MTE Consultants
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April 3, 2025

MTE File No.: C33233-301

Christa De Wys, P.Eng., M.Eng.
Senior Project Manager
Region of Waterloo
20 Weber Street East, 3rd Floor
Kitchener ON N2H 1C3

Dear Christa:

RE: Rumpel Felt 1913 Heritage Building – Structural Assessment
60 Victoria Street North, Kitchener, Ontario

1.0 INTRODUCTION

MTE Consultants Inc. (MTE) was retained by the Region of Waterloo to conduct a structural condition assessment of the 1913 Rumpel Felt building structure in preparation for the proposed partial demolition of the 1942, 1962, and 1968 additions. The purpose of this assessment is to identify any structural distress observed and comment on the feasibility and implications of the proposed demolition of the additions and make any recommendations for improvement given the observations.

Paul Slater, P.Eng. of MTE Consultants Inc. visited the building at the above noted address on March 5, 2025 to conduct the assessment. Observations are made below and shown in the Photographic Log attached.

2.0 BACKGROUND

Paul Slater, P.Eng. completed a previous structural condition assessment of the building in 2011. Reference is made to letter report dated Oct 11, 2011, and subsequent roof shoring design drawing in 2012.

The 1913 Building is designated as a Heritage asset. Reference is made to the Heritage Conservation Plan and Risk Management Plan presently being proposed by MTE to the City of Kitchener. MTE has prepared demolition plans that describe the demolition sequence and call for temporary bracing of the additions while they are demolished to protect the 1913 building.

The work completed is a visual condition assessment. No structural analysis or testing (destructive or non-destructive), or Building Code review, was undertaken.

3.0 STRUCTURAL CONDITION

3.1 Building Construction

Three building additions were made to the original 1913 building in 1942, 1962 and 1968, which were steel framed construction with reinforced concrete floors. Other than a few pits, there is no basement in the additions or the original 1913 building. All rubberized roof membrane exists over all building areas. A tall brick chimney at the northeast corner of the 1913 building is a separate independent structure and is included in the proposed demolition. The steel floor and roof beams bear on the multi-wythe load bearing masonry wall along the east walls of the 1913 building. The second entrance, stair shaft and elevator were added to the east wall of the 1913 building, as part of the 1962 building addition. It serves the 1913 building as an exit and is not part of the proposed demolition but will be preserved.

General observations are made below and are limited to the 1913 building grouping them in the following four building areas: Exterior Façade, Roof, Interior, Courtyard. The Exterior façade section includes the original east wall of the 1913 building, presently an interior wall. Although the purpose of our scope is the building structure, some useful observations regarding the building envelope and architectural facade are included.

3.2 Building – Exterior

The following observations were made reviewing the exterior of the 1913 Building:

1. The masonry is generally in good condition with limited cracks and mortar deterioration. Newer brick has been added to infill window areas, in satisfactory condition. (Photograph 1).
2. East Entrance (Victoria St) - Concrete steps and landing slab badly cracked, heaved (door has trouble opening). Recommend repair, and/or partial reconstruction. (Photograph 2). Hollow metal door is badly corroded (non structural, recommend replacement).
3. Central Entrance (Victoria St) – Concrete entrance posts & canopy are cracked; paint badly cracked/peeling; Concrete piers badly deteriorated (Photograph 3). The concrete steps are also badly deteriorated. Recommend further investigation to determine the extent of delamination and deterioration and to decide on restoration or replacement. Recommend providing hoarding enclosure as soon as possible to protect the structure from further deterioration until structure can be assessed.
4. Brick mortar has deteriorated in areas; brick veneer cracked at entrance (Photograph 4).
5. Vines growing on the west wall hold moisture and are a threat to the long term durability of the brick and should be removed. (Photograph 7).
6. Window caulking worn/brittle; needs to be replaced/redone.
7. West shed was an addition; see door through blocked up window (Photographs 7-10).
8. Very few cracks in masonry; some windowpanes missing or cracked. (Photographs 11-13). Evidence of step cracking and repointing of mortar (Photograph 13).
9. Painted brick masonry is generally in good condition; interior sheltered by additions (Photographs 13-31).; some openings through brick will need to be infilled with reclaimed brick from the Chimney (Photographs 22,23).

