Planning

Design and Design Review

Seismic Assessment

Structural Evaluation

Condition Surveys

Structural Rehabilitation

Feasibility Studies

Construction Engineering

Contract Administration and Tendering

Construction Inspection

Quality Verification Engineering (QVE)

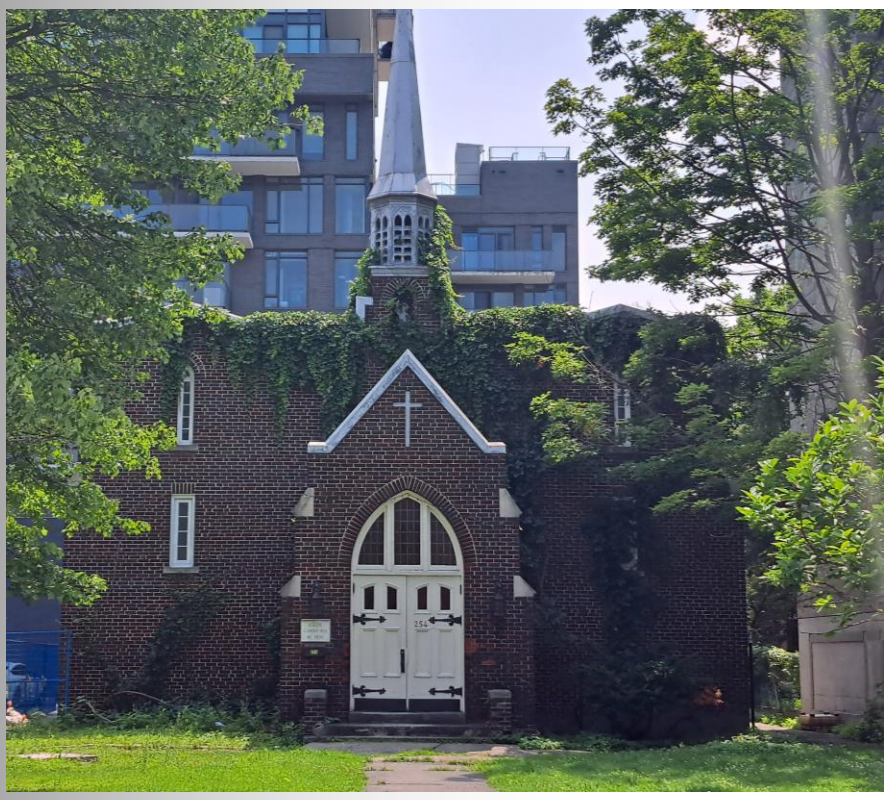
AZURE

AZURE URBAN DEVELOPMENTS INC.

254 ARGYLE AVENUE

Church Relocation Scenarios Analysis

Project Number: 2023-049-2



August 23, 2024

ASSOCIATION OF CONSULTING ENGINEERING COMPANIES ONTARIO

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AUTHORS QUALIFICATIONS

Wojciech Remisz, P.Eng., M.Sc., FCSCE – Founder and principal of the firm, PEO Designated Consulting Engineer since 1992, carrying 50 years of extensive work experience. Mr. REMISZ has successfully managed and coordinated numerous projects of all sizes throughout Canada and abroad. He is the recipient of the 1998 Innovation Award and 2014 CEO Willis Chipman Award.

Magdy Guirguis, P.Eng. – Structural engineer, has 38 years of experience in project management, coordination, inspection, evaluation, planning, design, construction, and rehabilitation of major and complex structures including bridges, residential, industrial, and commercial buildings. Magdy assists Senior Designers and Engineers with quality control and quality audit reviews of drawing packages, leads projects design team, and provides guidance to others.

Tristan Mignott, E.I.T. – is a Structural Designer, who graduated from Carleton University in June 2020 with a bachelor's degree in Civil Engineering. He has been working with us since October 2020, assisting in structural reviews, designs, and drafting.

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1.0 INTRODUCTION

Azure Urban Developments Inc. plans to construct a 9-storey residential building above a 2-level underground parking garage on this site. The development proposal is illustrated in the drawings and documents prepared by the consulting team (Spice Architects, CSV Architects, Goodeve Structural Engineers, Novatech Engineering, Remisz Consulting Engineers) submitted to the City of Ottawa for a Zoning Bylaw Amendment, Site Plan Control and Heritage approvals.

The development proposal includes the incorporation of the *Meaningful Portion* of the existing Christ the King deconsecrated Church (the "Church") into the new development. The Meaningful Portion will primarily constitute the brick façade along the full length of the front wall & entry, the majority of the East wall, a smaller portion of the west wall and the steeple, as per architectural requirements. The Meaningful Portion of the existing heritage asset will be integrated with the new building and serve as a prominent entrance atrium/foyer as illustrated in Figure 1 below and in the Spice architectural drawings. The Meaningful Portion (i.e. dark blue line) will ensure that the Church's distinct three-dimensional exterior form and materiality will be preserved and accentuated when viewed from Argyle Avenue. This concept and different scenarios of relocation along with the feasibility of each scenario were discussed with two City of Ottawa Heritage Staff during pre-consultation dialogue at the site.

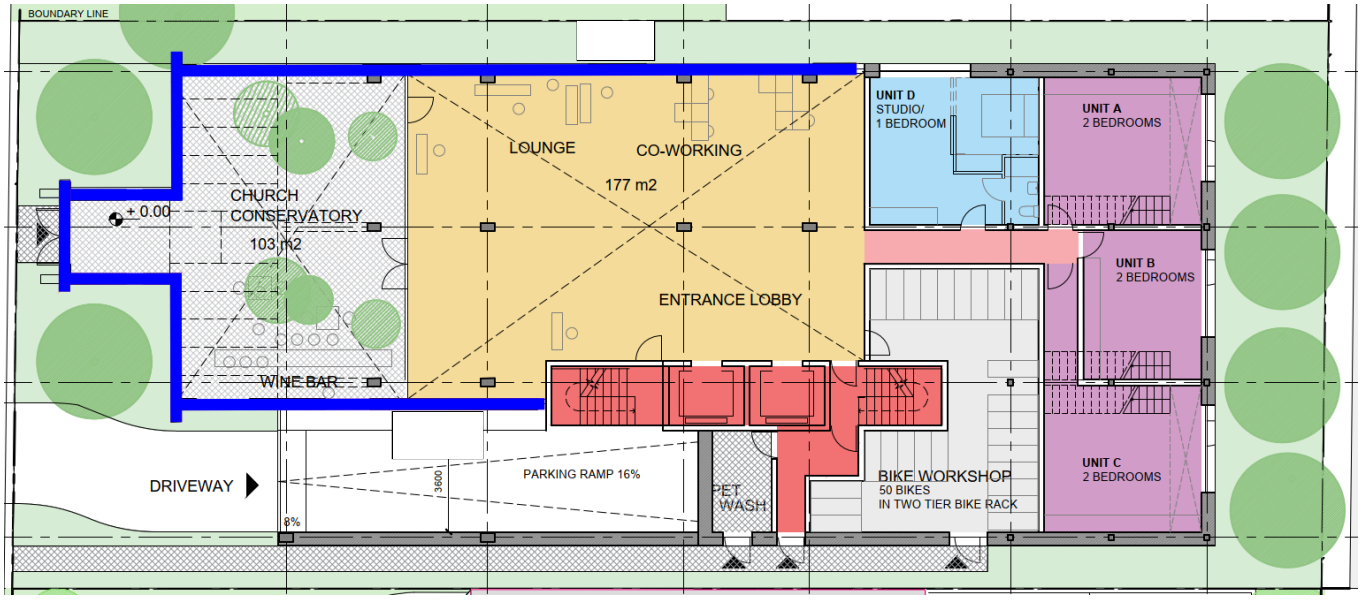

Figure 1: Meaningful Portion of Church

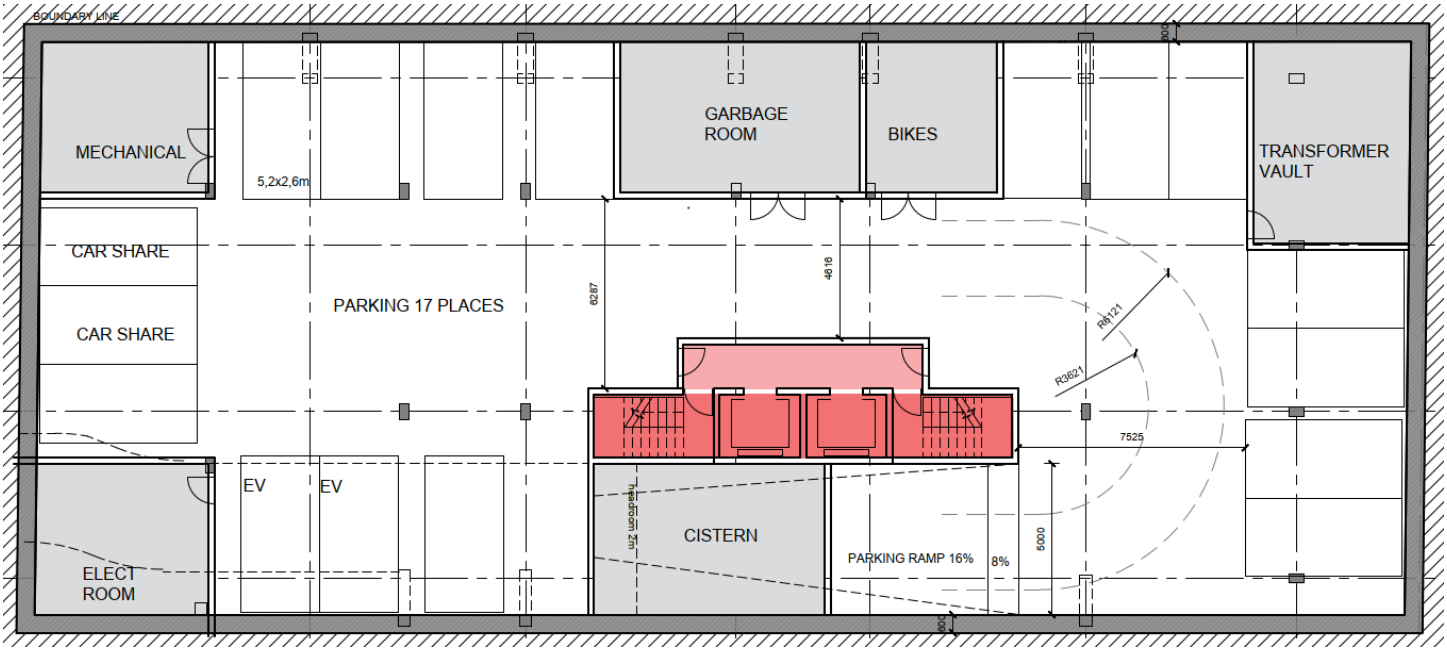

Figure 2: Foundation Level

As can be seen from Figure 2 above, the new development will have a two-story underground garage that will occupy the entirety of the site. This will require a strategy that can remove the existing building from the site to enable shoring, excavation and construction of the underground garage and at minimum, the nine-storey concrete structure, prior to integrating the Church into its final resting place. Construction sequencing will briefly be as follows:

1. Preservation of Church's Meaningful Portion;
2. Removal of existing Church from construction site;
3. Shoring and excavation;
4. Construction of substructure;
5. Construction of superstructure;
6. Incorporation of Meaningful Portion of Church into new building.

A Heritage Impact Assessment (HIA) of the development proposal has been prepared by the COMMONWEALTH HISTORIC RESOURCE MANAGEMENT (CHRM) and Barry Padolsky Assoc Inc. (heritage consultants). A summary of the heritage value of the Christ the King Church and the impact of the proposed development on the heritage values of both the Church and the Centretown Heritage Conservation District is discussed in the HIA.

In response to the City Heritage staff's request to analyze several relocation scenarios that would evaluate alternative methods for relocating the Meaningful Portion of the Church, Azure Urban Developments Inc. has commissioned REMISZ Consulting Engineers to assess alternative relocation methods and recommend the method that poses the least risk to damaging the heritage asset and is technically viable.

A Heritage Conservation Plan describing the detailed heritage conservation approach using the adopted relocation method will be subsequently submitted to the City as an addendum to the HIA.

2.0 EXISTING SITE CONDITION INVESTIGATION

2.1 PURPOSE

REMISZ conducted several site inspections in 2023 and the most recent on February 22, 2024, and August 12, 2024 to examine the structural elements of the existing building. This investigation was necessary in aiding to formulate a suitable plan for relocating the Church and preserving this heritage resource considering the difficulties that come with the size of Church and the site it occupies.

2.2 INVESTIGATION TEAM

- Wojciech Remisz, P.Eng. (Structural Engineer)
- Magdy Guirguis, P. Eng. (Structural Engineer)
- Tristan Mignott, EIT (Structural Designer)
- Lav Prajapati, EIT (Structural Project Designer)

2.3 METHODOLOGY

1. **Pre-Inspection Preparation:**
   - REMISZ gathered all relevant documentation, including historical records, architectural plans, and previous inspection reports.
   - Reviewed any applicable building codes, preservation guidelines, and regulations.

2. **Exterior Inspection:**
   - REMISZ conducted a visual inspection of the exterior of the Church, noting its architectural style, materials, and overall condition.
   - Assessed the condition of the walls, windows, doors, looking for signs of deterioration, damage, or structural issues.
   - Documented any visible cracks, gaps, bulges, or other anomalies that may indicate underlying problems.

3. **Interior Inspection:**
   - REMISZ entered the Church and inspected the interior spaces.
   - Evaluated the condition of the flooring, walls, ceilings, and columns.
   - Checked for evidence of water infiltration, mold, decay that could compromise the structural integrity or historical fabric of the building.

4. **Structural Assessment:**
   - REMISZ performed a detailed assessment of the Church's structural system, including its foundation walls, framing, and load-bearing elements.
   - Used various tools such as heavy hammers, cold chisels, flat-plated ice picks with extended handles, a heavy pick, measuring tapes, a laser measure, step ladders, and a magnet to remove architectural finishings and locate the structural elements. Additionally, the process was documented with several close-up photos, site notes, and a few sketches**.**

2.4 FINDINGS

2.4.1 Building Description

- There are four main sides to this structure (i.e., north, east, south, and west).
- The foundation walls appear to be made of concrete blocks and all exterior walls appear to be made of brick veneer and terracotta hollow core blocks, finished with metal wire mesh and plaster coat from inside.
- The interior of the building consists of a main floor with a balcony and basement.

- The main entrance door is made of painted wood. The building has one side entrance and one fire exit which are also made of wood. The windows are made of vinyl and are in relatively good condition.
- The main floor is elevated above grade and consists of the Church hall and a balcony. The balcony has two separate sets of stairs (one on each side). On the right side of the balcony is an enclosed room with door access to the left side which is a larger, open area for organ and choir.
- The basement includes two halls, a stage, a washroom area, kitchen, and utility room.
- The roofs were not accessible and therefore were assessed from the ground and by binoculars. The roof of the entrance is a gabled roof and covered with metal roof protection, and the main roof is a flat roof with a small slope covered with asphalt roll roofing.
- The steeple of the Church is constructed of metal and has a distinctive conical shape, tapering gradually to a point at the top. At the pinnacle of the steeple sits a symbolic cross. Its sleek and streamlined design reflects the architectural style of the 1930s, characterized by simplicity, symmetry, and modernity.

2.4.2 Existing Damage on Building

It was observed that the exterior left wall is suffering from significant damage throughout. The following list displays the numerous deficiencies noticed on this wall during our visit on site:

- There are wide step cracks in the brick cladding at the top corners of the two large basement windows and several wide cracks at the southeast corner and a damaged area is covered with plywood in the southeast corner. This could indicate subsidence or movement to the wall, as well as a serious structural issue to the building.
- There is a substantial settlement in the south-east corner, which is the closest area to the excavation works performed at 203 Catherine Street back in 2015. The total movement at the southeast corner was 72mm when observed by Keller Engineering on February 24, 2017.
- Sheets of plywood are fastened to the brick cladding in the south-east corner with Tapcon fasteners at regularly spaced intervals to prevent further brick movement in that area. The plywood is secured tight to the building face by three cables (see Figures 3 & 4).
- Vertical supports are provided as temporary measures to prevent the whole south-east corner separating from left and back walls (see Figure 3 & 4).
- Some windows have broken glass in the basement level which is additional evidence of the movement of the wall.
- There are several cracks ranging from 3mm to 5mm especially around the windows and at the southeast corner. The main reason for such cracks is the settlement of the building.
- Downspouts empty too close to the building, concentrating water against the foundation, a very likely source of basement water entry.
- The staircase to the doorway on the main floor was removed.
- The wall is leaning outwardly by 1cm for every meter.

Figure 3: Left Side Wall (East Facade)

Figure 4: Damage at Rear Left Corner

2.4.3 Basement

The basement ceiling is supported by several steel beams spanning from steel columns to the exterior basement walls and sitting on steel bearing plates at the supports (the beams are spaced at approximately 7.8 m). The exterior steel beams along the foundation walls act as lintels above all basement windows and the foundation walls where exposed appeared to be made of concrete blocks. All interior finishes consisted of gypsum on expanded metal lath.

- The steel columns are size W150x22, (d x b = 152mm x 152mm, see Figure 5).
- The steel beams are size W460x68 (d x b = 459mm x 154mm, see Figure 6).
- Total wall thickness was measured as 360mm (14 inches).
- The height from the basement floor to the left-hand basement windows is approximately 175 cm (70 inches).
- The height from the basement floor to the right-hand basement windows is approximately 137 cm (54 inches).

Figure 5: Steel Column in Basement

Figure 6: Steel Beam Sitting on Foundation Wall

2.4.4 Main Floor

From the interior balcony it was observed that the roof of the Church is supported by steel beams that span the width of the room from one exterior wall to the other. The steel beams are covered with wood planks to form bulkheads, and one bulkhead that was accessible from the balcony was removed for beam inspection. Underneath each end of the beam is a thick steel bearing plate which sits on cement levelling grout (approx. 15mm thick) on top of the exterior wall. It is hence assumed that this would be the typical method of construction for all steel beams that sit on a masonry wall. Solid wood joists were also found running along the Church, which was visible from the ceiling access hatch located at the front right hand side corner of the balcony level.

- The steel beams are size W460x60 (see Figure 7).
- The total wall thickness is approximately 360 mm (14 inches).

Figure 7: Steel Beam Supporting Roof

2.4.5 Wall Composition

A 4' wide exploratory opening was made on the interior left-hand side wall (see Figure 8) and the following materials were found:

Structural Hollow Clay Tile (SHCT) – a.k.a. Terracotta Blocks

- **Material:** Structural hollow clay tiles are made from fired clay.
- **Construction:** These blocks are used as load-bearing elements. The blocks were made in a "T" shape, have a width of 8", and are stacked and joined with mortar to create the wall.
- **Insulation:** The air gap acts as a form of insulation by creating a thermal break between the interior of the building and the exterior environment.

