Alberta Infrastructure School Facilities Branch

School Facility Evaluation Project Part III - Space Adequacy

School: St. Francis Xavier Date: Nov. 25, 1999

School Name: St. Francis Xavier Catholic School

Location: 9250 163 Street

Edmonton, Alberta

Region: Central

Jurisdiction: Edmonton Catholic Regional School

Division No. 40

School Code: 8405

Facility Code: 2056

Superintendent: Dr. Dale W. Ripley

Contact Person: Mr. Garnet McKee

Telephone: 1-780-453-4500

Grades: 10 to 12 School Capacity: 1030

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	1958	One	2500.0	Wood frame walls and roof on cast-in- place concrete foundations. Exterior walls are finished with plaster / gypsum board on the interior and brick veneer on the exterior. Roofing is built-up asphalt and gravel on insulated wood deck. Underside of roof structure is finished with 12" x 12" ship-lap edge acoustic ceiling tiles.	There are 13 furnaces (3 per classroom/ limited fresh air/ poor condition). There is no humidification and no cooling. The boilers are original	The heating and ventilating systems are in poor condition and should be upgraded.
Additions/ Expansions	1963	One / Two	2860.9	Plexi-core panels supported on load- bearing concrete block and cast-in-place concrete foundations. Exterior walls are painted concrete block (interior) and brick veneer (exterior) cavity walls. Roofing is built-up asphalt and gravel. Ceilings in this section are either painted plaster / gypsum board or suspended tee-bar grid with lay-in acoustic tiles.		The heating and ventilating systems are in poor condition and should be upgraded.

Evaluator's Name: Merv Weiss & James Dykes

& Company: Kasian Kennedy

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Building Section	Year of Compl	No. of Floors	Gross Bldg Area (Sq.M.)	roof, cladding)	Description of Mechanical Systems (incl. major upgrades)	Comments/Notes
Additions/ Expansions (cont'd)	1968	One / Two	4152.4	Steel deck on open-web steel joists and steel beams on load-bearing concrete block on cast-in-place concrete foundations. Exterior walls are painted concrete block (interior) and brick veneer (exterior) cavity walls. Roofing is built-up asphalt and gravel. Ceilings in this section are either suspended gypsum board or suspended tee-bar grid with layin acoustic tiles.		The heating and ventilating systems are in poor condition and should be upgraded.
	1996	Two	691.6	Steel deck on open-web steel joists and steel beams supported by steel columns and load bearing masonry. There are no exterior walls to this area of the building. Perimeter walls are the old exterior walls of the school. Roofing is a sloped glazing system with aluminum frames. This section appears to have been a courtyard previously.		
Upgrading/ Modernization (identify whether minor or major)	1994			Central control desk added to Library. Library Offices converted to a Conference Room.		Major Upgrading
	1994			Industrial Arts area renovated. A portion of the space was converted into a computer area and C.T.S. lab.		Major Modernization
	1998			Industrial Arts construction and fabrication lab upgraded.		Major Upgrading

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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
Portable Struct. (identify whether attached/perman. or free-standing/ relocatable)			261.0	There are three portables at this school. Two of these are arranged as a pod and share a common foyer and washrooms. The Division identifies these units as Portable No. 79 and Portable No. 80. The third portable is a stand alone unit. The Division identifies this unit as Portable No. 188.		

List of Reports/ Supplementary Information	
	Leased out area = 0 Gross Capacity = 1030 - 45 for program exemptions = 985 Net Capacity Current Enrollment = 1048 or 106.4% of net capacity

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	Evaluation Components	Summary Assessment	Estim. Cost
1	Site Conditions	With the exception of the grassed area and retaining wall east of the building, site conditions are good. There are some deficiencies which are described later in the report.	\$142,500
2	Building Exterior	The building exterior is primarily brick veneer and is generally in good condition. There is a severe settlement problem at this school however, which will be detrimental to the exterior finishes of the building in the near future.	\$60,000
3	Building Interior	The building interior has some problems. There are many areas where floor finishes should be replaced as they have exceeded their life expectancy. Wall finishes are in good condition where the settlement problem mentioned previously has not caused them to crack and shift. Lay-in acoustic ceiling tiles should be replaced in many areas of the building because they are broken, stained, or have deteriorated to the point where they may fall out of the grid.	\$299,000
4	Mechanical Systems	Site drainage should be improved. The heating and ventilating systems are in poor condition and should be upgraded. There is no humidification and only limited cooling in this school. Plumbing in the labs should be corrected.	\$490,000
5	Electrical Systems	Many of the panels are full, antiquated and/or obsolete and should be replaced. Receptacles in the 1958 section are damage, circuits are overloaded and breakers are constantly tripping. A total lighting upgrade is required for this school.	\$378,500
6	Portable Buildings	All portables are in fairly good condition. The pod consisting of Portable No. 79 and Portable No. 80 should have its vinyl composite tile flooring replaced and should have its lay-in acoustic ceiling tiles replaced. Portable No. 188 has no notable deficiencies.	\$7,500
	Space Adequacy: 7.1 Classrooms	-178.7	
	7.2 Science Rooms/Labs	60	
	7.3 Ancillary Areas	52.6	
	7.4 Gymnasium	-590.8	
	7.5 Library/Resource Areas	-127.9	
	7.6 Administration/Staff Areas	674	
	7.7 CTS Areas	284.4	
	7.8 Other Non-Instructional Areas (incl. gross-up)	918.3	
	Overall Space Adequacy Assessment	1091.9 (Leased out area = 0)	
	Overall School Conditions & Estimated Costs		\$1,377,500