3.3 Building - Roof

All areas of the roof are covered with EPDM (black membrane) and TPO (grey/white) The following observations are made:

1. Roof is leaking badly through the grey TPO membrane raining down through the roof/structure to third, second and ground floors. The leak is suspected at the two south drains of the 1913 building (Photographs 32), but this should be confirmed through investigation. Roofing repair is needed. The condition of the wood deck structure should be assessed for rot damage. Similarly, potential corrosion of the concealed portion of the steel roof beams should also be investigated. This will require a separate investigation requiring the removal of the plywood ceiling, for the extent of the portion of roof where the leak is found to be.
2. Roof is leaking badly through obvious holes in the black EPDM membrane at the 1962 addition near the chimney (Photographs 36-38).
3. Standing water was observed on the main stair roof (Photographs 34,35).
4. Roof EPDM of 1913 building is not well supported at parapets particularly at corners, which could be a leak source (Photographs 34,35). Recommend further investigation by roofing consultant.
5. Some brick mortar deterioration was observed on the hoist shaft (Photograph 39). Recommend repointing mortar.

3.4 Building Interior

The following observations are made regarding the interior of the 1913 building. Refer to Photographs 41 to 60 in the Photographic Log.

1. Water is infiltrating down through the concrete floors from leaks in the roof (Photographs 41,42,43,53,56,60). At least two sources of water leaks were observed. Refer to the Roof Section, above.
2. The brick is generally in good condition with very few cracks (Photographs 44-47, 52, 54, 57-60).
3. Standing water from roof leaking above was found on the second floor (Photographs 48-49). Floor Structure did not show any distress or deterioration as a result of the leak.
4. Some cracking observed in plaster in the southeast corridor on second floor (Photographs 50). Assuming only surficial and do not suspect structural concern; However, further investigation would be required to assess whether structural in nature.
5. Brick is in good condition in stair to third floor (Photograph 51).
6. Doorway and other openings in walls should be infilled as the east wall will become an exterior wall exposed to the elements (Photographs 44,46).
7. In the past 2011 structural assessment report, the steel roof beams were identified as insufficient to support the snow loads and were shored. Shoring of the roof beams should be monitored during demolition (Photographs 53-55). Moving forward if the Region wants to remove the shoring, then the beams and columns will need to be replaced or reinforced.
8. Damage to ceiling board from rain leak (Photograph 55). Further investigation is recommended to confirm integrity of wood roof joists. This will require removal of ceiling board to properly assess wood condition throughout, at roof leak locations.

3.5 Courtyard

The following observations are made regarding the Courtyard at the northeast of the 1913 building. Refer to Photographs 61 to 67 in the Photographic Log.

1. Timbers on retaining wall are leaning due to earth pressure, laneway and tree; some timbers are in poor condition; rot observed. Photographs 62-66. Roof shown in Photograph 61 bears on the masonry block and timbers, but ineffectively braces the timbers from leaning. These timbers will need to be restored in alignment and anchorage, and some replaced that have rotted.
2. Lose laid masonry blocks are on top of the timbers. Only spikes are holding them from falling. Photograph 62.
3. Concrete buttress of retaining wall show signs of deterioration and should be repaired. Photographs 63, 65.
4. Free standing concrete beam on columns show signs of spalling. Photograph 66. This concrete beam and column structure is to be demolished, so no repair is recommended.
5. Drainage of the courtyard is believed to be natural, through soil infiltration, near center of courtyard. At first exploration, snow was vacant in local hole, likely thought be from heat. Snow was removed (prior to taking Photograph 67), but no catch basin or grate was found.

4.0 DISCUSSION

The 1913 building structure is generally in good condition. The primary structural system comprised of load bearing masonry, interior steel framing, floor and roof diaphragms is intact. Although some cracks were observed in the brick, they were few in number and none of a significant structural concern. The concrete of second and third floors was as well as the steel beams were in good condition with no signs of structural distress or deflection. The wood decking on steel beams did not show any signs of structural distress such as sagging or deflection. However, further investigation at roof leaks is recommended to rule out rot of wood deck or roof joists.

The exterior brick mortar has deteriorated in localized areas and should be repointed for proper maintenance and to restore integrity.

