School Facility Evaluation Project

Part II - Physical Condition

School Name: Frank Maddock Junior-Senior High School
Location: Drayton Valley
Region: Central
Jurisdiction: Wild Rose School Division No. 66
Grades: 8 - 12

School Code: 2201
Facility Code: 597
Superindendent: Mr. James Mclellan
Contact Person: Cody McClintock
Telephone: (403) 845 - 3376
School Capacity: 740

Building Section	Year of Compl.	No. of Floors	Gross Bldg Area (Sq.M.)	Type of Construction (i.e., structure, roof, cladding)	Description of Mechanical Systems (incl. major upgrades)	Comments/Notes
Original Building	1971	1	4311.3	Masonry, Flat - 2 ply SBS. Precast, masonry, metal siding, stucco,	Lennox multi-zone heating and ventilation roof top units	Mini plans and data sheet need to be updated. Last update 1984.
Additions/ Expansions						
	1977	1	1326.98	Masonry, BUR, mtl. siding	Same as 1971	.
	1982	1	1941.01	Masonry, BUR, stucco	Same as above	.
	1998	2	372.33	Frame & masonry, 2 ply SBS, stucco	Radiant heat, central ventilation unit	New addition
						.
						School Requires Major Modernization

Evaluator's Name & Company: R. Ashley / Riddell Kurczaba Arch. (Original - Fall 1999)
SWAT Revision: T. Tittemore / Stantec Architecture Ltd.
B. Fitzsimons/L. Anderson / Stantec Consulting Ltd.

Building Section	Year of Compl.	No. of Floors	Gross Bldg Area (Sq.M.)	Type of Construction (i.e., structure, roof, cladding)	Description of Mechanical Systems (incl. major upgrades)	Comments/Notes
Upgrading/ Modernization (identify whether minor or major)	1971 (1982)	1	221.20	combustible/non-combustible construction	Min. Mech. Modifications	Minor Renovation -relocation of partition walls and finishes.
Portable Struct. (identify whether attached/perman. or free-standing/ relocatable)	N.A					

List of Reports/ Supplementary Information	Roof Types only, roof Report to be completed end of December 1999. Mini-Plans (dated 1984) Asbestos Audit 1997, No Code Review Report Five Year Master Plan Std Assessment and Utilization Report

Alberta Infrastructure
School Facilities Branch

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	Evaluation Components	Summary Assessment	Estim. Cost
1	**Site Conditions**	Site conditions are generally good, except Bus drop-off layout and condition of sidewalks.	***$ 90,000.00***
2	**Building Exterior**	Exterior is in poor condition, with the exception of the precast wall panels and new addition.	$ 314,600.00
3	**Building Interior**	Interior finishes are fair condition- upgrades needed to reduce maintenance and improve appearance.	***$ 623,500.00***
4	**Mechanical Systems**	Building is heated by hot water boiler in reasonable condition. Ventilation is provided by roof top units which have reached their life expectancy and need replacement.	***$ 732,500.00***
5	**Electrical Systems**	Existing system is in fair condition, some changes are required to meet code and provide new life cycle.	***$ 213,300.00***
6	**Portable Buildings**	N/A	$ -
7	**Space Adequacy:**		
	7.1 Classrooms	(+129) Fair - Adequate number, small rooms- tight for 30+ students. Poor storage	$ -
	7.2 Science Rooms/Labs	(-171) OK	$ -
	7.3 Ancillary Areas	(- 148) Poor - insufficient number of specialty rooms.	$ -
	7.4 Gymnasium	(- 112) Generally OK, except stage area - double duty (high use)	$ -
	7.5 Library/Resource Areas	(50) Poor w.r.t. Layout/function - need redesign	$ -
	7.6 Administration/Staff Areas	(-363) Poor - Admin and staff work area congested, no infirmary. Need redesign	$ -
	7.7 CTS Areas	(-599) Old vocational education complex needs conversion to CTS.	$ -
	7.8 Other Non-Instructional Areas (incl. gross-up)	(+728) Good - missing some areas, no conference room. Inefficient circulation plan reduces usable areas.	$ -
	Overall School Conditions & Estimated Costs	Net Space Shortage: (-) minus 644 square meters, smaller than recommended standards	***$ 1,973,900.00***

Condition Ratings: 1-Emergency/Critical 2-Poor/Unsatisfactory 3-Marginal 4-Good 5-Excellent F.I.-Further investigation required

