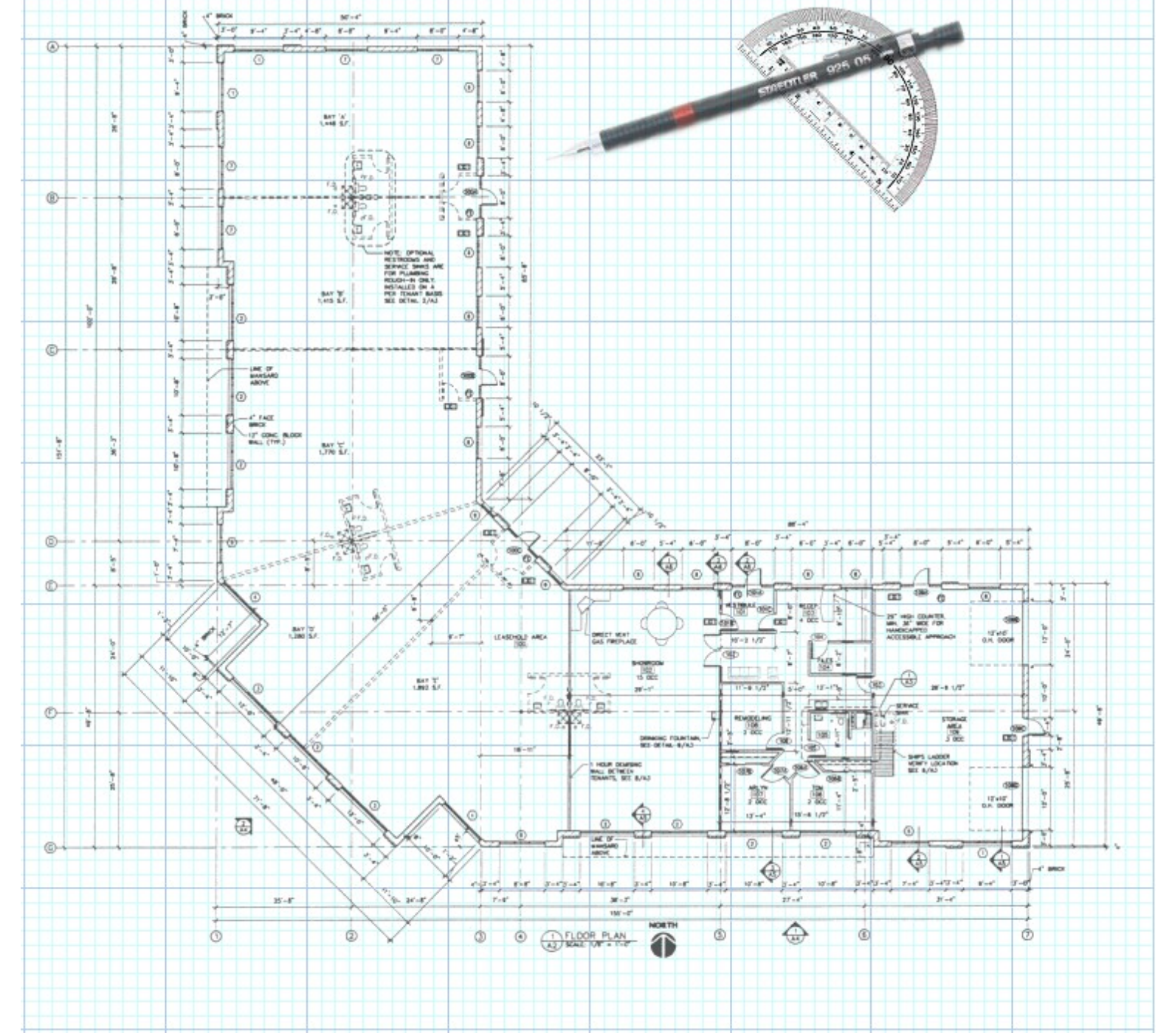
Facility Audit Report

Connaught



Facility Audit report for: Connaught
Regina, SK
Report Created: 2012-04-02

Facility Details

Facility Connaught
Address:
Location: Regina, SK
Facility Zone: 8
Grade Configuration: Elementary Schools
FacilityCode: CONN

Date Built: 1912-03-31
Construction Type:
Replacement Cost: $11,476,200
FCI:

Contact Name: Bernadette Leblanc-Fortier
Contact Phone: 306-791-8620
Contact Email: bernadette.leblancfortier@rbe.sk.ca

Audit Details

Audit ID: 68 (click here for full Audit Information)
Audit Date: 2006-07-04
Date Completed:
Status: Pending
WorkOrder #:
Overall Rating: 4.1
Evaluator:
Service Provider:

Summary:

Connaught Audit

The structural Facility Audit of Connaught School was conducted in April and May, 2010 by Holly Sawka and Nathan Campbell, J.C. Kenyon Engineering Inc.