Vines on the building should be removed since they hold moisture and provide a means for brick and mortar deterioration through seasonal freeze-thaw action.

The steel beams of the westerly additions framing into the 1913 masonry wall structure of the east wall will need careful support and extraction during demolition. This has been identified on the demolition plans.

The front entrance stair and canopy structure are in poor condition and require restoration.

4.1 Stability of the 1913 Building

The demolition plans prepared by MTE call for temporary building bracing to be installed by the demolition contractor within the westerly additions and for it to remain in place until the floors and roof framing are disconnected and removed from the 1913 building. This will safe guard the 1913 Building from being damaged as a result of the beams pulling away during demolition.

The structural stability of the 1913 Building is provided by its own structural system and is intact as noted above. Gravity and lateral load resisting structures are in place within the 1913 building, and are not dependent upon the additions proposed to be demolished. There is no

expectation for the 1913 building structure to conform to present day building code prescribed loads.

5.0 CONCLUSIONS AND RECOMMENDATIONS

We did not observe any structural distress in the building of concern.

The structural performance level of the original 1913 building prior to the three additions will be maintained following the proposed demolition.

The following is recommended:

- The front entrance concrete structure has undergone significant deterioration. Further investigation is required to determine the extent of delamination and deterioration and to decide on restoration or replacement. A hoarding enclosure should be placed as soon as possible to protect the structure from further deterioration until structure can be assessed.
    1. The front entrance concrete landing slab and stairs have significant deterioration and should be rehabilitated.
- Roof leaks should be addressed as soon as possible. Engage a roofing consultant to assess the roofing membranes and parapet details to ensure longevity.
    2. The condition of the roof members and deck at leak sites should be investigated and confirmed or remedied if found to be deficient.
    3. Remove vines from brick masonry.
    4. Repoint all brick mortar deterioration. Monitor thru brick cracks or replace brick (Photograph 2).
    5. Infill all masonry holes and openings, toothing in to match existing courses. (e.g. Photographs 22,23).
    6. Remove tree which is applying pressure to the retaining wall.
    7. Restore or replace timber members along courtyard retaining wall. Remove lose laid concrete blocks from timbers.
    8. Restore the deteriorated areas of the concrete buttress of the courtyard retraining wall.

6.0 LIMITATIONS

This report has been prepared by MTE Consultants Inc. (MTE) at the request of the Region of Waterloo. The material in it reflects the best judgment of MTE in light of the information available at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. MTE accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

This assessment does not wholly eliminate uncertainty regarding the potential for existing or future costs, hazards or losses in connection with a property. No physical or destructive testing and no design calculations have been performed unless specifically recorded. Conditions existing but not recorded were not apparent given the level of study undertaken. We can perform further investigation on items of concern if so required. Only the specific information identified has been reviewed. The consultant is not obligated to identify mistakes or insufficiencies in the information obtained from the various sources or to verify the accuracy of the information. The Consultant may use such specific information obtained in performing its services and is entitled to rely upon the accuracy and completeness thereof.

Responsibility for detection of or advice about pollutants, contaminants or hazardous materials is not included in our mandate. In the event the Consultant or any other party encounters any hazardous or toxic materials, or should it become known to the Consultant that such materials may be present on or about the jobsite or any adjacent areas that may affect the performance of the Consultant's services, the Consultant may, at its option and without liability for consequential or any other damages, suspend performance of its services under this Agreement until the Client retains appropriates consultants to identify and abate or remove the hazardous or toxic materials and warrants that the jobsite is in full compliance with all applicable laws and regulations.

We accept no responsibility for any decisions made or actions taken as a result of this report unless we are specifically advised of and participate in such action, in which case our responsibility will be as agreed to at that time. Any user of this report specifically denies any right to claims against the Consultant, Sub-Consultants, their Officers, Agents and Employees in excess of the fee paid for professional services.

Yours truly,

MTE Consultants Inc.

