1955 - 2025

ADJELEIAN ALLEN RUBELI

Consulting Engineers

Building Deficiency Review

at 323 George Street, Coburg, ON

Final Submission

December 12, 2025

PROJECT # 6383-01

Prepared for

NSCC No. 72 –

Northumberland Standard Condominium

Corporation No. 72

1005 – 75 Albert St., Ottawa, ON
803 – 5255 Yonge St., Toronto, ON

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EXECUTIVE SUMMARY

Adjeleian Allen Rubeli Limited (AAR) was retained by Northumberland Standard Condominium Corporation No. 72 (NSCC 72) to coordinate and assess existing building deficiencies at 323 George Street, Cobourg, Ontario. This report outlines outstanding deficiencies identified by various consultants, along with recommended remedial actions and associated construction cost estimates.

The deficiencies referenced herein originate from the Performance Audit (PA List) conducted by Pichler Engineering on May 20, 2015.

NSCC 72 comprises a four-storey brick structure - originally a schoolhouse - converted into a 35-unit residential condominium. A five-storey residential tower, constructed using insulated concrete forms (ICF) and concrete slabs, was added during renovations carried out between 2009 and 2011. While the original façade and exterior elements were preserved, the interior underwent substantial modifications.

The initial performance audit conducted in 2015 identified multiple deficiencies and potential code violations spanning architectural, structural, mechanical, and electrical disciplines. A follow-up audit was completed in December 2024 to evaluate the status of unresolved items. However, the review process was significantly constrained by limited access to architectural, electrical, and mechanical drawings. Several documents lacked professional stamps, raising concerns about their authenticity and whether they accurately reflect the final as-built conditions.

To determine the current condition of the building, AAR conducted site investigations, exploratory openings, and targeted surveys. These investigations revealed that numerous deficiencies remain unresolved.

For the purposes of this report, the consultants were tasked at reviewing the building, providing a commentary on the status of the deficiencies outlined in the 2015 Pichler Report, and address the 5 topics shown below to understand the extent of deficiencies.

1. What deficiencies have been identified in the building? Are they reflected in the Performance Audit (i.e. related to a deficiency or a symptom of a deficiency listed in the Performance Audit)?
2. Are any of the deficiencies that have identified violations of the applicable Ontario Building Code (or any other applicable code or municipal regulation) in place at the time? Are any of the deficiencies identified violations of the relevant industry standards applicable at the time?
3. Based on the review of the available plans, drawings, or specifications, for each discipline, are there any deficiencies in the original design? If so, specify the plans, drawings, and specifications reviewed and whether the deficiencies are violations of the applicable Ontario Building Code (or any other applicable code or municipal regulation) in place at the time. Are they violations of the relevant industry standards applicable at the time?

4. What are the recommended repairs to correct the deficiencies that have identified and the estimated cost?
5. Should any of the deficiencies have been resolved before occupancy was permitted?

The review concluded that immediate modifications are required to the building's firestopping and fire protection systems to ensure compliance with fire safety standards across all floor, wall, and ceiling assemblies. Temporary measures should be implemented as soon as possible address current tenant safety concerns. Additionally, costs have been estimated to address all outstanding items to reach building compliance. Cost breakdown per discipline is shown below and in individual reports along with a total cost for repair.

DISCIPLINE	ESTIMATED COST (CAD)
Mechanical	$ 452, 100.00
Electrical	$ 91, 100.00
Structural	$ 223, 500.00
Architectural	$ 10, 826, 846.00
Fire/Life Safety	$ 170, 000.00
TOTAL	**$ 11, 763, 546.00**

Compiling the costs of each discipline for total repairs of the building, the estimated cost is $11,763,546 as specified above. In order to review costs and each deficiency addressed individually, refer to reports from Goodkey, Weedmark & Associates Ltd. (GWAL), Juxta Architects, Adjeleian Allen Rubeli Limited (AAR) and LRI Engineering, which are included in this report package.

STRUCTURAL REPORT

Prepared by: Natalie Miller

December 12, 2025

Davidson Houle Allen LLP
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Ottawa, Ontario
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Attention: Melinda Andrews Melinda@davidsoncondolaw.ca

Re: NSCC No. 72 – 323 George Street
Structural Review
AAR Reference No. 6383-01

1.0 INTRODUCTION

1.1 Background

As requested, Adjeleian Allen Rubeli Limited (AAR) has reviewed the existing condition and available documentation related to the structure of the existing building at 323 George Street, Cobourg, Ontario. Northumberland Standard Condominium Corporation (NSCC) No. 72 is a residential building that was renovated from a schoolhouse into a 35-unit condominium building circa. 2009 - 2011. The building consists of a four-storey main building (original schoolhouse), with a five-storey tower addition on the west side.

It is our understanding that a review was requested to confirm and identify deficiencies or structural concerns. It was also requested to comment on estimated costs to address deficiencies and whether the deficiency should have been resolved prior to occupancy.

1.2 Limitations

Our review was limited to a high-level review of provided documents to identify any significant areas of concern or missing information related to the building structure. A detailed review and structural analysis were not included in our review.

Onsite reviews were limited to visual and tactile review of readily accessible areas and localized areas of investigative openings. The garage was not included in our review.

Where relevant, applicable codes or standards are referenced; however, this is not a code compliance review, nor is it a compliance verification for issuance of occupancy.

2.0 DOCUMENT REVIEW

The following documents were included in our review.

- Performance Audit- NSCC 72 – 323 George Street, Cobourg, Ontario Pichler Engineering, May 20, 2015
- Performance Audit- NSCC 72 – 323 George Street, Cobourg, Ontario Pichler Engineering, December 9, 2024
- Mansions on George, 323 George Street, Cobourg, ON, J.E. Doubt Associates Inc, Oct.3, 2008

Available structural drawings:

DWG NO.	DWG. TITLE	ISSUE & DATE
S1	First Floor and Foundation Plan	Aug.09 Foundation Revision
S2	Second Floor Plan	Aug.09 Precast Support
S3	Third/Fourth Floor Plan	Mar.15.10 Beam/Col Revision
S4	Fourth/Fifth Plan	Mar.15.10 Beam/Col
S5	Roof Plan	Aug.09 Elevator Changes
S6	Sections	July 2008 [no issue title]
S7	Cross Section	July 2008 [no issue title]
S8	Cross Section	Oct.10.08 Permit Set
S10	Details	Mar 09 [no issue title]

Phase II Drawings (not reviewed)

S1	Foundation Plan	Nov.20,09 [no issue title]
S2	Foundation Details	Nov.20,09 [no issue title]
S3-2	Cross Section	Jan 2010 [no issue title]

The original performance audit by Pichler Engineering, 2015 provides an overview of the building as a whole and identifies deficiencies for multiple disciplines. The follow-up report in 2024 provides updated comments on resolved and unresolved deficiencies. Structural items identified in these reports are the cracks in column capitals at east façade columns, and the parapet at west elevation. These are further discussed below in *Section 4*.

The original 2015 report also identifies the drawings available for their review; structural drawings listed are S1 - S4 and S6. As noted in the list above, additional drawings were available for our review. Note that in some cases multiple versions of the drawings were available. Only the latest issue was reviewed.

The plan drawings S1 – S5 appear to be the primary source of information available for the building. Work for the original schoolhouse portion of the building is shown to include alterations to the existing masonry walls and the addition of new columns. The new building is shown to consist of concrete precast concrete floor panels supported on steel beams and ICF (Insulated Concrete Form) walls. The foundations are shown to be reinforced cast-in place concrete. Design loads and general notes for material requirements are shown on drawing S5 and generally present the expected information, except as noted below.

Drawings S6 – S8 and S10 are sections, cross-sections and details, of which only S8 appears to have been included in the permit set. Other drawings do not have issue titles or dates, therefore, the purpose and stage of development for these drawings is unknown and the information is assumed to be preliminary and not reliable.

Information not identified on the available drawings include the following:

- Drawings are not stamped by an engineer licenced in Ontario. This is normally required for permit construction drawing.
- Drawings are not marked as 'As-builts' or 'Issued for Construction', with the exception of drawings S4 and S5 which are marked 'Re-Issued for Construction'. It is unclear if other versions of these drawings exist, or construction was based on drawings not indented for construction.
- The version of the design code is not indicated on the drawings; however, it is stated on drawing S5 that "All materials and workmanship shall be in conformance with the Ontario building code…latest edition…". It is assumed that OBC 2006 was the applicable code at the time of construction.
- Lateral design forces (wind or seismic) are not indicated. This is normally stated.
- Soil bearing design capacities are not indicated. A note on S5 indicates '…where neat excavation in native soil are possible, concrete for footing need not be formed.' Soil bearing capacity is critical structural information and is normally stated on construction drawings.
- Sections and details as marked on plan appear to be missing from available drawings package or incomplete.
- Masonry repairs to existing building or rationale for removal of existing masonry walls are not identified. Although some of this would not be expected to be shown on the drawings, it would have been expected to be part of the analysis and design stage of the project.
- Limited information is shown for the existing balcony at the east elevation fourth floor. Existing columns below the balcony are not shown on plans.
- Limited information is shown regarding the modifications to the existing roof structure.

3.0 OBSERVATIONS

AAR was on site on March 20, 2025, to conduct a general review and subsequent visits were made on April 14, and April 16, 2025, to review exploratory openings. Below outlines our observations including areas of immediate concern and general observations.

3.1 Immediate Areas of Concern

- **East brick columns**

  As part of our investigative openings review, the condition of the existing brick columns at the east elevation were noted to be in poor condition. The columns support two residential balconies at level 4. Existing openings at the top of each column as well as one mid-height and two near the bottom were previously made by others and reviewed at arms length April 16, 2025. Significant spalling of bricks, loose fragments, and localized poor consolidation of masonry were observed. Openings were wrapped in plastic and wire

mesh. Debris was noted to be caught in these protective elements. It is our opinion that the observed conditions present a safety hazard for the occupants of the balcony, as well as the area below.

It was recommended to block access to the balcony areas at level 4, and the area below in case of falling debris, as per AAR's letter issued April 28, 2024.

Cracking in the column capital was identified (reference #40) in the original PA, and updated to include the masonry columns in the 2024 report (reference #11).

- **South elevation, east end, brick façade**

  As part of our investigative openings, the condition of the brick at the east end of the south elevation was noted to be in poor condition. It is our opinion that there is potential safety hazard for loose or falling debris. It was therefore recommended that area below be blocked off, as per AAR's letter issued April 28, 2024.

  This item was not included in the original or updated PA.

- **Cement board, west elevation**

  As part of our preliminary site review the cladding system for the west wall of the building was noted to consist of cement board panels. The review noted that the panels were anchored into plastic strips of the ICF assembly, with deck screws. In our opinion, the existing fastening is not adequate to resist code-required wind forces. In addition, we note signs of deterioration on the panels, which will reduce the panels' capacity to resist those forces. In our opinion, this condition represents an immediate hazard due to falling debris in strong winds.

  It was recommended to install fencing in front of the west wall to block-off the area from public access as per AAR's letter issued April 8, 2024. It was also recommended to erect overhead protection at the exterior scaffolding and as an egress path leaving the area.

  The west elevation exposed ICF was identified (reference #112) in the original PA, and updated to include failing temporary cement board siding (reference #8, Appendix B).

- **Parapet wall, west elevation**

  As part of our review of the roof area on the addition noted the parapet to be unstable, when pushed manually. In our opinion, this represents a safety hazard because it would be a fall risk if a person were to rely on the stability of the parapet as a guardrail.

  It was recommended to immediately install a roof warning line along the perimeter to delineate a safe distance away from the parapet as per AAR's letter issued April 8, 2024.

  The parapet wall was identified (reference #129) in the original PA, and updated in the follow up report in 2024 (reference # 13, Appendix B).

3.2 General Observations

Exterior

- Our general review consisted of an exterior walk around at grade to visually observe the exterior elevations. Refer also to architectural report for additional comments. The original building consists of exterior brick masonry walls. Areas of cracking in the masonry, as well as previous repairs and interventions were observed. The southeast corner was identified as an area of interest due to repaired stones and cracking of bricks at the corner. (*Photo 1*) The issues in this area may be from settlement or stress from overloading; however, further investigation would be required to confirm. No immediate structural concerns were noted; however, cracking and opening joints allows for moisture infiltration which should be addressed. Another area near the center of the south elevation was also flagged as an area of interest due to the cracking observed in the masonry and possible moisture issues.
- There are four columns located at the east façade of the building which extend up to the underside of level 4 balconies. Significant cracking in parging was observed. Areas of previous openings were noted, which were further reviewed as discussed below, *Section 3.3*.
- One of the balconies above the four columns at the east façade was also accessed from the top side for review. No structural concerns were identified, and it was noted that the waterproofing appeared to have been recently replaced. (Refer also to architectural).
- The west portion of the building is the new addition. This portion consists of insulated concrete forms (ICF) with masonry veneer at the north and south elevations. The west elevation has exposed cement board. It is our understanding that further additions were planned to connect at this elevation, therefore exterior cladding was not installed. Construction has not proceeded and unfinished cement board has remained exposed since installation. Cement board panels were noted to be bowed or bulging away from the building. Panels appeared to be fastened with adhesive and deck screws to plastic form work of the ICF. (*Photo 2*)
- A scaffold fire escape was also located at the west elevation. (*Photo 2*) Poured concrete footings were noted; however, details are unknown. The base of scaffold posts were anchored to concrete; only one or two anchors per post were noted, with limited edge distance, and cracking was observed in one location. Bracing elements appeared to be anchored to the building wall; however, it is unconfirmed if it ties into the concrete of the ICF wall.
- The roof was also reviewed. Roof area consists of an accessible rooftop patio area, and fences to separate non-accessible (non-public) areas of roof. The roof area over the original building portion has a low parapet; no roof anchors or tie-offs spots noted, so access close to the edge must be limited by workers.
- The roof over the west addition portion of the building has a taller parapet wall, allowing access to the roof edge. The parapet wall at the west edge was previously identified as a deficiency for review. The parapet wall was noted to be unstable, when pushed manually.
    - A dividing fence between the patio area and non-public roof area appears to be providing support to the parapet wall. This appears to have been added since the time of the photo included in the PA deficiency list.
    - A diagonal brace was also noted at the non-public area of the roof between the west parapet wall and the north parapet wall. The brace was a make-shift wood member with significant drooping. (*Photo 3*)

- The support points of the dividing fence and diagonal brace appeared to be effective locally; however, overall the parapet wall still appeared to be flexible when pushed.

Photo 1: Masonry Cracking and Previous Repairs, Southwest Corner

Photo 2: Cement Boards and Scaffold Egress Stair, West Elevation

Photo 3: Diagonal Brace, West Parapet

Interior

A general review of the interior common spaces such as hallways and stairwells was also conducted. One unit at the east end of the fourth level was also accessed, including the balcony area. Basement areas and mechanical or electrical service areas were not reviewed.

At the interior, structural items were generally not readily accessible for review as they were covered with architectural finishes. Some areas of exposed brick visible in the common area. Similar to the exterior, some areas of cracked and opening joints were observed with various previous repairs. The bricks appeared to have adequate consolidation and no loose bricks or areas of concern were noted.

The floors at the fourth level of the original schoolhouse area were noted to be uneven and sloped. A site representative noted that some units had their floors re-leveled. Details on the floor structure were not available for review; however, the observed conditions are assumed not to be a structural concern, but are more likely a result of construction methods and tolerances.

At the west elevator lobby, moisture damage was noted along the walls. This is likely a result of the temporary cement board cladding allowing moisture infiltration. Refer to architectural report.

At the southwest stair, core openings were noted in the wall and floor. The wall appeared to be constructed of hollow block masonry units. The core opening in the landing floor showed concrete on steel deck. The cores appeared to be open only on the stair side of the wall and the underside of the landing.

3.3 Exploratory Openings

Exploratory openings were conducted for two areas of interest related to structural deficiencies, the east columns, and the parapet at the west roof.

East Columns

Previous parging removals were made on the brick columns at the east side of the building; current investigations looked at these same areas that were temporarily covered with poly sheet and wire mesh.

The following observations were noted:

- Four (4) openings were located at the tops of the columns, one at each column all the way around where decorative elements had been previously removed. There was also one (1) mid-height opening at the third column from the south, and 2 lower openings at the third and fourth columns from the south *Figure 1.* (*Photo 4)*
- A visual review of the exterior parging on the columns as well as localized areas of hammer sounding was conducted. Where significant cracking was observed, delamination was also noted. (*Photo 5 &Photo* 6) The other areas where no cracking was observed did not appear to be delaminated. The parging thickness was generally noted to be 38 mm – 50 mm [1 ½" - 2"]. Nails appeared to be used as the connection between parging and bricks.
- Where exposed, the brick condition was found to be generally poor. (*Photo 7 & Photo* 8) Bricks were noted to be soft, crumbling, and spalling. Mortar condition was also found to be generally poor. Mortar was found to be soft, sandy, and crumbling.
- At the mid-height opening (Opening #3b) (*Photo 9)*, the column was open to a depth of approximately 280 mm [11"] deep, to the center of the column. It is assumed bricks were previously removed for review; however, the extent is unclear, and the interior of the column was generally found to be soft and crumbling. There did not appear to be an interior structural member such as steel or concrete; it is therefore assumed that the existing brick columns are load bearing.
- At the bottom opening (Opening #4b) (*Photo 10)* the brick, mortar and parging appeared to be in fair to good condition. This area did not appear to have the significant moisture damage and deterioration observed in other areas.
- Moisture and in some cases mould or biological growth was noted from moisture getting trapped behind the poly sheet at the openings.
- Moisture was identified as a major issue which has contributed to the deterioration of the brick masonry columns and parging coating.
- Soffit plywood was noted to be wet and rot. Only small portions of the soffit plywood were visible at the time of review. (*Photo 11)* Waterproofing had been redone at the top side of the balcony as noted above, *Section 3.2*.