Notes

2010-06-08 15:38:05 Jim Kenyon Last Edited By: jkenyon@jckenyon.com 2010-06-09 10:04:17

Our review of the Connaught School building has been based on site observations as well as drawings obtained from the City of Regina archives and renovation drawings dated 1978 provided to us by Regina Public Schools.

Connaught School was constructed in the 1920's and in the 1970's extensive renovation work was done to the building. The building is a brick, two storey structure. Most of the walls, ceilings, and floors of this building are covered in architectural finishes. The basement of this building consists of a slab on grade in the boiler and machinery room which sits approximately 3 to 4 feet below grade, and then an asphalt floor in the rest of the basement. The floors above the basement, the ground floor, first floor, and roof support slab, all consist of structural slabs spanning between reinforced concrete beams. The concrete beams are then supported by the exterior brick walls or by interior concrete columns. The exterior walls of this building consist of brick which sits directly on a foundation of spread footings located approximately 7 feet below ground level. Square footings are under the interior columns. The Interior load bearing walls consist of brick, while the non-load bearing partition walls are made up of hollow tile.

The roof of this building consists of wood decking spanning between wood roof joists. The joists sit on a wood top plate that is supported by posts spaced at approximately 2 feet on centre. The posts, which are a maximum height of 5 feet at the centre of the roof space, sit on a wood bottom plate which sits on the concrete roof support slab.

In the 1960's, a round auditorium designed by Clifford Wiens Architect was added to the school. The auditorium consists of a reinforced concrete slab on grade and concrete reinforced walls with a brick finish. The roof is dome shaped and consists of reinforced concrete. The foundation of the gymnasium is a grade beam and pile system.

From our assessment of the school it was concluded that this building has experienced and continues to experience extensive foundation movement. Another major issue this building has is a lack of redundancy in the structural systems, which reduces the safety of these systems. For example, our inspection revealed that there is no transverse rebar in the roof support slab and that larger cracks have developed in those slabs. This condition may exist in the other floor slabs. This school is only safe for occupancy on the basis of some immediate upgrades and ongoing inspection every 6 to 12 months. Without major structural upgrades its life is a maximum of five years.

Audit Rating Summary

Category	Average Rating	Estimated Deficiency
Interiors	2.5	$35,000
Roofing		$2,200
Shell	4.0	$75,000
Structure	4.4	$4,290,000
	Total:	**$4,402,200**

Rating Guide		
Rating	Response	Definition
10	Non Essential	Like new condition – meets current and foreseeable future requirements.
9	Non Essential	Good condition - between new and mid forecasted life span. Meets current and near future requirements.
8	Non Essential	Good to Fair condition – mid forecasted life span has been reached. Meets current requirements.
7	Non Essential	Fair condition – final stages of lifespan. No deficiencies were noted. Meets current needs.
6	Essential	Reached or exceeded forecasted lifespan. Currently in serviceable condition and functions as designed. Requires monitoring.
5	Essential	Minor Deficiencies noted. Will require replacement or refurbishing within 5 years to keep element in service. Requires monitoring.
4	Essential	Moderate deficiencies noted. Will require replacement, or refurbishment within 2 years to keep element in service. Requires monitoring.
3	Essential	Major deterioration of asset, no immediate risk, has not failed. Replacement / upgrading within 2 years necessary. Requires monitoring.
2	Critical	Significant deterioration of asset, poses low to medium risk for occupant health and safety; failure imminent; replacement / upgrading within 12 months necessary. Requires action.
1	Critical	Extreme deterioration of asset, poses high risk for occupant health and safety; immediate attention required. Requires action.

Detailed Audit Results by Category

Roofing

Roofing: Inspections ()

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
					0		

Roofing: Roof Coverings (B3011)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
	2010-05-03				0	500.00	

Deficiencies:

Seams on flashing require minor re-caulking.

Flashing and stripping on small NW and SW roofs in poor condition.