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PAS:smk
Attach.
cc: Jessica Vieira, Heritage Planner, City of Kitchener
https://mte85.sharepoint.com/sites/33223-301/Shared Documents/Structural Assessment 2025/33223-301_ltr rpt_Rumpel 60 Victoria Assesment_2025-04-03 - DRAFT.docx

Exterior Façade

Photograph No. 1 – South Façade

Photograph No. 2 – Right Entrance Floor Slab Deterioration

Photograph No. 3 – Left Entrance Column Deterioration

Photograph No. 4 – Brick Mortar Deterioration

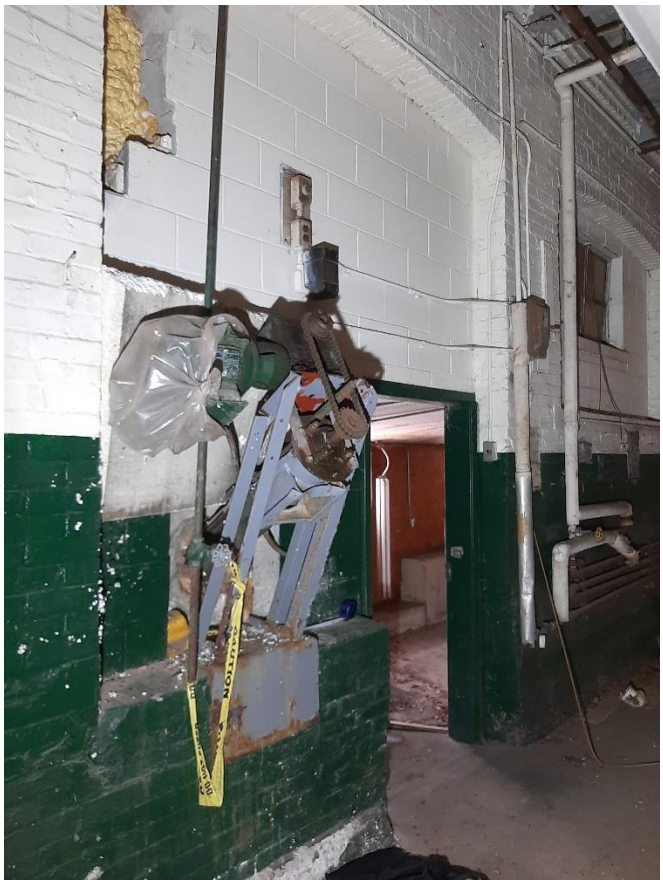
Photograph No. 5 – Salt Storage Delivery System

Photograph No. 6 – West Shed Addtion

Photograph No. 7 – West Elevation

Photograph No. 8 – West Shed Addition, to be Removed

Photograph No. 9 – West Shed Addition Foundations, to be Removed



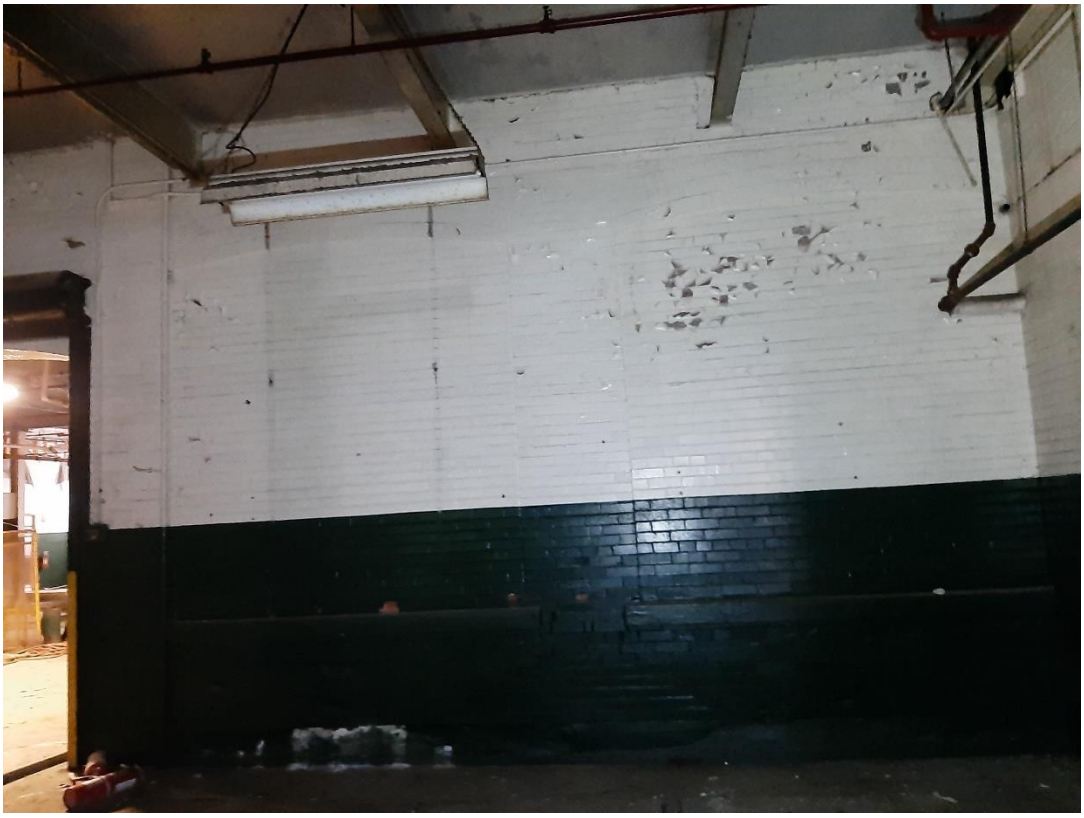
Photograph No. 10 – West Shed Entrance Within Former Window

