27 building exhaust fans.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 50 | MAR-10 |

## D3040.04.05 Air Outlets and Inlets: Exhaust*

Exhaust air inlets include the inlet grilles associated with the exhaust system collection ducts. Exhaust air outlets include the discharge terminations (vents, louvres, etc.) for the interior exhaust fans.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

## D3040.05 Heat Exchangers**

A hot water to glycol heat exchanger for the glycol system is located in the ground floor mechanical room (fan room).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

**Event: Replace the hot water to glycol heat exchanger located in the ground floor mechanical room (fan room)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $16,000 | Unassigned |

**Updated:** MAR-10

## D3050.01.02 Packaged Rooftop Air Conditioning Units (& Heating Units)** - Make-Up Air Units - c.1983

There are eight packaged make-up air units serving the shop areas and the second floor kitchen area. Two of the make-up air units are located on the roof and six are located inside the building (one in room 108, one in room 106, one in room 105, one in room 104, and two in room 114). The kitchen area make-up air unit located on the roof has a glycol heating coil fed from the glycol heating system. The other seven make-up air units are direct fired natural gas units.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 0 | MAR-10 |

**Event: Replace the eight make-up air units (two located on the roof and six located in the shop areas**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $120,000 | Unassigned |

**Updated:** MAR-10

## D3050.02 Air Coils** - c.1967

Original c.1967 air coils in the building include the main hot water reheat coil for air handling unit AHU1 located in the ground floor mechanical room (fan room), and the six hot water reheat coils B1 through B6 serving the second floor. The reheat coil for air handling unit AHU1 is for the perimeter zone (perimeter induction units).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

**Event: Replace the c.1967 hot water reheat coils for AHU1 and for the second floor air distribution system (coils B1 through B6)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $60,000 | Unassigned |

**Updated:** MAR-10

## D3050.02 Air Coils** - c.1983

There are two glycol reheat coils for the library air handling unit (AHU4).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

**Event: Replace the two glycol reheat coils for the library air handling unit AHU4**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $8,000 | Unassigned |

**Updated:** MAR-10

## D3050.03 Humidifiers** - c.1967

The main air handling unit AHU1 has a spray type humidification system.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1967 | 25 | MAR-10 |

**Event: Replace the spray type humidification system for air handling unit AHU1 with a steam type humidification system**

**Concern:**

The spray type humidification system for air handling unit AHU1 in in marginal condition due to corrosion. Although the spray type humidification system can be used in summer to provide some evaporative cooling, this system is causing significant corrosion damage to the air handling unit.

**Recommendation:**

Replace the spray type humidification system for air handling unit AHU1 with a steam type humidification system.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $20,000 | Medium |

**Updated:** MAR-10

## D3050.03 Humidifiers** - c.1983

The library air handling unit AHU4 has a spray type humidification system.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 25 | MAR-10 |

**Event: Replace the spray type humidification system for air handling unit AHU4 with a steam type humidification system**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $8,000 | Unassigned |

**Updated:** MAR-10

## D3050.05.01 Convectors** - c.1967

Original c.1967 hot water force flow convectors are used in high heat load areas including the building entrances (4).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

**Event: Replace the original c.1967 force flow convectors (4)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $16,000 | Unassigned |

**Updated:** MAR-10

## D3050.05.01 Convectors** - c.1983

Original c.1983 hot water force flow convectors are used in high heat load areas including the building addition entrances and the auto body shop (3).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 40 | MAR-10 |

**Event: Replace the force convectors in the c.1983 building addition (3)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2023 | $12,000 | Unassigned |

**Updated:** MAR-10

## D3050.05.03 Finned Tube Radiation** - c.1967

Original c.1967 hot water finned tube radiation cabinets are located throughout the building including corridors, washrooms, the gymnasium and most perimeter walls.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 40 | MAR-10 |

**Event: Replace the c.1967 finned tube radiation cabinets**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $160,000 | Unassigned |

**Updated:** MAR-10

## D3050.05.03 Finned Tube Radiation** - c.1983

Hot water finned tube radiation cabinets provide perimeter heating in the c.1983 building addition.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 40 | MAR-10 |

**Event: Replace the finned tube radiation cabinets in the c.1983 building addition**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2023 | $35,000 | Unassigned |