Slight leakage on gym around chimney.

Slight water staining in main roof close to penthouse window

Leakage reported in NW entrance is likely a result of a split in the roof membrane.

Recommendations:

Routine maintenance required

Comments:

The results of the roof inspection were conducted on May2, 2005

CAM Project 47 created.

Notes

2010-05-03 10:02:29 Support Fame

2005-07-13 14:56:04 - Sean Milne (edited on 2005-08-04 13:51:24)Roof System Materials: BUR

Slope of Roof System: Sloped to central drains (1/12). Gym utilizes a conical slope to side drains (3/12).

Insulation: Est. R-8

Insulation Type: Est. Fiberglass and fiberboard Insulation

Drainage: Central Roof Drains on main, side sloped roof drains on gym

Reported Roof Leakage:
a. Slight leakage on gym around chimney.
b. Slight leakage in NW roof over entrance.
c. Slight water staining in main roof close to penthouse window.

2010-05-03 10:02:53 Support Fame

2005-07-13 14:56:45 - Sean MilnePerimeter Parapet Condition:
Mostly lap flashing in generally good condition.
Seams on flashing require minor re-caulking.
Perimeter stripping in good condition on main roof likely location of the reported leakage.
Flashing and stripping on small NW and SW roofs in poor condition.

Drainage System Condition:
Recessed drains debris on main roof. While they are in good condition in consideration of their age, they have accumulated significant debris.
Drains on gym are not equipped with any protection to prevent them from being plugged with debris.

Mechanical Systems Condition:
No mechanical systems on roof.

Condition of Main Field of Roof:
Main roof in very good condition.
Gymnasium roof indicating signs of moderate/severe ridging due to aggressive slope on roof.
Stripping around drain on gym roof the likely location of reported roof leakage.

Roofs on the NW and SW corners of the building are in very poor condition. Leakage reported in NW entrance is likely a result of a split in the roof membrane.

Roof Vent/ Chimney Condition:
Vents appear to be original, but remain in fair-good condition.

Other Identified Issues:
Recommend the installation of a platform for accessing the entrance to the main roof the penthouse to ensure the safety of the CFO while conducting roof inspections.

Roofing: Roof Openings (B3021)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
	2010-05-03				0	1700.00	

Deficiencies:

Drains on gym are not equipped with any protection to prevent them from being plugged with debris.

Recommendations:

Recommend the installation of a platform for accessing the entrance to the main roof the penthouse to ensure the safety of the CFO while conducting roof inspections. Routine maintenance required

Comments:

CAM Project 48 created.


Buck - View of West Portables Looking South.jpg


Buck - View from Gym Looking West.jpg


Buck - View from Gym Looking SW.jpg


Buck - Evidence of Ponding on Gym Roof.jpg

Structure

Foundations: Spread Footings & Columns (A1010)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
3					0	1500000.00	

Deficiencies:

There has been significant movement of the foundation which has caused the building to shift resulting in various problems such as cracking of beams, slabs, and walls.

From the results of a survey done in 2009, it was determined that the east side of the school is sloped downwards in the centre. This is most likely partly due to the foundation moving as a result of moisture changes. The east side of the school consists of vegetation while the grade slopes towards the school. The street in front of the school on the east side is at a higher elevation than the east side of the school. It was also noted that the pavement on the north side of the building slopes down towards the east side of the building. All of these result in poor drainage which can increase movement of the foundation and sulphate attack of the brick foundation.

The exterior brick walls have been continually maintained by re-pointing throughout the years although there are still cracks in the brick exterior walls. This cracking is most likely due to foundation movement.

The foundation of the front entrance and stairs has also experience significant movement which has caused the stairs to sink, shift, and for the arch to separate, see photographs 1, 2, and 3 below.

Recommendations:

Rectification of the problem of foundation movement would be to underpin the entire building. Proper drainage away from the building should also be ensured.

Comments:

The movement of the foundation has led to significant problems which may not be fixable.

Notes

2010-06-08 14:03:23 Jim Kenyon Last Edited By: jkenyon@jckenyon.com 2010-06-08 14:03:38

The foundation of the main building consists of spread footings under load bearing masonry walls and square footings under interior concrete columns. From the drawings it was determined that the front entrance and stairs are on separate footings.