Photograph No. 11 – North Elevation - West Corner

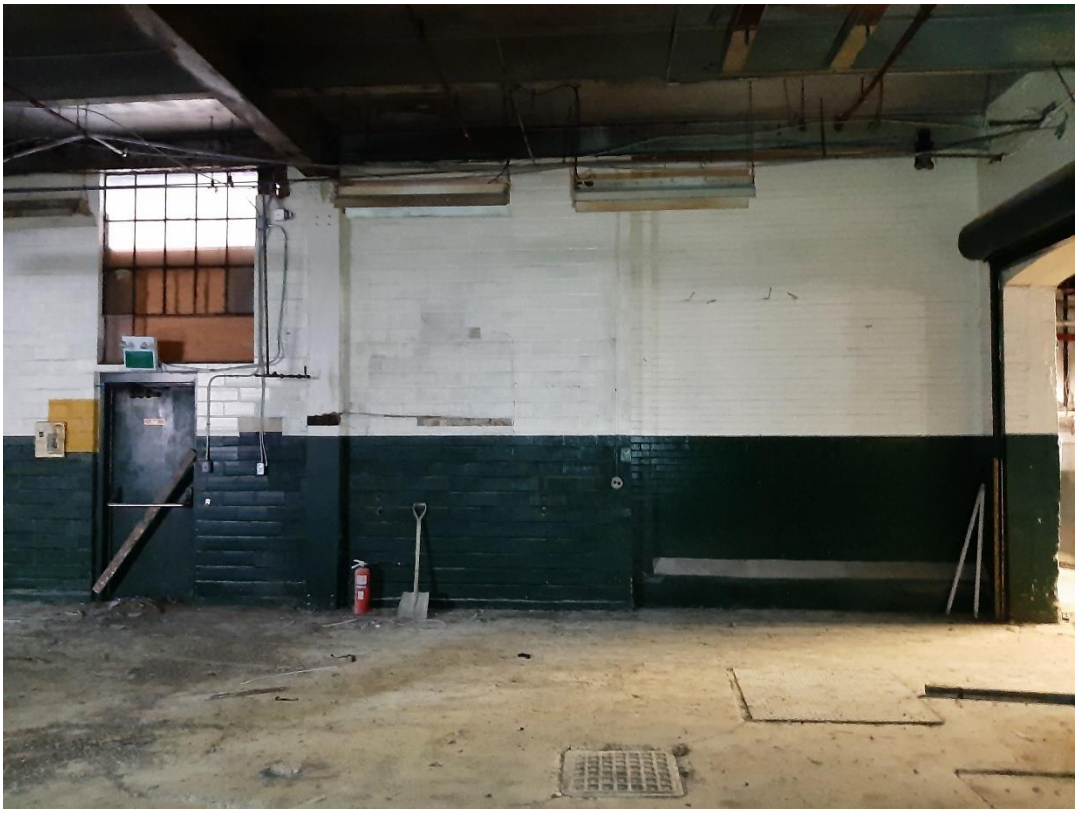
Photograph No. 12 – North Elevation - Middle