Photo 4: East Elevation Columns


Photo 5: Cracking of Parging, Column 3


Photo 6: Cracking of Parging and Peeling Paint, Column 3


Photo 7: Opening 1a


Photo 8: Opening 2a


Photo 9: Opening 3b


Photo 10: Opening 4b


Photo 11: Opening 1a

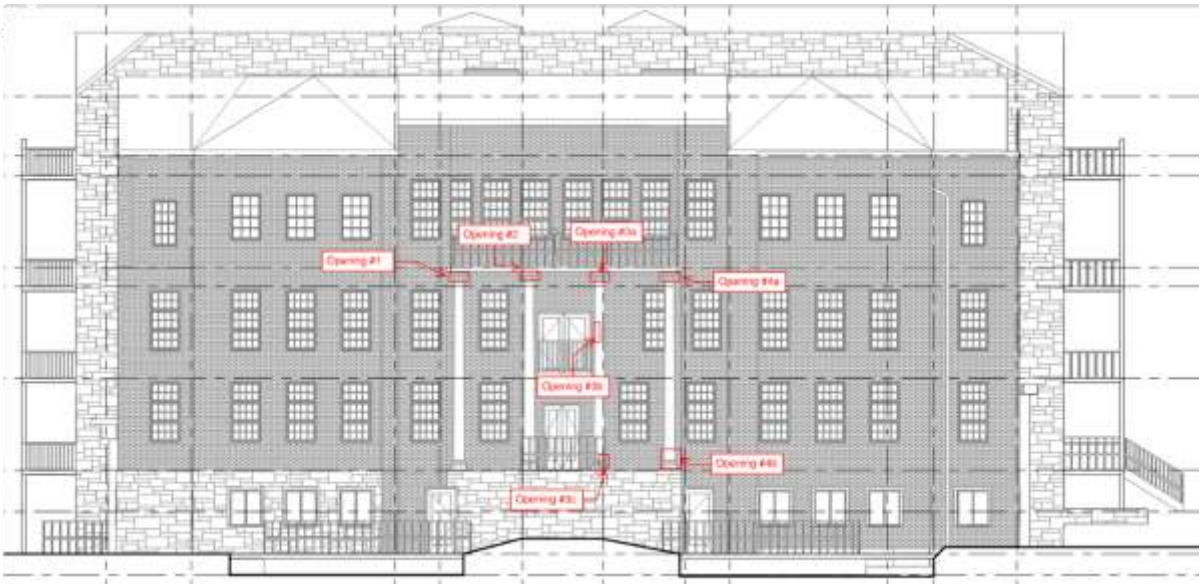

Figure 1: Approximate Locations of Column Openings, East Elevation

Parapet – West Wall

An exploratory opening was conducted at the parapet at the west roof. An opening approximately 300 mm x 600 mm was made at the interior face of the parapet wall near the roof line. (*Photo* 12 *& Photo* 13) The following observations were noted regarding the structure, refer also to *Figure 2.* Refer also to architectural report.

- Parapet structure consisted of two sets of 2x4 [38 mm x 89 mm] wood stud framing spaced approximately 80 mm apart with 13 mm thick OSB sheathing on each side.
- Stud spacing at the interior side of the wall was approximately 400 mm. Top and bottom plates (2x4 [38 mm x 89 mm]) were noted at the top of the wall and at the roof level. No anchorage or fasteners were noted at the bottom plate to the roof structure, which likely contributes to the flexibility of the parapet wall. (*Photo* 14*Photo 15*)
- Stud spacing at the exterior side of the wall was approximately 250 mm. A top plate (2x4 [38 mm x 89 mm]) was noted at the top of the wall; however, the bottom plate was not visible. Studs continued below the roof level. (*Photo* 14*Photo 15*) It is assumed the studs connect to the concrete (ICF) wall below.
- 1x4 [19 mm x 89 mm] or 2x4 [38 mm x 89 mm] members were noted to be spaced intermittently connecting the two sets of wood studs. (*Photo 16*) The spacing of connecting members was not confirmed; however, was noted to be infrequent.
- Insufficient connections between the two sets of studs and anchorage likely contribute to the flexibility observed in the parapet wall.

Photo 12: Approximate Location of Parapet Exploratory Opening

Photo 13: Parapet Wood Framing at Exploratory Opening

Photo 14: Parapet Wall Composition, (looking up) [Photo by Juxta, 2025]

Photo 15: Parapet Wall Composition, (mid-height brace) [Photo by Juxta, 2025]

Photo 16: Parapet Wall Composition, (looking down) [Photo by Juxta, 2025]

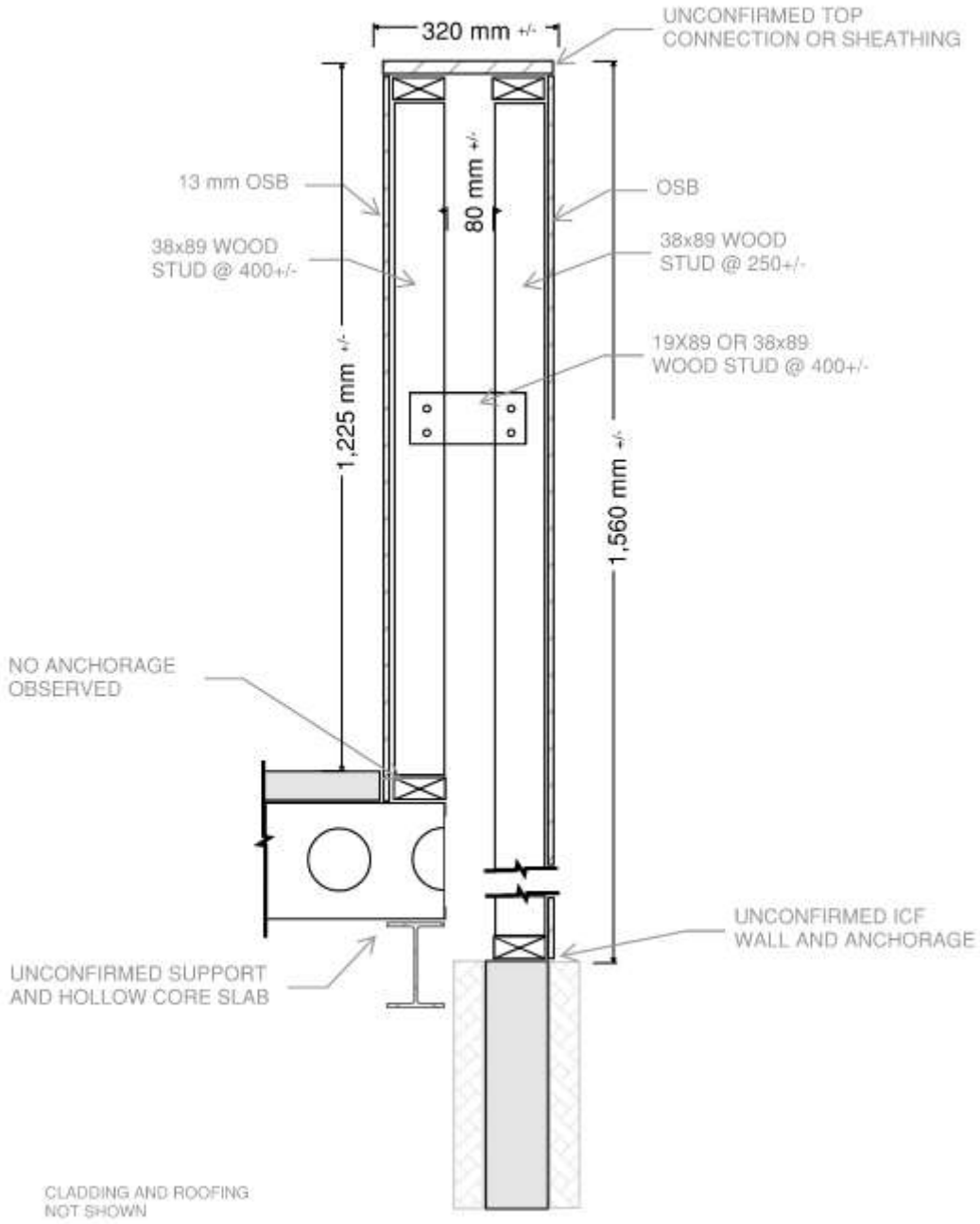

Figure 2: Sketch of Expected Parapet Configuration

4.0 DEFICIENCIES

A Performance Audit was conducted by Pichler Engineering, dated May 20, 2015 and updated December 9, 2024. The 2024 document identified two structural deficiencies. These items were reviewed on site. These items represent non-conformance with OBC 2006.

1. Column Capital Crack, East façade column [reference #40 from PA, updated reference #11]

   "The masonry columns at the east-central side of the building have severe deterioration of the capitals with deterioration starting to form along the length of the columns. Cause for deterioration associated with inadequate/poor drainage from the balconies located above the columns. Major improvements to the balcony drainage required before column and capital finishes are repaired. As this is specialized work, repairs will be expensive."

   Code reference – Div C 1.2.2.1

   It is our opinion, assuming these conditions were similar at the time of construction, that work would have been required prior to occupancy of the balconies above and below the area.

2. Parapet Wall Moves when force is applied to it [reference #129 from PA]

   Parapet Wall, West-Central Side

   "The parapet wall along the west roof, forming part of the terrace patio area, is loose and moves significantly when forces are applied to it. Structural improvements are required and repair/improvement costs could exceed the estimate if major structural improvements are required."

   Code reference - Div C 1.2.2.1

   It is our opinion, assuming these conditions were similar at the time of construction, that work would have been required prior to occupancy of the roof top patio area.

During our review of the deficiencies identified in the Performance Audit by Pichler Engineering, concerns were raised regarding the following points:

1. ICF (Insulated Concrete Forms)

   At the time of construction, it is our understanding that building a superstructure to this height with ICF was uncommon. ICF is used commonly in Part 9 construction; however, this is at Part 4 building. A code review and engineered design would have been required for design and construction. Limited documentation to this effect has been made available. Some details for the design of ICF are included on the available drawings; however, drawings are not stamped.

   Code reference: OBC 2006

2. Exterior Brick

   The condition of the exterior brick masonry had localized areas in poor to fair condition with cracked and open joints, deteriorated and weathered brick. The south and southwest corner of building had the areas with the most significant brick cracking and deterioration. Refer also to architectural report for additional details.

3. Seismic Design

   Considerations for seismic forces must be evaluated during design of new buildings and major retrofits to existing building. For existing building there are exceptions. Design requirements vary by geographical location and soil type. Based on our preliminary review of the existing and new buildings, a review of seismic requirements should have been considered. No documentation to this effect has been made available.

   Code reference: Div B 4.1.8

5.0 RECOMMENDATIONS

- East Columns & Balcony
  - Immediate Action – recommendation for temporary safety measures (refer to letter dated Apr.28, 2025); as of early June 2025 these temporary safety measures have been installed onsite.

    Cost Estimate: $8.5K+/-

  - Short Term – Repair/Replacement of Columns

    Repair or replacement of existing columns to match existing is recommended in the short term. Based on our observations, the existing columns appear to consist of brick and parging which are in poor condition due to water infiltration and age. Existing masonry materials do not appear to be salvageable; however, conditions may vary throughout the column depending on infiltration of water overtime. Existing parging limited review of the brick masonry. It is assumed that much of the parging and brick is beyond its service life and replacement is recommended. Alternatively, selective demolition and repair could be possible; however, the effort and cost of this approach are expected to be significantly greater than replacement. It is recommended to replace the existing columns. The new columns are proposed to be structural steel with cladding to suit existing aesthetic and heritage guidelines. Localized repairs and waterproofing measures are also expected at the balcony above. These items to be coordinated with architect.

    Cost Estimate: $200K+/-

- Parapet Wall
    - Immediate Action – recommendation for temporary safety measures (refer to letter dated April 8, 2025)
    - Short – Medium Term Repairs

      Investigative openings identified parapet construction to consist light wood framing. Insufficient connection and bracing were identified as the likely cause of flexibility of the parapet wall. Upgrades are recommended to reinforce the connections and bracing.

      Cost Estimate: $15K+/- (not including cladding)
- Cement Board, West Wall
    - Immediate Action – recommendation for temporary safety measures (refer to letter dated April 8, 2025)
    - Short – Medium Term Repairs

      Provide permanent cladding system to protect structure. Refer to architectural report.
- Brick, Southeast Corner
    - Short Term Repairs

      Address moisture infiltration. Refer to architectural report.
    - Monitoring

      Regular monitoring of the area to confirm if there is continued movement or if the area has stabilized.
- Egress Scaffold Stair, West Elevation
    - Immediate Action – recommendation for temporary safety measures (refer to letter April 8, 2025)
    - Short – Medium Term Repairs

      Provide permanent egress stair. Refer to architectural report.
- Core Openings & Interior Wall
    - Infill core holes and repair moisture damage at wall. Refer to architectural report.

- Roof
    - Further Study

      Review the need for safe access based on the buildings needs to the non-accessible (non-public) areas of roof (the area over the original schoolhouse building). A low parapet and no roof anchors or tie-offs spots were noted. Access close to the edge must be limited by workers.

- ICF (Insulated Concrete Forms)
    - Further Study

      Review code compliance of ICF construction.

- Seismic
    - Further Study

      Review if seismic considerations were accounted for in design of addition. Alternatively, engage an engineer to complete further review on the topic (desktop analysis).

We trust you will find the above satisfactory. Do not hesitate to contact the undersigned should you need any further clarification or to discuss any aspect of this letter.

Yours truly,
ADJELEIAN ALLEN RUBELI LIMITED

Natalie Miller, P.Eng.

Justin Vienneau, P.Eng.

ARCHITECTURAL REPORT

Prepared by: Stefan Gingras

juxta

REPORT ON FINDINGS :

NORTHUMBERLAND STANDARD CONDOMINIUM CORPORATION NO. 72

323 GEORGE STREET,
COBOURG, ONTARIO

DECEMBER 11, 2025

JUXTA NO. 2509

Juxta Architects Inc. | 400 Slater Street, suite 2102, Ottawa, ON K1R 7S7 | 613-581-1589

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ONTARIO ASSOCIATION OF ARCHITECTS
STEFAN GINGRAS
LICENCE
8996

Reviewed and approved December 12, 2025
-Stefan Gingras, OAA

1. Executive Summary & Conclusions

1.1. General Findings

Juxta Architects has been tasked with producing this report to relay our findings for the Northumberland Standard Condominium Corporation No. 72 (NSCC No. 72) building located at 323 George Street, Cobourg, Ontario. **All references in this report relate to the previous Performance Audit deficiency list by Pichler Engineering (also called the PA list.)** This report deals only with architectural deficiencies from the Performance Audit; other engineering disciplines are reported under separate cover (Structural: AAR, Mechanical & Electrical: Goodkey Weedmark, Fire Protection: LRI).

The formatting of this report has grouped the numbered deficiencies from the PA list by category. Each category is listed in Section 3 of this report, with the associated PA list references noted at the beginning of each category. Cost estimating was based on RSMeans 2024 unit rates wherever possible. Where specific quantities were not available, Juxta used assumptions regarding the scope of work and our past experience to determine the Rough Order of Magnitude (OOM) cost estimates.

The specific mandate of this report was for Juxta Architects to address five (5) questions, which are listed below along with our summarized response and conclusions. The detailed information to support these responses is provided in the body of the report.

.1 *What are the deficiencies you have identified in building? Are they reflected in the Performance Audit (i.e. related to a deficiency or a symptom of a deficiency listed in the Performance Audit)?*

Summarized Response: We have identified numerous deficiencies in the building that implicate a variety architectural building components and systems. The Performance Audit by Pichler Engineering identified many construction deficiencies, but in a topical manner. During our review and verification of the Pichler deficiency list's outstanding items, Juxta was required to perform an assessment or investigation. During these investigations, many of the original Performance Audit deficiencies were found to be the observable symptoms of more widespread issues with construction, design, and workmanship.

For example, items 67, 68, and 72 from the performance audit relate to a lack of firestopping at specific pipe penetrations. Upon investigation, it was discovered that this issue is not unique to these three locations, and that the lack of firestopping is endemic throughout the building.

The previous example is only one of several instances where a known deficiency led to the discovery of endemic issues. The architectural building systems affected by these endemic issues are:

1) Fire separations: vertical fire partitions, horizontal fire separations, fire-stopping products. Overall, no fire separations can be considered adequate, including floors and demising walls.

2) Exterior flashing and waterproofing: many areas where water freely enters the exterior wall assembly.

3) Exterior brick masonry: poor workmanship and use of incompatible products has led to the deterioration of the historic brick masonry.

4) Egress routes: Lack of proper exits, some existing exits are not code conforming, non-conforming handrails.

5) Parapet and Roof Construction: No membranes on parapets; parapets are void, providing an inaccessible enclosed space. Roof slopes allow for standing water, and roof penetrations are improperly executed.

6) Flammable Materials: Ceiling plenums at perimeter walls throughout the new addition contain unprotected expanded polystyrene.

7) Endemic deficiencies related to other disciplines are covered in their own reports.

.2 *Are any of the deficiencies you have identified violations of the applicable Ontario Building Code (or any other applicable code or municipal regulation) in place at the time? Are any of the deficiencies you have identified violations of the relevant industry standards applicable at the time?*

Summarized Response: Yes, the building contains numerous violations of the OBC. This includes fundamental life-safety measures such as inadequate fire-separations and exposed flammable materials. The workmanship is consistently poor and generally does not adhere to industry best-practices.

.3 *Based on your review of the available plans, drawings, or specifications, for your discipline, are there any deficiencies in the original design? If so, please specify the plans, drawings, and specifications you reviewed and whether the deficiencies are violations of the applicable Ontario Building Code (or any other applicable code or municipal regulation) in place at the time. Are they violations of the relevant industry standards applicable at the time?*

Summarized Response: Yes, although it is difficult to determine due to the lack of a definitive set of sealed architectural drawings. The drawings that we had access to did not use ULC or OBC Part 3 approved and certified fire-rated assemblies. In some instances, Part 9 assemblies are used; Part 9 is not applicable to this building. In others, a fire-rating is assigned to an assembly that includes historic components and does not indicate an OBC-approved fire-separation reference. Fire

protection details for beams and columns are deficient and do not provide an adequate level of fire protection.

The original design also relied on the existence of an unbuilt Phase 2 of the project to provide a second means of egress to two units on the 4th floor. These two units were provided with a scaffolding stair as their secondary means of egress, which remains today.

.4 *What are the recommended repairs to correct the deficiencies you have identified and the estimated cost?*

Summarized Response: The deficiencies are serious in nature, and some of them present a risk to the life-safety of the occupants. We are recommending that all the fire and life-safety issues be remediated without delay.

We are also recommending that the additional code and workmanship issues be repaired.

To accomplish this, invasive demolition and construction will be required throughout the building. This includes the anticipated removal of large areas of the ceiling throughout the building, as well as extensive repairs to the exterior brick, roof, parking garages, building exterior, and site. We recommend a phased approach so that the most pressing life-safety issues can be addressed first. We are also recommending a series of temporary measures to mitigate the risk to occupants. This phased approach includes the following:

In the immediate term:

- Inform the local fire chief and/or the office of the Ontario Fire Marshall of the current conditions. Only the fire chief or the Office of the Fire Marshall have the authority to determine if the building is safe to be occupied relative to fire safety. They may provide additional instructions or recommendations.
- Reduce the level of hazard in the building by instructing occupants not to use any candles, barbecues, deep fryers, space heaters, or other heat sources or open flames.
- Perform a complete verification of the fire alarm system to ensure that it is operational. This includes verifying the function of all smoke detectors and performing decibel level checking in each room of the building.
- Verify the function and rating of all fire doors in the building and ensure that no fire doors are left open.
- Ensure that each unit has a fully charged fire extinguisher in their kitchen.
- Implement a 24/7 fire watch, in conjunction with any recommendations from the Ontario Fire Marshall.