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Section 1	Site Conditions	Rating	Comments/Concerns	Estimated Cost
1.1	General Site Conditions			\$125,000
1.1.1	Overall site size.	4	The site is too small for a school of this size. Many activities are conducted off-site because the on-site facilities are inadequate.	
1.1.2	Outdoor athletic areas.	4	There is a football field and two soccer fields on site to the west of the school. There is also a baseball / fastball diamond on site to the west of the building. All are in good condition.	
1.1.3	Outdoor playground areas, including condition of equipment and base.	4	Acceptable	
1.1.4	Site landscaping.	3	Site landscaping is in fairly good condition with the exception of the lawn between the building and the east property line. This is in poor condition, probably due to the movement it is experiencing as the retaining wall at the east property line collapses.	\$5,000
1.1.5	Site accessories (i.e., perimeter and other fencing, guard rails, bike stands, flag poles).	2	Perimeter fencing is in good condition everywhere except along the east property line. At this location there is a steel post and rail fence on top of a brick veneered retaining wall. The retaining wall is leaning over the City Of Edmonton sidewalk along the entire length of the east property line and is failing structurally. Photo No. 10 and Photo No. 11 show the condition of the fence and retaining wall at this location. A handrail is missing at the north stairs on the east property line. This is shown in Photo No. 14.	\$95,000
1.1.6	Surface drainage conditions (i.e., drains away from building, signs of ponding).	3	Surface drainage conditions at the site are marginal. There is little or no positive slope away from the entire north side of the building. The existing conditions in this area are shown in Photo No. 15. The area east of the building is constantly shifting and changing the drainage flow as a result. Downspouts from the roof surface discharge into this grassed area causing an erosion problem. This condition is shown in Photo No. 9	
1.1.7	Evidence of sub-soil problems.	4	There is little evidence of sub-soil problems on the exterior of the building. The one exception to this is the pending collapse of the retaining wall at the east property line. With the amount of settlement happening inside the building, one would expect the grade beams to be spalling and the brick veneer to be cracking. There is only minor evidence of grade beam stress on the west side of the original (1958) section of the building as shown by Photo No. 24.	
1.1.8	Safety and security concerns due to site conditions.	2	The sidewalk along the north side of the building ices up badly. The condition of this sidewalk makes walking in this area treacherous. This walkway is situated between the parking lot and a primary building entrance and, as a result handles a lot of pedestrian traffic. Photo No. 16 shows the condition of the sidewalk in this area.	incuded in 1.1.6

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Section 1	Site Conditions	Rating	Comments/Concerns	Estimated Cost
Other				
1.2	Access/Drop-Off Areas/Roadways/Bus Lanes			\$0
1.2.1	Vehicular and pedestrian access points (i.e., size, number, visibility, safety).	4	There is only on on-site vehicular and pedestrian access point, that being the parking lot to the north of the building. This seems to function in an acceptable manner.	
1.2.2	Surfacing of on-site road network (note whether asphalt or gravel).	4	The on-site students and staff parking lot has an asphalt surface. The lot is served by two internal catch basins. The lot is accessible from 163 Street.	
1.2.3	Bus lanes/drop-off areas (note whether on-site or off-site).	4	There are no on-site bus lanes or bus passenger drop-off areas. The west curb of 163 Street is used for this purpose. There are no evident problems with this system.	
1.2.4	Fire vehicle access.	4	Fire vehicles can gain access to the entire perimeter of the building. The east elevation is accessible from 163 Street. The south elevation is accessible from the parking lot of the community swimming pool to the south. The north elevation is accessible from the staff and student parking lot to the north of the building. The west elevation is accessible from the vehicle service road which leads from the west end of the staff / student parking lot at the north end of the site.	
1.2.5	Signage.	4	There is building identification signage at both the east entrance to the 1963 section of the building and at the north east entrance to the 1968 section of the building. Both signs are visible to traffic on 163 Street.	

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Other				

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Section 1	Site Conditions	Rating	Comments/Concerns	Estimated Cost	
1.3	Parking Lots and Sidewalks			\$17,500	
1.3.1	Number of parking spaces for staff, students and visitors (including stalls for disabled persons).	4	There are approximately 70 on-site parking stalls for staff and students north of the school building. There is one designated parking stall for disabled persons in this lot.		
1.3.2	Layout and safety of parking lots.	4	There are no layout or safety concerns with the on-site parking lot.		
1.3.3	Surfacing and drainage of parking lots (note whether asphalt or gravel).	4	The on-site parking lot has an asphalt surface. There are no surface drainage concerns.		
1.3.4	Layout and safety of sidewalks.	3	The layout of sidewalks on the site is acceptable. Sidewalks to the east of the building are in poor condition and should be replaced along with the retaining wall. The sidewalk north of the building is cracked and broken and should be replaced.	\$10,000	
1.3.5	Surfacing and drainage of sidewalks (note type of material).	3	Sidewalks on the site have good drainage with the exception of the walk north of the building. The site should be re-graded in this area and the sidewalk re-constructed.	\$7,500	
1.3.6	Curb cuts and ramps for barrier free access.	4	There is a curb cut at the parking stall for disabled persons at the north east corner of the building. This entrance and the entrance west of the gymnasium are wheelchair accessible.		
Other					
	Overall Site Conditions & Estimated Costs		With the exception of the grassed area and retaining wall east of the building, site conditions are good. There are some deficiencies which are described later in the report.	\$142,500	

