RECAPP Facility Evaluation Report

Calgary School District #19



Altadore Elementary School

B2520A Calgary

Facility Details

Building Name: Altadore Elementary School

Address: 4506 - 16 Street S. W.

Location: Calgary

Building Id: B2520A

Gross Area (sq. m): 2,736.70 Replacement Cost: \$7,338,187

Construction Year: 1952

Evaluation Details

Evaluation Company: Golder Associates Ltd.

Evaluation Date: September 7 2010

Evaluator Name: Peter Tattersall

Total Maintenance Events Next 5 years: \$1,710,800 5 year Facility Condition Index (FCI): 23.31%

General Summary:

Altadore Elementary School is a K-6 School with and enrolment of 253 students in the 2009-2010 school year.

The original 1-storey (plus partial basement) 2131.5 m2 building was constructed in 1952.

A 1-storey 604.5 m2 addition was constructed in 1955.

Significant renovations and modernizations of the school were completed in 2002.

The total gross floor area of the school is reported to be approximately 2736 m2.

The building is generally in acceptable overall condition.

Structural Summary:

The building has a poured foundation with service tunnels and crawl spaces below the classrooms.

The superstructure is a combination of cast in place concrete walls, concrete masonry bearing walls, concrete and wood framed structural flooring.

The roof is made up of wood beams and joists supporting a wood roof deck.

The roof in the gymnasium is open-web steel joist (OWSJ) supporting a wood roof deck.

The building structure is generally in good condition.

Envelope Summary:

The exterior walls of the building are generally faced with textured stucco that was refinished in 2002. Build-outs around main entrances are faced with brick veneer.

The roofing on the north end of the building was replaced in 2002 using a modified bitumen membrane (SBS) roof assembly with a granular surfaced cap-sheet and flashing.

The roofing on the east and west wings was replaced in 1996 using a SBS roof assembly.

The exterior window units were replaced in 2002 and are aluminum framed with sealed double glazing.

All exterior doors and frames were replaced in 2002 with new steel doors and steel frames.

The building envelope is generally in good condition overall.

Interior Summary:

Interior flooring consists of: sheet vinyl in the corridors, classrooms, and offices; vinyl tile in the east wing corridor; wood flooring in the gymnasium and on the stage; carpet in the principals offices; epoxy floor coating in the washroom corridors and staff room; ceramic tile in the washrooms; and painted/unpainted concrete in the basement and mechanical rooms.

Interior walls consist mainly of painted concrete masonry (CMU) and painted drywall. Other interior walls were painted or lacquered wood panel and painted/unpainted concrete walls located in the mechanical and basement storage rooms.

Ceiling finishes are mainly 8" acoustic ceiling tiles glued to drywall. Other ceiling finishes include T-Bar ceiling tiles in the office and staff room; plaster ceilings in washrooms and washroom corridors; and stipple ceilings in the library. Interior entrance doors are painted solid wood in wooden frames. Interior classroom and office doors are painted and unpainted solid wood doors in wood frames with standard hardware.

Interior finishes are generally in acceptable condition.

Mechanical Summary:

Domestic water distribution is copper and waste water piping (storm and sanitary) is cast iron.

Domestic hot water is provided by one 151L John Wood ProSeries natural gas-fired domestic hot water heater located in the boiler room.

Heating is provided by an original Waterhouse boiler located in the boiler room supplying perimeter unit ventilators, convectors and radiation units.

Fire protection is provided by standpipes and hoses present in corridors of the school.

Heating is reported to be adequate for the building. However, the single boiler is the sole source of heating for the building: there is no built-in redundancy and in the event of a boiler failure the school would be unusable. The existing boiler is original (1952) and has surpassed its expected useful lifecycle (EUL) of 35 years. Replacement during the evaluation term of this report is expected. Unit ventilators, convectors and radiation units are original to the school and higher than normal maintenance was reported by the caretaker. Replacement in conjunction with the boiler replacement is recommended.

The mechanical systems are generally in marginal to acceptable condition overall.

Electrical Summary:

The electrical supply is fed underground to the main distribution switchboard manufactured by Square D, 400 A. The main distribution panel provides power to other sub-panels that serve the various sections of the building.

The lighting in the building is primarily fluorescent lighting with T-8 lamps and some incandescent fixtures.

The exterior lighting is provided by HID wall-pack fixtures located around the perimeter of the building. Emergency lighting in the school is provided by battery packs.

The fire protection system is a Mircom FX-2000 fire alarm system consisting of manual pull stations, alarm bells, strobes, smoke detectors and heat detectors.

Intrusion alarm and detection is a Silent Knight Regency system with keyed entry and motion sensors in corridors throughout.

The electrical system is in acceptable condition overall.

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*

Cast in place concrete strip-footing foundations throughout the building.

<u>Rating</u>	<u>Installed</u>	Design Life	<u>Updated</u>
5 - Good	0	0	MAR-11

A1030 Slab on Grade*

Cast in place (CIP) concrete slabs at the lowest level in all sections of the building. Slabs on grade in perimeter rooms (classrooms, offices, gym, etc.) are concealed by wood floor structures and strapping.