In the short term (1-6 months, but generally as quickly as possible):

- Begin the work (as soon as possible) to encapsulate the exposed polystyrene within the ceiling spaces of the addition.

- Create more investigative openings throughout the building (including removeable access panels) so that we can ascertain the specific conditions throughout each area of the building. This will include 1-2 openings per unit, and 1-2 openings per corridor, at minimum. The openings should be at least 16" by 24". Because of the presence of wires throughout the building, the contractor shall use a serpentine saw (set to the depth of the drywall only) to cut the openings.
- Institute a repair program for all fire-stopping and fire-separation issues above the ceilings. Demolish and remediate ceilings as required as the work progresses.

In the medium term (6 months to two years):

- Design and implement a complete restoration of the building's deficiencies, including non-life-safety deficiencies and deficiencies for other disciplines.

.5 *Should any of the deficiencies have been resolved before occupancy was permitted?*

Summarized Response: Yes, the deficiencies related to fire separations, fire-stopping, egress, and exposed flammable materials are all clear violations of the OBC and should have been resolved prior to occupancy. Many items are life-safety concerns, and it is our opinion that the building should not have been approved for occupancy due to these issues.

Furthermore, we are not aware of any inspection reports by municipal inspectors, or of any general review reports. The requirements for general review are set out in the Architect's Act and are mandated by the OBC. Without evidence to the contrary, it appears that the necessary procedures leading up to the issuance of an occupancy permit may not have been followed. A lack of general review procedures would explain how various code violations were not identified during construction.

It is also required that the Chief Building Official (or their representatives) perform inspections at predetermined milestones during construction. These inspections are accompanied by inspection reports, so it is unclear how these significant code violations were not captured by the Chief Building Official.

1.2. ORDER OF MAGNITUDE COST ESTIMATE

The summarized (architectural) Order of Magnitude Cost Estimate is below. Please note that this estimate is preliminary, since the complete scope is not clear, particularly relating to the Parking Garages and the Fire Separations & Firestopping categories. The cost estimates of other disciplines are in addition to this.

Category		Order of Magnitude Estimate
Landscaping	$	153,700.00
Parking Garages	$	260,000.00
Exterior Doors and Windows	$	19,550.00
Roof And Parapets	$	343,200.00
Exterior Wall Construction (Excludes West wall and 4th floor Brick)	$	75,700.00
West Wall Construction	$	326,400.00
West Wall Egress Stair	$	611,373.00
Stairs and Handrails	$	12,463.00
Brick Masonry	$	1,287,000.00
Fire Separations & Fire Stopping	$	7,700,000.00
Interior Doors, Trim, & Finishes	$	37,460.00
Total:	**$**	**10,826,846.00**

2. BACKGROUND INFORMATION

2.1. PROJECT BACKGROUND

Juxta Architects has been retained by Adjeleian Allen Rubelli (AAR) to produce a report of findings of the building located at 323 George Street, Cobourg, Ontario. This report follows a previous performance audit by Pichler Engineering which identified a variety of construction deficiencies.

The building includes 35 condominium residential units and consists of two connected structures: an historic brick school, and a new addition constructed of Insulated Concrete Forms (ICF) and hollow-core concrete slabs.

The purpose of this report is to address the following questions:

.1 *What are the deficiencies you have identified in building? Are they reflected in the Performance Audit (i.e. related to a deficiency or a symptom of a deficiency listed in the Performance Audit)?*

.2 *Are any of the deficiencies you have identified violations of the applicable Ontario Building Code (or any other applicable code or municipal regulation) in place at the time? Are any of the deficiencies you have identified violations of the relevant industry standards applicable at the time?*

.3 *Based on your review of the available plans, drawings, or specifications, for your discipline, are there any deficiencies in the original design? If so, please specify the plans, drawings, and specifications you reviewed and whether the deficiencies are violations of the applicable Ontario Building Code (or any other applicable code or municipal regulation) in place at the time. Are they violations of the relevant industry standards applicable at the time?*

.4 *What are the recommended repairs to correct the deficiencies you have identified and the estimated cost?*

.5 *Should any of the deficiencies have been resolved before occupancy was permitted?*

2.2. Building Description and Classification

The building is constructed in two sections that are separated by a concrete (insulated concrete form) fire wall. Part 1 is the historic brick building, and Part 2 is the new addition constructed of steel, ICF and hollow-core slabs. The use of the fire wall allows each part to be classified separately.

PART 1 (old schoolhouse):

OBC Classification: 3.2.2.47 (Group C, up to 3 storeys)
Required Fire Separations: 45 minutes.
Building area: 1,035m^2 (building area refers to the building's footprint)
Firefighting access: Facing two streets.
Building Height: 3 storeys
Construction Type: mix of combustible and non-combustible
Sprinklered: No

PART 2 (new addition):

OBC Classification: 3.2.2.44 (Group C, up to 4 storeys, non-combustible construction)
Required Fire Separations: 1 hour
Building area: 410m^2 (building area refers to the building's footprint)
Firefighting access: Facing one street
Building Height: 4 storeys
Construction Type: non-combustible
Sprinklered: No

2.3. Methodology & Background Documents

To complete this report, Juxta Architects performed the following tasks:

- Review of existing drawings.
- Creation of a 3d model of the building, and 2d plans.
- Review of the Pichler Engineering performance audit.
- Onsite validation of all architectural items in the Pichler Engineering performance audit.
- Onsite investigations and openings resulting from the outstanding items in the performance audit.
- Updating the list of performance audit deficiencies, as well as documenting the causes and extent of those deficiencies as observed during the investigations.
- Brick masonry lab testing (strength and porosity).
- Class D cost estimates for recommended repairs and remediation of deficiencies.
- Reporting of findings (this report).

Project Team:

- Supervising Architect: Stefan Gingras, OAA, OAQ, CAHP
- Architect: Greg Juneau, OAA

The referenced background documents include:

- Architectural and structural drawings, dated October 1, 2008; Titled “Resubmit for Permit”; sealed by James Doubt (21 sheets)
- Architectural and structural drawings, with various dates from 2009; not titled; not sealed, but bearing the logo of J.E. Doubt Associates (7 sheets).
- Architectural and Structural Drawings for the unbuilt Phase 2 of the project, dated January 6, 2010; untitled; not sealed, but bearing the logo of J.E. Doubt Associates (19 sheets).
- Architectural structural drawings, with various dates from 2011; various titles; not sealed, but bearing the logo of J.E. Doubt Associates (22 sheets). This set also includes condominium unit surveys by Ivan B. Wallace, Ontario Land surveyor.
- Performance Audit by Pichler Engineering, Dated May 20, 2015 (88 pages).
- Order to Comply, issued by the Corporation of the Town of Cobourg, dated August 3, 2018.
- Revised deficiency checklist, by Adjeleian Allen Rubelli.
- By-Law 7-2003 (By Law to designate the George Street Heritage Conservation Disctrict); The Corporation of the Town of Cobourg; February 3, 2003.

3. Observed Construction Deficiencies

3.1. Landscaping

Original references from Pichler Engineering performance audit: 1,2,3,6,7,8,9, 32

Deficiency Type: Workmanship / Unfinished Work

The landscaping includes a variety of deficiencies of unfinished work. This includes a poor installation of the driveway interlock, missing interlock, missing planting, pooling water, and damaged work. We also observed poor installation of the driveway interlock that has resulted in pooling, sinking and ruts. Due to the overlapping nature of many of the Pichler deficiencies, the work will include the replacement of the full area of interlock, base compaction, and re-levelling of the area for drainage. Missing areas of interlock as well as borders, will be included as part of the work.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$153,700.00**

Above: Visible defects relating to the interlock driveway: sinking and ponding, poor workmanship, missing materials.

3.2. PARKING GARAGES

Original references from Pichler Engineering performance audit: 10,12,13,14,15,16,17,18,19,20,21,22, 163, 164

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 1.1.2.4, 3.1.10, 9.10.11.4)

The parking garage includes a variety of issues with workmanship and unfinished work, such as missing soffit material and flashing. The parking garage also has observed deficiencies with missing fire walls, and fire separations. The original design specified the use of cement panel on ceilings within the garage, even though cement panel is not an approved fire-rated membrane material. It is not clear what the purpose of the cement panel was intended for.

The missing fire walls were included on the plans but never constructed. The effect of this is that the parking garage structure is too large (>600m2) and is non-conforming for its construction type. The firewalls must retrofit into the garage. This will require demolition of the garage structure to make room for a non-combustible concrete block wall, and then reinstatement of the garage, garage roof, and surrounding landscaping.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$260,000.00**

Important note: The costing in this report only accounts for the structural work associated with the new firewalls, as well as the repairs to finishes and trim. All work associated with fire separations between the garage units is accounted for in the report by LRI.

3.3. Exterior Doors and Windows

Original references from Pichler Engineering performance audit: 29,30,31,59, 63,81,126,131,132,133, 143,135, 136, 138, 139

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 5.6.1, 5.6.2, 9.7.6.2, 9.20.13.3, 9.20.13.11, 9.20.13.12, 9.27.3.8, 9.27.4.1)

The Pichler report identified a variety of deficiencies related to exterior doors and windows. The type of deficiencies varies, but nearly all include some form of water infiltration due to bad sealants or flashing. In some cases, the contractor had returned to provide new caulking, but the interior damage was not remediated. In select instances, an improper door type had been used, which has resulted in poor performance and/or deterioration.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$19,550.00**

Above: Various deficiencies affecting exterior doors and windows.

3.4. ROOF & PARAPETS

Original references from Pichler Engineering performance audit: 23, 24, 25, 26, 27, 28, 38

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 5.6.1, 5.6.2, 9.20.13.3, 9.26.1.1A, 9.26.3.1, 9.26.4.1, 9.26.4.3, 9.26.4.4, 9.26.4.5, 9.26.5.1, 9.26.6.1, 9.26.18)

Based on the deficiencies in the Pichler report, investigative openings at the roof and parapets were performed. These investigations revealed deficiencies in all areas that were examined. These deficiencies were widespread and are related to poor quality workmanship and cutting corners.

The issues include:

- Parapet tops with no slope.
- Parapets are missing waterproofing membranes.
- Parapets are uninsulated.
- Metal flashing is improperly fastened, lapped, and sealed throughout.
- Roof penetrations are improperly sealed or not sealed at all.
- Flat roof slopes slope away from drains, leading to ponding at the perimeter of the roof.
- Shingle roofs are missing ice and water shield membranes.
- Shingle roofs are missing any type of roofing felt or underlayment (shingles are installed directly on sheathing).
- Metal fascia are improperly installed.
- Flashing at roof/wall junctions is improperly sealed and was not installed using reglet joints to fasten the flashing.

As a result of these issues, leaking has led to drywall damage on the interior. The various deficiencies have allowed water to enter the wall assembly at many locations around the building. These issues are not able to be addressed by localized repairs. The entire roofing system, including all parapets, flashing, slopes, drains should be removed and replaced with new materials.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$343,200.00**

Above: A selection of images showing the different types of roofing and waterproofing deficiencies.

3.5. EXTERIOR WALL CONSTRUCTION (EXCLUDING WEST WALL & BRICK)

Original references from Pichler Engineering performance audit: 39, 41, 44, 100, 140

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 5.6.1, 5.6.2, 9.20.6.4, 9.20.13, 2.27.2, 9.27.3, 9.27.4)

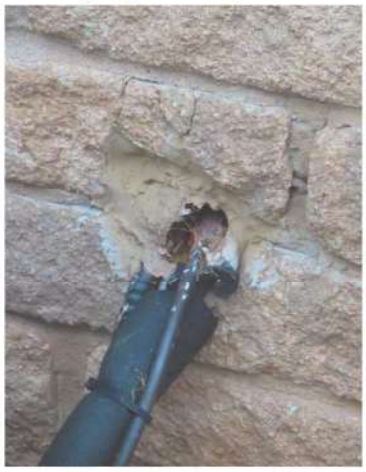
This section captures deficiencies relating to the exterior walls that are not captured in the sections for roofing, west wall cladding, doors and windows, and brick masonry. Overall, there are a variety of one-off deficiencies related to poor workmanship that are visible in several locations around the building. These are issues with metal flashing, sealants, and wood cornices. Some of these items are noted in the Pichler report, but most of them are new deficiencies that were observed by Juxta. These items can be repaired individually.

Specifically, the issues include:

- Issues with base-of-wall flashing at the new stone veneer. These flashings had an insufficient drip edge, and were consistently back-sloped towards the building.
- Exterior louvers for unit ventilation were missing caulking in all locations.
- Veneer masonry had void mortar joints in various locations.
- Gutter downspouts had insufficient gutter extension.
- Wooden cornice was poorly constructed and flashed, leading to premature rot.
- Larger louvers adjacent to balconies on the new addition were missing a pest mesh; potentially allowing insects or vermin to enter the ductwork system.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$75,700.00**







Above: Images of some of the deficiencies observed for exterior walls.

3.6. WEST WALL CONSTRUCTION

Original references from Pichler Engineering performance audit: 112

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 3.2.3.5, 3.2.3.7, 5.6.1, 5.6.2, 9.10.14.4, 9.10.14.5, 9.20.17.7, 9.27.2, 9.27.3, 9.27.4, 9.27.5)

The Pichler report identified an issue with the west elevation as improper protection of the polystyrene insulation. Subsequently, the contractor covered the wall with cement panels as a means of protecting the insulation from UV deterioration. The panels are held in place using nylon-coated deck screws fastened into the plastic webbing of the Insulated Concrete Form (ICF) wall construction.

Neither cement board panels nor deck screws are designed for this purpose, and there is evidence of failure of the fasteners. Bulging and gapping can be seen at panels across the wall, as well as some screws that have let go or have pulled through the cement panel.

This condition is unsafe, and the area surrounding this wall should be fenced off to prevent access by the public.

The west wall is also constructed on the property line, which means that the building has a zero-distance setback. As per the OBC, this condition requires that the wall be constructed of non-combustible construction (which it is - concrete), and non-combustible cladding (which it is not – cement panel & Styrofoam). There is also an egress door, which is prohibited in a wall with a zero-distance setback.

The solution to this problem is to remove the cement panel cladding, and to provide a new cladding system made of non-combustible construction.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$326,400.00**

Above: Images showing some of the observed conditions, including deterioration, bulging, and exposed Styrofoam.

3.7. WEST WALL EGRESS STAIR

Original references from Pichler Engineering performance audit: 125

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 3.4.6.1. 3.4.6.5, 3.4.6.6)

Item 125 from the Pichler report identified that two suites on the 4th floor of the new addition were not provided with a second means of egress. This is a serious life-safety issue which was addressed by the contractor by installing a scaffolding staircase, and cutting a new door into the 4th floor of the west wall.

This scaffolding system does not meet the OBC requirements of an exit. It is also located inside of another property, which is prohibited; a building's design cannot make use of another property to construct an exit.

This condition will need to be remedied in order to comply with the OBC and provide a safe means egress for the apartments on the 4th floor. This will include constructing a new permanent egress staircase, presumably an enclosed structure that connects to the west wall of the building. To accomplish this, a modification of the lot line will be required.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$611,373.00**

Above: The existing scaffolding stair on the west elevation.

3.8. STAIRS & HANDRAILS

Original references from Pichler Engineering performance audit: 69, 70, 82, 83

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 3.4.6.5)

The Pichler report correctly identified that the handrails were not constructed according to the OBC. In general, all metal handrails in exit stairs do not have the required extensions and returns. The handrails can be repaired by site-welding new extensions and repainting the rails.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$12,463.00**

3.9. BRICK MASONRY

Original references from Pichler Engineering performance audit: 41, 41a, 131.

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 5.6.1, 5.6.2, 9.20.13)

Resulting from multiple references in the Pichler report, and Juxta's observations on site, an investigation to determine the composition of the brick walls and the physical properties of the brick was performed. We deemed this necessary because the referenced items in the Pichler report showed different types of façade deterioration and water infiltration on the facades. Upon closer inspection of these items, we determined that they were likely symptomatic of other issues with the installation of the brick. We followed up by recommending exploratory openings in the brick wall to ascertain if this was indeed the case. Bricks were removed in four locations, and sample bricks were taken for lab testing. This also permitted access to the core of the wall.

Heritage brick masonry is a complicated material with physical properties that are incompatible with many contemporary products. Also, heritage bricks vary in quality and type. Historically, red clay bricks were molded and kiln-fired. The mix of clay and sand, as well as the temperature of the kiln and firing time all affect the physical properties of the brick. Unlike contemporary bricks, not all heritage bricks are suitable for use on the weather-exposed face of the wall. Bricks that are porous, weak, flawed, or were fired at lower temperatures are usually reserved for use on the interior wythes of the brick wall. These weaker bricks are more susceptible to damage from water and freeze-thaw and were used in concealed or protected areas.

The history of the building also is a consideration. The record of historic photos, as well as the available construction photos appear to indicate the 4th floor of the building's exterior brick walls are composed of a) bricks that were originally protected inside the roof cavity of the original building, and b) bricks that were salvaged from the west side of the building, which was demolished to make way for the new addition. The result is that the brick on the 4th floor contains a high percentage of weak and porous bricks. One reason we suspect that bricks that were reclaimed from other areas of the building were used in the reconstruction is because of the size; historic bricks tend to vary in size, and the sizing of the bricks used on the 4th level is relatively consistent throughout the rest of the building.

The bricks that were originally concealed within the roof cavity (the lower half of the 4th floor) are not of the type that should be exposed to the weather. In these areas, we note that no or minimal repointing was performed. Since the original mortar joints were never meant to be exposed to the weather, the original builders were not concerned with tooling the joints to eliminate gaps in the mortar. This condition was not addressed during construction, resulting in many locations where water can enter the historic brick wall directly.

In the limited areas where repointing was performed, it appears that an incompatible contemporary Portland cement-based mortar was used. This is problematic because the new mortar has different physical properties and will trap moisture behind it, resulting in further issues with moisture and freeze thaw.

All these deficiencies have resulted in the following observed issues:

- Bulging and separation of the brick wythes in select locations. This is a dangerous condition, and we recommend that the patios below these areas are not used until the issue is resolved.

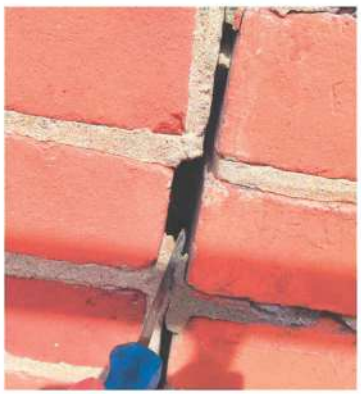
- Water ingress into the brick wall assembly at many areas around the building.
- Spalling and cracking of bricks because of water infiltration and saturation of the wall. Pieces of chipped brick were found scattered around the perimeter of the building, providing evidence that this issue is widespread.
- Deterioration of the mortar joints, as the face of the brick and within the wall. (Please note that some mortar deterioration is typical for a building of this age, but that the water infiltration will accelerate this issue.)
- Deterioration of the mortar within the wall assembly, and debonding of the brick wythes as a result. This includes wash-out of the mortar in the wall core, which means that mortar has turned to sand and been washed away by water infiltration.

