



JC KENYON ENGINEERING INC.
STRUCTURAL ENGINEERING CONSULTANTS

May 24, 2019

File: 067-19

Harvard Property Management Inc.
2000-1874 Scarth St.
Regina, SK S4P 4B3

Attn: Victoria Gabel, Property Manager

Re: Structural Inspection Report
1863 Cornwall Street
Regina, Saskatchewan

Dear Victoria,

As requested, JC Kenyon Engineering has completed a structural engineering inspection of 1863 Cornwall Street in Regina, Saskatchewan. The purpose of our inspection was to identify any structural deficiencies and safety concerns within the building, as well as provide recommendations for stabilization of the building. Our report is based on a visual inspection performed by JC Kenyon Engineering on April 25, 2019 and May 12, 2019, and a partial set of architectural drawings retrieved from the City of Regina Planning Department.

1. Building Description

1863 Cornwall Street is a three-story masonry structure that was originally built for the Roman Catholic Episcopal Corporation of Regina in the early 1900s, Photo 1. The roof of the building is comprised of wood decking overlaying wood joists. The joists span the width of the building and bear on 17-inch thick exterior brick walls on the north and south sides of the building. The second and third floors have wood decking overlaying wood joists. The first floor is comprised of chipboard floor sheathing overlaying wood decking and wood joists. The basement floor is comprised of wood planks overlaying wood sleeper joists bearing directly on grade. The building foundation consists of 17-inch-thick concrete walls supported by concrete footings.

2. Observations

We visited the site on April 25, 2019 and May 12, 2019. Our observations were as follows:

1. The ceilings were constructed with plaster on metal lath that was attached to the underside of the floor/roof joists.
2. A large amount of the plaster ceiling on each level had fallen to the floor below, Photos 2 to 5.
3. The steel mesh in the plaster ceiling that remained on the ceiling was corroded, Photo 5.
4. The main floor ceiling tile support channels on the main floor were corroded and broken in several locations, Photo 6.
5. Light fixtures on the main floor were hanging from the ceiling tile support grid, Photo 6. Power was being supplied to the lights; one light bulb was on and two other light bulbs were glowing orange but were not functioning properly.
6. The wood decking and floor joists appeared to be damp and displayed a significant amount of staining throughout the building. The wood decking and floor joists appeared to be rotten in several locations on each level, Photos 7 to 9.

7. The floor sheathing on the main floor had swollen in certain locations creating large humps in the floor up to 4 inches high, Photo 10. The sheathing below these humps was deteriorated and wet, Photo 11.
8. The plaster walls were cracked and deteriorated throughout the building, Photo 12.
9. The wallpaper on the second floor appeared to be covered with black mold, Photo 13.
10. The west foundation wall contained a couple vertical cracks with some efflorescence, Photo 14.
11. The roofing asphalt and felt was deteriorated and peeling, Photo 15. Moss and plants were growing in-between layers of roofing material.
12. The parapet cap flashing was damaged over the entire roof and was missing in one location, Photo 16.
13. The west brick parapet was bowed outward above the cornice, Photo 17. The parapet flashing above this location was damaged, Photo 18.
14. The front cornice displayed signs of corrosion with peeling paint, Photo 19. The side of the cornice appeared to be deteriorated, Photo 20.
15. The exterior brick had deteriorated mortar at the chimney, Photo 21.
16. The exterior brick on the north and south faces of the building has spalled off in many locations, Photo 22.
17. The brick on the east and west sides of the tile mosaic between the first and second floor in the front of the building had a vertical crack, Photo 23. The mosaic tile at this location was also cracked.
18. A few partial-depth holes were located in the exterior brick walls around the building, Photo 24.

3. Discussion

Based on our observations, we believe that the building has undergone years of sustained water damage. The water infiltration appears to be primarily from a leaking and deteriorated roofing system; however, it may also be a result of leaking/broken pipes on each level. The water has caused the mesh in the plaster ceiling to corrode and fall, the ceiling tile grids to break and fall due to rust and falling plaster, the wood floor boards and joists to rot, the chipboard sheathing on the main floor to swell and deteriorate, and black mold to possibly form on surfaces in the building. With the amount of damage sustained by the building, including the rot and water staining displayed on the wood floor decking and wood joists, the building is unsafe for occupancy. Without stopping further water infiltration and allowing the building to dry, the building will continue to deteriorate. To stop further water infiltration the building will require a new roof, the damaged finishes will need to be removed with the fallen plaster cleaned up, and heating and ventilation needs to be provided to dry out the building.

The spalled brick along the north and east sides of the building is a result of freeze-thaw damage due to moisture saturation. The spalling of the exterior brick will be an ongoing issue if the building is to remain unheated. The spalled brick on the east side of the building is a risk to parked cars and pedestrians and should be examined by a mason. Any loose brick fragments should be removed. The brick along the north side of the building should also be examined by a mason to prevent damage to the roof of the adjacent building.

The weathered mortar joints around the chimney are normal due to environmental exposure but require repointing. The various cracks and holes around the building should be repointed as well to prevent further water infiltration and freeze-thaw damage.

The bowed parapet wall along the west side of the building is a result of water infiltration through the damaged cap flashing and freeze-thaw action. This parapet poses a risk to pedestrians below and should be repaired and repointed. All parapet cap flashing should be replaced to reduce water infiltration and damage to the masonry.

The corrosion on the west cornice is due to deterioration of the flashing and its joints. Holes and deteriorated joints in the cornice flashing could allow for rot in the wood supports of the cornice and pose a risk to pedestrians. The cornice flashing should be repaired and sealed to ensure the integrity

of the cornice and prevent further deterioration.