**Updated:** MAR-10

## D3050.05.04 Induction Units** - c.1967

Induction units are used on the west and north sides of the second and third floors of the c.1967 original building.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

**Event: Replace the c.1967 induction units**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $225,000 | Unassigned |

**Updated:** MAR-10

## D3050.05.06 Unit Heaters** - c.1967

There are 11 hot water unit heaters used in the c.1967 original building, primarily in the shop areas.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 0 | MAR-10 |

**Event: Replace the c.1967 unit heaters in the shop areas (11)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $40,000 | Unassigned |

**Updated:** MAR-10

## D3050.05.06 Unit Heaters** - c.1983

There four hot water unit heaters used in the c.1983 building addition.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

**Event: Replace the unit heaters in the c.1983 building addition (4)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $16,000 | Unassigned |

**Updated:** MAR-10

## D3060.02.02 Pneumatic Controls** - c.1967

The building HVAC system controls and actuators are generally pneumatic (line voltage electric controls are used for the force flow convectors and the unit heaters). The control air supply system is located in the boiler room and consists of an air compressor mounted on an air receiver tank, as well as a refrigerated air dryer (the control air supply system is covered under a separate element). Pneumatic controls include pneumatic thermostats, control valves for the heating terminal units, control valves for the air handling unit hot water heating coils, and damper actuators for the air handling unit dampers. This element includes the control air distribution system and excludes the control air supply system.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 40 | MAR-10 |

**Event: Replace the pneumatic controls (consider upgrading to an electric and electronic control system)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $75,000 | Unassigned |

**Updated:** MAR-10

## D3060.02.02 Pneumatic Controls** - c.1986 - Control Air Supply System

This element covers the control air supply system which is located in the boiler room and consists of an air compressor mounted on an air receiver tank, as well as a refrigerated air dryer.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1986 | 40 | MAR-10 |

**Event: Replace the control air supply system located in the boiler room**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2026 | $12,000 | Unassigned |

**Updated:** MAR-10

## D3060.02.05 Building Systems Controls (BMCS, EMCS)**

A Honeywell XL building management and control system provides monitoring and control for some of the HVAC equipment including the hot water and glycol heating systems, air handling units AHU1 through AHU4, and the kitchen make-up air unit (MUA7).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 25 | MAR-10 |

**Event: Replace the Honeywell building management and control system**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2025 | $150,000 | Unassigned |

**Updated:** MAR-10

## D4010 Sprinklers: Fire Protection*

A deluge type sprinkler system provides fire protection for the enclosed courtyard area. The deluge system sprinkler valve is located in the meter room in the building construction shop (room 108). The auto body shop paint spray booth is equipped with sprinklers which are fed from the standpipe system. No other areas of the building are equipped with sprinklers.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 60 | MAR-10 |

## D4020 Standpipes*

The building is equipped with a standpipe system feeding standard fire hose cabinets. The standpipe system also feeds the sprinklers for the auto body shop paint spray booth.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 60 | MAR-10 |

## D4030.01 Fire Extinguisher, Cabinets and Accessories*

Wall mounted fire extinguishers are located throughout the building on wall mounted brackets and in the fire hose cabinets.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

## D4090.02 Carbon Dioxide Fire Extinguishing Systems**

There are two wet chemical type automatic fire suppression systems for the cooking hoods in room 216.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 40 | MAR-10 |

**Event: Replace the two kitchen cooking hood wet chemical type fire suppression systems in room 216**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2023 | $14,000 | Unassigned |

**Updated:** MAR-10

## D4090.07 Fire Pumps & Water Storage Tanks*

There is a fire pump for the standpipe system located in the meter room in the building construction shop (room 108). The fire pump is an Armstrong model 43MF-1.5D.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 40 | MAR-10 |

# S5 ELECTRICAL

## D5010.03 Main Electrical Switchboards (Main Distribution)**

The incoming hydro service to Sir William Van Horne School is a 120/208V, 3-phase, 4-wire service from an ENMAX padmounted transformer, located on the east side of the school. The ENMAX meter is located in the main electrical room (Main floor). The main electrical switchboard is a Square D switchboard rated at 2000A, 120/208V, 3-phase, 4-wire. The switchboard has a 2000A main breaker. The distribution sections of the main switchboard have moulded case circuit breakers that feed the building loads. The building loads include 800A SDP-1 (Room 105), mechanical equipment splitters, the emergency lighting inverter and 25 - 120/208V branch circuit panelboards.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1967 | 40 | MAR-10 |

**Event: Replace Main Switchboard**

**Concern:**

The main switchboard has exceeded its life expectancy. Replacement breakers are no longer available.