Brick Veneer

- **Material:** The brick veneer is made of clay.
- **Construction:** The brick veneer is a non-structural, decorative layer applied to the exterior of a building. On the back of the bricks is a uniform cementitious parging.
  The brick veneer is tied to the structural wall using brick headers every seventh course, following a pattern similar to a common bond, as shown in Figure 9 below. **It is important to note that the existing wall does not comply with current local building codes, which specify requirements for energy efficiency and structural integrity. This non-compliance may impact the future seismic performance of the entire project.**

Figure 8: Wall Section

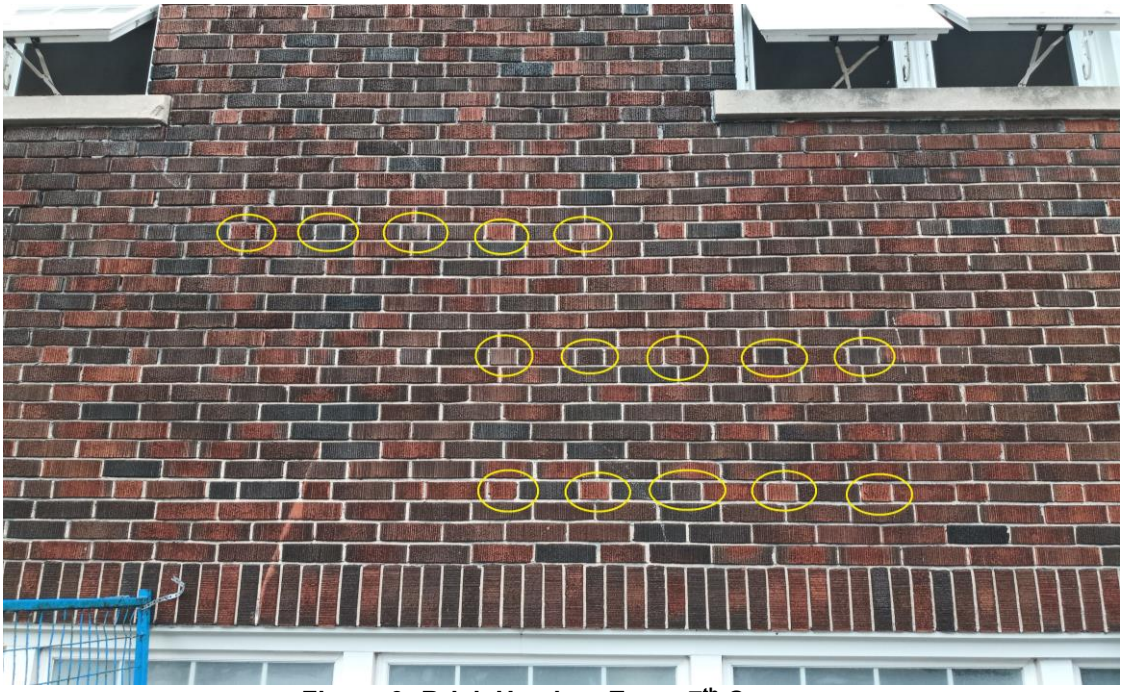

Figure 9: Brick Headers Every 7th Course

2.5 OVERVIEW

The Church walls are not in a condition that allows for relocation without significant risk of damage. The wall assembly dates back to a period when hollow clay tiles were commonly used as a structural system. If the terracotta wall is damaged during relocation, it cannot be repaired or replaced with the same material, as this is no longer available. Additionally, clay as a material tends to disintegrate when moved from its original position.

Goodeve Structural Inc., who is the structural engineer/designer for the new development, has reviewed the wall assembly and raised significant concerns about incorporating these walls into the new structure without modifications. The primary issues involve safety, seismic performance, and compliance with current building codes. The walls are likely to be unstable when reconstructed within the new structure and would be particularly vulnerable during their removal from and return to the site. As a result, the integrity of the Meaningful Portion of the Church will be at risk.

This investigation supports REMISZ's Structural Assessment Report (see *Appendix A*) submitted to Azure in September 2023, which confirms that physically moving the existing Church presents significant challenges due to safety concerns and the current structural condition, particularly regarding the left wall (i.e. east façade).

Therefore, it is important to consider keeping only the brick veneer of the Meaningful Portion, rather than preserving the entire wall structure.

3.0 SCENARIOS FOR CHURCH DISASSEMBLING / RELOCATION

Three (3) scenarios have been examined as potential approaches to preserve the Meaningful Portion for subsequent incorporation into the new building structure:

1. Move the Church in one piece on/off-site and return the Meaningful Portion to incorporate into the new building.
2. Cut the walls into smaller sections (i.e. “panels”) to disassemble, store off-site and return to incorporate into the new building.
3. Dismantle all wall veneer brick by brick and reconstruct into a wall assembly that meets current building code.

There are some limiting factors that must be considered when examining any of these approaches:

1. The current condition of the Church as discussed in Section 2.0 above;
2. The site is small (70’ x 150’) and highly constrained;
3. The entire site needs to be cleared and excavated; and
4. The width of the Church surpasses the width of the adjacent streets.

Major Objectives

1. Preservation and restoration of the Meaningful Portion of the original Church as per architectural requirements (shown in red).
2. Front door, along with all windows, will be removed and catalogued. The selected units will be restored. Note that neither the front door nor the windows are original. It is Azure’s intention to replace these with elements with more appropriate materials.
3. The roof over the front entrance, including the steeple, will be preserved, and reconstructed as a unified entity in all scenarios.

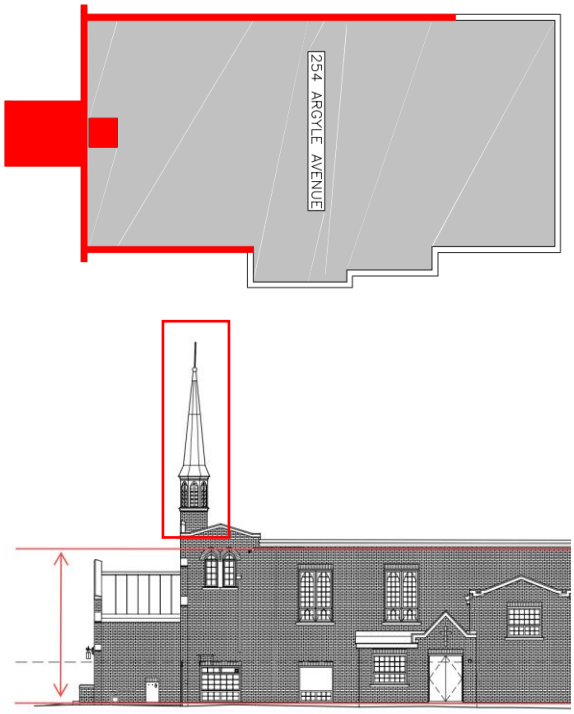

Figure 10: Meaningful Portion of the Church

3.1 SCENARIO #1: MOVING THE CHURCH IN ONE PIECE ON/OFF-SITE

3.1.1A Procedure (On-Site)

In this approach, the entire Church would be moved around the site simultaneously with the excavation and foundation work. It would, however, be necessary to disconnect and store the vestibule with the steeple separately. The remaining section of the Church would then be relocated within the site as a unified structure, using jacking and slide rails; however this approach brings significant risk to the Heritage Asset.

In this approach, the Church would need to be moved at least four times around the site to permit excavation. As the Church takes up over 75% of the site, it would not be possible to excavate without such moves, culminating in an elevation of the Church above the site to permit excavation of the middle portion. After that, construction work on the front part of the new building would commence, progressing until the slab level of the main floor is reached. The initial forward movement would facilitate the construction of the rear portion of the foundation. Ultimately, the final relocation would place the Church in its permanent position, integrating it into the new construction process from the ground up. This approach requires the expertise of a specialized company proficient in engineered heavy lifting and large object transportation.

1. **Initial Assessment and Planning:**
   - Conduct a comprehensive structural assessment of the Church to ensure its integrity during relocation.

2. **Preparation for Relocation:**
   - Strengthen the structural integrity of the Church, focusing particularly on areas vulnerable to stress during transportation.
   - Install interior and/or exterior bracing to support the salvaged sections during the relocation process.
   - Secure the roof in place to maintain structural stability until just before reinstallation.
   - Prepare beam pockets in the foundation wall to accommodate support beams.
   - Enhance stability by adding support beams, cross beams, and reinforcing channels.
   - Execute partial excavation beneath the horizontal cutting lines, implementing a new excavation shoring system wider than the current outline of the Church walls.
   - Install slide rails beneath the Church cross beams along the entire travel path, incorporating elastomeric bearing pads between cross beams and rails to minimize movement-induced vibrations.

3. **Dismantling:**
   - Disconnect the vestibule and steeple using appropriate equipment and methods and store them separately.
   - Safely disconnect all utilities.

4. **Relocation:**
   - Upon reaching the final location, elevate the structure to the required line and grade using jacks (ensuring that the bottom of the old wall aligns with the top of the new concrete slab).
   - Release the jacks and remove all steel beams from the structure.
   - Optionally, install dowels for additional uplift and seismic restraints.
   - Identify and delineate all sections of the Church to be retained or demolished before any cutting begins.
   - Remove and dispose of any designated unsalvaged portions of the building from the site.

- Trim the ends of the walls as needed and seamlessly integrate them into the façade of the new building.

5. **Finalization:**
   - Complete any remaining tasks, such as landscaping or exterior finishing, to seamlessly integrate the Church into the new building.
   - Conduct final inspections to verify the integrity and safety of the relocated Church.

3.1.2A Conclusions – NOT VIABLE

1. **Flaws in Wall Assembly:** Due to the composition of the wall assembly and the nature of the bricks and terracotta, any movement of the building would cause significant stress on the walls and result in irreparable damage to the heritage asset. Even with a carefully planned moving strategy, it would likely not survive intact. Moreover, simply re-using the walls in their current state would create significant safety concerns if exposed to the public. These walls do not meet current building code or seismic requirements.

2. **Excavations**: The Church would likely not survive this approach. The Church occupies 75% of the site and would have to be moved several times around the property to excavate. There would remain a significant piece of the land in the center that is inaccessible for blasting that the Church covers each time it is moved. The Church would have to be elevated to blast there but due to its fragile structure it would likely not survive this. If it did, it would have to be moved one final time once the ground floor is poured however this would greatly obstruct construction by blocking access to the site from 2 sides.

3. **Obstructions On-site**: Moving the Church on-site is further complicated by existence of overhead wires, specific trees, and the presence of a fire hydrant that may be in the way.

4. **Utility Obstructions**: The suggested placement of certain utility systems such as storm water storage tanks may obstruct the Church's path and create difficulties for on-site relocation. The installation of water/sewer lines becomes a significant issue for staging if the Church remains on-site.

5. **Poor Structural Integrity**: The physical structure of the building may be severely compromised during the move, leading to further structural damage as the building is already in poor structural condition. This risk is particularly high for older buildings with fragile materials or weakened structures. Even if the Church survived these moves, the walls would still be of the same constitution that, as discussed above, is not feasible to be maintained in a new building.

6. **Transportation**: There is very minimal space around the Church to work with to excavate and build the new foundations. Excavations and foundation wall is predicted to extend right to the edge of the property line.

7. **Protecting Materials**: The physical stress of relocation, exposure to the elements during transportation, and changes in environmental conditions can contribute to the degradation of building materials. This can include damage to wood, stone, metal, and other components. Since the building will be in one large piece, it will be more difficult to properly protect all components.

8. **Unforeseen Challenges**: Despite thorough planning, unforeseen challenges may arise during the move, such as extreme weather events, accidents, or technical failures.

9. **Risks to Heritage Asset**: This scenario is not viable even with skilled professionals there is a high risk of losing or altering original features, finishes, or details during the relocation due to its current condition. This can compromise the historical accuracy and authenticity of the building, impacting its cultural value.

10. **Risks to Safety**: The structure could be laterally braced while resting in its temporarily moved positions and therefore won't pose a threat on safety to workers nor the public. During the moves it's assumed that no one will be permitted to be in the immediate area except for expert professionals who already know the risks at hand.

11. **Impact on Schedule & Cost** – Having to relocate the building in multiple phases to allow for the completion of the foundation would result in a very complex construction procedure. This would cause the construction period to last longer with higher risk of schedule delays and higher costs, as specialists are required for this operation and must move it several times. An extensive amount of time would go into trying to stabilize and move the structure in its entirety to preserve its look, when in reality there is a high probability of ultimately damaging the structure in the process rendering these efforts futile.

For a visual representation, please refer to Drawing SK1.1A (on-site) in *Appendix B*.

3.1.1B Procedure (Off-Site)

Due to the overall height and width of the Church, it cannot be moved to any storage site as a whole complete structure by any means since it surpasses all overhead clearances in the area. The only option is to place the Church on the adjacent road (i.e. Argyle Avenue), and since it is too wide to sit on the road directly, it would cover the sidewalks. It would be there and block Argyle Avenue for up to two (2) years. We do not believe this to be practical; however, if all approvals could be obtained, the process would be as follows:

1. **Initial Assessment and Planning:**
   - Conduct a thorough structural assessment of the Church to ensure its integrity during relocation and eventual reinstallation within the new building.
   - Obtain all necessary permits and approvals for the relocation process, including permits for the closure of Argyle Avenue for up to 30 months and changing it from a one way to a bi-directional street on both sides of the relocated Church.

2. **Preparation for Relocation:**
   - Reinforce the structural integrity of the Church to withstand the relocation process and subsequent temporary placement on Argyle Avenue.
   - Secure the roof and other vulnerable areas to prevent damage during transportation and temporary placement.

3. **Dismantling:**
   - Safely disconnect the steeple and utilities from the Church to prepare it for relocation.

4. **Transportation and Temporary Placement on Argyle Avenue:**
   - Plan for the transportation of the Church directly to Argyle Avenue, considering its width and the closure of traffic.
   - Coordinate with transportation experts to ensure the safe and precise positioning of the Church on Argyle Avenue, covering part of both sidewalks.

- Implement safety measures to protect pedestrians and ensure compliance with regulations during the temporary placement that may last approximately 2 years.

5. **Maintenance and Monitoring:**
   - Establish regular maintenance and monitoring procedures to ensure the Church remains in good condition throughout its time on Argyle Avenue.
   - Conduct periodic inspections to address any issues promptly and maintain the safety and integrity of the structure.

6. **Preparation for Final Relocation:**
   - Begin preparations for the eventual relocation of the Church from Argyle Avenue to its final position within the new building once construction is completed.

7. **Finalization (after two years):**
   - Coordinate the relocation of the Church from Argyle Avenue to its final position within the new building.
   - Conduct final inspections and adjustments to ensure the Church is properly installed and aligned in its permanent location.

8. **Closure of Argyle Avenue:**
   - Coordinate with local authorities to ensure the closure of Argyle Avenue is implemented smoothly and that appropriate signage and detours are in place for pedestrians and motorists.

3.1.2B Conclusions – NOT VIABLE

1. **Flaws in Wall Assembly:** Due to the composition of the wall assembly and the nature of the bricks and terracotta, any movement of the building would cause significant stress on the walls and result in irreparable damage to the heritage asset. Even with a carefully planned moving strategy, it would likely not survive intact. Moreover, simply re-using the walls in their current state would create significant safety concerns if exposed to the public. These walls do not meet current building code or seismic requirements.

2. **Traffic Disruption:** Closing Argyle Avenue to traffic can cause significant disruptions to commuters, businesses, and residents in the area, potentially leading to traffic congestion and inconvenience. It will also block access to the city combined sewer services or other underground utilities, and effective snow removal operations.

3. **Pedestrian Access Limitations:** Covering part of both sidewalks with the Church may restrict pedestrian access along Argyle Avenue, forcing pedestrians to navigate around the structure and potentially creating safety hazards.

4. **Aesthetic Concerns**: The presence of the Church on Argyle Avenue may disrupt the visual appeal of the area, particularly if it obstructs views or clashes with the surrounding architectural landscape.

5. **Potential Negative Impact on Businesses:** Businesses located along Argyle Avenue may experience a decrease in foot traffic and visibility due to the presence of the Church, potentially leading to economic challenges for local establishments.

6. **Duration of Disruption:** A two-year closure of Argyle Avenue may be perceived as excessive by some community members, particularly if alternative solutions could have reduced the duration of the disruption.

7. **Poor Structural Integrity:** The physical structure of the building may be severely compromised during the move, leading to further structural damage as the building is already in poor structural condition. This risk is particularly high for older buildings with fragile materials or weakened structures. Even if the Church survived these moves, the walls would still be of the same constitution that, as discussed above, is not feasible to be maintained in a new building.

For a visual representation, please refer to Drawing SK1.1B (off-site) in *Appendix B*.

3.1.4 Professional Judgment

A meeting was held with a specialized contractor (CDS Movers) to discuss the relocation of the Church structure. Despite best efforts for moving it, after careful consideration this scenario is not practically viable for the following reasons:

1. It will maintain the old wall composition that is not compatible with the current building code and seismic requirements and will compromise the integrity of the new apartment building, with high risk of damages to its heritage envelope due to multiple moving operations in a very restricted area over an extended period of time.

2. The Church's width exceeds that of Argyle Avenue.

3. Extensive excavation across the entire site would be necessary to accommodate the planned underground parking level.

4. Argyle Avenue needs to be closed for up to two (2) years and changed into a bi-directional street.

3.2 SCENARIO #2: CUT THE CHURCH WALLS INTO PANELS

3.2.1 Procedure of Relocating the Church Walls into Panels

In this approach the Church must be cut into panels and labeled corresponding to their original locations. They will then be transported off site for storage. However, due to the fragility of the structure this poses critical risk to the heritage asset. Once the site is ready, the panels will be transported back and reassembled on site corresponding to their numbered locations as a part of the new build.

1. **Initial Assessment and Planning:**
    - Conduct a thorough structural assessment of the Church to determine the feasibility of cutting it into panels for relocation.
    - Develop a detailed plan for cutting the Church into panels while ensuring the integrity of the envelope.
    - Identify suitable materials for injecting the cavities between the bricks and clay tiles, such as grout or foam and establish a panel size that is manageable.

2. **Panelization and Injection:**
    - Use precision cutting equipment to divide the Church into panels, carefully avoiding damage to the structural elements and envelope.
    - Prior to cutting, record the dimensions and locations of each panel for documentation and reassembly purposes.
    - Prior to cutting, inject grout or foam into the cavities between the bricks and clay tiles to stabilize the panels and ensure structural integrity during transportation and storage.

3. **Numbering and Packing:**
    - Assign unique identifiers or numbers to each panel for easy tracking and reassembly.
    - Carefully pack each panel on pallets, ensuring proper support and protection to prevent damage during handling and transportation.
    - Label each pallet with the corresponding panel numbers and record the contents for inventory management.
    - To preserve the front door, windows, and steeple during relocation, we will need a careful dismantling and reassembly process, (see detailed process in Scenario #3).

4. **Transportation Planning:**
    - Coordinate with transportation companies to arrange for suitable vehicles and equipment capable of transporting the palletized panels to the storage facility.
    - Ensure that transportation routes and vehicles are capable of accommodating the size and weight of the panels.

5. **Storage Preparation:**
    - Choose a storage facility that offers ample space and maintains controlled climate conditions suitable for storing the palletized panels.
    - Prepare the storage space by organizing pallets according to panel numbers for easy retrieval and reinstallation.
    - Implement measures to protect the panels from moisture, temperature fluctuations, and physical damage during storage.

6. **Inventory Management:**
    - Maintain a detailed inventory of the palletized panels, including panel numbers, dimensions, and condition.

- Update the inventory records regularly to track the location and status of each panel throughout the relocation process.

7. **Regular Inspection and Maintenance:**
   - Implement a schedule for regular inspections and maintenance of the palletized panels to ensure their integrity and stability during storage.
   - Address any issues or damage promptly to prevent further deterioration.

8. **Reinstallation Planning:**
   - Develop a reinstallation plan that outlines the sequence and method for reassembling the palletized panels into the original Church structure.
   - Coordinate with construction teams to prepare the new building site and ensure compatibility with the reassembled panels.

9. **Reinstallation and Finalization:**
   - Transport the palletized panels to the new building site and carefully reassemble them according to the documentation and numbering system.
   - Conduct final inspections to verify the integrity and stability of the reassembled Church structure.
   - Complete any remaining tasks, such as exterior finishing or landscaping, to finalize the relocation process.

3.2.2 Conclusions – NOT VIABLE

1. **Flaws in Wall Assembly:** Due to the composition of the wall assembly and the nature of the bricks and terracotta, any movement of the church in panels would cause significant stress on the walls and result in irreparable damage to the heritage asset. Even with a carefully planned moving strategy, it would likely not survive intact. Moreover, simply re-using the walls in their current state would create significant safety concerns if exposed to the public. These walls do not meet current building code or seismic requirements.

2. **Panels:** The reassembled panels would have prominent “stitch” lines thereby altering the look of the meaningful portion.

3. **Complexity of Panelization**: Cutting the Church into panels and injecting the cavities with grout or foam requires specialized equipment and expertise, adding complexity to the relocation process.

4. **Risk of Damage**: There is a risk of damage to the panels during cutting, handling, transportation, and storage, which could compromise the integrity of the Church structure. The panels will be jostled and since the already fragile nature of the panels could cause significant damage to the structural integrity of each panel and the re-constructed structures.

5. **Poor Structural Integrity:** The physical structure of the building may be severely compromised during the move, leading to further structural damage as the building is already in poor structural condition. This risk is particularly high for older buildings with fragile materials or weakened structures. Even if the Church survived these moves, the walls would still be of the same constitution that, as discussed above, is not feasible to be maintained in a new building.