Photograph 002.jpg

Photograph 001.jpg

Photograph 005.JPG


Photograph 003.jpg


Photograph 004.JPG

Foundations: Piles and Grade Beams (A1020)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
8	2010-06-08				0		

Deficiencies:

The drain spouts on the exterior of the building are not directed away from the building, see photographs 1 and 2 below.

Recommendations:

Drainage spouts should be redirected so that they drain away from the building.

Comments:

If drain spouts are not directed away from the building water will run down the building and could potentially seep into the foundation which can cause damage or movement of the foundation.

Notes

2010-06-08 14:06:20 Jim Kenyon

The auditorium has a grade beam and pile system foundation.


Photograph 002.jpg


Photograph 001.jpg

Floors: Slab on Grade (A1030)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
4	2010-06-08				0	1000000.00	

Deficiencies:

Significant unevenness was observed in the floor in the main building throughout the entire basement. The floor appears to be heaved perhaps 2 to 3 inches or more in some areas. In general, the floor seems to be heaved upwards at the center of the rooms and sloped down toward the exterior walls and interior columns, see photograph 2. There are also cracks in the slab of the boiler room which can be seen where the floor is exposed, see photograph 1.

The slab in the gymnasium is uneven and slops down towards the North-East end.

Recommendations:

The extensive heaving of the floor slab could be fixed by the replacement of the existing floor slabs with structural slabs.

Notes

2010-06-08 14:24:51 Jim Kenyon

The basement of this building consists of slab on Grade. Except for the boiler and machinery room which is a concrete slab, the rest of the basement consists of an asphalt floor. Except for the boiler and machinery rooms all floors are covered with finishes and are not visible.

From the drawings it was determined that the floor of the gymnasium is a slab on grade.

Photograph 002.jpg

Photograph 001.jpg

Photograph 003.jpg

Basement Construction: Basement Walls (A2020)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
4					0	250000.00	

Deficiencies:

All of the brick walls in the basement that are not covered in finishes are badly deteriorated, especially walls that are below grade. Deterioration of the walls can be seen below in photographs 1, 2, and 3 which are all pictures of the west exterior wall. The exterior walls on the east side are mostly covered in finishes and therefore could not be inspected. On the west exterior wall of the boiler room the brick has deteriorated to the point that there is a hole through the wall, see photograph 4 below. This also occurs in the room north of the machinery room, see photograph 5 below. This deterioration of the exterior brick walls is most likely due to continual saturation of the brick from moisture in the surrounding soil. The grout in the North machinery wall has deteriorated and is coming apart like chalk, see photograph 6 below. The interior load bearing brick walls in the boiler room have various cracks in them and should be re-pointed, see photographs 7 and 8 below. There is also cracking in the interior brick wall where it supports a concrete beam in the mechanical room, see photograph 9 below.

Recommendations:

Walls should be excavated and fixed, which would include a new vapour barrier, insulation, weeping tiles, and the repair of the bricks. Brick walls should be re-pointed and the holes in the wall should be fixed.

Notes

2010-06-08 14:26:12 Jim Kenyon

Masonry load bearing walls sit on the foundation. With the exception of the boiler and machinery rooms most of the walls are covered with finishes and are not visible.


Photograph 002.jpg


Photograph 001.jpg


Photograph 005.jpg


Photograph 003.jpg


Photograph 007.jpg


Photograph 006.jpg


Photograph 008.JPG


Photograph 004.jpg


Photograph 009.jpg

Superstructure: Floor Construction (A3010)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
3	2010-06-08				0	500000.00	

Deficiencies:

There is a large jagged crack in the bottom of the main floor slab which can be seen from below in Room 2, see photograph 1 below. The crack is parallel with the floor beams and occurs between two closely spaced beams which both support partition walls above. The space above the crack was inaccessible and is believed to be a space for running duct work. This crack may have resulted due to foundation movement. According to the drawings there are three other similar locations where two beams running parallel to each other are closely spaced. Two of the locations were inaccessible and could not be inspected from below or from above, and the third occurs on the north side of the machinery room. At this location there is a straight cracking or separation in the floor slab running parallel to the two beams which can be seen below the slab, see photographs 2 and 3.

There are cracks in the suspended plastered ceiling below the main floor, in the hallway. There are also various cracks in the top of the floor slab in the hallway mostly occurring where the slab joins with the floor beams near the end of the beams, see photograph 4, 5, and 6. There is another crack in the bottom of the slab in the South-West corner of the Machinery room, see photograph 7.

