RECAPP Facility Evaluation Report

Broxton Park School

B9128A

Spruce Grove

Report run on: January 30, 2006 1:41 PM

Facility Details

Building Name: Broxton Park School
Address: 505 Mcleod Avenue
Location: Spruce Grove

Building Id: B9128A
Gross Area (sq. m): 0.00
Replacement Cost: $12,995,010
Construction Year: 0

Evaluation Details

Evaluation Company: Stephens Kozak Carr and Brown
Evaluation Date: December 1 2004
Evaluator Name: Mr. Eric Lumley

Total Maintenance Events Next 5 years: **$2,037,420**
5 year Facility Condition Index (FCI): **15.68%**

General Summary:

The original building was constructed in 1969, with permanent additions added in 1970, 1971 and 1986. Four portables and connecting link were added in 1985. An additional two portables and connecting link were added in 1989. The facility is generally in reasonable condition, with specific uprades and life-cycle replacements necessary, such as flooring replacement, re-roofing, the provision of a rain-screen element on the west facade, replacement of interior doors, replacement of toilet partitions, ceiling tile replacement, and the removal of deteriorated stairs to the exterior of the portables.

Structural Summary:

The permanent construction is masonry loadbearing walls with a combination of concrete Tee roof structure and OWSJ and steel deck. The floors of the permanent construction areas are concrete slab on grade. There is ongoing differential settlement of floor slabs and some cracking of the concrete block walls.

Envelope Summary:

Re-roofing required as per report. A rain screen membrane (metal siding) is required on the west facade to prevent further moisture penetration through the exterior wall.

Interior Summary:

Repair walls, replace corridor flooring, replace some ceiling tile, replace a significant number of interior doors, replace toilet partitions.

Mechanical Summary:

1969 ORIGINAL BUILDING - OVERALL CONDITION

Has original boiler, pumps, piping distribution, valves, heating elements. Gymnasium heated and ventilated via rooftop air system with glycol heating coil. Classrooms, administration and support areas heated and ventilated via built up air system supplying air to terminal boxes with reheat coils.

Original Air Systems and Exhaust Fans

Heating appears to be via hot water medium to terminal heating units from original boiler installed in 1969 original building mechanical room. Heating was extended to entrance force flo's in 1970, 1971 entrances and 1986 addition.

Some plumbing fixture upgrades have occurred.

Fire protection consists of fire hose cabinets and fire extinguishers installed on wall hooks or within cabinets.

1970 ADDITION

Ventilation and heating provided via indoor multizone air system and distribution ductwork. Original air system and exhaust fans. Some plumbing fixture upgrades have occurred.

Fire protection consists of fire extinguishers installed on wall hooks or within cabinets.

1971 ADDITION

Ventilation and heating provided via two (2) indoor multizone air systems and ductwork distribution.

Original air systems and exhaust fans.

Some plumbing fixture upgrades have occurred.

Fire protection consists of fire extinguishers installed on wall hooks or within cabinets.

1986 ADDITION AND MODERNIZATION

Special needs room provided with gas fired rooftop unit, radiation and radiant panels.

Plumbing fixture upgrades occurred.

2000 UPGRADE

Office 129C, 129A, 129 and corridor provided with gas fired rooftop unit.

BMCS SYSTEM

Provides global control of the mechanical systems. Installed in 2002.

Overall Condition

BMCS system provides global control of the mechanical systems.

The existing mechanical heating, plumbing and ventilation systems are not conducive to maintaining optimum environmental conditions for teaching and learning environment. Mechanical systems should be upgraded to provide a quality teaching and learning environment and provide flexibility/expandability required to fulfill requirements of the school.

During school review there were complaints of poor temperature control and inadequate ventilation. Amount of fresh air introduced into building through air systems not known. Maintenance receives calls regularly to address room temperature complaints, air systems not operating. Computer classrooms are hot and temperatures as high as 38 degrees Celsius occur. Many system components have reached or exceeded expected life expectancy resulting in high operating and maintenance costs. Equipment not energy efficient resulting in unnecessary utility costs.

Even though there are system components which are fairly new, recommend total removal of existing mechanical systems and new be installed to provide an educational school facility meeting Alberta Infrastructure recommendations and guide lines.

Mechanical systems and components are in fair to good condition.

Electrical Summary:

The school has a 1200 amp, 120/208 volt, 3 phase, 4 wire electrical service. The MDP can not accept additional breakers without tapping into the bussing. Branch circuit panelboards are located throughout the facility, some requiring updating of the directories and replacing numbering labels. The lighting system has been recently retrofitted and upgraded with T8, 32 watt lamps and electronic ballasts. Emergency lighting and power is from a natural gas powered generator. Fire alarm system is a Simplex 2001 system, it has some deficiencies. Data system is Category 5/5E cabling system with some installation issues. The Dukane MACS sound & intercommunication system is troublesome. The telephone system is a Meridian system operating satisfactorily. Exterior lighting is lacking in the parking areas and west side of the school. Lighting control system is obsolete.

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*

Concrete skin friction piles and grade beams.

Rating	Installed	Design Life	Updated
5 - Good	0	100	DEC-04

A1030 Slab on Grade*

Minor settlement of concrete slab on grade in various locations throughout the building, causing cracking of floor finishes and some tripping hazards.

Rating	Installed	Design Life	Updated
3 - Marginal	0	100	DEC-04

Event: Repair slab movement by providing cover strips / thresholds where cracking and differential movement is occuring.

Concern:
Differential movement of the concrete slab on grade is occuring throughout the building, causing cracking of floor finishes and in some areas creating a tripping hazard.

Recommendation:
Provide metal cover strips or thresholds where floor movement is cauing cracking and / or differential slab movement.

Type	Year	Cost	Priority
Repair	2005	$2,160	Medium

Updated: March 3 2005

B1010.01 Floor Structural Frame*(Building Frame)

Concrete block loadbearing walls. Concrete Tees over gym, other areas open web steel joists and metal decking. Some cracking of concrete blocks and movement in vertical joints.

Rating	Installed	Design Life	Updated
3 - Marginal	0	100	DEC-04

Event: Repair cracked concrete block and caulk vertical movement joints.

Concern:
Caulking in concrete block movement joints is deteriorated. Some cracking in concrete block walls due to differential movement.

Recommendation:
Re-caulk movement joints.

Type	Year	Cost	Priority
Repair	2006	$1,080	Low

Updated: March 3 2005

B1010.02 Structural Interior Walls Supporting Floors*

Loadbearing concrete block walls. Some cracking due to differential movement. See B1010.01

Rating	Installed	Design Life	Updated
3 - Marginal	0	100	DEC-04

B1010.03 Floor Decks, Slabs, and Toppings*

Reinforced concrete slab to P.E. area above main gymnasium change rooms.

Rating	Installed	Design Life	Updated
5 - Good	0	100	DEC-04

B1010.09 Floor Construction Fireproofing*

Concrete floors.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

B1020.01 Roof Structural Frame*

Concrete Tees over main gymnasium. Open web steel joists and steel decking over the remainder of the building.