In general, it is our opinion that the construction work related to the 4th floor brick did not follow best construction practices. Nor did it adhere to the technical requirements and conservation techniques that this sensitive material requires.

Apart from the 4th floor, we observed areas across the remaining levels with similar deficiencies, although the issues are less pervasive on the lower levels. The lower levels were subject to localized interventions by the contractor only; the same poor-quality work has resulted in corresponding localized deficiencies. The deficiencies on the lower levels are mainly found adjacent to windows and include spalled bricks and deteriorated joints. Poor window installation is a common issue that can cause these symptoms. It is our understanding that the windows were unsealed for some time (Pichler report item 42); this lack of seals likely contributed to the issue by allowing water into the brick around the unsealed windows.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$1,287,000.00**





Above: One of the brick investigative openings, with visible voids inside the wall. Bulging in this location has created cracks in the face of the wall.

Above: Some typical conditions found on the brick masonry at the 4th floor. This mortar is not suitable for exposure to the weather.

3.10. FIRE SEPARATIONS & FIRE STOPPING

Original References from Pichler Engineering performance audit: 67, 68, 72, 78, 88, 90, 91, 93, 94, 96, 98, 101, 102, 103, 104, 105, 107, 110, 111, 117, 118, 120, 127.

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 3.1.8, 3.1.9, 3.1.10, 3.1.11, 3.3.1.1, 3.3.1.4, 3.3.4.2)

The above references from the Pichler Engineering deficiency list were based on a visual inspection only, so they only capture the visible deficiencies related to fire-stopping and fire-separations. As part of our investigations, four (4) ceiling openings were created in the following locations: inside unit 208, in the corridor in front of unit 208, inside of unit 402, and in the hallway in from of unit 402.

From these openings we observed numerous additional issues with fire separations and fire stopping. Additional deficiencies with workmanship were also observed, as well as new deficiencies related to electrical, plumbing and HVAC. Based on our observations, we believe the following deficiencies to be endemic throughout the building:

- Absence of fire-stopping at the top of gypsum demising walls.
- Absence of fire-stopping at demising wall penetrations.
- Absence of fire dampers wherever ductwork penetrates a rated assembly.
- Absence of fire-stopping at floor assembly penetrations.
- Open holes in both brick and gypsum demising walls.
- Exposed expanded polystyrene insulation within ceiling cavities of the new addition.
- Wall and ceiling assemblies that do not meet the required fire-rating for the building.

Many of these endemic deficiencies negatively affect the life-safety functions of the building and should be addressed immediately.

Above: The above images display the types of endemic deficiencies that were found in the ceiling spaces. Various fire-stopping issues on the left, and exposed polystyrene insulation on the right.
The Rough Order of Magnitude (ROM) cost estimate for this category is: **$7,700,000.00**

Please note that this estimate is based on a renovation cost of $1,250.00 per square meter of the building. The work needed to remediate these deficiencies will include the removal of the drop ceilings throughout the building, fixing all of deficiencies, and reinstating the ceilings and any affected finishes in the units. At this time, there is no other way to estimate the probable costs of the work other than to apply a blanket unit rate for a light-level renovation.

3.11. INTERIOR DOORS, TRIM & FINISHES

Original References from Pichler Engineering performance audit: 48, 50, 56, 58, 60, 61, 62, 85, 121, 137

Deficiency Type: Workmanship / Unfinished Work

The Pichler Engineering report identified a variety of cosmetic issues with doors, trim and interior finishes. Issues include: missing paint, poorly installed trim, gaps at doors, missing edging, and poor installation of carpet. Juxta does not have any additional comment on these items.

The Rough Order of Magnitude (ROM) cost estimate for this category is: **$37,460.00**

4. DESIGN DEFICIENCIES

In addition to the construction deficiencies, Juxta Architects was asked to review the available drawings for design errors and/or code-compliance issues. The main difficulty, as described further in Section 4.1, is that there is no comprehensive set of sealed drawings for this project, so some assumptions have to be made regarding the relevance of the available drawings (i.e. were these the same drawings that formed the basis of the building permit?).

4.1. Lack of Sealed and Complete Drawings

Deficiency Type: Workmanship / Unfinished Work

It is unclear if there is a set of definitive, approved drawings that are sealed by the architect and engineers. For a building permit to be approved for a Part 3 building for this type of project, a coordinated set of civil, structural, architectural, mechanical, and electrical engineering drawings should be provided. No such set has been provided for our review, and it is unclear which drawings were used to apply for the permit.

In the absence of an "official" set of drawings from all disciplines, Juxta has examined the provided drawings. The drawings contain sheets with different dates and title block revisions, some sealed, and some unsealed. None of the drawings that we have from different disciplines bear the same date or title block revision, so it is impossible to determine how or when they were coordinated. The sealed drawings that we have reviewed include:

- S1, Dated December 16/05
- A1, A2, A3, A4, A5, A6, A7 (All dated Oct 1. 2008 and titled RESUBMIT FOR PERMIT)
- A8, A9 (All dated Oct 1. 2008 and titled PERMIT SET)
- E5, E6 (dated April 6, 2011 and titled PULL STATION AND LEGEND ADDED)
- SK1, SK2, SK3 - Emergency Exit Stair (Dated August 2015)
- M1, M2, M3, M4, M5, M7, M8, M09, M10, M11, M12, M13 M14 (dated2010/02/11 and titled FOR CLIENT REVIEW AND PERMIT)

Other than the above-noted drawings, all other drawings that we examined are unsealed, and it is unclear whether these drawings were used as part of the permit submission process.

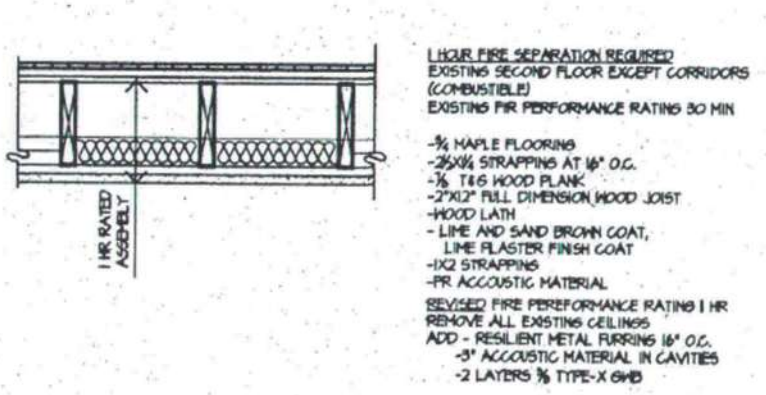
Given the lack of information, and the ad-hoc nature of the available drawings, we cannot come to any definitive conclusion regarding the completeness, or lack thereof, of what was used for the permit submission, or whether we have the same information as the building official did from that time.

Note that the architectural drawings used as part of the following analyses are the set A1-A9 from October 01, 2008. Regarding the completeness of the drawings, there is fundamental information missing throughout. We would anticipate a building of this complexity to require 50-75 sheets of architectural drawings (based on our own firm's standards for drawings). Nine drawings is not adequate.

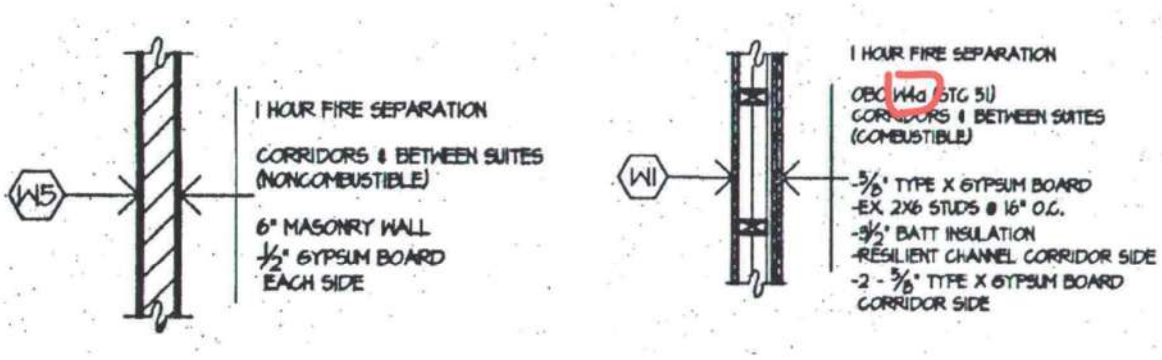
4.2. UNCERTIFIED FIRE SEPARATION ASSEMBLIES

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 3.1.8, 3.1.9, 3.1.10, 3.1.11, 3.3.1.1, 3.3.1.4, 3.3.4.2)

The architectural drawings include a legend of assemblies that is present on multiple sheets. We note that these assemblies do not include certified references to justify the fire ratings that were assigned by the architect.

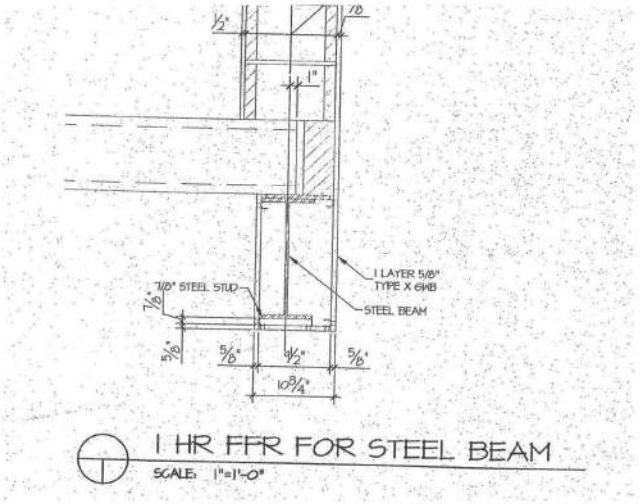


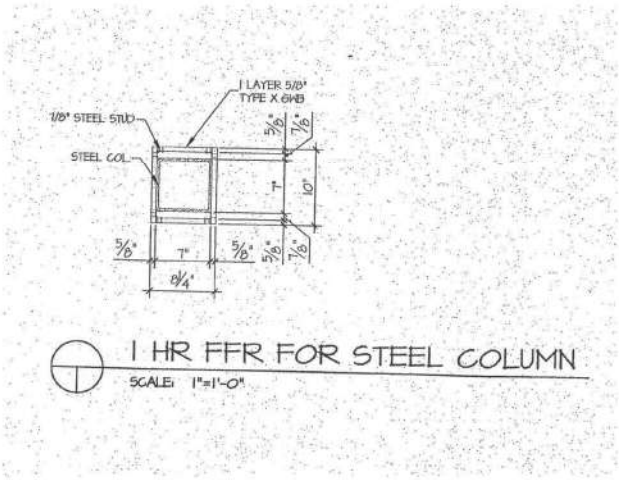
The above image is a floor assembly that claims a 1-hour rating. However, the architect has not provided a code or ULC reference to support this claim. The assembly indicates a 30minute rating for the historic plaster ceiling, which is to be left in place and have a sheet of fire-rated drywall affixed overtop. This is not permitted. SB2 of the Ontario Building Code does allow for the use of built-up assemblies; but it is a stand-alone tool and cannot be combined with historic assemblies. To properly use the built-up method of SB-2, two layers of 5/8" Type X gypsum would have been required. As a result, any floors constructed in this manner cannot be considered to have the required fire-rating.



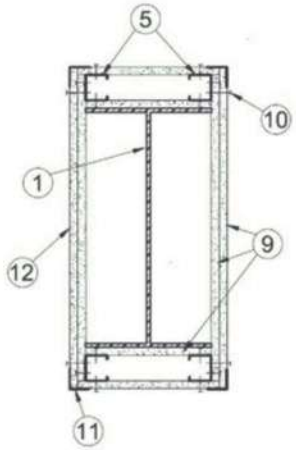
The above wall assemblies do not include code or ULC references. On the left, it is unclear whether the 6" masonry core is new or existing, or whether it is hollow-core or monolithic. On the right, the rating is applicable to Part 9 (small construction) buildings only and should not be used in this instance. We would need to perform additional investigations to determine in there is an applicable assembly that could be

retroactively applied to these wall assemblies. As designed and annotated, they to not currently meet the requirements of the OBC.





The above images are the fire protection details for steel beams and columns, respectively. Both details are assigned a 1-hour rating, but the detail is incorrect: two layers of Type X gypsum is required to achieve the required rating. Based on these details, it is possible that the steel beams and columns throughout the building are not provided with adequate fire protection.



UL/ULC Code: BXUV.X524 (1hr rating)

The above image is extracted from the ULC catalogue of approved fire protection details for steel beams and columns. The detail clearly indicates that two layers of gypsum is required to achieve the 1-hour rating.

4.3. LACK OF CLARITY ON DRAWINGS

Deficiency Type: Workmanship / Unfinished Work

In addition to the lack of drawings, we identified incorrect and/or conflicting information on the drawings that were available. This includes:

- There is no cover sheet that displays the drawings that formed part of the submission. There is also no building code matrix or any notes relating to building classification, so it is not clear how the architect classified the building and determined the fire-ratings. *Refer to Section 2.2 for Juxta's retroactive classification of the building.*

- A1, A2, A3 (Resubmit for Permit Oct. 01/08)
    - Lack of wall tags – not clear how each wall should be constructed.
    - No door tags or door schedule – cannot verify if doors were specified as Fire Rated or not.
    - No way to identify which floor assemblies are applicable to which areas of the plans.
    - The concrete floor assembly on the plans does not match the floor type shown on the sections (Precast "T" sections vs. hollow core).
    - No legend for fire separation line types.
    - Plans indicate a "2hr Fire Wall", but no such wall assembly is provided in the assemblies with the approved code for a 2hr fire rating. (Also, it is unclear if the fire wall can be considered a firewall given that it contains combustible Styrofoam that is continuous across floor levels.)
- A6 (Resubmit for Permit Oct. 01/08)
    - Handrails not to code

4.4. UNITS WITH INSUFFICIENT EGRESS

Deficiency Type: Workmanship / Unfinished Work / Code Violation (OBC 2006: 3.3.1.3, 3.3.1.5, 3.3.4.4 3.4.2.1)

The two units on the 4th floor of the addition were not design with the proper number of exits. Two exits are required from the public corridor, and only one has been provided. In attempt to address this issue, a scaffolding exterior exit stair was provided for these two units. Nonetheless, this represents a significant design oversight.

The above image shows the units (on the left) which are not provided with sufficient exits.

MECHANICAL/ELECTRICAL REPORT

Prepared by: Alireza Taban, Jun Cheng

Your Trusted Choice for Mechanical & Electrical Consulting Engineers

GWAL
Goodkey Weedmark & Associates Ltd.



323 George Street, Cobourg, Ontario
Condo Renovation - NSCC No. 72

Final Mechanical & Electrical Report

GWAL Project No. 2025-179
December 11, 2025

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1.0 EXECUTIVE SUMMARY

Goodkey, Weedmark & Associates Ltd. (GWAL) has been retained by Northumberland Standard Condominium Corporation No. 72 (NSCC 72) to review the existing mechanical and electrical systems in NSCC 72, located at 323 George Street, Cobourg, Ontario, with the objective of assessing the status of initial and updated Performance Audit findings, and to provide a report outlining recommended solutions for addressing them.

NSCC 72 is a residential condo building with 35 units, originally built as a schoolhouse and converted into a condominium between 2009 and 2011. The conversion preserved much of the original exterior but involved significant renovations and additions.

A Performance Audit completed in May 2015 identified potential non-compliance with Codes and Standards, as well as inconsistencies between the construction and original design documents. Occupancy permits were issued for the units, but permits for the common elements remained outstanding. A follow-up audit in February 2025 reviewed the status of previously identified issues, noting which had been addressed and which remained unresolved.

GWAL has conducted site surveys, reviewed both the initial and updated Performance Audits, examined available record drawings, and carried out investigations to:

- Confirm outstanding mechanical and electrical deficiencies identified in the initial and updated Performance Audits.
- Identify deficiencies that do not comply with the Ontario Building Code (OBC 2006, O. Reg. 350/06), relevant mechanical and electrical codes, and industry standards in effect at the time of construction.
- Confirm violations of the original design with respect to the OBC, applicable codes, and industry standards.
- Provide recommendations for addressing the outstanding deficiencies, along with associated cost estimates.
- Provide immediate actions recommended to address life safety concerns.

It is estimated that $452,100.00 plus HST is required for resolving mechanical deficiencies, and $91,100.00 plus HST for electrical deficiency, excluding the undetermined conditions within the suites and corridor ceilings.

Although all mechanical and electrical deficiencies shall be addressed, in Section 10 of this report, GWAL has highlighted specific items that render the building unfit for occupancy unless the safety precautions and urgent repairs set out in this letter are taken. It is therefore strongly recommended that urgent modifications and temporary provisions be implemented immediately to mitigate these risks and ensure the building is safe for temporary use, while legal and engineering procedures are undertaken to implement permanent solutions for all the deficiencies.

2.0 INTRODUCTION

Northumberland Standard Condominium Corporation No. 72 (NSCC 72) is a 4 to 5-storey residential condominium including 35 units. The building was initially constructed around 1906 as a schoolhouse and was later redeveloped into a condominium, with its official registration completed on August 19, 2011.

The process of converting the building into a condominium spanned several years, with most of the work occurring between 2009 and 2011. Although much of the original exterior structure was preserved, the conversion involved significant renovations and the addition of new construction elements to adapt the former schoolhouse for residential use.

On May 20, 2015, the initial Performance Audit was completed. The audit raised concerns that the building may not have been designed or constructed in compliance with applicable codes, municipal regulations, or accepted industry standards at the time. Additionally, it noted discrepancies between the constructed work and the original design documents, such as plans and specifications. While occupancy permits were granted for the residential units, permits for the common elements had yet to be finalized. On February 13, 2025, an updated Performance Audit was prepared to assess items from the original performance audit where repairs had been attempted and to identify which items remained outstanding.

3.0 PURPOSE & INTENT

GWAL has been retained by NSCC 72 to:

- Review the initial and updated Performance Audits.
- Investigate mechanical and electrical systems at NSCC 72 in comparison to those Audits.
- Highlight code compliance and life safety deficiencies due to construction.
- Highlight code compliance and life safety deficiencies due to design.
- Provide deficiency resolution recommendations and associated costs.
- Highlight deficiencies which must have been resolved prior to occupancy.

This report has been prepared for NSCC 72. The content reflects the best professional judgment of GWAL based on the information available at the time of preparation. Any use of this report by a third party, or reliance upon it for decision-making, is solely at the discretion and risk of that third party. GWAL assumes no responsibility for any loss or damage that may result from such use or reliance.