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Section 2	Building Exterior	Rating	Rating		Comments/Concerns	Estimated Cost	
2.1	Overall Structure		Building Section	Description/Condition	\$42,500.00		
2.1.1	1 Floor structure and beams (i.e., signs of bending, cracking, heaving, settlement, voids, rust, stains).		2	1958	The exterior walls of all classrooms in the original (1958) section of the building have settled. Classroom floors slope down anywhere from 4 to 8 inches across their width in this section of the building. Photos 18, 19, and 20 attempt to show this condition.	\$25,000.00	
			1963	The exterior walls on the south and west sides of the 1963 section of the building have settled. The problem is not quite as severe as it is in the 1958 section but, there is a major problem here just the same. Photos 28, 29, 30, and 31 show this condition.	\$15,000.00		
2.1.2	Wall structure and columns (i.e., signs of bending, cracking, settlement, voids, rust, stains).	4	All	There are numerous locations where the settlement described in section 2.1.1 has caused wall finishes to crack or buckle. There is no evidence that the structural integrity of the walls has been compromised.			
2.1.3	Roof structure (i.e., signs of bending, cracking, voids, rust, stains).	4	All	No problems to report.			
Other		3	1963 & 1968	There is an expansion joint in the floor between the 1963 and 1968 sections of the building. The expansion joint has not been continued into the wall and ceiling finishes at this location and these have cracked. Photo No. 84 shows how the concrete block wall on the west side of the corridor has cracked.	\$2,500.00		

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Section 2	Building Exterior F		Building Exterior Rating		Rating Comments/Concerns		Estimated 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.		Building. Section or Roof <u>Section</u>	<u>Description/Condition/Age</u>	\$4,500.00		
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).	2	All	All roof surfaces are asphalt overlaid with concret masonry pavers. There is a great deal of vegetation establishing itself in the cracks between the pavers. The entire roof area should be treated with a herbicide in order to arrest this condition. Photo No. 71 shows an example of the roof surface.	\$3,500.00		
2.2.2	Roof accessories (i.e., ladders, stairs, hatches, masts, exhaust hoods, chimneys, gutters, downspouts, splashpads).	3	All	Roof accessories appear to be in acceptable condition. An internal access to the roof surfaces should be provided.	\$1,000.00		
2.2.3	Control of ice and snow falling from roof.	4	All	No areas of concern. Drainage from the 1958 section of the building is via external downspouts from the overhangs. Drainage from other sections of the building is internal.			
2.2.4	Skylights (i.e., signs of distress, leaks, ice build-up, condensation, deteriorated materials/seals).	5	1996	The 1996 section of the building has a sloped glazing system roof. There is no evidence of problems with this roof.			
Other							

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Section 2	Building Exterior	Rating		Comments/Concerns		
2.3	3 Exterior Walls/Building Envelope	Exterior Walls/Building Envelope	Exterior Walls/Building Envelope	Building Section	<u>Description/Condition</u>	\$500.00
2.3.1	Exterior wall finishes (i.e., signs of deterioration, cracks, brick spalling, effluorescence, water stains).	4	All	No problems to report.		
2.3.2	Fascias, soffits, parapets (i.e., signs of looseness, stains, rust, peeling paint).	4	All	No problems to report.		
2.3.3	Building envelope (i.e., evidence of air infiltration/ exfiltration through the exterior wall or ice build up on wall, eaves, canopy).	4	All	No problems to report.		
2.3.4	Interface of roof drainage and ground drainage systems.	3	1958	Downspouts on the east side of the 1958 section of the building discharge into the grassed area between the building and the retaining wall at the east property line. Splashpads should be added at the base of all such downspouts in order to control the erosion of the soil.	\$500.00	
2.3.5	Inside faces of exterior walls (i.e., signs of cracks, water stains, dust spots).	4	1963 & 1968	There are areas where movement has caused some cracking where interior walls meet exterior walls. This is mainly evident at the 1963 and 1968 sections where these walls are concrete block. Photo No. 83 shows an example.		

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ection 2	Building Exterior			Comments/Concerns	Estimated Cost		
2.4	Exterior Doors and Windows	xterior Doors and Windows	Exterior Doors and Windows		Building Section	<u>Description/Condition</u>	\$12,500.00
2.4.1	Doors (i.e., signs of deterioration, rusting metal, glass cracks, peeling paint, damaged seals, sealed unit failure).	4	All	Routine general maintenance (painting) of exterior wood doors is required. All are in sound condition but, require re-finishing.			
2.4.2	Door accessories (i.e., latches, hardware, screens, locks, alarms, holders, closers, security devices).	4	All	No problems to report.			
2.4.3	Exit door hardware (i.e., safety and/or code concerns).	4	All	No problems to report.			
2.4.4	Windows (i.e., signs of deterioration, rusting metal, glass cracks, peeling paint, damaged seals, sealed unit failure).	3	All	Seals to 90 per cent of the operable window sections in the building are in poor condition and should be replaced. At least a dozen operable window sections have damaged sash and should be replaced. Photo No. 57 shows an example of damaged sash. Windows in the west wall of the 1958 section of the building are very difficult to operate due to the settlement. These windows will soon be completely inoperable.	\$7,500.00		
2.4.5	Window accessories (i.e., latches, hardware, screens, locks, alarms, holders, closers, security devices).	3	All	Window latches require adjustment throughout the school. Most are intact but are worn. About 20 per cent of the between-glass venetian blinds no longer function.	\$5,000.00		
2.4.6	Building envelope (i.e., signs of heavy condensation on doors or windows).	4	All	No problems to report.			
Other							
	Overall Building Exterior Condition & Estimated Costs			The building exterior is primarily brick veneer and is generally in good condition. There is a severe settlement problem at this school however, which will be detrimental to the exterior finishes of the building in the near future.	\$60,000.00		