<u>Rating</u>	<u>Installed</u>	Design Life	<u>Updated</u>
4 - Acceptable	0	0	MAR-11

A2020 Basement Walls (& Crawl Space)*

Cast in place concrete and concrete masonry walls in basement mechanical room and service tunnels.

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
5 - Good	1952	0	MAR-11

B1010.01 Floor Structural Frame (Building Frame)*

Suspended reinforced concrete walkway in the boiler room and wood framed flooring on wood beams and columns supporting floors above the basement storage rooms and gym stage.

<u>Rating</u>	<u>Installed</u>	Design Life	<u>Updated</u>
5 - Good	0	0	MAR-11

B1010.02 Structural Interior Walls Supporting Floors (or Roof)*

Cast in place concrete basement walls supporting cast in place concrete floors above service tunnels.

Concrete masonry bearing walls supporting wood roof structures throughout the building.

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
5 - Good	0	0	MAR-11

B1010.03 Floor Decks, Slabs, and Toppings*

The classrooms and gymnasium are wood plank flooring on wood strapping and slab on grade.

<u>Rating</u>	<u>Installed</u>	Design Life	<u>Updated</u>
5 - Good	0	0	MAR-11

B1010.09 Floor Construction Fireproofing*

Unfinished gypsum on wood structural members in the basement storage room.

RatingInstalledDesign LifeUpdated3 - Marginal19520MAR-11

Event: Fireproof Exposed Wood Structural Members

Concern:

Exposed unprotected structural wood members supporting floor above basement storage.

Recommendation:

Spray fire proofing or a fire rated drywall enclosure around wood structural elements.

 Type
 Year
 Cost
 Priority

 Repair
 2011
 \$1,500
 Medium

Updated: MAR-11

B1010.10 Floor Construction Firestopping*

Flexible sealant at penetrations through floors.

RatingInstalledDesign LifeUpdated3 - Marginal19520MAR-11

Event: Tape Drywall Seams and Seal Penetrations

Concern:

Gypsum drywall ceiling of basement storage room not taped or sealed providing proper fire rating to floor above. Penetrations in basement storage ceiling not sealed.

Recommendation:

Seal all penetrations in the ceiling of the basement storage room with fire stopping material approved by code.

TypeYearCostPriorityRepair2011\$1,500Low

Updated: MAR-11

B1020.01 Roof Structural Frame*

Glulam beams supported on concrete masonry walls, supporting wood decking.

OWSJ bearing on concrete masonry walls, supporting wood decking in the gymnasium.

B1020.04 Canopies*

Painted steel columns supporting wood decking and SBS roofing.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

B1020.06 Roof Construction Fireproofing*

Concealed.

RatingInstalledDesign LifeUpdated4 - Acceptable00MAR-11

B1020.07 Roof Construction Firestopping*

Concealed.

RatingInstalledDesign LifeUpdated4 - Acceptable00MAR-11

S2 ENVELOPE

B2010.01.02.01 Brick Masonry: Ext. Wall Skin*

Exterior brick cladding is located at all building entrances.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

B2010.01.08 Cement Plaster (Stucco): Ext. Wall*

Stucco cladding covers most of the building exterior.

RatingInstalledDesign LifeUpdated5 - Good20020MAR-11

B2010.01.11 Joint Sealers (caulking): Ext. Wall**

Polyurethane joint sealers at all exterior material transition locations.

RatingInstalledDesign LifeUpdated4 - Acceptable200220MAR-11

Event: Replace Caulking. (~740 m)

TypeYearCostPriorityLifecycle Replacement2022\$22,200Unassigned

Updated: MAR-11

B2010.01.13 Paints (& Stains): Exterior Wall**

Stucco surfaces are repainted.

RatingInstalledDesign LifeUpdated4 - Acceptable200215MAR-11

Event: Repaint Stucco. (~1625 m2)

TypeYearCostPriorityLifecycle Replacement2017\$32,200Unassigned

Updated: MAR-11

B2010.02.03 Masonry Units: Ext. Wall Const.*

Concrete masonry block exterior walls and firewalls for all building sections.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

B2010.03 Exterior Wall Vapor Retarders, Air Barriers, and Insulation*

Concealed.

RatingInstalledDesign LifeUpdated4 - Acceptable00MAR-11

B2010.06 Exterior Louvers, Grilles, and Screens*

Original painted grilles at all building sections.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

B2020.01.01.02 Aluminum Windows (Glass & Frame)**

Aluminum framed windows with sealed double glazing.

RatingInstalledDesign LifeUpdated5 - Good200240MAR-11

Event: Replace Aluminum Windows (~280 m2)

TypeYearCostPriorityLifecycle Replacement2042\$323,100Unassigned

Updated: MAR-11

B2030.01.02 Steel-Framed Storefronts: Doors**

Painted hollow metal doors with pressed steel frames at each building entrance.

