

Heritage Property Application

Community Services
Culture Division
201 City Centre Drive, Suite 202
Mississauga, ON L5B 2T4
FAX: 905-615-3828
www.mississauga.ca/heritageplanning

6.1



Personal information collected on this form and other required documents is collected under the authority of the *Ontario Heritage Act*, s.33(1)(2) and s.42(1,2,1,2,2) and City of Mississauga Heritage By-law 0078-2018 as amended. The information will be used to process the application. Questions about the collection of this personal information should be directed to the Supervisor, Heritage Planning, 201 City Centre Drive, Suite 202, Mississauga ON L5B 2T4, Telephone 905-615-3200 ext. 5366.

LOCATION DETAILS

Municipal Address

Property Owner

Contact Address

Postal Code

Phone

Email Address

HERITAGE DESIGNATION BY-LAW NUMBER (if applicable):

What type of Application is Required?

Alteration or addition	Yes	No
Demolition	Yes	No
New Construction	Yes	No
Repeal of Designation By-law	Yes	No

Is there a corresponding application , such as:

- | | |
|--------------------------------|---------------------------------|
| a) Building permit number | b) Site Plan application number |
| c) Rezoning application number | d) Other |

Description of Work to be Completed:

Please attach reports, drawings, site plans, and photographs to better illustrate the project. These may be required depending on the scale of the project.

Name

Date

I, being the authorized applicant, acknowledge that:

1. Pursuant to the Heritage By-Law 78-18, as amended, I am the property owner and hereby apply to carry out the work described in this application.
2. This application meets the requirements of the Ontario Heritage Act and of the Heritage By-Law 78-18, as amended.
3. It is an offence under section 69(1) of the Ontario Heritage Act to knowingly furnish false information in this application and doing so may result in a fine of not more than \$50,000, imprisonment for a term of not more than one year, or both.

I hereby declare that I have read and understood the above, and the statements made by me in this application are to the best of my belief and knowledge a true and complete representation of the purpose and intent of this application.

Signature of Property Owner

**Digital versions of heritage permit applications must be submitted to heritage.planning@mississauga.ca.
For information or assistance, please contact Heritage Planning staff at 905-615-3200, ext. 5385 or 5366.**

For Office Use Only:

Heritage Property Application Number:

Attachments may
be added once
SUBMIT is selected

Heritage Management Conservation Plan

City of Mississauga – Streetsville Kinsmen Hall

1- Introduction

Baird Sampson Neuert Architects (BSN) was engaged by the City of Mississauga to provide complete consulting and design services for Streetsville Kinsmen Hall, located at 327 Queen Street South, Mississauga, ON. The focus of BSN's services includes the conservation and repair of the deteriorated brick masonry on all building elevations, wood soffit refurbishment and repair, refurbishment of wood windows and doors, replacement of deteriorated hollow metal doors, asphalt roof replacement, removal of visible conduits and mechanical penetrations on the façades. Other work includes the replacement of a canopy and deteriorated ramp/stair system, all related to the rear entry (facing the parking lot), and the provision/upgrade of exterior lighting.

The building at 327 Queen Street South is a one and a half storey polychromatic masonry building of red brick with accents of yellow which was originally constructed in 1851 and operated as the Streetsville Grammar School. An addition including the landmark tower was added in 1877 in front of the original building facing Queen Street. The building is reported to be Peel's first secondary school, operating there until 1951. In 1966 it was altered to serve as Town Hall (1966 – 1974), police station and jail. In 1978 it became and is currently the Streetsville Kinsmen Senior Citizens Centre. The property was designated, by the City of Mississauga in 1977, for its heritage value under Part IV of the Ontario Heritage Act, By-law 487-77. It became listed on the Canadian Register on 2009/11/24

2- Project Description

2.1- Property Description

Streetsville Kinsmen Hall is located in the City of Mississauga and is situated on the east side of Queen Street South, south of Beech Street in a residential neighbourhood. The building is north-west of the closest major intersection of Queen Street South and Main Street. There are residential properties to the north, east, west and south.

The building is a one and a half storey multi-use heritage designated building originally constructed in 1851. The addition including the landmark tower was added in 1877. The original

construction was reported to be Peel's first secondary school from 1851-1877 and a town hall from 1966-1974. The building has also functioned as a police station and a jail. Currently, the building is being used as a senior centre, church, and event space. The building appears to have three separate generations of construction, the oldest being the sloped roof section at the north-east end of the building. The exterior walls are generally of mass masonry construction on a rubble wall foundation in the sloped roof areas and west addition, and a concrete block foundation in the low slope area. The glazing at the building is single hung single glazed windows in wood frames with exterior storm windows in aluminum frames. Stone arches are present at the west most building section. The roofing system appears to be a combination of a sloped roof system with standard asphalt shingles and a low slope roof at the south-east end of the building.

The building is generally made up of two rectangles in plan, the west one oriented north/south and the east one oriented east/west, and is approximately 31 meters long by 18 meters wide. The building main entrance is located at the west side of the building.

2.2- Historical Significance (Source - Canadian Register/ City of Mississauga By-Law 478-77)

HERITAGE VALUE

The Old Grammar School is a reminder of the development of public education in Ontario, as it was the first high school in Peel County. It served the Township of Toronto, parts of Halton County and Etobicoke. The building was used for a school for over 100 years. In 1966 it became Streetsville Town Hall and in 1974, a Police Station. Some of the school's more famous graduates include John Wesley Cotton, a renowned artist, and Judges Benjamin Justin and J.J. Mahaffy.

The Old Grammar School reflects a vernacular style that speaks to Streetsville's small town, agrarian past. The original schoolroom built in 1851 is simple, classical and elegant, with its treatment of decorative buff brick frieze and buttresses.

In 1877 the school had to be enlarged and two front rooms and a tower in an Italianate style were added, helping to create a "T" shaped plan. The tower is a particularly good example of Italianate style with its paired brackets, frieze, paired windows with drip moulds and two circular windows. The new additions were constructed of red brick, with added details such as quoins, window and door surrounds all detailed in yellow brick. The two front rooms have semi-circular windows that are four-over-four paned and double hung.

Source: City of Mississauga By-law 478-77.

2.3- Architectural Significance

The original schoolroom built in 1851 displays a vernacular style that speaks to Streetsville's small town, agrarian past with simple brick friezes and buttresses. As the school expanded in 1877, two front rooms and a tower in Italianate style were added, forming the T-shaped plan. With its paired brackets, frieze, paired windows with drip moulds and two circular windows, the tower is a notable example of the Italianate style. The addition, was constructed of red brick and incorporated more details into the architecture such as quoins, window and door surrounds in yellow brick and semi-circular windows.



*Historical image showing Grammar School South-West Face prior to enlargement of Queen Street
Image courtesy of Streetsville Historical Society*

Character Defining Elements (Source – Canadian Register):

- One-storey red brick exterior
- Side gable roof with projecting frontispiece on façade
- Two and a half storey tower

- Mansard roof on tower
- Paired brackets and frieze on tower
- Four over four paned and double hung windows with voussoirs
- Twin semi-circular two over two paned double hung windows on tower
- Window and door surrounds in yellow-brick
- Four hooded dormers on mansard roof of tower
- Main door with semi-circular opening
- Voussoirs and keystone above entrance

3- Project Objectives

The design team's work plan is based on the City of Mississauga's two goals for the project. The first objective is to conduct a full rehabilitation program of the moisture management system at the areas of masonry deterioration and providing necessary masonry and rubble wall repairs around the building. This approach is outlined in the envelope assessment provided by RJC Engineers, who are providing envelope conservation services (attached in the appendices for reference). Envelope Restoration work will generally include:

- Localized exterior masonry repairs, including brick replacement and mortar repointing. Deep repointing of masonry to use heritage grade mortar.
- Rebuilding of the northern landscape masonry wall at west entrance including new masonry and heritage mortar.
- Localized cracked glass replacement and wholesale window refurbishment
- Localized soffit repairs including replacement of soffit boards at areas of deterioration
- Pest containment repairs at west tower.
- South elevation exterior excavation, waterproofing of rubble foundation wall, installation of drainage board.
- North east corner pilaster – exterior excavation, investigation, installation of temporary shoring, and underpinning.

- Repair of interior rubble foundation wall at south elevation locations where it separates full basement areas from the exterior including heritage grout injection, repointing and parging at full height of interior rubble wall.
- Replacement of deteriorated hollow metal doors and refurbishment of heritage wood doors.
- Asphalt Roof replacement at sloped roof areas

This rehabilitation program will reinstate the integrity of the masonry system and the moisture management system, replace deteriorated masonry elements and make alterations to elements that are contributing to accelerated deterioration, and using materials and conservation measures that are consistent with the heritage aspects of the building, such as the use of heritage lime-based mortar. Existing sidewalk elements immediately abutting the building are contributing to spalling at the base of the building due to splashing and due to the use of de-icing salts. The sidewalk on the west side will be relocated / repositioned to enable drainage and drying of masonry surfaces.

The second objective outlined by the city is to replace deteriorated existing ramps and stairs at the rear parking lot entry and provide accessibility upgrades to this entry which currently serves as the main entrances for everyday use. As part of the ramp upgrade replacement, the new ramps/inclined walkways will be located further away from the masonry heritage façade to avoid further deterioration of the brick due to impacts of de-icing salt and rainfall splash back.

4.1- Statement of Heritage Intent

BSN architects approach to building conservation and accessibility works is based upon the objectives and application of *Parks Canada Standards and Guidelines for the Conservation of Historic Places Guidelines*. BSN's approach will have due regard for the project's Statement of Significance, including its Heritage Value and Character Defining elements that forms an integral part of its recognition on the Canadian Register of Historic Places and its recognition under the Ontario Heritage Act. Character-Defining Elements will be repaired in accordance with Parks Canada Standards, using well researched and proven conservation methods. None of the accessibility and canopy alterations will impact any of its Character Defining Elements.



*Historical image showing character defining elements which have since been removed (original door leaves). BSN's restoration work will focus on matching and/or recreating heritage elements where possible.
Image courtesy of Streetsville Historical Society*

BSN's approach to the design integration of accessibility upgrades / ramp replacement will be to adopt design mitigation measures in order to diminish the visual presence of ramps and restore the natural profile of the site's gentle cresting hillside in order to integrate the ramp into the landscape and mitigate its impact on the heritage building and landscape context.

BSN's proposed ramp and stair design goes beyond the premise of simple rebuilding what is there now as outlined in the RFP issued by the City. Instead, the design proposes a ramp design based on a more desirable slope gradient that follows the contours of the hillside site and provides improved conditions for users. By separating and spreading out the switchback walkways, a small landscaped area is created which eliminates the need to reconstruct the costly and visually intrusive retaining wall between the two walkways. This approach serves to visually integrate ramp and site, improve amenity/accessibility, reduce construction/costs, and

reduce maintenance associated with the retaining wall. The resulting landscaped hillside will extend and complement landscaping along the Queen Street frontage and eliminate the harsh cut into the topography of the site, emphasizing the building's agrarian past while realizing an inviting rear entry accessible entry. In addition, the proposed new canopy will improve and interconnect the build form conditions of the various Kinsmen Hall additions, while improving shelter, scale, and visual prominence of the east entry to Kinsmen Hall.