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Section 3	Building Interior - Overall Conditions Interior Structure	Rating	Comments/Concerns		Estimated Cost
3.1			Building Section	Description/Condition	\$50,000
3.1.1	Interior walls and partitions (i.e., signs of cracks, spalling, paint peeling).	4	1958	Interior walls and partitions in the 1958 section of the building are painted plaster / gypsum board. Other than some minor cracking, these are in good condition.	
3.1.2	Floors (i.e., signs of cracks, heaving, settlement).	3	All	Interior walls and partitions in the 1963, 1968, and 1996 sections of the building are painted concrete block or glazed concrete block. Other than some minor cracking, these are in good condition.	
			1963 & 1968	There are some locations where the grade supported slab has cracked. This is particularly noticeable at washrooms which have an epoxy floor finish where the cracking has telegraphed into the finish.	\$50,000
Other					
3.2	Materials and Finishes		Building Section	Description/Condition	\$101,000
3.2.1	Floor materials and finishes.	3	1968	Epoxy floor finishes in the locker rooms and washrooms at the gymnasium should be overlaid with a similar finish. Photo No. 47 shows the damaged finish in this area.	\$40,000
			1963	The hardwood stage floor should be re-finished. Photo No. 51 shows its existing condition.	\$1,000
			All	Many classrooms, service rooms, and storage rooms have a vinyl asbestos tile floor finish. This type of tile should be replaced throughout the building.	
			1958 & 1963	Floor surfaces throughout the 1958 and 1963 sections of the building are uneven to the point where they will cause excessive wear to the sheet flooring finsih applied to them. Photos 21 and 32 show examples of this.	\$10,250
			1963	The carpet finish in the auditorium is worn and should be replaced. Photo No. 27 shows the existing carpet.	\$8,500
			1968	Tile floor finishes in the corridor south of the locker rooms (at the gymnasium) are broken and need to be replaced. Photo No. 45 shows the tiles at the entrance to the fitness room.	\$6,250
			1958	Sheet flooring in the washrooms in the original (1958) section of the building is broken and needs to be replaced. Photo No. 72 shows an example of the existing condition.	\$2,500

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	Building Interior - Overall Conditions Materials and Finishes (cont'd)	Rating		Comments/Concerns	
3.2			Building Section	<u>Description/Condition</u>	
3.2.2	Wall materials and finishes.	4	1958	Interior walls of the original (1958) section of the building are primarily painted plaster / gypsum board. Some have cracked due to the settlement problems this section is experiencing. Defects of this nature are being repaired on an ongoing basis and as a result there were no major deficiencies noted at the time of the inspection.	
			1963 & 1968	Interior walls in the 1963 and 1968 sections of the building are primarily painted concrete block. Vestibules and corridors in this section have a factory glazed block. Many of these are damaged but were being repaired and painted at the time of the inspection. Photo No.28 shows the condition of the glazed block prior to painting. These surfaces are all being brought up to "like new" condition as they are painted.	
3.2.3	Ceiling materials and finishes.	3	All	Ceilings in classrooms, ancilliary rooms and corridors are generally suspended tee-bar grid with lay-in acoustic tiles. Tiles in most corridors are discolored and broken and should be replaced throughout. Most classrooms have at least a couple of broken tiles. It is estimated that 15 per cent of the acoustic tile in the building should be replaced.	\$22,500
3.2.4	Interior doors and hardware.	4	All	No problems to report.	
3.2.5	Millwork	4	All	No problems to report.	
,	Fixed/wall mounted equipment (i.e., writing boards, tackboards, display boards, signs).	4	All	No problems to report.	
	Any other fixed/mounted specialty items (i.e., CTS equipment, gymnasium equipment).	4	All	No problems to report.	
3.2.8	Washroom materials and finishes.	3	1958	Washrooms in the 1958 section of the building have a combination of ceramic tile and sheet flooring. The sheet flooring needs to be replaced as it is not an appropriate finish. Metal toilet partitions should be repaired and re-finished.	\$10,00
Other					

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Section 3	Building Interior - Overall Conditions	Rating		Comments/Concerns	Estimated 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 upto-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	<u>Description/Condition</u>	\$148,000
3.3.1	Building construction type - combustible or non-combustible, sprinklered or non-sprinklered.	4	1958 &1963	The 1958 and 1963 sections of the building are of combustible construction. They are not sprinklered. They should be sprinklered to conform to current codes.	
3.3.2	Fire separations (i.e., between buildings, wings, zones if non-sprinklered).	4	1968	The 1968 sections of the building are of non-combustible construction. They are not sprinklered.	
3.3.3	Fire resistance rating of materials (i.e., corridor walls and doors).	4	All	Each section (construction phase) of the building is separated from adjacent sections by a glazed fire separation which bears no fire-resistance rating. These assemblies have wired glass sidelites and transoms. These assemblies have solid core wood doors with closers. The assemblies are framed with pressed steel sections.	
3.3.4	Exiting distances and access to exits.	3	All	Classrooms and ancilliary rooms are not separated from corridors by fire- separations. The walls surrounding these rooms extend to the underside of the roof structure for acoustical control. Doors and frames within these walls however, bear no fire-resistance label and, are not fitted with closers.	\$6,000
3.3.5	Barrier-free access.	4	All	Appears to conform to code.	
3.3.6	Availability of hazardous materials audit (i.e., evidence of safety concerns with respect to asbestos, PCB's, chemicals).	3	All	Barrier free access to the building is not available from 163 Street. The south entry of the 1958 section of the building as well as the south entry of the 1963 section of the building are grade level accesses however, disabled persons would have to cross a grass field to get to these doors. Barrier free access to the building is available from the parking lot north of the building via two entrances - the east entrance at the north end of the 1968 section of the building and the north entrance of the 1968 section of the building west of the gymnasium. Barrier free access is available to the sunken cafeteria area. Barrier free access is not available to the second floor areas of the building.	\$42,000