Rating	Installed	Design Life	Updated
5 - Good	0	100	DEC-04

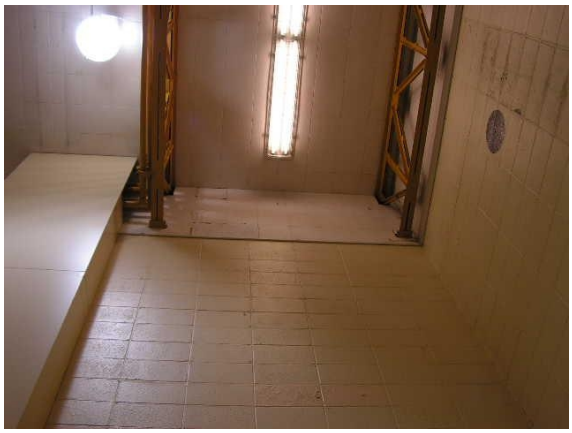
S2 ENVELOPE

B2010.01.02.02 Concrete Block: Ext. Wall Skin*

Painted single wythe concrete block. West wall of small gym shows spalling of interior finish.

Rating	Installed	Design Life	Updated
2 - Poor	0	75	DEC-04

Event: Overcome moisture penetration through single wythe concrete block wall by providing metal siding rain screen.



Concern:
Wind driven moisture is penetrating the west facing walls of the exterior of the building. (Single wythe concrete block, painted).

Recommendation:
Provide a rain screen by cladding the west facing walls with metal siding.

Type	Year	Cost	Priority
Repair	2005	$16,200	Medium

Updated: March 3 2005

B2010.01.08 Portland Cement Plaster: Ext. Wall*

Stucco exterior wall skin to 1986 addition.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	75	DEC-04

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

Caulked joints at the junctions of the portables to the permanent construction.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

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

Single wythe concrete block exterior, painted. See B2010.01.02.02

Rating	Installed	Design Life	Updated
4 - Acceptable	0	15	DEC-04

B2010.09 Exterior Soffits*

Painted plywood fascia and soffit at main entrance.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	20	DEC-04

B2020.01.01.02 Aluminum Windows*

All areas have original aluminum windows, natural anodized finish. West facing windows in administration area have been replaced with new anodized aluminum windows and sealed glazing units.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	35	DEC-04

B2030.02.01 Metal Doors and Frames

Insulated hollow metal doors in steel frames, to all entrances.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

B3010.04.04 Modified Bituminous Membrane Roofing (SBS)*

Original roofing except for area over music room which was reroofed in 2003.

Rating	Installed	Design Life	Updated
2 - Poor	0	25	DEC-04

Event: Replace original roof membrane, 1969, 1970 and 1971 sections. Roofing report provided by owner.

Concern:
Original roofing is starting to fail, causing increasing numbers of leaks.

Recommendation:
Replace roofing. Approximately 5500 sq.m.

Type	Year	Cost	Priority
Lifecycle Replacement	2005	$270,000	Medium

Updated: March 3 2005

B3010.08.02 Metal Gutters and Downspouts*

Downspouts drain to surface.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

S3 INTERIOR

C1010.01 Interior Fixed Partitions*

Concrete block and metal stud frame partitions throughout.

Rating	Installed	Design Life	Updated
5 - Good	0	50	DEC-04

C1010.03.01 Accordion Folding Partitions

Vinyl faced accordian partition

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

C1010.05 Interior Windows*

Pressed steel frames with wired glass.

Rating	Installed	Design Life	Updated
5 - Good	0	40	DEC-04

C1020.01 Interior Swinging Doors*

Hollow metal and solid core wood doors set in pressed steel frames throughout.

Rating	Installed	Design Life	Updated
3 - Marginal	0	50	DEC-04

Event: Replace solid core wood doors

Concern:
The majority of the wood doors are significantly damaged on the edges, with some surface delamination occurring.

Recommendation:
Replace approximately 40 interior wood doors.

Type	Year	Cost	Priority
Repair	2005	$21,600	Medium

Updated: March 3 2005

C1020.03 Interior Fire Doors*

Rated metal doors and solid core wood doors. Fire ratings and hardware appear adequate.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	50	DEC-04

C1030.01 Visual Display Boards*

Combination of white board and tackboard throughout.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

C1030.02 Fabricated Compartments(Toilets/Showers)*

Floor supported metal toilet partitions.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event: Minor maintenance to hinges and latches. Repaint toilet partitions.

Concern:
Minor functional repairs needed for on-going operation. Cosmetic repairs neeed to prevent rusting and additional deterioration.

Recommendation:
Conduct minor repairs and repaint.

Type	Year	Cost	Priority
Repair	2007	$9,720	Low

Updated: March 3 2005

C1030.06 Handrails*

Metal pipe rail handrails to mezzanine areas.

Rating	Installed	Design Life	Updated
5 - Good	0	50	DEC-04

C1030.08 Interior Identifying Devices*

Adequate signage throughout.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

C1030.10 Lockers*

Single tier full height metal lockers throughout corridors. Two tier half height lockers in change rooms and some staff areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

C1030.12 Storage Shelving*

Clear finish plywood shelving in teaching storage areas. Metal shelving units in custodial areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

C1030.14 Toilet, Bath, and Laundry Accessories*

Commercial grade mirrors, soap dispensers, paper towel (roller type), electric hand dryers throughout.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	20	DEC-04

C2010 Stair Construction*

Concrete stair to mezzanine areas.

Rating	Installed	Design Life	Updated
5 - Good	0	100	DEC-04

C2020.05 Resilient Stair Finishes*

Resilient tile treads with rubber nosings.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	20	DEC-04

C2020.06 Carpet Stair Finishes*

Carpet treads and risers to wood stair in 1997 renovation area.

Rating	Installed	Design Life	Updated
5 - Good	0	10	DEC-04

C2020.08 Stair Railings and Balustrades*

Pipe rail handrail and railings with tempered glass infill.

Rating	Installed	Design Life	Updated
5 - Good	0	50	DEC-04

C2020.11 Other Stair Finishes*

Paint finish to concrete stairs to mezzanine over main gym change rooms.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

C3010.02 Wall Paneling*

Wood veneer wall panelling in gymnasium storage divider.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

C3010.04 Gypsum Board Wall Finishes*

Painted gypsum board to non-loadbearing partitions throughout.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	40	DEC-04

C3010.06 Tile Wall Finishes*

Ceramic tile wall finish to washrooms and cgange rooms.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	50	DEC-04

C3010.09 Acoustical Wall Treatment*

Acoustical wall panels in main gymnasium.

Rating	Installed	Design Life	Updated
3 - Marginal	0	20	DEC-04

Event: Replace acoustic wall treatment to main gym

Concern:
Acoustic panels are damaged due to impact with basketballs.

Recommendation:
Replace panels with more durable acoustic material such as Tectum.

Type	Year	Cost	Priority
Failure Replacement	2007	$32,400	Medium

Updated: March 3 2005

C3010.11 Interior Wall Painting*

Painted concrete block and gypsum board wall surfaces

Rating	Installed	Design Life	Updated
4 - Acceptable	0	5	DEC-04

C3010.14 Other Wall Finishes*

Cork tile to interior of built-in display cases in corridors. Ceramic wall tile surround to exterior of display cases.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

C3020.01 Concrete Floor Finishes*

Painted finish to mechanical room and gym mezzanine concrete floor slabs.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	75	DEC-04

C3020.02 Tile Floor Finishes*

Ceramic mosaic floor tile to washrooms, showers and change rooms.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

C3020.04 Wood Flooring*

Resilient hardwood flooring to main gymnasium.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	25	DEC-04

C3020.07 Resilient Flooring*

Combination of resilient sheet flooring and vinyl composite tile flooring in classroom areas. Sheet flooring typically in corridors. Sheet flooring in small gymnasium.