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Section 1	Site Conditions	Rating	Comments/Concerns	Estim. Cost
1.1	**General Site Condions**			
1.1.1	Overall site size.	4	Large area to south, VED compound - bordering east edge of site.	
1.1.2	Outdoor athletic areas.	4	Except, location of primary athletic areas on the south side of the school, while the gym is located on the north side	
1.1.3	Outdoor playground areas, including condition of equipment and base.	4		
1.1.4	Site landscaping.	4		
1.1.5	Site accessories (i.e., perimeter and other fencing, guard rails, bike stands, flag poles).	4	Okay; ***storage yard gate in need of repair.***	
1.1.6	Surface drainage conditions (i.e., drains away from building, signs of ponding).	3	Okay, except around new addition and south end of west side - some corrective measurers taken (weeping tiles installed), but not sure if it will be effective: provide contingency allowance for unforeseen drainage problems and cost of site restoration. Provide contingency allowance for unforseen drainage problems and cost of site restoration.	$ 32,000.00
1.1.7	Evidence of sub-soil problems.	4	Possible water drainage problems, see 1.1.6	
1.1.8	Safety and security concerns due to site conditions.	2	Poor lighting in parking lot, east and south sides of school, more secure needed (cameras+lights) - safety and reduce vandalism	$ 18,000.00
Other				

Section 1	Site Conditions	Rating	Comments/Concerns	Estim. Cost
1.2	**Access/Drop-Off Areas/Roadways/Bus Lanes**			
1.2.1	Vehicular and pedestrian access points (i.e., size, number, visibility, safety).	4	Bus students need safer route to school after they exit their buses. Situation needs to be studied so circulation can be improved for all. Otherwise -OK.	
1.2.2	Surfacing of on-site road network (note whether asphalt or gravel).	4	Asphalt - OK	
1.2.3	Bus lanes/drop-off areas (note whether on-site or off-site).	4	***On-site drop off. Student parking and bus lane circulation/congestion problems. Situation needs to be resolved. Re-design layout, then renovate on-site circulation and bus drop-off. Redesign layout and renovate parking area, on-site circulation and bus drop-off area.***	
1.2.4	Fire vehicle access.	4	Review and approved by Fire Marshal	
1.2.5	Signage.	4	OK	
Other				

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Section 1	Site Conditions	Rating	Comments/Concerns	Estim. Cost
1.3	**Parking Lots and Sidewalks**			
1.3.1	Number of parking spaces for staff, students and visitors (including stalls for disabled persons).	4	Numbers OK, no room for expansion	
1.3.2	Layout and safety of parking lots.	4	See 1.2.3	
1.3.3	Surfacing and drainage of parking lots (note whether asphalt or gravel).	4	Asphalt,	
1.3.4	Layout and safety of sidewalks.	2	Several section of concrete sidewalk have moved creating a hazard (1" to 2" differences in elevation), worst area in front of main entrance doors. Replace sections of sidewalk.	$ 24,000.00
1.3.5	Surfacing and drainage of sidewalks (note type of material).	2	Concrete sidewalks - heavy spalling, rough, and uneven. Damaged sidewalks need to be replace and surfaces restored. Side walks west side to CTS annex has an ice problem that needs attention.	$ 16,000.00
1.3.6	Curb cuts and ramps for barrier free access.	4		
Other				
	Overall Site Conditions & Estimated Costs			***$ 90,000.00***

Section 2	Building Exterior	Rating	Comments/Concerns		Estim. Cost
2.1	**Overall Structure**		Bldg. Section	Description/Condition	
2.1.1	Floor structure and beams (i.e., signs of bending, cracking, heaving, settlement, voids, rust, stains).	3	1971	Floors slope downward along the west/east exterior walls. Anyone sitting in a chair with casters slowly move to the exterior wall. Level floor during floor upgrade. Other areas are OK.	$ 12,000.00
2.1.2	Wall structure and columns (i.e., signs of bending, cracking, settlement, voids, rust, stains).	4	All	OK	
2.1.3	Roof structure (i.e., signs of bending, cracking, voids, rust, stains).	4	All	No problems noted at this time.	
Other					

Section 2	Building Exterior	Rating	Comments/Concerns		Estim. Cost
2.2	**Roofing and Skylights** ***Identify the availability of an up-to-date inspection report or roofing program. Note if roof sections are of different ages and/or in varying states of repair.***		**Bldg. Section or Roof Section**	**Description/Condition/Age**	
2.2.1	Based on the inspection report (and to the extent possible, direct observation), assess and rate roof conditions and estimate costs for required improvements (i.e., covering materials, membrane, insulation, other components).	3	All except 1998 section	1971 - @ ply SBS, replaced 1990 (9years old) * 1977 - 4 ply BUR, original (22 years old) * 1982 - 4 ply BUR, original (17 years old) * 1998 - Asphalt shingles + 2 ply SBS (1 year old) - good condition * The roof does leak, but the location of water penetration is unknown. the large roof area and extensive metal joist system make the leak location difficult to track/find.	$ 130,000.00
2.2.2	Roof accessories (i.e., ladders, stairs, hatches, masts, exhaust hoods, chimneys, gutters, downspouts, splashpads).	4	All		
2.2.3	Control of ice and snow falling from roof.	4	All	No problems noted.	
2.2.4	Skylights (i.e., signs of distress, leaks, ice build-up, condensation, deteriorated materials/seals).	N/A			
Other					