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Section 3	Building Interior - Overall Conditions	Rating		Comments/Concerns	Estimated 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 upto-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	
3.3.7	Other health and safety concerns (i.e., evidence of excessive noise conditions, air quality problems)	3	All	There were no hazardous materials audits available at the time of the inspection. The old 9"x9" floor tile used in various sections of the building is the original floor tile and as such would be vinyl asbestos tile. This tile should be removed.	\$100,000
Other					
	Overall Building Interior Condition & Estimated Costs			The building interior has some problems. There are many areas where floor finishes should be replaced as they have exceeded their life expectancy. Wall finishes are in good condition where the settlement problem has not caused them to crack and shift. Lay-in acoustic ceiling tiles should be replaced in many areas of the building because they are broken, stained, or have deteriorated to the point where they may fall out of the grid.	\$299,000

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Section 4	Mechanical Systems Mechanical Site Services	Rating		Comments/Concerns	
4.1			Building Section	Description/Condition	\$20,000
4.1.1	Site drainage systems (i.e., surface and underground systems, catch basins).	2		Site drainage should be improved to prevent ice build-up in parking lot and on walkway to portable buildings.	\$20,000
4.1.2	Exterior plumbing systems (i.e., irrigation systems, hose bibs).	4		Hose bibbs (total of 10) in good condition	
4.1.3	Outside storage tanks.	N/A			
Other		N/A			
4.2	Fire Suppression Systems		Building Section	Description/Condition	\$(
4.2.1	Fire hydrants and siamese connections.	N/A	1958 1963 1968		
4.2.2	Fire suppression systems (i.e., pumps, sprinklers, piping, reservoirs, hoses, stand pipes, CO2 systems).	4	1958	N/A except one hose cabinet added in 1996	
			1963	N/A	
			1968	Hose cabinets in good condition.	
4.2.3	Hand extinguishers, blankets and showers (i.e., in CTS areas).	4	1958 1963 1968	All fire extinguishers in good condition; serviced annually.	
4.2.4	Other special situations (e.g., flammable storage areas, science labs, CTS areas).	N/A			

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Section 4	Mechanical Systems	Rating	Comments/Concerns	Estimated Cost
Other		4	Sprinklers added to Library in 1996 renovation.	

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Section 4	Mechanical Systems Water Supply and Plumbing Systems	Rating		Comments/Concerns	Estimated Cost \$6,000
4.3			Building Section	Description/Condition	
4.3.1	Domestic water supply (i.e., pressure, volume, quality - note whether municipal or well supply).	4	1958	3" Municipal water complete with backflow/no insulation	
			1963	Extended from 1958 addition.	
			1968	Extended from 1958 addition.	
4.3.2	Water treatment system(s).	N/A	1958 1963 1968		
4.3.3	Pumps and valves (including backflow prevention valves).	3	1958	Backflow preventer on water service	
			1963	No vacuum breakers on lab faucets	\$1,000
			1968	N/A	
4.3.4	Piping and fittings.	4	All	Reported pipe freeze-ups in numerous areas; piping and fittings generally look good.	
4.3.5	Plumbing fixtures (i.e., toilets, urinals, sinks)	4	1958	Fixtures are in poor condition but are working.	
			1963	Some fixtures replaced, but working.	
			1968	Some fixtures replaced, but working.	
4.3.6	Domestic hot water system (i.e., heater, storage tanks, failure alarms, pressure, volume, recirculation).	4	1958	water extended from 1963 addition.	
			1963	One new heater, Super Hot #82CG State #SBT-75-140 Heaters appear to be working okay	
			1968	N/A - water extended from 1963 addition.	
4.3.7	Sanitary and storm sewers, including sumps and pits (note whether sewage system is municipal or septic).	3	1958	Minimal problems.	
			1963	Plumbing serving labs plug regularly and should be corrected.	\$5,000
			1968	Minimal problems.	
	-			4	·