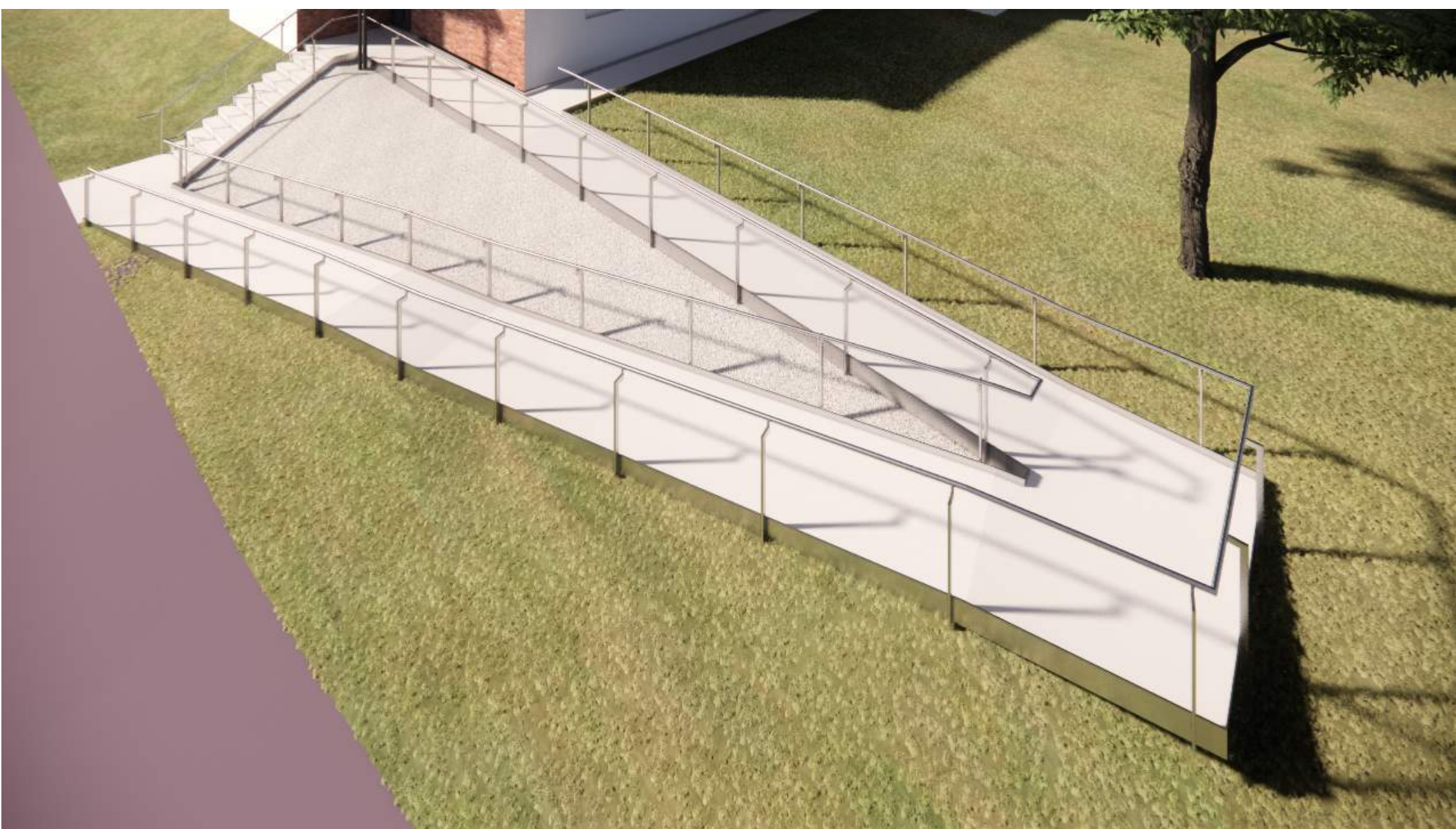
Existing ramp conditions



Proposed Ramp Design



Rendered View of Ramp and
Entrance Canopy from Parking Lot

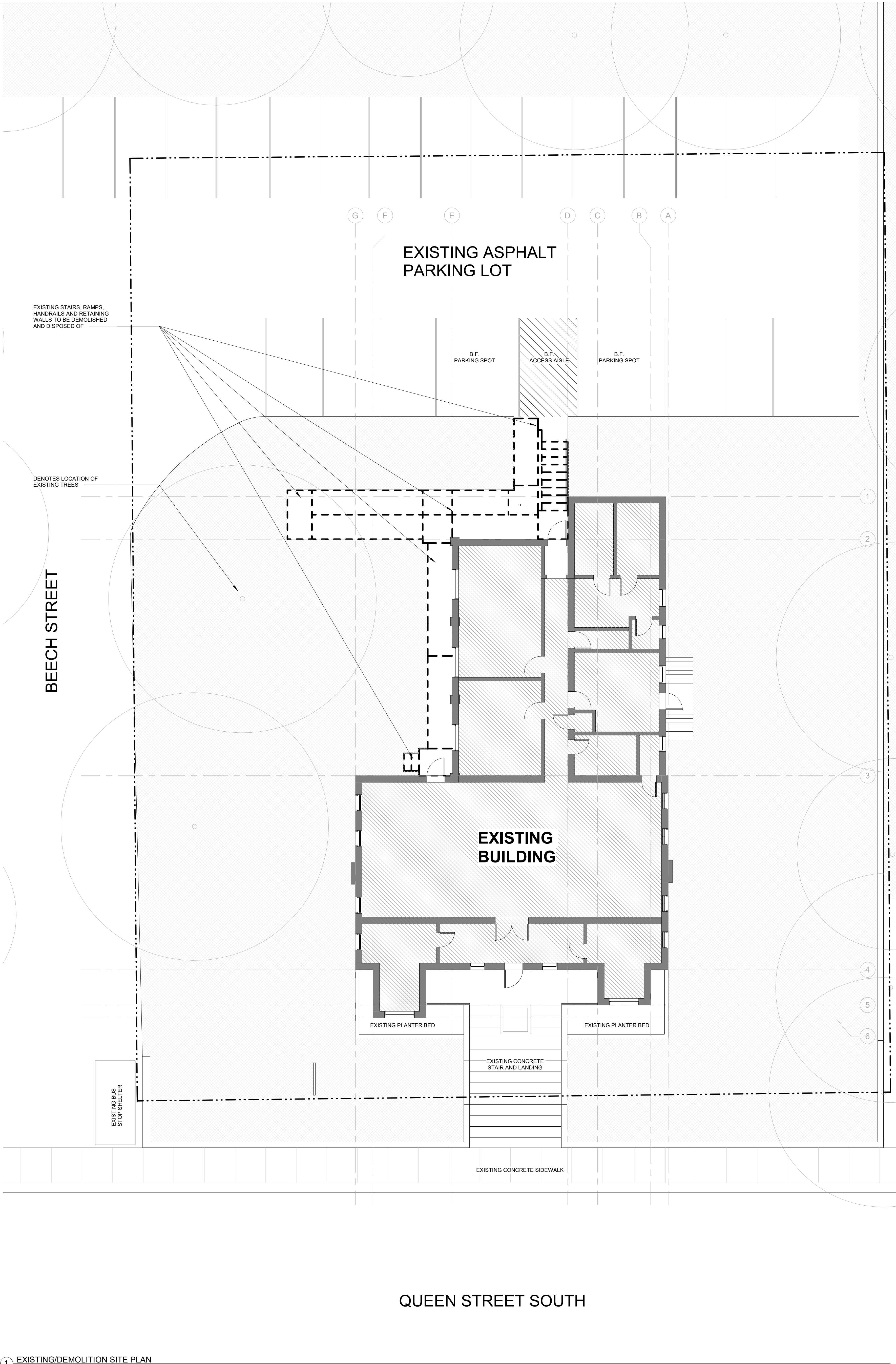


Aerial Rendered View of Ramp

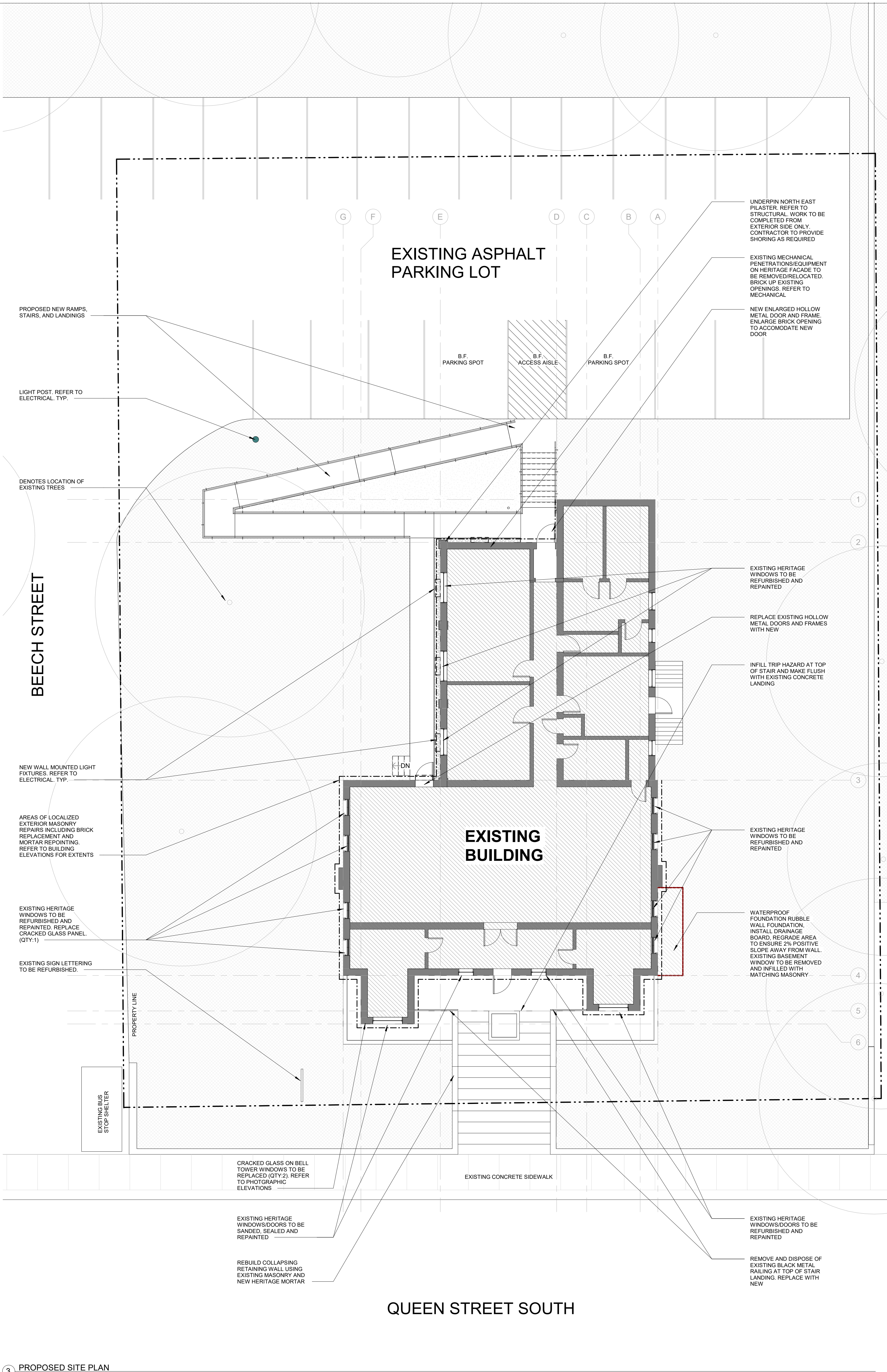


Rendered View of Entrance
Canopy and New Door

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1 EXISTING/DEMOLITION SITE PLAN
1:100



3 PROPOSED SITE PLAN
1:100

6-1
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LEGEND

1 2021-11-05 Issued for Class C Casing

No. DATE DESCRIPTION

STREETSVILLE KINSMEN HALL

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EXISTING/PROPOSED SITE PLAN

SCALE: 1:100
DRAWN: Author
CHECKED: Checker
DATE: 09/20/21
JOB: 1507

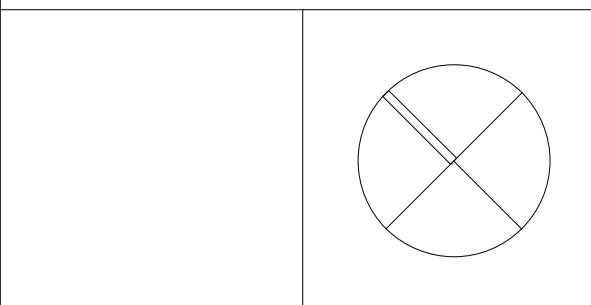
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LEGEND



1	2021-11-05	Issued for Class C Costing
No.	DATE	DESCRIPTION

STREETSVILLE
KINSMEN HALL

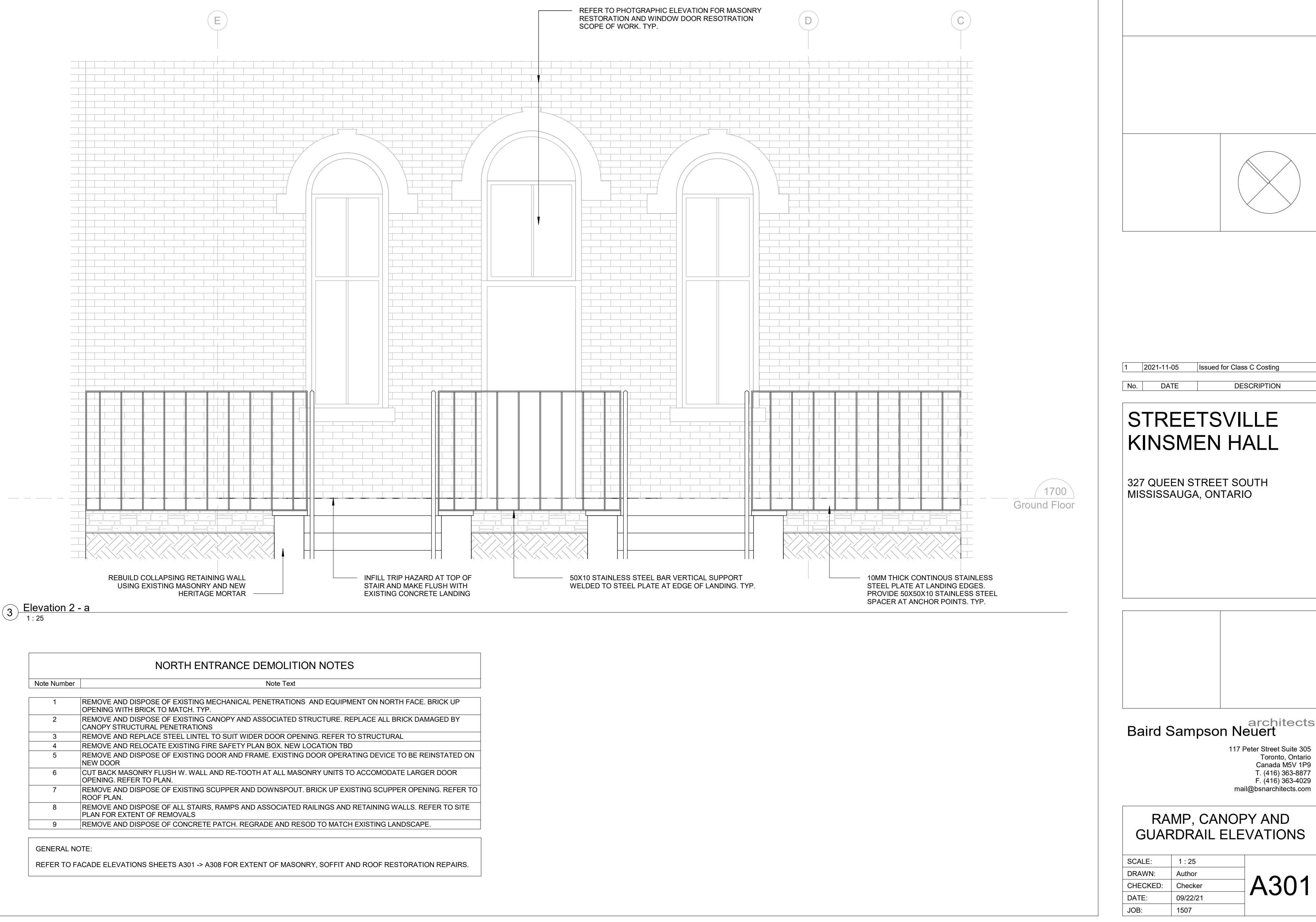
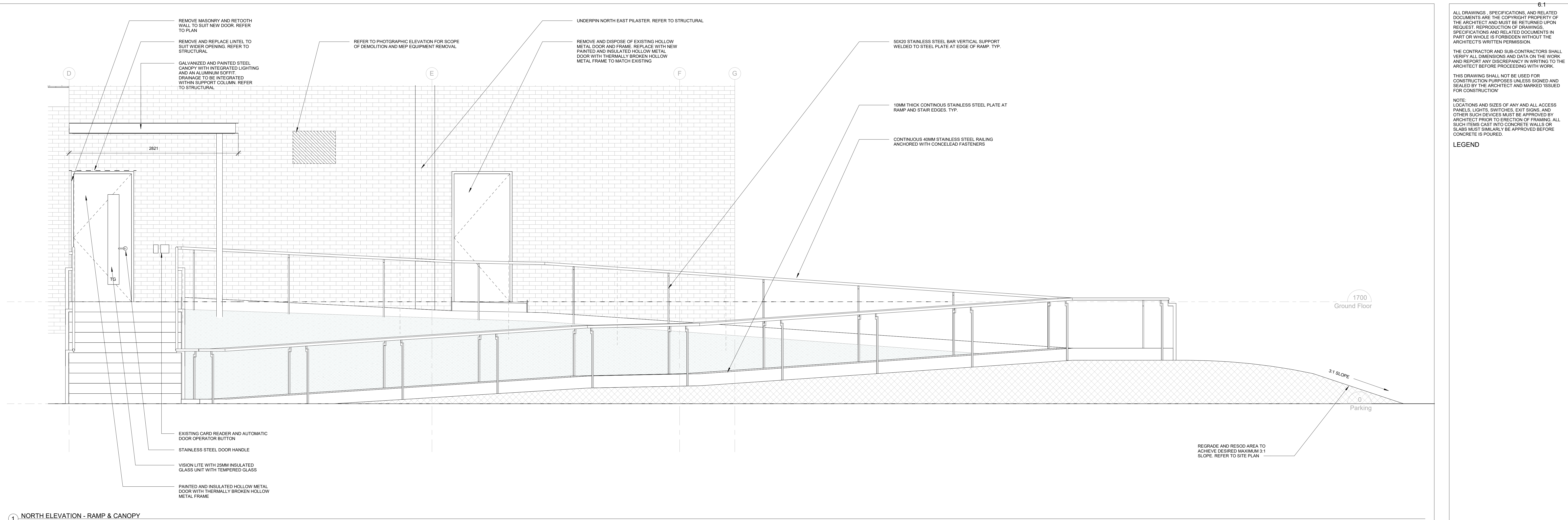
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MISSISSAUGA, ONTARIO