Section 2	Building Exterior	Rating	Comments/Concerns		Estim. Cost
2.3	**Exterior Walls/Building Envelope**		**Bldg. Section**	**Description/Condition**	
2.3.1	Exterior wall finishes (i.e., signs of deterioration, cracks, brick spalling, effluorescence, water stains).	1	1971 1982	Slabs of stucco are dropping off front face of building - greatest concern possible injury to students, stucco finish needs to be replace and backing wall checked for water damage.. In other areas the stucco has extensive damage from cracks to holes - repair stucco with minor damage and replace sections of stucco (use sufficient H & V expansion joints) where major damage has occurred . Brick and concrete block finish - good condition	$ 65,000.00
2.3.2	Fascias, soffits, parapets (i.e., signs of looseness, stains, rust, peeling paint).	3	All	Needs regular painting. Better to upgrade to prefinished metal - lower maintenance.	$ 32,000.00
2.3.3	Building envelope (i.e., evidence of air infiltration/ exfiltration through the exterior wall or ice build up on wall, eaves, canopy).	3	All	Check water vapor/moisture concern in gym/stage, see 3.1.1 (paint peeling). Conduct investigation into moisture problem to find possible solutions.	$ 5,000.00
2.3.4	Interface of roof drainage and ground drainage systems.	4	All		
2.3.5	Inside faces of exterior walls (i.e., signs of cracks, water stains, dust spots).	4	All	OK, except paint peeling off upper Gym walls	
Other	2.3.1 Exterior finishes, cont...	1	1982	North side of 1982 section - parging damaged/chunks of parging missing -repair. Stucco finish on the 1998 section is in good condition, has plenty of Horizontal and vertical expansion joints.	$ 8,000.00

Section 2	Building Exterior	Rating	Comments/Concerns		Estim. Cost
2.4	**Exterior Doors and Windows**		**Bldg. Section**	**Description/Condition**	
2.4.1	Doors (i.e., signs of deterioration, rusting metal, glass cracks, peeling paint, damaged seals, sealed unit failure).	***3***	All	Metal doors generally OK, except all doors need sweeps - daylight can be seen under exterior doors.	$ 2,600.00
2.4.2	Door accessories (i.e., latches, hardware, screens, locks, alarms, holders, closers, security devices).	4	All		
2.4.3	Exit door hardware (i.e., safety and/or code concerns).	4	All		
2.4.4	Windows (i.e., signs of deterioration, rusting metal, glass cracks, peeling paint, damaged seals, sealed unit failure).	3	All	Aluminum frame/ vinyl clad frame - not enough windows. Windows could be added in the center of the precast panels.	$ 60,000.00
2.4.5	Window accessories (i.e., latches, hardware, screens, locks, alarms, holders, closers, security devices).	4	All		
2.4.6	Building envelope (i.e., signs of heavy condensation on doors or windows).	4	All		
Other				General consensus, too few windows, and a great desire for natural light in classrooms - there are many windowless (interior) classrooms.	
	Overall Bldg Exterior Condition & Estim Costs				$ 314,600.00

Section 3	Building Interior - Overall Conditions	Rating	Comments/Concerns		Estim. Cost
3.1	**Interior Structure**		**Bldg. Section**	**Description/Condition**	
3.1.1	Interior walls and partitions (i.e., signs of cracks, spalling, paint peeling).	2	1971 1977	Paint peeling off interior gym walls, near roof, see 2.2.1, paint walls. Other areas OK.	$ 4,000.00
3.1.2	Floors (i.e., signs of cracks, heaving, settlement).	2	All	Corridors in general, except north corridor - evidence of floor movement: floor tile are cracked, lifting, there are many patches. Recommend replacement with sheet flooring (non water soluble glue).. Classroom etc, are OK.	$ 54,000.00
Other					
3.2	**Materials and Finishes**		**Bldg. Section**	**Description/Condition**	
3.2.1	Floor materials and finishes.	2	All	Sheet vinyl ,12x12 tile, wood flooring most ceramic tile - good. Except ceramic tile in WR 159 &160, see 3.2.8; and 12x12 tiles in corridors, see 3.1.2. **Replace** existing carpet through out school, especially library, admin and stage.	$ 32,000.00
3.2.2	Wall materials and finishes.	2	All	GWB, masonry, and brick are OK, except masonry walls in Gym, see 3.1.1. Replace original vinyl panel walls (old, worn, dark) with GWB/ptd to brighten rooms (esp, interior classrooms).	$ 56,000.00
3.2.3	Ceiling materials and finishes.	2	All	Replace all stained, dirty and damaged 2x4 susp. Ac. Panels. GWB ceilings are in good condition.	$ 18,000.00

