53 QUEEN STREET

HERITAGE IMPACT STATEMENT

OCTOBER 19, 2023

ORIGINAL POST OFFICE WITH CLOCK TOWER, C. 1915

RHAD ARCHITECTS

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RHAD ARCHITECTS

01
INTRODUCTION

The proposed development of 53 Queen Street is a new mixed use development, designed by the local Architecture firm RHAD Architects for 4328644 LTD. The proposed development which will bring much needed density to the downtown core, has been designed to minimize the impact on the original heritage building, while at the same time amplifying and preserving the character defining elements of the prominent Edwardian Baroque style building. The building is located on the south/ eastern half of a historical prominent city block bordered by King, Queen and Wentworth streets.

This report will highlight how the Province of Nova Scotia's Heritage Property Act, and the City of Dartmouth's adopted Standards and Guidelines for the conservation of heritage properties, was used to guide the design of the proposed building.

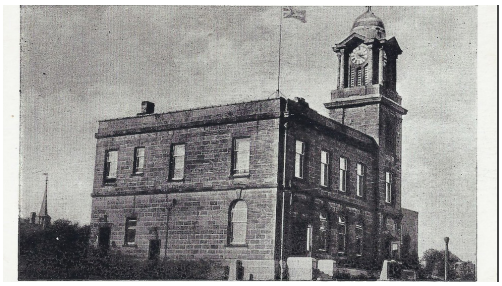

FIG. 1

FIG. 2

FIG. 3

<u>The objectives of this report are to:</u>

1) Provide a description of the existing heritage properties and outline an understanding of their heritage value and character defining elements.

2) Provide a general history of the evolution of the subject property.

3) Describe the proposed alterations to the buildings and sites and how those alterations meet the objectives of the City of Dartmouth, HRM, and impact the site.

4) Outline considered alternatives to the proposed design.

5) Outline a schedule and reporting structure for the implementation of the proposed heritage strategy and its monitoring.

6) Provide a summary statement for this report and its heritage recommendations.

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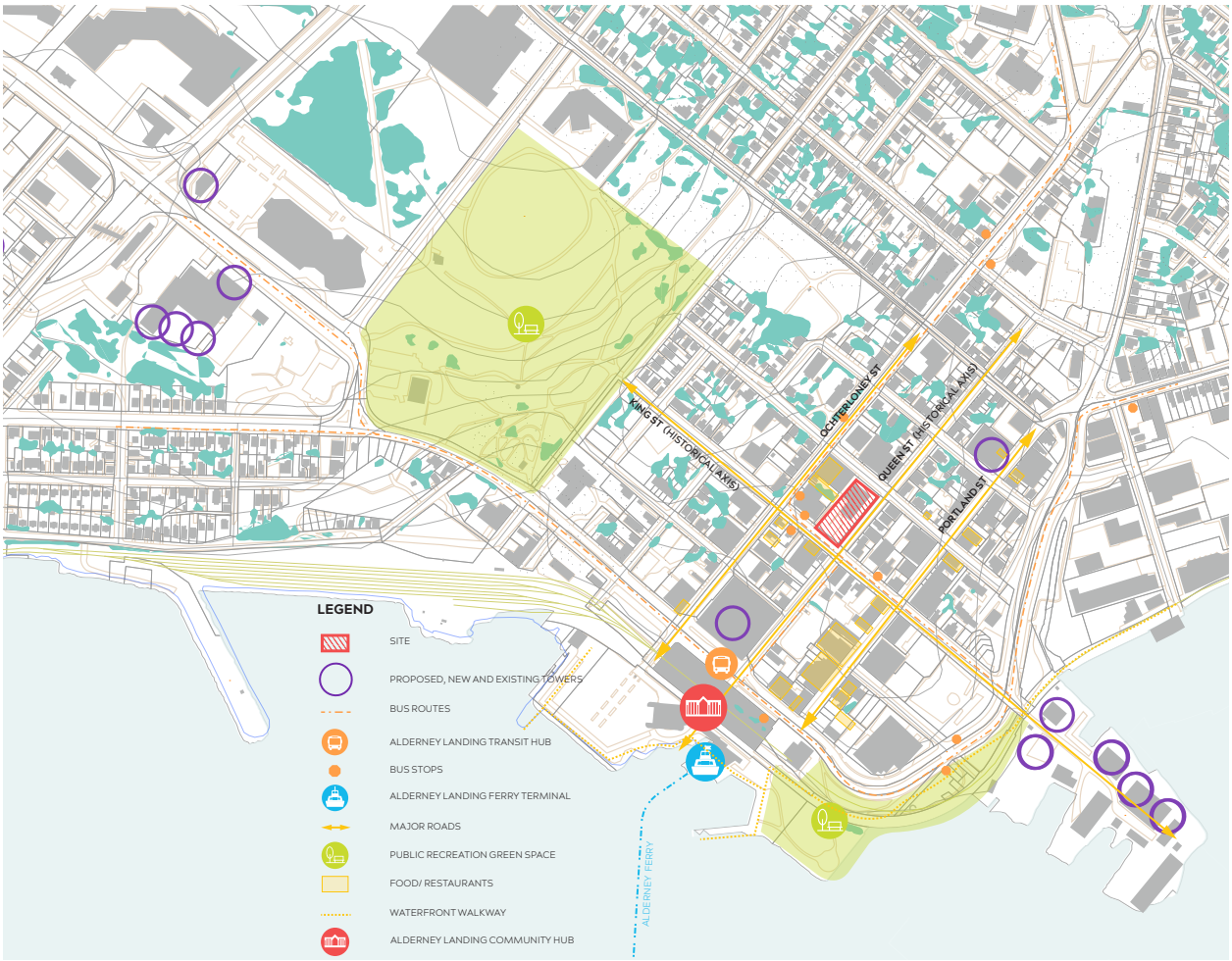
POSTCARD OF POST OFFICE, CIRCA 1940 1
POSTCARD OF POST OFFICE, CIRCA 1950 2
DARTMOUTH FEDERAL BUILDING AND POST OFFICE, CIRCA 1985 3