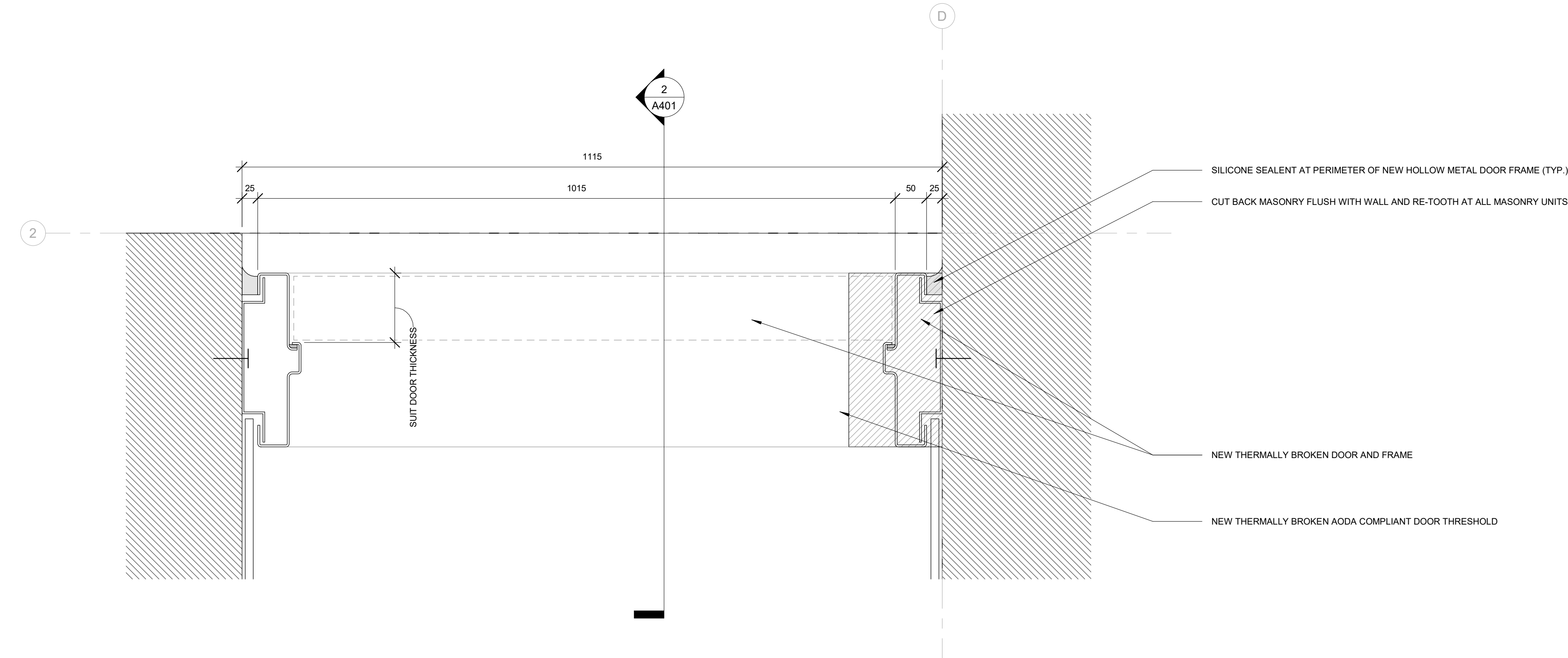
Baird Sampson Neuert architects

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mail@bsnarchitects.com

RAMP & VESTIBULE PLAN

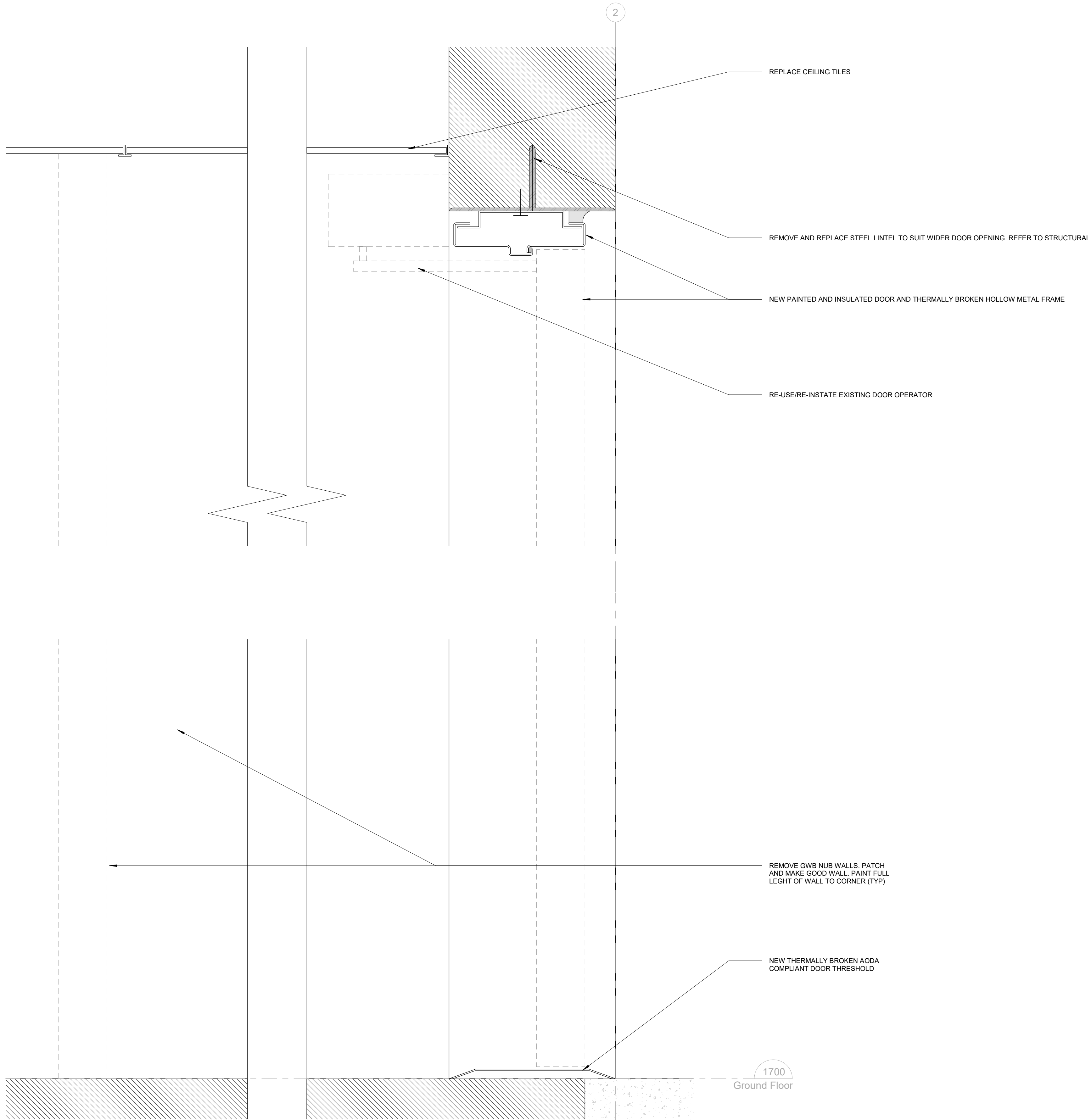
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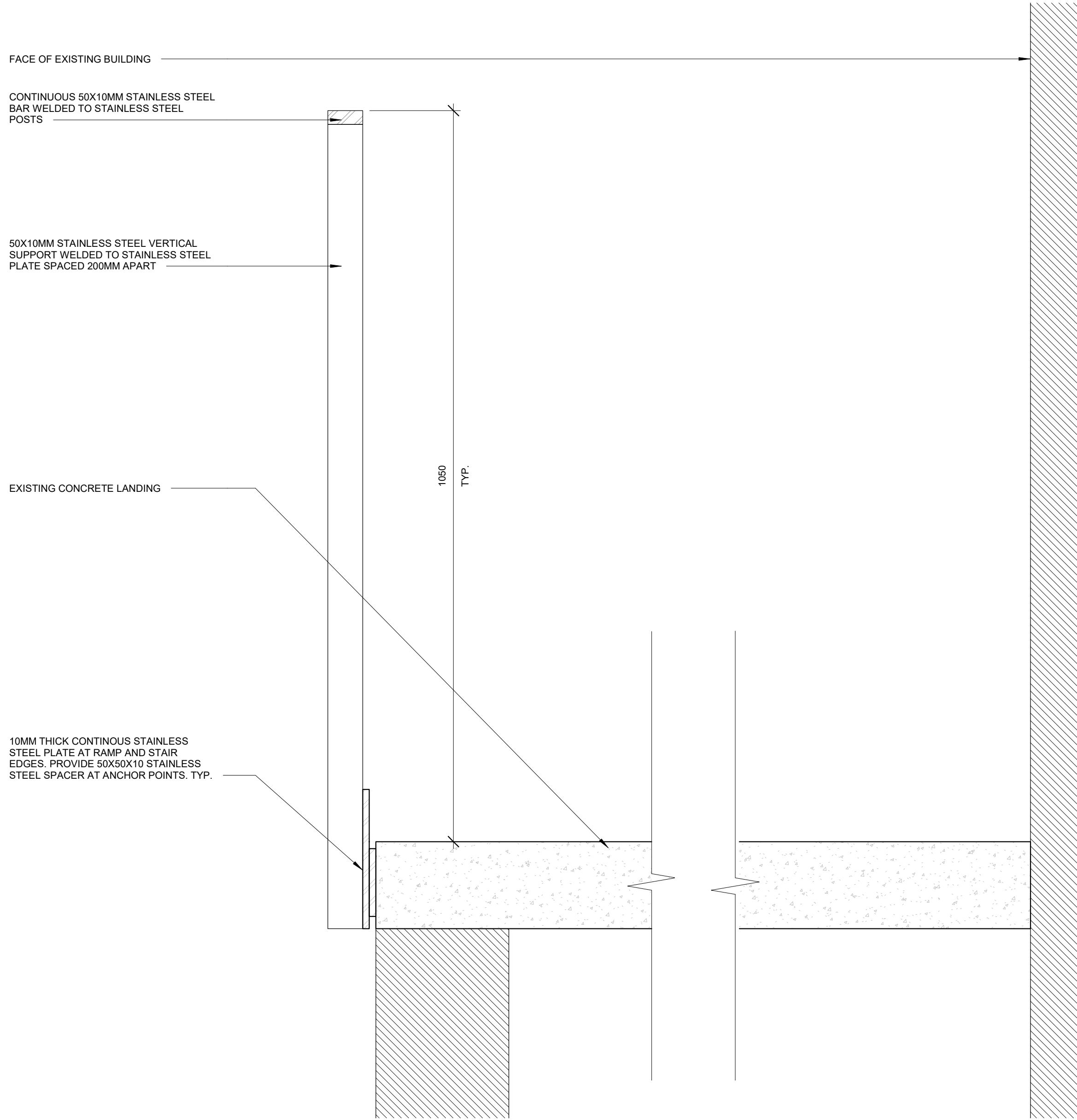
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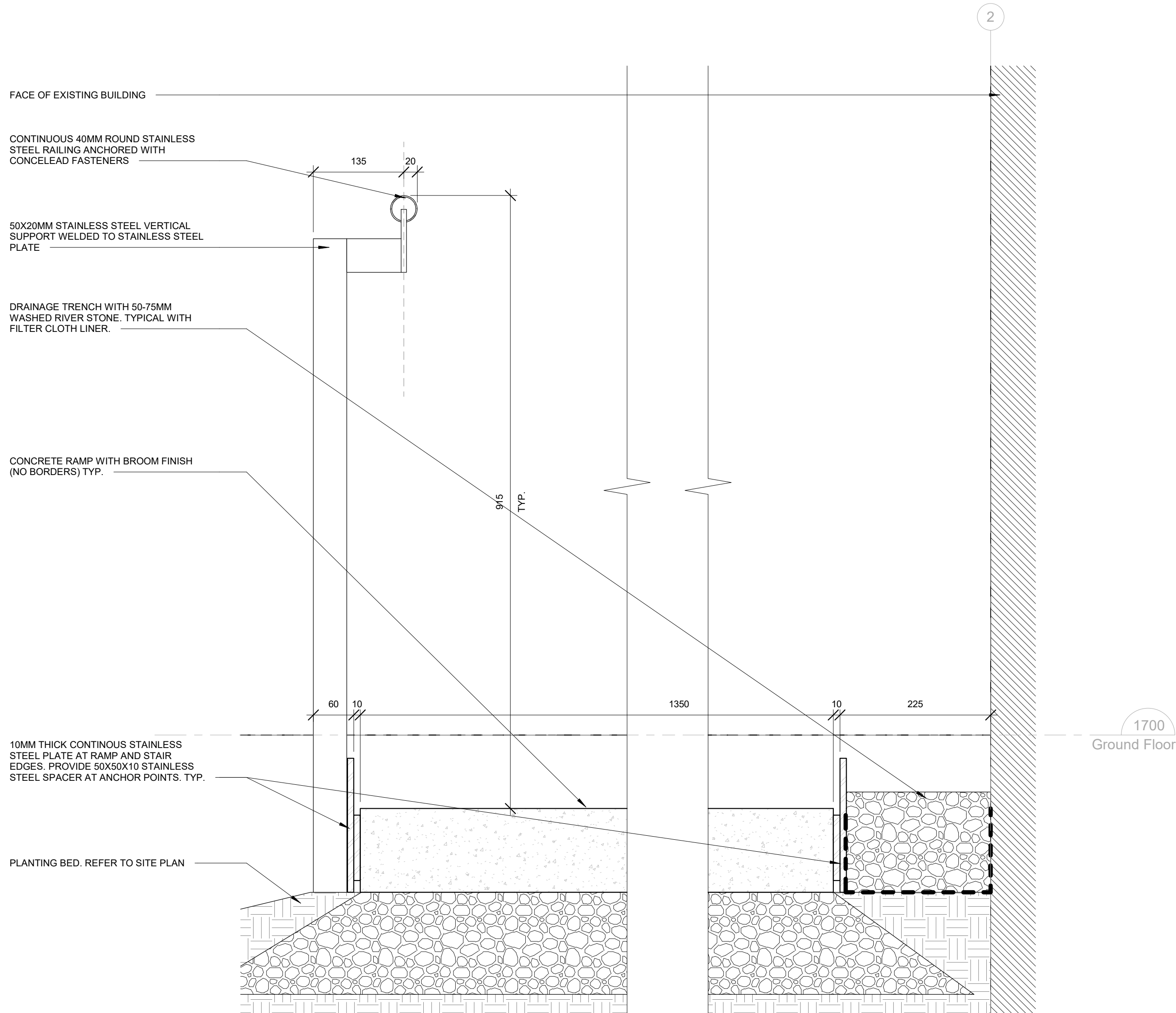
2 DOOR SECTION DETAIL

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3 QUEEN STREET LANDING GUARDRAIL DETAIL

1:5



4 RAMP RAILING SECTION DETAIL

1:5

6-1

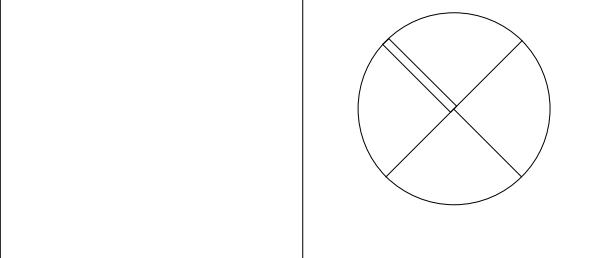
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LEGEND

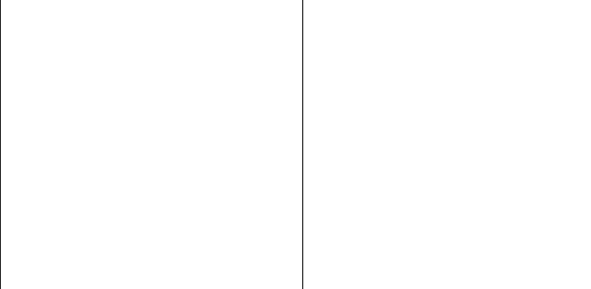


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DETAILS

SCALE:	1:5
DRAWN:	Author
CHECKED:	Checker
DATE:	10/04/21
JOB:	1507

A401



PREPARE SURFACES AND REPAINT FASCIAS AND SOFFIT

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS

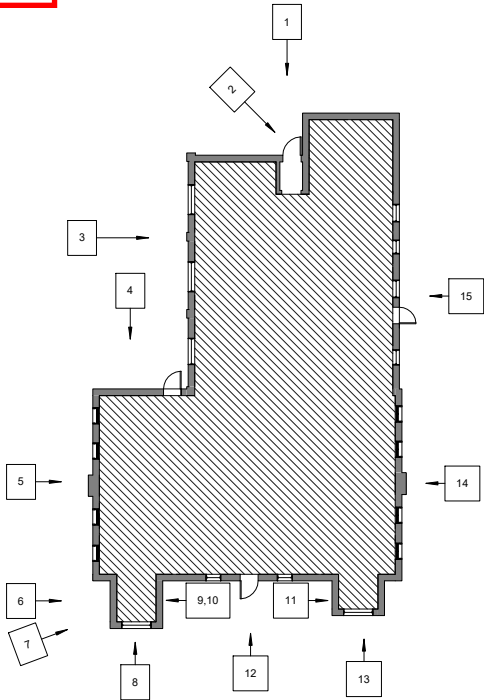
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PERFORM WHOLESALE REPOINTING AT MASONRY EXPOSED DUE TO REMOVAL OF RAMP OR SIDEWALK. ALL MORTAR TO BE HERITAGE GRADE LIMESTONE MORTAR. TYP.

REFER TO DEMOLITION DRAWINGS FOR EXTENT OF CANOPY, RAMP, STAIR, HANDRAIL AND DOOR REMOVALS

1 PHOTO 1
1:25





PREPARE SURFACES AND REPAINT FASCIAS AND SOFFIT

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS

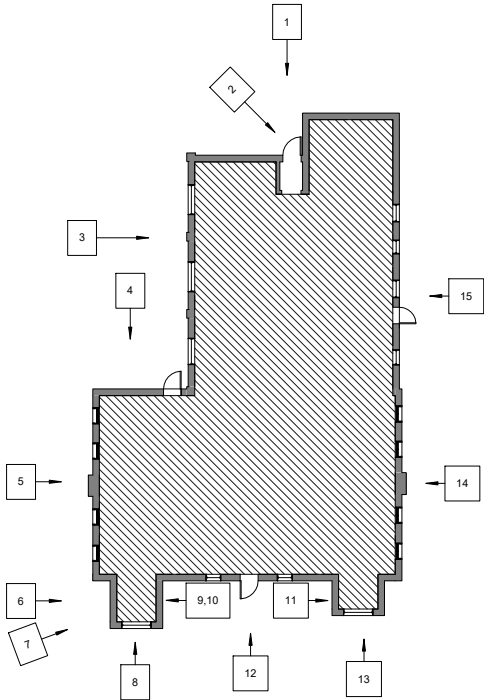
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REFER TO DEMOLITION DRAWINGS FOR EXTENT OF CANOPY, RAMP, STAIR, HANDRAIL AND DOOR REMOVALS

② PHOTO 2
1:25





REMOVE AND DISPOSE OF EXISTING ASPHALT ROOFING SYSTEM. SUPPLY AND INSTALL NEW ASPHALT SHINGLE ROOFING. TYPICAL ON ALL SLOPED ROOFS

REMOVE AND DISPOSE OF EXISTING GUTTERS AND DOWNPIPES. SUPPLY AND INSTALL NEW (TYP.)

PREPARE SURFACES AND REPAINT FASCIAS AND SOFFIT

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS

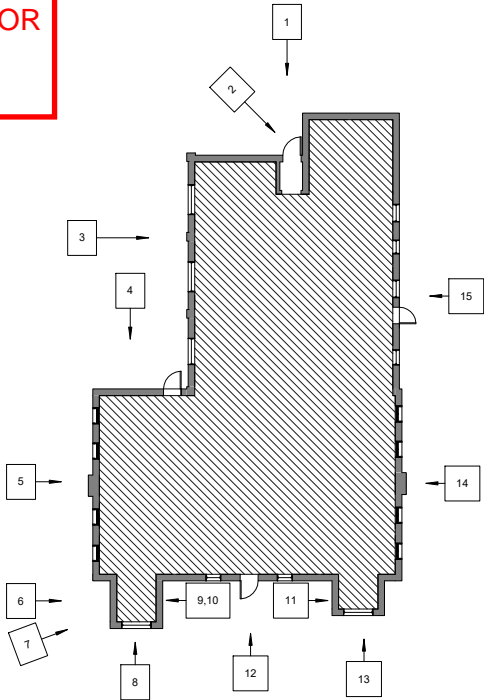
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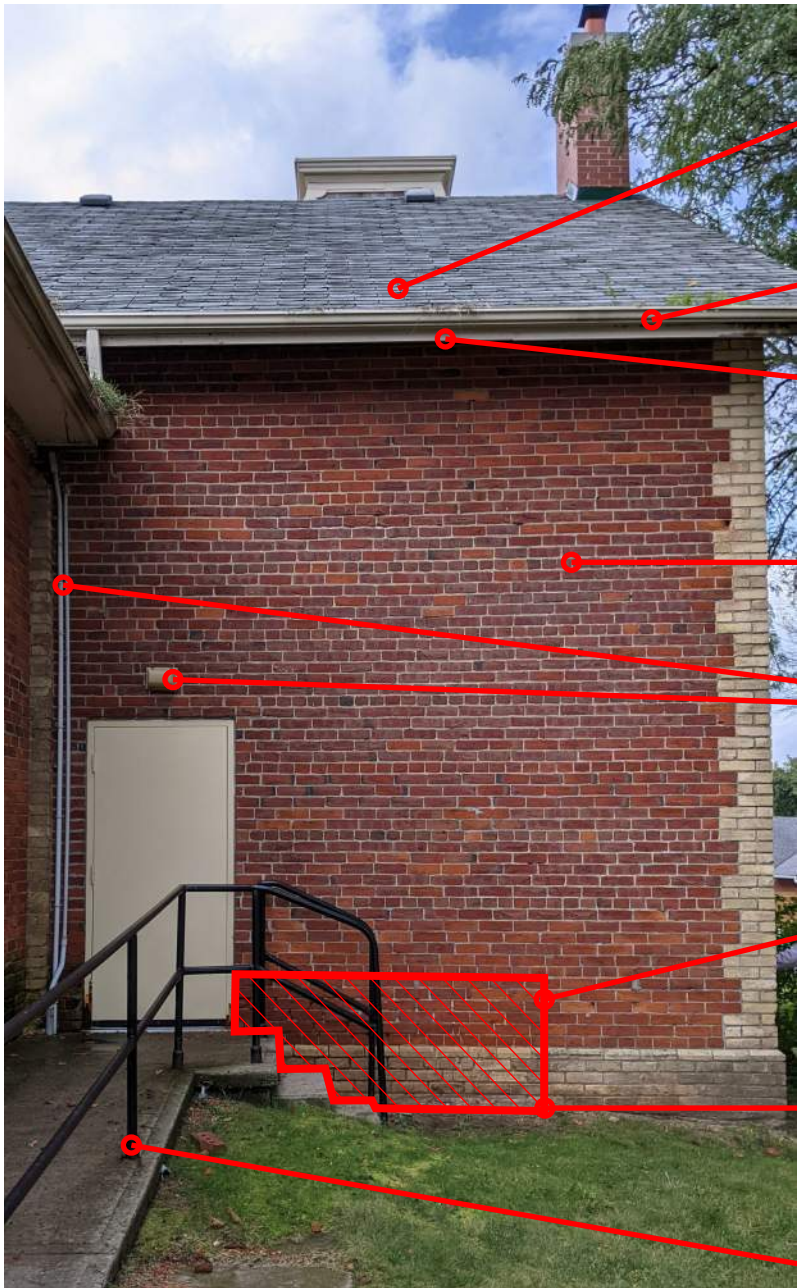
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PERFORM WHOLESALE REPOINTING AT MASONRY EXPOSED DUE TO REMOVAL OF RAMP OR SIDEWALK. ALL MORTAR TO BE HERITAGE GRADE LIMESTONE MORTAR. TYP.

REFER TO DEMOLITION DRAWINGS FOR EXTENT OF CANOPY, RAMP, STAIR, HANDRAIL AND DOOR REMOVALS

1 PHOTO 3
1:25





REMOVE AND DISPOSE OF EXISTING ASPHALT ROOFING SYSTEM. SUPPLY AND INSTALL NEW ASPHALT SHINGLE ROOFING. TYPICAL ON ALL SLOPED ROOFS

REMOVE AND DISPOSE OF EXISTING GUTTERS AND DOWNPIPES. SUPPLY AND INSTALL NEW (TYP.)