RatingInstalledDesign LifeUpdated5 - Good200230MAR-11

Event: Replace Storefront Doors. (~13)

TypeYearCostPriorityLifecycle Replacement2032\$31,700Unassigned

Updated: MAR-11

B3010.01 Deck Vapor Retarder and Insulation*

Concealed.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

B3010.04.04 Modified Bituminous Membrane Roofing (SBS)** - 1996

Two-ply modified bitumen membrane (SBS) roof assemblies with granular surfaced cap-sheet and flashing.

RatingInstalledDesign LifeUpdated3 - Marginal199625MAR-11

Event: Repair Ridging and Remove Debris (~650 m2)

Concern:

Sections of ridging and cracking are located in several locations on the east and west wings.

Areas of soil buildup and other debris have become significant on the east and west wing roofs.

Recommendation:

Repair areas of ridging.

Remove soil and debris buildup.

TypeYearCostPriorityRepair2011\$6,500Medium

Updated: MAR-11

Event: Replace SBS Roofing (~1300 m2)

TypeYearCostPriorityLifecycle Replacement2021\$238,600Unassigned

Updated: MAR-11

B3010.04.04 Modified Bituminous Membrane Roofing (SBS)** - 2002

Two-ply modified bitumen membrane (SBS) roof assemblies with granular surfaced cap-sheet and flashing.

RatingInstalledDesign LifeUpdated4 - Acceptable200225MAR-11

Event: Replace SBS Roofing (~1444 m2)

TypeYearCostPriorityLifecycle Replacement2027\$265,100Unassigned

Updated: MAR-11

B3020.01 Skylights**

Four large skylights on the north wing above the corridors.

RatingInstalledDesign LifeUpdated4 - Acceptable200225MAR-11

Event: Replace Skylights. (4 x ~12m2)

TypeYearCostPriorityLifecycle Replacement2027\$117,400Unassigned

Updated: MAR-11

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

Metal roof hatch at northwest corner of roof.

Soil vents, mechanical curbs, and roof drains in all roof sections.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

S3 INTERIOR

C1010.01 Interior Fixed Partitions*

Concrete masonry and wood frame with painted drywall partitions throughout the building.

RatingInstalledDesign LifeUpdated5 - Good19520MAR-11

C1010.02 Interior Demountable Partitions*

Coat rooms in the east and west wing classrooms and the librarians office.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C1010.05 Interior Windows*

Georgian wire glazed transom windows in east and west wing corridors.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C1010.07 Interior Partition Firestopping*

Foam and rock wool type insulation throughout building.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C1020.01 Interior Swinging Doors (& Hardware)*

Painted or stained wood doors in painted wood or painted metal frames with standard hardware throughout building. Hardware includes the use of standard doorknobs and hinges (also refer to K4010.03)

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C1020.02 Interior Entrance Doors*

Interior entrance doors are lacquered solid wood with painted wood frames.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C1020.03 Interior Fire Doors*

Unrated fire doors in corridors and at the boiler room and basement stairs.

RatingInstalledDesign LifeUpdated3 - Marginal19520MAR-11

Event: Install Rated Fire Doors with Magnetic Door

Releases (17)

Concern:

No rating on fire doors were observed during the site visit. Fire doors were propped open using latches or door stops.

Recommendation:

Replace existing fire doors with rated assemblies and

magnetic door hold open devices.

 Type
 Year
 Cost
 Priority

 Repair
 2011
 \$45,400
 Medium

Updated: MAR-11

C1030.01 Visual Display Boards** - SMART boards

One SMART board in every classroom plus one in the staff conference room.

RatingInstalledDesign LifeUpdated5 - Good200820MAR-11

Event: Replace SMART Boards. (9)

TypeYearCostPriorityLifecycle Replacement2028\$67,500Unassigned

C1030.01 Visual Display Boards** - Whiteboards and Tackboards

Whiteboards and tackboards in classrooms, offices, and corridors throughout the building.

RatingInstalledDesign LifeUpdated4 - Acceptable199520MAR-11

Event: Replace Tackboards (~80)

TypeYearCostPriorityLifecycle Replacement2015\$34,600Unassigned

Updated: MAR-11

Event: Replace Whiteboards (~55)

TypeYearCostPriorityLifecycle Replacement2015\$37,900Unassigned

Updated: MAR-11

C1030.02 Fabricated Compartments (Toilets/Showers)**

Painted metal washroom stall partitions are located in student washrooms.

RatingInstalledDesign LifeUpdated4 - Acceptable200530MAR-11

Event: Replace Fabricated Compartments (~14)

TypeYearCostPriorityLifecycle Replacement2035\$18,700Unassigned

Updated: MAR-11

C1030.08 Interior Identifying Devices*

Interior signage throughout the building.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C1030.14 Toilet, Bath, and Laundry Accessories*

Mirrors and toilet paper, napkin and paper towel dispensers in all washrooms.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C2010 Stair Construction*

Metal grate stairs to basement mechanical room; cast in place concrete stairs to service tunnels; wood stairs to stage areas.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C2020.08 Stair Railings and Balustrades*

Painted metal railings on all staircases.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C2020.10 Stair Painting*

All stairs are painted or stained.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C3010.01 Concrete Wall Finishes (Unpainted)*

Unpainted cast in place concrete walls in basement service tunnels.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C3010.02 Wall Paneling**

Lacquered wood paneling in gym.