The floor slab is also sagging in various areas, especially in the middle of most classrooms. From a survey done in February 2009, it was determined that the most sag occurs in the classrooms adjacent to the east exterior wall. From the survey it was found that the classroom immediately north of the front entrance is 84mm lower in the center than the highest point adjacent to the corridor wall.

Most of the floor beams were concealed in plaster finishes. Some of the beams covered in plaster finish had small cracks in them, see photograph 8. In the boiler room the beams were not covered and could be properly inspected. The south beam running east and west had cracks on the east side where it connected with the column, and cracking on the column beneath the beam, see photograph 9 below. The slab beam which supports the beams running east and west had various cracks in it. In photographs 10 and 11 below, cracks on both ends where it connects with the masonry wall can be seen. In photograph 12 below, a crack where it connects to the beam running east and west can be seen, and in photograph 13 below longitudinal cracks can be seen in the slab beam. In photograph 14 below, a crack on the underside of the beam can be seen where the beam running east and west connects to it.

Recommendations:

Reinforcement of the slabs and beams. Replacement of the floor slab is not feasible.

Notes

2010-06-08 14:32:45 Jim Kenyon Last Edited By: jkenyon@jckenyon.com 2010-06-08 16:03:19

The main floor consists of a five inch concrete slab spanning between concrete beams. The span of the slabs is approximately 13 feet in some areas, which is a very long span for a five inch slab. The concrete beams span east to west and are supported by the exterior brick walls and interior columns. Having concrete beams supported by brick walls is not ideal as this leads to a lack of continuity between the walls and beams. Concrete beams in the hallway are 18 inch x 12 inch, and the beams in the classrooms are 26 inch x 14 inch. With the exception of the boiler and mechanical rooms, most of the beams and slabs are covered in plaster finishes. The hallway has a suspended plastered ceiling therefore the beams and slabs were not visible for inspection.


Photograph 002.jpg


Photograph 001.jpg


Photograph 007.jpg


Photograph 008.jpg


Photograph 005.jpg


Photograph 006.jpg


Photograph 010.jpg


Photograph 004.jpg


Photograph 003.jpg


Photograph 012.jpg


Photograph 014.JPG


Photograph 009.jpg


Photograph 013.jpg


Photograph 011.jpg

Superstructure: Upper Floor Construction (A3020)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
3	2010-06-09				0	500000.00	

Deficiencies:

In the roof support slab there are half inch cracks that completely extend through the slab, see photograph 1 below. These cracks occur along the column lines and are continuous for the length of the building running North and South. On the North side, the slab has shifted so that the slab on the one side of the crack is approximately half an inch higher than the other side, see photograph 2. The cracking and shifting of the slab is most likely due to foundation movement. Looking through the crack, no transverse reinforcement can be in the slab. This lack of reinforcement leads us to believe that there is little to no transverse reinforcing in the slab. Similarly to the first and main floor, the slab is sagging, which may be due to a lack of transverse reinforcing.

It was also noted that in the roof support slab there is an opening for the mechanical shaft which should be covered up as there is the potential for someone to fall in it.

Recommendations:

Reinforcement of the slabs and beams. Replacement of the floor slab is not feasible. The hole for the mechanical shaft should be immediately covered.

Comments:

A four inch slab is less than the National Building Code minimum. Also the slab span is approximately thirteen feet between concrete beams which is a very long span for a four inch span. Due to this we believe that the structural capacity of this slab is questionable.

Transverse reinforcing allows the slab to laterally distribute loads along longitudinal reinforcing which spreads the load over a greater area. A lack of transverse reinforcement in the slab results in poor continuity and a serious lack of redundancy in the structural support of the roof.

The ceiling below the floors consists of a suspended ceiling. Tiles were removed to view some of the beams and slabs above in various locations but not all beams were inspected due to time restraints.

Notes

2010-06-08 14:58:59 Jim Kenyon

The roof support slab consists of a four inch concrete slab. The concrete beams span east to west and are supported by the exterior brick walls and interior columns. Most of the beams and slabs are covered in plaster finishes and a suspended ceiling.

Photograph 001.jpg

Photograph 002.jpg

Superstructure: Upper Floor Construction (A3020)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
3					0	500000.00	

Deficiencies:

On the first floor, there are various cracks in the finishes at the top of the floor slab in the hallway, mostly occurring where the slab joins with the floor beams near the end of the beams, see photographs 1, 2, and 3 below. Similarly to the main floor, the first floor slab has a significant sag in various areas, especially in the middle of most classrooms.