4.0 METHODOLOGY

The findings presented in this report are the result of a thorough examination based on several key sources of information, including:

- Two (2) visits to the site to perform investigations on March 27, 2025, and April 17, 2025.
- Review of the initial Performance Audit dated May 20, 2015.
- Review of the updated Performance Audit dated February 13, 2025.
- Review of the available original electrical drawings (E4, E5 and E6) dated April 6, 2011.
- Review of the available original mechanical drawings dated February 11, 2010.
- Review of annual fire alarm system test report dated October 25, 2024.
- Review of site investigation report by VDM General Contractors dated May 5, 2025.
- Discussions with the building operator and residents.
- Review of applicable Codes and design standards.

5.0 LIMITATIONS

As part of GWAL's investigation, a review of the original design and as-built electrical and mechanical drawings was intended to help evaluate whether the electrical and mechanical systems were installed in accordance with design intent and applicable codes. However, this review could not be completed because the full set of original and as-built mechanical and electrical drawings were not available. Only partial drawings – specifically Drawings E4, E5 and E6 – were provided, as follows:

- Electrical Drawing E4: sealed but not dated.
- Electrical Drawing E5: sealed and dated April 6, 2011, titled as "pull station and legend added".
- Electrical Drawing E6: sealed and dated April 6, 2011, titled as "pull station added".

These documents do not offer a comprehensive overview of the entire mechanical and electrical systems, making it difficult to conduct a complete assessment of the design versus the actual installation.

Due to the lack of complete documentation, GWAL's investigation was limited to field observations and available information and therefore may not capture all design-related deficiencies or deviations from the original Drawings.

6.0 DEFICIENCIES FOUND

GWAL has conducted site surveys, reviewed initial and updated Performance Audits, and reviewed available record drawings, and found the mechanical and electrical deficiencies listed below:

6.1 MECHANICAL

.1 On the North and South sides of the exterior walls, the existing ventilation wall grilles are found to lack caulking. (Related to previous PA deficiency #44).

.2 In the garbage rooms on the 2nd, 3rd, 4th and 5th floors, piping rough-ins are found, but utility sinks, faucets, and floor drains are not installed. (Related to previous PA deficiencies #49 & #51).

.3 In the function room on the 4th floor, the furnace air filter is missing. (Related to previous PA deficiency #55).

.4 In the garbage room on the 5th floor, the sprinkler serving the garbage chute is connected by a sprinkler pipe, but the pipe is not connected to the sprinkler distribution. (Related to previous PA deficiencies #73 & #146).

.5 In the garbage compactor room on the ground floor, covers are missing on the existing floor drains. (Related to previous PA deficiency #80).

.6 In the electrical room on the ground floor, a high-level water alarm is included with the existing sump pump control panel. (Related to previous PA deficiency #92).

.7 In the garbage compactor room on the ground floor, make-up air is not provided to this room. (Related to previous PA deficiency #99).

.8 In the 'H' Utility room, 2nd and 5th floor electrical closets, there is no ventilation provided to cool the existing electrical transformers. (Related to previous PA deficiency #106).

.9 In the corridors on all floors, no make-up air is supplied from the existing Make-up Air Unit (MUA) to the additional wing. No balancing dampers were found at the existing supply grilles, and no fire dampers were provided at the floor separation (ground floor ceiling). The duct riser could be undersized, pending further investigation and measurement. (Related to previous PA deficiency #113).

.10 In the locker rooms and exercise room on the ground floor, there is no make-up air supplied from the existing Make-up Air Unit (MUA). (Related to previous PA deficiencies #114 & #115).

.11 In the crawl space, mould growth is noted due to the lack of ventilation. (Related to previous PA deficiency #128).

.12 In the ceiling of Unit 208, an existing duct branch is found to be penetrating through a demising wall between the adjacent unit without a fire damper at the wall. Further investigation is required to verify if this condition also applies to other units. This deficiency should have been captured by a general review and municipal inspection.

.13 In the ceiling of the hallway outside Unit 208, an existing ABS pipe is found to have condensation creating water drips. One (1) potential reason is outdoor air leakage to the ceiling plenum. Further investigation is required to verify if this condition also applies to other pipes.

6.2 ELECTRICAL

.1 On the ground floor, in the Main Electrical Room, the disconnect switch for the fire pump transformer is not labelled. (Related to previous PA deficiency #79).

.2 On the ground floor, in the Main Electrical Room, a lamacoid Single Line Diagram is not installed. (Related to previous PA deficiency #122).

.3 On the ground floor, in the public corridor in front of Unit 103, an exit sign is installed in the wrong direction. (Related to previous PA deficiency #34).

.4 On the ground floor, in the South Vestibule, a smoke detector is missing. (Related to previous PA deficiency #74).

.5 On the ground floor, in the Garbage Room, the electrical panel is not identified. (Related to previous PA deficiency #79).

.6 On the ground floor, in the Gym, there is not sufficient emergency lighting. (Related to previous PA deficiency #33).

.7 On the ground floor, in Locker Room D, there is not sufficient emergency lighting. (Related to previous PA deficiency #33).

.8 On the ground floor, in Locker Room E, there is not sufficient emergency lighting. (Related to previous PA deficiency #33).

.9 On the ground floor, in Locker Room F, there is not sufficient emergency lighting. (Related to previous PA deficiency #33).

.10 On the ground floor, in Locker Room G, there is not sufficient emergency lighting. (Related to previous PA deficiency #33).

.11 On the ground floor, in Locker Room H, there is not sufficient emergency lighting. (Related to previous PA deficiency #33).

.12 On the ground floor, in the Garbage Compactor Room, there is not sufficient emergency lighting. (Related to previous PA deficiency #33).

.13 On the 2nd floor, in the North Vestibule, there is not sufficient emergency lighting. (Related to previous PA deficiency #33).

.14 On the 2nd floor, in the North Vestibule, a smoke detector is missing. (Related to previous PA deficiency #74).

.15 On the 2nd floor, in the North Exit Corridor, smoke detectors' coverage is not sufficient for that space. (Related to previous PA deficiency #74).

.16 On the 2nd floor, in the Electrical Closet, a proper ventilation system is not provided. (Related to previous PA deficiency #106).

.17 On the 2nd floor, in the Electrical Closet, the electrical panel is not identified. (Related to previous PA deficiency #79).

.18 On the 2nd floor, in the Electrical Closet, bushing for load feeders in the electrical panel is not provided. (Related to previous PA deficiency #75 and #53).

.19 On the 2nd floor, in the East / West Corridor, smoke detectors' coverage is not sufficient for that space. (Related to previous PA deficiency #74).

.20 On the 3rd floor, in the Exit Stairs to the elevator lobby, a smoke detector is missing. (Related to previous PA deficiency #74).

.21 On the 3rd floor, in the Garbage Room, the BX cable is terminated in a junction box and is loosely looped around a water pipe. (Related to previous PA deficiency #53).

.22 On the 5th floor, in the Garbage Room, there is no fire detector on top of the garbage chute shaft. (Related to previous PA deficiency #74).

.23 On the 5th floor, in the Electrical Closet, the double tub jumper in the electrical panel is undersized. (Related to previous PA deficiencies #75 and #53).

.24 On the 5th floor, in the Electrical Closet, improper connectors for neutral conductor are used in the electrical panel. (Related to previous PA deficiencies #75 and #53).

.25 On the 5th floor, in the Electrical Closet, a proper ventilation system is not provided. (Related to previous PA deficiency #106).

.26 In the Exit Staircase outside the building, normal and emergency lighting level on the floor is not sufficient. (Related to previous PA deficiencies #11 and #33).

.27 In general, Arc flash labels of the electrical panels are not provided. (Related to previous PA deficiency #122).

.28 In general, the following identifications in the fire alarm control panel are missing. (Related to previous PA deficiency #77):

a. Zone identification.
b. Panel Circuit Description / Wiring Diagram.
c. Commissioning / Verification Label.
d. Battery Information Label.
e. Do Not Disconnect labelling for the fire alarm system circuit breaker.

.29 In general, the following documents are missing. (Related to previous PA deficiencies #122 and #124):

a. Electrical as-built drawings.
b. Fire alarm system test and verification report.
c. ESA Plan Review report.
d. ESA Certificate of Inspection.
e. System coordination, short-circuit device evaluation, and Arc flash hazard analysis.
f. Emergency lighting test and verification report.
g. Exit sign test and verification report.
h. Electrical equipment shop drawings.
i. O&M manual.

Given the lack of documentation noted in item #29 (lack of as-built drawings and lack of occupancy permits), the following items, which were identified during our site visit, should have been detected through general review and municipal inspections.

.30 The fire alarm notification is not provided properly in the spaces below:
- a. Ground floor – Main Electrical Room.
- b. Ground floor – Elevator Machine Room.
- c. Ground floor – Corridor to the South Entrance.
- d. Ground floor – Garbage Room 1.
- e. Ground floor – Garbage Compactor Room.
- f. Ground floor – Utility B Closet.
- g. Ground floor – Locker Room D.
- h. Ground floor – Locker Room E.
- i. Ground floor – Locker Room F.
- j. Ground floor – Locker Room G.
- k. Ground floor – Locker Room H.
- l. 2nd floor – North Vestibule.
- m. 2nd floor – North Exit Corridor.

.31 The fire alarm pull station is not located properly at the Exit door in the spaces below:
- n. Ground floor – Exit South Corridor.
- o. Ground floor – South Exit Stairs.
- p. 2nd floor – North Vestibule.

.32 On the 2nd floor, in the Electrical Closet, the working space in front of the transformer is not provided properly (blocked by a wall).

.33 On the 2nd floor, in the Electrical Closet, the working space in front of the electrical panel is not provided properly (blocked by the transformer).

.34 On the 3rd floor, in Utility L Closet, the working space in front of the electrical panel is not provided properly (blocked by a wall).

.35 On the 4th floor, there is no fire alarm pull station at the Exit door to the West Exit Staircase.

.36 On the 5th floor, in the Electrical Closet, the working space in front of the transformer is not provided properly (blocked by a wall).

.37 On the 5th floor, in the Multifunction Room, a receptacle is installed inside a cupboard with a door.

.38 On the 5th floor, in the Multifunction Room, the 60A circuit breaker protecting the furnace (MOP 15A) and its feeder (AWG #8) is oversized.

.39 On the roof, 20A maintenance receptacle within 7.5 m from the rooftop equipment is not provided.

.40 In general, BX cables are observed to be installed loosely with improper support in many areas throughout the building.

.41 In general, non-metallic sheathed cables (NMD90) are observed to be used and installed improperly in many areas throughout the building.

.42 In general, proper fire stopping is not applied in penetrations and openings in the fire rated walls in many areas throughout the building.

.43 In general, conduits and junction boxes are observed to be utilized more than their permitted capacity in many areas throughout the building.

.44 In general, junction boxes are observed to be left with no cover, and electrical wiring connections are left exposed in many areas throughout the building.

.45 In general, junction boxes and light fixtures are observed to be installed with improper support in many areas throughout the building.

.46 In general, it was observed that rough-ins and conduits are shared between different services in many areas throughout the building.

7.0 CODE & STANDARD VIOLATION – CONSTRUCTION DEFICIENCIES

GWAL has reviewed the Ontario Building Code (OBC) and other applicable codes and industry standards in place at the time of construction, and the following construction deficiencies are identified as violations of them:

7.1 MECHANICAL

.1 Deficiency #4 (PA deficiency #73): This is in violation of OBC Div B - 3.6.3.3 which indicates sprinklers shall be installed at the top of each linen chute or refuse chute. In this building, a sprinkler is installed at the top of the chute, but it is not connected to the sprinkler pipe.

.2 Deficiency #7 (PA deficiency #99): Exhaust fan and louvre are installed in the garbage compactor room, but no make-up air is found. This is in violation of OBC Div B-6.2.2.4, which requires that air contaminants released within the building shall be removed to the extent possible; HVAC systems shall be designed to minimize the growth and spread of bio-contaminants.

.3 Deficiency #9 (PA deficiency #113): No make-up air is supplied to the additional wing, which differs from the original design and is in violation of OBC Div B – 6.2.2.1, which requires that this building be ventilated.

.4 Deficiency #10 (PA deficiencies #114 & #115): Similar to Deficiency #9, no make-up air is supplied to the locker rooms and exercise room on the ground floor. This is in violation of OBC Div B – 6.2.2.4.

.5 Deficiency #12: A branch duct penetrates the demising wall between Unit 208 and the adjacent unit without a fire damper. This is in violation of OBC Div B - 6.2.3.9, which indicates air from one unit shall not be circulated to any other unit.

.6 Deficiency #13: An existing non-metallic pipe is found to have condensation on the pipe surface. This violates OBC Div B – 7.3.5.6, which requires piping to be installed in a manner that limits the risk of damage to the building due to condensation.

7.2 ELECTRICAL

.1 As per ESA OESC Rule 2-100 requirements, electrical distribution equipment is not labelled in the following areas:
   a. On the ground floor, in the Main Electrical Room - The disconnect switch for the fire pump transformer. (Deficiency #1)
   b. On the ground floor, in the Garbage Room - The electrical panel. (Deficiency #5)
   c. On the 2nd floor, in the Electrical Closet - The electrical panel. (Deficiency #17)

.2 As per industry standards and best engineering practices, on the ground floor, in the Main Electrical Room, a permanent lamacoid Single Line Diagram is not installed. (Deficiency #2)

.3 As per OBC 3.4.5 requirements, on the ground floor, in the public corridor in front of Unit 103, an exit sign is installed in the wrong direction. (Deficiency #3)

.4 As per OBC 3.2.4.11 requirements and CAN/ULC-S524 installation guidelines, on the ground floor, in the South Vestibule, a smoke detector is missing. (Deficiency #4)

.5 As per OBC 3.2.7.3 requirements, the emergency lighting at floor level is not sufficient in the following areas:
   a. On the ground floor, in the Gym. (Deficiency #6)
   b. On the ground floor, in Locker Room D. (Deficiency #7)
   c. On the ground floor, in Locker Room E. (Deficiency #8)
   d. On the ground floor, in Locker Room F. (Deficiency #9)
   e. On the ground floor, in Locker Room G. (Deficiency #10)
   f. On the ground floor, in Locker Room H. (Deficiency #11)
   g. On the ground floor, in the Garbage Compactor Room. (Deficiency #12)
   h. On the 2nd floor, in the North Vestibule. (Deficiency #13)

.6 As per OBC 3.2.4.11 requirements and CAN/ULC-S524 installation guidelines, smoke detectors are not properly located in the following areas:
   a. On the 2nd floor, in the North Vestibule. (Deficiency #14)
   b. On the 2nd floor, in the North Exit Corridor. (Deficiency #15)
   c. On the 2nd floor, in the East West Corridor. (Deficiency #19)
   d. On the 3rd floor, in the Exit Stairs to the elevator lobby. (Deficiency #20)

.7 As per ESA OESC Rule 12-906 requirements, on the 2nd floor, in the Electrical Closet, bushing for load feeders in the electrical panel is not provided. (Deficiency #18)

.8 As per ESA OESC Rules 12-102, 12-120, and 12-3020 requirements, on the 3rd floor, in the Garbage Room, the BX cable is terminated in a junction box and is loosely looped around a water pipe. (Deficiency #21)

.9 As per OBC 3.2.4.10 requirements, on the 5th floor, in the Garbage Room, there is no fire detector on top of the garbage chute shaft. (Deficiency #22)

.10 As per ESA OESC Rule 4-004 requirements, on the 5th floor, in the Electrical Closet, the double tub jumper in the electrical panel is undersized. (Deficiency #23)

.11 As per ESA OESC Rule 12-116 requirements, on the 5th floor, in the Electrical Closet, improper connectors for neutral conductors are used in the electrical panel. (Deficiency #24)

.12 As per ESA OESC Rule 2-234 requirements, a proper ventilation system is not provided for electrical equipment in the spaces below:
   a. On the ground floor, in the Electrical Closet. (Deficiency #16)
   b. On the 5th floor, in the Electrical Closet. (Deficiency #25)

.13 As per OBC 3.2.7.3 requirements, in the Exit Staircase outside the building, normal and emergency lighting level on the floor is not sufficient. (Deficiency #26)

.14 As per CAN/ULC S-524, CAN/ULC S-536, CAN/ULC S-537, and NFPA72 requirements, the following identifications in the fire alarm control panel are missing: (Deficiency #28)
   a. Zone identification.
   b. Panel Circuit Description / Wiring Diagram.
   c. Commissioning / Verification Label.
   d. Battery Information Label.
   e. Do Not Disconnect labelling for fire alarm system circuit breaker.

.15 The following documents are missing: (Deficiency #29)
- a. Electrical as-built drawings (as per industry standards and best engineering practices).
- b. Fire alarm system test and verification report (as per OBC 3.2.4.5 requirements and CAN/ULC-S537 guidelines).
- c. ESA Plan Review report (as per ESA OESC Rule 2-014 requirements).
- d. ESA certificate of inspection (as per ESA OESC Rules 2-006 and 2-012 requirements).
- e. System overcurrent coordination study (as per ESA OESC Appendix B Rule 14-012 requirements).
- f. Short-circuit device evaluation (as per ESA OESC Rule 14-012 requirements).
- g. System Arc flash hazard analysis (as per ESA OESC Rule 2-306 requirements).
- h. Emergency lighting test and verification report (as per Ontario Fire Code (OFC) section 6.7 and CSA C22.2 No. 141-15 requirements).
- i. Exit sign test and verification report (as per OFC section 6.7 requirements).
- j. Electrical equipment shop drawings (as per industry standards and best engineering practices).
- k. O&M manual (as per industry standards and best engineering practices).

.16 As per OBC 3.2.4.19 requirements and CAN/ULC-S524 installation guidelines, the fire alarm notification is not provided properly in the spaces below: (Deficiency #30)
- a. Ground floor – Main Electrical Room.
- b. Ground floor – Elevator Machine Room.
- c. Ground floor – Corridor to the South Entrance.
- d. Ground floor – Garbage Room 1.
- e. Ground floor – Garbage Compactor Room.
- f. Ground floor – Utility B Closet.
- g. Ground floor – Locker Room D.
- h. Ground floor – Locker Room E.
- i. Ground floor – Locker Room F.
- j. Ground floor – Locker Room G.
- k. Ground floor – Locker Room H.
- l. 2nd floor – North Vestibule.
- m. 2nd floor – North Exit Corridor.

.17 As per OBC 3.2.4.17 requirements and CAN/ULC-S524 installation guidelines, a fire alarm pull station is not located properly at the Exit door in the spaces below: (Deficiencies #31 & #35)
- a. Ground floor – Exit South Corridor.
- b. Ground floor – South Exit Stairs.
- c. 2nd floor – North Vestibule.
- d. 4th floor – Exit door to the West Exit Staircase.