6. **Reassembly Challenges**: Reassembling the panels at the new site requires meticulous coordination and alignment. Any misalignment can result in severe structural instability and an aesthetically displeasing façade, undermining the historical and architectural value of the Church.

7. **Other Considerations:** Cutting in panels and injection require additional time, resources, and materials relocation compared to alternative methods.

For a visual representation, please refer to Drawings SK2.1 & SK2.2 (panels) in *Appendix B*.

3.2.5 Professional Judgment

While cutting the walls into panels is technically possible, the reassembled panels will still be still of the old wall composition, with multiple horizontal and vertical joints that will be inherently much weaker than the new wall construction with proper new ties to brick veneer, and it would be of inferior seismic performance overall, therefore, this scenario is not recommended.

It's worth noting that the specialized contractor (i.e. CDS Movers) advises against dismantling the Church in panels due to potential risks to the structure's integrity and the challenges associated with reassembly.

3.3 SCENARIO #3: DISMANTLING & PRESERVING THE CHURCH WALLS

In this approach, the Church will be carefully dismantled and moved off site. Each piece will be labeled corresponding to their locations. This will facilitate excavation and construction on site that can be done without the Church. Once the site is ready, the Church will be transported back and restored as a part of the new structure.

3.3.1 Procedure of Dismantling the Church Brick by Brick

1. **Initial Assessment and Planning:**
   - Conduct a comprehensive structural assessment of the Church to determine the feasibility of dismantling it brick by brick for relocation.
   - Develop a detailed plan for dismantling the Church while ensuring the integrity of the bricks and structural elements.

2. **Recording and Numbering:**
   - Prior to dismantling, record the location and orientation of each brick for documentation and reassembly purposes.
   - Assign unique identifiers or numbers to each brick for easy tracking and reassembly.

3. **Dismantling & Packing Process & Transportation:**
   Brick Preservation:
   - **Dismantling Process**: Begin by carefully dismantling the bricks from the existing structure, brick by brick. Use tools such as chisels and hammers to remove them without causing damage. The remaining components of the wall construction (terracotta, clay blocks, concrete, interior gypsum on lath, etc.) will be dismantled using any appropriate means and disposed of.
   - **Cleaning**: Clean each brick thoroughly to remove any mortar or debris. Sort the bricks based on size, shape, and condition to facilitate reassembly later.
   - **Packaging**: Package the cleaned bricks securely in crates or pallets, ensuring they are stacked safely to prevent breakage.
   - **Labeling and Documentation**: Label each crate or pallet with detailed information about the location and orientation of the bricks. Document the dismantling process and take photographs to aid in reassembly.
   - **Transportation Planning:** Coordinate with transportation companies to arrange for suitable vehicles and equipment capable of transporting the palletized bricks to the storage facility. Ensure that transportation routes and vehicles are suitable for accommodating the size and weight of the palletized bricks.

   Front Door, Windows, and Steeple Preservation:
   - **Structural Assessment**: Assess the condition of the front door, windows, and steeple to identify any areas of weakness or damage.
   - **Reinforcement and Protection:** Reinforce the structural elements as needed to ensure they can withstand the relocation process. Add support beams or braces to strengthen weak areas.
   - **Careful Dismantling:** Dismantle the front door and steeple with precision, taking care to preserve their integrity. Label each component for easy identification during reassembly.
   - **Packaging and Storage:** Package the dismantled front door securely to prevent damage during transit and storage. Use padding and protective coverings to shield them from scratches or impact.
   - **Transportation and Storage:** Transport the front door and windows to a designated storage facility with climate-controlled conditions. Store them safely until they are ready to be incorporated into the new building.

- **Reassembly Planning:** During the design phase of the new building, plan for the reassembly of the preserved front door and windows. Consider factors such as placement, structural support, and integration with the architectural design.
- **Skilled Reassembly:** Hire skilled craftsmen or contractors experienced in historic preservation to reassemble the front door and windows with precision and care. Follow the documented dismantling process in reverse, using labeled components to guide placement.
- **Final Inspection and Restoration:** Conduct a final inspection to ensure that the bricks, front door, windows, and steeple are securely installed and visually appealing. Restore any damaged or weathered areas to match the original appearance.

Note: Azure, the developer, may intend to offer stained glass windows similar to the original ones, driven by their concern to preserve the church's heritage value.

4. **Storage Preparation:**
   - Select a storage facility with adequate space and climate-controlled conditions to accommodate the palletized bricks and the other components.
   - Organize the storage space by arranging pallets according to brick numbers or recording systems, facilitating easy retrieval and reassembly. Apply the same procedure to the other components.
   - Implement measures to protect the bricks and the other components from moisture, temperature fluctuations, and physical damage during storage.

5. **Regular Inspection and Maintenance:**
   - Implement a schedule for regular inspections and maintenance of the palletized bricks and the other components to ensure their integrity and stability during storage.
   - Address any issues or damage promptly to prevent further deterioration.

6. **Reinstallation Planning:**
   - Design a wall assembly that will meet current building codes, sustainability targets and incorporate the bricks into it with matching windows.
   - Develop a reinstallation plan that outlines the sequence and method for reassembling the palletized bricks into the original Church structure.
   - Coordinate with construction teams to prepare the new building site and ensure compatibility with the reassembled bricks and the other components.

7. **Reinstallation and Finalization:**
   - Transport the palletized bricks and the other components to the new building site and carefully reassemble them according to the documentation and numbering system.
   - Conduct final inspections to verify the integrity and stability of the reassembled Church structure.
   - Complete any remaining tasks, such as exterior finishing or landscaping, to finalize the relocation process.

3.3.2 Conclusions – ONLY VIABLE OPTION

1. **Preservation of Individual Bricks:** Dismantling the Church brick by brick allows for the preservation of each individual brick, minimizing the risk of damage compared to other relocation methods.

2. **Precision and Control:** This method provides greater precision and control over the relocation process, allowing for careful removal and preservation of the bricks and structural elements.

3. **Ease of Handling:** Dismantled bricks are typically smaller and lighter than larger structural components, making them easier to handle, transport, and store during the relocation process.
4. **Flexibility in Reassembly:** Reassembling the Church using dismantled bricks offers flexibility, allowing for customization and adaptation to the new building site.
5. **Adhering to New Building Codes:** Dismantling the Church provides an opportunity for selection of individual bricks, adhering to the new building codes, ensuring the long-term integrity of the structure.
6. **Labor-Intensive Process:** Dismantling the Church brick by brick requires significant time, labor, and resources compared to other relocation methods, increasing the overall cost and duration of the project.

For a visual representation, please refer to Drawing SK3.1 (dismantling & reconstructing) in *Appendix B*.

3.3.3 Precedents for this Approach

In Ottawa, there are numerous successful examples where this method has been effectively implemented. The practice of dismantling heritage buildings and reconstructing them as part of new developments has played a crucial role in preserving the city's historical character, particularly in the downtown core.

1. **50 Rideau Street:** A significant example of this approach is the former Ogilvy Department Store at 50 Rideau Street. After sitting vacant for over two decades, the building became an integral part of the Rideau Centre's expansion in 2013. Although portions were demolished, the facades along Rideau and St. Nicolas Streets were carefully dismantled and reconstructed as a part of the new build, ensuring that this key element of Ottawa's architectural heritage was preserved.
2. **331 Somerset Street:** Another prominent case is the former residence of Prime Minister William Lyon Mackenzie King, located at 331 Somerset Street. This important historical asset faced a devastating fire in 1997, which caused extensive damage. However, through meticulous efforts, the surviving portions of the structure were carefully dismantled, reconstructed, and restored. This approach not only safeguarded the remaining at-risk components but also facilitated the repair and restoration of the damaged sections and preserving the heritage property.
3. **100 Argyle Street:** One notable ongoing instance of this approach can be seen in the building on 100 Argyle Street. Originally approved in 2022, this project involves the careful dismantling and meticulous reconstruction of the building’s façade in order to preserve it.

For other successful precedents for the “dismantle and reconstruct” method of conserving historic places in Ottawa refer to *Appendix E.*

Figure 11: 50 Rideau Street

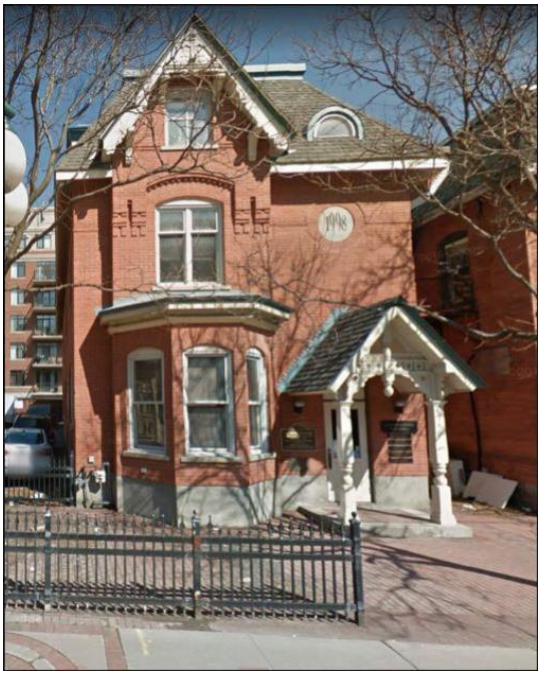

Figure 12: 331 Somerset Street

3.3.4 Professional Judgment

This approach presents the best scenario to retain the Meaningful Portion of the Church and to reinstate it in the refined manner. The restored portion will be seamlessly and safely integrated into the new structures and allows the heritage asset a renewed lifespan.

This method meticulously preserves each brick, ensuring the highest level of heritage preservation and safety during transportation. It allows for flexible reassembly, maintaining aesthetic coherence and facilitating compliance with new building codes. Each brick can be inspected, repaired, and reinforced, ensuring thorough structural assessments and upgrades.

3.4 RECOMMENDED RELOCATION SCENARIO

As detailed herein, the only viable option to preserve the heritage asset is to dismantle and reconstruct. Aside from the logistical/practical issues identified above, the primary limiting factor is the condition of the wall assembly structure and the outside walls. The most noteworthy details are:

1. The east wall has severe cracking, and the south-east corner has significant damage to the point where it is currently being supported by steel jack posts;
2. The wall assembly is composed of materials that are easily susceptible to damage and difficult to repair;
3. There is significant water infiltration that has compromised the structural integrity;
4. The wall assembly is not built to current building and seismic codes;
5. To retain the walls in its original form will expose the public to risk.

As such it is evident that all relocation methods would compromise the structure's stability and safety during transport. The structural integrity of the wall is so delicate that attempting to move it either in panels or as a whole poses a significant risk of causing the walls to collapse. Its fragility makes it impossible to relocate without risk of losing the heritage asset. Conversely, the dismantling and reconstruction approach provides a far more viable solution. This method minimizes safety risks, preserves the heritage value, and address existing structural concerns. It also endures the seamless integration of the Church into a new high-rise building while complying with modern building codes.

Among all the options, dismantling and reconstruction emerges as the most effective strategy for achieving the best preservation outcome.

4.0 CLOSING REMARKS

Following the analysis of these scenarios and clear direction from the City of Ottawa Heritage Planners, the conservation plan will explain the chosen scenario further and in more detail. Our final solution will be meticulously worked out through close collaboration with those involved with the design of the new residential building:

- Spice Design (Architect)
- CSV Architects (Architect)
- Peter Goodeve (Structural Engineer)
- Barry Padolsky (Heritage Consultant)
- John Stewart (Heritage Consultant)
- City of Ottawa (Heritage Planners)

We trust that the above information is acceptable. Should you have any questions or comments, please do not hesitate to contact our office.

Yours truly,

REMISZ Consulting Engineers Ltd.

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APPENDIX A: STRUCTURAL ASSESSMENT REPORT

REMISZ Consulting Engineers Ltd.
57 Auriga Drive, Suite 102
Ottawa, Ontario K2E 8B2

September 06, 2023
Project No. 2023-049-1

John Thomas, Managing Director
Azure Urban Developments Inc.
383 Winona Ave, Ottawa,
ON, K1Z 5H8

Re: **Structural Assessment Report 254 Argyle Street**

We are pleased to inform you that our company has completed the report for the above-mentioned project.

Herewith we are submitting a copy of our final report with conclusions and recommendations.

We trust that this report is sufficient for your requirements. If you have any questions concerning this report, or if we can be of further assistance to you, please do not hesitate to contact us.

Thank you for selecting our firm to provide this professional engineering service.

Yours truly,

neers Ltd.

LICENSED PROFESSIONAL ENGINEER
M. L. T. GUIRGUIS
100203960
PROVINCE OF ONTARIO
September 06, 2023

Magdy Guirguis, P.Eng.
Structural Engineer

Tristan Mignott, EIT
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Executive Summary

REMISZ Consulting Engineers Ltd. (“REMISZ”) was retained by Azure Urban Developments Inc. to conduct a structural assessment of a deconsecrated church located at 254 Argyle, Ottawa, ON.

REMISZ was represented by Magdy Guirguis (P.Eng., Structural Engineer) and Tristan Mignott (EIT, Structural Designer) who conducted a site visit on August 11, 2023, in order to perform this structural assessment. It was observed that the current structure is a two-level building (basement and main floor) constructed with masonry walls and brick veneer. It was noted to REMISZ prior to the inspection that the building was built in the 1930s and has been identified as a “contributing” building in the Centretown Heritage Conservation District.

The assessment was conducted by visual inspection methods only and focused solely on the building’s structural integrity. This report does not contain assessments of architectural, mechanical, electrical, or other services.

REMISZ concludes that the overall building is in poor structural condition with high potential of further damage due to neglect, moisture intrusion, deterioration of materials, and building settlement.

The contents of this report further explain our reasonings based on the site examination findings, and other information provided by Azure Urban Developments Inc.

Contents

INTRODUCTION

REMISZ Consulting Engineers Ltd. was retained by Azure Urban Developments Inc. on August 3, 2023, to provide a structural assessment of the deconsecrated church located at 254 Argyle Street, Ottawa.

Our team, Magdy Guirguis (P.Eng., Structural Engineer) and Tristan Mignott (EIT, Structural Designer) conducted a site visit on August 11, 2023, to perform the structural assessment. The contents of this report are based on the site examination findings, information provided by Azure Urban Developments Inc. and an independent assessment of the situation by REMISZ. Several structural elements such as the roofing system, load-bearing walls, beams, columns, and footings were not directly visible during the time of the inspection due to wall, floor, and ceiling finishes or lack of accessibility. However, all deficiencies observed on site gave indication of the overall structural condition of the building.

BUILDING HERITAGE BACKGROUND

The following are details of the heritage of 254 Argyle Street:

- The building was constructed in 1930 and designed by Ottawa architect W.E. Noffke.
- The property was designated under Part 5 of the Ontario Heritage Act.
- The property is located within the Centretown Heritage Conservation District, identified as a contributing property, and a CDR (Character Defining Resource).

PRIOR ASSESSMENT HISTORY

In August 2015, the excavation and foundation work being performed at 203 Catherine Street resulted in foundation and superstructure damage of the property located at 254 Argyle Street, as reported on the City of Ottawa's "*Order Requiring Tests and Samples*" dated October 25, 2016.

On October 25, 2016, the City of Ottawa issued an order addressed to Doran Construction requiring the "Repair & Reinstatement" of the property at 254 Argyle Street. In previous years (between August 2015 and November 2017), some geotechnical and consulting engineering firms have performed necessary studies:

- Paterson Group – Geotechnical
- KELLER Engineering – Consulting Engineering
- Golder Associates – Consulting Engineering

On December 17, 2018, the foundation repairs were confirmed, but the observed damage to the superstructure remains to-date, and cracks have widened since that time.

PURPOSE

Our study was done to assess the structural condition of the building and determine its suitability for continued use in its current state.

METHODOLOGY

Our inspection was a visual non-destructive assessment with the use of simple tools such as binocular, carpenter's level, a ladder, a measuring tape, and a laser distance measure. The condition of the four exterior walls were examined and then the condition of the interior walls, floors, ceilings, stairs, doors, and windows of the 3 levels were examined. Photographs were taken as data and are also presented in Appendix 1 of this report.

REVIEW OF PRIOR DOCUMENTS

The following list includes all documents that were reviewed by REMISZ Consulting Engineers Ltd. relating to 254 Argyle Street prior to conducting the assessment:

1. City of Ottawa
    a. “Order to Comply” – 2016-0309 – Dated: October 25, 2016
    b. “Order to Comply” – 2016-0310 – Dated: October 25, 2016
    c. “Order Requiring Tests & Samples” – 2018-0528 – Dated: December 17, 2018
2. Golden Associates
    a. Technical Memorandum - Dated: August 7, 2015
    b. Technical Memorandum - Dated: October 30, 2015
    c. Technical Memorandum – Dated: November 2, 2015
    d. Technical Memorandum – Dated: December 9, 2015
    e. Technical Memorandum – Dated: January 5, 2016
    f. Technical Memorandum – Dated: March 29, 2016
    g. Technical Memorandum – Dated: July 14, 2016
    h. Technical Memorandum – Dated: November 24, 2017
3. Paterson Group
    a. 7 Survey Monitoring Reports – Date Range: October 2015 – December 2015
    b. 12 Weekley Monitoring Report Memorandums – Date Range: October 2015 – July 2016
    c. 5 Daily Pumping Volume Memorandums – Date Range: July 18, 2016 – July 26, 2016
4. Keller Engineering
    a. “SOBA Residential Development – Geotechnical Monitoring Program” – Dated: March 14, 2016
    b. “15279 – RCECO – Building Monitoring” – Dated: November 14, 2016
    c. “Structural and Architectural Corrections to Holy Korean Martyrs Parish” – Dated: December 6, 2016
    d. “RCECO” – Dated: February 24, 2017
    e. “Site Review/Inspection Report No. 1” – Dated: February 2, 2023

BUILDING DESCRIPTION

There are four main sides (i.e., north, east, south, and west) to this structure.
The foundation walls appear to be made of poured concrete and all exterior walls appear to be made of brick veneer, terracotta hollow core blocks, metal wire mesh and plaster coat from inside.
The building consists of a main floor with a balcony and basement.
The main entrance door is of Gothic architectural style and made of painted wood. The building has one side entrance and one fire exit which are also made of wood. The windows are made of vinyl and are in relatively good condition.
The main floor is elevated above grade and consists of the church hall and a balcony. The balcony has two separate sets of stairs (one on each side). On the right side of the balcony is an enclosed room with door access to the left side which is a larger, open area for organ and choir.
The basement includes two halls, a stage, a washroom area, kitchen, and utility room.
The roofs were not accessible and therefore were assessed from the ground and by binoculars. The roof of the entrance is a gabled roof and covered with metal roof protection, and the main roof is a flat roof with a small slope covered with asphalt roll roofing.

BUILDING EXAMINATION

Exterior:

Front Wall (West Side)

The concrete steps at the main entrance have deteriorated (see Photo 1). The main door is fabricated from painted wood (see Photo 2) and is in fair condition but requires maintenance (see Photo 3). The transom arch is made from glass panels and wood mullions. No ornaments were noted and most of the bricks are in good condition.

Left Wall (South Side)

The left wall is suffering from significant damage throughout. The following list displays the numerous deficiencies noticed on this wall during our visit on site:

- There are wide step cracks in the brick cladding at the top corners of the two large basement windows and several wide cracks at the southeast corner (see Photos 5, 6, 9, 10), and a damaged area is covered with plywood in the southeast corner (see Photo 11). This could indicate subsidence or movement to the wall, as well as a serious structural issue to the building.
- There is a substantial settlement in the south-east corner, which is the closest area to the excavation works performed at 203 Catherine Street back in 2015 (see Photo 14). The total movement at the southeast corner was 72mm when observed by Keller Engineering on February 24, 2017.
- Some windows have broken glass in the basement level which is additional evidence of the movement of the wall (see Photo 51).
- There are several cracks ranging from 3mm to 5mm especially around the windows and at the southeast corner. The main reason for such cracks is the settlement of the building.
- Downspouts empty too close to the building, concentrating water against the foundation, a very likely source of basement water entry (see Photo 13).
- The staircase to the doorway on the main floor was removed (see Photo 13).
- Sheets of plywood are fastened to the brick cladding in the south-east corner with Tapcon fasteners at regularly spaced intervals to prevent further brick movement in that area. The plywood is secured tight to the building face by three cables (see Photos 11, 12, 13).
- Vertical supports are provided as temporary measures to prevent the whole south-east corner separating from left and back walls (see Photos 11, 13).
- The wall is leaning outwardly by 1cm for every meter (see Photos 15, 16).