Painted wood paneling in librarians office and classroom coatrooms.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-11

Event: Replace Wood Panels (~474 m2)

TypeYearCostPriorityLifecycle Replacement2014\$43,300Unassigned

C3010.09 Acoustical Wall Treatment**

Acoustical wall panels line the upper perimeter of the gymnasium.

RatingInstalledDesign LifeUpdated4 - Acceptable200020MAR-11

Event: Replace Acoustical Panels. (~156 m2)

TypeYearCostPriorityLifecycle Replacement2020\$34,600Unassigned

Updated: MAR-11

C3010.11 Interior Wall Painting*

Various painted wall finishes throughout the building.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C3020.01.01 Epoxy Concrete Floor Finishes*

Epoxy floor finishes in the staff room and washroom corridors.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C3020.02 Tile Floor Finishes**

Ceramic tile floor finishes in the student washrooms.

RatingInstalledDesign LifeUpdated4 - Acceptable195250MAR-11

Event: Replace Ceramic Tile. (~62 m2)

TypeYearCostPriorityLifecycle Replacement2014\$10,900Unassigned

C3020.04 Wood Flooring**

Wood floors on the stage and in the gymnasium.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-11

Event: Refinish Hardwood on Stage (~67 m2)

Concern:

Wood strip flooring on the stage is worn and faded with scrapes and scuffs.

Recommendation:

Sand and refinish stage wood floors.

TypeYearCostPriorityPreventative Maintenance2011\$3,500Low

Updated: MAR-11

Event: Replace Wood Sports Flooring (~335 m2)

TypeYearCostPriorityLifecycle Replacement2014\$87,000Unassigned

Updated: MAR-11

C3020.07 Resilient Flooring** - Sheet Vinyl

Vinyl sheet flooring located in most classrooms and corridors.

RatingInstalledDesign LifeUpdated4 - Acceptable195220MAR-11

Event: Repair Sheet Vinyl Flooring (~12 m2)

Concern:

Lifting and cracking of vinyl sheet in the north end of the west corridor.

Recommendation:

Repair the section of vinyl sheet.

TypeYearCostPriorityRepair2011\$1,100Low

Updated: MAR-11

Event: Replace Sheet Vinyl Flooring (~1756 m2)

TypeYearCostPriorityLifecycle Replacement2014\$148,200Unassigned

C3020.07 Resilient Flooring** - Vinyl Tile

9" x 9" vinyl tile flooring in the east wing corridors.

RatingInstalledDesign LifeUpdated4 - Acceptable195220MAR-11

Event: Replace Vinyl Floor Tile (~105 m2)

TypeYearCostPriorityLifecycle Replacement2014\$5,600Unassigned

Updated: MAR-11

C3020.08 Carpet Flooring**

Carpeting in the general office area & library.

RatingInstalledDesign LifeUpdated4 - Acceptable200215MAR-11

Event: Replace Carpet (~140 m2)

TypeYearCostPriorityLifecycle Replacement2017\$9,600Unassigned

Updated: MAR-11

C3030.01 Concrete Ceiling Finishes (Unpainted)*

Unpainted concrete ceilings in basement access tunnels.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

C3030.06 Acoustic Ceiling Treatment (Susp. T-Bar)** - Adhered Ceiling Tile

12"x12" acoustic ceiling tile is located throughout the corridors, classrooms and gymnasium.

RatingInstalledDesign LifeUpdated4 - Acceptable195225MAR-11

Event: Replace Adhered Ceiling Tiles (~2370 m2)

TypeYearCostPriorityLifecycle Replacement2014\$109,700Unassigned

C3030.06 Acoustic Ceiling Treatment (Susp. T-Bar)** - Inlayed Acoustical Tile

The staff room and main office have areas with T-bar ceiling tiles. The science room has a duct enclosure made out of T-bar ceiling tiles.

RatingInstalledDesign LifeUpdated4 - Acceptable200225MAR-11

Event: Replace Acoustic Ceiling Tiles (~165 m2)

TypeYearCostPriorityLifecycle Replacement2027\$7,700Unassigned

Updated: MAR-11

C3030.07 Interior Ceiling Painting*

The plaster ceilings and drywall ceilings have a paint finish.

RatingInstalledDesign LifeUpdated4 - Acceptable20020MAR-11

S4 MECHANICAL

D2010.04 Sinks** - Janitor Sinks

Iron enamel wall-mounted service sinks are present in janitor rooms. Should be replaced with floor-mounted sink to alleviate back stress.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-11

Event: Replace Sinks (~2 Units)

TypeYearCostPriorityLifecycle Replacement2014\$4,500Unassigned

Updated: MAR-11

D2010.04 Sinks** - Service Sinks

Original stainless steel single and double basin service sinks are provided in staffroom, kitchen and some classrooms.

Staff room was used as a classroom. Sink is connected to a sediment trap. The sink backs up frequently. Costing for repair of this is less than \$1,000, therefore not included.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-11

Event: Replace Sinks (~17 single basin & 1 double basin)

TypeYearCostPriorityLifecycle Replacement2014\$28,800Unassigned

Updated: MAR-11

D2010.08 Drinking Fountains/Coolers**

Vitreous china drinking fountains located in hallways.