**Recommendation:**

Replace the main switchboard with a new breaker type switchboard complete with surge protection.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $45,000 | High |

**Updated:** MAR-10


2000A, 120/208V Square D main switchboard.

## D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)** - 1967

The original construction panels are Square D, 120/208V, 3-phase, 4-wire branch circuit panels with copper bussing and bolt-on breakers. The panels in the shop areas consist of two panels, one for lighting and one for power.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1967 | 30 | MAR-10 |

**Event: Replace Aged Panels Installed in 1967**

**Concern:**

The original Square D branch circuit panels (1967) are at the end of their life expectancy. Over the life of the panel, breaker contacts become worn and the breakers will no longer operate correctly and may trip unnecessarily. Older panels do not readily accept newer style breakers.

**Recommendation:**

Replace aged panelboards.

**Consequences of Deferral:**

Deferring replacement could lead to partial power outages and intermittent tripping of breakers as well as increased maintenance costs.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $120,000 | Medium |

**Updated:** MAR-10


Aged Square D panel in shop area.

## D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)** - 1983

SDP-1 is an 800A, 120/208V Westinghouse distribution panel, located in room 105. SDP-1 feeds mechanical equipment, distribution panel SDP-2 and three branch circuit panels. There are approximately 8 Westinghouse, 120/208V, 3-phase, 4-wire branch circuit panels with copper bussing and bolt-on breakers.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

**Event: Replace Aged Panels Installed in 1983**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $42,000 | Unassigned |

**Updated:** MAR-10

## D5010.07.01 Switchboards, Panelboards, and Motor Control Centers**

There are two Westinghouse 4-plex Motor Control Centres in the main floor boiler room with a total of six starter units.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

**Event: Replace two Westinghouse 4-Plex MCC's**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $12,000 | Unassigned |

**Updated:** MAR-10

## D5010.07.02 Motor Starters and Accessories** - 1967

Original Allen Bradley starters are still being used to provide power to some mechanical motor loads. There are motor rated starter switches within the school for fractional horsepower loads.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1967 | 30 | MAR-10 |

**Event: Replace Aged Motor Starters**

**Concern:**
Equipment is at end of life cycle and replacement parts are difficult to obtain.
**Recommendation:**
Replace aged starters with new combination type starters.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $10,000 | Medium |

**Updated:** MAR-10

Allen Bradley motor starters.

## D5010.07.02 Motor Starters and Accessories** - 1983

Westinghouse motor starters have been provided for mechanical loads. There are also Klockner Moeller and Furnas motor starters within the school.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 30 | MAR-10 |

**Event: Replace Motor Starters and Accessories**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $10,000 | Unassigned |

**Updated:** MAR-10

## D5020.01 Electrical Branch Wiring*

The majority of the cabling is standard building wire in EMT conduit. Armoured cable has been provided, in selected locations, for final connections to mechanical and miscellaneous equipment.
Surface mounted power and data raceways have been provided in some areas.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 50 | MAR-10 |

**Event: Install additional circuits in the school**

**Concern:**
Extension cords and power bars are being used
**Recommendation:**
Install extra circuits throughout school
**Consequences of Deferral:**
Tripping hazard

| Type | Year | Cost | Priority |
|---|---|---|---|
| Program Functional Upgrade | 2010 | $30,000 | Low |

**Updated:** MAR-10

## D5020.02.01 Lighting Accessories (Lighting Controls)*

Lighting within the school is typically controlled by 120V line voltage switches.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1967 | 30 | MAR-10 |

## D5020.02.01 Lighting Accessories (Lighting Controls)* - Dimming Systems

An Ariel Davis dimming system is located in the stage area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 2 - Poor | 1967 | 30 | MAR-10 |

**Event: Replace Dimming System**

**Concern:**
The Ariel Davis dimming system is obsolete. Unit is no longer manufactured and replacement parts are not available.