Alberta Infrastructure School Facilities Branch

School Facility Evaluation Project Part III - Space Adequacy

School: St. Francis Xavier Date: Nov. 25, 1999

Section 4	Mechanical Systems	Rating	Comments/Concerns	Estimated Cost
Other				

School: St.	Francis	Xavier
Date	: Nov. 2	5. 1999

Section 4	Mechanical Systems	Rating Comments/Concerns		Estimated Cost	
4.4	Heating Systems		Building Section	Description/Condition	\$124,000
	Heating capacity and reliability (including backup capacity).	2	1958	13 furnaces; 3 per classroom/ limited fresh air/ poor condition.	\$78,000
			1963	No reported problems; orignal boilers.	
			1968	No reported problems - extended from 1963 addition.	
4.4.2	Heating controls (including use of current energy management technology.	4	1958	Poor temperature control - 3 rooms per furnace.	
			1963	Original boiler control, updated with DDC.	
			1968	Original controls updated with DDC.	
	Fresh air for combustion and condition of the combustion chimney.	3	1958	Limited fresh air/no equipment room relief.	\$5,00
			1963	Combustion air okay; no boiler room relief.	\$1,00
			1968	N/A	
	Treatment of water used in heating systems.	4	1958	N/A	
			1963	Dearborn - no problems reported.	
			1968	N/A	
	Low water cutoff/pressure relief valves and failure alarms (i.e., hot water heating).	4	1958	N/A	
			1963	No problems reported.	
			1968	N/A	
4.4.6	Heating air filtration systems and filters.	4	1958	1" - 15% or less efficient - disposable; changed regularly.	
			1963	1" - 15% or less efficient - disposable; changed regularly.	
			1968	1" - 15% or less efficient - disposable; changed regularly.	
4.4.7	Heating humidification systems and components.	1	All	No humidification	\$40,000

School: St.	Francis	Xavier
Date	: Nov. 2	5. 1999

Section 4	Mechanical Systems Heating Systems (cont'd)	Rating	Rating Comments/Concerns		Estimated Cost
4.4			Building Section	<u>Description/Condition</u>	
4.4.8	Heating distribution systems (i.e., piping, ductwork) and associated components (i.e., diffusers, radiators).	4	1958	Underfloor ductwork - no means to balance	
			1963	Hydronic heat okay - no problems reported	
			1968	Hydronic heat okay - no problems reported	
4.4.9	Heating piping, valve and/or duct insulation.	4	1958	Fresh air plenum only insulated - poor condition	
			1963	Some insulation msising from heating piping - otherwise okay.	
			1968	Some insulation msising from heating piping - otherwise okay.	
4.4.10	Heat exchangers.	3	1958	Furnace heat exchangers in poor condition.	Refer to 4.4.
			1963 1968	N/A	
4.4.11	Heating mixing boxes, dampers and linkages.	2	1958	Fixed fresh air.	Refer to 4.4.
			1963	Herman Nelson units - poor control - goes off on freeze protecion.	
			1968	Serpate air system - good condition.	
4.4.12	Heating distribution/circulation in larger spaces (i.e., user comfort, temperature of outside wall surfaces).	2	1958	Very poor comfort	Refer to 4.4.
			1963	Marginal comfort	
			1968	Good comfort	
4.4.13	Zone/unit heaters and controls.	4	1958	N/A	
			1963	No reported problems - looks okay	
			1968	No reported problems - looks okay	
Other					

School: St. Francis Xavier Date: Nov. 25, 1999

Section 4	Mechanical Systems Ventilation Systems	echanical Systems Ratin	Rating	Rating Comments/Concerns		Estimated Cost	
4.5			Building Section	<u>Description/Condition</u>	\$340,000		
4.5.1	Air handling units capacity and condition.	2	1958	Furnaces serve classrooms/Drama room has separate unit. System is inadequate and should be upgraded.	\$340,000		
			1963	Herman Neilson units in classrooms and library	Refer to 4.5.1		
			1968	Cafeteria unit/gym unit/industrial arts/central unit for classrooms - acceptable			
4.5.2	Outside air for the occupant load (if possible, reference CFM/occupant).	3	1958	Fixed - likely insufficient	Refer to 4.5.1		
			1963	Herman Nelson unit okay			
			1968	Air systems with free cooling (100% O/A) capability - acceptable			
4.5.3	Air distribution system (if possible, reference number of air changes/hour).	2	1958	One furnace/3 classrooms inadequate	Refer to 4.5.1		
			1963	Questionable air changes	Refer to 4.5.1		
			1968	Central air system - no complaints - acceptable			
4.5.4	Exhaust systems capacity and condition.	3	1958	Washrooms are smelly	Refer to 4.5.1		
			1963 1968	Seems okay			
4.5.5	Separation of out flow from air intakes.	4	1958 1963 1968	Okay			
4.5.6	Special/dedicated ventilation and/or exhaust systems (i.e., kitchen, labs, CTS areas).	4	1968	Cafeteria /Industrial Arts/Gym/Drama all have dedicated units			

School: St. Francis Xavier	
Date: Nov. 25, 1999	

Section 4	Mechanical Systems	Rating	Rating Comments/Concerns		Estimated Cost
Other					
4.5	Ventilation Systems (cont'd)		Building 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).	4	All	DDC update and operating well.	
4.5.8	Air filtration systems and filters.	N/A			
4.5.9	Humidification system and components.	1			Refer to 4.4.
4.5.10	Heat exchangers.	N/A			
4.5.11	Ventilation distribution system and components (i.e., ductwork, diffusers, mixing boxes, dampers, linkages).	2			Refer to 4.5.
Other					