02
PROJECT LOCATION

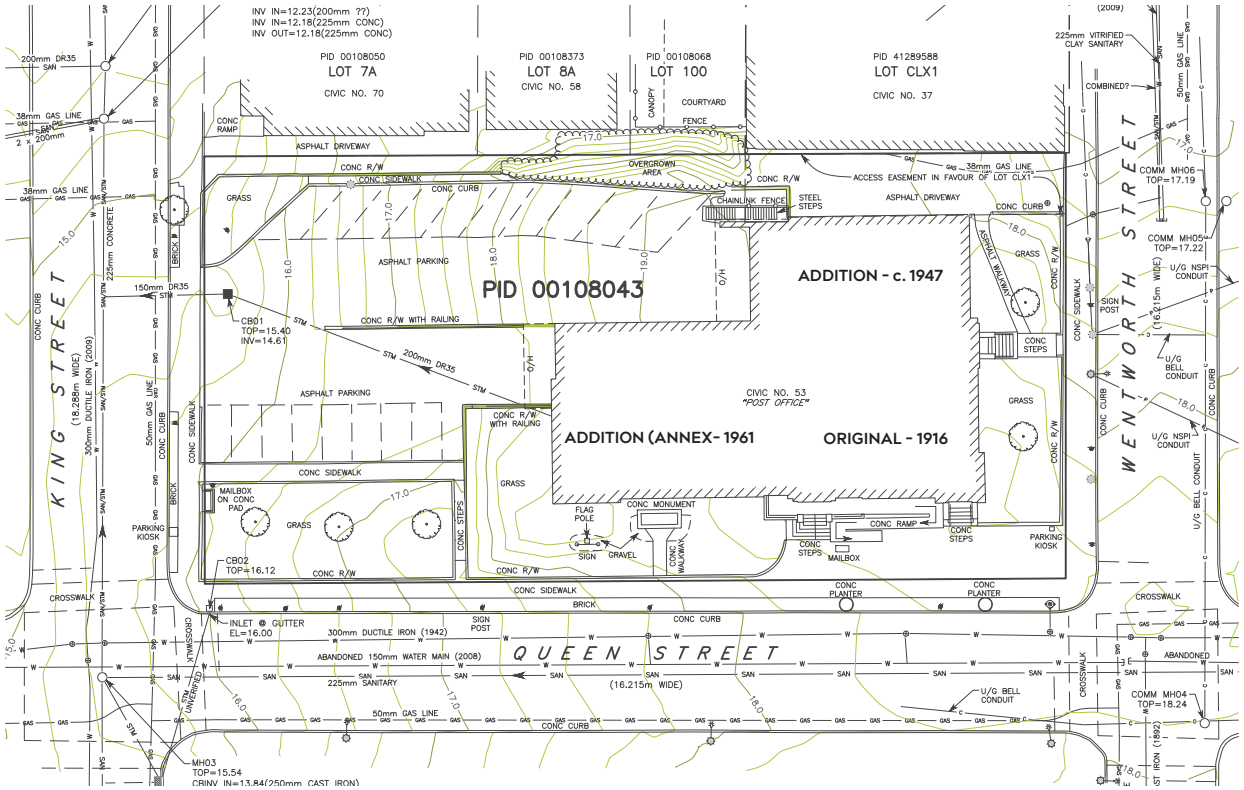
The project is located on the historical King and Queen street axis, but is currently being underutilized and providing little public benefit. The proposed development will add significant density to the downtown core, which will support and encourage public transit and greenspace use, while at the same time 'stitching' together the retail streets of Ochterloney and Portland to achieve a more cohesive retail experience.

As you can see from the map below, this area offers a significant amount of public amenities that include easy access to public transportation (bus and ferry), retail and dining opportunities, markets, greenspaces, library (Alderney Landing), and access to the waterfront.



MAP OF DARTMOUTH COMMUNITY AND NOTABLE ELEMENTS

RHAD ARCHITECTS



SITE SURVEY OF 53 QUEEN (EXISTING CONDITIONS, 2022)

The registered heritage property is currently occuping the northeast half of the site nearest Wentworth Street. The other half of the property along King Street is currently a parking lot. Today, the unoccupied historical post office and parking area provide little public benefit, with the exception of a small grassy area on the southern corner of the site which is frequently used during the summer months. The success of this greenspace was enabled by the historical buildings set back from Queen Street, which in the past would have served as an informal community hub (see Fig. 5). This greenspace is the only active portion of the entire four-sided city block until the retail street of Ochterloney, which is home to a variety of storefonts that include Grace Methodist Church, Battery Park and Two if by Sea cafe.

FIG. 4

FIG. 5

AERIAL VIEW OF DARTMOUTH - SITE IN CONTEXT, C. 1950
SOUTHERN CORNER OF SITE (QUEEN ST & KING ST)

4
5

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03
NEW CONSTRUCTION GENERAL DESCRIPTION

SITE STRATEGY

The site strategy for the proposed development was to concentrate the majority of the new development within the existing under-utilized parking lot. Although this strategy was primarily used as a conservation and preservation technique, it was also important from an urban planning perspective to reinforce the 'village scale' streetwall along King and Queen Streets.

- The massing of the new building was intentionally set back in line with the historical building (facing Queen Street).
- The new midrise portion was intentionally stepped back from the street walls along King and Queen Street, with the elevation facing Wentworth St set back 4 metres from the two-storey historical facade. This technique was used to visually seperate and highlight the historical Post Office from the proposed development.
- To support a vibrant pedestrian-foucsed streetscape, the outdoor greenspaces will be landscaped and detailed to encourage public use. Public furniture, lighting and planting will help create a welcoming public experience.
- To mitigate the impact of the new development on the historical building, the massing was strategically planned to avoid the most historically significant facades.

HERITAGE CONSERVATION MEASURES

- Exsiting First World War Memorial to be restored and relocated on site (see Fig. 6).
- New exterior seating and lighting around the War Memorial will highlight its importance. (See drawings and renders).
- The Canada Coat of Arms, herein noted as the 'Crest', (see Fig. 7) and the Quaker Meeting House Plaque (see Fig. 8) facing Queen Street will be relocated and reintegrated into the new apartment building vestibule (visible from the street).

FIG. 6

FIG. 7

WAR MEMORIAL (IMAGE CREDIT: KATHLEEN MAVOURNEEN) 6
CANADA COAT OF ARMS, THE 'CREST' 7

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RELATIONSHIP BETWEEN NEW AND EXISTING

The new development has been strategically designed to maintain and highlight the most historically significant aspects of the Post Office facade, which would include:

- The main residential apartment entrance off Queen Street was located at the southwest end of the historical 'Annex' as an intentional juxtaposition between the historical detailing of the Post Office and the proposed development.
- The mid-rise portion of the new development was set back back from the upper floor historical building to maintain the historical façade.
- Above the historical building, the midrise portion was also intentionally stepped back to minimize the new building's visual impact on the historical building. To further minimize the visual impact the middrise portion nearest the historical building was stepped back further (terraced) and expressed as glass to convey lightness (as viewed from the corner of Queen and Wentworth).
- Where connections between the new and historical building were required, these were strategically located away from the character defining elements along the back side of the building, which is currently clad in red brick.

FIG. 8

PARKING ACCESS AND SERVICES

- The physical or aesthetic impacts on the historical building are minimal, with our team choosing to locate the majority of the new development in the adjacent parking lot and on top of the 1960s 'Annex' addition, which is the least historically significant portion of the building.
- The 'Annex' will be documented, deconstructed, and reconstructed to accommodate the new townhouse use and underground parking. The 'Annex' will be stored and protected while the underground parking is being excavated.
- To protect the original 1917 portion of the historical building, an 18' (appox.) buffer zone has been allocated between the underground parking and the historical building foundation to ensure the historical building is stabilized during the construction of the new development. No parking will be placed under the 1917 portion.
- From the outset, the design strategy was to minimize the impact on the original Post Office. To accommodate underground parking on the site without compromising the historical value of the Post Office, the space beneath the 'Annex' had to be repurposed to meet the minimum requirements for an underground parking facility. Our historical analysis, highlighted the 1961 'Annex' addition as the least historical significance and, therefore, a suitable location for underground parking.

ORIGINAL POST OFFICE RESTORATION

Although at first glance the Post Office may have seemed in good condition, there have been a long series of upgrades that have been flagged as requirements to upgrade the building. This list includes:

- Restored exterior stairs and ramps. (Accessibility and Code) (see Fig. 10)
- Upgrade the windows to meet code standards, while at the same time reverting back to a more historically accurate style, which would include the reinstatement of the arch top glazing, that is currently plywood.
- The existing roof access door (second floor of southwest façade) will be removed and reinstated as a window, to match adjacent windows. (see Fig. 11)
- The existing southwest window opening (see Fig. 11), will be altered to accommodate a connection between the new and historical buildings building.
- Two new doors on the northwest façade (backside, upper floor) will be added to accommodate tenant roof access (see Fig. 12). One door will reuse an existing window opening while the other will require the addition of another opening.
- A new skylight will be added (see Fig. 12).
- A sprinkler system will be added. (No current sprinkler system)
- All floor and roof structures will be removed and replaced to meet current fire code and loading requirements.
- The existing masonry will be cleaned and repointed. (see Fig. 09)
- The parapet cap flashings will be replaced to match the existing copper.
- Full renovation of the existing entry points to meet the most up to date accessibility standards by way of ramps and barrier free pathways. The existing ramp on the heritage building is too narrow and the current landings do not meet code (see Fig. 10)