Photograph No. 13 – North Elevation - East Corner

Photograph No. 14 – Ground Floor Door to be infilled



Photograph No. 15 – Ground Floor Painted Wall to Become Exposed East Facade



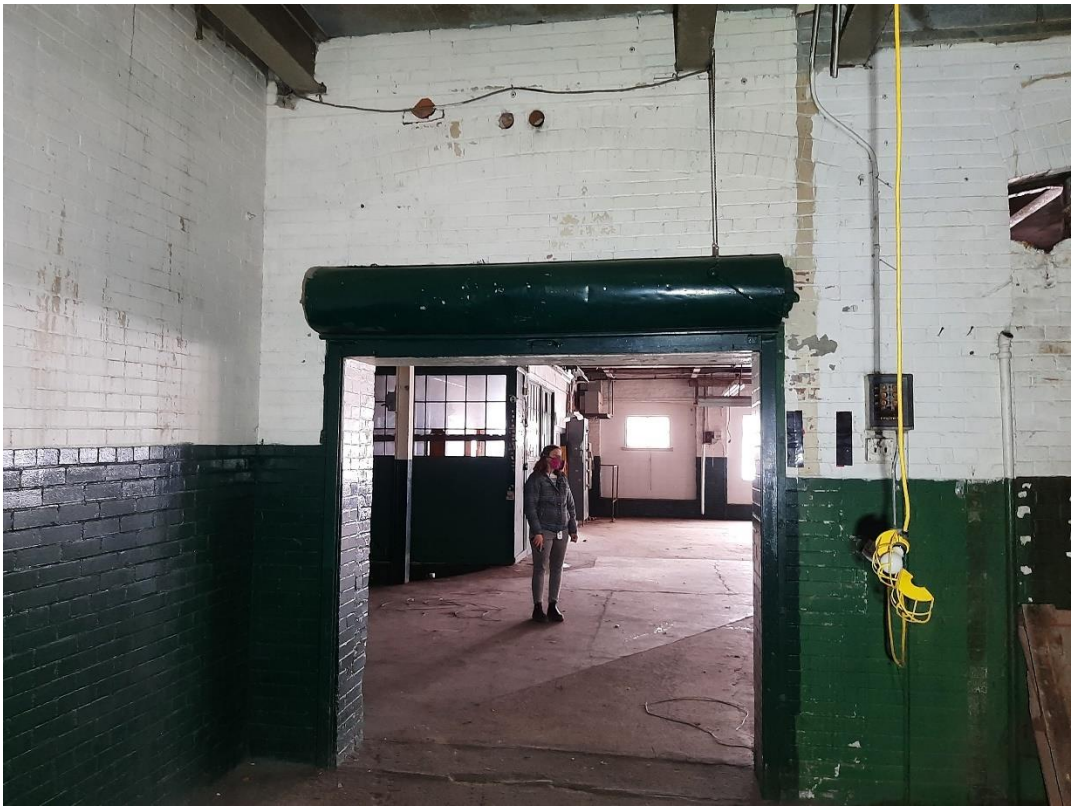
Photograph No. 16 – Ground Floor - Looking South