.18 As per ESA OESC Rule 2-306 requirements, Arc flash labels of electrical panels are not provided on electrical panels. (Deficiency #27)

.19 As per ESA OESC Rule 2-308 requirements, the working space in front of the electrical equipment is not provided properly. (Deficiencies #32, #33, #34 & #36)
   a. On the 2nd floor, in the Electrical Closet - The transformer (blocked by a wall).
   b. On the 2nd floor, in the Electrical Closet - The electrical panel (blocked by the transformer).
   c. On the 3rd floor, in Utility L Closet - The electrical panel (blocked by a wall).
   d. On the 5th floor, in the Electrical Closet - The transformer (blocked by a wall).

.20 As per ESA OESC Rule 26-710 requirements, on the 5th floor, in the Multifunction Room, a receptacle will not be installed inside a cupboard with a door. (Deficiency #37)

.21 As per ESA OESC Rule 14-104 requirements, on the 5th floor, in the Multifunction Room, the 60A circuit breaker protecting the furnace (MOP 15A) and its feeder (AWG #8) is oversized. (Deficiency #38)

.22 As per ESA OESC Rules 2-314 and 26-704 requirements, on the roof, 20A maintenance receptacle within 7.5 m from rooftop equipment is not provided. (Deficiency #39)

.23 As per ESA OESC Rules 12-102 and 12-120 requirements, BX cables are not installed and supported properly in all areas throughout this building. (Deficiency #40)

.24 As per ESA OESC Rule 2-130, Bulletin 2-8-7, and OBC 3.1.5.21 requirements, non-metallic sheathed cables (NMD90) are not allowed to be used and installed in a building of non-combustible material unless they are installed as per ESA OESC and OBC requirements. (Deficiency #41)

.25 As per ESA OESC Rule 2-128 requirements, proper fire stopping should have been applied in penetrations and openings in fire rated walls in all areas throughout this building. (Deficiency #42)

.26 As per ESA OESC Rules 12-1014, 12-3034, table 9, and table 23 requirements, conduits and junction boxes shall not be utilized more than their permitted capacity in any area throughout the building. (Deficiency #43)

.27 As per ESA OESC Rule 12-3000 requirements, junction boxes shall not be left with no cover, and electrical wiring connections are left exposed in many areas throughout the building. (Deficiency #44)

.28 As per ESA OESC Rule 12-3010 requirements, junction boxes and light fixtures shall not be installed with improper support in many areas throughout the building. (Deficiency #45)

.29 As per ESA OESC Rules 12-904 and 12-3030 requirements, junction boxes, conduits, and rough-ins shall not be shared between different services in the building. (Deficiency #46)

8.0 CODE & STANDARD VIOLATION – DESIGN DEFICIENCIES

GWAL has reviewed the Ontario Building Code (OBC) and other applicable codes and industry standards in place at the time of construction, and the following design deficiencies are identified as violations of them:

8.1 MECHANICAL

.1 Deficiency #8 (PA deficiency #106): No ventilation is found in electrical closets with transformers. This is in violation of Ontario Electrical Safety Code 2-324, which states that adequate ventilation shall be provided to prevent the development of ambient air temperatures in excess of those normally permissible around electrical equipment.

.2 Deficiency #11 (PA deficiency #128): There is no ventilation provided in the crawl space, which is in violation of OBC Div B – 9.18.3.1, which indicates that unheated crawl spaces shall be ventilated by natural or mechanical means.

8.2 ELECTRICAL

.1 Majority of electrical design documents including drawings and specifications are not available for review. However, by reviewing the available electrical Drawings (E4, E5 and E6) and comparing them to the existing site conditions, no code-compliance deficiencies were identified in the available record drawings.

9.0 DEFICIENCY RESOLUTION RECOMMENDATIONS & ASSOCIATED COSTS

For each identified mechanical or electrical deficiency, GWAL has outlined specific repair recommendations intended to bring the systems into compliance with applicable codes and industry standards. In addition, a cost estimate for implementing each corrective measure has been provided to assist with planning and budgeting for the necessary remedial work.

9.1 MECHANICAL

.1 Deficiency #1 (PA deficiency #44): It is recommended to re-caulk all grilles on the exterior walls of this building. The estimated cost is $50,000.00.

.2 Deficiency #2 (PA deficiencies #49 & #51): Provide and install the missing utility sinks, faucets and associated sanitary piping to the garbage rooms from the 2nd to 5th floors. The estimated cost is $35,000.00.

.3 Deficiency #3 (PA deficiency #55): Provide and install the missing air filter to the furnace in the 4th floor function room. The estimated cost is $100.00.

.4 Deficiency #4 (PA deficiencies #73 & #146): It is required to extend from the existing sprinkler pipe to the sprinkler on top of the garbage chute. The estimated cost is $5,000.00.

.5 Deficiency #5 (PA deficiency #80): Provide and install the missing floor drain covers to the ground floor garbage compactor room. The estimated cost is $1,000.00.

.6 Deficiency #6 (PA deficiency #92): Provide and install the high-water alarm to the sump pump panel in the ground floor electrical room. The estimated cost is $1,000.00.

.7 Deficiency #7 (PA deficiency #99): Provide and install the transfer air duct and grilles to the ground floor garbage compactor room. The estimated cost is $5,000.00.

.8 Deficiency #8 (PA deficiency #106): Provide and install the transfer air fan and associated duct and thermostats to the three (3) locations where transformers are installed in "H" utility room and 2nd & 5th floor electrical closets. The estimated cost is $45,000.00.

.9 Deficiency #9 (PA deficiency #113): It is required to provide transfer air openings and grilles between the main building and the additional wing. Fire dampers and balancing dampers must be provided to ensure the make-up air system is fully functional and meets the relevant codes. Depending on the airflow measurement from the duct riser, the riser may need to be reconstructed if it is determined to be undersized. The estimated cost for the worst scenario is $100,000.00.

.10 Deficiency #10 (PA deficiencies #114 & #115): Transfer air fans and associated ductwork and controls to be provided and installed in the locker rooms and exercise room on the ground floor. The estimated cost is $130,000.00.

.11 Deficiency #11 (PA deficiency #128): Transfer air fans and associated ductwork and controls to be provided and installed in the crawl space. The estimated cost is $35,000.00.

.12 Deficiency #12: The existing branch duct through the demising wall is to be rerouted and discharged directly to the exterior. Existing wall opening to be repaired to match the fire rating. The total estimated cost is not available since it is still unclear how many units are in the same condition.

.13 Deficiency #13: Further investigation is required to confirm if there is any air leakage through the ceiling. Insulation is to be applied to the existing pipe where condensation occurs. The total estimated cost is not available, as it remains unclear how many pipes are affected by the same issue.

.14 Extra Item: Based on the architectural review, it is recommended that re-roofing is required. Consequently, all existing condensing units of DX split AC units and Make-up air handling unit will be temporarily removed during re-roofing work and reinstated afterward. The estimated cost is $30,000.00.

9.2 ELECTRICAL

.1 Identification and nameplate for electrical distribution equipment shall be provided as per ESA requirements in the following locations. The associated cost to this modification is $500.00.

a. On the ground floor, in the Main Electrical Room - The disconnect switch for fire pump transformer.
b. On the ground floor, in the Garbage Room - The electrical panel.
c. On the 2nd floor, in the Electrical Closet - The electrical panel.

.2 The existing electrical distribution system throughout the building shall be traced and documented. A permanent lamacoid single line diagram shall then be prepared and installed in the Main Electrical Room on the ground floor, in accordance with the industry's best practices and applicable standards. The associated cost to this modification is $3,000.00.

.3 The direction of the Exit sign in the public corridor in front of Unit 103 on the ground floor shall be corrected as per OBC requirements. The associated cost to this modification is $300.00.

.4 A fire alarm smoke detector will be provided in the South Vestibule on the ground floor as per OBC requirements and CAN/ULC-S524 guidelines. The associated cost to this modification is $1,000.00.

.5 Proper remote head and emergency battery unit shall be provided to supply sufficient emergency lighting at floor level in the following areas as per OBC requirements. The associated cost to this modification is $5,000.00.

a. On the ground floor, in the Gym.
b. On the ground floor, in Locker Room D.
c. On the ground floor, in Locker Room E.
d. On the ground floor, in Locker Room F.
e. On the ground floor, in Locker Room G.
f. On the ground floor, in Locker Room H.
g. On the ground floor, in the Garbage Compactor Room.
h. On the 2nd floor, in the North Vestibule.

.6 A fire alarm smoke detector shall be provided in the following areas as per OBC requirements and CAN/ULC-S524 guidelines. The associated cost to this modification is $5,000.00.
   a. On the 2nd floor, in the North Vestibule.
   b. On the 2nd floor, in the North Exit Corridor.
   c. On the 2nd floor, in the East West Corridor.
   d. On the 3rd floor, in the Exit Stairs to the elevator lobby.
   e. On the 5th floor, on top of the Garbage Chute Shaft.

.7 Bushing for load feeders in the electrical panel shall be provided in the Electrical Closet on the 2nd floor as per ESA requirements. The associated cost to this modification is $500.00.

.8 The BX cable in the Garbage Room on the 3rd floor shall be supported properly as per ESA requirements. The associated cost to this modification is $300.00.

.9 The double tub jumper in the electrical panel in the Electrical Closet on the 5th floor shall be replaced with a properly sized jumper as per ESA requirements. The associated cost to this modification is $1,000.00.

.10 Neutral connectors in the electrical panel in the Electrical Closet on the 5th floor shall be replaced as per ESA requirements. The associated cost to this modification is $500.00.

.11 A proper ventilation system for electrical equipment in the spaces below shall be provided as per ESA requirements. The associated cost to this modification is provided in the mechanical section.
   a. On the ground floor, in the Electrical Closet.
   b. On the 5th floor, in the Electrical Closet.

.12 Proper remote heads, emergency battery units, and normal light fixtures shall be provided to supply sufficient normal and emergency lighting levels on the floor in the Exit Staircase outside the building as per OBC requirements. The associated cost to this modification is $3,000.00.

.13 All required identifications, labelling, instructions, and diagrams for the fire alarm control panel and system shall be provided as per CAN/ULC S-524, CAN/ULC S-536, CAN/ULC S-537, and NFPA-72 requirements. The associated cost to this modification is $5,000.00.

.14 The following documents shall be provided:

a. Electrical as-built drawings as per industry standards and best engineering practices. The associated cost to this modification is $10,000.00.
b. Fire alarm system test and verification report as per OBC requirements and CAN/ULC-S537 guidelines. The associated cost to this modification is $5,000.00.
c. ESA certificate of inspection as per ESA requirements. The associated cost to this modification is $5,000.00.
d. System overcurrent coordination, Short-circuit device evaluation study, and Arc flash hazard analysis as per ESA requirements. The associated cost to this modification is $6,000.00.
e. Emergency lighting test and verification report as per OFC section 6.7 and CSA C22.2 No. 141-15 requirements. The associated cost to this modification is $3,000.00.
f. Exit sign test and verification report as per OFC section 6.7 requirements. The associated cost to this modification is $3,000.00.
g. O&M manual as per industry standards and best engineering practices. The associated cost to this modification is $6,000.00.

.15 Fire alarm notification devices shall be provided properly in the spaces below as per OBC requirements and CAN/ULC-S524 guidelines. The associated cost to this modification is $9,000.00.

a. Ground floor – Main Electrical Room.
b. Ground floor – Elevator Machine Room.
c. Ground floor – Corridor to the South Entrance.
d. Ground floor – Garbage Room 1.
e. Ground floor – Garbage Compactor Room.
f. Ground floor – Utility B Closet.
g. Ground floor – Locker Room D.
h. Ground floor – Locker Room E.
i. Ground floor – Locker Room F.
j. Ground floor – Locker Room G.
k. Ground floor – Locker Room H.
l. 2nd floor – North Vestibule.
m. 2nd floor – North Exit Corridor.

.16 A fire alarm pull station shall be provided at the Exit door in the spaces below as per OBC requirements and CAN/ULC-S524 guidelines. The associated cost to this modification is $4,000.00.

a. Ground floor – Exit South Corridor.
b. Ground floor – South Exit Stairs.
c. 2nd floor – North Vestibule.
d. 4th floor – Exit Door to the West Exit Staircase.

.17 Arc flash labels of electrical panels shall be provided as per ESA requirements. The associated cost to this modification is included in item 14.d.

.18 Proper working space in front of the electrical equipment in the spaces below shall be provided as per ESA requirements. The associated cost of this modification is $10,000.00.

a. 2nd floor – in the Electrical Closet – the transformer is blocked by a wall.
b. 2nd floor – in the Electrical Closet – the electrical panel is blocked by the transformer.
c. 3rd floor – in Utility L Closet the electrical panel is blocked by a wall.
d. 5th floor – in the Electrical Closet – the transformer is blocked by a wall.

.19 The receptacle inside the cupboard in the Multifunction Room on the 5th floor shall be removed as per ESA requirements. The associated cost to this modification is $500.00.

.20 A 15A circuit breaker shall be provided for the furnace in the Multifunction room on the 5th floor as per ESA requirements and equipment MOP value. The associated cost to this modification is $500.00.

.21 A 20A maintenance receptacle within 7.5 m from the rooftop equipment shall be provided as per ESA requirements. The associated cost to this modification is $4,000.00.

.22 BX cables shall be installed and supported properly in all areas throughout this building as per ESA OESC Rules 12-102 and 12-120 requirements. The associated cost of this modification will depend on the exact number of areas where this deficiency exists.

.23 Non-metallic sheathed cables (NMD90) shall be replaced with BX cables or shall be installed in accordance with ESA OESC Rule 2-130, Bulletin 2-8-7, and OBC 3.1.5.21 requirements for a building of non-combustible material. The associated cost of this modification will depend on the exact number of areas where this deficiency exists. As a preliminary allowance, a rate of approximately $200 per device may be considered for the removal of existing NMD90 cable and the installation of new BX cable complete with junction box, connectors, and fasteners.

.24 Proper fire stopping should be provided in all penetrations and openings in fire rated walls in all areas throughout this building as per ESA OESC Rule 2-128 requirements. The associated cost of this modification will depend on the exact number of areas where this deficiency exists.

.25 Wiring system shall be redone in areas where conduits and junction boxes are utilized more than their permitted capacity as per ESA OESC Rules 12-1014, 12-3034, table 9, and table 23 requirements. The associated cost of this modification will depend on the exact number of areas where this deficiency exists.

.26 Junction boxes shall be covered in every area throughout the building as per ESA OESC Rule 12-3000 requirements. The associated cost of this modification will depend on the exact number of areas where this deficiency exists.

.27 Junction boxes and light fixtures shall be installed with proper support in every area throughout the building as per ESA OESC Rule 12-3010 requirements. The associated cost of this modification will depend on the exact number of areas where this deficiency exists.

.28 Separate junction boxes, conduits, and rough-ins shall be provided for different services in the building as per ESA OESC Rules 12-904 and 12-3030 requirements. The associated cost of this modification will depend on the exact number of areas where this deficiency exists.

10.0 URGENT SAFETY MODIFICATIONS REQUIRED FOR TEMPORARY OCCUPANCY

Among the identified mechanical and electrical deficiencies, GWAL has highlighted specific items that render the building unfit for occupancy unless the safety precautions and urgent repairs set out in this letter are taken. It is therefore strongly recommended that urgent modifications and temporary provisions be implemented immediately to mitigate these risks and ensure the building is safe for temporary use, while legal and engineering procedures are undertaken to implement permanent solutions.

10.1 MECHANICAL

.1 No ventilation is provided to the 'H' Utility room, 2nd and 5th floor electrical closets to cool the electrical transformers. This is a deficiency that leads to potential life and safety issues.

.2 The lack of fire dampers located at the floor separation (ground floor ceiling) is another life and safety issue that requires urgent attention.

10.2 ELECTRICAL

.1 The direction of the exit sign in the public corridor in front of Unit 103 on the ground floor must be corrected immediately. This is a life safety issue that requires urgent attention.

.2 Due to missing or improper installed smoke detectors in the following areas, a fire watch will be provided throughout the building. This is a life safety issue that requires urgent attention.

a. On the ground floor, in the South Vestibule.
b. On the 2nd floor, in the North Vestibule.
c. On the 2nd floor, in the North Exit Corridor.
d. On the 2nd floor, in the East West Corridor.
e. On the 3rd floor, in the Exit Stairs to the Elevator Lobby.
f. On the 5th floor, on Top of Garbage Chute Shaft.

.3 Due to lack of proper emergency lighting levels on the floor in the following areas, sufficient temporary emergency lighting will be provided to fulfill life safety requirements. This is a life safety issue that requires urgent attention.

a. On the ground floor, in the Gym.
b. On the ground floor, in Locker Room D.
c. On the ground floor, in Locker Room E.
d. On the ground floor, in Locker Room F.
e. On the ground floor, in Locker Room G.
f. On the ground floor, in Locker Room H.
g. On the ground floor, in the Garbage Compactor Room.
h. On the 2nd floor, in the North Vestibule.
i. Exit Staircase Outside the Building.

.4 Due to missing or improper installed fire alarm notification signal in the following areas, a fire watch will be provided throughout the building. This is a life safety issue that requires urgent attention.

a. Ground floor – Main Electrical Room.
b. Ground floor – Elevator Machine Room.
c. Ground floor – Corridor to the South Entrance.
d. Ground floor – Garbage Room 1.
e. Ground floor – Garbage Compactor Room.
f. Ground floor – Utility B Closet.
g. Ground floor – Locker Room D.
h. Ground floor – Locker Room E.
i. Ground floor – Locker Room F.
j. Ground floor – Locker Room G.
k. Ground floor – Locker Room H.
l. 2nd floor – North Vestibule.
m. 2nd floor – North Exit Corridor.

.5 Due to missing or improper installed fire alarm pull station in the following areas, a fire watch will be provided throughout the building. This is a life safety issue that requires urgent attention.
   a. Ground floor – Exit South Corridor.
   b. Ground floor – South Exit Stairs.
   c. 2nd floor – North Vestibule.
   d. 4th floor – Exit Door to the West Exit Staircase.

11.0 CONCLUSION

GWAL conducted comprehensive site surveys, reviewed both the initial and updated Performance Audits, analyzed available record drawings, and performed additional investigations to:

- Confirm the outstanding mechanical and electrical deficiencies identified in the Performance Audits.
- Identify non-compliant conditions with respect to the Ontario Building Code (OBC), relevant mechanical and electrical codes, and industry standards in effect at the time of construction.
- Confirm deviations from the original design and applicable Codes and Standards.
- Provide recommendations for corrective actions along with associated cost estimates.
  a. The total estimated cost for Mechanical deficiency resolution is $452,100.00 (excluding the undetermined conditions within the suites and corridor ceilings).
  b. The total estimated cost for Mechanical deficiency resolution is $91,100.00 (excluding the undetermined conditions within the suites and corridor ceilings).
- Recommend immediate actions to address critical life safety concerns.

Based on the nature of the identified deficiencies, all mechanical and electrical issues must be addressed to bring the building into compliance with applicable codes and industry standards.