PREPARE SURFACES AND REPAINT FASCIAS AND SOFFIT

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS

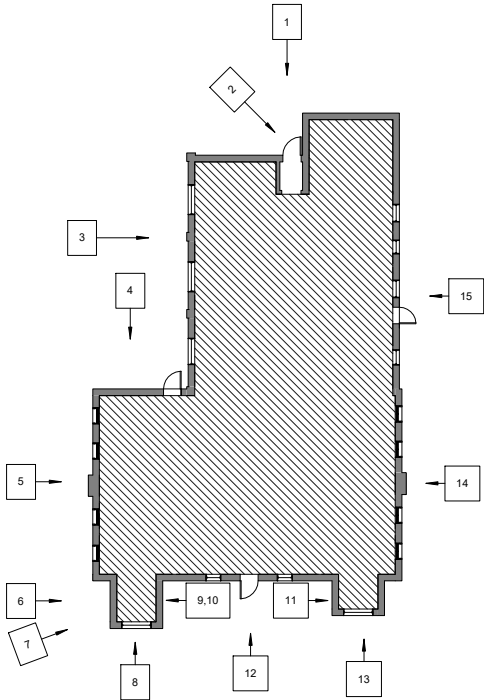
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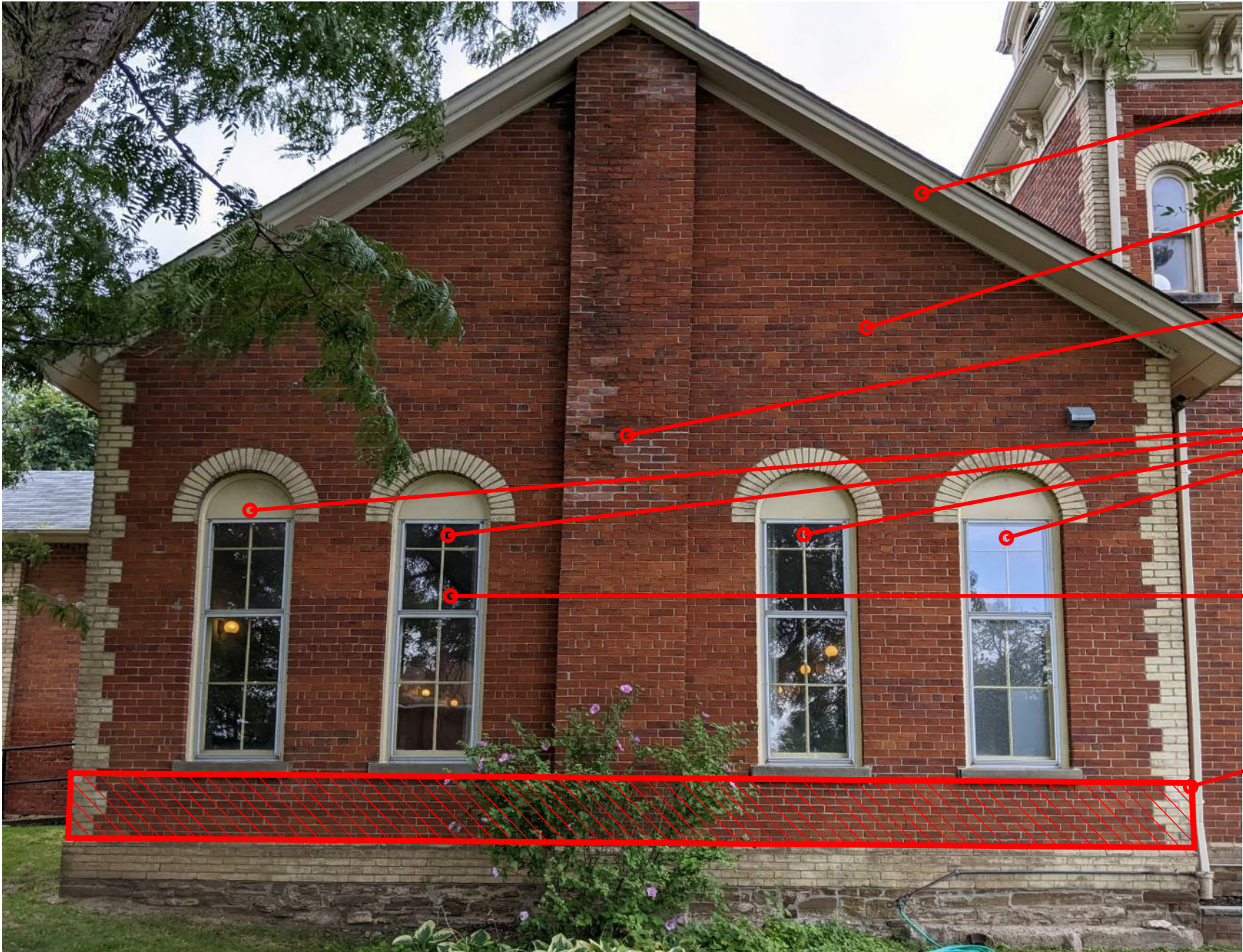
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PERFORM WHOLESALE REPOINTING AT MASONRY EXPOSED DUE TO REMOVAL OF RAMP OR SIDEWALK. ALL MORTAR TO BE HERITAGE GRADE LIMESTONE MORTAR. TYP.

REFER TO DEMOLITION DRAWINGS FOR EXTENT OF CANOPY, RAMP, STAIR, HANDRAIL AND DOOR REMOVALS

PHOTO 4
1 : 25





PREPARE SURFACES AND REPAINT FASCIAS AND SOFFIT

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS

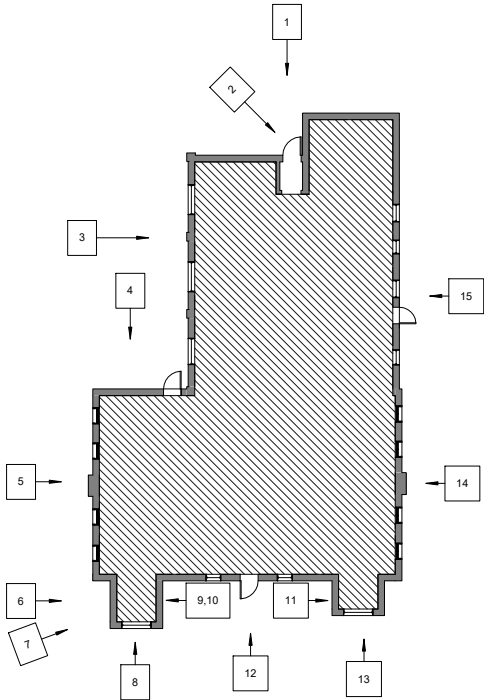
LOCALLY REMOVE AND REPLACE DETERIORATED MASONRY UNIT AS DIRECTED BY CONSULTANT. TYP.

EXISTING HERITAGE WINDOWS TO BE REFURBISHED AND REPAINTED. EXISTING STORM WINDOWS AND PERIMETER SEALANT TO REMAIN

REMOVE AND REPLACE BROKEN WINDOW LITE TO MATCH EXISTING

WHOLESALE REPOINT MASONRY MORTAR JOINTS

1 PHOTO 5
1:25





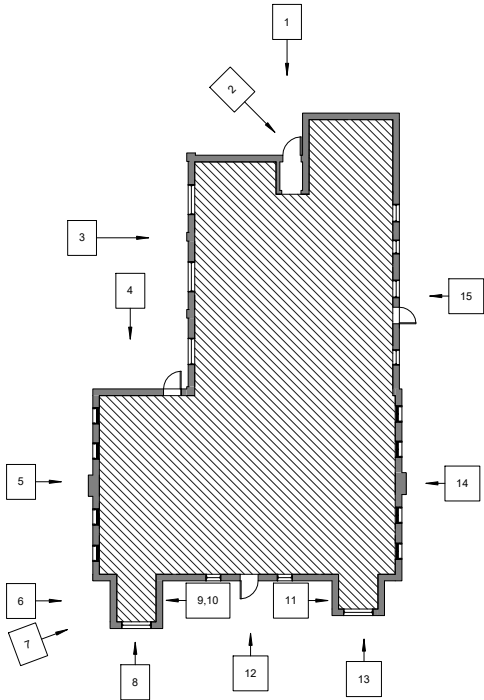
REMOVE AND DISPOSE OF EXISTING GUTTERS AND DOWNPIPES. SUPPLY AND INSTALL NEW (TYP.)

REMOVE AND DISPOSE OF EXISTING FASCIA AND SOFFIT BOARDS. INSTALL NEW TO MATCH

LOCALLY REMOVE AND REPLACE DETERIORATED MASONRY UNIT AS DIRECTED BY CONSULTANT. TYP.

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS AS DRIECTED BY CONSULTANT

② PHOTO 6
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EXISTING HERITAGE WINDOWS TO BE REFURBISHED AND REPAINTED

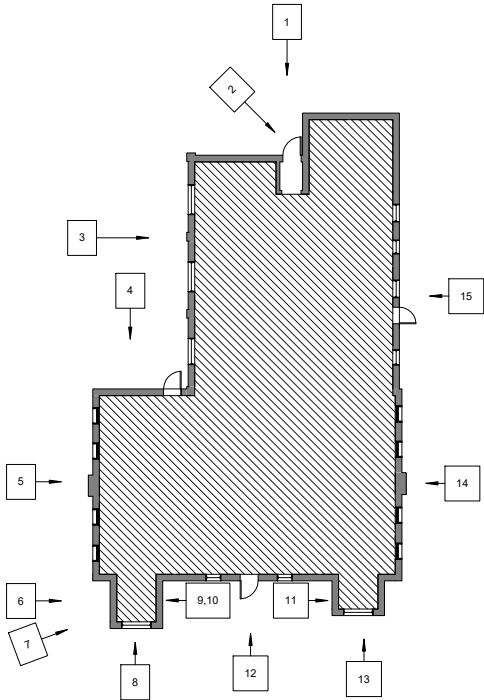
REMOVE AND REPLACE BROKEN WINDOW LITE TO MATCH EXISTING

FULLY REPOINT UPWARDS FACING MORTAR JOINTS

REMOVE AND DISPOSE OF EXISTING GUTTERS AND DOWNPIPES. SUPPLY AND INSTALL NEW

REMOVE AND DISPOSE OF EXISTING FASCIA AND SOFFIT BOARDS. INSTALL NEW TO MATCH

3 PHOTO 7
1:25





PREPARE AND REPAINT ALL WOOD SURFACES

EXISTING HERITAGE WINDOWS TO BE REFURBISHED AND REPAINTED

REMOVE AND REPLACE BROKEN WINDOW LITE TO MATCH EXISTING

REMOVE AND DISPOSE OF EXISTING ASPHALT SHINGLE ROOFING SYSTEM. REPLACE AND INSTALL NEW ASPHALT SHINGLE ROOFING TO MATCH

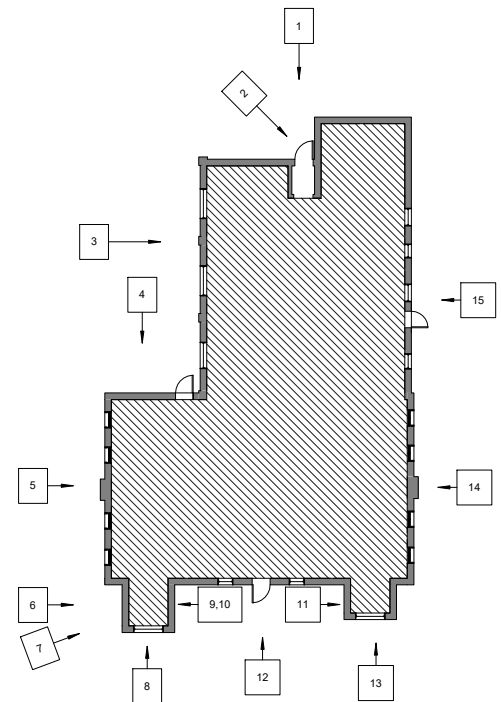
FULLY REPOINT UPWARD FACING MORTAR JOINTS

LOCALLY REMOVE AND REPLACE DETERIORATED MASONRY UNIT AS DIRECTED BY CONSULTANT

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS AS DIRECTED BY THE CONSULTANT

REMOVE AND DISPOSE OF EXISTING WOODEN DOOR. NEW WOOD DOOR TO MATCH PROFILE AND COLOR OF ORIGINAL DOORS DOCUMENTED IN HISTORIC PHOTOS

WHOLESALE BRICK REPLACEMENT. BRICK REPLACEMENT MOCK-UP TO BE REVIEWED ON SITE TO ENSURE NEW BRICK MATCHES EXISTING HERITAGE BRICK





③ PHOTO 10
1 : 25

PREPARE SURFACES AND PAINT
ALL EXISTING WOOD SURFACES

LOCALLY RAKE OUT AND REPOINT
DETERIORATED MASONRY
MORTAR JOINTS AS DIRECTED BY
CONSULTANT

LOCALLY REMOVE AND REPLACE
DETERIORATED MASONRY UNIT
AS DIRECTED BY THE
CONSULTANT

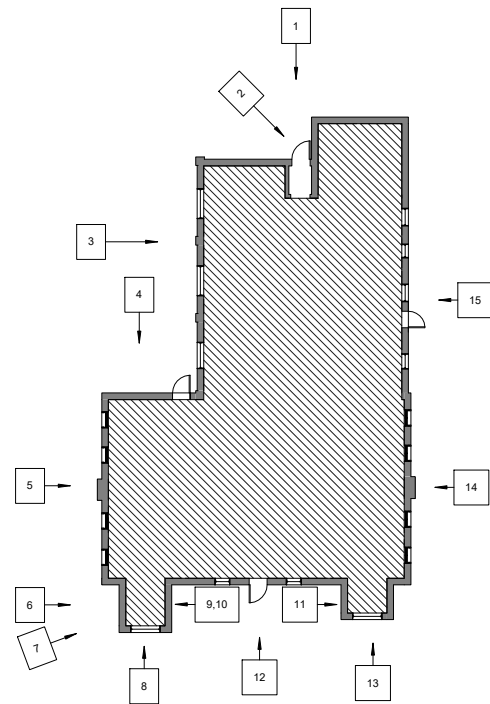
PREPARE SURFACES AND
REPAINT FASCIAS AND SOFFIT



② PHOTO 9
1 : 25

LOCALLY REMOVE AND REPLACE
DETERIORATED MASONRY UNIT AS
DIRECTED BY CONSULTANT

LOCALLY RAKE OUT AND REPOINT
DETERIORATED MASONRY
MORTAR JOINTS AS DIRECTED BY
CONSULTANT





REMOVE AND DISPOSE OF EXISTING ASPHALT SHINGLE ROOFING SYSTEM. SUPPLY AND INSTALL NEW ASPHALT SHINGLE ROOFING TO MATCH

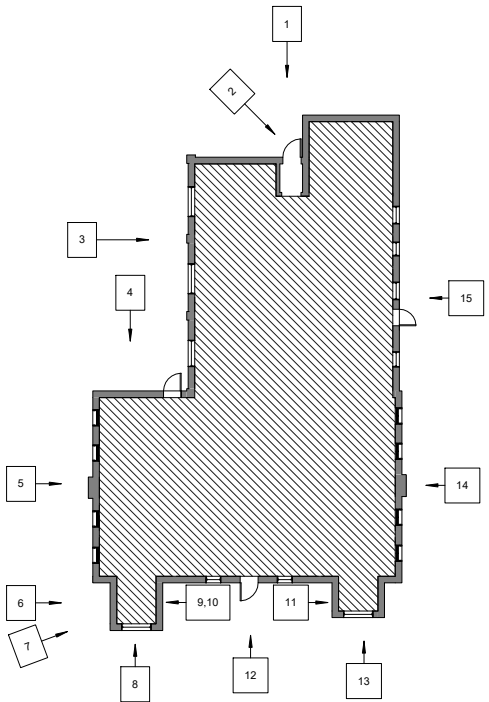
REMOVE AND DISPOSE OF EXISTING GUTTERS AND DOWNPIPES. SUPPLY AND INSTALL NEW

PREPARE SURFACES AND REPAINT FASCIAS AND SOFFIT

LOCALLY REMOVE AND REPLACE DETERIORATED MASONRY UNIT AS DIRECTED BY CONSULTANT

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS AS DIRECTED BY CONSULTANT

4 PHOTO 11
1 / 25





REMOVE AND DISPOSE OF EXISTING ASPHALT SHINGLE ROOFING SYSTEM. SUPPLY AND INSTALL NEW ASPHALT SHINGLE ROOFING TO MATCH

REMOVE AND DISPOSE OF EXISTING GUTTERS AND DOWNPIPES. SUPPLY AND INSTALL NEW

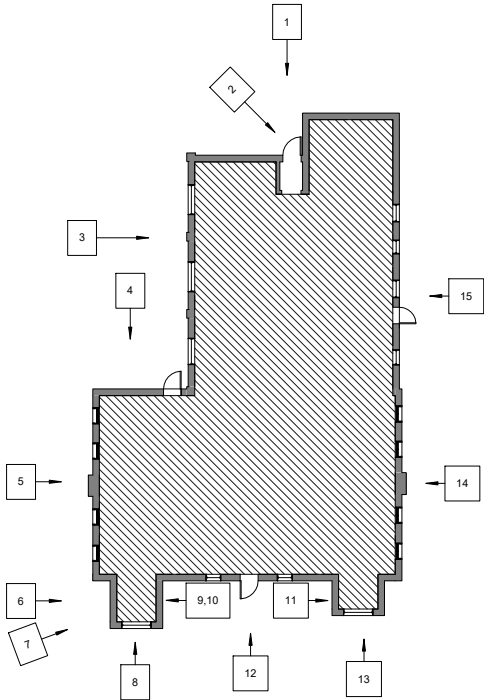
PREPARE SURFACES AND REPAINT FASCIAS AND SOFFIT

EXISTING HERITAGE WINDOWS TO BE REFURBISHED AND REPAINTED. EXISTING STORM WINDOWS AND PERIMETER SEALANTS TO REMAIN.

LOCALLY REMOVE AND REPLACE DETERIORATED MASONRY UNIT AS DIRECTED BY CONSULTANT

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS AS DIRECTED BY CONSULTANT

1 PHOTO 12
1:25





PREPARE SURFACES AND
REPAINT FASCIAS AND SOFFIT

REMOVE AND DISPOSE OF
EXISTING GUTTERS AND
DOWNPIPES. SUPPLY AND
INSTALL NEW

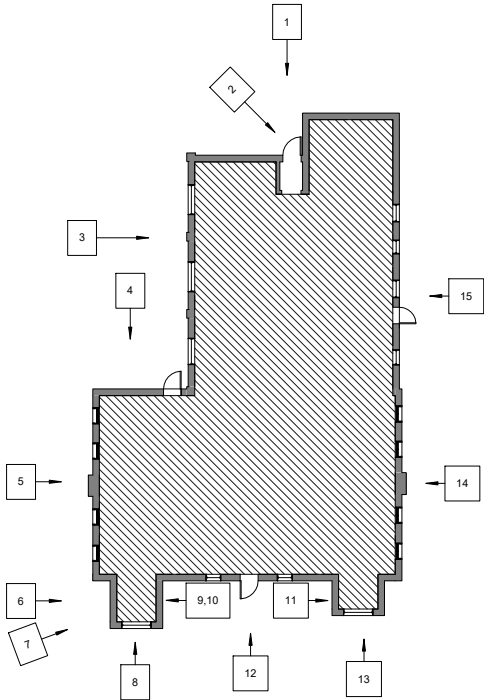
LOCALLY REMOVE AND REPLACE
DETERIORATED MASONRY UNIT AS
DIRECTED BY CONSULTANT

LOCALLY RAKE OUT AND REPOINT
DETERIORATED MASONRY
MORTAR JOINTS AS DIRECTED BY
CONSULTANT

EXISTING HERITAGE WINDOWS TO
BE REFURBISHED AND
REPAINTED. EXISTING STORM
WINDOWS AND PERIMETER
SEALANTS TO REMAIN.

REMOVE AND DISPOSE OF
EXISTING WOODEN DOOR. NEW
WOOD DOOR TO MATCH PROFILE
AND COLOR OF ORIGINAL DOORS
DOCUMENTED IN HISTORIC
PHOTOS

② PHOTO 13
1 : 25





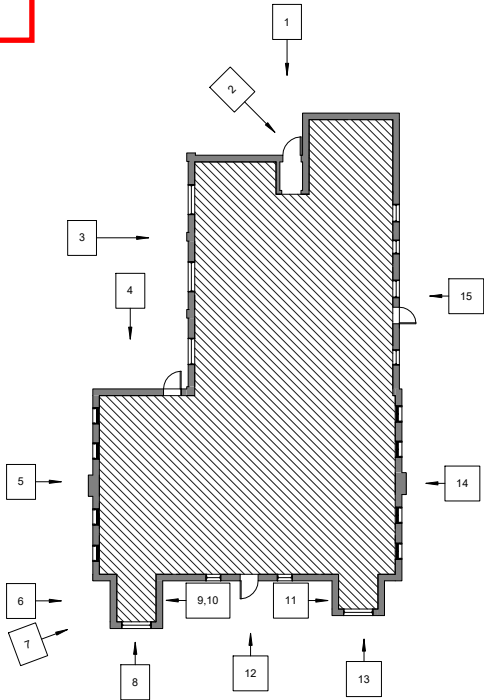
PREPARE SURFACES AND REPAINT FASCIAS AND SOFFIT

LOCALLY REMOVE AND REPLACE DETERIORATED MASONRY UNIT AS DIRECTED BY CONSULTANT

LOCALLY RAKE OUT AND REPOINT DETERIORATED MASONRY MORTAR JOINTS AS DIRECTED BY CONSULTANT

EXISTING HERITAGE WINDOWS TO BE REFURBISHED AND REPAINTED. EXISTING STORM WINDOWS AND PERIMETER SEALANTS TO REMAIN.