**Recommendation:**
Replace dimming system with a new microprocessor based dimming system.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $15,000 | Low |

**Updated:** MAR-10

Obsolete Ariel Davis dimming system.

## D5020.02.02.01 Interior Incandescent Fixtures*

There are incandescent lighting fixtures in the boiler room and some washrooms. Pole mounted incandescent globe style fixtures have been installed in the greenhouse. There are wall mounted incandescent fixtures in the enclosed courtyard.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 2 - Poor | 1967 | 30 | MAR-10 |

**Event: Replace Interior Incandescent Lighting Fixtures**

**Concern:**
The incandescent fixtures are not energy efficient. Additional maintenance is required for incandescent lighting due to the short lamp life. Some fixtures are damaged.

**Recommendation:**
Replace existing incandescent fixtures with energy efficient fluorescent fixtures.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2011 | $7,500 | Low |

**Updated:** MAR-10

Incandescent pole mounted lighting in greenhouse.

## D5020.02.02.02 Interior Florescent Fixtures**

The typical lighting within the school consists of surface mounted or suspended T8 fluorescent wrap-around fixtures. T8 industrial fluorescent fixtures are installed in the shop areas. Recessed 1 ft. x 4 ft. T8 fluorescent fixtures have been provided in the corridors. A lighting retrofit was completed for the school in 2002. Striplight T8 fluorescent fixtures with wire guards have been provided in service rooms.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 5 - Good | 2002 | 30 | MAR-10 |

**Event: Replace Interior Florescent Fixtures**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2027 | $440,000 | Unassigned |

**Updated:** MAR-10

## D5020.02.02.03 Interior Metal Halide Fixture*

Metal halide low bay fixtures have been provided in the auto body shop.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 5 - Good | 2002 | 30 | MAR-10 |

## D5020.02.03.02 Emergency Lighting Battery Packs**

There are two central inverter systems for emergency lighting. A Red Comet system rated at 12VDC (440 Watts for 30 min.), is located in the gymnasium storage room. An Emergi-Lite system rated at 120V (4300 Watts for 30 min.), is located in the small engines shop. 120V incandescent lighting heads are connected to the 120V inverter system. Supplementary emergency lighting within the school is provided by older wet cell emergency lighting battery units.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 2 - Poor | 1967 | 20 | MAR-10 |

**Event: Replace Emergency Lighting Systems**

**Concern:**

The two inverter systems have exceeded their life expectancy. 120V incandescent emergency lighting is high maintenance and inefficient. Replacement parts are not available for the systems. Wet cell emergency lighting battery packs are aged. Reliability of emergency lighting system is a concern.

**Recommendation:**

Replace emergency lighting system with new battery units and lighting heads throughout.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $30,000 | High |

**Updated:** MAR-10

Incandescent emergency lighting heads.

## D5020.02.03.03 Exit Signs*

Exit signs are generally located to indicate building exits and egress routes to exits. The exit signs are typically incandescent exit signs.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 2 - Poor | 1967 | 30 | MAR-10 |

**Event: Replace Exit Signs**

**Concern:**
The incandescent exit signs are not energy efficient and have high maintenance costs due to the short lamp life. Several units have deteriorated due to overheating.

**Recommendation:**
Replace incandescent exit signs with new LED type exit signs.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $10,000 | High |

**Updated:** MAR-10

Incandescent exit sign.

## D5020.03.01.01 Exterior Incandescent Fixtures*

Recessed incandescent fixtures have been installed in the canopies around the perimeter of the building.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 3 - Marginal | 1967 | 30 | MAR-10 |

**Event: Replace Incandescent Exterior Lighting**

**Concern:**
The incandescent exterior fixtures are not energy efficient. Fixtures are deteriorated and light output is minimal.

**Recommendation:**
Replace incandescent exterior light fixtures with energy efficient HID or compact fluorescent exterior lighting fixtures.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2011 | $5,000 | Low |

**Updated:** MAR-10


Exterior recessed incandescent lighting in canopy.