Right Wall (North Side)

There is some step hairline cracking noted around the side door (see Photo 18), as well as some cracking by the last two windows to the east (see Photo 19). The side door which leads to the landing of a staircase between the main level and basement is made of painted wood and is in a poor condition (see Photo 18). The overall condition of the bricks is good.

Rear Wall (East Side)

There is one 2mm step crack in the middle of the wall that starts at two feet from the ground and extends approximately one foot into the foundation wall (see Photo 21). The overall condition of the bricks is good.

Roof

There is damaged flashing on the gabled front entrance roof (see Photos 67 – 68). The main roof is a flat roof with a small slope covered with asphalt roll roofing (see Photo 69). We were unable to properly assess the condition of the roofs due to lack of visibility and access. Do note that all downspouts of the

church roof are discharging the rainwater adjacent to the building, which leads to further building settlement and moisture penetration to the basement (see Photo 70).

Interior:

Main Floor

Front Wall (West Side)
There are no severe cracks noted in this wall (see Photo 22) and the steps leading to the main floor are covered with ceramic tiles and are in fair condition (see Photo 23).

Left Wall (South Side)
We observed four windows on the left wall and wide cracks are noted at the top and bottom corners of these windows (see Photos 24 to 30). Some plaster on the wall is spalled exposing the terracotta hollow core blocks behind and the wood lintel over the back left exit door (see Photos 31, 32, 33). We've concluded by this exposed area that the load bearing wall construction is brick veneer, terracotta hollow core blocks, metal wire mesh, and plaster (see Photo 31). The most severe cracks were seen at the exit door and the small window next to it at the southeast corner (see Photo 30). The casement vinyl windows and wood frames appear to be recently installed and in relatively good condition, with plain clear glass panes (no stained glass), excluding the frame of the small window and the exit door frame which are severely damaged (see Photos 34, 35).

Right Wall (North Side)
There are several hairline cracks at the top and the bottom of the windows and door lintel seen on the painted plaster with average quality (see Photos 36 to 40).

Rear Wall (East Side)
The rear wall was partially covered by decorative tiles. There was a noticeable vertical crack of 1mm width from the top to the bottom of the wall (see Photos 41, 42).

Ceiling
The ceiling does not suffer from any visible cracks, water stains, deflection, or peeling paint (see Photos 44, 45).

Floor
The carpet and laminated wood floor are in fair condition (see Photo 46). No structural concerns are present.

Staircase to Basement
The stairs are covered with laminated wood boards of poor quality which were wet and dirty at the time of the inspection. A side door to exit at the right side of the building is located at the landing between the main floor and the basement (see Photos 47, 48).

Basement Floor

Left Wall (South Side)
A diagonal crack of 4mm width was spotted on the left wall (see Photos 49 - 50). There were also windows with broken glass indicating excessive movement in that region likely caused by the settlement (see Photo 51). There is severe damage to the southeast corner similarly to the main floor above (see Photos 52, 53).

Right Wall (North Side)
Some vertical, horizontal, and diagonal cracks were noted on the right wall with a width of 2mm (see Photo 54).

Rear Wall (East Side)
On the rear wall, horizontal cracks of 4mm to 6mm were spotted, along with peeling paint and moisture intrusion (see Photos 56, 57, 58). We conclude that the foundation wall construction is poured concrete by observing the areas of the wall that were exposed (see Photo 57).

Ceiling
Some portions of the ceiling frame were exposed due to plaster that fell down (see Photos 59, 60). The exposed ceiling wood frame is damaged by water and rot could be seen on the wood (see Photos 61, 62).

Floor
The basement floor finish had old vinyl tiles, and some water stains and moisture were present in some areas due to rain fall from the prior day indicating water leakage (see Photo 63).

Washroom Area
The washroom area is neglected and needs lots of maintenance. The water was disconnected at the time of inspection (see Photo 64).

Kitchen
The kitchen area is neglected. The appliances and the water heater are not maintained. The kitchen had visible moisture intrusion and water leakage on the floor. The false ceiling also had broken panels (see Photos 65 – 66).

Utility room
In the utility room, the boiler furnace suffers from lack of maintenance. Moisture intrusion and paint peeling off was also seen on site.

DISCUSSION

Based on the studies and assessments carried out by previous consultants, as well as our own observations and analysis we conclude the following:

1. The church's structure and finishings were severely damaged.
2. The substantial settlements are irrecoverable, we refer to the previous consultant statements:
    a. Keller Engineering - November 14, 2016.
        i. Increases in cracks width were observed at the Southeast corner although, temporary bracing of the bricks veneer has been installed.
    b. Keller Engineering – December 6, 2016
        i. On the interior, it is obvious that settlement movements have taken place most prominently along the East wall, but cracking due to foundation settlement is also noticeable on the South wall. SOBA's intention is to underpin the East wall.
    c. Keller Engineering – February 24, 2017
        i. Foundation settlements are continuing and evaluated by 72mm and 42mm at the southeast and southwest corners respectively. Even though underpinning work has been carried out along the East wall, cracks in the brick veneer have been widening (see Photos 57, 58).

d. Keller Engineering – February 2, 2023
    i. The existing masonry below the 2nd floor doorway, previously covered by the staircase, was observed to be in poor condition.
    ii. The contractor expressed concerns regarding the procedure and sequencing of the brick removal. The concern being that the wall may become unstable following the removal of several bricks and there are no good starting points.
    iii. The potential for securing the existing unstable bricks was discussed, removal was not performed.
    iv. Based on observed site conditions, the contractor was instructed not to proceed with the masonry removals, as it has the potential to affect the overall stability of the wall. Therefore, a detail was developed with the intent of securing the existing bricks at the face of the wall.

CONCLUSIONS AND RECCOMENDATIONS

Based on observations made by REMISZ Consulting Engineers Ltd. personnel and the previous reports reviewed we have the following conclusions:

- The Southeast part of the church is irrecoverable and should be demolished.
- The overall condition is poor, neglected, with a high potential of further damage and settlement of the whole building.
- The front part (West) can be kept and reused if this is decided.
- The bricks can be dismantled and reused as required.
- Reinstating the church as it was will be unfeasible for the building owner and is not advised.

LIMITATIONS

The findings are limited to the extent that the assessment could only be made visually. It should be noted that we have attempted to identify the condition of the structural items associated with this property. We are not able to accept any liabilities or responsibilities for deficiencies that were not identified within the scope of the inspection. This report presents an overview of the structural condition, reflecting our best judgment using information available at the time of our inspection. REMISZ has presented this report using information understood to be factual and correct and shall not be responsible for conditions arising from information or facts that were concealed or not fully disclosed to REMISZ at the time of the site inspection.

We trust that the above information is acceptable. Should you have any questions or comments, please do not hesitate to contact our office.

Yours truly,

ers Ltd.

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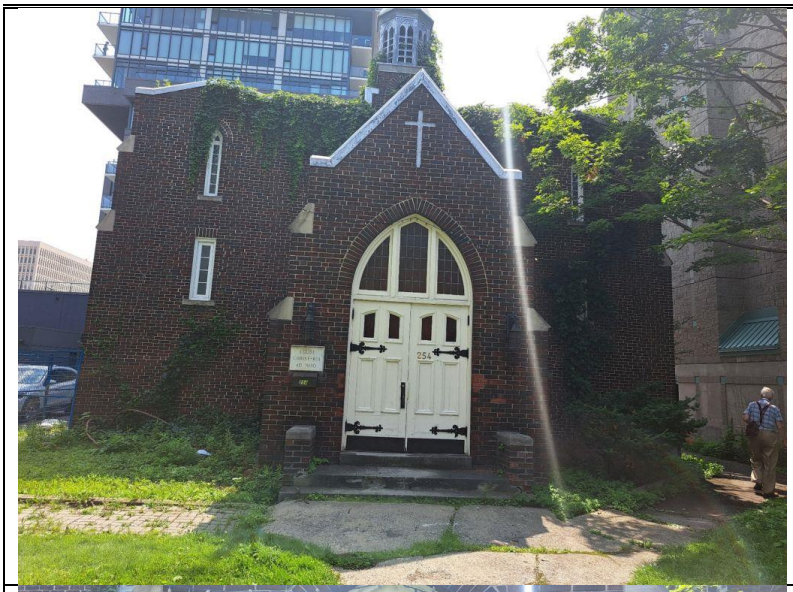
APPENDIX 1: Photos with Descriptions

	Photo 1 Front entrance (West side)
	Photo 2 Main entrance, wood door, Gothic style
	Photo 3 The main door needs intense maintenance work

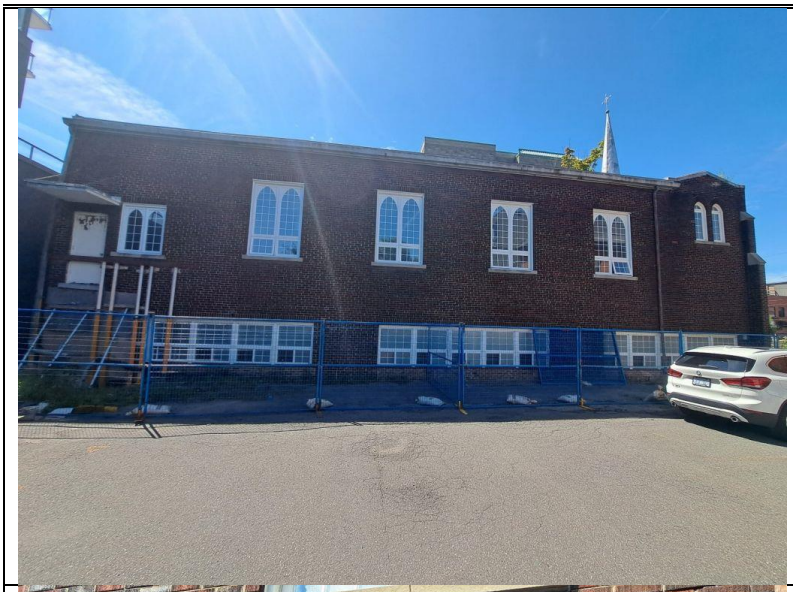
	Photo 4 Left side elevation (South side)
	Photo 5 Stepped wide cracks noted along the South wall
	Photo 6 Stepped wide cracks noted along the South wall

	Photo 7 The building is tilted and there is noticeable settlement at the Southeast corner
	Photo 8 The building is tilted and there is noticeable settlement at the Southeast corner
	Photo 9 Stepped wide cracks noted along the South wall

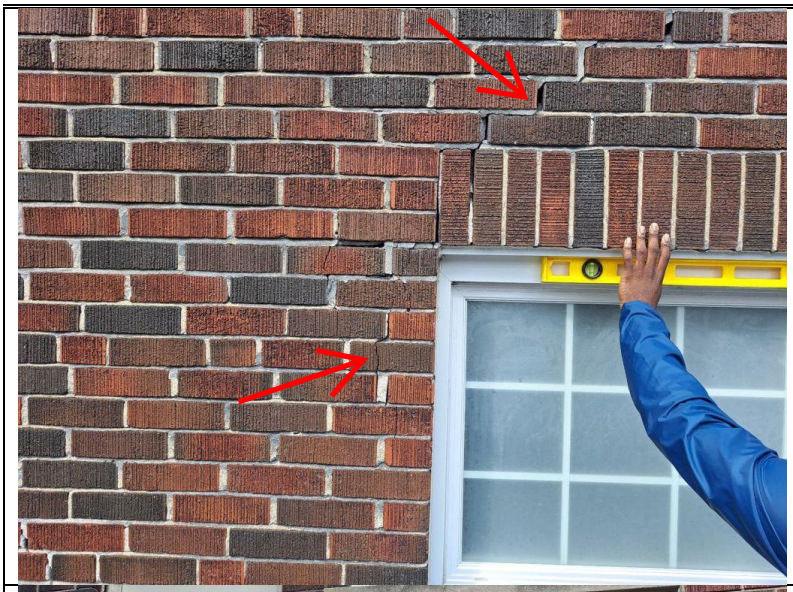
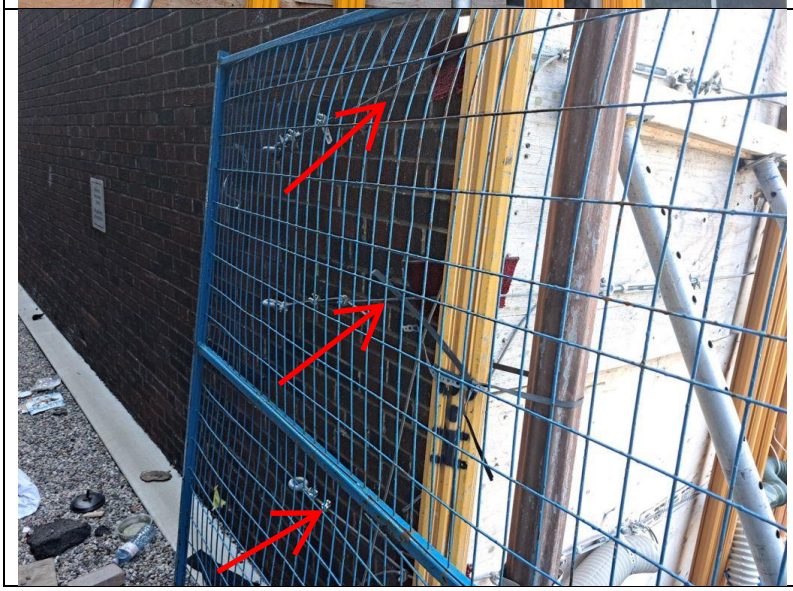
	Photo 10 Stepped wide cracks noted along the South wall
	Photo 11 The southeast corner is secured by fastening plywood to the brick and three cables
	Photo 12 The southeast corner is secured by fastening plywood to the brick and three cables

	Photo 13 The southeast corner is secured by fastening plywood to the brick and three cables
	Photo 14 Huge cracks noticed at the Southeast corner
	Photo 15 The South wall is leaning to the outside by 1cm for every meter

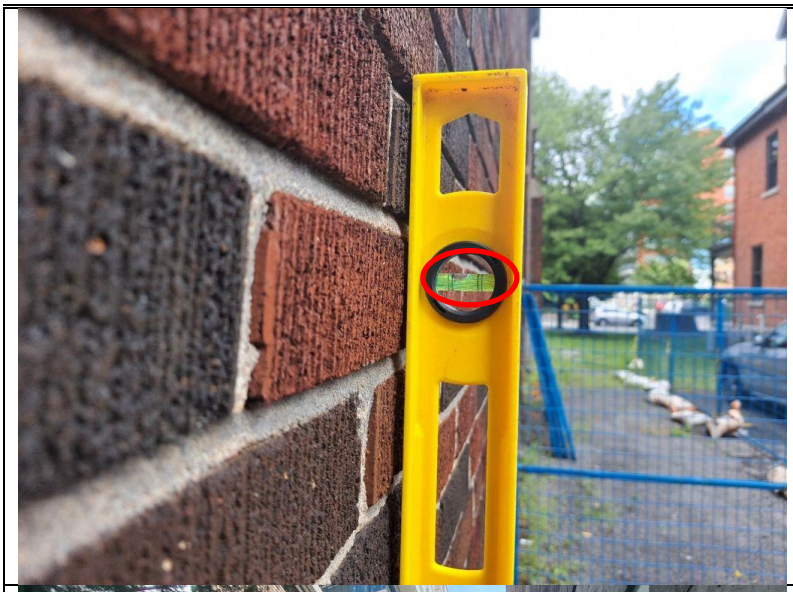
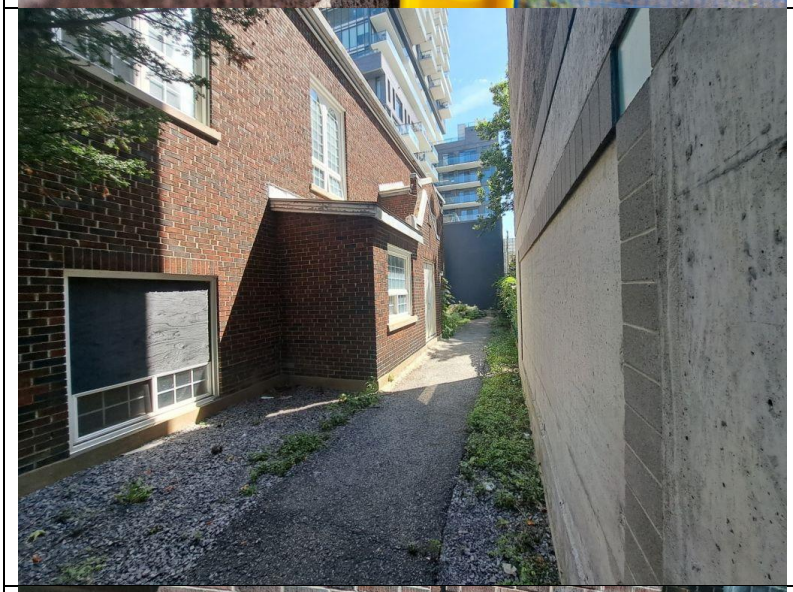
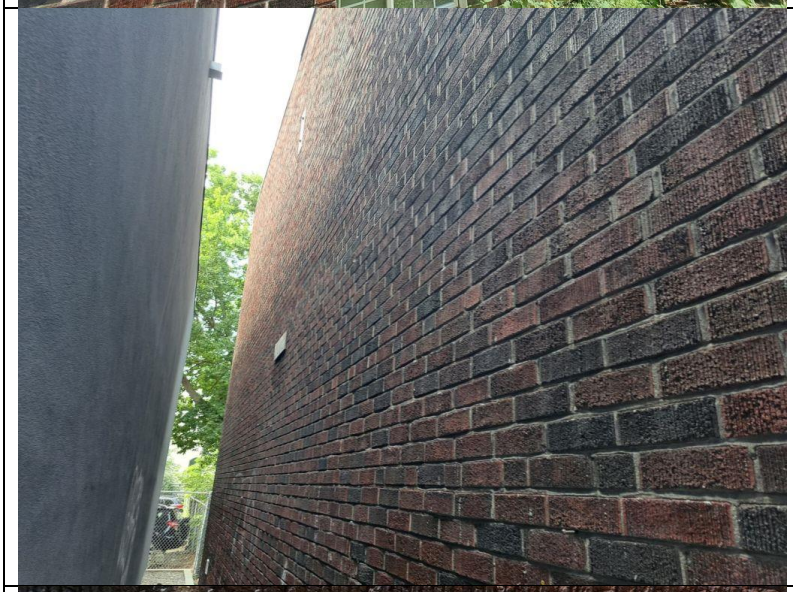
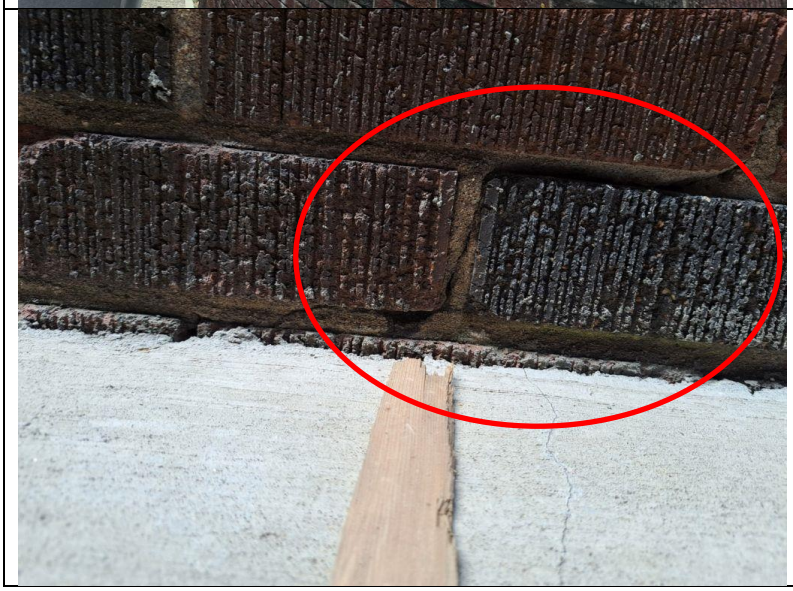
	Photo 16 The South wall is leaning to the outside by 1cm for every meter
	Photo 17 Right side elevation (North side)
	Photo 18 The side door is in a poor condition