School: St.	Franc	is X	avier	
Date	· Nov	25	1999	

Section 4	Mechanical Systems Cooling Systems	chanical Systems Ratir		Rating Comments/Concerns		
4.6			Building Section	<u>Description/Condition</u>	\$0	
4.6.1	Cooling system capacity and condition (i.e., chillers, cooling towers, condensers).	2		Cafeteria system only - added in 1996 - unit reported to be under capactiy.	Refer to 4.5.1	
4.6.2	Cooling distribution system and components (i.e., ductwork, diffusers, mixing boxes, dampers, linkages)	4	1963	Cafeteria air system only - added in 1996		
4.6.3	Cooling system controls (including use of current energy management technology).	4		Cafeteria unit		
4.6.4	Special/dedicated cooling systems (i.e., labs, CTS areas).	4		Cafeteria unit		
Other						
4.7	Building Control Systems		Building Section	Description/Condition	\$0	
4.7.1	Building wide/system wide control systems and/or energy management systems.	4	All	Control system serving school was updated to a DDC system.		
	Overall Mechanical Systems Condition & Estimated Costs			The heating and ventilating systems are in poor condition and should be upgraded. There is no humidification and limited cooling in this school.	\$490,000	

School: St.	Francis Xavier
Date	Nov 25 1999

Section 5	Electrical Systems 1 Site Services	Rating	Rating Comments/Concerns			
5.1			Building Section	Description/Condition	\$	
5.1.1	Primary service capacity and reliability (i.e., access, location, components, installation, bus sizes - note whether overhead or underground).	4		1200 amp, 120/208V, 3 phase, 4 wire as manufactured by Westinghouse Located in electrical room, north side Underground services Vintage 1969 See Comments (Part 8)		
5.1.2	Site and building exterior lighting (i.e., safety concerns).	4		Adequate, no concerns		
5.1.3	Vehicle plug-ins (i.e., number, capacity, condition).	4		31 plug-ins complete with exterior panel 1 damaged post Time clock control		
Other						
5.2	Life Safety Systems		Building Section	Description/Condition	\$12,500	
5.2.1	Fire and smoke alarm systems (i.e., safety concerns, up-to-date technology, regularly tested).	4	1996	26 zones, one spare, as manufactured by Simplex 2001 "hardwire" Located in 1996 addition Bells with visual only in the 1996 portion office area Verified August, 1999		
5.2.2	Emergency lighting systems (i.e., safety concerns, condition).	4	1958 1963 1968	Added new battery pack down hallways; fed from surface mounted receptacle.		
5.2.3	Exit lighting and signage (i.e., safety concerns, condition).	3	1958 1963 1968	Old incandescent exit lights No power source	\$12,500	

Alberta Infrastructure School Facilities Branch

School Facility Evaluation Project Part III - Space Adequacy

School: St. Francis Xavier Date: Nov. 25, 1999

Section 5	Electrical Systems	Rating	Comments/Concerns	Estimated Cost
Other				

School: St. Francis Xavier	
Date: Nov. 25, 1999	

Section 5	Electrical Systems	Rating	Comments/Concerns					
5.3	Power Supply and Distribution		Building Section	Description/Condition	\$101,000			
5.3.1	Power service surge protection.	3		Not present.				
5.3.2	Panels and wireways capacity and condition.	3	1958	Panel full, antiguated/obsolete	\$6,000			
			1963 & 1968	Panel full, obsolete				
			1996	Panel full, obsolete New CDP as manufactured by Siemens				
5.3.3	Emergency generator capacity and condition and/or UPS (if applicable).	N/A						
5.3.4	General wiring devices and methods.	3	1958	Receptacles are damaged, 2 or 3 receptacles per classroom; circuits are overloaded; breakers are tripping.	\$95,000			
			1963 & 1968	Other areas are adequate.				
5.3.5	Motor controls.	4	1958 1963 1968	Local starters as manufactured by Westinghouse and GE, adequate.				
Other								

School: St.	Francis	Xavier
Date	: Nov. 2	5. 1999

Section 5	Electrical Systems	Rating	Comments/Concerns					
5.4	Lighting Systems		Building Section	Description/Condition	\$265,000			
	Interior lighting systems and components (i.e., illumination levels, conditions, controls).	4		The only area that does not meet the light level for Alberta infrastructure guidelines is the gym. Refer to "Comments".				
5.4.2	Replacement of ballasts (i.e., health and safety concerns).	4		Ballasts are being replaced with Mark III Philip; refer to Comments.				
5.4.3	Implementation of energy efficiency measures and recommendations.	3	In conversation with the staff, this school is planning to have a total lighting upgrade. The majority of light fixture lens have been removed, which has increased lighting levels.		\$265,000			
Other								
	Network and Communication Systems		Building Section	Description/Condition	\$0			
5.5.1	Telephone system and components (i.e., capacity, reliability, condition).	5		Nutec plan/Nitsuko America system new Installed in 1996 Located in Art room.				
	Other communication systems (i.e., public address, intercom, CCTV, satellite or cable TV).	4		CCTV cameras in parking lot Public address system upgrade in 1996 as manufactured by Petcom Cable TV, videotron at all televisions in classrooms				
5.5.3	Network cabling (if available, should be category 5 or better).	4		Total school is networked, 3 main services; 1 admin, 2 education Cat.5 cabling Three main switches are located in computer lab 133; all hubs are tied to here.				
5.5.4	Network cabling installation (i.e., in conduit, secured to walls or tables).	4		In conduit and cable management secured to walls Hubs and switches are wall mounted, close to the ceiling Cabling for desk on labs is secured to desks				
5.5.5	Wiring and telecommunication closets (i.e., size, security, ventilation/cooling, capacity for growth).	4		Surface wall mounted hubs in computer labs in telecom room No ventilation in telephone room off of art room.				
	Provision for dedicated circuits for network equipment (i.e., hubs, switches, computers).	4	Separate power panel for Library only Computer lab approximately 5 circuits per, shared from other panels Separate circuit for hubs and switches					
Other								