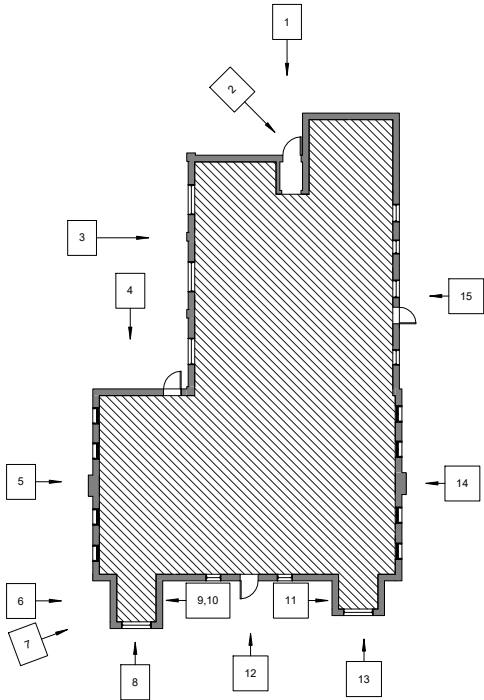
REMOVE AND DISPOSE OF EXISTING WINDOW FRAME. FILL IN ROUGH OPENING WITH MASONRY TO MATCH



1 PHOTO 14
1:25



1 PHOTO 15
1:25



4.2 – Commitment to Heritage Sensitive Design

4.2.1- Brick, Window and Soffit Refurbishment

BSN and RJC are committed to protecting and preserving the various heritage elements on the façade during the construction phase. All brick replacement to be “like-for-like” and the masonry contractor will be required to present various mock-ups of brick and mortar colors on site before proceeding with the work. These mock-ups will be reviewed thoroughly by the design team to ensure a close match with the existing bricks.

For windows, work will focus on refurbishing the windows in place without the removal of the frame or the storm windows. The goal will be to eliminate the flaking paint and clean up the frames as much as possible. As with the brick, all new paint, sealants, caulking, etc. will be analyzed on site with mock ups to ensure a close match with the existing heritage windows. Where glass is being replaced, the team will direct the contractor to find glass that matches the size and transparency of existing float glass.

The soffit work will be localized and will focus on the repair of areas that have been damaged by rodents and weather decay. Once the damaged boards are replaced, all soffits and fascia boards will be refurbished and repainted to match existing.

For more detailed description of heritage façade refurbishment, refer to photographic elevation drawings prepared by BSN and RJC.

4.2.2- Ramp & Railing Materiality

As described above BSN’s approach to ramp design centers around the idea of removing the existing large retaining wall and reintegrating the architecture of the building with its surrounding landscape.

In addition to considerations regarding the shape of the ramp, BSN worked closely with the client’s stakeholders to select an appropriate finish for the ramp and the railings. For the ramp, it was decided that a concrete ramp with a borderless broom finish is most appropriate for

accessibility and maintenance needs of the city. Selecting a borderless broom finish minimizes the visual clutter on the ramp and differentiates the ramp from regular city concrete sidewalks.

As for the railings, BSN looked at multiple options for finishes including galvanized and painted steel as well as stainless steel. After multiple discussions with the city's stakeholders stainless steel was selected for two reasons. Firstly, stainless steel offers the best long term durability especially in the presence of deicing salts and will resist corrosion in the long run. Secondly, due to its reflective nature, stainless steel will be better able to reflect the colors of the building as well as the surrounding landscape, making it less visually intrusive and more muted in the presence of the heritage façade.

4.2.3- Entrance Canopy

In creating a new entrance canopy, BSN's goal is to create an inviting contemporary structure that clearly distinguishes itself as a modern addition to the heritage façade rather than attempting to mimic the architectural language of the original structure. Following the *Parks Canada Standards and Guidelines for the Conservation of Historic Places Guidelines*, this approach maintains the legibility of the separate architectural interventions that occurred on the building over time and does not muddle the architecture of the original building with elements that were added later in time. As a result, the design highlights the galvanized and painted steel structure of the canopy and exposes it. A simple steel post also operates as a water leader directing water from the roof to the landscape area within the ramp eliminating the visual clutter of additional downspouts and gutters on the façade.

4.2.4- Door Refurbishment

Due to the deterioration of the two wooden doors facing Queen Street, BSN was tasked with replacing them with wooden doors that match the appearance of the original wood doors that existed at those two locations before their removal. To design the new wooden doors, BSN will reference the historical images of the building in order to design doors that are as historically accurate as possible. The design team will work to match the trim styles and colors of the doors as a first step to set the tone for any future repair work on the building.

reference the historical images of the building in order to design doors that are as historically accurate as possible. The design team will work to match the trim styles and colors of the doors as a first step to set the tone for any future repair work on the building.



Left: Existing Wood Doors to be replaced



*Right: Historical image showing character defining elements which have since been removed (original door leaves). BSN's restoration work will focus on matching and/or recreating heritage elements where possible.
Image courtesy of Streetsville Historical Society*

4.2.5- Door Enlargement

As part of the client's commitment to making the heritage building more accessible, part of the project scope includes widening the north side (parking lot) door to accommodate new standards of accessibility as set out by the City of Mississauga Accessibility standards. BSN's approach will accommodate the larger size door while minimizing the impact on the heritage façade. The new hollow metal door will be painted dark charcoal to match the color of the canopy and incorporate glazed lite as well as stainless steel door hardware. Using a similar material language for both the door and the canopy will provide a strong contrast against the backdrop of heritage bricks and clearly display the extent of contemporary intervention on the building elevation.

4.2.6- Lighting

Due to the heritage value of the façade, the design team was directed to keep the heritage façade as pure as possible and avoid the installation of any light fixtures on the building face that can distract from the architecturally significant features on the building face.

BSN's approach to the addition of new light fixtures limits them to where they are most needed to light up the ramp and provide safe lighting levels at exterior egress pathways. Light fixtures will only be added at the North West side of the building and are recessed into the soffit along with anti-glare trims to make them as invisible as possible on the heritage façade. In addition, the light fixtures will include a tilting system as to provide a wall wash effect that accents the architectural features under the soffit.

As for the parking lot, BSN's strategy is to introduce a single light post at the edge of the parking lot to provide additional lighting to the ramp and the parking lot. BSN's design team selected a light post with a clean modern look to contrast with the heritage surroundings. This strategy is aligned with BSN's approach to the canopy and ramp design.



NEW RECESSED
FLUSH LINEAR SOFFIT
LIGHTS WITH WALL
WASHER OPTICS AND
ANTI GLARE SHEILD.

REMOVE
EXISTING LIGHT
FIXTURE

REMOVE
EXISTING LIGHT
FIXTURE

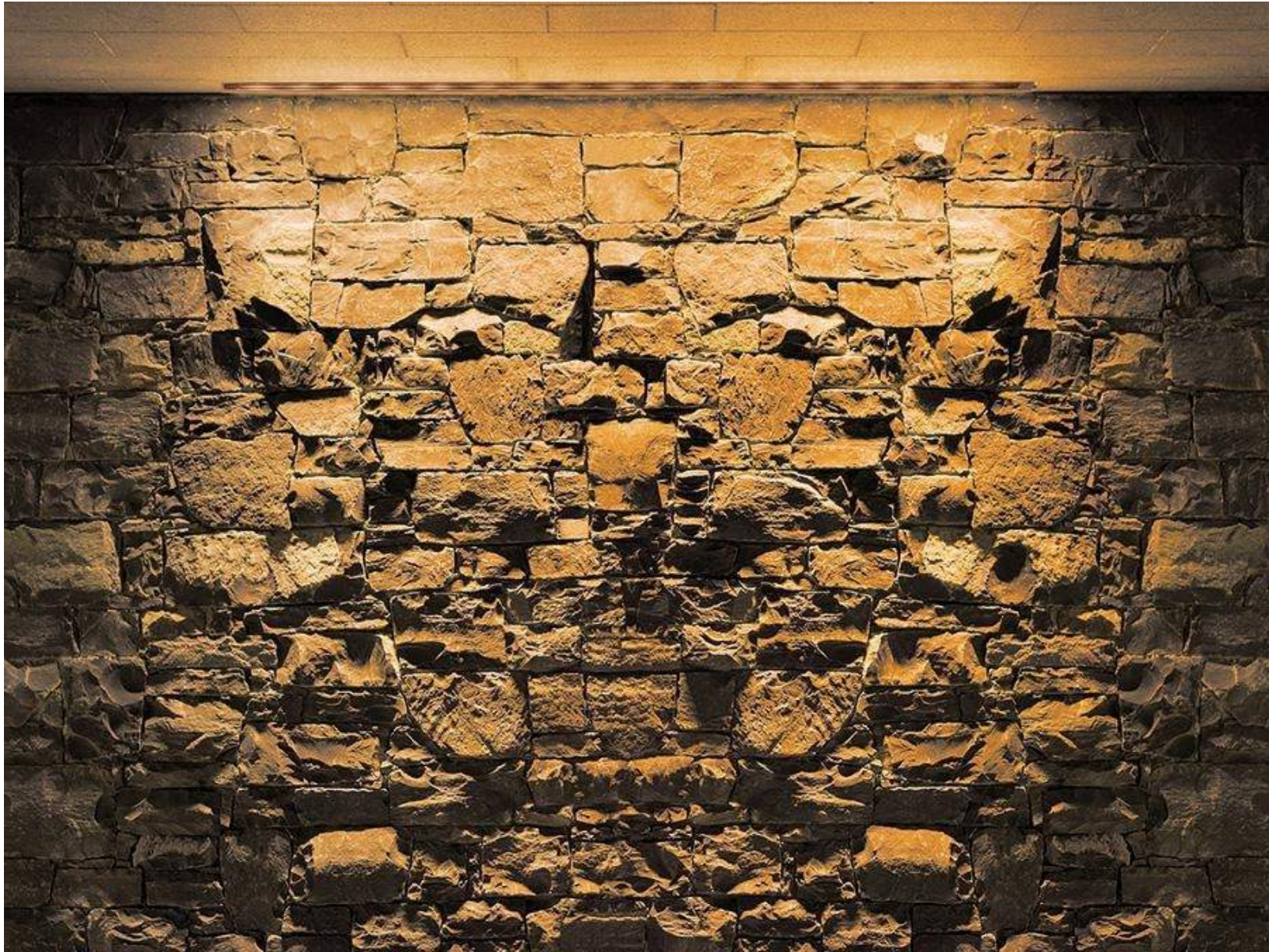
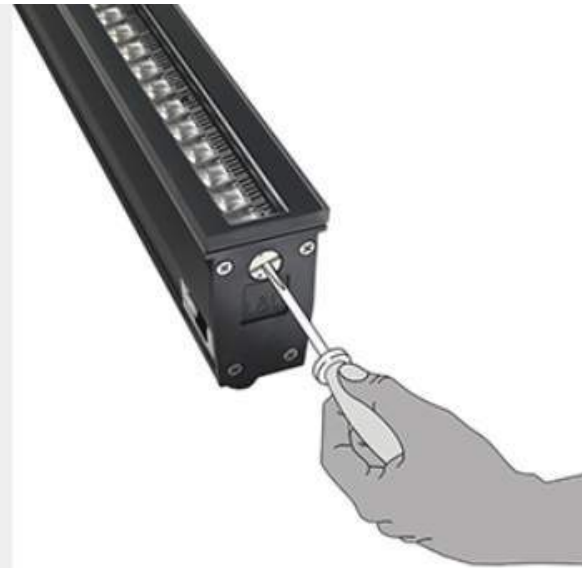


Photo of desired wall wash effect
at North West Entrance ramp

Tilting system inside the optical unit

The light direction can be altered by $\pm 20^\circ$ externally with a simple adjustment on the end caps, without compromising the fixture's IP65 or IP67 protection level.



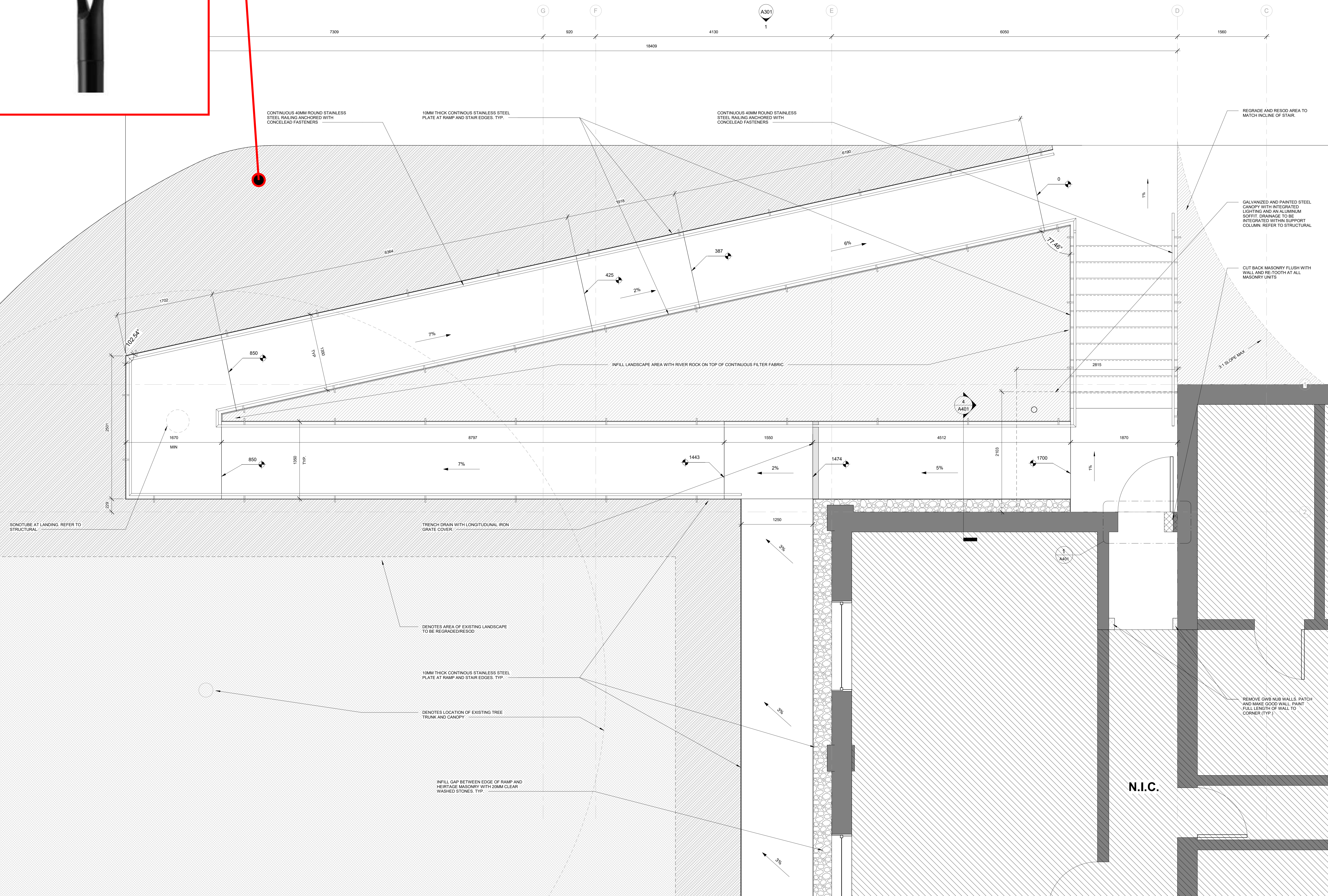
Anti-glare solutions

Recessed optics guarantee visual comfort. The honeycomb louvre or anti-glare shield, which can be ordered at the same time as the fixture, is mounted on the optical unit, so that the chosen option tilts together with the optics.

Light fixture in soffit to incorporate tilting system and anti glare solutions to reduce visibility of fixture



New modern light pole
fixture to light up edge
of ramp and parking lot



6.1
ALL DRAWINGS, SPECIFICATIONS, AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF THE ARCHITECT AND MUST BE RETURNED UPON REQUEST; REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN WHOLE OR IN PART WITHOUT THE ARCHITECT'S WRITTEN PERMISSION.

THE CONTRACTOR AND SUB-CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND DATA ON THE WORK AND REPORT ANY DISCREPANCY IN WRITING TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

THIS DRAWING SHALL NOT BE USED FOR ANY OTHER PROJECTS UNLESS SIGNED AND SEALED BY THE ARCHITECT AND MARKED "ISSUED FOR CONSTRUCTION".

NOTE:
LOCATIONS AND SIZES OF ANY AND ALL ACCESS PANELS, LIGHTS, SWITCHES, EXT. SIGNS, AND OTHER SUCH DEVICES MUST BE APPROVED BY ARCHITECT PRIOR TO ERECTION OF FRAMING. ALL SUCH DEVICES MUST BE SET INTO CONCRETE WALLS OR SLABS MUST SIMILARLY BE APPROVED BEFORE CONCRETE IS POURED.

LEGEND

No.	DATE	DESCRIPTION
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STREETSVILLE
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MISSISSAUGA, ONTARIO

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Toronto, Ontario
Canada M5V 1P9
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F. (416) 363-4029
mail@bsnarchitects.com

RAMP & VESTIBULE PLAN

SCALE:	1 : 25	A201
DRAWN:	Author	
CHECKED:	Checker	
DATE:	09/22/21	
NOB:	1507	

A201



Modern light pole fixture to contrast with heritage surroundings

6- Work Plan

Information regarding schedule and construction timelines can be found in the Work Plan developed by BSN architects as part of the RFP process and is attached in the appendices as part of this Heritage Management Conservation Plan.

7- Qualifications

7.1- Baird Sampson Neuert Architects

Baird Sampson Neuert architects have been active in the field of cultural heritage assessment, planning and conservation, since the founding of the firm by George Baird (OAA, CAHP) in 1972. BSN's experience includes the design and implementation of strategic interventions within important heritage contexts, alongside heritage inventory, impact assessment, and conservation of federal, provincial, and municipally designated buildings and notable modernist heritage. The firm's expertise includes heritage planning capabilities that extend from Heritage Conservation District wide studies, through to individual buildings and specific building details.

Notable studies completed by the firm include Kingston, Stratford, as well as studies and completed projects within designated heritage settings for Huronia Historical Parks, Ontario Parks and Parks Canada. BSN has provided master planning services for notable designed urban settings including the Cranbrook Educational Community in Bloomfield Hills Michigan which is listed on the National Registry. BSN has conducted and lead multidisciplinary project teams to undertake heritage reviews, inventories regarding new heritage designations under O,REG ### for notable sites including Oshawa's Windfield Farms. BSN's heritage consulting experience includes the comprehensive retrofit, upgrade and adaptive re-use of notable heritage buildings. Recent award-winning conservation projects include University of Toronto's Mining Building (1904, Francis R. Heakes) and FHBRO designated Engineering Research Building (1936) located within Ottawa's National Capital District, which was adaptively reused and redeveloped as the

Canadian Agriculture and Food Museum which received the Ottawa Architectural Conservation Award , and Canadian National Trust Cornerstone Award.