Photograph No. 17 – Ground Floor - Looking North

Photograph No. 18 – Ground Floor - Looking West

Photograph No. 19 – Ground Floor - Looking West

Photograph No. 20 – Ground Floor - Wall Wrapping Chimney



Photograph No. 21 – Second Floor Door to be infilled

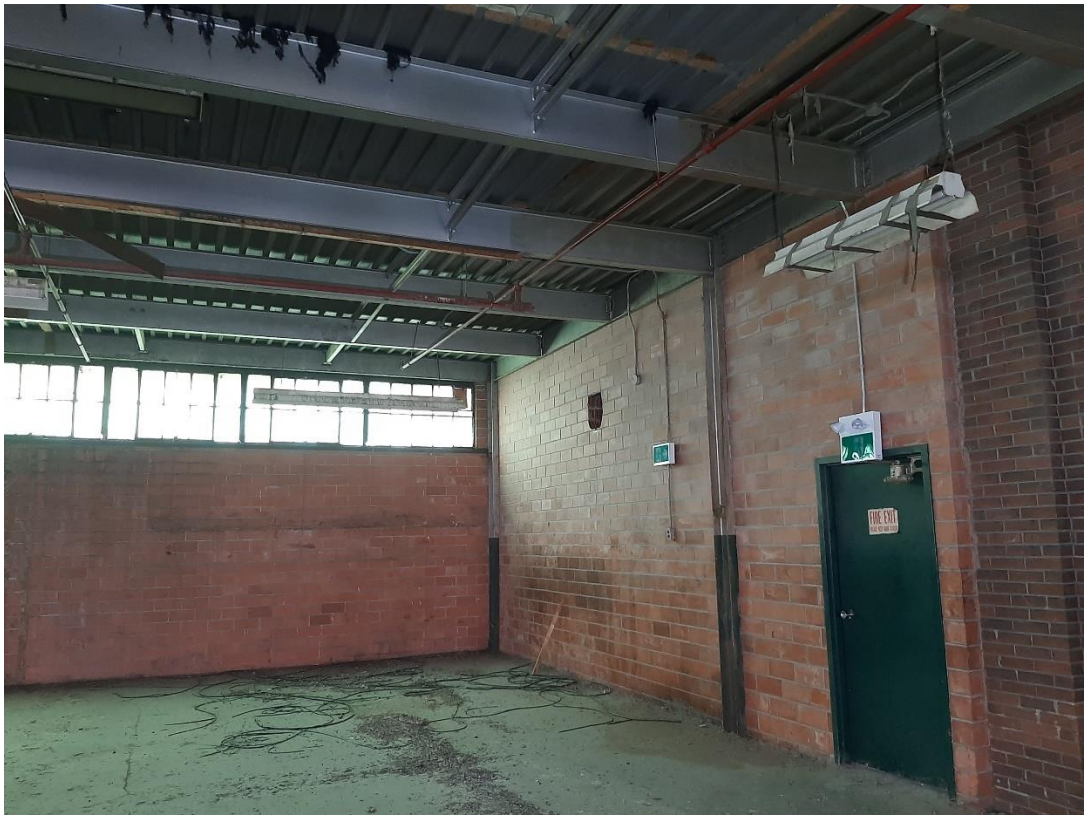
Photograph No. 22 – Second Floor Wall

Photograph No. 23 – Second Floor - Looking North

Photograph No. 24 – Second Floor - Looking North

Photograph No. 25 – Second Floor - Looking West

Photograph No. 26 – Second Floor (Looking South) - North wall of Stair



Photograph No. 27 – Second Floor - East Wall of Main Stair

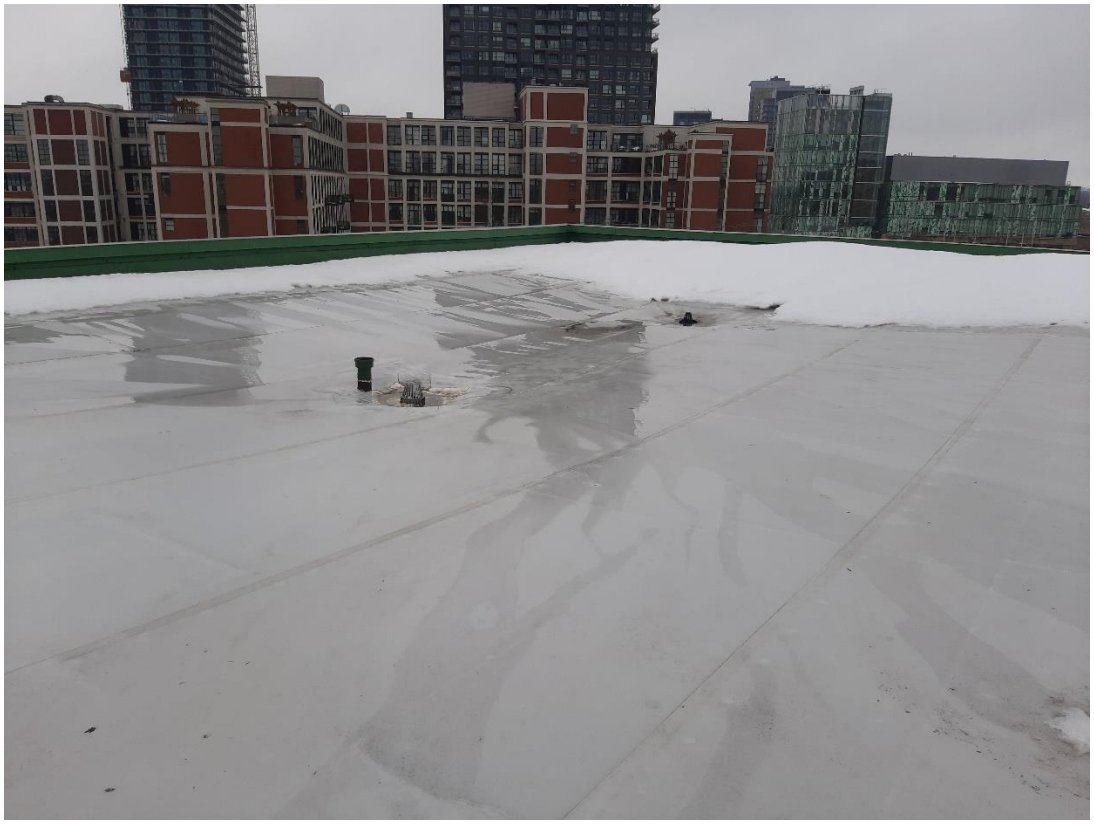
Photograph No. 28 – East Wall of Main Stair

Photograph No. 29 – Third Floor Opening to be infilled

Photograph No. 30 – Third Floor East wall

Photograph No. 31 – Third Floor East wall

Roof



Photograph No. 32 – Roof, Suspected source of water leak thru building

Photograph No. 33 – Roof looking northwest

Photograph No. 34– Small roof over entrance stair, poor drainage

Photograph No. 35 – Small roof over entrance stair, poor drainage

Photograph No. 36 – Edge of 1913 east wall, source of leak

Photograph No. 37 – Edge of 1913 east wall, source of roof leak

Photograph No. 38 – Edge of 1913 east wall, source of roof leak

Photograph No. 39 – Lift Hoist shaft

Photograph No. 40 – Looking west

Interior

Photograph No. 41 – Ground Floor - Rain water leaking thru Concrete floor slab above

Photograph No. 42 – Ground Floor - Water from Roof Leak