	Photo 19 Hair cracks are noted at the top corners of the side door and two windows to the East
	Photo 20 Rear side elevation (East side)
	Photo 21 One step crack in the middle of the East wall

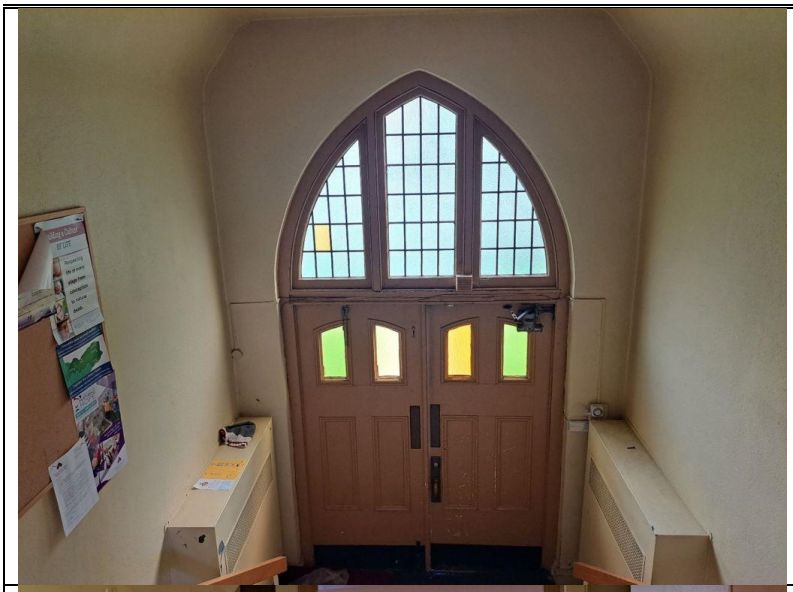
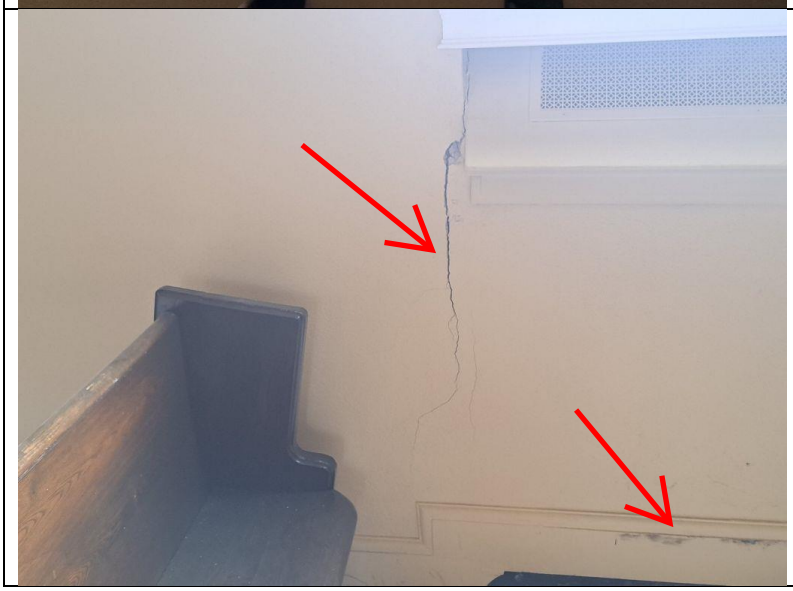
	Photo 22 The entrance door from inside
	Photo 23 The internal steps are covered with ceramic tiles
	Photo 24 Cracks are noted along the left side (South) wall

	Photo 25 Cracks are noted along the left side (South) wall
	Photo 26 Cracks are noted along the left side (South) wall
	Photo 27 Cracks are noted along the left side (South) wall

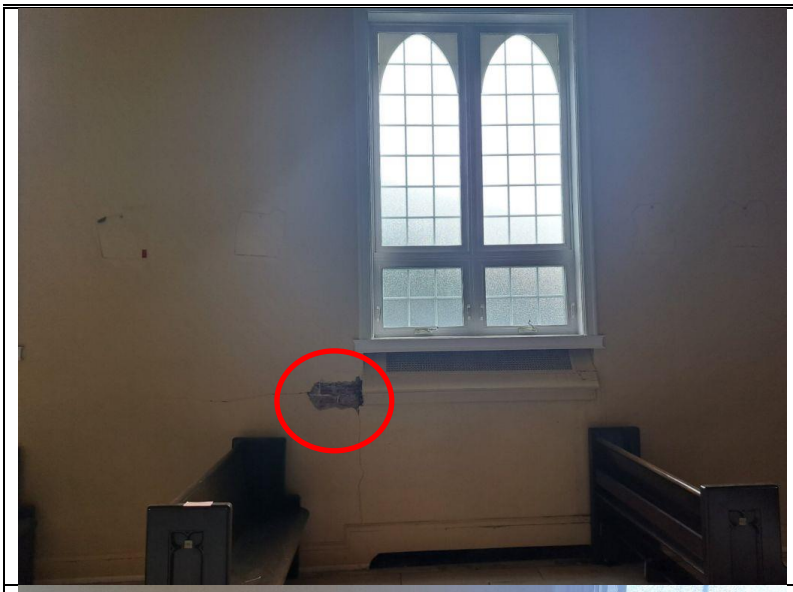
	Photo 28 Cracks are noted along the left side (South) wall
	Photo 29 Cracks are noted along the left side (South) wall
	Photo 30 Cracks are noted along the left side (South) wall

	Photo 31 Plaster has spalled exposing the terracotta hollow core blocks and the wood lintel
	Photo 32 Plaster has spalled exposing the terracotta hollow core blocks and the wood lintel
	Photo 33 Plaster has spalled exposing the terracotta hollow core blocks and the wood lintel

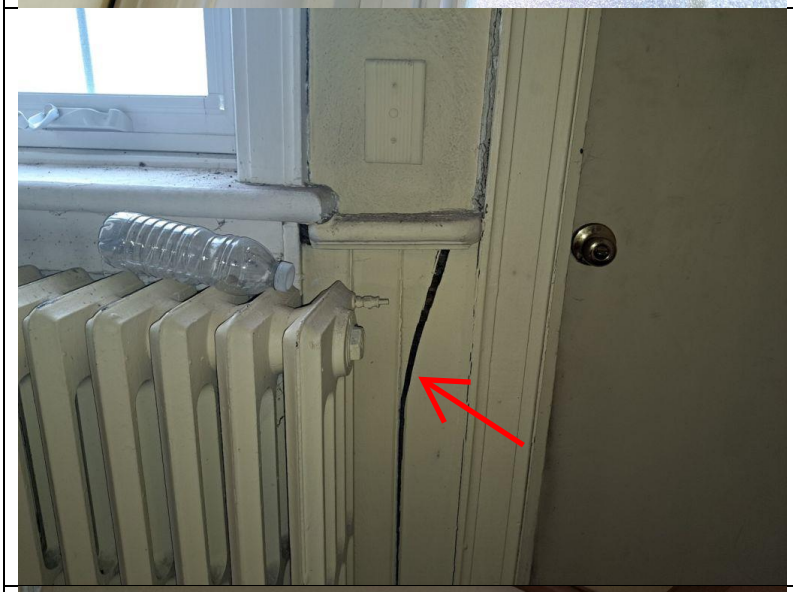
	Photo 34 Sever damage and cracks to the fire exit door at the Southeast corner
	Photo 35 Sever damage and cracks to the fire exit door at the Southeast corner
	Photo 36 Several hair cracks at the top and the bottom of the windows and door lintel, and painted plaster with average quality

	Photo 37 Several hair cracks at the top and the bottom of the windows and door lintel, and painted plaster with average quality
	Photo 38 Several hair cracks at the top and the bottom of the windows and door lintel, and painted plaster with average quality
	Photo 39 Several hair cracks at the top and the bottom of the windows and door lintel, and painted plaster with average quality

	Photo 40 Several hair cracks at the top and the bottom of the windows and door lintel, and painted plaster with average quality
	Photo 41 A vertical crack of 1mm width is noted from the top to the bottom of the rear wall (East side)
	Photo 42 A vertical crack of 1mm width is noted from the top to the bottom of the rear wall (East side)

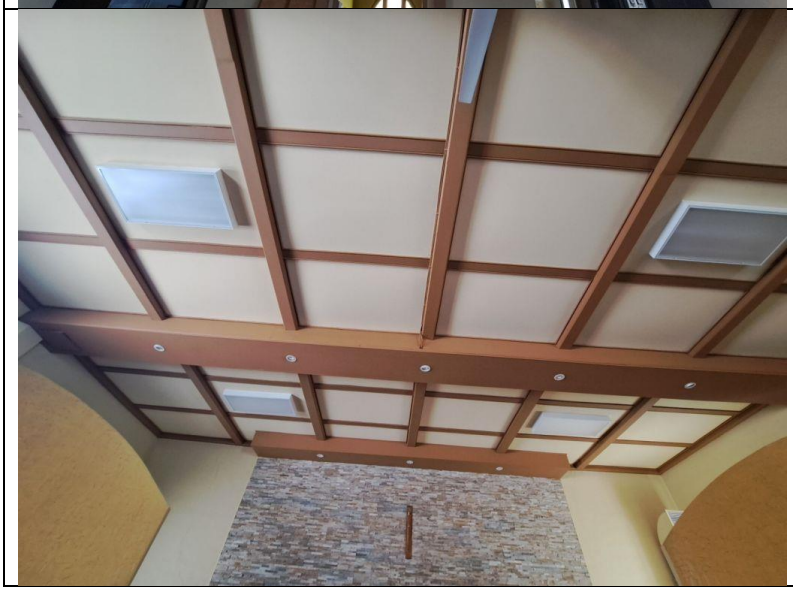
	Photo 43 Gas furnace located at the Northeast corner
	Photo 44 General view of the ceiling, no damage noted
	Photo 45 General view of the ceiling, no damage noted

	Photo 46 General view of the floor, the floor is laminated wood planks and carpet
	Photo 47 Staircase to the basement, covered with laminated wood
	Photo 48 The side door is at the landing level

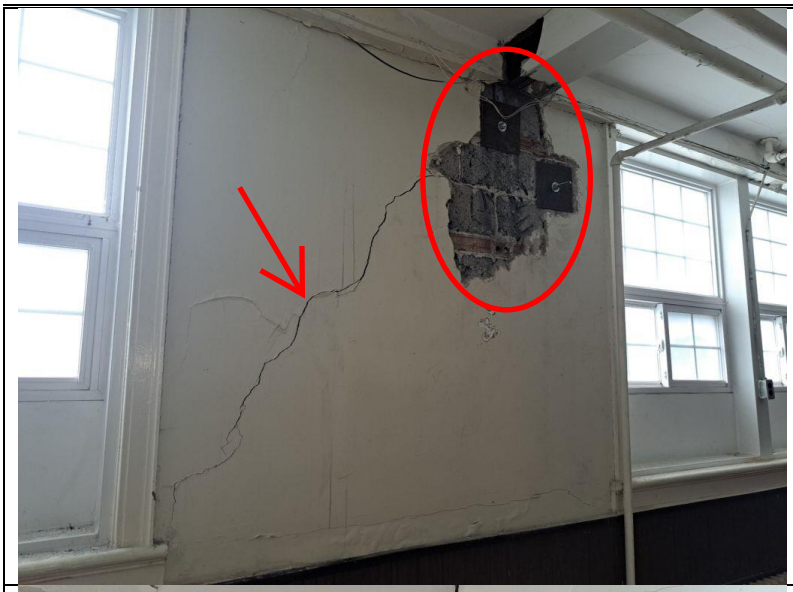
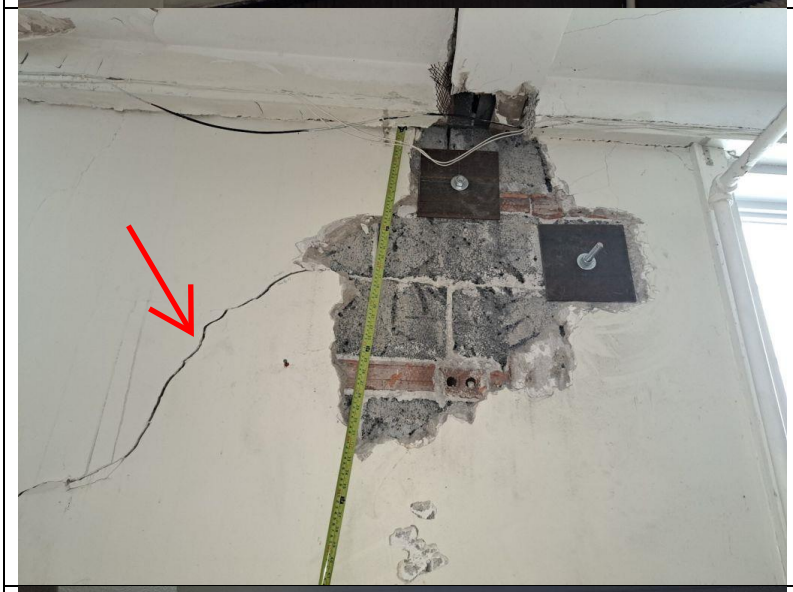
	Photo 49 The left side (South side) wall at the basement
	Photo 50 Diagonal cracks of 4mm width
	Photo 51 Windows with broken glass

	Photo 52 Sever damages at the Southeast corner
	Photo 53 Sever damages at the Southeast corner
	Photo 54 Diagonal cracks of the right (North side) wall

	Photo 55 General view of the right-side wall (North side) of the basement
	Photo 56 Horizontal crack of at least 5mm width at the rear side wall (East side) at the basement level
	Photo 57 Horizontal crack of at least 5mm width at the rear side wall (East side) at the basement level

	Photo 58 Horizontal crack of at least 5mm width at the rear side wall (East side) at the basement level
	Photo 59 Exposed ceiling due to plaster that fell down, and damaged wood frame by water, wood has started to rot
	Photo 60 Exposed ceiling due to Gyproc that fell down, and damaged wood frame by water, wood has started to rot

	Photo 61 Exposed ceiling due to plaster that fell, and damaged wood frame by water, wood has started to rot
	Photo 62 Exposed ceiling due to plaster that fell down, and damaged wood frame by water, wood has started to rot
	Photo 63 Wet floor due to water leakage

	Photo 64 Room view of the washroom, water was disconnected at the time of inspection, and the washroom was dirty and not maintained
	Photo 65 Kitchen room view
	Photo 66 Moisture intrusion, paint peeling off, and water leakage on the floor

Photo 67
Slopped metal roof at the main entrance

Photo 68
Flashing damage is noted

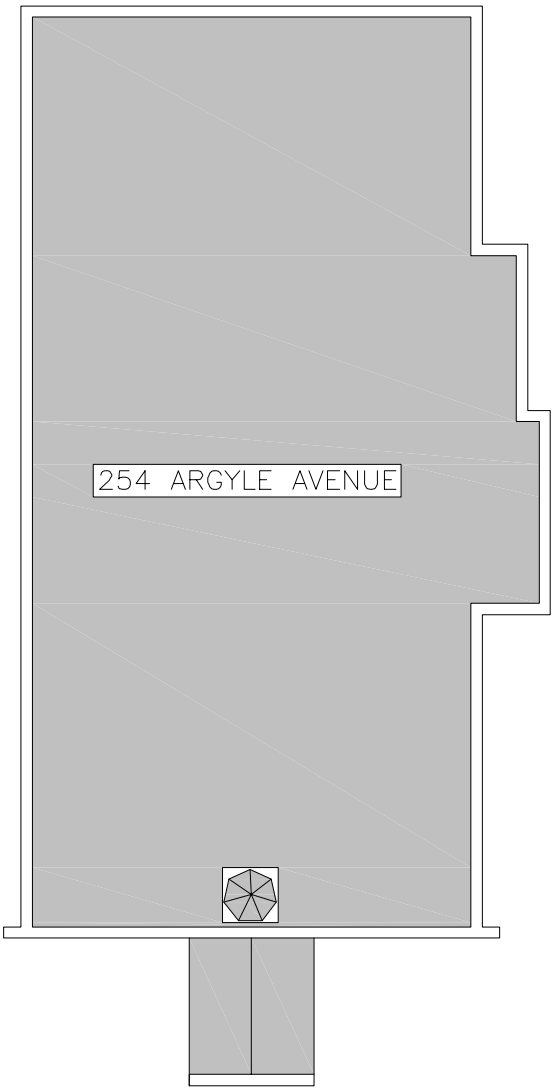
Photo 69
General view of the flat roof from above the church building

	Photo 70 All down spouts are discharging the rainwater adjacent to building, which leads to moisture penetration to the basement and settlement of the foundation

APPENDIX 2: Site Plan

REAR SIDE
(EAST WALL)

LEFT SIDE
(SOUTH WALL)



RIGHT SIDE
(NORTH WALL)

FRONT SIDE
(WEST WALL)

GENERAL NOTES:

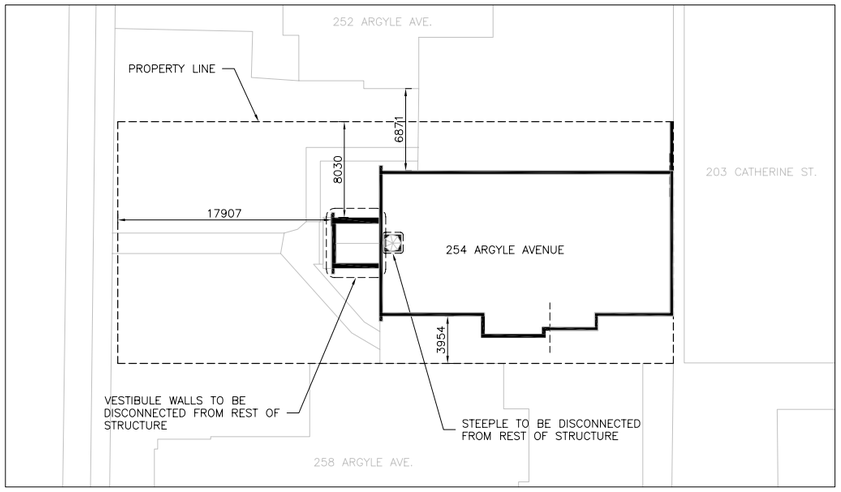
1. DO NOT SCALE DRAWINGS

No.	DATE	REVISION
1	AUG. 25, 2023	ISSUED W/ ASSESSMENT REPORT

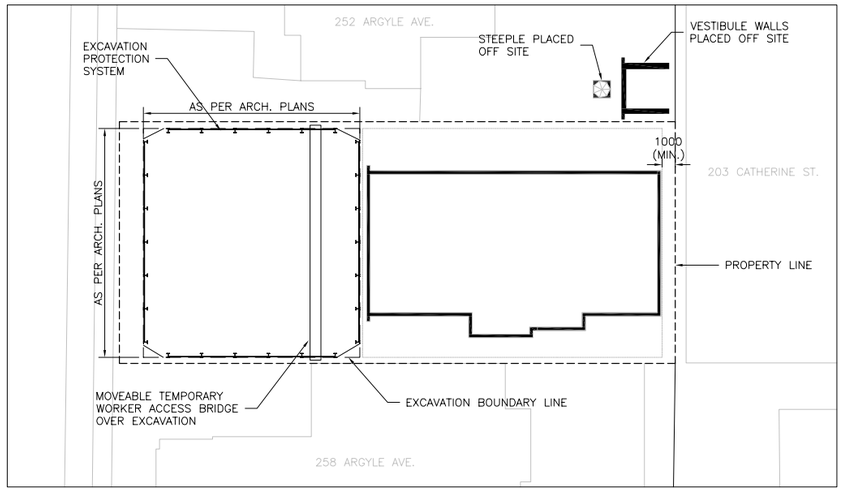
REMISZ Consulting Engineers Ltd.