The lights on the main floor hanging by live wires and remaining powered in an unoccupied building are a fire hazard. It was recommended at the time of inspection to shut off power to the lights until they may be properly supported and there is no risk of water infiltration into the fixture.

The cracks in the foundation walls are likely due to differential settlement of the building. This is a common occurrence for buildings constructed on footings in Regina due to the highly expansive native clay soil. These cracks are another source of water infiltration. At this time, they have little bearing on the performance of the foundation wall, but over time could cause issues.

4. Recommendations

In its current state, this building is not habitable and will deteriorate rapidly. To stop further deterioration, the building will require a new roof, cleaning of the wet and damaged finishes, and heating and ventilation to be installed. The estimated cost for this scope of work is \$200,000. If no remedial work is completed, the building will continue to deteriorate, and annual inspections will be required until these issues are solved.

The condition of the parapet and cornice are a hazard and need to be repaired as soon as possible. We recommend that a mason is hired to repair these areas, as well as check the brick faces on the north and east exterior walls for delamination, and repointing of all deteriorated mortar joints, cracks, and holes around the building. The estimated cost for the masonry repairs is \$25,000.

We trust that this report meets your needs at this time. If you have any questions, please do not hesitate to call.

Yours truly,

JC KENYON ENGINEERING INC.

Curtis Walter, Engineer-in-Training

Brad Taylor, P.Eng

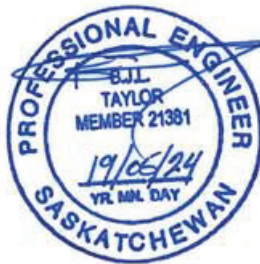
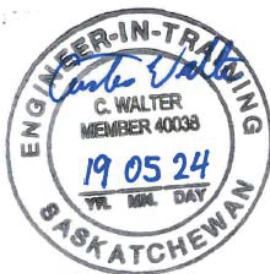




Photo 1: West elevation of 1863 Cornwall Street



Photo 2: Basement fallen ceiling



Photo 3: Main floor fallen ceiling



Photo 4: Second floor fallen ceiling



Photo 5: Third floor roof and steel mesh corrosion

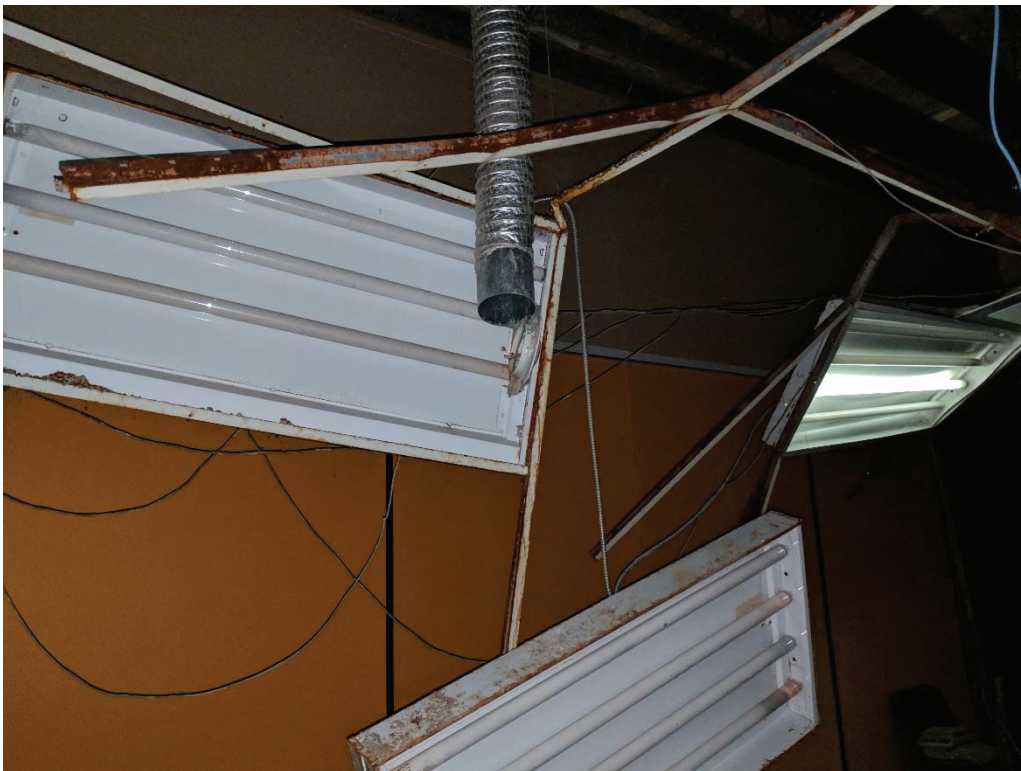


Photo 6: Main floor broken suspended ceiling support and glowing fluorescent lights



Photo 7: Rotting wood roof decking



Photo 8: Rotting main floor wood decking and floor joist



Photo 9: Rotting basement floor planks



Photo 10: Humps in flooring on main level



Photo 11: Wet and deteriorated chipboard sheathing on main floor



Photo 12: Cracked and deteriorated plaster walls



Photo 13: Potential black mold on second floor wall paper



Photo 14: Crack in west foundation wall with efflorescence



Photo 15: Deteriorated roofing and plant material growing on roof



Photo 16: Missing parapet cap flashing



Photo 17: West parapet bowed outward



Photo 18: Damaged cap flashing over west parapet



Photo 19: Corrosion and peeling on underside of cornice



Photo 20: Deteriorated top edge of cornice



Photo 21: Deteriorated mortar on chimney



Photo 22: Spalled brick on north and east faces of building (Circled in red)



Photo 23: Cracked Brick and exterior tile



Photo 24: Spalled brick and hole in southeast corner of building