School: St. Francis Xavier	
Date: Nov. 25, 1999	

Section 5	Electrical Systems	Rating	Comments/Concerns						
5.6	Miscellaneous Systems		Building Section	<u>Description/Condition</u>	\$0				
5.6.1	Site and building surveillance system (if applicable).	4		3 cameras; 2 in staff parking lot; 1 in student parking lot					
5.6.2	Intrusion alarms (if applicable).	4		Yes, Telsco					
5.6.3	Master clock system (if applicable).	4 N/A Digital clock in 1996 renovation 120V plug type everywhere else							
Other									
5.7	Elevators/Disabled Lifts (If applicable)		Building Section	Description/Condition	\$0				
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			Many of the panels are full, antiquated and/or obsolete and should be replaced. Receptacles in the 1958 section are damage, circuits are overloaded and breakers are constantly tripping. A total lighting upgrade is required for this school.	\$378,500				

School: St. Francis Xavier
Date: Nov. 25, 1999

Section 6	Portable Buildings	Rating	Comments/Concerns	Estimated Cost
	Note: Separate sheets can be completed, if necessary, for portable buildings of different ages and/or conditions.			
6.1.1	Foundation and structure (i.e., signs of bending, cracking, settlement, rust, voids, stains).	4	No problems to report.	
6.1.2	Roof materials and components (i.e., signs of deterioration, leaks, ice build-up).	4	No problems to report.	
6.1.3	Exterior wall finishes (i.e., signs of deterioration, cracks, water stains).	4	No problems to report.	
6.1.4	Doors and windows (i.e., signs of deterioration, rusting hardware, glass cracks, peeling paint, damaged seals).	4	No problems to report.	
6.1.5	Interior finishes (i.e., floors, walls, ceiling).	3	Floor finishes in the common area (including the washrooms) between Portable No. 79 and Portable No. 80 should be replaced. Tiles are lifting and are broken.	\$1,500
6.1.6	Millwork (i.e., counters, shelving, vanities, cabinets).	4	No problems to report.	
6.1.7	Fixed/wall mounted equipment (i.e., writing boards, tackboards, display boards, signs)	4	No problems to report.	
6.1.8	Heating system.	4	New furnaces - Weather Maker 8000, Model 58 WAV091-14	
6.1.9	Ventilation system.	4	Fresh air to furnaces	
6.1.10	Electrical, communication and data network systems.	3	No fire alarm; no exits; no emergency lighting	\$3,000
6.1.11	Health and safety concerns (i.e., fire and smoke alarms, fire protection systems, exiting, fire resistance rating of materials).	4	Fire extinguishers	
6.1.12	Barrier-free access.	3	There is no barrier free access to any of the three portables.	\$3,000
	Overall Portable Buildings Condition & Estimated Costs		All portables are in fairly good condition.	\$7,500

School: St.	Franc	is >	(avier
Date	· Nov	25	1999

Section 7	Space Adequacy	This Facility			Equiv. New Facility			Surplus/	Comments/Concerns	
		No.	Size	Total	No.	Size	Total	Deficiency		
				Area			Area			
7.1	Classrooms			1901.3	26	80	2080	-178.7	Gross Capacity = 1030 - 45 for program exemptions = 985 Net Capacity	
		10	68.4						Current Enrollment = 1048 or 106.4% of net	
		2	68.7							
		2	70							
		4	78.5							
		1	78.1							
		1	79.6							
		1	77.8							
		1	48.5							
		1	55.7							
		1	64.2							
	Portables	3	74							
7.2	Science Rooms/Labs			660	5	120	600	60		
		2	97.2							
		4	68.7							
		2	95.4							
7.3	Ancillary Areas (i.e., Art, Computer Labs, Drama, Music,)			672.6			620	52.6		
	Art	1	113.3		2	130				
	Auditorium	1	161.6		4	90				
		1	118.4							
	Stage	1	60.6							
	Computer	1	113.7							
	Computer	1	105							
7.4	Gymnasium (incl. gym storage)			834.2			1425	-590.8	The new cafeteria/multipurpose room (formerly an outdoor courtyard) serves as a major public gathering space.	
7.5	Library/Resource Areas			382.1			510	-127.9		
		1	118.9							
		1	105.3							
		1	157.9							

School: St. Francis Xavier
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		No.	Size	Total Area	No.	Size	Total Area	Deficiency	
	Administration/Staff, Physical Education, Storage Areas			1864			1190	674	
7.7	CTS Areas			744.4			460	284.4	
	7.7.1 Business Education	1	70		4	115			
	7.7.2 Home Economics	1	224.4						
	7.7.3 Industrial Arts	1	450						
	7.7.4 Other CTS Programs								
	Other Non-Instructional Areas (i.e., circulation, wall area, crush space, wc area)			3407.3			2489	918.3	
	Overall Space Adequacy Assessment			10465.9			9374	1091.9	Leased out area = 0

School: St. Francis Xavier
Date: Nov. 25, 1999

Additional Notes and Comments
Conversation with the staff, this school is going to have a total lighting upgrade. A majority of light fixture lens have been removed, which has increased lighting levels.
Mechanical equipment located on roof requires regular maintenance - no provisions for perimeter roof access exists.
In conversation with EPCOR, the existing power demand is 768 amp which represents approximately 65% of the service being used.