Recommendations:

Reinforcement of the slabs and beams. Replacement of the floor slab is not feasible.

Comments:

The ceiling below the floor consists of a suspended ceiling. Tiles were removed to view some of the beams and slabs above in various locations but not all beams were inspected due to time restraints.

Notes

2010-06-08 14:55:13 Jim Kenyon Last Edited By: jkenyon@jckenyon.com 2010-06-08 16:06:01

The first floor consists of a five inch concrete slab spanning between concrete beams. The span of the slabs is approximately 13 feet in some areas, which is a very long span for a five inch slab. The concrete beams span east to west and are supported by the exterior brick walls and interior columns. Concrete beams in the hallway are 18 inch x 12 inch, and the beams in the classrooms are 26 inch x14 inch. Most of the beams and slabs are covered in plaster finishes and a suspended ceiling.


Photograph 003.jpg


Photograph 001.jpg


Photograph 002.jpg

Superstructure: Roof Construction (A3030)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
					0		

Deficiencies:

Small roof sections at SW and NW corners of school are estimated to be at least 35 years old.

Recommendations:

Monitor SW and NW roof sections over entrances in order to determine replacement, likely within five years.

Comments:

Roof inspection conducted on May 2,2005

Notes

2010-05-03 10:01:49 Support Fame

2005-07-11 14:08:25 - Sean Milne (edited on 2005-07-13 15:01:23) Main roof section replaced within the last ten years. Gymnasium roof is estimated to be at least 25 years old. Small roof sections at SW and NW corners of school are estimated to be at least 35 years old.

Roof Deck Materials: Wood Deck

Superstructure: Roof Construction (A3030)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
8					0	15000.00	

Deficiencies:

Approximately 20 ft of roof on the South West side of the main building has moisture issues. There is some deterioration of the parapet walls on the roof, see photograph 3.

There are some moisture problems on the roof of the gymnasium along the exterior edges.

Recommendations:

The roof of the main building and the gymnasium roof should be fixed to prevent moisture problems.

Comments:

Roof Inspection conducted in May 2010. There was no standing water on the roof at the time of inspection.

Notes

2010-06-08 15:06:22 Jim Kenyon Last Edited By: jkenyon@jckenyon.com 2010-06-08 15:08:01

The roof consists of wood decking spanning between wood roof joists. The joists sit on a wood top plate that is supported by posts spaced at approximately 2 feet on centre. The posts, which are a maximum height of 5 feet at the centre of the crawl space, sit on a wood bottom plate which sits

on the concrete slab, see photograph 1 below. The roof of the gymnasium is domed shaped and consists of reinforced concrete.


Photograph 1.jpg


Photograph 003.jpg


Photograph 002.jpg

Superstructure: Wall and Column (B2011)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
4	2010-06-08				0	25000.00	

Deficiencies:

With the exception of the concrete columns in the Boiler and Mechanical room and the columns in the penthouse on the roof of the building, most columns are covered in finishes. Spalling of the concrete at the base of the columns in the boiler room can be seen in photograph 1 below. There is also cracking at the top of the South column in the Boiler room just below the connection to a concrete beam, see photograph 2 and 3 below. In the penthouse on the roof there is cracking at the top of the columns, see photograph 4 below.

Recommendations:

Cracking in columns should be fixed.

Notes

2010-06-08 15:09:49 Jim Kenyon

There are reinforced interior columns throughout the building that support concrete beams.


Photograph 002.jpg


Photograph 003.jpg


Photograph 001.jpg

Photograph 004.jpg

Shell

Exterior Closure: Exterior Walls (B2010)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
4	2010-06-08				0	75000.00	

Deficiencies:

The exterior masonry walls have been repointed many times in the past which can be seen in various locations, such as the crack in the corner of the South East side, see photograph 5 below. Many cracks have developed in the walls due to shifting of the foundation. There are still several locations that need to be repointed, see photographs 7 and 8 below. The stone at the base of the building has significantly deteriorated. In various locations the mortar between the stone blocks has completely deteriorated, see photographs 9 and 10.

At the top of the wall where the cornice used to be, the bricks are badly deteriorated, see photograph 11 below. This is probably because the bricks were not designed to be on the exterior. These bricks should be fixed or covered as there is the possibility of bricks becoming dislodged and falling out. The cornice on the front of the building which has not been removed should be repainted, see photograph 12.