PROJ. ENGINEER:	SCALE: 1:200	DATE: AUGUST 2023	CLIENT: AZURE URBAN DEVELOPMENTS INC.
DESIGNED: T.M.	CHK'D:	PROJECT No.: 2023-049-1	PROJECT: 254 ARGYLE AVENUE
DRAWN: T.M.	CHK'D: M.G.	FIGURE No.: SITE-01	DRAWING: PROPERTY SITE PLAN

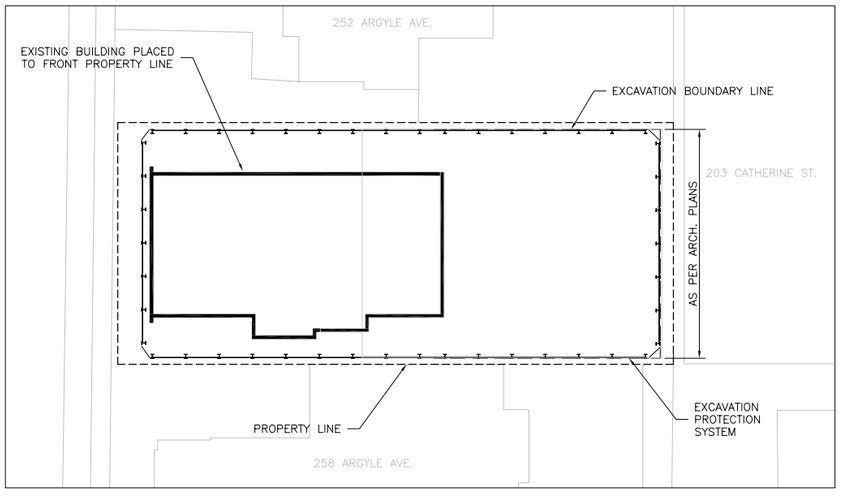
APPENDIX B: PLAN VIEWS & ELEVATIONS OF RELOCATION SCENARIOS



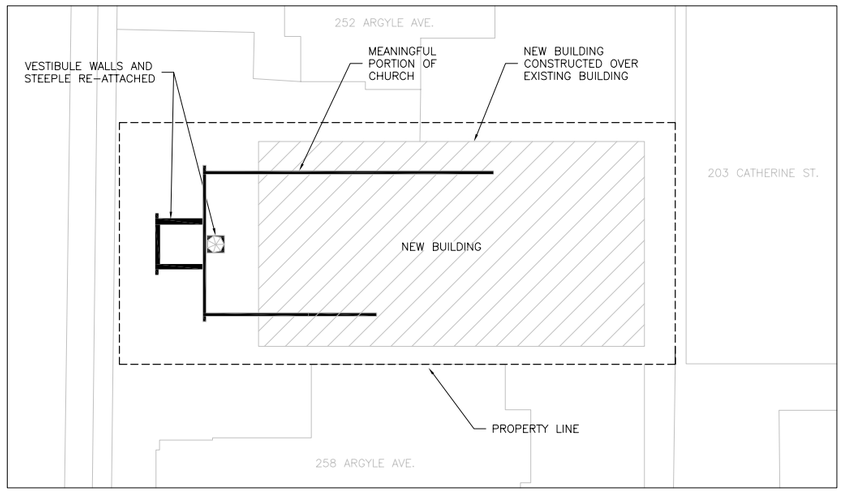
STEP 1: PRELIMINARY CUTS
1:250



STEP 2: FRONT–SIDE EXCAVATION
1:250



STEP 3: REAR–SIDE EXCAVATION
1:250



STEP 4: NEW CONSTRUCTION
1:250

PROPOSED PROCEDURE:

STEP 1:
- DISMANTLE STEEPLE AND PLACE IT OFF SITE.
- DISCONNECT THE 3 VESTIBULE WALLS FROM EXISTING STRUCTURE AND PLACE IT OFF SITE.
- PROVIDE FRONT–SIDE SHORING ACCORDING TO ARCHITECTURAL DESIGN WITH 1m CLEARANCE FROM EXISTING STRUCTURE.
- PROCEED TO FRONT–SIDE EXCAVATION AND FOUNDATION CONSTRUCTION UP TO GROUND FLOOR LEVEL.

STEP 2:
- MOVE WHOLE STRUCTURE TO FRONT OF PROPERTY.
- PROVIDE REAR–SIDE SHORING ACCORDING TO ARCHITECTURAL DESIGN. ASSURE CLEARANCE IS MINIMUM 1m FROM EXISTING STRUCTURE.
- PROCEED TO REAR–SIDE EXCAVATION AND FOUNDATION CONSTRUCTION UP TO GRADE.

STEP 3:
- PLACE EXISTING BUILDING IN FINAL POSITION DETERMINED BY ARCHITECT ON NEW CONCRETE SLAB.
- DEMOLISH PORTIONS OF EXISTING BUILDING NOT TO BE SAVED KEEPING BRICKS INTACT.
- RE–CONNECT THE STEEPLE AND VESTIBULE TO THE EXISTING STRUCTURE.
- PROCEED TO NEW BUILDING CONSTRUCTION ABOVE GRADE.

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS. IT IS ONLY A SCHEMATIC REPRESENTATION.
2. DIMENSIONS ARE SHOWN IN MILLIMETERS. DIMENSIONS ARE APPROXIMATE.
3. EXISTING STRUCTURE TO BE MOVED BY COMPETENT EXPERIENCED COMPANY.
4. INTERNAL AND EXTERNAL TEMPORARY BRACING NOT SHOWN FOR CLARITY BUT REQUIRED TO PROVIDE OVERALL STRUCTURE STABILITY.
5. MOVING STRUCTURE AND RELATED DETAILS OF HORIZONTAL AND VERTICAL ADJUSTMENT TO BE DEVELOPED SEPARATELY.
6. MINIMUM 5'–0" CLEARANCE NEEDED ON SIDES OF BUILDING FOR LIFTING.

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PROJECT: 2023–049–2

254 ARGYLE AVENUE CHURCH
RELOCATION SCENARIOS ANALYSIS

DRAWING:

SCENARIO 1 – MOVING STRUCTURE ON SITE

	PROJ. MGR.	–	DATE: MAR 2024
	PROJ. ENG.	–	SCALE: AS SHOWN
	DESIGNED	–	SHEET 1 OF 3
1 – ANALYSIS REPORT (AUG 15, 2024)	DRAWN	TM	SK1.1A
REVISIONS	CHECKED	MG/WR	

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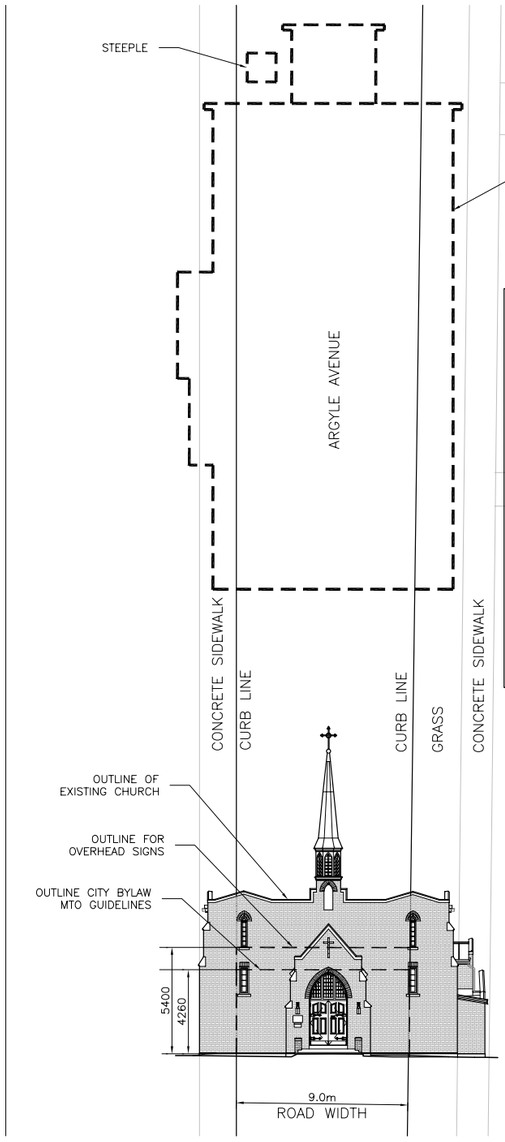
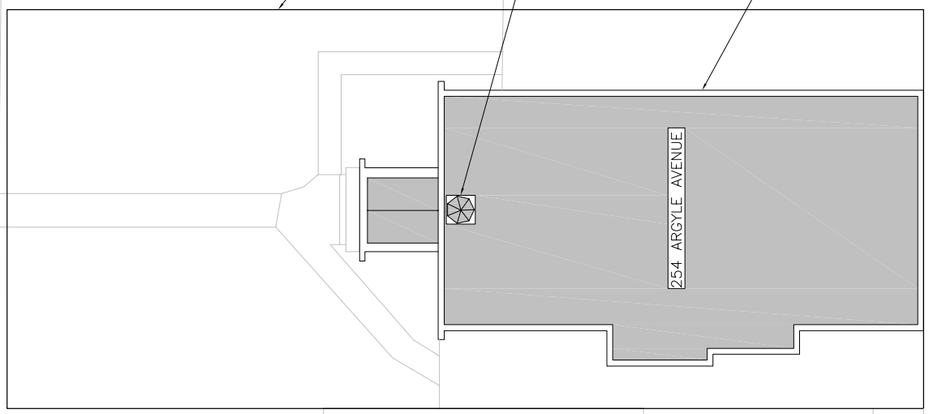
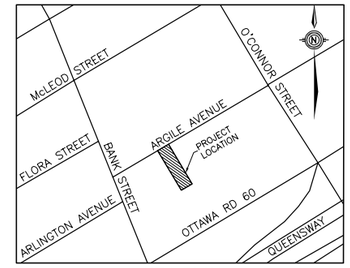


FRONT VIEW
1:150



PLAN VIEW
1:150



KEY PLAN
N.T.S.

PROCEDURE:

STEP 1:
- DISMANTLE THE STEEPLE AND CUT OFF THE CHURCH BUILDING FROM FOUNDATIONS AND PREPARE TEMPORARY SUPPORTS AND MOVING EQUIPMENTS.

STEP 2:
- MOVERS SHALL MOVE EXISTING STRUCTURE TO A STORAGE AREA OR ONTO THE ROAD SAFELY. IF NECESSARY PERMITS AND APPROVALS ARE OBTAINED THE ROAD WILL REMAIN CLOSED UNTIL THE STRUCTURE IS REINSTATED WITHIN THE PROPERTY LINES.

STEP 3:
- NEW FOUNDATION WALLS AND SLAB OVER THE UNDERGROUND GARAGE OF THE NEW BUILDING SHALL BE CONSTRUCTED.

STEP 4:
- FOLLOWING THE COMPLETION OF THE FOUNDATION LEVEL THE STRUCTURE MAY BE REPLACED ON THE SLAB IN THE POSITION SPECIFIED BY ARCHITECTS AND THE STEEPLE SHALL BE RESTORED TO THE TOP OF THE CHURCH.

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS.
2. DIMENSIONS ARE SHOWN IN MILLIMETERS. DIMENSIONS ARE APPROXIMATE.
3. EXISTING STRUCTURE TO BE MOVED BY COMPETENT EXPERIENCED COMPANY.
4. INTERNAL AND EXTERNAL TEMPORARY BRACING NOT SHOWN FOR CLARITY BUT REQUIRED TO PROVIDE OVERALL STRUCTURE STABILITY.
5. MOVING STRUCTURE AND RELATED DETAILS OF HORIZONTAL AND VERTICAL ADJUSTMENT TO BE DEVELOPED SEPARATELY.
6. MINIMUM 5'-0" CLEARANCE NEEDED ON SIDES OF BUILDING FOR LIFTING AND MOVING.
7. ARGYLE AVENUE WOULD HAVE TO BE CLOSED FOR ABOUT 2 YEARS.

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PROJECT: 2023-049-2

254 ARGYLE AVENUE CHURCH RELOCATION SCENARIOS ANALYSIS

DRAWING:

SCENARIO 1B – MOVING STRUCTURE OFF SITE

	PROJ. MGR.	–	DATE: MAY 2024
	PROJ. ENG.	–	SCALE: AS SHOWN
	DESIGNED	–	SHEET 2 OF 4
1 – ANALYSIS REPORT (AUG 15, 2024)	DRAWN	TM/NI	SK1.1B
REVISIONS	CHECKED	MG/WR	

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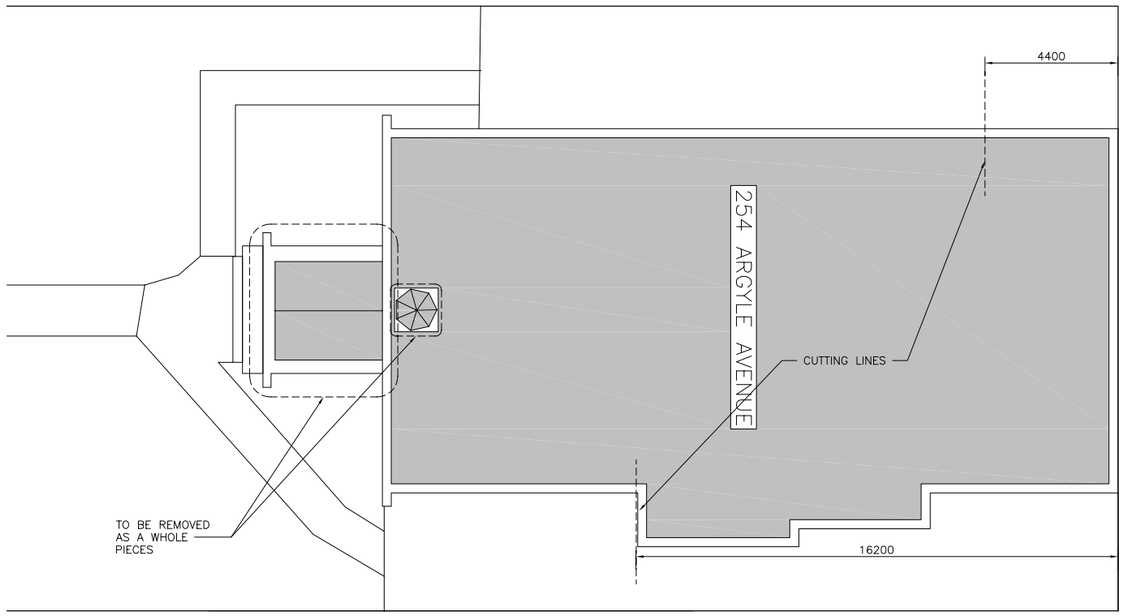
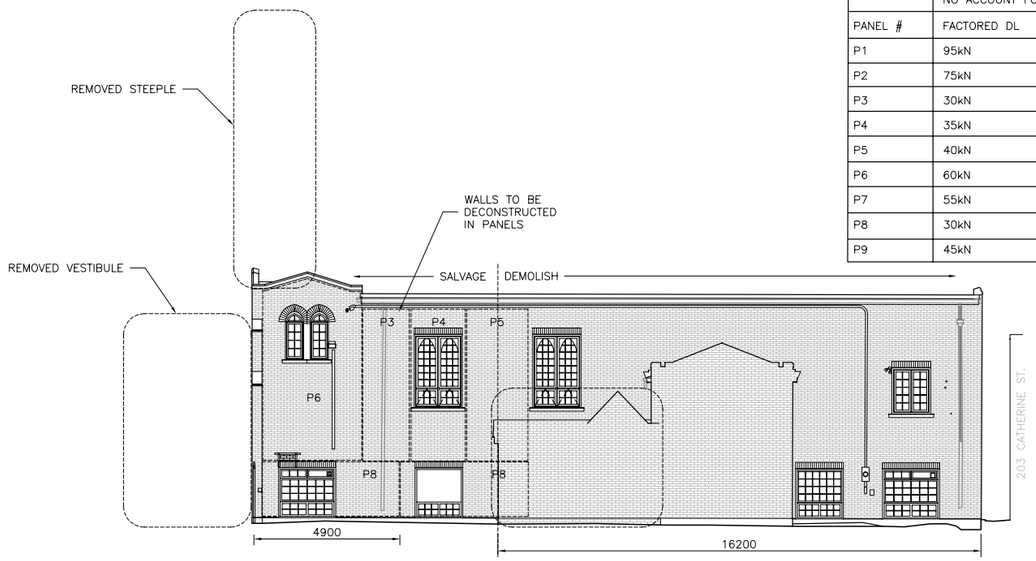
frame 790x505 mm

www.remisz.com Frame.dwg – Jan. 2009



PLAN – INITIAL CUTS
1:100

PANEL WEIGHTS	
PARAMETERS:	BRICK WALL DL = 2.3kPA, FACTORED LOAD = 1.4D NO ACCOUNT FOR WINDOWS
PANEL #	FACTORED DL
P1	95kN
P2	75kN
P3	30kN
P4	35kN
P5	40kN
P6	60kN
P7	55kN
P8	30kN
P9	45kN



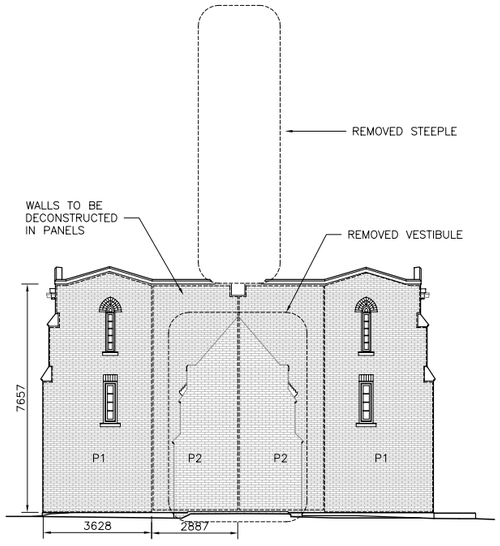
RIGHT ELEVATION – PANEL CUTS
1:100

PROPOSED PROCEDURE:

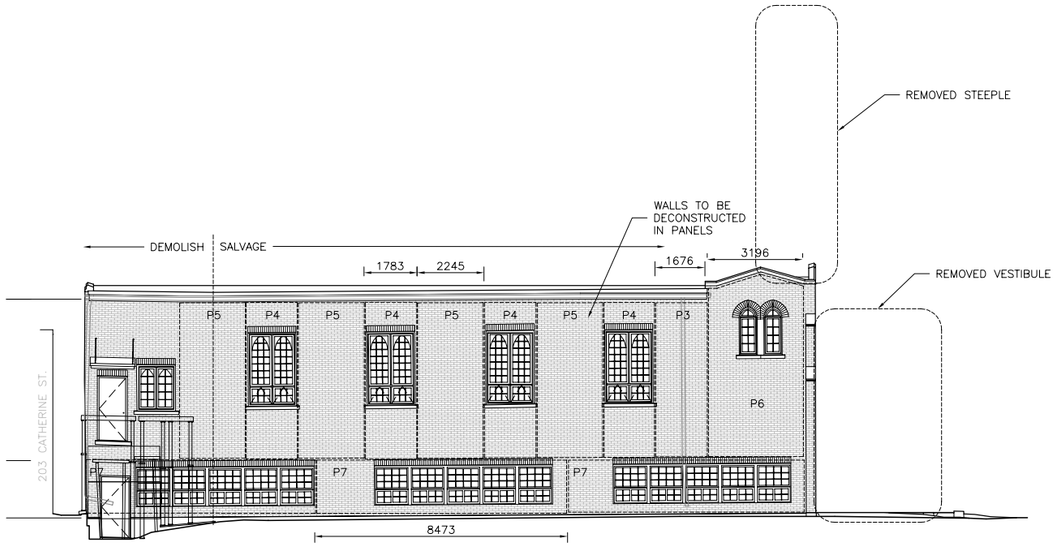
1. INJECT CAVITIES BETWEEN BRICKS AND CLAY TILES W/ GROUT OR FOAM.
2. REMOVE VESTIBULE, STEEPLE AND SIDE PROTRUSIONS FROM EXISTING STRUCTURE AND TRANSPORT OFF–SITE.
3. PROVIDE JACKPOST BRACING FOR GROUND FLOOR AND CEILING.
4. REINFORCE/SUPPORT WALL ASSEMBLY TO PREVENT COLLAPSE DURING CUTTING AND MOVEMENT OF PANELS.
5. CUT PERIMETER OF FLOOR 500mm AWAY FROM WALL INTERIOR.
6. EXPOSED REAR OF BUILDING TO BE COVERED WITH TARP OR SIMILAR PROTECTIVE MATERIAL.
7. CUT FRONT WALL INTO PANELS AS SHOWN IN DRAWING AND REMOVE FROM EXISTING STRUCTURE AND TRANSPORT OFF–SITE.
8. CUT LEFT WALL INTO PANELS AS SHOWN IN DRAWING AND REMOVE FROM EXISTING STRUCTURE AND TRANSPORT OFF–SITE.
9. REMOVE JACKPOST BRACING FROM FLOOR AND ROOF TO REMOVE FLOOR AND ROOF.
10. REAR OF BUILDING TO BE DEMOLISHED UP TO 6.2m FROM REAR WALL. BRICKS TO BE SALVAGED FOR POTENTIAL RE–USE.
11. CUT RIGHT WALL INTO PANELS AS SHOWN IN DRAWING AND REMOVE FROM FROM EXISTING STRUCTURE AND TRANSPORT OFF–SITE.
12. EXCAVATIONS AND NEW CONSTRUCTION TO BEGIN.