Section 3	Building Interior - Overall Conditions	Rating	Comments/Concerns		Estim. Cost
3.2	**Materials and Finishes (cont'd)**		**Bldg. Section**	**Description/Condition**	
3.2.4	Interior doors and hardware.	2	All	Original wood doors are worn/damaged - replace. Metal doors are in good condition.	$ 42,000.00
3.2.5	Millwork	3	All	Generally good, repair minor damage, adjusts doors, etc. on existing millwork.	***$ 50,000.00***
3.2.6	Fixed/wall mounted equipment (i.e., writing boards, tackboards, display boards, signs).	3	All	Replace tack boards and upgrade chalk boards to white boards, other items OK.	$ 30,000.00
3.2.7	Any other fixed/mounted specialty items (i.e., CTS equipment, gymnasium equipment).	2	Gym	Movable acoustic partition dividing wall between gym and stage needs to be replaced before it falls down. P.A. system is 28 years old, doesn't function adequately, see elec. Other item are OK.	$ 48,000.00
3.2.8	Washroom materials and finishes.	2	All	Generally good, except replace damaged floor in WR 159 & 160.	$ 5,500.00
Other		2	1977	ANC #158 - remove floor receptacles and relocate power on walls (vertical surfaces).	$ 4,000.00

Section 3	Building Interior - Overall Conditions	Rating	Comments/Concerns		Estim. Cost
3.3	**Health and Safety Concerns --- *Intent is to identify renovations considered necessary to meet applicable codes, primarily due to safety concerns. Basis of evaluation should be an up-to-date inspection report from the authority having jurisdiction together with direct observations as appropriate. Evaluator should note if in his opinion a comprehensive code evaluation is required.***		**Bldg. Section**	**Description/Condition**	
3.3.1	Building construction type - combustible or non-combustible, sprinklered or non-sprinklered.	1	All	non-combustible, non-sprinklered Warehouse construction partition to U/S ceiling (space above ceiling used as return air plenum). No separation between corridors and classrooms.	***$ 150,000.00***
3.3.2	Fire separations (i.e., between buildings, wings, zones if non-sprinklered).	***N/A***	***All***	Whole school code review required, corridors do not appear to be isolated from the classrooms. ***Code review done.***	
3.3.3	Fire resistance rating of materials (i.e., corridor walls and doors).	***1***	***All***	***Limited separation between corridors and classrooms, many partition walls only go to U/S T-bar ceiling. Replace. restore ratings.***	***$ 50,000.00***
3.3.4	Exiting distances and access to exits.	2	All	School grandfathered, appears OK, except as noted, see 3.3.2 for costs.	
3.3.5	Barrier-free access.	2	1982 1971	These sections have stairs with no lifts, which are require for HC accessibility (space maybe too small for HC ramp). Heaving sidewalks prevent easy circulation outside the school, see section 1.3.4. HC washrooms -OK	***$ 80,000.00***
3.3.6	Availability of hazardous materials audit (i.e., evidence of safety concerns with respect to asbestos, PCB's, chemicals).	4	All	Asbestos audit 2 years old, managed-in-place policy with on going removal progressing as funding become available.	
3.3.7	Other health and safety concerns (i.e., evidence of excessive noise conditions, air quality problems)	3	All	Poor Air Quality and ventilation. See mech.	
Other	Fume Hoods in Science rooms	2	1971	Fume hoods and classroom air vent cross-circuited, turn on fume hood, classrooms get blast of cold air (fume hood do not have separate supply air, see mech.	
	Overall Building Interior Condition & Estimated Costs				***$ 623,500.00***

Section 4	Mechanical Systems	Rating		Comments/Concerns	Estim. Cost
4.1	**Mechanical Site Services**				
4.1.1	Site drainage systems (i.e., surface and underground systems, catch basins).	4	1971 to 1998	Storm system is partially discharged to town system and some roof storm discharge to ground. No known problem.	
4.1.2	Exterior plumbing systems (i.e., irrigation systems, hose bibs).	***2***	***1971 to 1998***	***No irrigation system. Some hose bibbs on building exterior. Add vacuum brakers to hose bibbs.***	***$500.00***
4.1.3	Outside storage tanks.	4	1982	There is an above ground waste oil storage tank.	
Other					
4.2	**Fire Suppression Systems**		**Bldg. Section**	**Description/Condition**	
4.2.1	Fire hydrants and siamese connections.	4	1971 to 1998	There are fire hydrants located at the north and south parking areas.	
4.2.2	Fire suppression systems (i.e., pumps, sprinklers, piping, reservoirs, hoses, stand pipes, CO2 systems).	4	1971 to 1998	There are two kitchen exhaust hoods. Each have chemical extinguishing systems. No sprinklers or fire hose cabinet.	
4.2.3	Hand extinguishers, blankets and showers (i.e., in CTS areas).	4	1971 to 1998	There are portable fire extinguishers, located throughout the school.	
4.2.4	Other special situations (e.g., flammable storage areas, science labs, CTS areas).	N/A			
Other					