Recommendations:

The deteriorated or cracked mortar joints in the exterior wall should be re-pointed. This should be done on an annual basis to maintain the integrity of the wall structure. A penetrating sealant should be applied to the stone at the base of the building to prevent further deterioration. The cornice in the front of the building should be repainted. Where the cornice was removed, the bricks should be re-finished or covered.

Comments:

The exterior bricks on the gymnasium appear to be in good condition.

Notes

2010-06-08 13:49:44 Jim Kenyon

The exterior walls of this building consist of multiple withes of brick and are load bearing walls. Photograph 1 below is the front or East side of the building, photograph 2 is the West side of the building, photograph 3 is the North side and photograph 4 is the South side. With the exception of the front of the building, the wood cornice located at the top of the wall has been removed. Many of the windows have been filled in with brick in the past. It also looks like the lintels above the doorways on the west side of the building were replaced at one point, see photograph 6.

The exterior of the gymnasium is clad in brick, see photograph 13 and 14 below.

Photograph 004.jpg

Photograph 003.jpg

Photograph 006.jpg


Photograph 008.jpg


Photograph 005.jpg


Photograph 002.jpg


Photograph 11.jpg


Photograph 001.jpg


Photograph 007.jpg


Photograph 12.jpg


Photograph 13.jpg


Photograph 010.jpg


Photograph 9.jpg


Photograph 14.jpg

Interiors

Interior Construction: Partitions (C1010)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
2	2010-06-08				0	25000.00	

Deficiencies:

There are various cracks in the partition walls throughout the building, see photograph 1 below. Where a partition wall was removed in the room just north of the machinery room, the floor above, Room 12, is badly deflected. The underside of the slab where the wall was removed also shows signs of distress and the wall above the wall that was taken out has experienced significant cracking, see photographs 2 and 3, below. It is most likely that the removed partition wall was acting as a load bearing wall.

It was also noted that the partition walls in the corridor in the basement sit on the basement slab. There are also no joints at the top to allow for structural movement.

Recommendations:

The partition wall that was removed was likely acting as a load bearing wall, as it was removed the slab above is now supporting the tile wall above and shows signs of being overloaded. This should be immediately fixed by bracing the slab where the wall used to be in order to relieve the load off of the slab. Cracks in the partition walls should also be fixed.

Notes

2010-06-08 15:19:12 Jim Kenyon

Most partition walls consist of four inch hollow tile.

Photograph 002.JPG

Photograph 001.JPG

Photograph 003.JPG

Staircases: Stair Construction (C2010)

Rating	Last Update	Response	Installed	Element Life	Remaining Years	Deficiency	Project #
3	2010-06-08				0	10000.00	

Deficiencies:

Interior stairs have sunk at exterior walls. Photograph 1 below is the worst interior case of the stair sinking, which occurs in the basement at the north staircase.

The exterior stairs at the front entrance has experience significant movement and deterioration. The stairs should be monitored. The movement of the stair has caused the staircase to sink on the east side, see photograph 2. In photograph 3, it can be seen that the staircase has bowed out. Photographs 4 and 5 show how the arch has separated in the past which was most likely due to movement of the foundation in the past. Photograph 6 shows how the blocks have shifted. It should also be noted that the mortar holding the blocks together has completely deteriorated in various locations.

The underside of the landing, which is constructed from reinforced concrete, has exposed reinforcement, see photograph 7 below. There is also f-florescence on the underside of the landing and on the interior walls, see photograph 8 below.

Recommendations:

Deteriorated mortar should be replaced and the stairs should be fixed. Due to the significant movement of the stairs, it should be closely monitored in the future.

Notes

2010-06-08 15:29:18 Jim Kenyon

The exterior stairs are sitting on a foundation which is separated from the main foundation. The walls of the stairs are constructed with brick clad with large blocks which are held together with mortar. The actual stairs consist of what seems to be concrete which spans between the brick walls with significantly deteriorated mortar between the stairs. The stair case consists of two landings. The higher landing consists of reinforced concrete which is supported by the walls and steel beams.


Photograph 004.jpg


Photograph 003.jpg


Photograph 007.jpg


Photograph 001.jpg


Photograph 005.JPG


Photograph 002.jpg


Photograph 006.JPG


Photograph 008.jpg