FIG.09

FIG. 10

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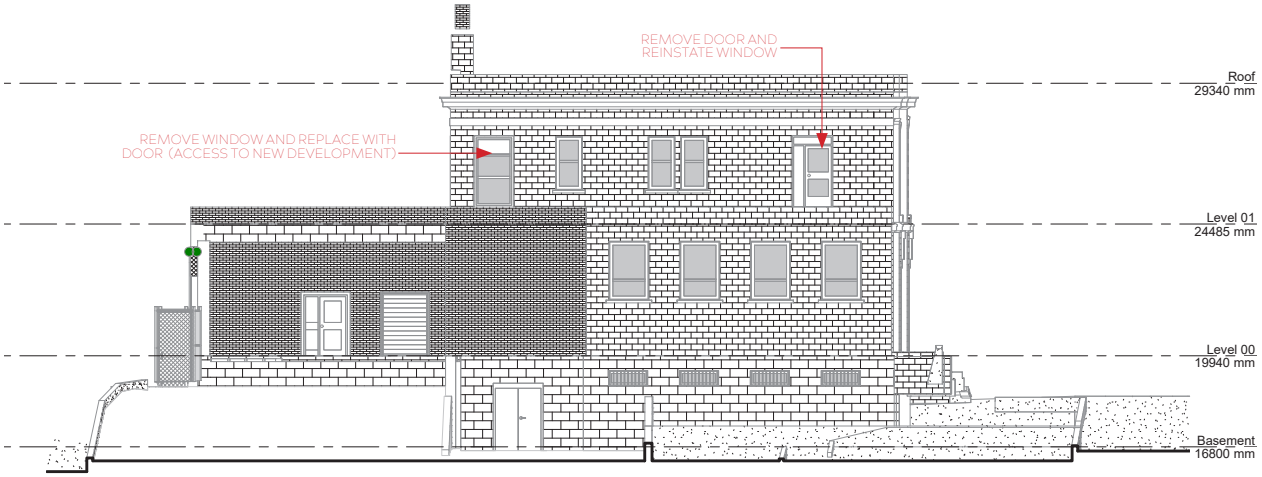

FIG.11 SOUTHWEST WINDOW OPENING TO BE MODIFIED

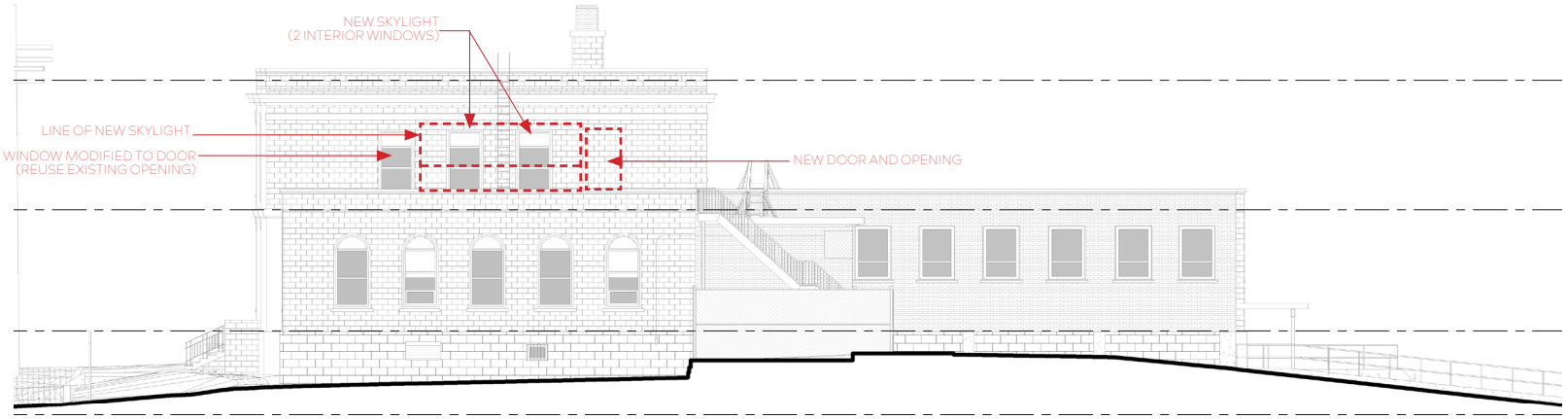

FIG. 12 NEW DOORS (RESIDENTIAL ROOF ACCESS)

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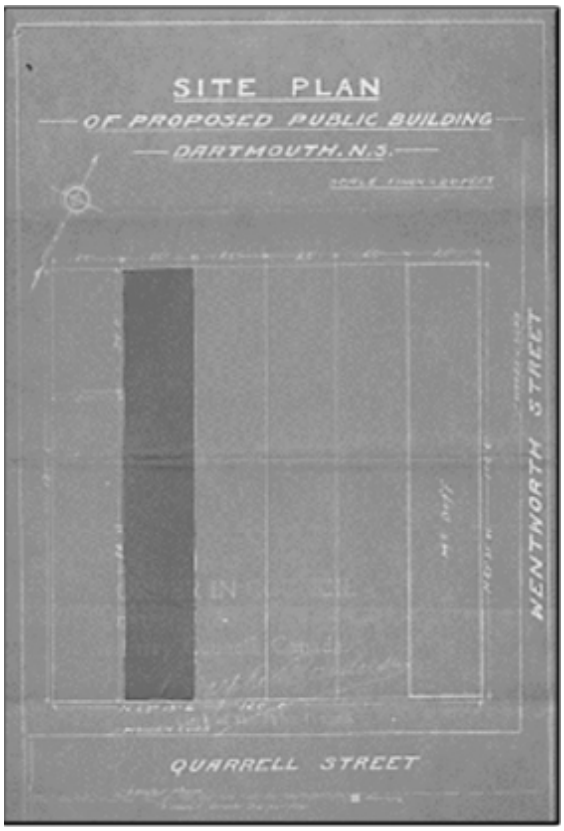
ANNEX ADAPTIVE REUSE

The existing Annex was originally designed to serve as a production and storage space for the Post Office. For security these windows were elevated 6'-0 above finished floor, which makes adaptive reuse challenging without intervention.

- The 'Annex', will be documented, disassembled and rebuilt to accommodate underground parking.
- The deconstruction of the existing 'Annex' will be done by professional stone masons, who have been responsible for many of the historical restorations throughout HRM.
- The rebuilt 'Annex' façade will be slightly altered to accommodate 8 townhouse units that draws historical reference from the Rudolf row housing that predated the Post Office.
- The six existing openings will be maintained, but the sills will be lowered to accommodate a new entry.
- An additional townhouse entry and window will be added following the historic patterning and stone work of the 'Annex'.
- The jog in the existing wall will be rebuilt straight to accommodate the new townhouse entries and reinforce the historical rhythm.



- Floor and roof structure will be removed and integrated into the new development's structural system.
- The granite coping and standstone will be reinstated to maintain the existing datum line.
- With the reinforcement and extension of the public greenspace, the new townhouse entrances along Queen St will not only make use of the existing 'Annex', but also help to animate the streatscape.