RatingInstalledDesign LifeUpdated4 - Acceptable195235MAR-11

Event: Replace Drinking Fountains (~7 units)

TypeYearCostPriorityLifecycle Replacement2014\$11,600Unassigned

D2010.10 Washroom Fixtures (WC, Lav, Urnl)**

- 15 tankless vitreous china toilets.
- 11 china lavatories.
- 4 original wall-mounted vitreous china urinals.

RatingInstalledDesign LifeUpdated4 - Acceptable195235MAR-11

Event: Replace Washroom Fixtures (~30 units)

TypeYearCostPriorityLifecycle Replacement2014\$48,300Unassigned

Updated: MAR-11

D2020.01.01 Pipes and Tubes: Domestic Water*

Mainly original copper distribution piping on domestic hot/cold water throughout.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D2020.01.02 Valves: Domestic Water**

With few exceptions, isolation valves on domestic water distribution throughout are reported to be original.

RatingInstalledDesign LifeUpdated4 - Acceptable195240MAR-11

Event: Replace Domestic Water Valves (~46 units)

TypeYearCostPriorityLifecycle Replacement2014\$54,200Unassigned

Updated: MAR-11

D2020.01.03 Piping Specialties (Backflow Preventors)**

Backflow prevention provided on main water supply (two sets 50 mm, 2005) and fire system (76 mm, 2005). Untagged backflow suspected to be associated with the boiler feed (19 mm).

There is no irrigation system in the school.

RatingInstalledDesign LifeUpdated4 - Acceptable200520MAR-11

Event: Replace Backflow Preventors (4 units)

TypeYearCostPriorityLifecycle Replacement2025\$12,200Unassigned

Updated: MAR-11

D2020.02.02 Plumbing Pumps: Domestic Water**

Domestic hot water recirculation pump.

RatingInstalledDesign LifeUpdated4 - Acceptable200020MAR-11

Event: Replace Recirculating Pump

TypeYearCostPriorityLifecycle Replacement2020\$1,900Unassigned

Updated: MAR-11

D2020.02.06 Domestic Water Heaters**

Domestic hot water is provided by a 151 L, 38,000 BTU Input, 122/ L/hr John Wood ProSeries natural gas-fired domestic hot water heater located in the boiler room.

RatingInstalledDesign LifeUpdated4 - Acceptable200520MAR-11

Event: Replace Domestic Water Heater

TypeYearCostPriorityLifecycle Replacement2025\$1,200Unassigned

Updated: MAR-11

D2020.03 Water Supply Insulation: Domestic*

Glass fibre insulation on straight runs where visible.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D2030.01 Waste and Vent Piping*

Cast iron sanitary drain lines connected to City sewer systems. ABS soil vents extend above the roof surfaces.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D2030.02.04 Floor Drains*

Floor drains are provided in the washrooms and mechanical rooms.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D2030.03 Waste Piping Equipment*

A sump with a single stage submersible pump is installed in the boiler room to collect drainage water. Sediment trap connected to sink in staff room. Staff report frequent back-up from this sink. It is recommended to remove the sediment trap (<\$1,000).

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D2040.01 Rain Water Drainage Piping Systems*

Roof drains convey water to interior rainwater leaders which drain into the original underslab main.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D2040.02.04 Roof Drains*

Cast aluminum roof drains and internal rainwater leaders.

RatingInstalledDesign LifeUpdated4 - Acceptable19960MAR-11

D3010.02 Gas Supply Systems*

Gas piping to external gas meter.

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
4 - Acceptable	1952	0	MAR-11

D3020.01.01 Heating Boilers & Accessories: Steam**

The boiler plant consists of an original (1952) cast iron Waterhouse Limited steam boiler. The boiler provides low pressure steam to original perimeter unit ventilators along the building periphery.

RatingInstalledDesign LifeUpdated3 - Marginal195235MAR-11

Event: Replace Boiler Plant

Concern:

The boiler plant is operating but excessive maintenance is required. This boiler is the sole source of heat for the building resulting in closure of the school whenever the boiler malfunctions.

Recommendation:

Replace boiler plant with a system using 2 or more boilers for built-in redundancy and continual heating supply if a boiler shuts down or misfires.

Replacement costs provided herein are for replacement with 2 hot water heating boilers and related accessories (expansion tank, chemical feed, de-aerator, etc.) as opposed to steam supply for increased energy efficiency. A contingency allowance has been included due to increased difficulty in removing the existing boiler from the boiler pit.

TypeYearCostPriorityFailure Replacement2013\$260,000High

Updated: MAR-11

D3020.01.03 Chimneys (& Comb. Air): Steam Boilers**

The boiler breeching is connected to the original chimney. Combustion air supply consists of original sheet metal natural draft ducting.

RatingInstalledDesign LifeUpdated3 - Marginal195235MAR-11

Event: Replace Boiler Chimney (~22 m)

Concern:

Boiler plant including combustion air and chimneys is original and has exceeded the theoretical design life (TDL) of 35 years.