Rating	Installed	Design Life	Updated
3 - Marginal	0	20	DEC-04

Event: Replace corridor flooring. Replace sheet flooring in small gymnasium. 1340 sq.m.

Concern:
Corridor and gym flooring is deteriorated throughout, with open seams and potential for tripping hazard.

Recommendation:
Replace deteriorated flooring in corridors and small gym.

Type	Year	Cost	Priority
Failure Replacement	2006	$54,000	Medium

Updated: March 3 2005

C3020.08 Carpet Flooring*

Carpet areas throughout administration areas and in some classrooms.

Rating	Installed	Design Life	Updated
3 - Marginal	0	10	DEC-04

Event: Replace deteriorated carpet. 150 sq.m.

Concern:
Carpet in some areas is rippling and presents a tripping hazard.

Recommendation:
Replace deteriorated carpet.

Type	Year	Cost	Priority
Failure Replacement	2005	$6,480	High

Updated: March 3 2005

C3020.11 Floor Painting

Mezzanine concrete floor slabs are painted.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

C3030.04 Gypsum Board Ceiling Finishes*

Gypsum board finish to storage and utility areas. Painted gypsum board inserts in t-bar grid in washrooms.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	50	DEC-04

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

Typically throughout the classrooms and corridors.

Rating	Installed	Design Life	Updated
3 - Marginal	0	25	DEC-04

Event: Replace damaged and ill-fitting ceiling tile. Approximately 5% of acoustic tile ceiling area.

Concern:
Damaged and ill-fitting ceiling tile may fall.

Recommendation:
Replace damaged and ill-fitting ceiling tile.

Type	Year	Cost	Priority
Repair	2005	$10,800	Medium

Updated: March 3 2005

C3030.07 Interior Ceiling Painting*

Exposed roof decking and gypsum board ceilings, painted.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	10	DEC-04

S4 MECHANICAL

D2010.01 Water Closets* 1969

Floor mounted, flush valve, open front seat in public areas. Floor mounted, flush tank in staff areas.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: In staff washroom water closet cracked and is not sealed to floor.

Concern:
In staff washroom water closet cracked and is not sealed to floor.

Recommendation:
Remove failed water closet and install new. Seal water closet to floor.

Type	Year	Cost	Priority
Failure Replacement	2006	$1,080	Medium

Updated: February 28 2005

D2010.01 Water Closets* 1971

Floor mounted, flush valve, open front seat.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Seal water closets to floor. Remove failed water closets and install new.

Concern:
Several water closets not sealed to floor. Migration of sewer gas can occur. Several water closets cracked.

Recommendation:
Seal water closets to floor. Remove failed water closets and install new.

Type	Year	Cost	Priority
Failure Replacement	2006	$4,320	Medium

Updated: February 28 2005

D2010.01 Water Closets* 1986

Kindergarten provided with baby Devoro water closets.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D2010.01 Water Closets* 1986

Special needs washrooms 146 & 144 complete with floor mounted water closets, flush tank, open front seat. One of the water closets is handicap height.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D2010.02 Urinals* 1971

Stall urinals with flush valve.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Remove failed urinals and install new.

Concern:
In Room 165 two out of five urinals cracked.

Recommendation:
Remove failed urinals and install new.

Type	Year	Cost	Priority
Failure Replacement	2006	$12,960	Medium

Updated: February 28 2005

D2010.02 Urinals* 1986

Stall urinals with flush valve.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D2010.02 Urinals* 2000

Stall urinals with flush valve.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Remove failed urinals and install new.

Concern:
In Room 126B urinals cracked.

Recommendation:
Remove failed urinals and install new.

Type	Year	Cost	Priority
Failure Replacement	2006	$12,960	Medium

Updated: February 28 2005

D2010.03 Lavatories* 1969

Staff washrooms with stainless steel bowls and time delay faucets.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D2010.03 Lavatories* 1971

Porcelain on steel with Symmons mix valve.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Replace mixing valve faucets.

Concern:
Mix faucet timing is poor, temperature control is poor, internal cartridge replacement expensive.

Recommendation:
Replace mixing valve faucet with faucet requiring less maintenance and reduced replacement costs.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2005	$3,024	Medium

Updated: February 28 2005

D2010.03 Lavatories* 1986

Kindergarten porcelain steel lavatories complete with mix valve located in ceiling space.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D2010.03 Lavatories* 1986

Special needs washrooms 146 and 144 complete with stainless steel bowls. Sinks provided with tempered water.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Special needs lavatory handicap brass installed on wrong sink. No Protective cover installed on handicap waste.

Concern:
Special needs lavatory handicap brass installed on wrong sink. No Protective cover installed on handicap waste.

Recommendation:
Relocate plumbing brass and install waste protective cover on designated handicap lavs.

Type	Year	Cost	Priority
Barrier Free Access Upgrade	2005	$1,080	Medium

Updated: February 28 2005

D2010.04 Sinks*

Stainless steel which vary in size and function. Brass condition varies on year of installation.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

D2010.05 Showers* 1969

Push button time delay valves, institutional head. Mix valve in ceiling space located in shower rooms 127 & 128. Instructors shower pressure balance valve.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D2010.06 Bathtubs* 1986

Installed in special needs washroom complete with Rada shower thermostatic valve, shower head and hose, diverter valve.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D2010.08 Drinking Fountains / Coolers*

Wall hung non refrigerated.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D2010.09 Other Plumbing Fixtures*

Three compartment sink with heating element in kitchen. Dishwasher in staff room, Bradley wash fountain in CTS, Bidet installed in special needs washroom. Laundry tub in special needs. Bubblers installed at Kindergarten sinks.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

D2020.01.01 Pipes and Tubes: Domestic Water*

Copper piping and fittings. Galvanized piping installed on larger pipe sizes.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	40	DEC-04

D2020.01.02 Valves: Domestic Water

Age of valves varies up to 35 years. Operation of valves suspect. Many do not hold or operate.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event: Replace domestic water isolation valves.

Concern:
Isolation valves do not hold.

Recommendation:
Replace isolation valves throughout.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2006	$32,400	Medium

Updated: February 28 2005

D2020.01.03 Piping Specialties (Backflow Preventors)*

No back flow preventer installed on fire line. No vacuum breakers installed on exterior hose bibbs. Backflow preventer on heating boiler make up complete with bypass valve.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event: Install backflow preventer on fire line. Install vacuum breakers on exterior hose bibbs. Remove bypass valve on heating boiler backflow preventer.

Concern:

No backflow preventor installed on fire line. No vacuum breakers installed on exterior hose bibbs. Heating boiler backflow preventer complete with bypass valve and not installed at operators level.

Recommendation:

Install backflow preventor on fire line. Install vacuum breakers on exterior hose bibbs. Remove bypass valve on heating boiler backflow preventor and install at operators level.

Type	Year	Cost	Priority
Code Upgrade	2005	$17,280	High

Updated: February 28 2005

D2020.02.02 Plumbing Pumps: Domestic Water*

Domestic hot water inline recirculation pump installed in mechanical room 132.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	20	DEC-04

D2020.02.06 Domestic Water Heaters*

Two (2) induced draft domestic hot water heaters installed in mechanical room 132. One heater (652,000 BTU/hr) replaced in 2001. Not used. Second heater (725,000 BTU/hr) is sixteen years old. Check valve required on cold water make up line.