FIG. 14

FIG. 15

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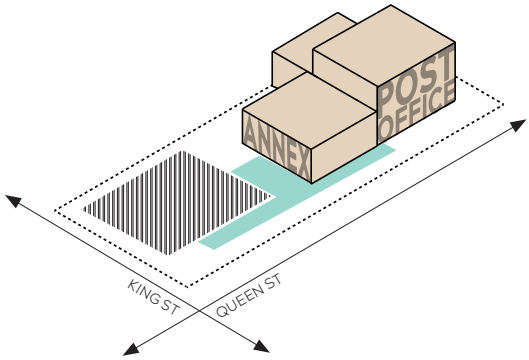
BUILDING HEIGHT AND MASSING

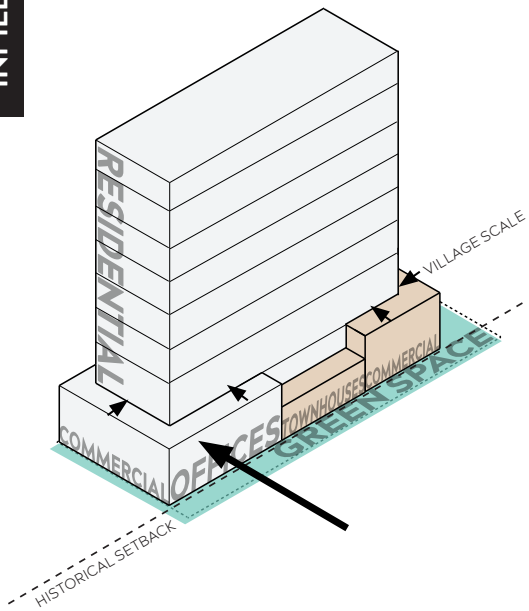
EXISITING

POST OFFICE PARKING LOT



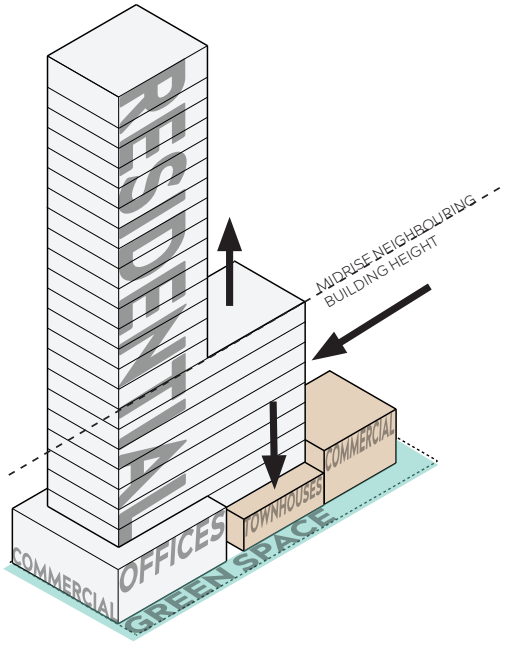
INFILLING

AT THE VILLAGE SCALE (PODIUM)



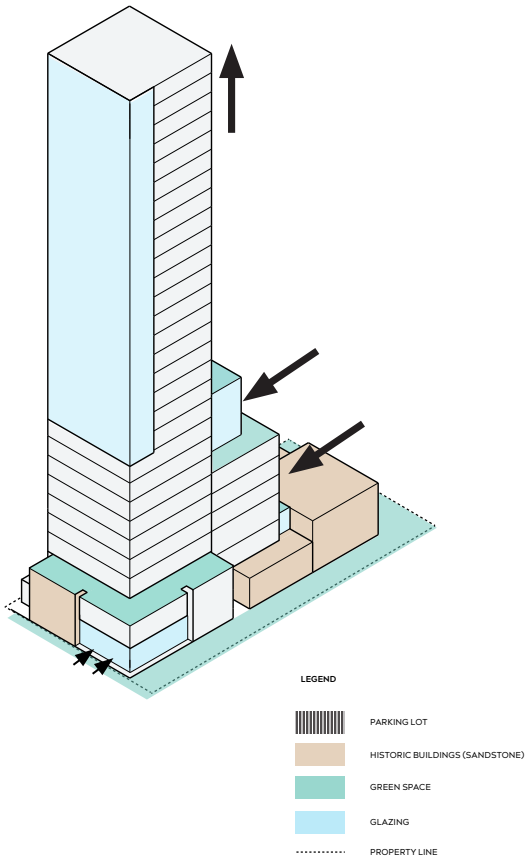
STEPPING

BACK FROM HISTORICAL IMPACT



ARTICULATING

THE FORM TO ENHANCE HERITAGE ASSET



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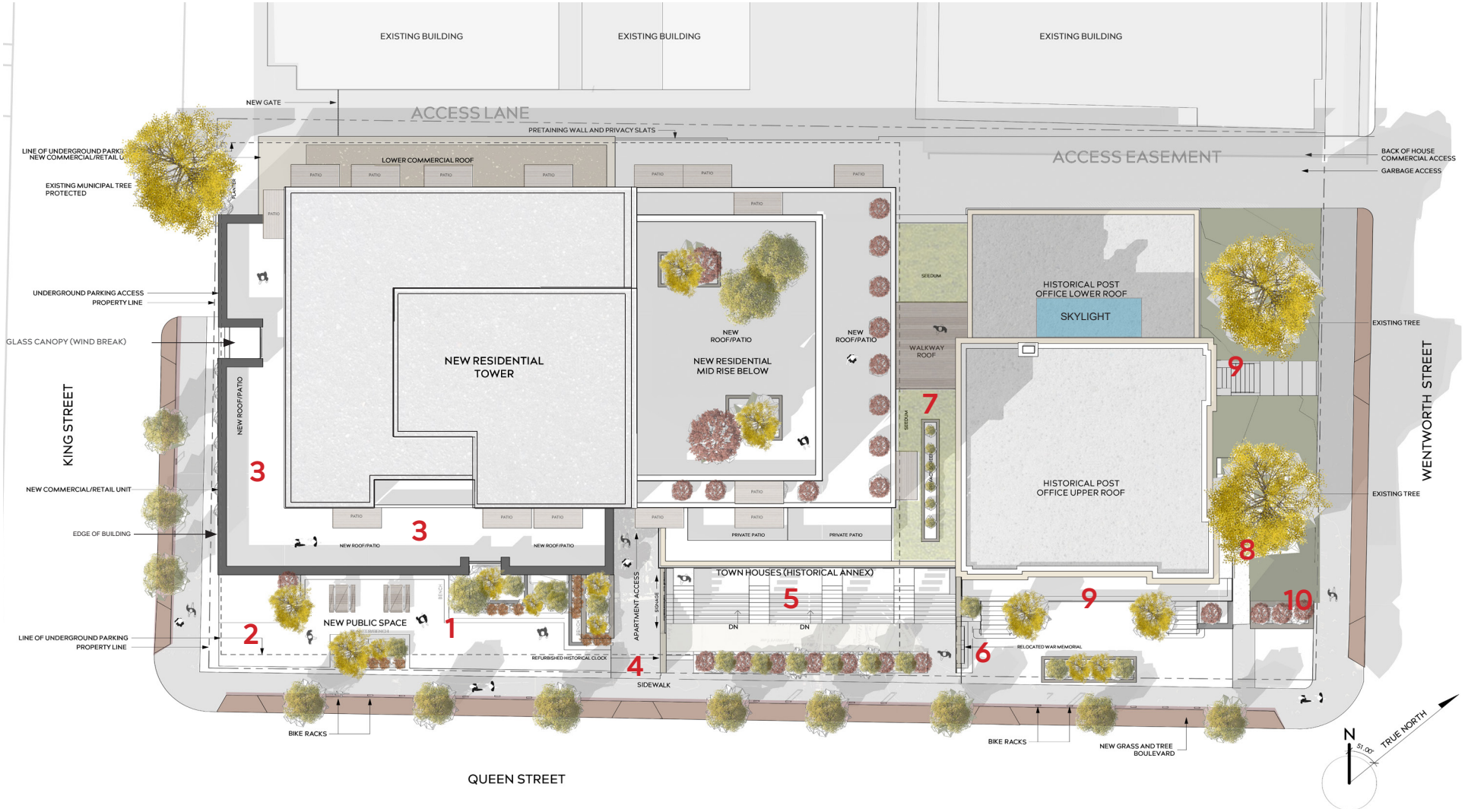
PROPOSED SITE PLAN