Current work includes accessibility upgrades to UofT's 1917 heritage designated Hart House, and includes the preparation of Heritage Impact Statement(s) for construction of new accessible entry/ramp to notable designated heritage building. Ongoing work at Allan Gardens Conservatory in Toronto (designated heritage building and landscape) included the preparation of a 10-year Restoration Master Plan, and the design of additions to the facility which were subject to HIA impact assessment and approvals and are under construction. Other current experience includes that adaptive reuse of the 1879 City of Guelph Pump House for administrative use by the City, which involve extensive repair and conservations of the heritage masonry facade, roof replacement, complete interior demolition of non-heritage construction, as well as introducing new /advanced mechanical and electrical systems. Other experience includes University of Toronto Hart House's 'Green Heritage Renewal' (1917, Henry Sproat), which includes an update and expansion of the building's designated heritage features and interior spaces, comprehensive sustainability upgrades, Heritage Impact Assessment work, and IT infrastructure upgrades. Other current experience includes accessibility upgrades for visitor services at two important cultural landscapes including Toronto's Riverdale Farm and Cape Spear National Historic Site in Newfoundland. All three projects include building condition assessments, state of good repair restorations, and accessibility upgrades.

Jon Neuert's Heritage Experience:

F.M Waterworks – Adaptive reuse, woodwork and masonry conservation of designated heritage 1879 Guelph Pump House (role - partner in-charge).

Sustainability Lab - Additions to University of Toronto's 1949 Wallberg Building for reinforce urban gateway to inner campus (role - partner in-charge).

Allan Gardens Visioning Study - Site and Facility Expansion Plan for the designated heritage conservatory complex as a multiuse community education centre (role - partner in-charge).

Hart House Accessibility Upgrades – Design and construction of new exterior ramp to designated 1917 building including HIA reporting to City of Toronto (role - partner in-charge with George Baird as heritage advisor).

Cape Spear National Park – Design and construction of new visitor service facilities and accessibility alterations to existing buildings within federally designated cultural landscape, St. John's Newfoundland (role - partner in-charge).

Scarborough College Science Wing University of Toronto - Envelope conservation and upgrades to notable modernist landmark building designed in 1964 by John Andrews (role - partner in-charge).

Hart House / University of Toronto- Design and implementation of IT systems upgrades within designed heritage interiors (role - partner in-charge).

Ryerson Media Museum – Feasibility Study for the adaptive reuse and masonry conservatory of a designated 1880's structure for re-use as a public museum /Class A display and conservation environment for a notable TV collection (role - partner in-charge).

Windfields Farm/ Ontario Tech University - Feasibility, Physical Inventory, Heritage Designation and Adaptive Reuse Options Study of notable horse breeding farm operated by EP Taylor (role - partner in-charge with Heritage Designation/ advisory role from ASI/ Bray Heritage).

Museum London – Interior alterations and envelope alterations to heritage designated modernist building (role – design partner in charge in JV with NSA architects).

Meeting House McMichael Art Collection - Adaptive reuse and additions to log building located within designed HCD and part of the initial McMichael Estate (role - partner in-charge).

Green Heritage Renewal Study Hart House/ University of Toronto Feasibility Study outlining phased renewal/ upgrades of aged building infrastructure using detailed energy modeling included Heritage Significance Statement updates to include additional interior spaces (role - partner in-charge collaborating with William Greer and George Baird).

Allan Gardens Addition/ Adaptive Reuse and Conservation of designated heritage Administration Building, including HIA. City of Toronto (role - partner in-charge).

Creative Learning Centre-McMichael Canadian Art Collection – Concept planning to extend art appreciation and place making

Kawartha Heritage Conservation District Study - Provision of HCD Design Guidelines to supplement Study findings (role -sub consultant to Bray Heritage).

HMS Tecumseth Centre- Huronia Historical Parks – Additions and Alterations to existing visitor centre located within a designated cultural heritage landscape (role - partner in-charge).

Pelham Heritage Master Plan - Sub consultant role responsible for the assessment of design / visitation potential of landmark vista of cultural heritage significance (role -sub consultant to Bray Heritage).

Conservation Guidance for Homeowner's City of Kingston, An appendix to a larger report, containing technical reference material to assist with maintenance practices for heritage masonry, windows and siding (role subconsultant to Brae Heritage).

Canada Agriculture and Food Museum Central Experimental Farm, Ottawa, Adaptive Reuse of the 1936 FHBRO designated Engineering Building #94 located with the National Capital District (role – design partner in charge in JV with GRC Architects, with HIA prepared by Bray Heritage).

Heritage Awards:

National Trust for Canada's Ecclesiastical Insurance Cornerstone Award.

City of Ottawa - Architectural Conservation Award of Excellence for Rehabilitation

Fort York Visitor Centre Competition - Invitational Design competition for landmark heritage site – City of Toronto (role –collaborating design principal)

Scottsdale Farm, Ontario Heritage Foundation - Adaptive Reuse of designed barn as a seasonal music and performance venue,, previous work of Eric Arthur (role collaborative design partner).

Heritage Conservation District Study, Orillia - Provision of HCD Design Guidelines to supplement study recommendations (role -sub consultant to Bray Heritage).

Miller Lash Estate, University of Toronto at Scarborough – Site planning guidelines to facility multi-use operations as a wedding and conference venue. (Role – partner in charge).

Sainte Marie among the Hurons, Huronia Historical Parks - Facility Programming and Concept Planning for visitor services (role - collaborative design partner).

Cornell Botanic Garden Welcome Center, Cornell University - Site Planning and Facility Design within designated heritage conservation district / cultural heritage landscape (role - partner in-charge).

Lassonde Mining Building, University of Toronto - Adaptive Re-use of vacant attic space, addition and conservation of masonry, metal cornice/ gutters, slate roofing of 1905 designated heritage building. (Role – partner in charge with William Greer as heritage advisor).

Heritage Awards: Heritage Toronto Honorable Mention Award.

Champlain College, Trent University - Upgrades and conservation to notable 1967 modernist masterpiece building designed by Ron Thom (role – collaborating principal).

French River Visitor Centre, Ontario Parks- Design and construction of a new Visitor Center is Canada's first designated Heritage River and exhibition design within a designate heritage landscape (role – partner in charge).

Allan Gardens Building Condition Audit & Restoration Master Plan - Comprehensive renewal and conservation and 10 year upgrade plan of designated heritage conservatory complex role – Partner in charge).

Walmer Centre – Interior renovations and accessibility upgrades to 1899 designated heritage church designed by Langley and Burke (role – project co-director).

Scarborough College Science Wing University of Toronto – Rooftop addition to support central plant upgrades to notable modernist landmark building designed in 1963 by John Andrews (role - partner in-charge).

7.2- Read Jones Christoffersen Structural Engineering & Heritage Building Envelope

RJC has been actively involved in the practice of structural engineering, structural restoration, and building envelope design for 70 years. The firm's principal discipline is in structural engineering and restoration of buildings. Today, RJC's Building Science and Restoration Groups consist of over 180 professional and support staff, including industry-leading technical personnel. The Toronto, Kitchener, Kingston, and Ottawa offices combined have over 175 staff, of which approximately 52 are part of the Building Science and Restoration (BSR) Team. RJC has hands-on experience on Kinsmen Hall Building.

Other Relevant Projects:

- 29 Waterworks Place, Guelph - Heritage Renovations
- Church of the Holy Trinity, Toronto - Building Envelope & Structural Rehabilitations
- St Brigid's Church, Toronto - Roofing System Replacement & Stone Wall Masonry Restoration

8- Appendices

- Kinsmen Hall Building Envelope Cladding Evaluation (RJC)
- Work Plan (BSN)

Kinsmen Hall Building Envelope Cladding Evaluation

321 Queen Street South
Mississauga, Ontario

October 24, 2018

RJC No. TOR.121642.0001



Prepared for:

Mississauga Community Housing Corporation
931 Yonge Street
Mississauga ON M4W 2H2

Prepared by:

Read Jones Christoffersen Ltd.
100 University Avenue, North Tower, Suite 400
Toronto ON M5J 1V6



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APPENDIX A: Photographs

APPENDIX B: Figures



EXECUTIVE SUMMARY

Read Jones Christoffersen Ltd. (RJC) was engaged by The City of Mississauga to conduct a building envelope evaluation at the building located at 321 Queen Street South, Mississauga, Ontario. The focus of the evaluation is the cladding with review of other elements only as they relate to the cladding performance.

The building at 321 Queen Street South is a one story multi-use heritage designated building originally constructed in 1851. The west addition including the landmark tower was added in 1877. The original construction was reported to be Peel's first secondary school from 1851-1877 and a town hall from 1966-1974. The exterior walls are generally of mass masonry construction on a rubble wall foundation in the sloped roof areas (original building and west addition), and a concrete block foundation in the low slope area (south addition). The glazing at the building is single hung single glazed windows in wood frames with exterior storm windows in aluminum frames. Stone arches are present at the west most building section, and steel lintels are present throughout the rest of the building. The roofing system appears to be a combination of a sloped roof system with standard asphalt shingles and a newer low slope roof at the south-east end of the building.

Based on the visual review of the exterior from grade, review of interiors, and review of the available design drawings, the cladding system appears to be exhibiting signs of age and exposure related deterioration in the forms of localized deteriorated brick and mortar joints, deteriorated rubble wall mortar, soffit deterioration, grading issues, and cracked glass. The cladding deterioration allows increased moisture infiltration into the wall system which then contributes to ongoing deterioration at an accelerated rate.

Based on the findings of this report, we recommend that a rehabilitation program be undertaken to address the observed cladding deterioration.

Our opinion of probable cost of repairs and rehabilitation is as follows:

Item	Description	Opinion of Probable Cost
5.1	Masonry rehabilitation – Years 1-2	\$460,000.00
5.2	Window and Door Refurbishment – Years 3-5	\$115,000.00



1.0 INTRODUCTION

Read Jones Christoffersen Ltd. (RJC) was engaged by The City of Mississauga to conduct a building envelope cladding evaluation at the building located at 321 Queen Street South, Mississauga, Ontario. The focus of the evaluation is the cladding with review of other elements only as they relate to the cladding performance.

A brief description of the scope of the review undertaken by RJC is as follows:

- .1 Review cladding areas complete with existing condition assessment of the building envelope with a focus on the areas with noticeable cladding deterioration.
- .2 Detailed review of the available original architectural drawings to identify and document the various envelope details and design concepts around the building.
- .3 Visual review of the exterior envelope from the ground to identify the location of current visually obvious distress.
- .4 Review window treatments and grading conditions to understand the cause of the deterioration. Provide recommendations for regrading if/where necessary.
- .5 Review of the existing building envelope and wall condition assemblies and include detailed solutions for improvement to the condition at all elevations and to clearly identify priority locations.
- .6 Air/Weather Barrier – Review the exterior air / weather barrier and weeping / dripping capabilities of the wall assemblies.
- .7 Building thermography (Thermal Scanning) performance, etc. through visual means.
- .8 Preparation of key plan drawings clearly identifying priority locations and capturing the condition of existing assemblies and locations of all areas requiring repairs or replacement.
- .9 The report focussed, as requested, on areas of severe mortar deteriorations at masonry joints, particularly along the North, North West and Southwest of the building on the ground floor.

The date and weather condition at the time of our visit was as follows:

Interior and Exterior Visual Review:	July 19, 2018	Sunny, 28°C
Exterior Review and Exploratory Openings:	July 31, 2018	Sunny, 27°C

Rehanna Devraj-Kizuk, EIT, performed RJC's exterior and interior visual reviews.



This report was prepared in accordance with generally accepted engineering practices. No other warranties, either expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report.

Services performed and outlined in this report were based, in part, upon visual observations of the site and attendant structures. Our opinion cannot be extended to portions of the building that were not reviewed by RJC.

This report is exclusively for the use and benefit of the client identified on the first page of this report and is not for the use and benefit of, nor may it be relied upon by, any other person or entity. The contents of this report may not be quoted in whole or in part or distributed to any persons or entity other than the client.



2.0 BACKGROUND

2.1 Site Description

The building at 321 Queen Street South is located in the city of Mississauga and is situated on the east side of Queen Street South, south of Beech Street in a residential neighbourhood. The building is north-west of the closest major intersection of Queen Street South and Main Street. There are residential properties to the north, east, west, and south (*Refer to Photo 1 in Appendix A*).

2.2 Building Description

.1 Building Envelope System Description

The building at 321 Queen Street South is a one story multi-use heritage designated building originally constructed in 1851. The west addition including the landmark tower was added in 1877. The original construction was reported to be Peel's first secondary school from 1851-1877 and a town hall from 1966-1974. The building has also functioned as a police station and a jail. The building is currently used as a senior centre, church, and event space. The building appears to have three separate generations of construction, the eldest being the sloped roof section at the north-east end of the building (#1 in the above photo). The exterior walls are generally of mass masonry construction on a rubble wall foundation in the sloped roof areas (original building (#1) and west addition (#2)), and a concrete block foundation in the low slope area (south addition (#3)). The glazing at the building is single hung single glazed windows in wood frames with exterior storm windows in aluminum frames. Stone arches are present at the west most building section. The roofing system appears to be a combination of a sloped roof system with standard asphalt shingles and a low slope roof at the south-east end of the building.



The building is generally made up of two rectangles in plan, the west one oriented north/south and the east one oriented east/west, and is approximately 31 meters long by 18 meters wide. The building main entrance is located at the west side of the building.

Based on the City of Mississauga website, the property is identified as Designated under the terms of the Ontario Heritage Act.

(*Refer to Photos 2 through 5 in Appendix A for overview photos of the building.*)



2.3 Document Review

The following building construction drawings were available for review:

- .1 Partial Scans of Architectural Drawings (22 sheets) collected by the City of Mississauga with dates ranging from 1977-90

These drawings were used to gain a general understanding of the property, building orientation and building cladding systems. The drawings show the construction and repairs to the concrete access ramp present at the east and north elevations of the building. The drawings indicate that the ramp was installed in 1979 along with a wood pergola not currently present, and fire separation work was conducted in 1993.

- .2 WO Summary Report Lean 2017 – Maintenance Records distributed by the City of Mississauga

The following information was obtained from these records:

1. A flat roof replacement was conducted by T. Hamilton & Sons Roofing Inc. in October 2016 including installation of 2 new downspouts, new eaves trough and new fascia board.
2. Patch repairs to the access ramp were conducted in November 2017.
3. Four visits were made by Triumph Roofing and Sheet Metal Ltd for localized repairs to the sloped roofing areas since May 2018.

2.4 Interview

An interview with Mr. Wayne Hall, a longterm employee with the City of Mississauga who has been at Kinsmen Hall since February 2018. Maintenance Records for Kinsmen Hall from 2017-18 were reviewed; however, no prior history was available for inclusion in this report.

- .1 The building was reported to be used primarily as a senior's centre, church, and occasional rented event space.
- .2 A handful of active roof leak locations were reported throughout the building. Animal based debris from the attic space was reported to penetrate the ceiling tiles in the occasion of active leaks. A roofing company was reported to have made 3 to 4 visits since February. No cladding leaks were reported. The extent of any repairs made is unknown.
- .3 It was reported that the chimney was rebuilt at the upper levels recently, including replacement of the flat roof in 2016, and repairs to the sloped roof areas in 2006 and 2018.
- .4 The access ramp slabs at the east elevation of the building were reported to have been lifted within the past year with an expanding foam system.



3.0 OBSERVATIONS

This section summarizes the observations from the non-destructive visual reviews of the cladding systems from the interior and exterior, and the thermographic scan of the exterior walls. Refer to Figures 2 and 3 in Appendix B for a summary of observation locations.

3.1 Exterior Visual Review

The building was visually reviewed from grade to assess the general condition of the cladding systems including visible signs of deterioration. The following observations were identified during the exterior visual review.

- .1 In general, localized cladding deterioration in the forms of deteriorated brick (i.e. spalled bricks, cracked bricks), efflorescence, deteriorated mortar, deteriorated soffits, cracked glass, and grading issues were observed around the building. Masonry deterioration is most pronounced at the north elevation of the original building.
- .2 Deterioration of the masonry brick and mortar joints was particularly concentrated at the ground level of the north and east elevations of the central (original) building construction adjacent the ramp and walkways. More localized deterioration was also observed at the ground level of the west elevation, around window sills, and underneath the bell tower sills. The brick masonry at the south addition was observed to be in generally fair condition with little to no masonry deterioration with the exception of the west stairwell (*Refer to Photos 6-9 in Appendix A*).
- .3 Brick and moisture deterioration as well as white staining (efflorescence) was observed to be concentrated approximately 12 inches above grade level at the north and east elevations (*Refer to Photo 10 in Appendix A*).
- .4 The exterior face of the brick masonry at the north and east elevation was observed to have a rough texture that appeared to be the result of a previous sandblasting program, that has weakened the brick masonry (*Refer to Photo 11 in Appendix A*).
- .5 The masonry walls appear to be undrained. No weep holes or vents were observed.
- .6 The north-east corner pilaster was observed to be bowing at the center of the column, and was displaced approximately 1"-2" in primarily the eastern direction. A step crack was observed to run through the column at mid-height on the north and east face, and continued through the adjacent masonry wall on the east elevation. Signs of previous repointing were observed at the column and appeared to be re-cracked since the repointing was completed. Other areas of repointing to the west (north elevation) were not showing signs of re-cracking. The location is immediately adjacent to the access ramp which is also showing some cracking



and signs of water washing deterioration in the area of the pilaster (*Refer to Photos 12 and 13 in Appendix A and Figures 3 and 4 in Appendix B*).

- .7 A rain water leader was observed to be present next to the north-east corner pilaster at the north elevation and appeared to feed into and underneath the access ramp and drains onto the grass (not connected to the sewer system) (*Refer to Photo 14 in Appendix A*).
- .8 Localized areas of soffit deterioration were observed around the building, particularly at the north and west elevations (*Refer to Photo 15 in Appendix A*).
- .9 The northern brick masonry low landscaping wall at the west elevation main entrance was observed to be displaced. The wall appears to be of newer construction (*Refer to Photo 16 in Appendix A*).
- .10 The chimney at the north west end of the building appears to have been replaced above the roof line and appears to be in fair condition.
- .11 The property was reviewed for grading issues with the use of a level at a sample of areas. An area of potential negative sloping was identified at the west end of the south elevation next to a basement window which was covered with plywood. A leaky water tap was observed in this area and appeared to be depositing water into a low point against the rubble foundation wall (*Refer to Photo 17 in Appendix A*).
- .12 An area of efflorescence was observed at the brick masonry on the south elevation at the east end of the main hall (*Refer to Photo 18 in Appendix A*).
- .13 The glazing at the building was observed to be single pane single hung windows in wood frames, and appeared to be of the original building construction. Arches were observed at the window head at the western building construction (west addition). Exterior storm windows in aluminum frames are present at the majority of the windows. The operables did not appear to be functioning and the windows were observed to be sealed shut and painted over. The windows appeared to be in fair condition and were observed to have mild paint peeling and deterioration consistent with their age and exposure (*Refer to Photo 19 in Appendix A*).
- .14 Cracked glass panes were observed at the south elevation at the main hall and the mens washroom, as well as at the northern bell tower for a total of 3 panes (*Refer to Photo 20 in Appendix A*).
- .15 An accessible ramp and walkway was observed on the northeast elevations of the building serving the original building and the southern addition. Concrete cracking and spalling was observed at the ramp (*Refer to Photo 21 in Appendix A*).