Rating	Installed	Design Life	Updated
3 - Marginal	0	20	DEC-04

Event: Replace sixteen (16) year old domestic hot water heater and install check valve on cold water make up line.

Concern:

Domestic hot water heater life expectancy exceeded. Lack of check valve on cold water make up line can result in domestic hot water migration into cold water piping distribution.

Recommendation:

Replace domestic hot water heater. Install check valve on domestic cold water line to heaters.

Type	Year	Cost	Priority
Lifecycle Replacement	2006	$10,800	Medium

Updated: February 28 2005

D2020.03 Water Supply Insulation*: Domestic

Majority of domestic hot, cold and recirculation piping insulated. Some uninsulated piping at domestic hot water heaters and where pipe repairs have been made.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

D2030.01 Waste and Vent Piping*

Cast iron and copper. Piping varies in age up to 36 years.

Rating	Installed	Design Life	Updated
3 - Marginal	0	50	DEC-04

Event: Video underground sewer lines to determine condition of piping.

Concern:
Existing underground piping varies in age up to 36 years.

Recommendation:
Video underground sewer lines in older sections of school to determine condition of piping.

Type	Year	Cost	Priority
Study	2006	$9,720	Medium

Updated: February 28 2005

D2030.02 Waste Piping Specialties*

Art room sink in CTS 137 and Science room sinks in room 175.

Rating	Installed	Design Life	Updated
3 - Marginal	0	50	DEC-04

Event: Install solids interceptor for Art room sink and bottle traps in Science room 175.

Concern:
No solids interceptor for Art room sink and bottle traps in Science room 175.

Recommendation:
Install solids interceptor Art room sink and bottle traps in Science room 175.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2005	$2,592	High

Updated: February 28 2005

D2030.02 Waste Piping Specialties*

Grease interceptor installed in kitchen. Solids interceptor installed for counter sinks in Rooms 174, 177, bottle trap installed in science prep room.

Rating	Installed	Design Life	Updated
5 - Good	0	50	DEC-04

D2030.03 Waste Piping Equipment*

Lift pump provided for 1969 Building mechanical room 132.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D2040.01 Rain Water Drainage Piping Systems*

Plastic drainage piping.

Rating	Installed	Design Life	Updated
3 - Marginal	0	50	DEC-04

Event: Install fire rated fire stop on plastic piping passing through rated wall.

Concern:
Plastic drain line installed through rated wall.

Recommendation:
Install fire rated fire stop in plastic piping passing through rated walls.

Type	Year	Cost	Priority
Code Upgrade	2005	$1,080	Medium

Updated: February 28 2005

D2040.01 Rain Water Drainage Piping Systems*

Roof drains discharge to grade. Frequent freeze ups occur on external rain water leaders.

Rating	Installed	Design Life	Updated
3 - Marginal	0	50	DEC-04

Event: Review alternate rainwater drops within building to eliminate external rain water leaders.

Concern:
Vandalism and freeze ups occur.

Recommendation:
Review alternate rain water drops within building to eliminate external rain water leaders.

Type	Year	Cost	Priority
Study	2005	$2,160	Medium

Updated: February 28 2005

D2040.02.04 Roof Drains*

Full open flow. Cast iron dome strainer.

Rating	Installed	Design Life	Updated
5 - Good	0	40	DEC-04

D3010.02 Gas Supply Systems*

Gas piping distribution to heating boiler, domestic hot water heaters, gas fired rooftop unit, multizone indoor air systems.

Rating	Installed	Design Life	Updated
5 - Good	0	50	DEC-04

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

One (1) forced draft fire tube boiler installed in mechanical room 132. Saskatoon boiler, 5,230,000 BTU/hr. complete with low water cut off, relief valve, modulation control, fire eye controller.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Install new heating plant.

Concern:
Single boiler. No. standby. Equipment failure probable due to age.

Recommendation:
Install new heating plant sized to accommodate proposed upgrades.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2006	$432,000	High

Updated: February 28 2005

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

Chemical pot feeder allows addition of water treatment.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D3020.04.03 Fuel-Fired Unit Heaters*

Installed in mechanical room 143 (shut off) and mechanical room 163.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

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

Class B chimney.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

D3020.05 Auxiliary Equipment: Heat Generation*

Glycol charging tank installed to allow addition of ethylene glycol to hot water heating system. Air cushion expansion tank.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D3040.01 Air Distribution Systems

Temperature and odor complaints in various rooms.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Conduct study to review temperature and odor complaints.

Concern:
Temperature and odor complaints in various rooms.

Recommendation:
Conduct study to review temperature and odor complaints and provide recommendations.

Type	Year	Cost	Priority
Study	2005	$4,320	High

Updated: February 28 2005

D3040.01 Air Distribution Systems

No supply air in gymnasium instructors office. Insufficient supply air in room converted to exercise room. No supply air in Room 142D1.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: No ventilation or insufficient supply air in some rooms.

Concern:
No ventilation or insufficient supply air in some rooms.

Recommendation:
Provide ventilation to all rooms.

Type	Year	Cost	Priority
Indoor Air Quality Upgrade	2006	$86,400	Medium

Updated: February 28 2005

D3040.01.01 Air Handling Units: Air Distribution* 1969

Air system for 1969 original school located in mechanical room 132 consists of centrifugal supply fan (23,465 cfm, 30 HP motor), inline return fan (21,500 cfm), motorized fresh, return, exhaust air dampers, flat throw away filter bank, spray coil humidifier, medium velocity supply air ductwork distribution, terminal boxes, low velocity ductwork to air outlets, ceiling return air. Filter access poor.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Replace supply fan motor.

Concern:
Air system supply fan motor tripped out continuously when air system was de-activated for internal inspection.

Recommendation:
Install new supply fan motor.

Type	Year	Cost	Priority
Preventative Maintenance	2005	$5,400	High

Updated: February 28 2005

D3040.01.01 Air Handling Units: Air Distribution* 1969

Air system for 1969 original school gymnasium is located on roof. Consists of supply fan (8,000 cfm), return fan (5,000 cfm), throw away filter, motorized fresh, return, exhaust air dampers, glycol heating coil, low velocity ductwork distribution to underground ductwork, ducted return air.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Replace gymnasium air system.

Concern:
Casing leakage excessive, damper bushings worn, no seal on dampers. Loose and damaged internal insulation.

Recommendation:
Replace air system with packaged custom air system with glycol heating coil. Abandon underground ductwork and install overhead ductwork. Install radiant panels. Connect heating distribution to proposed new heating plant.

Type	Year	Cost	Priority
Lifecycle Replacement	2006	$194,400	High

Updated: February 28 2005

D3040.01.01 Air Handling Units: Air Distribution* 1970

Rooms heated and ventilated by indoor Lennox 12 zone multizone unit Lennox DMS2-275, 11000 cfm supply air, 10,000 cfm return air, 418,000 BTU/hr input. Air system consists of supply air and return air fans, motorized fresh and return air dampers, gravity exhaust air damper, throw away filters, indirect fired heat exchanger, multizone hot/cold deck header, low velocity supply ductwork distribution, ceiling return air plenum. Mechanical room used as exhaust air plenum. Low voltage damper motors. 25 mm air gap not provided on chimney/roof penetration.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Replace multizone air system and distribution ductwork.

Concern:

Casing leakage excessive, damper motor bushings worn, no seal on dampers, loose and damaged internal insulation resulting in exposed fiberglass fibres, temperature complaints.