Section 4	Mechanical Systems	Rating		Comments/Concerns	Estim. Cost
4.3	**Water Supply and Plumbing Systems**		**Bldg. Section**	**Description/Condition**	
4.3.1	Domestic water supply (i.e., pressure, volume, quality - note whether municipal or well supply).	4	1971 to 1998	Town water. Pressure / volume good. Water quality is reasonable.	
4.3.2	Water treatment system(s).	-	1971 to 1998	No water treatment.	
4.3.3	Pumps and valves (including backflow prevention valves).	4	1971 to 1998	There is backflow prevention on water make-up heating water system.	
4.3.4	Piping and fittings.	***FI***	***1971 to 1998***	***Condition of domestic water piping unknown. No reported problems. Water flows and pressures adequate***	
4.3.5	Plumbing fixtures (i.e., toilets, urinals, sinks)	4	1971 to 1998	Water closets - Flush tank. Urinals - flush tank. Countersinks - steel. Good condition.	
4.3.6	Domestic hot water system (i.e., heater, storage tanks, failure alarms, pressure, volume, recirculation).	***3***	***1971 to 1998***	***There are 4 DHW tanks, 2 circ pumps. No reported problems with capacity. Tanks are approaching their life expectancy. Replace DHW heaters.***	***$12,000.00***
4.3.7	Sanitary and storm sewers, including sumps and pits (note whether sewage system is municipal or septic).	4	1971 to 1998	Sanitary sewer to town system. Storm to town system. No known problems.	
Other					

Section 4	Mechanical Systems	Rating		Comments/Concerns	Estim. Cost
4.4	**Heating Systems**		**Bldg. Section**	**Description/Condition**	
4.4.1	Heating capacity and reliability (including backup capacity).	***FI***	***1982***	***Two boiler in 1982 of 4,000 Mbh input in 1992 addition. Fair condition. Investigate new loading to determine required capacity.***	
4.4.2	Heating controls (including use of current energy management technology).	***3***	***1971 to 1998***	***No EMS. Combination electric and pneumatic control. If new air handling system installed (4.5.1), install new DDC EMS system. Costed in 4.7.1***	
4.4.3	Fresh air for combustion and condition of the combustion chimney.	4	1971 to 1998	There is outdoor combustion air to boiler room. Boiler chimney - good condition.	
4.4.4	Treatment of water used in heating systems.	4	1971 to 1998	Glycol in hot water heating system.	
4.4.5	Low water cutoff/pressure relief valves and failure alarms (i.e., hot water heating).	4	1971 to 1998	Boilers have LWCO, relief valves. Alarm on heating low temperature and on waterflow.	
4.4.6	Heating air filtration systems and filters.	4	1971 to 1998	Low efficiency filters.	
4.4.7	Heating humidification systems and components.	N/A	1971 to 1998	No humidification.	

Section 4	Mechanical Systems	Rating		Comments/Concerns	Estim. Cost
4.4	**Heating Systems (cont'd)**		**Bldg. Section**	**Description/Condition**	
4.4.8	Heating distribution systems (i.e., piping, ductwork) and associated components (i.e., diffusers, radiators).	4	1982	Heating pipes are insulated. Internal condition unknown.	
4.4.9	Heating piping, valve and/or duct insulation.	4	1971 to 1998	Heating piping is insulated. Supply air ductwork is not insulated.	
4.4.10	Heat exchangers.	***2***	***1971 1977***	***5 rooftop gas multizone units. Heat exchangers are continual problems and difficult to obtain. Leaking heat exchangers could add CO2 to rooms. Replace with new heating systems in 4.5.1.***	
4.4.11	Heating mixing boxes, dampers and linkages.	***2***	***1971 1977***	***Rooftop has continual problems with controls, dampers and linkages. Replace with new heating system in 4.5.1. Furnace Room 114 - 2 operating Lennox Furnaces have exceeded life expectancy. Replace in heating replacement in 4.5.1.***	
4.4.12	Heating distribution/circulation in larger spaces (i.e., user comfort, temperature of outside wall surfaces).	***3***	***1971, 1977, 1982***	***No hot water heating problems. Rooftop mulizone gas air systems temperature is inconsistent, ongoing problems. Replace with new heating system in 4.5.1.***	
4.4.13	Zone/unit heaters and controls.	***N/A***		***New ventilation system (4.5.1) would require glycol preheat, glycol reheat. New ductwork zones and distribution required. Costed in 4.5.1.***	
Other		***4***	***1971***	***Kitchen make-up air is gas direct fired, interlocked with kitchen exhaust. Science Lab has gas indirect fired rooftop make-up air units. Both units in fair condition. Concern expressed with direct fired unit into an occupied space. Direct fired, when interlocked with an exhaust of at least 90% of the supply complies with the codes, and CO2 fumes will not build up to maximum allowable levels. Systems OK.***	