1. Queen St setback (new public space)
2. Interpretive Art piece
3. Tower stepback (pedestrian streetwall)
4. Apartment entrance (separation of new/ historical)
5. Adaptive reuse of Annex (townhouses)
6. War memorial (Relocate)
7. Buffer zone (between new + historical)
8. Accessibility ramps and access
9. Refurbished stairs and code compliance upgrades
10. Refurbished Historical Clock

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04

HERITAGE PROPERTIES AND ADJACENT PROPERTIES

This downtown Dartmouth neighbourhood is a melting pot of architectural styles and eras:

- Variety of typologies
- Variety of uses - residential, commercial, mixed use, community
- Variety of materiality and construction methods
- Multiple registered heritage properties (in red) peppered around the site (in yellow)

KEY MAP

B) 57 QUEEN ST - BELL ALIANT

A) 50 QUEEN ST - MACPHEE CENTRE (REGISTERED HERITAGE)

C) 62 QUEEN ST (REGISTERED HERITAGE)

D) 64 QUEEN ST (REGISTERED HERITAGE)

RHAD ARCHITECTS

KEY MAP

E) 70 KING ST - GRACE METHODIST CHURCH (COMMUNITY)

G) 63 KING ST - RHAD ARCHITECTS (REGISTERED HERITAGE)

F) 65 KING ST - THE SHUFFLE (MIXED USE)

H) 54 KING ST - ROYAL CANADIAN LEGION BRANCH (COMMUNITY)

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ARCHITECTS

KEY MAP

K) 70 OCHTERLONEY ST - FOUNDER'S CORNER (MIXED USE)

J) 36 WENTWORTH ST - TEL LOFTS (MIXED USE)

L1) 58 OCHTERLONEY ST - BATTERY PARK (COMMERCIAL)

L2) 62 OCHTERLONEY ST - INTERLUDE SPA (COMMERCIAL)

M) 57 OCHTERLONEY ST - QUAKER HOUSE (REGISTERED HERITAGE)

N) 53 OCHTERLONEY ST - DARTMOUTH NON-PROFIT HOUSING SOCIETY (REGISTERED HERITAGE)

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05

53 QUEEN ST REGISTERED HERITAGE PROPERTY

DESCRIPTION AND HERITAGE VALUE

- The building was constructed in 1914 from sandstone brick and granite stone sourced from Cumberland County in an Edwardian Baroque style. Many buildings of this style relied on masonry construction to 'ground' the building within the community as an important piece of civic infrastructure.
- The building is constructed with solid masonry walls clad in granite and sandstone.
- The punched windows, typical of the time, help to reinforce the 'grounded' nature of the building.
- Features such as quoins and rustication on stone work are evident.
- Historical stone facades are unique within Nova Scotia, with many vernacular buildings relying on wood ship-building techniques to accommodate the Maritime climate.
- The building 'setback' from Queen Street is an important element that would have encouraged community gathering and dialogue during the early 20th century.
- Another noted element is the clock tower, which was removed after it fell into disrepair in 1977. The team learned of the historical clock tower through additional research and have visited the remaining clock faces that are held in HRM storage. Plans are to restore the clock mechanism and reintegrate the clock into the public space of the new development.

FIG. 16

DARTMOUTH FEDERAL BUILDING & POST OFFICE, C. 1960 16

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CHARACTER DEFINING ELEMENTS

The main character defining elements are derived from baroque architecture. The style was popular for civic buildings during the Edwardian era from late 1890's to 1910's as it is borrowed and overlapped with the Beaux-Arts Style. The style provided simple and balanced designs, simple rooflines, relatively uncomplicated ornamentation and detailing. There is a striking display of symmetry through fenstration, use of a centralized grand entrance, and decorative moulding and brackets.

The character defining elements of the building include architectural elements, such as:

- Extended cornice line which wraps around the building
- The use of a 5-bay symmetrical facade with large voussoirs
- The use of large window sills on the first and second storeys
- A high base made from rusticated granite separated by a brick stringcourse
- The use of brickwork that fans around the first storey windows
- Prominent sandstone "Post Office" signage above inflated keystones (see Fig. 18)
- Moulded lintels and brackets above the entrance
- Masonry granite foundation (see Fig. 19)

FIG. 17

FIG. 18

FIG. 19

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POST OFFICE & ANNEX: QUEEN ST FACADE 17
POST OFFICE SIGNAGE 18
MASONRY GRANITE FOUNDATION 19

Site of the First Quaker Meeting House (1785-1822)

The Nantucket Whaling Company of Massachusetts came to Dartmouth in 1785. Many Whalers and their families were a part of a denomination called the Society of Friends, commonly known as the Quakers. The Post Office currently stands on the site of the first Quaker meeting-house at the northeast corner of King and Queen Streets that was used for religious purposes and for schooling.

FIG. 20

FIG. 21

Site of row housing called “Rudolf’s Terrace” – (early 1880’s - early 1900’s)

In 1843, a man named William H. Rudolf, purchased the land prior to the construction of the historical Post Office. After his purchase Rudolf erected a compact row of six townhouses known as “Rudolf’s Terrace”. The townhomes fronted the mid-block alleyway between Wentworth and King Street as shown in Fig. 21, while the back of the townhouses, which faced Queen Street, were reserved for gardens and stables. Between the 1880’s and the early 1900’s ‘Rudolf’s Terrance’ was more commonly referred to as the ‘Coloured Terrace’ due to its Black Nova Scotian population.

Site of Central School (1866-1917)

Located at the corner of King and Queen Streets (where the parking lot is now), the Central School was the first public-funded school to be built in Dartmouth (see Fig. 20). It housed 270 students in four large rooms, and it was considered as one of the finest schools in Nova Scotia. Right beside the school playground was a shop owned by Mrs. James O’Regan. She sold spruce beer for 1 cent a pint and sticky toffee squares for the same price. Apparently, at recess boys from the Central School would jump over the fence to buy toffee squares.

The catastrophic impact of the 1917 Halifax Explosion rendered much of Downtown Dartmouth's commercial area as uninhabitable with a battered war- torn appearance.

Dartmouth Post Office (1916 – present)

In 1913, plans were made by the Department of Public Works to expropriate all the parcels in a block of land situated between Wentworth, King, and Queen Streets. Through the Expropriation Act, seven parcels of land were expropriated for the construction of the new post office.

The building was designed by the architect David Ewart in 1914 and was constructed from sandstone brick in an Edwardian Baroque style. Ewart held the position of Chief Architect of the Department of Public Works from 1897 to 1914 (see Fig. 22). As the Chief Government Architect, he was responsible for designing over 340 government buildings across Canada. In addition, the design and construction of many of his buildings helped establish the urban landscape of Ottawa. Ewart is known for designing the following buildings: Dominion Observatory, Chief Astronomer's Residence, Geodetic Building, the Royal Canadian Mint, and the Mappin Wing of Rideau Hall.

In 1937, a public library was established on the second floor of the Post Office building. The office rooms and library space were used until 1939, when it was transferred to the federal government for war- time work.