Recommendation:

Replace in conjunction with boiler plant replacement.

TypeYearCostPriorityFailure Replacement2013\$14,500Low

Updated: MAR-11

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D3020.01.04 Water Treatment: Steam Boilers*

The boiler water is treated using a manual chemical pot feeder system.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D3040.01.04 Ducts: Air Distribution*

Non-insulated sheetmetal ducting throughout.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D3040.01.07 Air Outlets & Inlets: Air Distribution*

Various styles of square cone diffusers, louvered face registers and grilles.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D3040.02 Steam Distribution Systems: Piping/Pumps**

Original black pipe distribution piping in crawl space service tunnels.

1/3 HP electric motor condensate pump. Mostly original steam traps with random replacements due to attrition.

RatingInstalledDesign LifeUpdated3 - Marginal195230MAR-11

Event: Replace Heating Distribution Systems (~2736 m2/gfa)

Concern:

Steam distribution piping and pumps have passed their theoretical design life and may soon fail.

Recommendation:

Replace steam distribution pipes and pumps along with the boiler plant replacement in 2013.

TypeYearCostPriorityFailure Replacement2013\$254,500High

Updated: MAR-11

D3040.04.01 Fans: Exhaust**

1 mushroom-type and one axial exhaust fans on rooftop.

One Baldor fan equipped with a 5 HP motor located in the basement fan room.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-11

Event: Replace Exhaust Fans (3 units)

TypeYearCostPriorityLifecycle Replacement2014\$20,200Unassigned

Updated: MAR-11

D3040.04.03 Ducts: Exhaust*

Uninsulated sheet metal ducts connected to rooftop exhaust fans.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D3040.04.05 Air Outlets and Inlets: Exhaust*

Exhaust duct system servicing the washrooms and kiln in staff room.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D3050.05.01 Convectors**

Original convectors along building periphery and entrances.

RatingInstalledDesign LifeUpdated3 - Marginal195240MAR-11

Event: Replace Convectors (42 units)

Concern:

Convectors are original to the school and have passed their theoretical design life.

Recommendation:

Convectors should be replaced in conjunction with the boiler plant replacement.

TypeYearCostPriorityFailure Replacement2013\$30,800High

D3050.05.02 Fan Coil Units**

Ceiling-mounted fan coil unit present in boiler room.

RatingInstalledDesign LifeUpdated3 - Marginal195230MAR-11

Event: Replace Fan Coil Unit

Concern:

Fan coil unit has passed their theoretical design life and may soon fail.

Recommendation:

Replace fan coil unit along with the boiler plant replacement in 2013.

TypeYearCostPriorityFailure Replacement2013\$5,500Low

Updated: MAR-11

D3050.05.03 Finned Tube Radiation**

Steam finned tube radiation provided at raised ceiling area in corridors outside the gymnasium.

RatingInstalledDesign LifeUpdated3 - Marginal195240MAR-11

Event: Replace Finned Tube Radiation (~6 m)

Concern:

The system has passed their theoretical design life and may soon fail. A redundant system is not present on site.

Recommendation:

Replace finned tube radiation system along with the boiler plant replacement in 2013.

TypeYearCostPriorityFailure Replacement2013\$2,800Low

D3050.05.07 Unit Ventilators**

Original unit ventilators along building periphery.

RatingInstalledDesign LifeUpdated3 - Marginal195230MAR-11

Event: Replace Unit Ventilators (18 units)

Concern:

Unit ventilators are original to the school and have passed their theoretical design life.

Recommendation:

The unit ventilators should be replaced in conjunction with the boiler plant replacement.

TypeYearCostPriorityFailure Replacement2013\$165,000High

Updated: MAR-11

D3060.02.02 Pneumatic Controls**

Original pneumatic system with new (2003) Quincy compressor and dryer in the boiler room.

RatingInstalledDesign LifeUpdated4 - Acceptable195240MAR-11

Event: Replace Pneumatic Controls (2736 m2/gfa)

TypeYearCostPriorityLifecycle Replacement2014\$16,000Unassigned

Updated: MAR-11

Event: Upgrade to EMCS Controls System (~2736 m2/gfa)

Concern:

Pneumatic control system is original and less efficient than modern EMCS / BMCS control systems.

Recommendation:

Upgrade existing pneumatics with a full computer-based EMCS with remote access from the School Board Central Maintenance.

<u>Type</u> <u>Year</u> <u>Cost</u> <u>Priority</u> Energy Efficiency Upgrade 2013 \$56,900 Low

D4020 Standpipes*

Original standpipe system is installed in the building.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D4030.01 Fire Extinguisher, Cabinets and Accessories*

Wall-mounted ABC-type fire extinguishers present throughout.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

Event: Replace Hose Reels with Racks in Lockable

Cabinets (3 Units)

Concern:

Fire hoses are mounted on exposed hose reels in corridors throughout the school and are accessible to student tampering and vandalism.

Recommendation:

Provide lockable hose cabinets throughout.

TypeYearCostPriorityProgram Functional Upgrade2011\$10,500Medium

Updated: MAR-11

S5 ELECTRICAL

D5010.01 Main Electrical Transformers**

Electrical service is provided by a utility-owned pole mounted transformer with overhead service to the main electrical room.