Moreover, GWAL has emphasized specific issues that render the building unfit for occupancy unless the safety precautions and urgent repairs set out in this letter are taken. It is therefore strongly recommended that urgent modifications and temporary provisions be implemented without delay to mitigate these risks and ensure the building can be safely used on an interim basis. Permanent solutions should follow engineering procedures to fully resolve all deficiencies.

FIRE/LIFE SAFETY REPORT

Prepared by: Dami Okunrounmu

APPLICATION OF THE 2024 ONTARIO BUILDING CODE AND 2015 ONTARIO FIRE CODE
FOR:

PERFORMANCE AUDIT - FIRE PROTECTION AND LIFE SAFETY ITEMS
323 GEORGE STREET
COBOURG, ON

LRI File: 2025 – 03 - 0195

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1.0 INTRODUCTION

This report has been prepared for NSCC 72 (Client) to review the fire protection and life safety items on the Performance Audit list in Northumberland Standard Condominium Corporation No. 72 (NSCC 72), located at 323 George Street in Cobourg, ON.

The purpose of the site review was to conduct a general review of the fire protection and life safety items on the Performance Audit (PA) list with respect to general compliance with Part 3 “Fire Protection, Occupancy Safety and Accessibility” of the 2024 Ontario Building Code (OBC) and 2015 Ontario Fire Code (OFC). Specifically, the report will address the five questions from the legal counsel and provide comments on both resolved and unresolved fire protection and life safety items on the Performance Audit List, as well as additional code-related deficiencies that were visually apparent during on-site review of the fire protection and life safety items on the PA list. LRI was not contracted to conduct a comprehensive fire protection and life safety review of the building.

Typically, the OBC is applicable to the design and construction of new buildings and existing buildings subject to expansion, renovation, material alteration, or repair. The requirements of the Ontario Building Code are not retroactive and may be enforced by the local Building Department at the time of application for a building permit.

Where remedial construction is undertaken, it will be required to conform to Part 11 of the OBC, and as such, may be required to conform to the current requirements of Part 3 of the OBC.

It is understood that occupancy permits for units were issued but permits for the commonly shared area are still outstanding. As such, 323 George Street did not achieve full occupancy for its original building permits. On that basis, the building is required to comply with the OBC. It is understood that the owner is coordinating with the Authority Having Jurisdiction to determine a reasonable approach to application of the OBC to the current conditions, and that the deficiency list forms part of that assessment.

Deficiencies with respect to the OFC are required to be corrected immediately, as the requirements of the Ontario Fire Code are retroactive.

2.0 PROJECT DESCRIPTION

The Northumberland Standard Condominium Corporation 72 (NSCC 72) includes an existing four-storey residential condo (old wing) and a five-storey residential condo building (new wing), which are separated by a firewall. The NSCC 72 was constructed circa 1906 as a public school (Thomas Gillbard School) before being converted into a condominium building comprising of 35 units around 2011 and 2012.

NSCC 72 hired Pichler Engineering for a performance audit of the building. The Performance Audit (PA) reviews were conducted in 2015 and 2024, which identified several deficiencies in the building and potential deviation of the as-built condition from the permit drawings. Specifically, concerns were raised that the condominium was not designed or constructed in accordance with the applicable code requirements, municipal requirements and/or good and prudent practices in the construction industry at the time. Furthermore, the as-built construction does not conform to the original plans, drawings, or specifications. However, occupancy permits were issued for the units, but permitting for the common elements remains outstanding.

Based on the outcome of the performance audit, the City issued “Orders to Comply” to resolve the deficiencies.

2.1 SCOPE / LIMITATION

This report is not intended as a detailed review with respect to all aspects of the Building Code. The Building Condition Assessment (BCA) was limited to a walk-through visual inspection of the locations within the building where the fire protection and life safety items were identified. As such, the BCA was not an exhaustive review of the entire building.

During investigation, the PA list items were found to be linked to more widespread issues related to fire protection and life safety in addition to accessibility deficiencies. Based on the information provided by the client, we understand that the fire protection and life safety drawings do not exist. Our project scope was limited to the fire protection and life safety items on the PA List as provided by the Client.

The provided documents by the client did not include fire protection and life safety drawings of the building. As such, LRI’s review was limited to field observations only and will not include design-related deficiencies or deviations from the original drawings.

Issues relating to maintenance procedures and operations regulated by the 2015 Ontario Fire Code are not noted herein unless specifically identified during the visual walkthrough of the building. The requirements of the Fire Code are retroactive; therefore, compliance with the Fire Code is mandatory.

The site review did not include a detailed review of the fire protection system in the building, nor did it include extensive destructive testing of finished construction. As such, potential hidden defects that are concealed by finished construction were not reviewed.

2.2 METHODOLOGY

This report is based on the findings of a walk-through visual inspection of the building in the company of the team of consultants for the building condition assessment.

Digital photographs were taken of some of the existing conditions that would require upgrading for mandatory compliance with the OFC and of conditions that would require upgrading if the building owner chose to voluntarily upgrade now or in the future for compliance with the OBC.

Access was provided to the common public areas of the building, such as building entrances, entrance lobby, public corridors, parking garage, and public washroom, as well as exterior access to the building entrances.

It is understood that at the time of the inspection, there are outstanding “Orders to Comply” and “Notices of Violation” from the municipal Building and Fire Departments due to the above-mentioned building permit deficiency.

3.0 APPROACH TO THE APPLICATION OF THE CODE

3.1 FIRE PROTECTION AND LIFE SAFETY ITEMS ON THE PERFORMANCE AUDIT LIST

This section addresses fire protection and life safety items on the PA List. Specifically, comments are provided on both resolved and unresolved fire protection and life safety items on the PA List as well as additional code-related deficiencies that were visually apparent while on-site to review the fire protection and life safety items on the PA list.

Our professional opinion is summarised below in response to the questions outlined in the instructions for report, as provided by the legal counsel for Northumberland Standard Condominium Corporation No. 72 (NSCC 72 or the "Corporation"). The questions from the legal counsel are in *italic* form.

1. *What are the deficiencies you have identified in building? Are they reflected in the Performance Audit (i.e. related to a deficiency or a symptom of a deficiency listed in the Performance Audit)?*

LRI: LRI's scope of work was limited to a review of the fire protection and life safety items on the PA List. LRI was not mandated to conduct a new audit of the building for fire and life safety requirements. During the walk-through visual inspections of these items, we observed numerous deficiencies that are related to fire protection and life safety, and some of the non-compliant conditions are identified in the PA list, developed from the performance audit report. Refer to Appendix A for comments on each fire protection and life safety item on the PA List.

Additional code-related deficiencies were observed during the visual walk-through of the building that were not identified on the PA List. The code-related deficiencies are summarized below:

a) There is no ramp to provide barrier-free access to the amenity space on the ground floor due to the change in elevation.

Photo 1

Photo 2

b) Interior Stairs at Level 3 on the Old Wing Linking to Level 4 on the New Wing

- There is no tactile attention indicator at the top of the stairs
- A minimum of 300 mm handrail extension was not provided at the bottom of the stairs

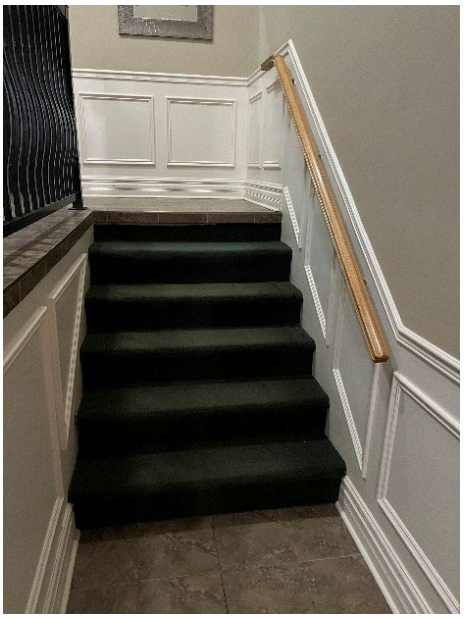


Photo 3

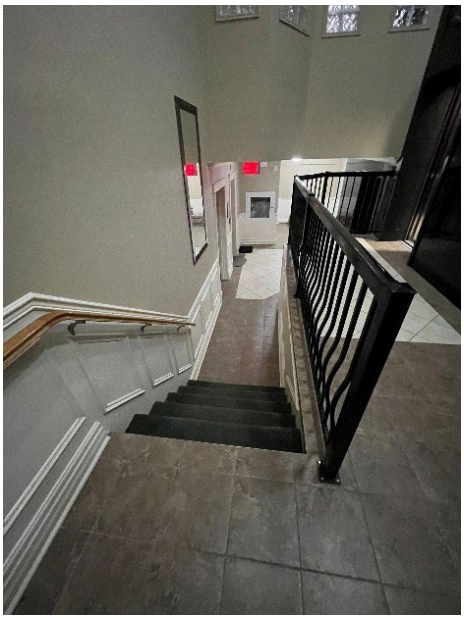


Photo 4

We observed firestop issues and fire separation issues identified in the PA item throughout the building such as

- There are gaps around the sprinklers in some of the rooms and at the amenity space between residential units on the ground floor
- Gaps are observed between the precast slabs for the second floor that will need to be firestopped (as seen from the compactor room, ser*vice rooms on the ground floor)*

Photo 5

Therefore, we recommend that a comprehensive building condition assessment of the entire building be conducted to identify and provide possible solutions to resolve deficiencies with respect to fire protection and life safety, especially hidden defects that may exist and are concealed by finished construction. For instance, the opening of finished construction, such as fire separations between residential units, might be required for a thorough code compliance review.

2. *Are any of the deficiencies you have identified violations of the applicable Ontario Building Code (or any other applicable code or municipal regulation) in place at the time? Are any of the deficiencies you have identified violations of the relevant industry standards applicable at the time?*

LRI: LRI's scope of work was limited to a review of the fire protection and life safety items on the PA List. Yes, the identified fire protection and life safety items on the PA List, as well as the additional code-related deficiencies, violate the prescriptive code requirement of the Ontario Building Code. In addition, it is understood that 323 George Street did not achieve occupancy for its original building permits and therefore, the permits are still outstanding. On that basis, there may be potential deviation of the as-built condition from the permit drawings. Construction that was not visually apparent and is concealed by finishes cannot be reasonably verified as the building permit and occupancy process was not completed.

3. *Based on your review of the available plans, drawings, or specifications, for your discipline, are there any deficiencies in the original design? If so, please specify the plans, drawings, and specifications you reviewed and whether the deficiencies are violations of the applicable Ontario Building Code (or any other applicable code or municipal regulation) in place at the time. Are they violations of the relevant industry standards applicable at the time?*

LRI: The provided documents did not include fire protection and life safety drawings, issued for building permit submission/ construction. As such, LRI was unable to determine whether the as-built condition deviates from the permit drawings for the building.

4. *What are the recommended repairs to correct the deficiencies you have identified, and the estimated cost?*

LRI: Overall, the identified fire protection and life safety items on the PA List can be grouped into three categories, and the estimated cost of repair is provided for each category. However, we recommend that a cost consultant be retained to provide accurate costing of identified deficiencies.

- **Firestop issues:** We recommend that the identified firestop issues on the PA list and the additional firestop issues observed during the walk-through visual inspection be resolved with the application of a ULC-listed firestop system. The estimated cost of repair could be in the order of $50,000.00 to address the 37 identified firestop issues on the PA list.
- **Fire Separation Issues:** We recommend that an appropriate ULC-listed wall assembly be installed at locations where vertical fire separation is missing/incomplete, as identified on the PA list. The estimated cost of repair could be in the order of $60,000.00 to address the fire separation issues at the parking garage as identified on the PA list (i.e., items #19, #20, & #164)
- **Firewall issues:** We recommend that the missing firewalls at the Parking Garage be constructed as shown in the existing architectural drawing sets. The estimated cost of repair could be in the order of $60,000.00 at the parking garage as identified on the PA list (i.e., items #22 & #163)

Maintaining the integrity of fire separations in the building is critical to the safety of occupants in the building. Therefore, all the fire protection and life safety items on the PA List, as well as the addition code-related deficiencies, are to be addressed immediately in conformance with the OFC and OBC. Refer to Appendix A for comments on each fire protection and life safety item on the PA List. In addition, it is anticipated that additional deficiencies would be identified by a comprehensive review and that additional repairs will be required.

5. *Should any of the deficiencies have been resolved before occupancy was permitted?*

LRI: Yes, code-related deficiencies should have been resolved prior to occupancy. It is understood that 323 George Street did not achieve occupancy for its original building permits and, therefore, the permits are still outstanding. There might also be hidden defects that are concealed by finished construction.

LRI's scope of work was limited to a review of the identified fire protection and life safety items on the PA List. LRI was not mandated to conduct a new audit of the building for fire and life safety requirements. It is anticipated that additional deficiencies will be identified by a comprehensive review and that additional repairs will be required.

APPENDIX A

FIRE PROTECTION AND LIFE SAFETY ITEMS ON THE PERFORMANCE AUDIT LIST

FIRE PROTECTION AND LIFE SAFETY ITEMS ON THE PERFORMANCE AUDIT LIST						
Pre-Existing Reference #	**Deficiency Description**	**Location On Site**	**Status in Life Safety Deficiency List**	**Deficiency Status during Site Audit by LRI**	**LRI Comment**	**Estimated Cost of Repair**
19	Fire Separation walls missing/incomplete	Garage structures A, B, and C	Verify	Not yet resolved	Masonry walls were observed to be provided between some tenant parking spaces. However, the fire separation remains incomplete at those locations in consideration that a layer of drywall was observed to be installed above the masonry wall instead of a ULC-listed wall assembly. In addition, the drywall was not properly installed as gaps were observed between the boards and the masonry wall, and the penetrations through the gypsum board were not sealed with a firestopping system. Furthermore, fire separations were missing between some parking spaces.	$60,000 (lump sum for fire separation issues at the parking garage)
20	Fire Separation walls missing/incomplete	Garage A - West end	Verify	Not yet resolved	Masonry walls were observed to be provided between some tenant parking spaces. However, the fire separation remains incomplete at those locations in consideration that a layer of drywall was observed to be installed above the masonry wall instead of a ULC-listed wall assembly. In addition, the drywall was not properly installed as gaps were observed between the boards and the masonry wall, and the penetrations through the gypsum board were not sealed with a firestopping system. Furthermore, fire separations were missing between some parking spaces.	$60,000 (lump sum for fire separation issues at the parking garage)
21	Cement board missing from carport ceiling areas	Garage carports	Verify	Not yet resolved	No ceiling was observed below the roof system within the occupied parking garage with rolling vertical doors. As such, the ceiling is missing	$15,000 (lump sum for ceiling tiles at the parking garage)
22	Firewall missing/incomplete	Garage B - East wall	Verify	Not yet resolved	No firewall was constructed between the parking garages. As such, the firewall is missing	$60,000 (lump sum for firewall at the parking garage)
33	Waterproof emergency lighting missing	West side of structure to roof patio	Verify	Resolved	The waterproof emergency lighting has been provided See the photo for item 33 in Appendix B	N/A
34	Waterproof exit sign missing	West side of structure to roof patio	Verify	Resolved	An exit sign has been provided See the photo for item 34 in Appendix B	N/A
35	Installed fire alarm horn not waterproof	West side of structure to roof patio	Verify	Resolved	The horn for the fire alarm appears to be waterproofed. See the photo for item 35 in Appendix B	N/A

67	Missing/incomplete fire stopping	Compactor room	Verify	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
68	Missing/incomplete fire stopping	Electrical room	Verify	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 72 in Appendix B	$50,000 (lump sum for firestop issues in the building)
72	Fire stopping not properly installed at pipe penetration through ceiling	Ceiling locker 206	Verify	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 78 in Appendix B	$50,000 (lump sum for firestop issues in the building)
78	Fire stopping issues along ceiling drywall	Utility room "B", 1st floor	To be resolved	Not yet resolved	The hole is yet to be covered with a ULC-listed firestop material.	$50,000 (lump sum for firestop issues in the building)
88	Fire stopping missing around wall penetration for sprinkler pipe	Locker room "G", 1st floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 88 in Appendix B	$50,000 (lump sum for firestop issues in the building)
90	Fire stopping incomplete/missing	Utility room "C", 1st floor	To be resolved	Utility room "C" could not be found		

91	Piping and wiring not fire stopped	Electrical room, 1st floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 93 in Appendix B	$50,000 (lump sum for firestop issues in the building)
93	Fire stopping missing around card access conduit	Electrical room, 1st floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 94 in Appendix B	$50,000 (lump sum for firestop issues in the building)
94	Fire stopping missing around opening in ceiling.	Electrical room, 1st floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
96	Fire stopping missing at pipe and wire wall penetrations	Utility room "B", 1st floor	To be resolved	Not yet resolved	The hole is yet to be covered with a ULC-listed firestop material.	$50,000 (lump sum for firestop issues in the building)
98 (Same as #67)	Fire stopping missing around north wall penetration	Garbage compactor room	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 98 in Appendix B	$50,000 (lump sum for firestop issues in the building)

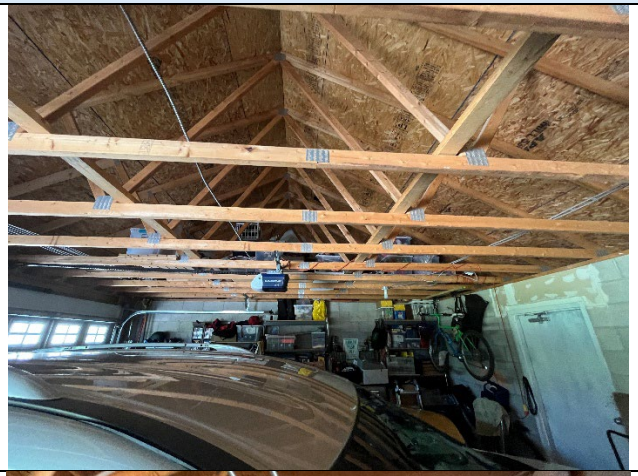
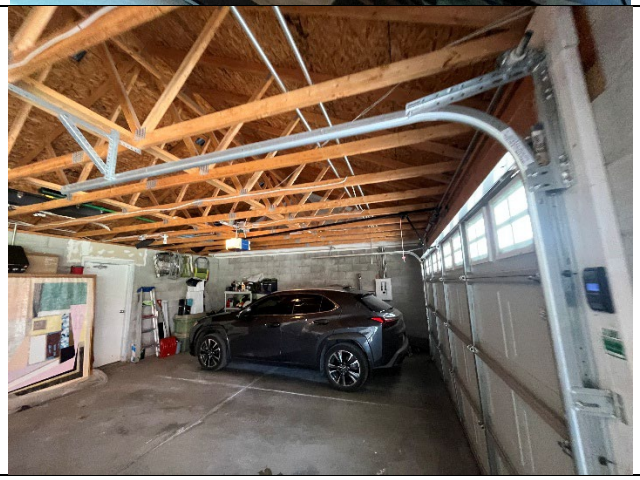
101	Fire stopping missing around floor penetrations	North electrical closet, 4th floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 101 in Appendix B	$50,000 (lump sum for firestop issues in the building)
102	Fire stopping missing around floor penetrations	North electrical closet, 3rd floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 102 in Appendix B	$50,000 (lump sum for firestop issues in the building)
103	Fire stopping missing around floor penetrations	"K" Utility room, 2nd floor	To be resolved	Not yet resolved	The hole is yet to be covered with a ULC-listed firestop material. See the photo for item 103 in Appendix B	$50,000 (lump sum for firestop issues in the building)
104	Fire stopping missing around floor penetrations	"I" and "J" Utility rooms, 2nd floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
105	Fire stopping missing around floor penetrations	"H" Utility room, 2nd floor	To be resolved	Utility room "H" could not be found		
107	Fire stopping missing and exhaust ventilation missing (suspected)	"N" Utility room, 4th floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
109	Fire-rated wall assembly not constructed as per drawings	Corridors on all floors 1 to 5	Verify	Not yet resolved	Based on the photos provided by the contractor and confirmation from the architect, gaps were observed between the wall assembly for the corridor and the slab above at the two locations where openings were made (Suites 208 and 408). Additionally, holes were observed around dampers and conduits that penetrated the wall assembly. As such, there might be hidden firestopping issues at the corridors that are concealed by finished construction	$50,000 (lump sum for firestop issues in the building)