FIG. 22 (TOP LEFT), FIG. 23 (TOP RIGHT), FIG. 24 (BOTTOM)

DAVID EWART, ARCHITECT (1841-1921) 22
PHOTOGRAPH OF THE DARTMOUTH POST OFFICE WITH THE CLOCK TOWER 23
DARTMOUTH POST OFFICE, C. 1915 24

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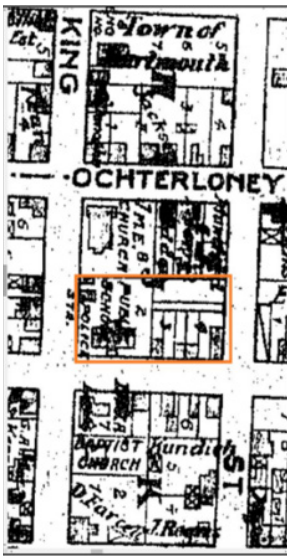
According to “The Story of Dartmouth”, by Dr John Martin, parcels of land were originally located on Block K (Fig. 25) of the 1750 town-plot of Dartmouth. Eleven oblong shaped blocks were laid out 400 feet by 200 feet in the area. In 1785, with the arrival of the Nantucket whaling families the town was replotted with square blocks measuring 240 feet a side. Each building lot was measured at 120 feet by 80 feet and the streets were widened to their current widths. This grid iron configuration street pattern is what remains today in Downtown Dartmouth (see Fig. 25).



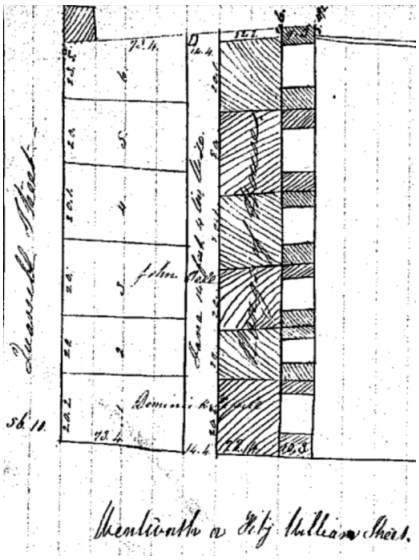


FIG. 25 (LEFT), FIG. 26 (CENTER), FIG. 27 (RIGHT)

The Dartmouth Service Building (1941)

In 1922, a tablet was placed on the property to mark the Battle of Vimy Ridge’s anniversary. This tablet was a gift from the Imperial Daughters of the Empire organization (IODE) and can still be seen today in front of the Dartmouth Federal Building addition. In 1937, public discussions arose about the necessity of a library and recreational spaces in Dartmouth. A reading room near the ferry terminal, once maintained, had fallen out of use by World War I. Subsequently, a library was established on the second floor of the Post Office building. This space served as both offices and a library until 1939 when it was repurposed for wartime work under the federal government.

FIG. 28

FIG. 29

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The Dartmouth Service Centre, adjacent to the Post Office, was officially opened in July 1941 through the collaborative efforts of the Alderney chapter of the IODE and the Canadian Red Cross (see Fig. 28). This center was constructed on the site of the old Central School. As per the Statutes of Nova Scotia in 1941, the owners of the neighboring land parcel decided to lease it for the construction of a facility meant to serve as a recreational hub for military personnel during the wartime. This reflected the community's commitment to support the war effort and providing essential services during that time.

There is limited information on the fire of 1942 at the Dartmouth Services Club; however, some photographic documentation shows the extense of the damage (see Figs. 29-31) and little is known about the property's recovery efforts. In 1946, the building became the property of the Town of Dartmouth, making it accessible to organizations, such as the Dartmouth Citizens' Library, and illustrating its evolving role within the community.

The Removal of the Clock Tower (1977)

The Dartmouth Post Office once housed the first electric clock in town. It was removed in 1977 due to structural concerns. That section of the building was restructured and architectural detailing, such as the cornice line, was put in place. The Dartmouth Heritage Museum acquired the clock and currently houses it in a warehouse facility in Burnside.

FIG. 30

FIG. 31

ADDITIONAL HISTORIC NOTES

War Memorial

In 1922, a tablet was placed on the property commemorating the anniversary of the Battle of Vimy Ridge (see Fig. 6). It was donated by the Imperial Daughters of the Empire organization. Today, it is located directly in front of the Dartmouth Federal Building addition (Annex).

Canada Coat of Arms, the 'Crest'

There is currently a molded Canada Arms crest on the 'Annex' building. Its historical value and significance is not referenced in any historic documentation regarding the property (see Fig. 7).

SUMMARY

This landmark building is of significant historical and civic value to the Downtown Dartmouth area. This site has witnessed an evolution of uses over the last 250 years. It was the site of the first Quaker meeting-house, a public school, a series of residential townhomes, a service building, and then serving as the community's main Post Office for more than 100 years until the building no longer served the contemporay needs of Canada Post.

After Canada Post left the historical building, it was designated as a registered historical building, before being sold to an experienced private developer, with an interest in historical buildings. The proposed development will highlight and build off the historical building and lineage of the site, while at the same time reinforcing the pedestrian experience within the downtown core.

FIG. 32

RENDERED VIEW OF THE PROPOSED REVITALIZATION OF THE STREETSCAPE 32

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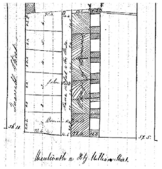
HISTORIC TIMELINE

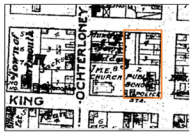
ORIGINAL TOWN PLOT OF DARTMOUTH

1750



SUBDIVISON OF W.H. RUDOLF PROPERTY INTO SIX LOTS

1844

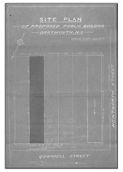


RE-PLOTTING A SQUARE GRID PATTERN

1878

DAVID EWAN IS PROMOTED TO CHIEF ARCHITECT OF THE GOVERNMENT OF CANADA (1897 - 1914)

1897



PARCEL OWNED BY JAMES F. LEAHY

1913

TABLET COMMEMORATING THE ANNIVERSARY OF THE BATTLE OF VIMY RIDGE

1922

CANADA'S NATIONAL MOTTO "FROM SEA TO SEA" WITH OUR COAT OF ARMS. *A MARI USQUE AD MARE.*

1961

REMOVAL OF CLOCK TOWER FOR STRUCTURAL CONCERNS

1977

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CURRENT CONDITIONS

- The site is currently home to a variety uses.
- The existing heritage asset is currently vacant.
- There is a grassy area with three mature trees that have been reviewed by an arbourist and deemed to have low value and health. This area is a popular place for lunch and dog walking.
- The remaining site is a paved parking lot that was used heavily during the hay-day of the Post Office.
- There is a laneway easement at the back of the lot, which is accessed from Wentworth Street.
- This area between the more developed Ochterloney and Portland Streets contains a variety of buildings types that include small residential and commercial buildings from the 1800s to 1970s.
- The mature streets are occupied by numerous owner-operated small businesses as well as the adjacent church, Royal Canadian Legion and apartment buildings.
- The neighborhood is in flux with major renovations and development planned or currently underway within the downtown core.
- HRM's new Centre Plan encourages additional development in the area.
- The central location of this site enccourages walkable urban living.

GOOGLE EARTH CAPTURE: SITE IN CONTEXT

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- As a conservation measure, the design strategy for the new proposed development minimizes the connection to the historical building. The required connections were strategically located at the rear of the building (northwest) to limit the impact on the character defining elements along Queen and Wentworth Streets. To further ensure the character defining elements were maintained, the mid-rise portion of the elevation facing Wentworth St was set back 4m from the two-storey southwest historical post office façade. With the only exception being the introduction of a glass 'box' connection on Level 3 linking the two buildings together, and providing a secondary egress, as well as functioning as a residential vestibule.
- The main residential entrance is located between the historical 'Annex' and the new development, which was a strategy to highlight the historical buildings by way of contrast.
- In order to conserve the heritage value of an historic place, none of the character-defining elements are being altered or removed, except for the 'Annex', which will be documented, deconstructed, and reconstructed to accommodate the new townhouse use and underground parking.

QUEEN STREET ELEVATION

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CONSIDERED ALTERNATIVES

Clock Tower reinstatement

- The current aesthetic without the clocktower is beloved by neighborhood.
- Our team costed the reinstatement of the clock tower, however it was not feasible, and provided little public value.
- To integrate the memory of the clock tower back into the development, the clock faces will be refurbished and brought down to street level for the public to engage with.
- To protect against weather and vandalism, the clock faces will be installed within a tamper proof display and illuminated.