Section 4	Mechanical Systems	Rating		Comments/Concerns	Estim. Cost
4.5	**Ventilation Systems**		**Bldg. Section**	**Description/Condition**	
4.5.1	Air handling units capacity and condition.	***2***	***1971, 1977***	***Five rooftop gas fired multizone units have exceeded life expectancy. Continual problems, inadequate air supply and outside air ventilation rate below acceptable standards. Heat exchangers can leak CO2 when cracked. Provide new air processing units to replace the area served by the gas fired multizones. Utilize glycol preheat, glycol reheat, new duct and glycol piping distribution. Boilers will require a check on total capacity to serve the above.***	***$700,000.00***
		4		***1982 Shops - Separate Glycol heating ventilation units. Good Condition. Carpentry unit - filters require weekly replacement. In discussion with maintenance personnel, this is caused by the instructor not utilizing the recirculation dust collector. Unit is left off and dust circulates throughout the space and to the supply fan filters. System adequate if operated properly.***	
		3		***Gymasium - One York heat/cool unit serves gymnasium. Condition is good. Unit noise noticeable in gymnasium causing the unit to be turned off for room use as an examination area. Sound plenum or silencer banks recommended to reduce unit noise.***	***$20,000.00***
		4		***1999 addition - one new Gasmaster unit serves the Cafeteria and Youth Centre. Poor quality unit mechanically, but serves adequately with good ventilation.***	
4.5.2	Outside air for the occupant load (if possible, reference CFM/occupant).	***2***	***1971***	***Gas fired ventilation units of the age found on this project typically can not handle required ventilation rates recommended by today's codes. Correct outside air quantities to be included in new heating system recommended in 4.5.1. Costed in 4.5.1***	
4.5.3	Air distribution system (if possible, reference number of air changes/hour).	***FI***	***1971 to 1998***	***Air change rates not known at this time. Normal heating design would have been for approximately 6 air changes. New design recommended in 4.5.1 above will have correct air exchange rates in accordance with today's design standards. Costed in 4.5.1***	
4.5.4	Exhaust systems capacity and condition.	4	1971 to 1998	Washrooms exhaust system in reasonable condition / capacity.	
4.5.5	Separation of out flow from air intakes.	4	1971 to 1998	No known or observed problems.	
4.5.6	Special/dedicated ventilation and/or exhaust systems (i.e., kitchen, labs, CTS areas).	***FI***	***1977***	***Kitchen exhaust condition unknown, but no reported problem except the possibility of CO2 as described in OTHER following 4.4.13 above. Fume cabinet exhaust system to confirm to latest codes.***	
Other		***3***	***1982***	***Carpentry dust collection is 100% recirculation. (Refer to 4.5.1 above). If utilized and maintained properly, system is acceptable. Welding exhaust - in discussions with the maintenance personnel, there were no reported problems.***	

Section 4	Mechanical Systems	Rating		Comments/Concerns	Estim. Cost
4.5	**Ventilation Systems (cont'd)**		**Bldg. Section**	**Description/Condition**	
	Note: Only complete the following items if there are separate ventilation and heating systems.				
4.5.7	Ventilation controls (including use of current energy management technology).	N/A		Not applicable.	
4.5.8	Air filtration systems and filters.	N/A		Not applicable.	
4.5.9	Humidification system and components.	N/A		Not applicable.	
4.5.10	Heat exchangers.	N/A		Not applicable.	
4.5.11	Ventilation distribution system and components (i.e., ductwork, diffusers, mixing boxes, dampers, linkages).	N/A		Not applicable.	
Other					

Section 4	Mechanical Systems	Rating		Comments/Concerns	Estim. Cost
4.6	**Cooling Systems**		**Bldg. Section**	**Description/Condition**	
4.6.1	Cooling system capacity and condition (i.e., chillers, cooling towers, condensers).	N/A	1971 to 1998	No cooling. Not applicable.	
4.6.2	Cooling distribution system and components (i.e., ductwork, diffusers, mixing boxes, dampers, linkages)	N/A	-	Not applicable.	
4.6.3	Cooling system controls (including use of current energy management technology).	N/A	-	No EMCEES.	
4.6.4	Special/dedicated cooling systems (i.e., labs, CTS areas).	4	-	Computer room as a rooftop a/c unit. Condition unknown. Gymnasium has a rooftop gas fired air conditioning unit. Recently installed.	
Other					
4.7	**Building Control Systems**		**Bldg. Section**	**Description/Condition**	
4.7.1	Building wide/system wide control systems and/or energy management systems.	3	1971 to 1998	No EMCS. Existing controls are electric ongoing problems. No energy management. Install EMCS. Costed in 4.4.2	
	Overall Mechanical Systems Condition & Estimated Costs				***$732,500.00***