Photograph No. 43 – Ground Floor, Water Leak from Second Floor above

Photograph No. 44 – Ground Floor looking at 1913 East Wall

Photograph No. 45 – Ground Floor Looking East

Photograph No. 46 – Ground Floor Looking East, No Distress

Photograph No. 47 – Second Floor Masonry in Good Condition

Photograph No. 48 – Second Floor, Water leak from roof

Photograph No. 49 – Second Floor, Water leak from roof

Photograph No. 50 – Second Floor - cracks in wall plaster

Photograph No. 51 – Stair to Third Floor

Photograph No. 52 – Third Floor - masonry cracks

Photograph No. 53 – Third Floor - shoring in place since 2012

Photograph No. 54 – Third Floor, Masonry in Fair Condition

Photograph No. 55 – Third Floor - Ceiling Board damage from roof leak

Photograph No. 56 – Third Floor - Water from Roof Leak

Photograph No. 57 – Third Floor - looking east, Masonry in fair condition

Photograph No. 58 – Third Floor, looking south

Photograph No. 59 – Third Floor - looking west

Photograph No. 60 – Third Floor - looking northwest

Courtyard

Photograph No. 61 – Courtyard looking east

Photograph No. 62 – Courtyard, Timbers leaning, CMU Block at top

Photograph No. 63 – Courtyard Wall, Looking west, Timbers leaning, Vulnerable CMU Block at top

Photograph No. 64 – Courtyard Wall, Timbers leaning, Tree pushing

Photograph No. 65 – Courtyard, Timbers leaning, concrete deterioration

Photograph No. 66 – Courtyard, Timbers leaning, rot

Photograph No. 67 – Courtyard, drainage in centre