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS. IT IS ONLY A SCHEMATIC REPRESENTATION.
2. DIMENSIONS ARE SHOWN IN MILLIMETERS. DIMENSIONS ARE APPROXIMATE.
3. PANELS TO BE MOVED OFF–SITE BY COMPETENT EXPERIENCED COMPANY.
4. LOCATION FOR PANEL STORAGE TO BE DETERMINED BY OTHERS
5. MAXIMUM HEIGHT CLEARANCE TO TRANSPORT OFFSITE IS 16'–1".
6. FLATBED HEIGHT IS APPROX. 3' FROM GROUND.



FRONT ELEVATION – PANEL CUTS
1:100



LEFT ELEVATION – PANEL CUTS
1:100

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PROJECT: 2023–049–2

254 ARGYLE AVENUE CHURCH
RELOCATION SCENARIOS ANALYSIS

DRAWING:

SCENARIO 2 – REMOVAL BY PANELS

	PROJ. MGR.	–	DATE: MAR 2024
	PROJ. ENG.	–	SCALE: AS SHOWN
	DESIGNED	–	SHEET 2 OF 3
1 – ANALYSIS REPORT (AUG 15, 2024)	DRAWN	TM	SK2.1
REVISIONS	CHECKED	MG/WR	

frame 790x505 mm
www.remisz.com Frame.dwg – Jan. 2009

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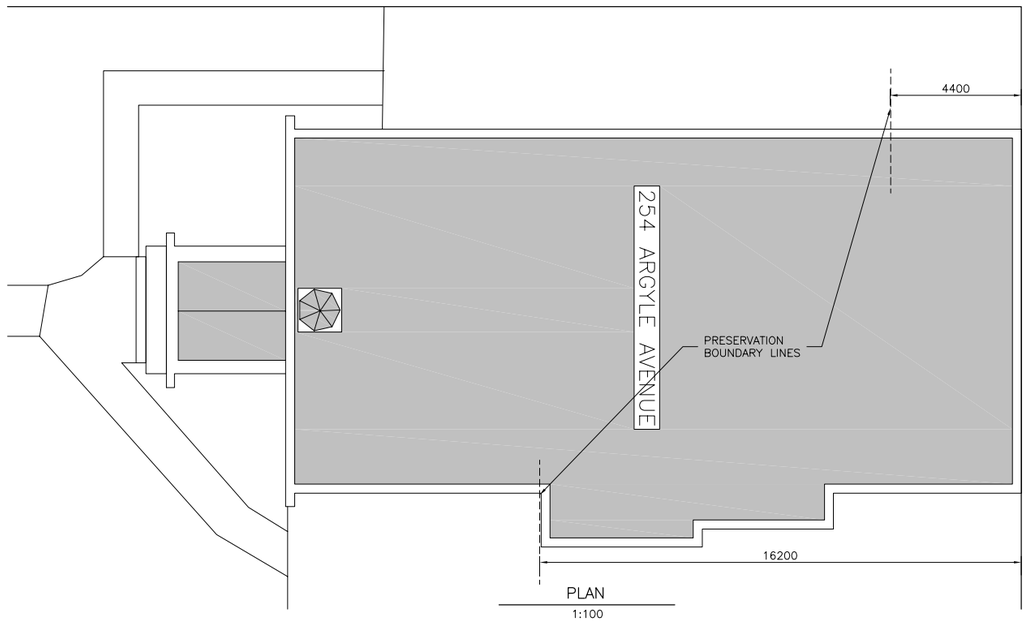
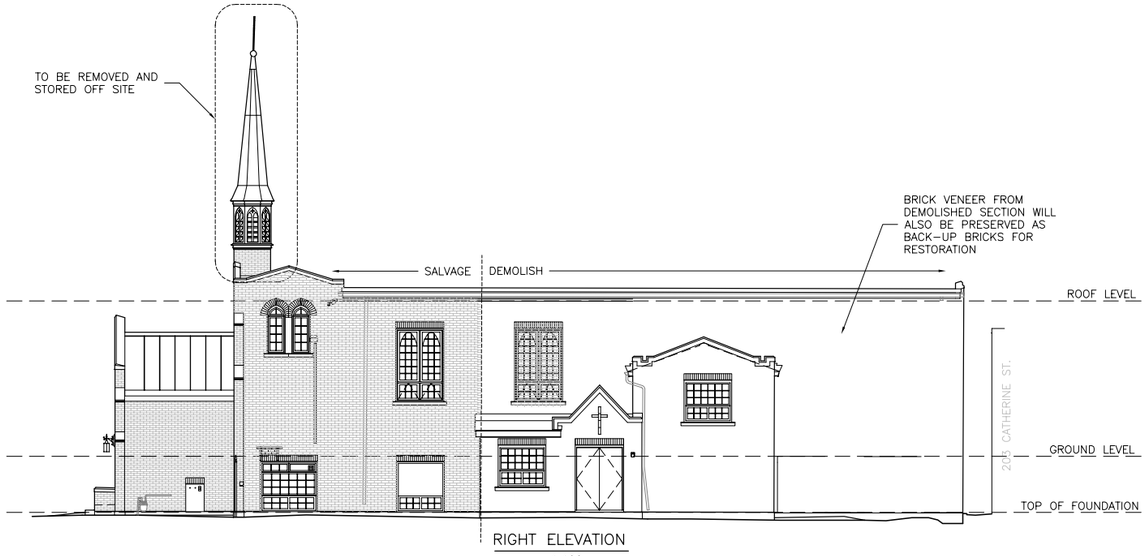


PLAN
1:100



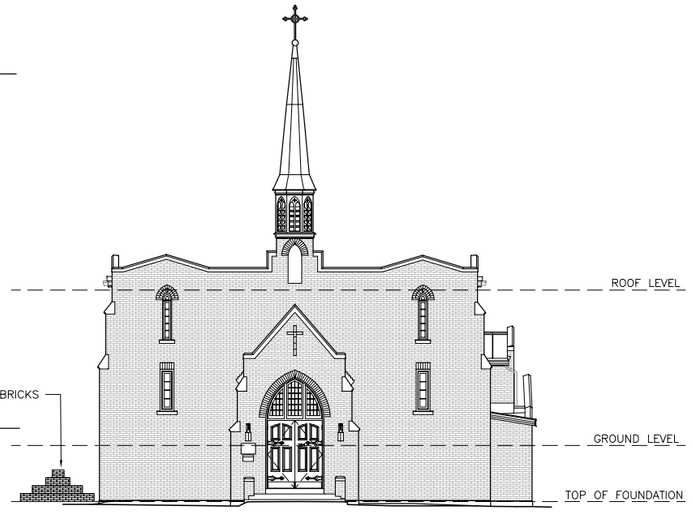
RIGHT ELEVATION
1:100

PROPOSED PROCEDURE:

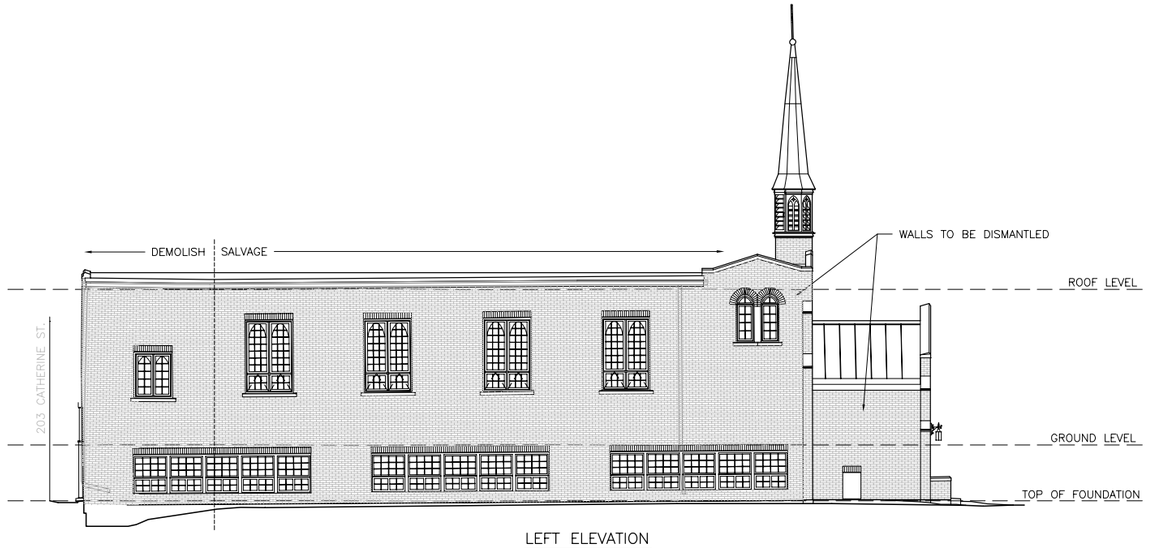
1. REMOVE STEEPLE FROM EXISTING STRUCTURE AND TRANSPORT OFF-SITE.
2. IDENTIFY AND RECORD SPECIFIC WALL SECTIONS THAT BRICKS BELONG TO.
3. BRICKS TO BE INDIVIDUALLY REMOVED, AND CAREFULLY STORED ON NUMBERED PALLETS WITH CORRESPONDING PANEL NUMBERS
4. BRICKS WILL BE WRAPPED AND SECURELY TAPED, AND PALLETS WILL BE TRANSPORTED OFF-SITE FOR LONG TERM STORAGE.
5. A SEPARATE BAG WILL BE PROVIDED FOR THE GROUT RECOVERED FROM THE BRICK JOINTS, ENSURING A RELIABLE COLOR SAMPLE FOR THE NEW GROUT.
6. ONCE THE BRICK VENEER HAS BEEN REMOVED, THE REMAINING COMPONENTS OF THE STRUCTURE WILL BE DISMANTLED OR DEMOLISHED AS REQUIRED.
7. EXCAVATIONS AND NEW CONSTRUCTION SHALL BEGIN.

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS. IT IS ONLY A SCHEMATIC REPRESENTATION.
2. DIMENSIONS ARE SHOWN IN MILLIMETERS. DIMENSIONS ARE APPROXIMATE.
3. STEEPLE AND BRICKS TO BE MOVED OFF-SITE BY COMPETENT EXPERIENCED COMPANY.
4. LOCATION FOR BRICK STORAGE TO BE DETERMINED BY OTHERS
5. MAXIMUM HEIGHT CLEARANCE TO TRANSPORT OFFSITE IS 16'-1".
6. FLATBED HEIGHT IS APPROX. 3' FROM GROUND.



FRONT ELEVATION
1:100



LEFT ELEVATION
1:100

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tel.(613)225-1162 fax (613)225-4529

PROJECT: 2023-049-2

254 ARGYLE AVENUE CHURCH
RELOCATION SCENARIOS ANALYSIS

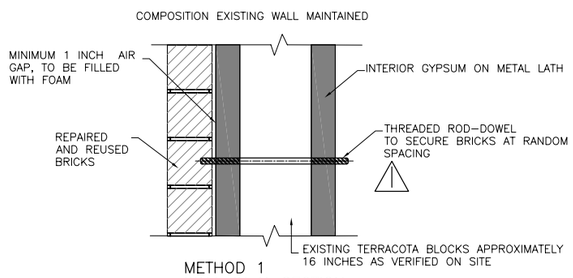
DRAWING:

SCENARIO 3 – REMOVAL BY BRICKS

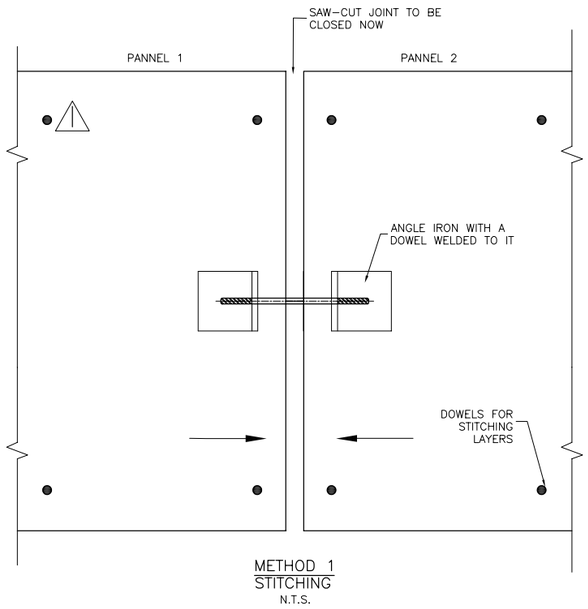
	PROJ. MGR.	-	DATE: MAR 2024
	PROJ. ENG.	-	SCALE: AS SHOWN
	DESIGNED	-	SHEET 3 OF 3
1 – ANALYSIS REPORT (AUG 15, 2024)	DRAWN	TM	SK3.1
REVISIONS	CHECKED	MG/WR	

0 10 20 40 60 80 100 120 140 160 180 200

APPENDIX C: NEW WALL CROSS SECTIONS & DETAILS



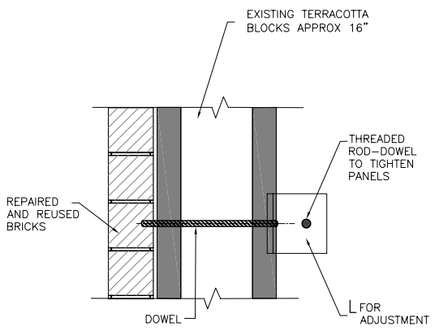
METHOD 1
WALL IN X–SECTION
N.T.S.



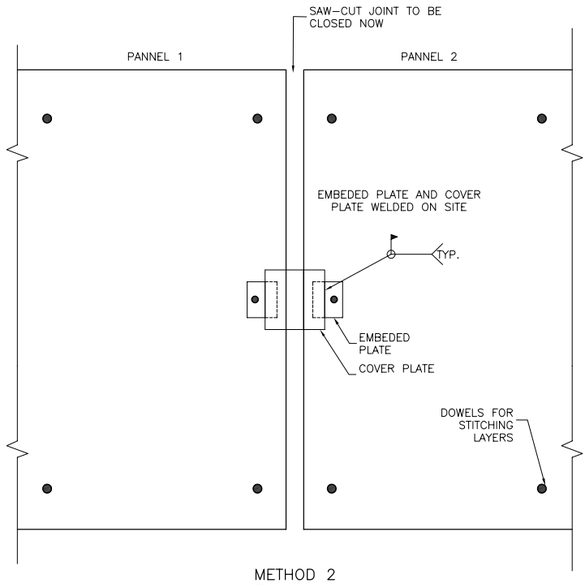
METHOD 1
STITCHING
N.T.S.

NEW DOWELS/CINTEC ANCHORS OR EQUIVALENT TO TIE BRICK VENEER TO OLD TERRACOTTA WALL.
SPACING TO BE DETERMINED.

EXISTING WALL COMPOSITION:
- BRICK VENEER
- AIR GAP
- TERRACOTTA BLOCKS



METHOD 2
WALL IN X–SECTION
N.T.S.



METHOD 2
STITCHING
N.T.S.

THESE DRAWINGS SHOW HOW TO TIGHTEN THE PANELS DURING THEIR RE–INSTALLATION.
DETAIL IS SIMILAR FOR HORIZONTAL OR VERTICAL CONNECTION ACROSS CUTTING LINES.
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH DRAWING SK2.1.

REMISZ CONSULTING ENGINEERS
tel.(613)225–1162 fax (613)225–4529

PROJECT: 2023–049–2

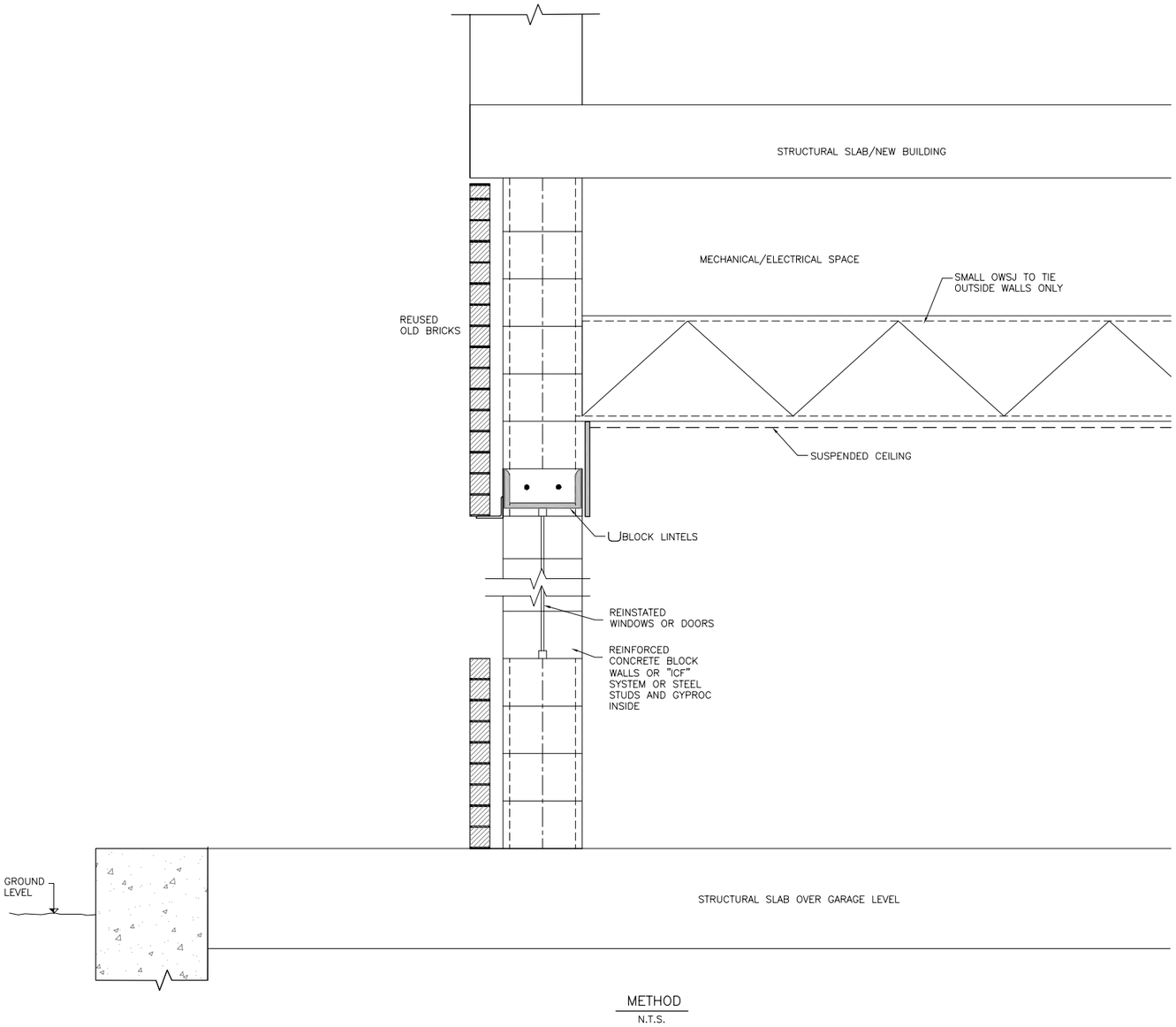
254 ARGYLE AVENUE CHURCH
RELOCATION SCENARIOS ANALYSIS

DRAWING:

SCENARIO 2
WALL PANEL REASSEMBLY

	PROJ. MGR.		DATE: MAR 2024
	PROJ. ENG.		SCALE: AS SHOWN
	DESIGNED		SHEET 1 OF 3
1 – ANALYSIS REPORT (AUG 15, 2024)	DRAWN	NI	SK2.2
REVISIONS	CHECKED	MG/WR	

0 10 20 40 60 80 100 120 140 160 180 200



METHOD
N.T.S.