Section 5	Electrical Systems	Rating		Comments/Concerns	Estim. Cost
5.1	**Site Services**				
5.1.1	Primary service capacity and reliability (i.e., access, location, components, installation, bus sizes - note whether overhead or underground).	2		Existing service is at 85 to 90 % of rating. New addition has consumed spare capacity. Equipment id original and obsolete. Incoming service and distribution requires replacement.	$45,000.00
				Utility service entrance charge: not confirmed.	$20,000.00
5.1.2	Site and building exterior lighting (i.e., safety concerns).	4		Adequate, however, requires repairs and upgrading.	
5.1.3	Vehicle plug-ins (i.e., number, capacity, condition).	2		Exterior receptacle requires some maintenance.	$1,000.00
Other					
5.2	**Life Safety Systems**		**Bldg. Section**	**Description/Condition**	
5.2.1	Fire and smoke alarm systems (i.e., safety concerns, up-to-date technology, regularly tested).	2		Simplex 2001 system is obsolete and has not been manufactured for the past 7 years. Spare parts still available, however supplies are being diminished. System is not equipped with visual annunciation, strobe lights.	$40,000.00
5.2.2	Emergency lighting systems (i.e., safety concerns, condition).	F.I.		Building has an emergency generator for powering of life safety systems. Extent of coverage is unknown.	
5.2.3	Exit lighting and signage (i.e., safety concerns, condition).	4		Exit signage has been converted to LED technology and appears to be sufficient.	
Other	Industrial Arts Areas	***F.I.***		Poor housekeeping practices make it unsafe for students, teachers and visitors. Lack of containment within shop areas for bulk lube oils and solvents. Simple molded plastic lube oil stands c/w drips or spill containers are available, environmental issue.	

Section 5	Electrical Systems	Rating		Comments/Concerns	Estim. Cost
5.3	**Power Supply and Distribution**		**Bldg. Section**	**Description/Condition**	
5.3.1	Power service surge protection.	***1***		***None provided. New TVSS equipment can be included as part of work outlined in item 5.1.***	
5.3.2	Panels and wireways capacity and condition.	***3***		***Distribution equipment requires preventive maintenance work including cleaning and torquing of terminations. Some panelboards have no spare capacity, while others have 20 to 30% spare capacities.***	***$3,800.00***
5.3.3	Emergency generator capacity and condition and/or UPS (if applicable).	***F.I.***		***Existing natural gas unit (15kW, 189 hours). Unit appears to have a backpressure problem or vibration problem on exhaust system. Exhaust system has been repeatedly welded, considering the number of operating hours. Natural gas emergency generators are not code compliant for emergency power (life safety) applications.***	
5.3.4	General wiring devices and methods.	***3***		***Chronic shortage of outlets. The use of power bars and extension cords is prolific, not just for computer station use. Receptacles are worn and require replacement. In some areas, flush cover plates are used on surface electrical boxes. This is a safety hazard and a Canadian Electrical Code violation.***	***$8,500.00***
5.3.5	Motor controls.	***4***		***MCC is in good condition. Requires general preventative maintenance. MCC is no longer manufacturer, however individual replacement components are available. Stand-alone motor starters are in good condition.***	
Other					

Section 5	Electrical Systems	Rating		Comments/Concerns	Estim. Cost
5.4	**Lighting Systems**		**Bldg. Section**	**Description/Condition**	
5.4.1	Interior lighting systems and components (i.e., illumination levels, conditions, controls).	***2***	***1982 All***	***Luminaries have different coloured lamps, broken lenses and are dirty. Corridorsdo not have uniform lighting patterns. Classroom lighting levels vary from 50 to 50 foot-candles. Recommend all lighting be replaced and upgraded to T8 lamps and electronic ballasts.***	***$40,000.00***
5.4.2	Replacement of ballasts (i.e., health and safety concerns).	N/A			
5.4.3	Implementation of energy efficiency measures and recommendations.	***2***		***As noted in item 5.4.1 above.***	
Other					

Section 5	Electrical Systems	Rating		Comments/Concerns	Estim. Cost
5.5	**Network and Communication Systems**		**Bldg. Section**	**Description/Condition**	
5.5.1	Telephone system and components (i.e., capacity, reliability, condition).	4			
5.5.2	Other communication systems (i.e., public address, intercom, CCTV, satellite or cable TV).	***3***		***PA system is old and obsolete. Needs replacement.***	***$7,500.00***
5.5.3	Network cabling (if available, should be category 5 or better).	***3***		***LAN cabling may exceed Cat 5 standards for cable run lengths (90m). Little or no calbe management, a lot of cabling is scattered and poorly installed.***	***$40,000.00***
5.5.4	Network cabling installation (i.e., in conduit, secured to walls or tables).	***3***		***Recommend cable tray system. Cost included in item 5.5.3.***	
5.5.5	Wiring and telecommunication closets (i.e., size, security, ventilation/cooling, capacity for growth).	***3***		***Lack of closets. Do not recommend expanding new system until redesigned and replaced. Refer to item 5.5.3.***	
5.5.6	Provision for dedicated circuits for network equipment (i.e., hubs, switches, computers).	***3***		***Refer to item 5.5.3 for comments.***	
Other					