Recommendation:

Replace multizone air systems with packaged custom air systems with glycol heating coil. Remove and replace existing ductwork distribution. Install medium pressure ductwork to terminal boxes with heating coil. Install radiant panels. Connect heating distribution to proposed new heating plant.

Type	Year	Cost	Priority
Lifecycle Replacement	2006	$378,000	High

Updated: February 28 2005

D3040.01.01 Air Handling Units: Air Distribution* 1971

Rooms heated and ventilated by rooftop multizone unit. Air system consists of supply air and return air fans, motorized fresh, return, exhaust air dampers, throw away filters, indirect fired heat exchanger, multizone hot/cold deck header, low velocity supply ductwork distribution, ceiling return air plenum. Low voltage damper motors.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Replace multizone air systems and distribution ductwork.

Concern:

Casing leakage excessive, damper motor bushings worn, no seal on dampers, loose and damaged internal insulation resulting in exposed fiberglass fibres, temperature complaints.

Recommendation:

Replace multizone air systems with packaged custom air systems with glycol heating coil. Remove and replace existing ductwork distribution. Install medium pressure ductwork to terminal boxes with heating coil. Install radiant panels. Connect heating distribution to proposed new heating plant.

Type	Year	Cost	Priority
Lifecycle Replacement	2006	$378,000	High

Updated: February 28 2005

D3040.01.01 Air Handling Units: Air Distribution* 1971

Rooms heated and ventilated by two (2) Lennox multizone units. Air systems consist of supply and return air fans, motorized fresh and return air dampers, gravity exhaust air damper, throw away filters, indirect fired heat exchanger, multizone hot/cold deck header, low velocity supply ductwork distribution, ceiling return air plenum. Mechanical room used as exhaust air plenum. Low voltage damper motors.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Replace multizone air system and distribution ductwork.

Concern:

Parts no longer available. Maintenance has had to jimmy rig controls to maintain unit operation. Unit casing in poor condition. Air leakage excessive.

Recommendation:

Replace multizone air system with packaged custom air system with glycol heating coil. Remove and replace existing ductwork distribution. Install medium pressure ductwork to terminal boxes with heating coil. Install radiant panels. Connect heating to proposed new heating plant.

Type	Year	Cost	Priority
Lifecycle Replacement	2006	$270,000	High

Updated: February 28 2005

D3040.01.01 Air Handling Units: Air Distribution* 1986

Special needs room provided with gas fired rooftop unit complete with economizer, intake hood, motorized fresh and return air dampers, barometric relief, 25 mm throw away filter, supply fan, belt drive, aluminized heat exchanger, DX cooling coil, electric spark ignition, Lennox GC59-653-150, 945 l/s capacity.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D3040.01.01 Air Handling Units: Air Distribution* 2000

Offices 129C, 129A, 129 and corridor heated and ventilated via gas fired rooftop unit with economizer, intake hood, motorized fresh and return air dampers, barometric relief, 25 mm throw away filter, supply fan, aluminized heat exchanger, CS cooling coil, electric spark ignition, Lennox GCS16-030, 422 l/s.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D3040.01.03 Air Cleaning Devices:Air Distribution*

Air systems complete with throw away filters.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

D3040.01.04 Ducts: Air Distribution*

1969 original building air system supply air ductwork is medium pressure from air system to terminal boxes. Low velocity ductwork from terminal box to air outlets. Remaining air systems complete with low velocity ductwork to air outlets. Underground ductwork for gymnasium.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	50	DEC-04

D3040.01.05 Duct Accessories: Air Distribution*

Balancing dampers provided in branch line ducts to air outlets. Fire dampers installed in fire rated walls.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

D3040.01.06 Air Terminal Units: Air Distribution* 1969

Eighteen (18) constant volume terminal boxes installed in 1969 original portion of school. Terminal boxes reduce medium pressure supply air to low velocity.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event: Replace air terminal units with new.

Concern:

Air terminal units life expectancy exceeded. Performance of box suspect. Air system provides required heat for associated rooms resulting in 24 hour operation during winter months.

Recommendation:

Remove existing air terminal units and install new. Install new ceiling radiation panels to allow air system shut down.

Type	Year	Cost	Priority
Lifecycle Replacement	2006	$151,200	High

Updated: February 28 2005

D3040.01.07 Air Outlets & Inlets:Air Distribution*

Air outlets vary as to type. Fixed pattern square diffusers, linear grilles, adjustable sidewall grilles, fixed bar, thermo base floor grilles.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D3040.01.07 Air Outlets & Inlets:Air Distribution*

Fire flap installation varies through building.

Rating	Installed	Design Life	Updated
3 - Marginal	0	50	DEC-04

Event: Review requirements for fire flaps.

Concern:
Installation of fire flaps inconsistent. Return air grille fire flapped in a room and supply air is not. Where installed installation detail suspect.

Recommendation:
Review requirement for fire flaps on supply air duct drops to air outlets and installation details.

Type	Year	Cost	Priority
Study	2005	$4,320	Low

Updated: February 28 2005

D3040.03.01 Hot Water Distribution Systems*

Isolation valves in heating system do not hold.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event: Replace heating valves in heating system.

Concern:
Valves in heating system do not hold.

Recommendation:
Replace valves in heating system.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2006	$64,800	High

Updated: February 28 2005

D3040.03.01 Hot Water Distribution Systems*

Black iron piping to radiation, radiant panel, convectors, terminal box coils, fan coil units. Two base mounted circulation pumps sized for 100% standby.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	40	DEC-04

D3040.04 Special Exhaust Systems

Kitchen range hood complete with wire mesh washable filters. No make up air.

Rating	Installed	Design Life	Updated
2 - Poor	0	30	DEC-04

Event: Install make up air unit for kitchen.

Concern:
No make up air for range hood.

Recommendation:
Install make up air unit.

Type	Year	Cost	Priority
Code Upgrade	2005	$32,400	High

Updated: February 28 2005

D3040.04 Special Exhaust Systems

Fume hoods, installed in kindergarten room (previously science room) not in use.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

D3040.04 Special Exhaust Systems 1971

CTS area requires in depth review of exhaust and make up requirements.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Conduct study to review and determine exhaust and make up air requirements to suit updated CTS requirements.

Concern:
Special exhaust in CTS area requires upgrade. Paint booth ineffective, two (2) kiln exhaust ineffective, silk screen hood not effective, no screen on dust collection system floor sweep, cut off saw, lathes, band saw not connected to dust collection system. Dust migration from dust collector occurring. Paint stored in small engine test room with no exhaust from room, small engine test room exhaust not in use, dark rooms have no exhaust, hoods and equipment disabled, poison and flammables stored in non flammable storage cabinet, make up air to offset exhaust is suspect.

Recommendation:
Conduct study to determine CTS exhaust hood, exhaust and make up air volumes to suit updated CTS requirements.

Type	Year	Cost	Priority
Study	2005	$8,640	High

Updated: February 28 2005

D3040.04.01 Fans*: Exhaust

Roof exhaust fans Delhi and dome type. Ceiling and inline exhaust fans, residential range hoods.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Replace exhaust fans.

Concern:
Condition of exhaust fan varies.

Recommendation:
Replace exhaust fans.