GENERAL NOTES:

1. NEW FLOOR LEVEL TO BE CONFIRMED BY THE ARCHITECTURAL DESIGN.
2. NEW STRUCTURAL SLAB OVER THE GARAGE LEVEL TO BE CONFIRMED BY THE STRUCTURAL DESIGN.

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tel.(613)225-1162 fax (613)225-4529
www.remisz.com Frame.dwg – Jan. 2009

frame 790x505 mm

PROJECT: 2023-049-2

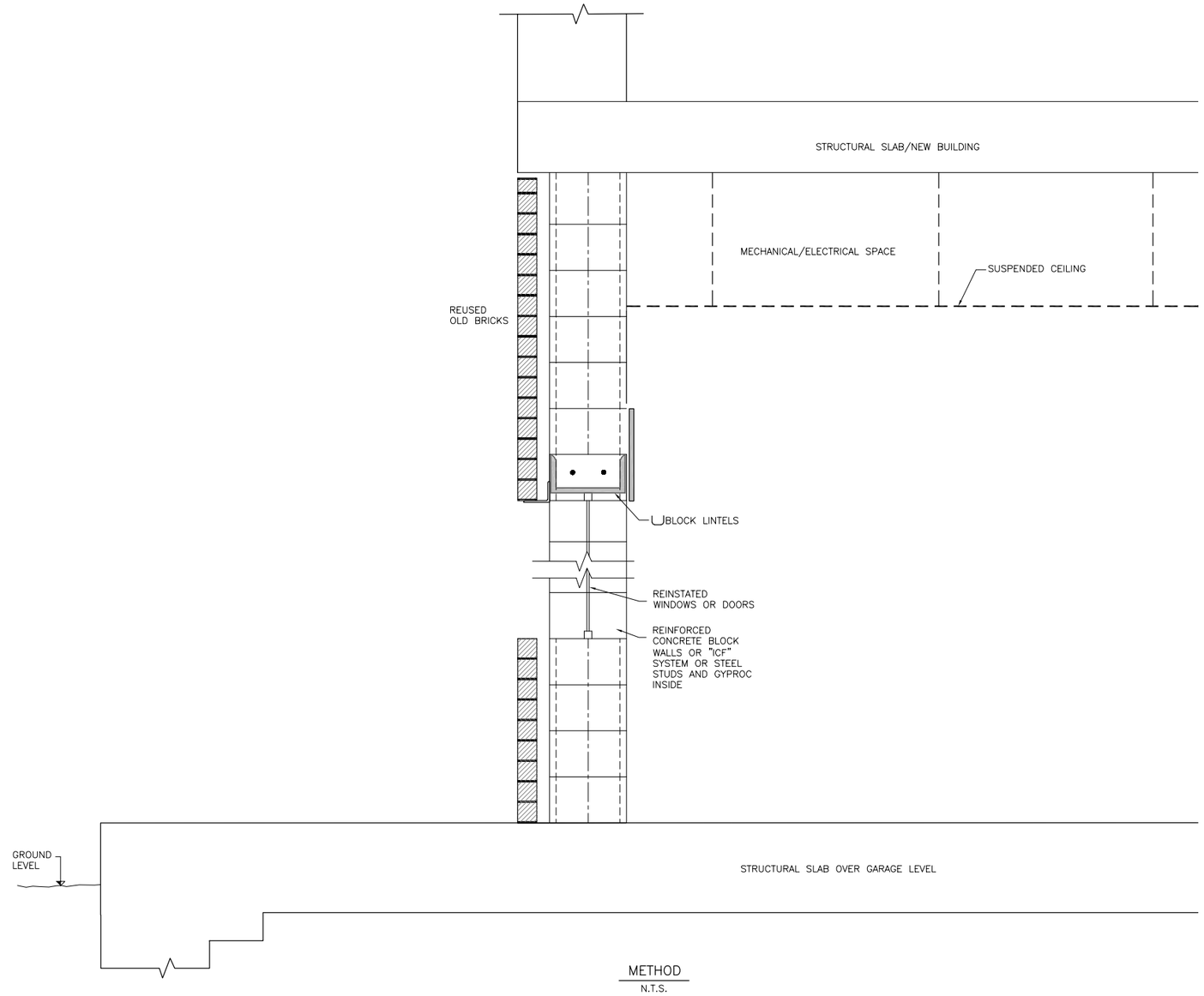
254 ARGYLE AVENUE CHURCH
RELOCATION SCENARIOS ANALYSIS

DRAWING:

SCENARIO 3
OPTIONAL WALL SECTIONS

	PROJ. MGR.		DATE: MAR 2024
	PROJ. ENG.		SCALE: AS SHOWN
	DESIGNED		SHEET 2 OF 3
1 – ANALYSIS REPORT (AUG 15, 2024)	DRAWN	NI	SK3.2
REVISIONS	CHECKED	MG/WR	

0 10 20 40 60 80 100 120 140 160 180 200



METHOD
N.T.S.

GENERAL NOTES:

1. NEW FLOOR LEVEL TO BE CONFIRMED BY THE ARCHITECTURAL DESIGN.
2. NEW STRUCTURAL SLAB OVER THE GARAGE LEVEL TO BE CONFIRMED BY THE STRUCTURAL DESIGN.

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PROJECT: 2023-049-2

254 ARGYLE AVENUE CHURCH
RELOCATION SCENARIOS ANALYSIS

DRAWING:

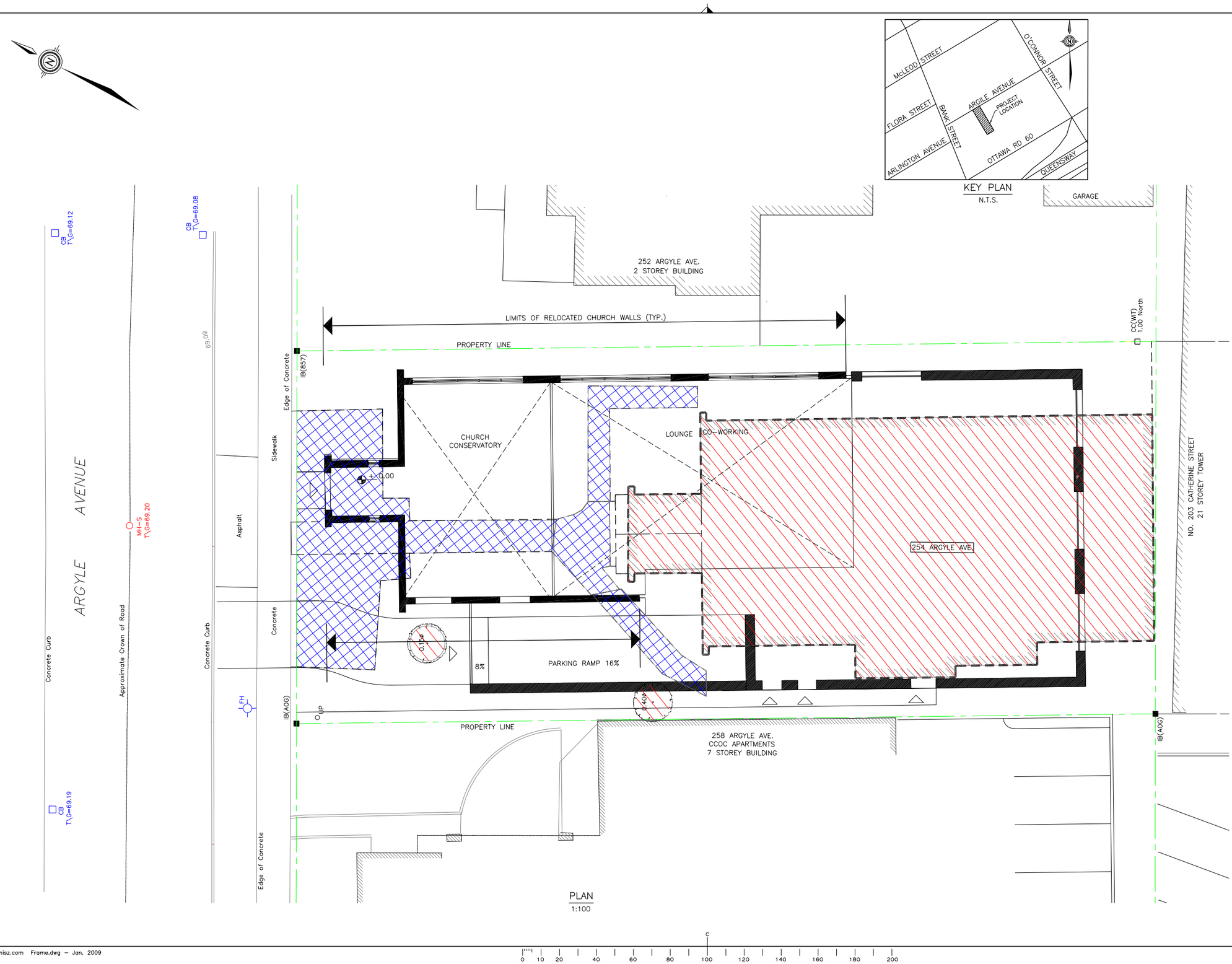
SCENARIO 3
OPTIONAL WALL SECTIONS

	PROJ. MGR.		DATE: MAR 2024
	PROJ. ENG.		SCALE: AS SHOWN
	DESIGNED		SHEET 3 OF 3
1 – ANALYSIS REPORT (AUG 15, 2024)	DRAWN	NI	SK3.3
REVISIONS	CHECKED	MG/WR	

0 10 20 40 60 80 100 120 140 160 180 200

frame 790x505 mm

APPENDIX D: EXISTING BUILDING AND NEW CONSTUCTION OVERLAY



THE LOCATION OF UTILITIES IS APPROXIMATE ONLY, AND THE EXACT LOCATION SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED.
THE CONTRACTOR SHALL PROVE THE LOCATION OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION FROM DAMAGE DURING CONSTRUCTION.

GENERAL NOTES:

1. DIMENSIONS ARE SHOWN IN MILLIMETRES, ELEVATIONS ARE SHOWN IN METRES.

LEGEND:

- EXISTING CHURCH
- EXISTING WALKWAY
- PROPERTY LINE
- EXISTING TREE (0.15ø)

No.	Date	Revision	By:

REMISZ
Consulting Engineers Ltd.
57 Auriga Dr. Suite 102
Ottawa, ON, K2E 8B2
tel.: (613) 225-1162
fax: (613) 225-4529

Client
AZURE URBAN DEVELOPMENTS INC.

Project
254 ARGYLE AVENUE
CHURCH RELOCATION
SCENARIOS ANALYSIS

Drawing
CHURCH RELOCATION PLAN

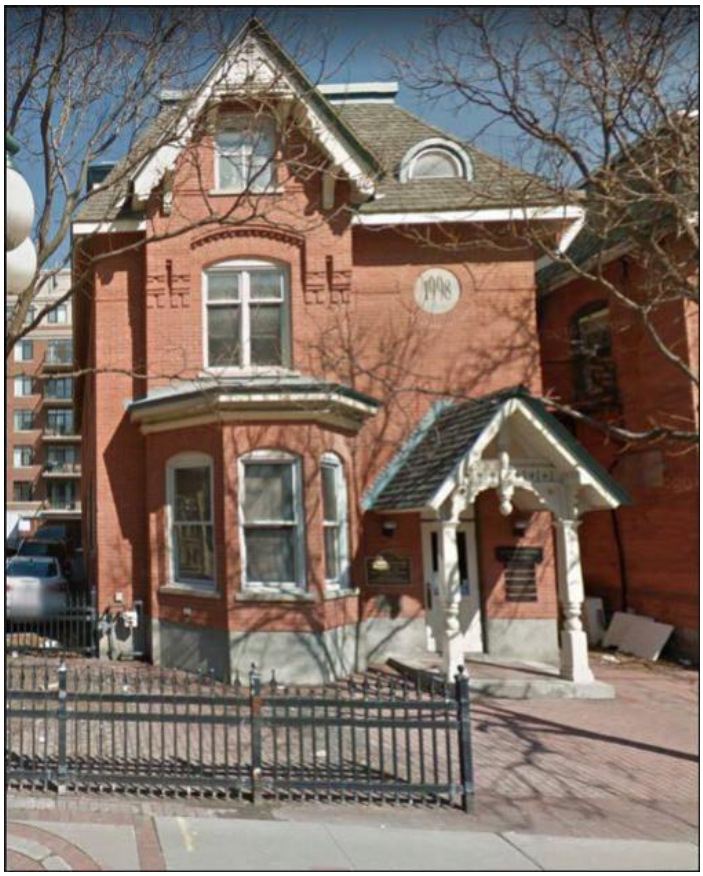
Designed	M.G.	Date	FEBRUARY 2024
Drawn	N.I.	Scale	AS SHOWN
Checked		Sheet	1 OF 1
Project No.	2023-049-2	Dwg. No.	C-01

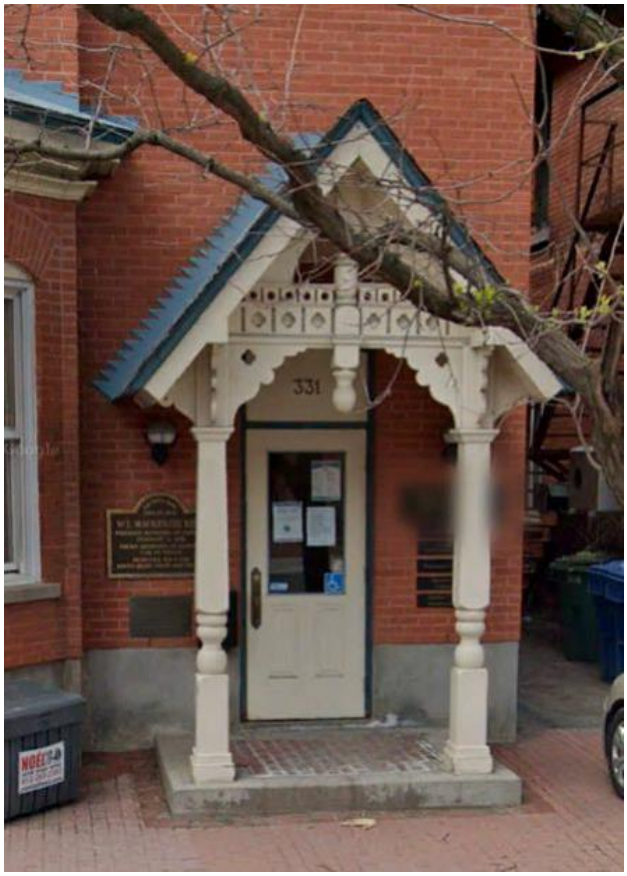
0 10 20 40 60 80 100 120 140 160 180 200

APPENDIX E: LIST OF HERITAGE ASSETS DISMANTLED & RECONSTRUCTED

OGILVY BUILDING FACADES: DISMANTLED, RECONSTRUCTED, RESTORED

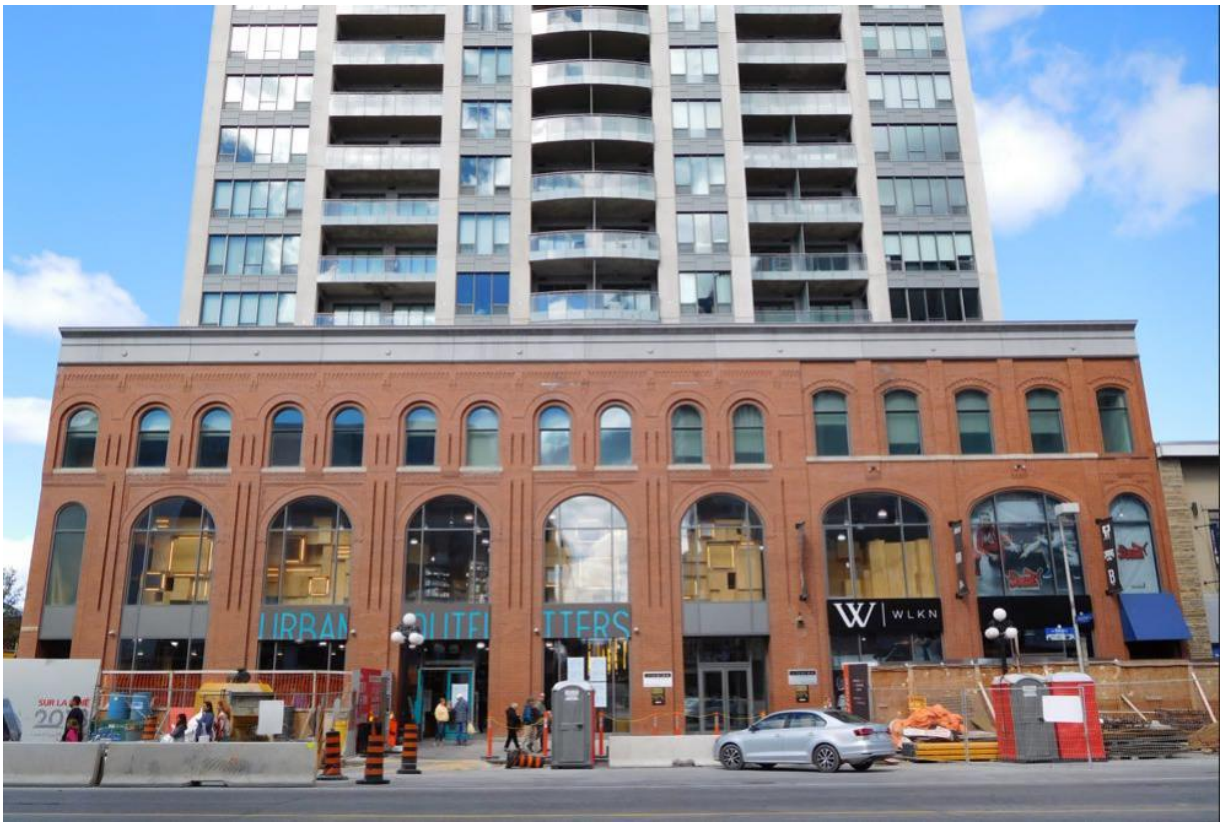
CADILLAC FAIRVIEW CORPORATION /BARRY PADOLSKY ARCHITECT INC (2017)





FORMER HOME OF WILLIAM LYON MCKENZIE KING 331 SOMERSET ST.: DAMAGED BY FIRE, DISMANTLED, RECONSTRUCTED, RESTORED.

KWAI FAMILY DEVELOPERS /BARRY PADOLSKY ARCHITECT INC (1998)



FORMER CAPLAN DEPARTMENT STORE FAÇADE: DISMANTLED, RECONSTRUCTED WITH NEW MASONRY UNITS

CANRIL CORP BARRY PADOLSKY HERITAGE CONSULTANT (2009)

FORMER CANDIAN LABOUR CONGRESS HQ 100 ARGYLE AVE: TO BE DISMANTLED AND RECONSTRUCTED (APPROVED 2022, WORK IN PROGRESS)

COLONNADE BRIDGEPORT/ CHRML HERITAGE CONSULTANT

108-116 SPARKS STREET: FAÇADE DISMANTLED, RECONSTRUCTED, RESTORED. ASHCROFT HOMES (2021)

CASTOR HOTEL 453 SUSSEX DRIVE: DEMOLISHED, RECONSTRUCTED.

NATIONAL CAPITAL COMMISSION (1976)

Bridges, Dams, Culverts

Retaining Walls

Falsework, Formwork, Temporary Structures

Parking Garages, Parking Lots

Sewage and Storm Water Management

Piles, Platforms

Condominiums, Apartments Buildings, Office Buildings

PROFESSIONAL SERVICES PROVIDED WITH CARE,
COMPETENCE AND INTEGRITY THAT DELIVER
PRACTICAL SOLUTIONS TO COMPLEX PROBLEMS

REMISZ Consulting Engineers Ltd. 57 Auriga Drive, Suite 102 Ottawa, ON K2E 8B2