Section 5	Electrical Systems	Rating		Comments/Concerns	Estim. Cost
5.6	**Miscellaneous Systems**		**Bldg. Section**	**Description/Condition**	
5.6.1	Site and building surveillance system (if applicable).	***4***		***Installed in 1998.***	
5.6.2	Intrusion alarms (if applicable).	***3***		***Repair door hardware and add door contact switches or replace magnetic holders c/w contact switch option.***	***$7,500.00***
5.6.3	Master clock system (if applicable).	***4***		***Simplex 2350, in good condition.***	
Other	General maintenance.	***N/A***		***Costs identified in items above.***	
5.7	**Elevators/Disabled Lifts (If applicable)**				
5.7.1	Elevator/lift size, access and operating features (i.e., sensing devices, buttons, phones, detectors).	N/A			
5.7.2	Condition of elevators/lifts.	N/A			
5.7.3	Lighting and ventilation of elevators/lifts.	N/A			
Other					
	Overall Electrical Systems Condition & Estimated Costs				***$213,300.00***

Section 6	Portable Buildings	Rating	Comments/Concerns	Estim. Cost
	Note: Separate sheets can be completed, if necessary, for portable buildings of different ages and/or conditions.		N/A	
6.1.1	Foundation and structure (i.e., signs of bending, cracking, settlement, rust, voids, stains).	N/A		
6.1.2	Roof materials and components (i.e., signs of deterioration, leaks, ice build-up).	N/A		
6.1.3	Exterior wall finishes (i.e., signs of deterioration, cracks, water stains).	N/A		
6.1.4	Doors and windows (i.e., signs of deterioration, rusting hardware, glass cracks, peeling paint, damaged seals).	N/A		
6.1.5	Interior finishes (i.e., floors, walls, ceiling).	N/A		
6.1.6	Millwork (i.e., counters, shelving, vanities, cabinets).	N/A		
6.1.7	Fixed/wall mounted equipment (i.e., writing boards, tackboards, display boards, signs)	N/A		
6.1.8	Heating system.	N/A		
6.1.9	Ventilation system.	N/A		
6.1.10	Electrical, communication and data network systems.	N/A		
6.1.11	Health and safety concerns (i.e., fire and smoke alarms, fire protection systems, exiting, fire resistance rating of materials).	N/A		
6.1.12	Barrier-free access.	N/A		
	Overall Portable Buildings Condition & Estimated Costs			**$ -**

School Facility Evaluation Project

Part II - Physical Condition

School Frank Maddock High School
Date July 2000

Section 7	Space Adequacy	This Facility			Equiv. New Facility			Surplus/ Deficiency	Comments/Concerns
		No.	Size	Total Area	No.	Size	Total Area		
7.1	Classrooms	15	68 to 91	1089	12	80	960	129	Majority of classrooms are smaller(~70m2) than standard . Storage needed.
7.2	Science Rooms/Labs	1	88.2 88.5 91.7 41	309.4	4	120	480	-170.6	***Recently modernized.***
7.3	Ancillary Areas (i.e., Art, Computer Labs, Drama, Music,)	1 ea	88.9 91.1 202.3	382.3	2 3	130 90	530	-147.7	Rooms are too small, esp. computer room. No secure area for server.
7.4	Gymnasium (incl. gym storage and stage)		677 213 47.3	937.3	1 1	956 93	1049	-111.7	
7.5	Library/Resource Areas	1 1	254.6 154.4	409	1	359	359	50	Functionally inadequate, poor layout/space: too small for facility)
7.6	Administration/Staff, Physical Education, Storage Areas		259 158	417	1 1 1	467 168 145	780	-363	Small -cramped quarters (needs redesign & overall master plan). Lacks appropriate storage areas.
7.7	CTS Areas								
	7.7.1 Business Education	1	83	83	3	115	345	-262	Room size small, no secure area for server.
	7.7.2 Home Economics	1 1 1	132 97 89	318	1 1 1	160 100 160	420	-102	
	7.7.3 Industrial Arts	1 1 1	132 332 391	855	1 1 1	280 300 510	1090	-235	Need computer tech classroom
	7.7.4 Other CTS Programs	1	411	411	1	570	570	-159	
7.8	Other Non-Instructional Areas (i.e., circulation, wall area, crush space, wc area+ SGA)			2740.7	1 ea	1057 506 180 270	2013	727.7	No conference room, no infirmary,
	Overall Space Adequacy Assessment			7951.7			8596	-644.3	

Evaluation Component/ Sub-Component	Additional Notes and Comments
Wall Finishes	Regular painting of schools would enhance the appearance and reduce the maintenance (easier to clean/maintain). Facilities that look good and appear to be kept up (bright, clean appearance) help foster pride in school by students, parents and community, and generally result in less vandalism.