Type	Year	Cost	Priority
Lifecycle Replacement	2006	$21,600	Medium

Updated: February 28 2005

D3040.04.03 Ducts*: Exhaust

Low velocity exhaust air ductwork connected to exhaust air outlets and fans.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

D3040.04.04 Ducts Accessories*: Exhaust

Balancing dampers provided in branch line ducts. Fire dampers installed at duct/rated wall penetrations.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D3040.04.05 Air Outlets and Inlets*: Exhaust

Exhaust grilles vary as to year of construction. Egg crate and linear bar installed.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

D3040.05 Heat Exchangers*

Plate heat exchanger installed in 1969 original building mechanical room. Provides heated propylene glycol for gymnasium air system coil. Glycol circulated via two 100% standby inline pumps. Complete with diaphragm expansion tank, air separator.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D3050.01.01 Computer Room Air Conditioning Units*

Two (2) computer room temperatures have been as high as 38 degrees celsius.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Install gas fired packaged rooftop units for computer rooms.

Concern:
Computer room temperatures have been as high as 38 degrees celsius.

Recommendation:
Install gas fired packaged rooftop units with heat recovery, economizer section and DX cooling. Total of two (2).

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2005	$48,600	High

Updated: February 28 2005

D3050.01.02 Packaged Rooftop Air Conditioning Units (& Heating Units)*

Special needs room and offices 129C, 129A, 129 provided with packaged rooftop air conditioning units.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D3050.02 Air Coils*

Terminal boxes in 1969 original building complete with heating coil.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

D3050.03 Humidifiers*

1969 original school air system complete with sprayed coil humidifier. Humidifier in operation.
Dryomatic humidifiers installed in mechanical rooms 143 & 163 for multizone units. Humidifiers not in operation.

Rating	Installed	Design Life	Updated
3 - Marginal	0	25	DEC-04

Event: Study alternate methods of humidification.

Concern:
Sprayed coil humidifier maintenance high. Remainder of school has no humidification. Alberta Infrastructure Standards and Guidelines for school facilities recommends humidification.

Recommendation:
Study alternate methods of humidification.

Type	Year	Cost	Priority
Study	2005	$2,160	Medium

Updated: February 28 2005

D3050.05.01 Convectors*

Limited number of convectors installed. Convectors noted in Infirmary, men's washroom, staff washroom, shower rooms 127 & 128. Cover missing in Boys shower room.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

D3050.05.02 Fan Coil Units*

Hot water fan coil units (ceiling and wall) installed at building entrances.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D3050.05.03 Finned Tube Radiation*

Radiation installation is minimal. Radiation added to several rooms during 1986 modernization.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D3050.05.06 Unit Heaters*

Hot water unit heater installed in mechanical room 132.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D3050.05.08 Radiant Heating (Ceiling & Floor)*

Ceiling radiant panel installed in special needs room 154, 153 during 1986 modernization.

Rating	Installed	Design Life	Updated
6 - Excellent	0	0	DEC-04

D3060.02.01 Electric and Electronic Controls*

Electric thermostats cycle entrance heater fan to maintain set point. 24 volt room thermostats control damper operators on multizone air system hot/cold deck dampers.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

D3060.02.02 Pneumatic Controls* 1969

Duplex air compressor with air dryer provides control air for pneumatic control components in 1969 original school. Day/night thermostats required control air pressure cycled via BMS. Pneumatic damper motors provided on air system. Pneumatic control valves on radiation. Excessive run time on compressors. Both compressors ran to maintain control air pressure.

Rating	Installed	Design Life	Updated
3 - Marginal	0	40	DEC-04

Event: Replace control air compressor.

Concern:
Excessive run time on compressors. Both compressors ran to maintain control air pressure.

Recommendation:
Replace control air compressor.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2005	$10,800	High

Updated: February 28 2005

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

Siemens BMCS installed and provides global control of mechanical systems. Provides scheduling, night set back. Install BMCS controls and update system for proposed mechanical systems upgrade. Gymnasium complete with override timer.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Install BMCS controls and update system for proposed mechanical upgrades.

Concern:
Require BMCS control of proposed mechanical upgrades.

Recommendation:
Install BMCS controls and update system for proposed mechanical systems upgrades.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2006	$194,400	High

Updated: February 28 2005

D3090 Other Special HVAC Systems and Equipment*

Gas fired emergency generator provided with exhaust hood over generator and related exhaust fan.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event: Install air vented thimble and revised roof curb.

Concern:
Emergency generator exhaust pipe in contact with tar within roof gum box. Potential fire hazard.

Recommendation:
Install air vented thimble and revised roof curb.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2005	$3,240	High

Updated: February 28 2005

D4020 Standpipes* 1969

Wet standpipes to fire hose cabinets in 1969 original building. Cabinets complete with 65 mm fire department connection, 40 mm angle valve, fog nozzle, hose, ABC fire extinguisher. Isolation valve installed on fire line at siamese location.

Rating	Installed	Design Life	Updated
3 - Marginal	0	50	DEC-04

Event: Remove isolation valve installed on fire line at siamese location.

Concern:
Isolation valve on fire line at siamese connection could be closed.

Recommendation:
Remove isolation valves and install filler piece.

Type	Year	Cost	Priority
Code Upgrade	2005	$1,080	High

Updated: February 28 2005

D4030.01 Fire Extinguisher, Cabinets and Accessories*

ABC fire extinguishers installed on wall hooks, in cabinets and fire hose cabinets.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D4090 Other Fire Protection Systems*

Fire blanket installed in science room 175.

Rating	Installed	Design Life	Updated
6 - Excellent	0	0	DEC-04

D4090 Other Fire Protection Systems*

Kitchen range hood complete with dry chemical fire suppression system.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

S5 ELECTRICAL

D5010.01 Main Electrical Transformers*

1970 pad mounted Fortis transformer located south of the school, west side. Transformer No. 306 SPG157U. Underground primary from switch cubicle south of school. Underground secondary from transformer to MDP.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	40	DEC-04

D5010.03 Main Electrical Switchboards (Main Distribution)*

MDP is a FPL CDP, 1200 amps, 120/208 Volt - 3 Phase - 4 Wire installed in 1970. Utility meter #17016. No TVSS, no further space for additional breakers.

Rating	Installed	Design Life	Updated
3 - Marginal	0	40	DEC-04

Event:

Concern:
Can not add additional breakers.

Recommendation:
Provide new MDP, 1200 amps - 120/208 volt, 3 phase, 4 wire.

Type	Year	Cost	Priority
Failure Replacement	2006	$59,400	Low

Updated: March 2 2005

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

FPL branch circuit panels, 120/208 Volt - 3 Phase - 4 Wire, 225 Amp bussing, surface and flush, 42 circuit, located throughout the school, some directories inaccurate, numbering labels peeling off.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	25	DEC-04

D5010.07.02 Motor Starters and Accessories*

Loose motor starters provided throughout the school. Square D - Motor Control Centre in main mechanical room, installed in 2001.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D5020.01 Electrical Branch Wiring*

Branch circuit wiring in conduit systems. Some broken wiring devices and plates. Computer rooms utilize basetrack.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	50	DEC-04

D5020.02.01 Lighting Accessories (Lighting Controls)*

GE low voltage lighting control throughout the school. Some areas have line voltage switches. GE system is 1970 original equipment, obsolete components.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	DEC-04

Event: Replace low voltage (LV) system.

Concern:
Obsolete system, original components.

Recommendation:
Replace LV system.