3.2 Interior Visual Review

The ground floor and the basement were accessed to review the condition of the cladding systems from the interior side. The following general observations were observed as part of the review:

Ground Floor

- .1 In general, the interiors are finished with plaster or gypsum board with paint finish and suspended ceiling tiles. The flooring finishes were typically a vinyl tile. In general, baseboard heaters were located below all of the windows.
- .2 Stained ceiling tiles were observed in nine separate locations throughout the building, with the majority concentrating in the main hall, the women's washroom, the northern kitchen, and the southern kitchenette. It was reported that the majority of these leaks appeared to be active and related to roof leaks beyond the scope of the review. Staining and damaged floor tile was also observed at the floor level in the main hall (west addition) and was reported to be from a previous leak addressed prior to the 2018 takeover by the City of Mississauga (*Refer to Photos 22 and 23 in Appendix A*).
- .3 Paint peeling was observed in jail cell 1 and a large horizontal crack was observed on the interior wall in between jail cells 1 and 2 (*Refer to Photo 24 in Appendix A*).

Basement Floor

- .1 The foundation walls were visually reviewed from the interior. The west and north building constructions were observed to have rubble foundation walls and the newer addition at the south east elevation was observed to have concrete masonry unit foundation walls. Some areas have full height basement while others are unexcavated and have a dirt floor crawl space (*Refer to figure 2 in Appendix B*). As such, some walls were visible for review while others were not (*Refer to Photo 25 and 26 in Appendix A*).
- .2 The rubble foundation walls at the northern end of the building (*Refer to Figure 3 in Appendix B*) were observed to be exhibiting signs of deterioration in the forms of washed out lime based mortar and moisture staining at the floor level (*Refer to Photo 27 in Appendix A*).
- .3 The floor in the south kitchenette was observed to be bowing below the sink. The area was reviewed from the basement below and appeared to be displaced approximately 2-3 inches. Two vertical cracks were observed in the rubble foundation wall below the location (*Refer to Photo 28 in Appendix A*).



3.3 Thermographic Scan

RJC performed a thermographic scan of the exterior cladding at the perimeter of the building to identify any signs of potential moisture or air leaks in the exterior cladding and document the extent of visually obvious deterioration. As the building is uninsulated the temperature ranges shown at the exterior walls are consistent with a building of its age and construction. The thermographic scan did not note any unexpected sources of moisture infiltration or air leakage, however, it should be noted that the scan was not performed during ideal temperature ranges to identify cladding issues. It is recommended that building cladding thermographic scanning be completed with a temperature differential of 20°C between the interior and exterior. It is recommended that thermographic scanning be performed during the winter months for the most accurate readings (*Refer to Photos 29-32 in Appendix A*).



5.0 CONCLUSION/DISCUSSION

Based on the visual review of the exterior from grade, review of interiors, and review of the available design drawings, the cladding system appears to be exhibiting signs of age and exposure related deterioration in the forms of localized deteriorated brick and mortar joints, deteriorated rubble wall mortar, soffit deterioration, grading issues, and cracked glass. The cladding deterioration provides a pathway for increased moisture infiltration into the wall system which then contributes to ongoing deterioration at an accelerated rate.

The primary exterior cladding system at the one storey building is clay brick masonry. The masonry has a “mass wall” moisture management system which means that it depends on absorption and drying to manage incident moisture, rather than drainage through weep holes or vents. In this type of design, the majority of water is intended to be shed at the outer surface of the wall, and any moisture entering into the wall system is removed by drying or diffusion to the exterior or interior.

In low-rise conditions in the local climate, “mass” wall systems have had a fair record of performance in regards to water penetration depending on original construction materials, detailing, and ongoing maintenance. The overall level of masonry deterioration at the building appears to be consistent in relation to the building age, exposure level, materials, and details of the building. If deteriorated mortar and brick are not repaired, the adjacent masonry will be more likely to experience higher levels of saturation resulting in increased levels of freeze thaw deterioration.

The surface of the north and east elevations of the exterior brick masonry at the original building was observed to have undergone previous sandblasting. Sandblasting involves close-range spraying of an abrasive material such as sand at high pressures onto the exterior walls in order to remove paint or staining from the material. The traditional process of creating the building original bricks resulted in much softer and less consistent bricks than current processes. The abrasion of the sand often erodes the protective surface of the brick and mortar, exposing the softer inner portion of the brick, which is more susceptible to exposure and freeze-thaw related deterioration.

The pattern of exterior masonry deterioration at the north and east elevations shows white staining (efflorescence) approximately 12 inches above grade level. This indicates that mineral salts are being transported from the soil or the adjacent ramp into the brick by capillary action, depositing the salts on the surface of brick resulting in surface spalling of the exterior face of the masonry. The build up of the snow and salt from the adjacent walkway at the base of the masonry wall is resulting in increased spalling and efflorescence which is further exacerbated by previous sandblasting.

There are generally two available rehabilitation approaches to address deterioration in mass wall systems in heritage buildings:

- .1 Reinstall the original design
- .2 Reinstall and Improve the original design



The original design can be reinstated through repointing and brick replacement. The original design can also be improved with the installation of a metal flashing or a sacrificial layer at grade, which would assist in the prevention of further deterioration to the mass masonry walls and protect the walls from snow and salt from the adjacent ramp.

The rubble wall foundations were observed to be exhibiting signs of moisture infiltration at the western end of the south wall (west addition) where accessible, in the forms of moisture staining, cracking, and washed out lime mortar. The presence of apparent grading issues at the south elevation and a leaky water tap may be contributing to moisture infiltration at this location.

The northeast corner pilaster is exhibiting cracking and movement, and step cracking was observed to be passing through the pilaster and the brick masonry adjacent to it on either side. The grade level at the east end of the building is approximately 3' higher than the adjacent lower ramp section, and about 5' above the parking lot to the east. The soil around the northeast pilaster is confined by the retaining wall that is part of the accessible ramp installed in the 1970's. The ramp is also showing signs of deterioration and the slabs were reportedly recently raised as they had sunken from original construction. This indicates that movement of the below grade soil has taken place that may be related to moisture issues in the soil, particularly as the roof is drained into the area. Moisture deterioration of the below grade portion of the pilaster (washing out of mortar) is expected as it is present elsewhere at the building foundations. It appears that moisture deterioration of the pilaster foundation and movement in the soil adjacent the pilaster foundation are contributing causes of the observed cracking and movement.

The existing glazing systems appear to be in generally fair condition however, they are exhibiting localized forms of deterioration such as paint peeling, cracked glass, and our understanding is the windows remain inoperable. Recommendations have been included to address these issues as well as for a general refurbishment and preservation of the original design of the windows.

The sloped and low-slope roofs, the west elevation tower and mansard roof, and the interior attic spaces were not accessed as they were not within the scope of the review, however, signs of moisture infiltration at the ceiling level were present and potential pest presence in the attic was reported.



6.0 RECOMMENDATIONS & OPINION OF PROBABLE COST

Based on the findings of this report, we recommend that a rehabilitation program to address the localized masonry deterioration identified and reinstate the integrity of the building envelope for the years 1-2, and within years 3-5.

A contingency amount of 10% should be included in all construction budgets to allow for the following items:

- Variation in estimated prices due to competitive bidding.
- Additional work required due to hidden and/or unforeseen conditions uncovered during construction.

Please note that the options regarding the probably cost of repairs are in 2018 dollars and based upon the present extent of deterioration, historical unit prices from similar projects and conceptual repair strategies. Detailing of the various items for each design concept has not been fully developed, nor have phasing or implementation schemes been selected. Probable costs do not include "soft costs"¹, security, merchandise relocation, abatement, extended warranties, permits, H.S.T. or engineering fees. No allowance has been made for escalation beyond this time due to unknown construction commencement. The opinions of probable costs should be considered Class "D" amounts².

¹ "Soft Costs" are defined as building operational and indirect costs associated with each option. Operational costs include thermal performance and energy consumption costs. Indirect costs include costs incurred by the Owner as a result of the construction (administration, potential tenant issues, security, etc...).

² Class "D" probable costs – a statement of general requirements and an outline of a solution. An order of magnitude opinion (degree of accuracy 25% - 50%).



.1 Rehabilitation Program – Years 1-2

Description of Work:	
<p>Above Grade</p> <ul style="list-style-type: none"> ▪ Localized exterior masonry repairs (concentrating at the north elevation) including brick replacement and mortar repointing. Deep repointing of masonry to use heritage grade mortar. ▪ Rebuilding of the northern landscape masonry wall at west entrance including new masonry and heritage mortar. ▪ Localized cracked glass replacement. ▪ Localized soffit repairs including replacement of soffit boards at areas of deterioration. ▪ South elevation water tap replacement ▪ Pest containment interior repairs at west tower including interior review and remedial work to interior finishes. <p>Below Grade</p> <ul style="list-style-type: none"> ▪ South elevation exterior excavation, waterproofing of rubble foundation wall, installation of drainage board and regrading to ensure positive drainage away from the building. Includes infill of south basement window with new masonry and heritage mortar to accommodate new grade height. ▪ North east corner pilaster - Exterior excavation (assumed approximately 12' by 6' of flat land surface) and investigation of pilaster foundation including localized ramp removal, installation of temporary shoring, underpinning of pilaster in stages, regrouting of rubble wall and waterproofing, installation of drainage board, rerouting of the roof level drainage leaders, and reinstatement of ramp 6' in each direction from the pilaster. ▪ Repair of the interior rubble foundation wall at south elevation locations where it separates full basement areas from the exterior including heritage grout injection, repointing, and parging at full height of interior rubble wall. 	
Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ Reinstates integrity of masonry system ▪ Rehabilitation of deteriorated cladding elements and prevention of further deterioration. ▪ Reinstatement of the integrity of the moisture management system. ▪ Materials consistent with the heritage aspects of the building. 	<ul style="list-style-type: none"> ▪ Work cannot be completed in winter (masonry and backfilling) ▪ Long schedule ▪ Interior disruption at pilaster ▪ Exterior building aesthetics impacted during construction
Discussion:	
<p>In our opinion, this option provides a long-term improvement to the cladding moisture management system at the areas of the masonry deterioration and provides necessary masonry and rubble wall repairs around the building. The work at the northeast pilaster will result in the excavation and replacement of a portion of the accessible ramp. It may be considered to replace the whole ramp as part of the work to avoid a patchwork appearance. Cost for the full replacement has not been included.</p> <p>As the building is a designated Heritage building, Heritage approvals for repair work must be obtained</p>	



along with the building permit during the design phase.	
The below costs do not include for abatement testing, and a full project specific designated substances report is recommended for the building to identify potential substances such as lead or PCBs.	
The amounts below include for 20% mobilization costs, 10% contingency, and 10% engineering and consulting fees.	
Implementation:	
Implementation of this approach would be recommended in the short term (1-2 Years).	
Probable Construction Cost:	\$460,000.00

.2 Rehabilitation Program – Years 3-5

Description of Work:	
<ul style="list-style-type: none"> ▪ Wholesale refurbishment of heritage wood frame windows from interior and exterior including sanding, painting and restoration of operable balance hardware including opening and repair of interior finishes. ▪ Installation of new aluminum storm windows from the exterior to follow the curvature of the stone arches at the window head. ▪ Wholesale refurbishment of wood doors including sanding, painting and maintenance of hardware. 	
Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ Restores the original design aesthetic of the heritage building. ▪ Maintains existing function of heritage windows and doors. 	<ul style="list-style-type: none"> ▪ Work cannot be completed in winter (masonry) ▪ Interior finish work may be required at window perimeters
Discussion:	
<p>In our opinion, this option provides a long-term improvement to the window systems and provides necessary repairs. This option also restores the original design intent of the heritage hung wood framed windows.</p> <p>The windows at the building were observed to be wood framed heritage single hung windows, and require maintenance to restore their original operable use and extend their effective service life. As the windows are heritage, certain restrictions may be imposed in regards to altering the aesthetics of the windows. The existing abandoned wood swing doors at the west elevation may require heritage restoration not included in the scope of this recommendation.</p> <p>The amounts below include for 20% mobilization costs, 10% contingency, and 10% engineering and consulting fees.</p>	
Implementation:	
Implementation of this approach would be recommended in the medium term (3-5 Years).	
Probable Construction Cost:	\$115,000

**.3 Opinion of Probable Cost Breakdown**

Rehabilitation Program Years 1-2				
Item	Description	Quantity	Units	Opinion of Probable Cost
Above Grade				
1.1	Localized exterior masonry repairs including brick replacement and mortar repointing.	2500, 1000	bricks, ln. ft	\$ 90,000.00
1.2	Rebuilding of the northern landscape masonry wall at west entrance	500	bricks	\$ 15,000.00
1.3	Localized cracked glass replacement	allowance		\$ 8,000.00
1.4	Localized soffit repairs	allowance		\$ 6,200.00
1.5	South elevation water tap replacement	allowance		\$ 1,000.00
1.6	Pest containment repairs at west tower	allowance		\$ 5,000.00
Below Grade				
2.1	South elevation exterior excavation, waterproofing of rubble foundation wall, and regrading.	120	sq. ft	\$ 30,600.00
2.2	North east corner pilaster - Exterior excavation and investigation of pilaster foundation including ramp removal and temporary supports	90	sq. ft	\$ 25,500.00
2.3	North east corner pilaster - Underpinning of pilaster and reinstate ramp at north east corner pilaster	50	sq. ft	\$ 25,000.00
2.4	Regrouting of rubble foundation wall from interior - grout injection, repointing, parging.	600	sq. ft	\$ 102,000.00
2.5	Regrading			\$ 18,000.00
	Sub-Total			\$ 327,000.00
	Mobilization (20%)			\$ 66,000.00
	Contingency (10%)			\$ 33,000.00
	Consultant and Engineering (10%)			\$ 33,000.00
	Total			\$ 460,000.00

Rehabilitation Program Years 3-5				
Item	Description	Quantity	Units	Opinion of Probable Cost
3.1	Wholesale refurbishment of wood frame windows including painting and restoration of operable balance hardware.	22	units	\$ 60,800.00



3.2	Wholesale refurbishment of wood doors.	7	units	\$ 21,000.00
	Sub-Total			\$ 81,800.00
	Mobilization (20%)			\$ 16,400.00
	Contingency (10%)			\$ 8,200.00
	Consultant and Engineering (10%)			\$ 8,200.00
	Total			\$ 115,000.00

A summary of our opinion of probable cost of repairs and rehabilitation is as follows:

Item	Description	Opinion of Probable Cost
5.1	Masonry rehabilitation – Years 1-2	\$460,000.00
5.2	Window and Door Refurbishment – Years 3-5	\$115,000.00



7.0 CLOSING COMMENTS

Thank you for selecting Read Jones Christoffersen Ltd. for this project. RJC would be pleased to assist you with the implementation of our recommendations. Should you have any questions or concerns, please do not hesitate to contact this office.

This report prepared by:

READ JONES CHRISTOFFERSEN LTD.

Rehanna Devraj-Kizuk, BAsC., EIT
Engineering Intern
Building Science and Restoration



Reviewed by:

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Reviewed by:

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Principal
Building Science and Restoration

Appendix A – Photographs

Appendix B – Figures



Appendix A

Photographs



Photo # 1: Overview of site at 321 Queen Street South , Mississauga, ON (red line).



Photo # 2: Overview of the south elevation of the building.



Photo # 3: Overview of the east elevation of the building.



Photo # 4: Overview of the north elevation of the building.



Photo # 5: Overview of the west elevation of the building.

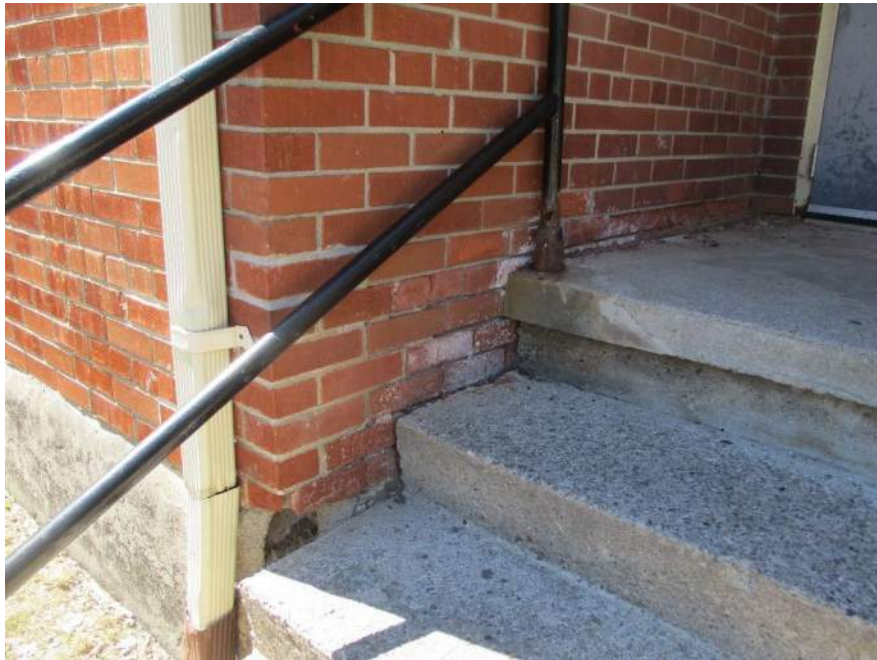


Photo # 6: Typical Masonry Brick and mortar deterioration at the eastern staircase.



Photo # 7: Overview of spalling brick and efflorescence at the north elevation (original building, facing west).

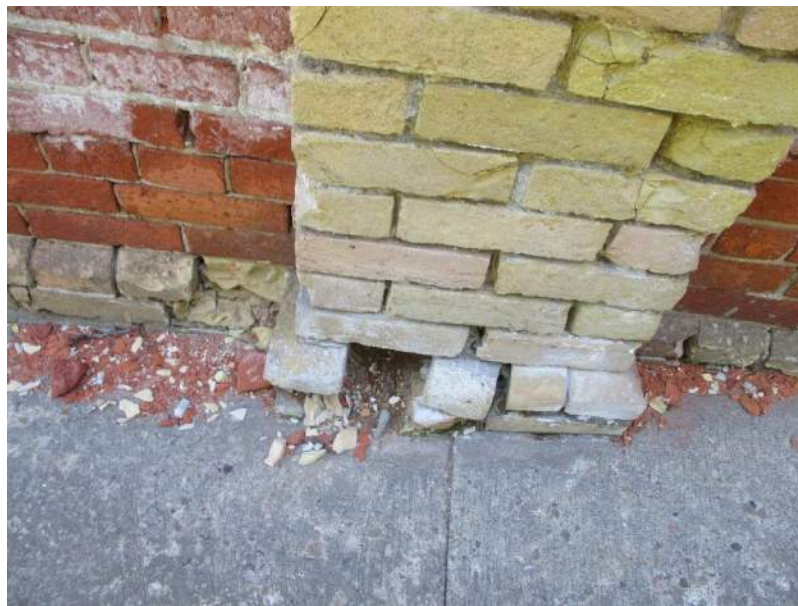


Photo # 8: Close up view of masonry and mortar deterioration at a column at the north elevation (original building).