RatingInstalledDesign LifeUpdated4 - Acceptable195240MAR-11

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

Main electrical switchboard is a Square D 400 A, no other information was available on the switchboard. It is located in a janitor room, where cleaning products are stored and a janitor sink is present. Access to the switchboard and other equipment such as splitter boxes and circuit panels was partially blocked by cleaning equipment. Consideration should be given to storing supplies at a different location.

RatingInstalledDesign LifeUpdated4 - Acceptable195240MAR-11

Event: Replace Main Electrical Switchboard

TypeYearCostPriorityLifecycle Replacement2014\$31,400Unassigned

Updated: MAR-11

D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)** - 1952 Installation

Approx. 7 original circuit 225 Amp, 120/208 Volt 20-30- 42 cct. panelboards distributed throughout. Panelboards average 90% capacity and have blanks over un-used circuits.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-11

Event: Replace Electrical Branch Circuit Panelboards (~7

panels)

TypeYearCostPriorityLifecycle Replacement2014\$24,600Unassigned

D5010.05 Electrical Branch Circuit Panelboards (Secondary Distribution)** - 2000 Installation

One newer circuit 225 Amp, 120/208 Volt 12 cct. panelboard. Panelboard is at about 42% capacity and has blanks over un-used circuits.

RatingInstalledDesign LifeUpdated5 - Good200030MAR-11

Event: Replace Electrical Branch Circuit Panelboard

TypeYearCostPriorityLifecycle Replacement2030\$1,400Unassigned

Updated: MAR-11

D5010.07.02 Motor Starters and Accessories**

Original magnetic motor starters are located in the mechanical rooms and at the entrances to the building.

RatingInstalledDesign LifeUpdated4 - Acceptable195230MAR-11

Event: Replace Motor Starters and Accessories (~14)

units)

TypeYearCostPriorityLifecycle Replacement2014\$17,700Unassigned

Updated: MAR-11

D5020.01 Electrical Branch Wiring*

The electrical wiring in the building is standard wire in conduit.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D5020.02.01 Lighting Accessories: Interior (Lighting Controls)*

Lighting in the school is controlled by line voltage switches.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D5020.02.02.01 Interior Incandescent Fixtures*

There is a minimal amount of recessed incandescent lights throughout the building.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D5020.02.02.02 Interior Fluorescent Fixtures**

The lighting in the building was reportedly upgraded to T-8 lamps with electronic ballasts approximately in 2004.

RatingInstalledDesign LifeUpdated5 - Good200430MAR-11

Event: Replace Interior Fluorescent Fixtures (~2736)

m2/gfa)

TypeYearCostPriorityLifecycle Replacement2034\$238,900Unassigned

Updated: MAR-11

D5020.02.03.02 Emergency Lighting Battery Packs**

Emergency lighting in the school is provided by battery packs with integral and remote heads.

RatingInstalledDesign LifeUpdated4 - Acceptable200420MAR-11

Event: Replace Battery Packs (~4 units)

TypeYearCostPriorityLifecycle Replacement2024\$4,700Unassigned

Updated: MAR-11

D5020.02.03.03 Exit Signs*

The exit signs in the school are LED type.

RatingInstalledDesign LifeUpdated4 - Acceptable20040MAR-11

D5020.03.01.04 Exterior H.P. Sodium Fixtures*

Exterior lighting consists of wall mounted HID light fixtures used around the perimeter of the school.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

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

Exterior lighting is controlled by photo cell and timer control.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

D5030.01 Detection and Fire Alarm**

The fire protection system is a Mircom FX-2000 fire alarm system. Terminal devices include manual pull stations, alarm bells, strobes and heat detectors. The system was reportedly installed approximately in 2003. Last inspected by Sprouse in October 2009.

CO2 monitor was being installed (since June 2010) near the gymnasium.

RatingInstalledDesign LifeUpdated4 - Acceptable200325MAR-11

Event: Replace Detection and Fire Alarm (~2736 m2.gfa)

TypeYearCostPriorityLifecycle Replacement2028\$75,300Unassigned

Updated: MAR-11

D5030.02.02 Intrusion Detection**

The intrusion detection system consists of a Silent Knight Regency Model 4660C fire control/communicator system and motion sensors located throughout the building.

RatingInstalledDesign LifeUpdated4 - Acceptable199525MAR-11

Event: Replace Intrusion Detection (1 panel and 6

sensors)

TypeYearCostPriorityLifecycle Replacement2020\$9,800Unassigned

Updated: MAR-11

D5030.03 Clock and Program Systems*

Consists of a Simplex program/clock system located in the administrative area.

RatingInstalledDesign LifeUpdated4 - Acceptable00MAR-11

D5030.04.01 Telephone Systems*

Telephone system (Norstar Meridian) is used for paging, intercom, and internal and external calling. The telephone service is provided by Telus.

RatingInstalledDesign LifeUpdated4 - Acceptable19980MAR-11

D5030.04.04 Data Systems*

Cat-5 network throughout.