Type	Year	Cost	Priority
Lifecycle Replacement	2006	$29,700	Low

Updated: March 2 2005

D5020.02.02.01 Interior Incandescent Fixtures*

Selected classrooms have surface drum fixtures.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

D5020.02.02.02 Interior Florescent Fixtures*

Retrofit program 2001, T8 lamps (735) and electronic ballasts (master/slave). Corridors have surface linear cube fixtures, classrooms have surface 1X4 boxed fixtures, Library has 2X4 recessed fixtures, Staff Lounge - valence lighting, Washrooms - linear cube fixtures, Storage/Mechanical/Electrical Rooms - striplights c/w wireguards.

Rating	Installed	Design Life	Updated
5 - Good	0	30	DEC-04

D5020.02.02.03 Interior Metal Halide Fixture*

Small and large gymnasiums utilize 350 watt metal halide, industrial, wire guarded fixtures. Lighting upgrade 2001.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D5020.02.02.05 Other Interior Fixtures*

EXIT lighting units are polycarbonate, LED lamps, white body, red letters. Powered from emergency distribution system.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

D5020.02.03 Emergency Lighting*

Selected fluorescent light fixtures on emergency panel.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

D5020.03.01.01 Exterior Incandescent Fixtures*

Recessed, canopy pot lights are incandescent.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event:

Concern:
Not energy efficient and provide poor lighting.

Recommendation:
Provide new high pressure sodium down lights and wall packs.

Type	Year	Cost	Priority
Energy Efficiency Upgrade	2006	$5,940	Unassigned

Updated: March 2 2005

D5020.03.01.04 Exterior H.P. Sodium Fixtures*

Vandal resistant wall packs, 150W HPS source, as older units fail, the newer wall packs are used in replacement.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	30	DEC-04

D5030.01 Detection and Alarm Fire Alarm*

Simplex 2001, FACP located at main lobby, 20 active zones, 2 spaces for 4 more zones, 3 signal circuits, hard-wired, 10 inch bells only, last verified August 19, 2004 by Tyco-Grinnell. No passive graphic. No smoke detectors in Infirmary & Corridors, no heat detectors in some Storage Rooms, no pull stations in Classroom exit doors.

Rating	Installed	Design Life	Updated
3 - Marginal	0	25	DEC-04

Event: Investigate existing fire alarm system to check code compliance.

Concern:
System is missing components.

Recommendation:
Provide a fire alarm analysis of the school.

Type	Year	Cost	Priority
Study	2005	$5,400	High

Updated: March 2 2005

Event: Replace fire alarm system.

Concern:
System is missing components.

Recommendation:
Provide a new fire alarm system.

Type	Year	Cost	Priority
Code Upgrade	2006	$54,000	High

Updated: March 2 2005

D5030.02.02 Intrusion Detection*

DSC PC 3000 intrusion control panel in Main Electrical Room. Passive infrared detectors throughout, monitored by Parkland School District.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	25	DEC-04

D5030.03 Clock and Program Systems*

Simplex 2350 master program clock in general office controls synchronous clocks throughout school. Failed clocks are being replaced by battery clocks.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	25	DEC-04

D5030.04.01 Telephone Systems*

Meridian telephone system in Main Electrical Room, sets located in staff areas, selected classrooms. 10 lines being utilized, 25 pair main telephone cable into school.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	25	DEC-04

D5030.04.02 Paging Systems*

Paging system is via Dukane MACS system. Class change signals are from Dukane system.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	25	DEC-04

D5030.04.04 Data Systems*

There are 5 data hubs throughout the school. Category 5 & 5E systems. Original installation is failing and being replaced on an as-needed basis.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

D5030.05 Public Address and Music Systems*

1986, Dukane MACS sound & intercommunication system, free standing console in General Office. System is failing, poor sound, amplifier has problems, garbled sound. Handsets are used in classrooms. Recessed speakers in corridors and classrooms.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event: Replace obsolete sound system.

Concern:
Loss of intercommunications.

Recommendation:
Replace head-end equipment.

Type	Year	Cost	Priority
Failure Replacement	2006	$30,240	High

Updated: March 2 2005

D5090.02 Packaged Engine Generator Systems (Emergency Power System)*

A Kohler 15RM82, 15kW, 120/208 Volt - 3 Phase - 4 Wire, gen-set is located in the Mechanical Room 132. A Westinghouse transfer switch controls the operation of the unit. There is 105 running hours on the unit. The unit is 1970 original. An emergency panel 132 supplies emergency power to selected lights, EXIT signs, fire alarm, sound, telephone, security system. Gen-set is natural gas fueled.

Rating	Installed	Design Life	Updated
3 - Marginal	0	35	DEC-04

Event: Remove obsolete original gen-set.

Concern:
Old gen-set may fail due to age.

Recommendation:
Provide battery packs and integral/remote heads for emergency lighting.

Type	Year	Cost	Priority
Code Upgrade	2006	$32,400	Medium

Updated: March 2 2005

S6 EQUIPMENT, FURNISHINGS AND SPECIAL CONSTRUCTION

E1020.03 Theater and Stage Equipment*

Stage lighting and drapery. painted masonite stage flooring.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

E1090.03 Food Service Equipment*

Commercial kitchen for hot lunch program, equiped with commercial gas range, microwave, upright fridge freezers, chest freezer, hot food servers and stainless steel dishwashing sinks.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

E1090.04 Residential Equipment*

Domestic dishwasher, coffee maker, fridge and microwaves in staff areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

E1090.07 Athletic, Recreational, and Therapeutic Equipment*

Main court basketball hoops with glass backstops. Sidewall backetball backstops are fan shaped pressed steel. Retractable seating bleachers in main gym. Gym divider curtain with vinyl lower section. Steel fan shaped basketball backstops in small gym.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

E2010.02.05 Educational Facility Casework*

Combination of clear finish plywood veneer shelving units, painted and plastic laminate finished base cabinets with plastic laminate counters, and upper cabinets, throughout all areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

E2010.02.07 Kitchen Casework*

Plastic laminate finished kitchen base and upper cabinets, and island units.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

E2010.02.08 Laboratory Casework*

Plastic laminate finish to base cabinets and counters in science areas.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

E2010.02.09 Library Casework*

Combination of clear finish plywood veneer shelving and plastic laminate finish library charge desk.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

E2010.03.01 Blinds*

Combination of vertical blinds, venetian blinds, roller blinds and horizontal pleated blinds throughout.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

E2020 Moveable Furnishings*

Variety of teacher desks and moveable furniture throughout.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	DEC-04

F1010.02.04 Portable and Mobile Buildings

1989 - Group of two portables and connecting link added. Frame construction with stucco exterior and painted gypsum board interior. Vinyl tile flooring and acoustic lay-in-tile ceiling. Aluminum windows. Insulated hollow metal doors to exterior and solid core wood doors to the interior. Wooden exterior platforms and stairs.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event: Remove exterior wooded platforms and stairs. Provide new steel platform and stairs at required exit.

Concern:

Exterior wooden platforms and stairs are deteriorated and may present a safety hazard to the occupants.

Recommendation:

Remove exterior platform and stairs and make good the adjacent finishes and landscaping. Permanently secure the exit door leading to these platforms and remove the exit signage from the interior of the room. Provide a new steel platfor and stairs to the required exit.