## D5020.03.01.04 Exterior H.P. Sodium Fixtures*

There are HPS wall mounted exterior lighting fixtures and floodlights installed around the building perimeter.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1990 | 30 | MAR-10 |

## D5020.03.02 Lighting Accessories: Exterior (Lighting Controls)*

The exterior lighting is timer (Paragon timer) and photocell controlled.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1990 | 30 | MAR-10 |

## D5030.01 Detection and Fire Alarm**

The fire alarm system control panel is a Ceberus Pyrotronics System 3 panel with 21 active zones and one spare zone. The control panel is located in the general office. A remote annunciator is located at the main entrance. The audible devices within the school are bells. Duct mounted smoke detectors have been provided for air handling units.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 2 - Poor | 1967 | 25 | MAR-10 |

**Event: Replace Fire Alarm System**

**Concern:**

The Pyrotronics System 3 panel is obsolete. Panel is no longer manufactured and replacement parts are not available. There are no strobes installed within the school.

**Recommendation:**

Replace fire alarm system with new addressable fire alarm system. Provide strobe coverage throughout as required by A.B.C.

| Type | Year | Cost | Priority |
|---|---|---|---|
| Failure Replacement | 2010 | $200,000 | High |

**Updated:** MAR-10

Pyrotronics System 3 fire alarm control panel in general office.

## D5030.02.02 Intrusion Detection**

The security system is a Silent Knight Regency 4720 system. A security system keypad has been provided. PIR motion detectors have been provided throughout the school. The security system panels are located in the main electrical room.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1998 | 25 | MAR-10 |

**Event: Replace Intrusion Detection System**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2023 | $25,000 | Unassigned |

**Updated:** MAR-10

## D5030.02.04 Video Surveillance**

There are six interior and three exterior cameras. The cameras are Pelco or Burle cameras. A Burle camera controller, monitor and Intellex LT digital video management system are located in a room off of the general office. There is a second monitor located in the office area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1997 | 25 | MAR-10 |

**Event: Replace Video Surveillance System**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2022 | $20,000 | Unassigned |

**Updated:** MAR-10

## D5030.03 Clock and Program Systems*

There are battery operated clocks throughout the school. The program bells are controlled by a Simplex 2350 Time Control Centre in the general office area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1989 | 25 | MAR-10 |

## D5030.04.01 Telephone Systems*

The telephone system is a Nortel Norstar system. The telephone equipment is located in the main electrical room. The telephone system has been tied into the Dukane P.A. system using Bogen equipment. The telephone handsets are Nortel handsets.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 25 | MAR-10 |

## D5030.04.04 Data Systems*

The main server is located in a room off of the general office. Rack mounted servers have been provided in the server room. A wireless network system provides coverage within the school. Hardwired network connections are typically Cat. 5 or better cabling. A fiber feed has been brought into the school for high speed data transmission. The incoming fiber feed and Supernet equipment are located in the main electrical room.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 2000 | 25 | MAR-10 |

## D5030.05 Public Address and Music Systems**

The public address system is a Dukane system with 100 zone switches (4 x Rauland SW25 units), a Dukane amplifier and Sony and Kenwood audio components. Speakers are typically round, recessed units. The console unit is located in the General Office area. The P.A. system is interconnected with the telephone system.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1985 | 25 | MAR-10 |

**Event: Replace Public Address System**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $30,000 | Unassigned |

**Updated:** MAR-10

## D5030.06 Television Systems*

A signal amplifier and coaxial cable splitters are located in the third floor caretaker's room.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1990 | 20 | MAR-10 |

# S6 EQUIPMENT, FURNISHINGS AND SPECIAL CONSTRUCTION

## E1020.02 Library Equipment*

The library has optical turn stiles at the exit/entrance area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 25 | MAR-10 |

## E1020.03 Theater and Stage Equipment*

Curtains &  lighting equipment are located in the stage area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 25 | MAR-10 |

## E1030.01 Vehicle Service Equipment*

The auto-body and automotive shops are complete with electrical & hydraulic hoists. (Note - Condition of equipment was not evaluated).