RatingInstalledDesign LifeUpdated4 - Acceptable20030MAR-11

D5030.04.05 Local Area Network Systems*

Networks are installed throughout the school with on-going continuous upgrades, additions and replacements, as needed. Wireless WiFi added throughout in 2010.

RatingInstalledDesign LifeUpdated4 - Acceptable20030MAR-11

D5030.05 Public Address and Music Systems**

The Public Address system consists of an original Bogen console located in the administrative area.

RatingInstalledDesign LifeUpdated4 - Acceptable195220MAR-11

Event: Replace PA System

TypeYearCostPriorityLifecycle Replacement2014\$5,400Unassigned

S6 EQUIPMENT, FURNISHINGS AND SPECIAL CONSTRUCTION

E1020.03 Theater and Stage Equipment*

Stage curtains and theatrical lighting.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

E1090.07 Athletic, Recreational, and Therapeutic Equipment*

Gym climbers, sports equipment, wall mounted basketball hoops, and miscellaneous other equipment.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

E2010.02 Fixed Casework**

Original wood and metal fixed casework throughout the building.

RatingInstalledDesign LifeUpdated4 - Acceptable195235MAR-11

Event: Replace Fixed Casework (~2736 m2/gfa)

TypeYearCostPriorityLifecycle Replacement2014\$250,800Unassigned

Updated: MAR-11

E2010.03.01 Blinds**

Venetian blinds on all windows.

RatingInstalledDesign LifeUpdated5 - Good200230MAR-11

Event: Replace Blinds (~280 m2)

TypeYearCostPriorityLifecycle Replacement2032\$30,000Unassigned

S8 FUNCTIONAL ASSESSMENT

K4010.01 Barrier Free Route: Parking to Entrance*

An exterior concrete ramp is provided at the southwest entrance.

Rating Installed Design Life Updated
3 - Marginal 1952 0 MAR-11

Event: Pave Wheelchair Van Stall & Provide BFA Ramp

Concern:

Concrete ramps have been installed at the southeast school entrance; however, the current parking lot is located at the northwest end of the site and is not paved.

Recommendation:

Provide a barrier free parking stall complete with international signage and pavement markings. Provide an exterior ramp at the closest entrance to the barrier free parking stall.

TypeYearCostPriorityBarrier Free Access Upgrade2012\$38,200Low

Updated: MAR-11

K4010.02 Barrier Free Entrances*

None provided.

RatingInstalledDesign LifeUpdated3 - Marginal19520MAR-11

Event: Provided Powered Door Opener

Concern:

No automatic access is currently provided from any exterior entrance doors.

Recommendation:

Provided power operators for barrier free access.

TypeYearCostPriorityBarrier Free Access Upgrade2012\$3,800Low

Updated: MAR-11

K4010.03 Barrier Free Interior Circulation*

Horizontal pathways throughout the building are level and of sufficient width to allow for wheelchair passage.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

Event: Install Wheelchair Lift (1)

Concern:

No barrier free access to the stage area.

Recommendation:

Install a wheelchair lift to access stage.

TypeYearCostPriorityBarrier Free Access Upgrade2012\$26,000Low

Updated: MAR-11

Event: Provide Lever-type Handsets on Classroom Entry

Doors (20) Concern:

Interior doors use standard doorknobs.

Recommendation:

Provide one lever type handset per student accessible area.

(ie. Classrooms, infirmary, library, etc.)

Type Year Cost Priority
Barrier Free Access Upgrade 2015 \$5,000 Low

Updated: MAR-11

K4010.04 Barrier Free Washrooms*

Unisex barrier free washroom installed in 2001.

RatingInstalledDesign LifeUpdated4 - Acceptable20010MAR-11

K4030.01 Asbestos*

No asbestos report obtained during site visit.

Given the age of the building, it is likely that there is asbestos containing materials in the building construction.

Rating Installed Design Life Updated 4 - Acceptable 1952 0 MAR-11

Event: Implement Asbestos Management Program

Concern:

No asbestos management plan was obtained during the site visit. Due to the age of the building, it is likely that construction materials in the building contain asbestos (vinyl floor tile, ceiling tiles, plumbing insulation, etc.).

Recommendation:

It is recommended that an asbestos survey be conducted to determine the amount of asbestos containing material in the building.

TypeYearCostPriorityHazardous Material2011\$10,000MediumManagement Upgrade

Updated: MAR-11

K4030.02 PCBs*

Due to the age of the building, PCBs may be present in fluorescent lamp ballasts and capacitors for battery pack emergency lighting.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

K4030.03 Mercury*

No known or reported sources of mercury identified.

RatingInstalledDesign LifeUpdated4 - Acceptable19520MAR-11

K4030.04 Mould*

No known or reported mould issues identified.

Rating	<u>Installed</u>	Design Life	<u>Updated</u>
4 - Acceptable	0	0	MAR-11

K5010 Reports and Studies*

Facility Evaluation Survey conducted by Golder Associates Ltd. September 9, 2010.

Rating	Installed	Design Life	<u>Updated</u>
4 - Acceptable	2010	0	MAR-11



Altadore School - Site Plan (1998)