Type	Year	Cost	Priority
Failure Replacement	2005	$10,800	Medium

Updated: March 3 2005

F1010.02.04 Portable and Mobile Buildings

1985 - Group of four portable classrooms and connecting link added. Frame construction with stucco exterior and painted gypsum board interior. Vinyl tile flooring and acoustic lay in tile ceiling. Wooden exterior platforms and stairs in poor condition. No reported roof leaks although roofing is reaching the end of its life expectancy. Aluminum windows. Insulated hollow metal doors in steel frames to the exterior. Solid core wood doors in steel frames to the interior.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	DEC-04

Event: Lifecycle replacement of roofing

Concern:
Existing roofing is reaching the end of its life expectancy

Recommendation:
Relace existing roofing with SBS roofing

Type	Year	Cost	Priority
Lifecycle Replacement	2008	$27,000	Low

Updated: March 3 2005

Event: Remove exterior wooden platforms and stairs to portables

Concern:
Wooden exit platforms and stairs are deteriorated.

Recommendation:
Remove exterior wooden platforms and stairs, make good the finishes and landscaping, permanently secure the exterior exit doors, remove the exit signs.

Type	Year	Cost	Priority
Repair	2005	$15,120	Medium

Updated: March 3 2005

F1020.02 Special Purpose Rooms*

Snoezle Room for special needs early education students. Equiped with specialized equipment.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

F2020.01 Asbestos*

Hazardous Materials Report, dated available from owner.

Rating	Installed	Design Life	Updated
N/A	0	0	DEC-04

Facility Details

Building Name: Broxton Park School
Address:
Location: Spruce Grove

Building Id: S9128
Gross Area (sq. m): 0.00
Replacement Cost: $0
Construction Year: 0

Evaluation Details

Evaluation Company:
Evaluation Date:
Evaluator Name:

Total Maintenance Events Next 5 years: **$1,080**
5 year Facility Condition Index (FCI): **0%**

General Summary:

There is no additional space for expansion of parking, roadways, play areas etc. Access to sports fields is limited and inadequate. The track is on city property and in poor condition. There are no sports fields on school property.

Structural Summary:

Envelope Summary:

Interior Summary:

Mechanical Summary:

Electrical Summary:

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.

S7 SITE

G2010.02.02 Flexible Pavement Roadway (Asphalt)*

Access road to car park and rear entrance of school. Some minor surface drainage ponding.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2010.05 Roadway Curbs and Gutters*

Concrete curb at sidewalk.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2020.02.02 Flexible Paving Parking Lots(Asphalt)*

Asphalt parking lot with grading to drainage swale.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2020.05 Parking Lot Curbs and Gutters*

Concrete curbs at sidewalk.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2020.06.02 Parking Bumpers*

Concrete wheel stops at each parking stall.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2020.06.03 Parking Lot Signs*

Metal parking lot signage.

Rating	Installed	Design Life	Updated
5 - Good	0	0	

G2020.06.04 Pavement Markings*

Painted stall lines and handicapped parking symbols.

Rating	Installed	Design Life	Updated
5 - Good	0	0	

G2030.02.02 Asphalt Pedestrain Pavement*

Pedestrian walkway to the east and north of the school.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2030.04 Rigid Pedestrian Pavement (Concrete)*

Areas of concrete sidewalk / pavement between permanent construction and portables. Some cracking but no differential movement.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2030.06 Exterior Steps and Ramps*

Concrete stoops at entrances and access doors.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2040.02 Fences and Gates*

Chain link fence to south of property. Metal railing with brick pilasters to east of property. Variety of chain link and wooden vertical slay fencing to domestic properties to the north. No property fencing to the east as the site extends into city property.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2040.03 Athletic and Recreational Surfaces*

Asphalt basketball practice court with backstops but no games lines. Cinder running track mainly on city property. Concrete curb edging to city owned track is in need of repair due to uneveness. Playground equipment provided in three locations to the east and north of the school.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2040.05 Site and Street Furnishings*

Wooden slat benches, waste receptacles, picnic tables, new metal bridge over drainage swale.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2040.06 Exterior Signs*

School sign in metal letters mounted on school adjacent to main entrance.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2040.08 Flagpoles*

One flagpole provided at main entrance.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2050.04 Lawns and Grasses*

Grassed areas adjacent to walkways and to majority of site area.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2050.05 Trees, Plants and Ground Covers*

Natural deciduous trees to east of property forming visual barrier between school and houses.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G2050.07 Planting Accessories*

Rail fence used as landscape feature between the east walkway and the school.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G3010.02 Site Domestic Water Distribution*

100mm domestic / fire line connected to City of Spruce Grove main.

Rating	Installed	Design Life	Updated
5 - Good	0	0	

G3010.03 Site Fire Protection Water Distribution*

Fire hydrant located within 45m of siamese connection.

Rating	Installed	Design Life	Updated
5 - Good	0	0	

G3020.01 Sanitary Sewage Collection*

1969 section. 150mm sanitary sewer line connected to the city sewer.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G3020.01 Sanitary Sewage Collection*

1971 section. 100mm sanitary sewer line.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	

Event: Reroute 1971 section sewer line to sewer line of greater depth.

Concern:
1971 section sewer freezes.

Recommendation:
Reroute 1971 section sewer to sewer line of greater depth.

Type	Year	Cost	Priority
Operating Efficiency Upgrade	2007	$21,600	High

Updated: February 24 2005

G3030.01 Storm Water Collection*

Exterior downspouts discharge to splashpads and surface drainage to swales.

Rating	Installed	Design Life	Updated
5 - Good	0	0	

G3060.01 Gas Distribution*

Natural gas to internal meter.

Rating	Installed	Design Life	Updated
5 - Good	0	0	

G4010.02 Electrical Power Distribution Lines*

Underground primary and secondary power lines. Telus service is underground from pedestal east of site. Shaw cable TV is overhead, from pole, east of site.

Rating	Installed	Design Life	Updated
4 - Acceptable	0	0	

G4010.04 Car Plugs-ins*

Car parking receptacles are in rail and I-beam pedestals. receptacles are timelock controlled and flip-flopped. There are 52 energized parking stalls. There are broken device plates and wiring devices.

Rating	Installed	Design Life	Updated
3 - Marginal	0	0	

Event: Replace coverplates and plug-ins

Concern:
Cover plates are broken

Recommendation:
Replace coverplates and plug-ins

Type	Year	Cost	Priority
Repair	2007	$1,080	Low

Updated: February 24 2005

G4020.01 Area Lighting*

HPS wall packs are provided for area lighting. There are areas where there is poor light, particularly at the west side of the school and the parking lot.

Rating	Installed	Design Life	Updated
3 - Marginal	0	30	

Event: Add more wall packs and pole mounted lights

Concern:
Lack of lighting around perimeter of school and in parking lot

Recommendation:
Add more wall packs and pole mounted lights

Type	Year	Cost	Priority
Program Functional Upgrade	2007	$5,400	Medium

Updated: February 24 2005

S8 FUNCTIONAL ASSESSMENT

K40 Current Code Issues

There are no apparent building code issues.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

K4010.01 Barrier Free Route: Parking to Entrance

There are barrier free access routes from the car park to the entrances.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

K4010.02 Barrier Free Entrances

Entrances have power assisted handicapped access doors.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

K4010.03 Barrier Free Interior Circulation

Other than a few mezzanine areas the building interior is barrier free.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04

K4010.04 Barrier Free Washrooms

There are barrier free washrooms.

Rating	Installed	Design Life	Updated
5 - Good	0	0	DEC-04