Midrise over Post Office

- Our team considered a large midrise building that would have been built over the historical Post Office as shown in the diagram on page 12.
- As shown in the diagram on page 12, the massing of the building morphed to respect the value of the historical building as per HRM Heritage Planning discussions

Green space development

- Originally our team considered building up to the property line along Queen Street, but chose to set back the new building in line with the historical facade to provide a continuous community greenspace. Another benefit of setting the building back was that the historical building remained visible upon approach from the hub of Alderney Landing.
- Full block concept (from Wentworth to King)

Parking above grade

- Our team considered an above ground private parking structure early in the process to avoid costly underground parking, but instead opted for a pedestrian orientated retail approach to reinforce the historical datum lines and avoid large blank street-walls.

Removal of the Annex

- The heritage value of the 'Annex' is questionable, being that it was built in 1961.
- The height of the existing window openings limit their use and require modification.
- We considered alternate uses such as 'storage' for the 'Annex', but residential townhouses seemed to be the logical choice to help activate Queen Street.
- Preservation of some of the stone facade features by our masons will be integrated into the townhouse design. These townhouses will draw historical references to the Rudolf rowhouses mentioned earlier.

Alleyway

- We explored reinstating the Rudolf row housing strategy and extending the midblock alleyway off Wentworth through to King, however we decided against this strateg to ensure the 'energy' of the street was concentrated along the pedestrian focused King and Queen Streets.
- The alleyway will be used to accommodate garbage and recycling services of Wentworth Street.
- The midblock alley, presented a variety of security concerns.
- The midblock alley, would result in undesireable north facing townhouses.
- Townhouses, within the alley, would constantly be in the shadows, when we consider all the surrounding existing building.

Community engagement: shared alley off King St

- We collaborated with Grace United Church and the Interlude Spa to accommodate service off of King St (garbage collection and deliveries).
- Outdoor alley parking for the church and Interlude Spa.
- Buffer zone between new development and neighbouring properties

Materiality selection

- We looked at a material palette that would mimic the historical building, but decided against this approach to ensure the historical building was clearly 'defined'. To achieve this. our team chose a contrasting material palette.

06
SCHEDULE & REPORTING STRUCTURE

The project will adhere to the local municipal procedures for approvals and permits, but we would like to provide some input regarding the proposed heritage scope of work development:

1. The existing conditions elevation drawings have been included in this report for documentation purposes.
2. Attached to this report are schematic design elevations for the proposed changes.
3. We will create documents to confirm our conservation strategies, illustrating the expected work areas. These will undergo review with City Staff and will serve as the foundation for building permit and construction documents, confirming the proposed scope and specifics.
4. We will compile a Building Code Analysis for the buildings, considering potential alternative compliance methods for reusing existing structures. City Staff will review these, forming the basis for building permits and selective demolition and construction documents.
5. Masons will play a role in the removal and relocation of the memorial. We intend to present a plan for approval regarding this process.
6. Conversations with HRM are ongoing to determine the ultimate placement of the heritage plaque, the Quaker House plaque, and any other plaques that require confirmation with HRM.
7. We are working closely with HRM on a collaborative effort to include interpretive artwork on the site.

07
SUMMARY

The design strategy for this proposed mixed-use residential development was to make use and 'infill' the vacant parking lot at 53 Queen Street, while at the same time revitalizing the historical Post Office as an important asset within the urban landscape. This project will strategically increase density within the downtown core, while at the same time supporting and enhancing Dartmouth's already vibrant pedestrian experience, with street level residential and commercial units as well as a new public greenspace. We believe the additional density and retail opportunities will support local businesses, encourage active and public transportation, and help alleviate the housing demand within the HRM.

To ensure responsible development within the downtown core, our local design team took a community-focused design approach that began with an in-depth understanding and analysis of the site. The site is centrally located between the two reasonably well-established retail corridors of Ochterloney and Portland and only steps from the transit and cultural hub of Alderney Landing. Currently the site is being underutilized, with the vacant historical Post Office and parking lot providing little community value for such a prominent site on the historically significant axis of King and Queen Street.

The new street wall along King Street was conceptualized for retail opportunities that would help stitch together the retail streets of Ochterloney and Portland. The new streetscape elevation with two new retail opportunities was designed as a series of small 'village scale' shops with different materials and architectural form.

On Queen Street, the village scale remains, but with the addition of a new southeast facing public plaza and greenspace. This space was inspired by the significant setback of the Post Office and the existing well-used picnic tables and adirondack chairs on the grassy corner of King and Queen Street. To accommodate underground parking, the three existing trees of questionable health will be removed and replaced with a new tree-lined boulevard that will help soften the urban environment, and encourage use of the new social public plaza and greenspace located at the 'centre of town'.

To encourage use of the new public plaza and greenspace, meaningful historical objects such as the existing cenotaph and currently archived historical clock faces from the original Post Office clock tower were integrated into the community-focused landscape design that stretches from King to Wentworth Street. To further activate this space, the apartment building's main entrance and over/under townhouses within the repurposed 'Annex' were strategically located to help stimulate public use.

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Above the low-rise street wall, the mid- and high-rise portion of the project was designed as a calm contemporary form, clad in white, to blend away on cloudy or foggy days. The significant set back from the village-style base provides elevated green spaces for use by the residence, while at the same time reducing the impact of uncomfortable winds at pedestrian street level. When viewed from the corner of Wentworth and Queen, the midrise portion of the project has been stepped back from the original Post ffice façade to minimize the new development's visual impact on the historical asset, while the slim high-rise portion of the buildings impact is reduced further with the introduction of harbour facing glazing to achieve an elegant slender icon within the Dartmouth skyline.

The cladding of the mid and high-rise section of the building was also used as a conservation strategy, to highlight the historical Post Office. The neutral background of the mid and high-rise section was intentionally design as a contrasting material to elevate the character-defining features of the historical asset. To further, elevate the historical buildings presence within the overall development the new Wentworth elevation was set back 4m from the original historical Post Office to create a visual 'gap' between the new and the old facades when viewed from Queen, which was then stepped back further to reduce the midrise impact on the historical Post Office.

Our team took a community focused approach that was further inspired by the features of the existing historical Post Office, to achieve what we believe is a thoughtful community-focused development that will support local business, encourage active and public transportation, and become a central node for public activity within Downtown Dartmouth.

FIG. 33

RENDERED VIEW OF THE PROPOSED DEVELOPMENT 33

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08

APPENDIX A: STANDARDS & GUIDELINES EVALUATION

STANDARDS & GUIDELINES EVALUATION of 53 QUEEN

Conservation is the primary aim of the Standards and Guidelines, and is defined as 'all actions or processes that are aimed at safeguarding the character-defining elements of an historic place so as to retain its heritage value and extend its physical life. This may involve PRESERVATION, REHABILITATION, RESTORATION, or a combination of these actions or processes.

Note: The Standards are structured to inform the type project or approach being taken.

- Preservation project apply Standards 1 - 9;
- Rehabilitation projects apply Standards 1 - 9, and Standards 10 - 12;
- Restoration projects apply Standards 1 - 9, Standards 10 - 12, and Standards 13 and 14.

Similar to the Standards, the base Guidelines apply to the approach being taken, and additional Guidelines may apply if the project includes rehabilitation and restoration. The Guidelines should be consulted only when the element to be intervened upon has been identified as a character defining element. The Guidelines should not be used in isolation. There may be heritage value in the relationships between cultural landscapes, archaeological sites, buildings, or engineering works. These values should not be compromised when undertaking a project on individual character defining elements of an historic place.