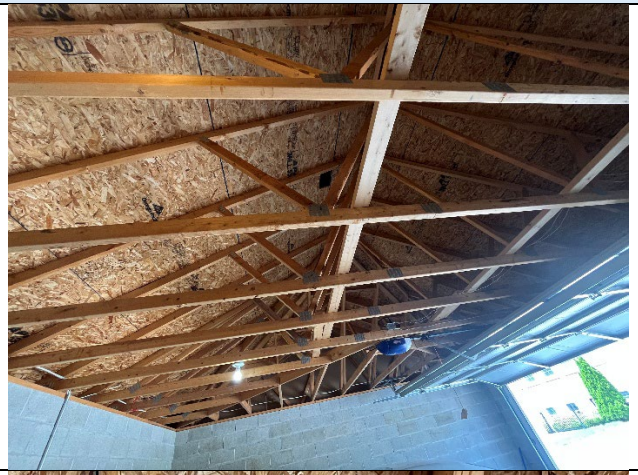
110	Fire stopping missing around ceiling penetrations	Drywall ceiling in hallway, east of suite 309	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 110 in Appendix B	$50,000 (lump sum for firestop issues in the building)
111	Missing fire stopping	Wall above double doors, 2nd & 3rd floor	To be resolved	Not yet resolved	The hole is yet to be covered with a ULC-listed firestop material. See the photo for item 111 in Appendix B	$50,000 (lump sum for firestop issues in the building)
117	Fire stopping missing	Wall opposing suite 204	To be resolved	Not yet resolved	The hole is yet to be covered with a ULC-listed firestop material. See the photo for item 117 in Appendix B	$50,000 (lump sum for firestop issues in the building)
118	Fire stopping missing around wall penetration	Locker room "F", above ceiling tile	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 118 in Appendix B	$50,000 (lump sum for firestop issues in the building)
120	Fire stopping missing around wall penetration	Wall above door to suite 104	To be resolved	Not yet resolved	The hole is yet to be covered with a ULC-listed firestop material. See the photo for item 120 in Appendix B	$50,000 (lump sum for firestop issues in the building)
127 (Gym)	Fire stopping ineffective, power outlet for sump pump	Crawl space, West of exercise room	Verify	Not yet resolved	The hole is yet to be covered with a ULC-listed firestop material.	$50,000 (lump sum for firestop issues in the building)
145	Utility room N fire stopping	Fifth floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1. See the photo for item 127 in Appendix B	$50,000 (lump sum for firestop issues in the building)
146	Refuse chute missing sprinkler head at top of chute	Fifth floor	To be resolved	Resolved	Sprinkler is present at the top of chute	N/A
147 (Party room)	Common/Function room fire stopping in corner closet	Fourth floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, “Standard Method of Fire Tests of Firestop Systems,” as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)

150 (Same as #111)	Wall above double doors fire stopping	Third floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
151	Cogeco room fire stopping	Third floor	To be resolved	The location could not be found		
152	Utility room I and J fire stopping	Second floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
153	Utility room H fire stopping	Second floor	To be resolved	Utility room "H" could not be found		
154	Wall above double doors fire stopping	Second floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
155 (Same as #67)	Refuse compactor room fire stopping	First floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
156	Electrical room fire stopping	First floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
157	Locker room F fire stopping	First floor	To be resolved	Not yet resolved	The hole is yet to be covered with a ULC-listed firestop material.	$50,000 (lump sum for firestop issues in the building)
158	Utility room B fire stopping	First floor	To be resolved	Not yet resolved	The hole is yet to be covered with a ULC-listed firestop material.	$50,000 (lump sum for firestop issues in the building)
159	Locker room G fire stopping	First floor	To be resolved	Not yet resolved	The holes appear to have been covered with a material that is not consistent with the firestop system we are familiar with. As such, we cannot verify whether the installed material complies with CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," as a firestop system in accordance with Article 3.1.9.1.	$50,000 (lump sum for firestop issues in the building)
160	Utility room C fire stopping	First floor	To be resolved	Utility room "C" could not be found		
163 (Same as #22)	Firewall not constructed	Parking Garages	Verify	Not yet resolved	No firewall was constructed between the parking garages. As such, the firewall is missing	$60,000 (lump sum for firewall at the parking garage)
164 (Same as #20)	Interior partitions not constructed	Parking Garages	To be resolved	Not yet resolved	A layer of gypsum board was installed above the masonry wall instead of a ULC-listed wall assembly. In addition, the gypsum board was not properly installed as gaps were observed within the boards and the masonry wall, and the penetrations through the gypsum board were not sealed with a firestopping system. Therefore, the fire separation remains incomplete	$60,000 (lump sum for fire separation issues at the parking garage)

APPENDIX B

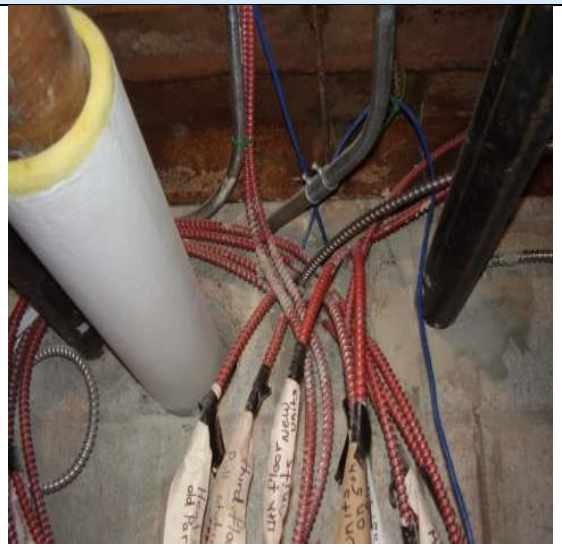
SITE PHOTOS ON STATUS OF IDENTIFIED FIRE PROTECTION AND LIFE SAFETY ITEMS

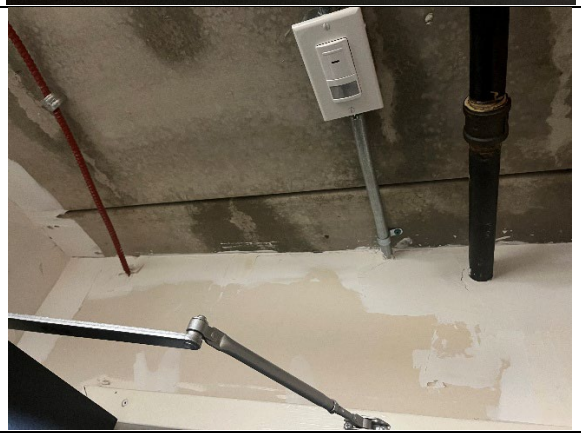
Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering”	Pictures taken by LRI during BCA
19		
19A		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering”	Pictures taken by LRI during BCA
19B		
20		

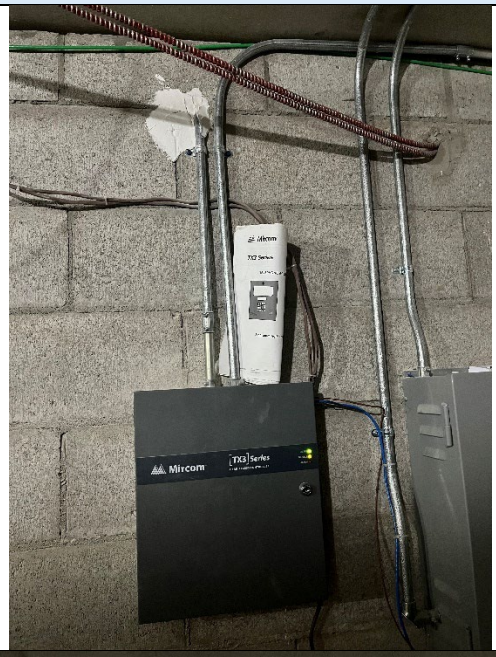
Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering"	Pictures taken by LRI during BCA
21		
22	No Photo	No photo for comparison
33 & 34		

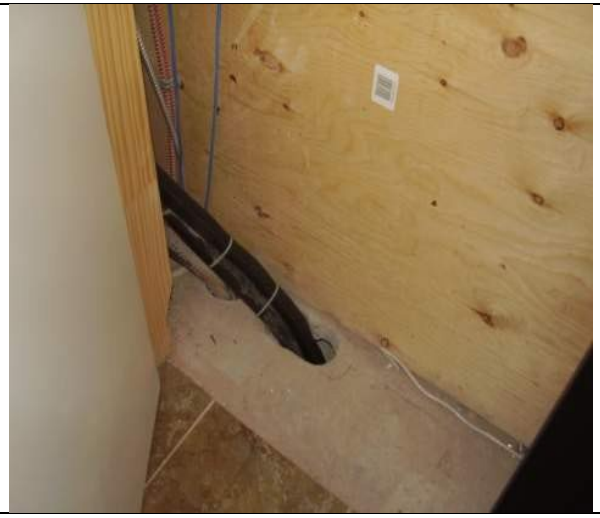
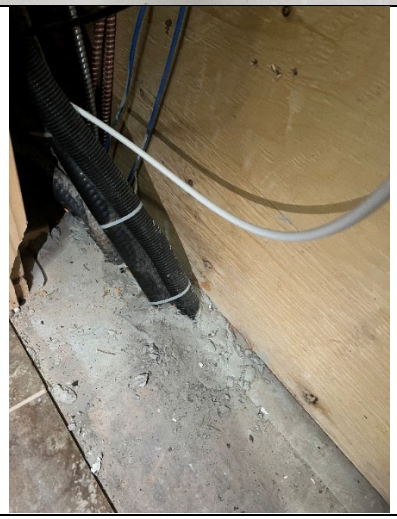
Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering”	Pictures taken by LRI during BCA
35		
67		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering"	Pictures taken by LRI during BCA
68		
72		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering”	Pictures taken by LRI during BCA
78		
88		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering”	Pictures taken by LRI during BCA
91		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering"	Pictures taken by LRI during BCA
93		
94		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering"	Pictures taken by LRI during BCA
96	No Photo	No photo for comparison
98		
101		

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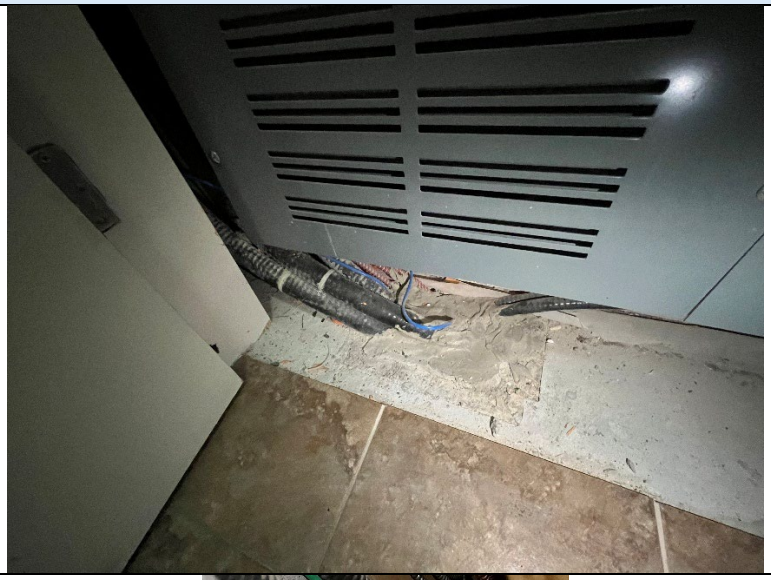
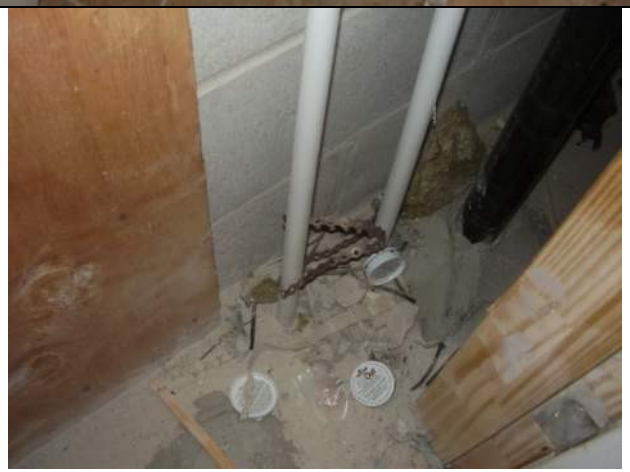
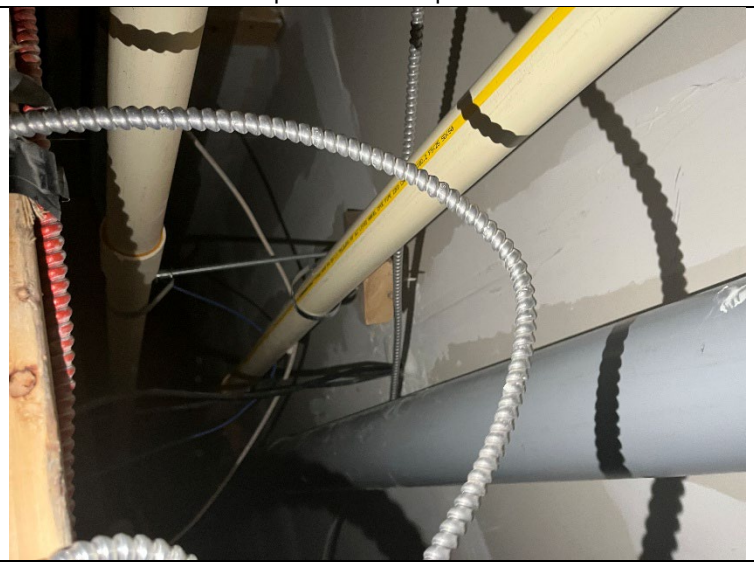
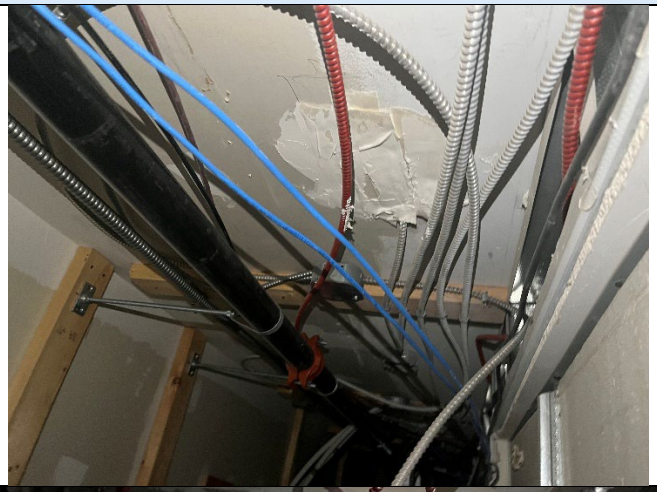
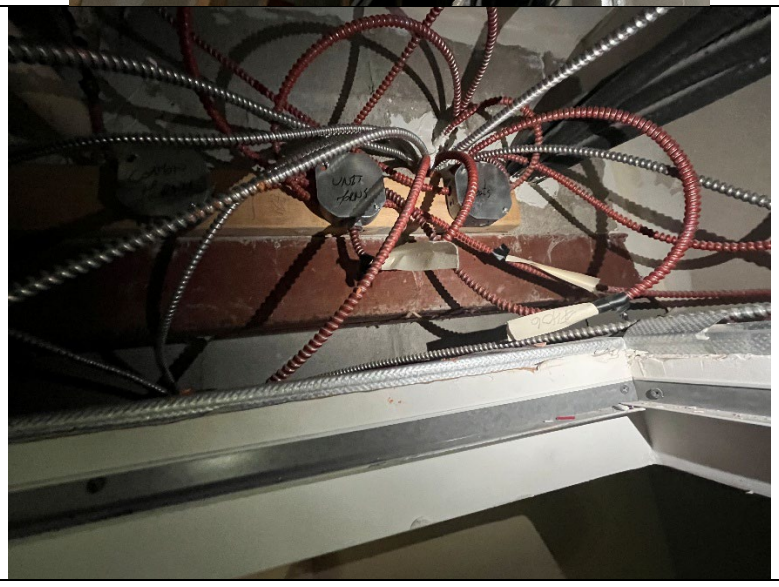
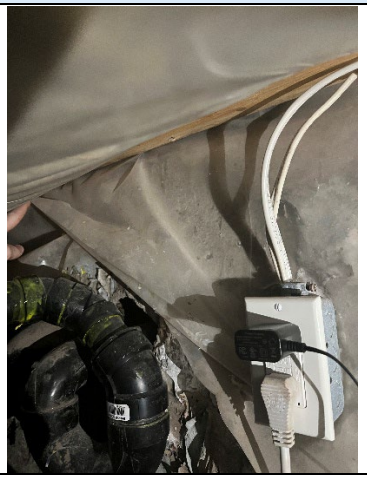
102		
103		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering"	Pictures taken by LRI during BCA
104		
107	No photo	No photo for comparison
109	No photo	No photo for comparison
110		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering"	Pictures taken by LRI during BCA
111		
117		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering”	Pictures taken by LRI during BCA
118		
120		

Pre-Existing Reference #	Pictures from Performance Audit Report, prepared by Pichler Engineering”	Pictures taken by LRI during BCA
127		
145 - 160	No Photo	No photo for comparison
161	No Photo	Same as #22
162	No Photo	Same as #20