Photo # 9: View of mortar deterioration at the grade level of the west elevation (west addition).



Photo # 10: White staining (efflorescence) was observed to be concentrated approximately 12 inches above grade level at the north and east elevations (original building).



Photo # 11: View of the brick masonry at the east elevation. The masonry was observed to have a rough texture that appeared to be the result of sandblasting (original building).

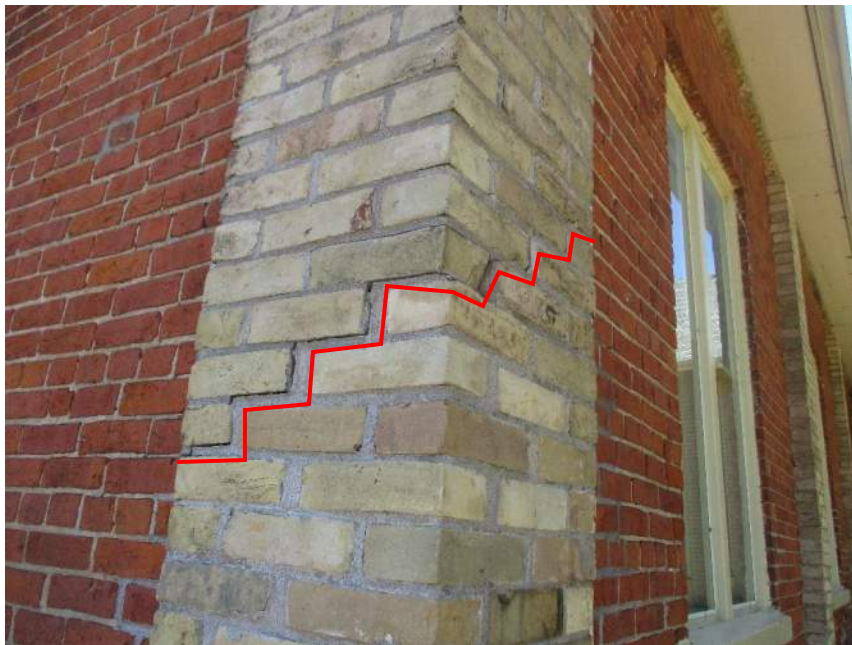


Photo # 12: View of step crack in the northeast corner pilaster at the east elevation (original building).



Photo # 13: View of step crack continuing through masonry brick at east elevation and mortar deterioration.



Photo # 14: A rain water leader was observed to be present next to the north-east corner pilaster at the north elevation and appeared to run underneath the access ramp.



Photo #15: Typical view of localized area of soffit deterioration at the north elevation (west addition).



Photo # 16: View of displaced/cracking northern brick masonry low landscaping wall at the west elevation main entrance.



Photo # 17: View of a potential negative drainage at the west end of the south elevation. The direction of the approximate ground slope is shown with a red arrow, and the location of a leaking water tap is shown in blue.



Photo # 18: View of efflorescence observed on the south elevation (west addition).



Photo # 19: View of typical single hung wood framed window with masonry arches and exterior aluminum framed storm windows at the exterior (south elevation of west addition).



Photo # 20: View of crack in glass pane at wood framed window (south elevation, west addition).



Photo # 21: View of typical deterioration at the access ramp on the northeast elevations of the building adjacent the northeast pilaster (original building and south addition, facing north).

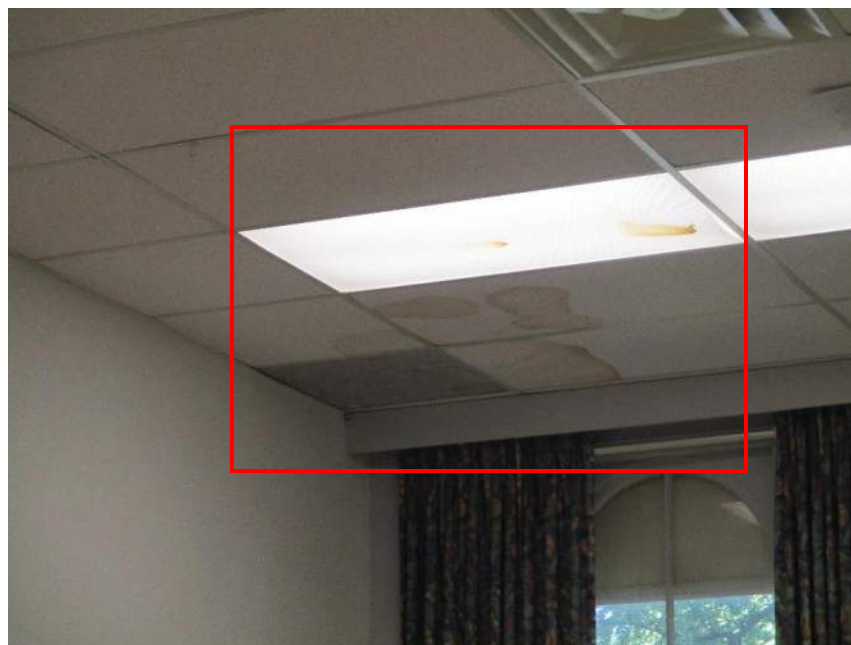


Photo # 22: View of typical stained ceiling tiles in the main hall reportedly related to roof leaks (west addition).



Photo # 23: View of stained ceiling tile in the women's washroom (north elevation, west addition).



Photo # 24: Paint peeling was observed in jail cell 1 at the west elevation and a step crack was observed on the interior wall in between jail cells 1 and 2



Photo # 25: View of rubble wall foundation. Moisture infiltration is visible at the base of the wall (north elevation, west addition).



Photo # 26: View of typical concrete masonry unit foundation in the newer addition to the building (interior hallway, south addition).



Photo # 27: View of typical deteriorated/lost limestone mortar at the base of the rubble wall foundation.



Photo # 28: The floor in the south kitchenette was observed to be bowing. View from below is shown with displacement in blue. A vertical crack in the rubble foundation wall below the bowed floor is shown in red.



Photo # 29: Overview of northwest elevation. No thermal anomalies identified.



Photo # 30: Overview of south elevation of southeast addition



Photo # 31: View east elevation



Photo # 32: View of north elevation of original building



Appendix B

Figures

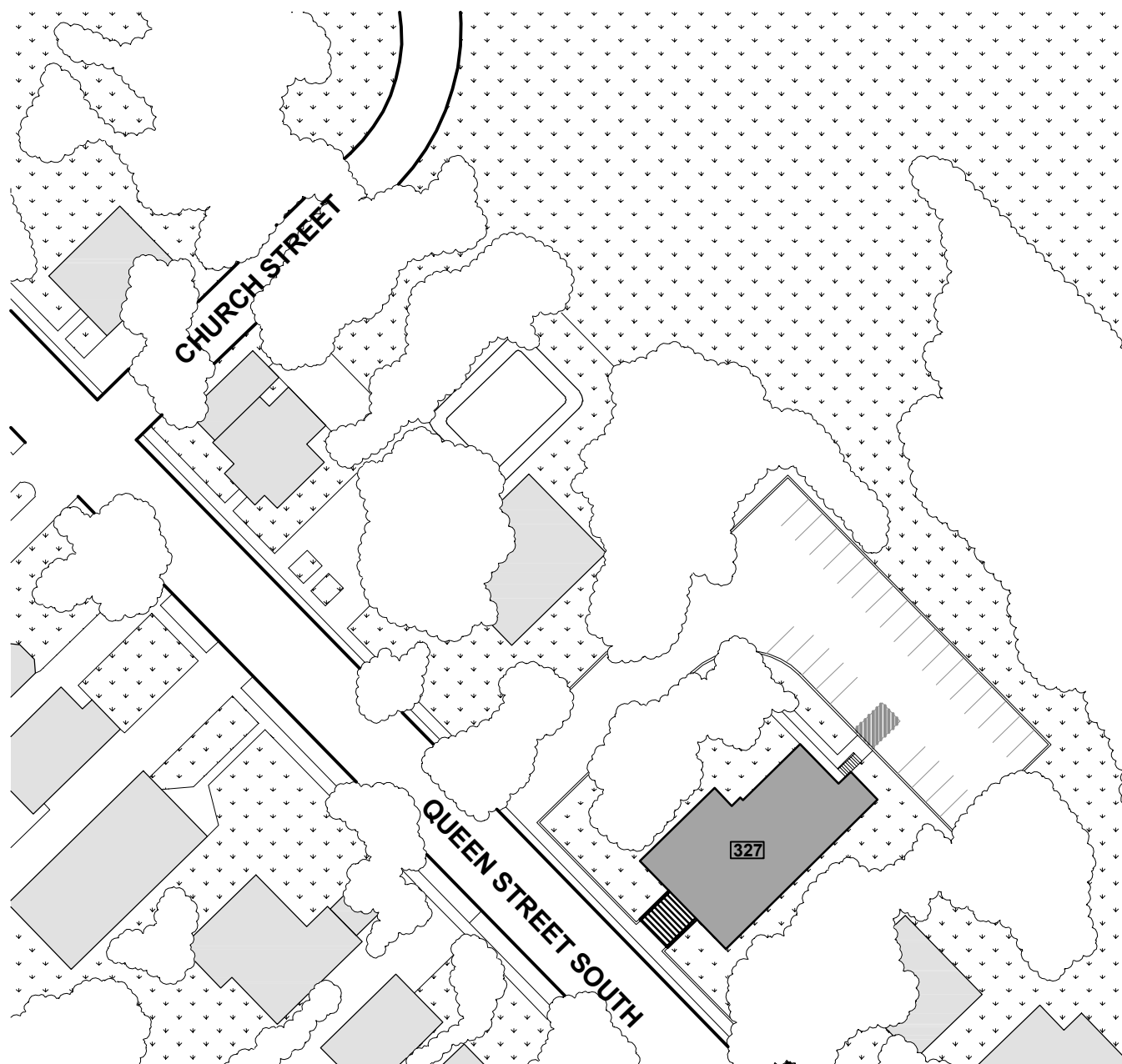
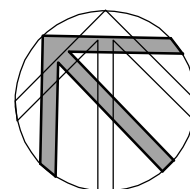


Figure 1.0 - Site Plan



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Project Name
327 Queen Street, South, Mississauga, ON
KINSMEN HALL BUILDING ENVELOPE ASSESSMENT
 Sketch Title
KEY PLAN

Dwg. Ref. .
 Scale **1:500**
 Date **August 2018**
 Project No. **TOR.121642.0001**
 Sketch Number
SK1
 Rev. .

- Masonry deterioration
- Negative Drainage
- X Cracked Glass
- X Soffit deterioration
- Northeast pilaster deterioration

6.1

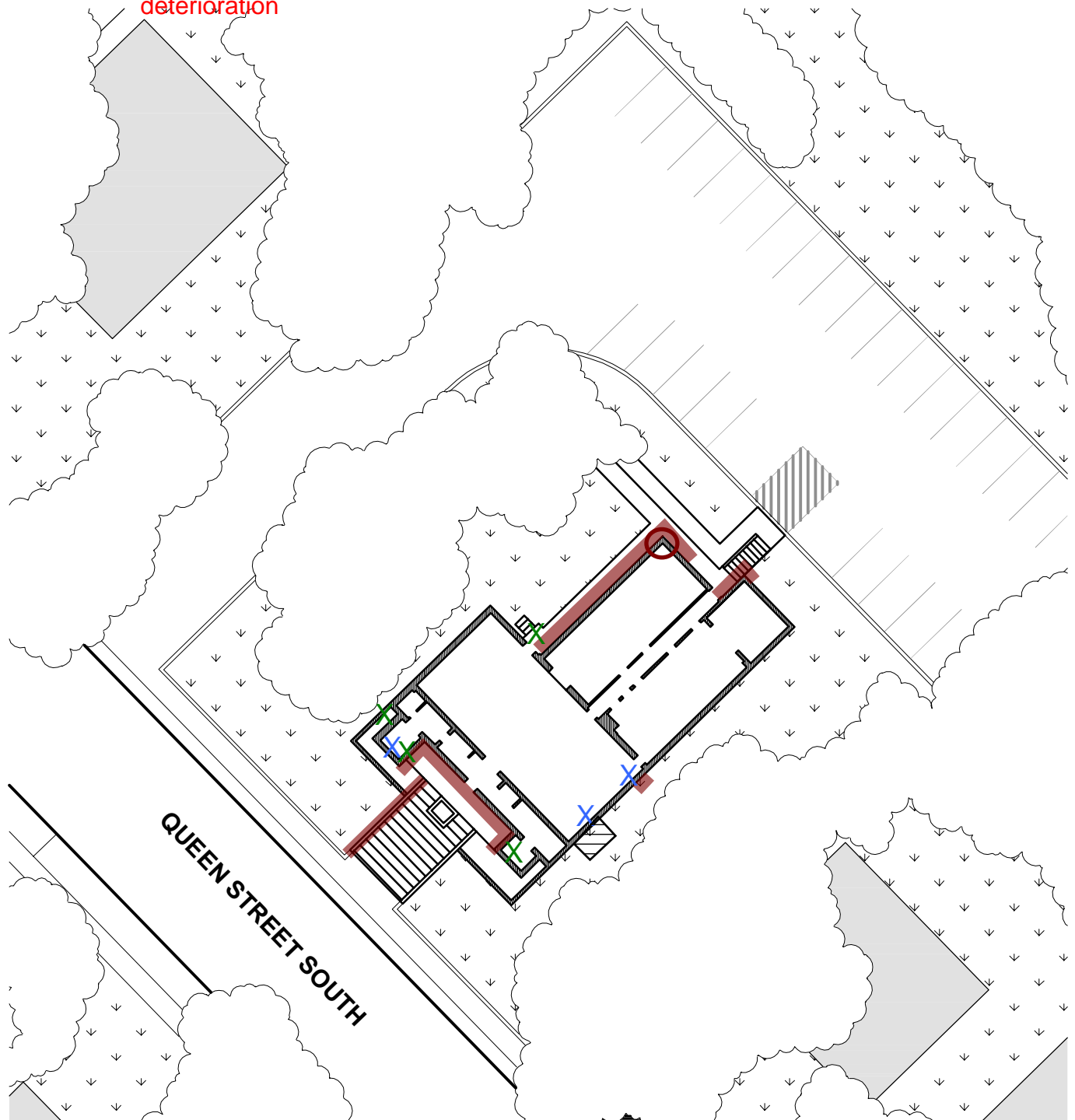
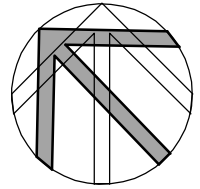


Figure 2.0 - Key observations - Ground floor



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Project Name
327 Queen Street, South, Mississauga, ON
KINSMEN HALL BUILDING ENVELOPE ASSESSMENT
 Sketch Title
KEY PLAN

Dwg. Ref. .
 Scale **1:250**
 Date **August 2018**
 Project No. **TOR.121642.0001**
 Sketch Number
SK2
 Rev. .

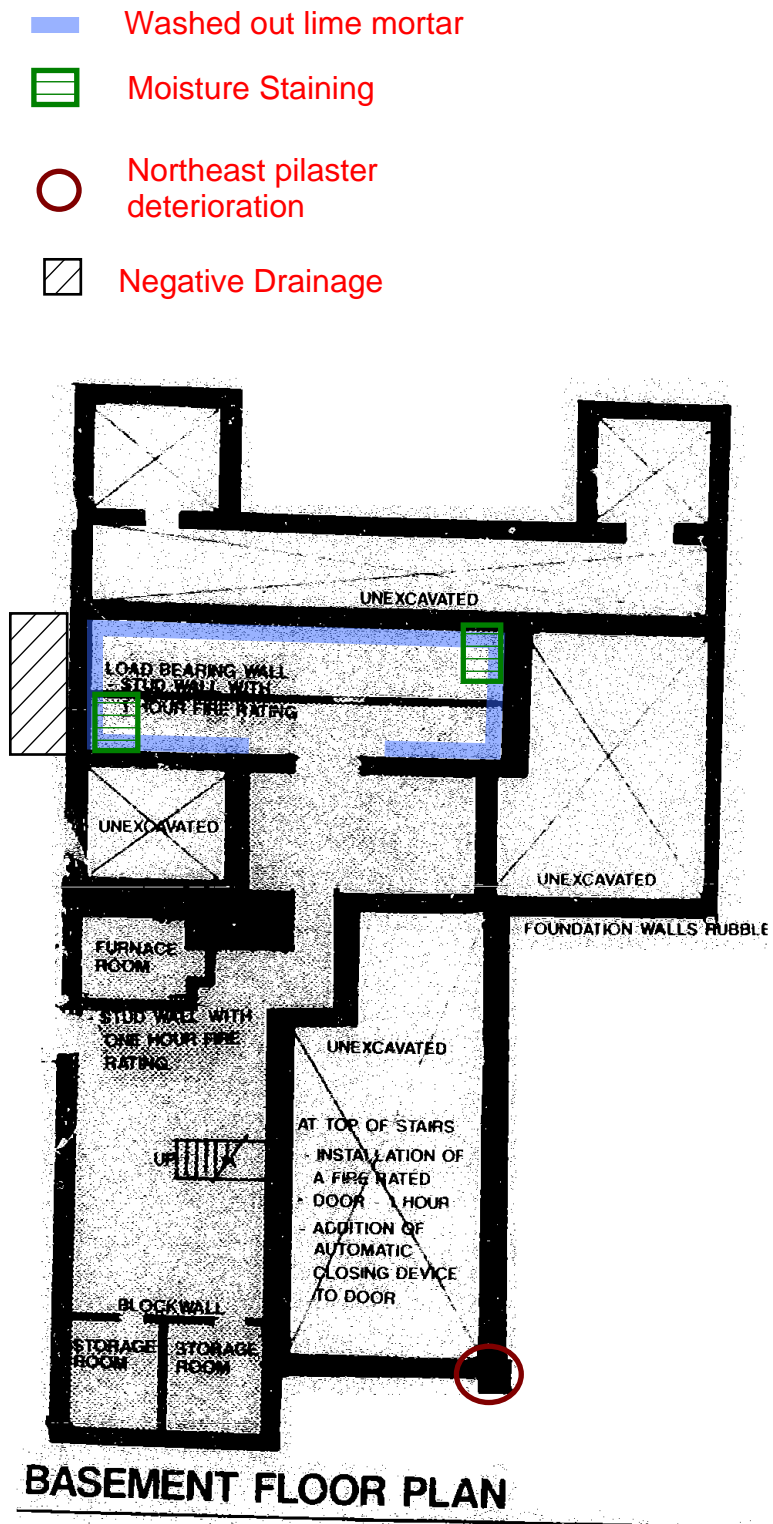


Figure 3.0 - Key observations - Below grade

Streetsville Kinsmen Hall Draft Project Schedule