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 25 | MAR-10 |

## E1090.01.01 Vacuum Cleaning Systems*

Dust extractors are located in the trade shop areas.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |

## E1090.03 Food Service Equipment*

Full compliment of kitchen equipment for preparation of daily hot meals. Kitchen equipment consists of built-in and movable type; for meat preparation, food preparation, cooking, baking, pot and dishwashing and storage. Walk-in freezer/cooler. Servery, tray and display counters, beverage dispensers, water heater booster, etc. The main teaching kitchen is located on the second floor opposite the cafeteria. Stainless Steel fume hoods are located throughout the food prep area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 25 | MAR-10 |

## E1090.04 Residential Equipment*

The staff room and home economics shop is equipped with refrigerators, dishwasher, small appliances and microwaves.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 10 | MAR-10 |

## E1090.07 Athletic, Recreational, and Therapeutic Equipment*

Electronic scoreboard, movable basketball hoops are located in the gymnasiums. Exercise equipment is located in room behind the gymnasium. The gymnasium has dividing curtains.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 15 | MAR-10 |

## E2010.02 Fixed Casework**

Most classrooms are equipped with custom wood open faced and/or painted cabinet units. Each science laboratory is equipped with upper wood cabinets, lower cupboards c/w counter-top, open fixed shelving. Most of the other labs, such as; home economics, wood shop all have fixed storage wood cabinets throughout the room. The library has fixed and moveable wood shelving casework. Glass display cabinets are located in the corridors & entrance area. The change rooms & washrooms have fixed seating. The staff and cafeteria kitchens are equipped with upper and lower custom wood cabinet. The kitchens and washrooms have plastic laminate counter tops. Work benches are located throughout the warehouse and maintenance garage area.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 35 | MAR-10 |

**Event: Replace all original millwork ( Based per SM of Building)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $900,000 | Unassigned |

**Updated:** MAR-10

## E2010.03.01 Blinds**

Original horizontal metal blinds are located throughout the school.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 30 | MAR-10 |

**Event: Replace horizontal metal blinds ( Based per SM of building area)**

| Type | Year | Cost | Priority |
|---|---|---|---|
| Lifecycle Replacement | 2013 | $120,000 | Unassigned |

**Updated:** MAR-10

## E2010.06 Fixed Interior Landscaping*

An interior planter is located in the enclosed courtyard opposite the main entrance.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 10 | MAR-10 |

## E2020.02.03 Furniture*

Wood and plastic chairs (metal bases) with laminated wood table/desk tops throughout. Desks with plastic laminate tops are located throughout the classrooms. Labs & shops have metal base stools.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |

## F1010.02.03 Glazed Structures* - 1975 Section

A green house installed in 1975 is located at the south-west corner of the school. The greenhouse has two sections, a circular fibre-glass dome and a traditional green house, framed in an aluminum frame with glazed insert panels. The greenhouses have a concrete foundation wall assembly. The greenhouses do not appear to be used, therefore not repair costs have been applied.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1975 | 30 | MAR-10 |

## F1020.02.13 Paint Booths*

An enclosed spray-paint booth is located in the Auto-body shop.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1983 | 0 | MAR-10 |

## F2020.01 Asbestos*

Suspected asbestos-containing materials observed in the building include vinyl tile flooring, plaster texture coated walls & ceilings and piping insulation.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |

## F2020.04 Mould*

No mould known or reported

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |

## F2020.09 Other Hazardous Materials*

No hazardous material known or reported

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |

# S8 FUNCTIONAL ASSESSMENT

## K4010.01 Barrier Free Route: Parking to Entrance*

Barrier free access from the south parking area to the main south building entrance is provided. Signage for a designated handicap parking space is provided.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |

## K4010.02 Barrier Free Entrances*

The main south-east entrance doors are equipped with power assisted operators.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |

## K4010.03 Barrier Free Interior Circulation*

Generally, barrier free access is provided throughout the majority of the school, however the enclosed courtyard and main gym stage area is not accessible. A ramp is provided opposite the east courtyard wall to access the elevated areas on the main floor. An elevator is provided to access all floor levels.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |

## K4010.04 Barrier Free Washrooms*

A designated barrier free washroom is provided on the main floor level adjacent to the elevator.

| Rating | Installed | Design Life | Updated |
|---|---|---|---|
| 4 - Acceptable | 1966 | 0 | MAR-10 |