TREATMENT: PRESERVATION			
Preservation is the action or process of protecting, maintaining, and/or stabilizing the existing materials, form, and integrity of an historic place, or of an individual componenet, while protecting the heritage value.			
STANDARDS 1- 10	COMPLIES	N/A	DISCUSSION
1. Conserve the heritage value of an historic place. Do not remove, replace or substantially alter its intact or repairable character-defining elements. Do not move a part of an historic place if its current location is character defining element.	Yes		All character-defining elements will be conserved.
2. Conserve changes to historic places that, over time, have become character-defining elements in their own right.	Yes		All changes to the the historic places of the site have already been considered.
3. Conserve heritage value by adopting an approach calling for minimal intervention.	Yes		There will be minimal intervention to the remaining character-defining elements.
4. Recognize each historic place as a physical record of its time, place and use. Do not create a false sense of historical development by adding elements from other historic places or other properties, or by combining features of the property that never coexisted.	Yes		The existing buildings will be restored using photographic, physical, and documentary evidence.
5. Find a use for an historic place that requires minimal or no change to its chartacter defining elements.	Yes		The project integrates the use of public space into the site.
6. Protect and, if necessary, stabilize an historic place until any subsequent intervention is undertaken. Protect and preserve archaeological resources in place. Where there is potential for disturbing archaeological resources, take mitigation measures to limit damage and loss of information.	Yes		Archaeological resources will be addressed at the point of site intervention. The provincial government will be notified of the process in accordance with the *Special Places Protection Act.*
7. Evaluate the existing condition of character-defining elements to determine the appropriate intervention needed. Use the gentlest means possible for any intervention. Respect heritage value when undertaking an intervention.	Yes		Original building materials will be conserved to the highest quality.
8. Maintain character-defining elements on an ongoing basis. Repair character-defining elements by reinforcing their matierals using recognized conservation methods. Replace in kind any extensively deteriorated or missing parts of character-defining elements, where there are surviving prototypes.	Yes		The building materials will be maintained on a regular basis as part of the larger integrated development.
9. Make an intervention needed to preserve character defining elements physically and visually compatible with the historic place and indentifiable on close inspection. Document interventions for future reference.	Yes		All character-defining elements will be preserved and restored, if possible. Interventions are being documented throughout the process.

TREATMENT: REHABILITATION			
Rehabilitation is the action or process of making possible a continuing or compatible contemporary use of an historic place, or an individual component, while protecting its heritage value.			
STANDARDS 10 - 12	COMPLIES	N/A	DISCUSSION
10. Repair rather than replace character-defining elements. Where character-defining elements are too serverly deteriorated to repair, and where sufficent physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the elements. Where there is insufficient physical evidence, make the form material and detailing of the new elements compatible with the character of the historic place.	Yes		There will be a combination of repair and replacement for character-defining elements. Where photographic evidence provides insufficient detail, some replacement elements may be recreated based on the character of the historic structure.
11. Conserve heritage values and character-defining elements when creating new additions to an historic place or any related new construction. Make new work physically and visually compatible with, subordinate to distinguishable from the historic place.	Yes		The integrity of the historic will be retained, and any new work will be physically and visually compatible with the historic structures.
12. Create any new additions or related new construction so that the essential form and integrity of an historic place will not be imparied if the new work is removed in the future.	Yes		The historic value of the structure will not be negatively affected by the proposed work.

TREATMENT: RESTORATION			
Restoration is the action or process of accurately revealing, recovering or representing the state of a historic place or of an individual componet,as it appeared at a particular period in its history, while protecting its heritage value.			
STANDARDS 13- 14	COMPLIES	N/A	DISCUSSION
13. Repair rather than replace character-defining elements from the restoration period. Where character-defining elements are too severely deteriorated to repair and where sufficent physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements.	Yes		All character-defining elements will be repaired where possible. If any are severely damaged, these will be restored using photographic evidence and documentation.
14. Replace missing features from the restoration period with new features whose forms, materials and detailing are based on sufficent physical, documentary and/or oral evidence.	Yes		Restored elements will be based on photographic evidence or on historic documentation available.

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APPENDIX B: EXISTING AND PROPOSED ELEVATIONS

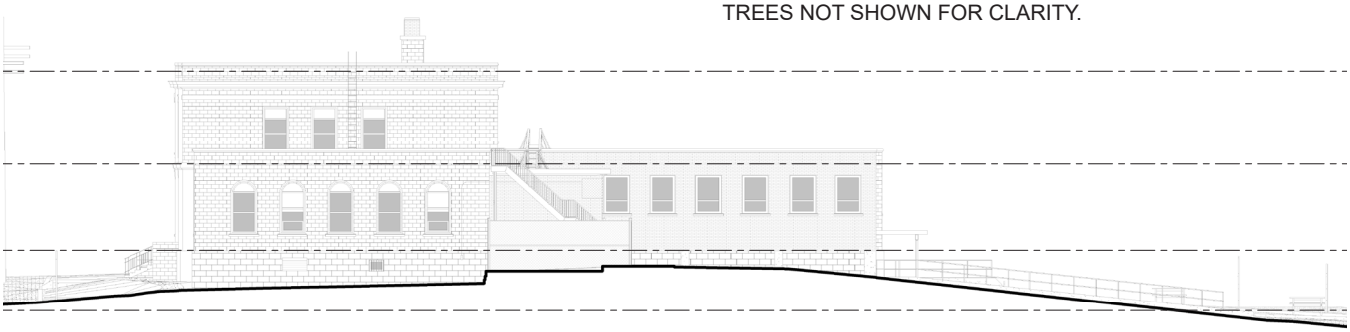
NOTE:

TREES NOT SHOWN FOR CLARITY.

EXISTING EAST ELEVATION

NOTE:

TREES NOT SHOWN FOR CLARITY.



EXISTING WEST ELEVATION

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NOTE:

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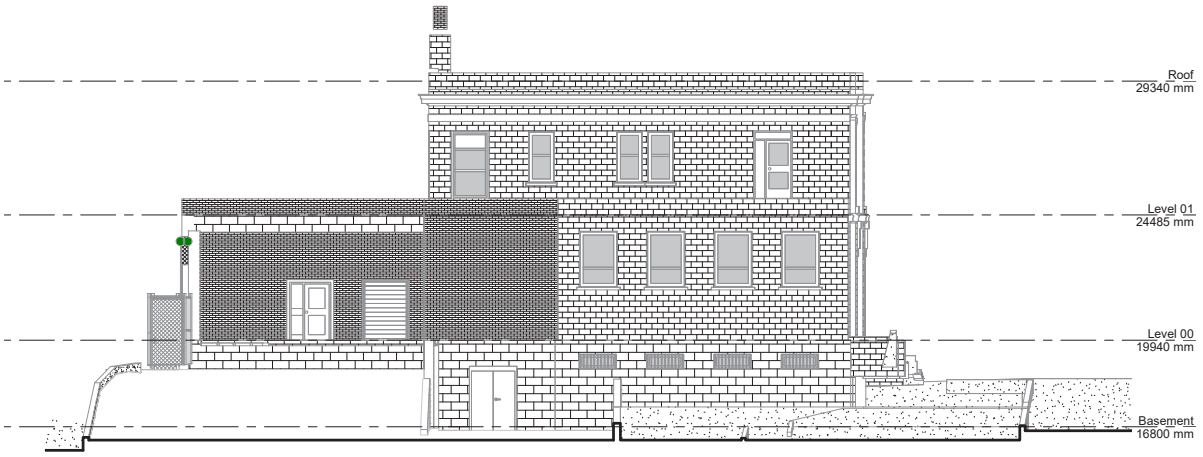

EXISTING SOUTH ELEVATION

NOTE:

TREES NOT SHOWN FOR CLARITY.

EXISTING NORTH ELEVATION

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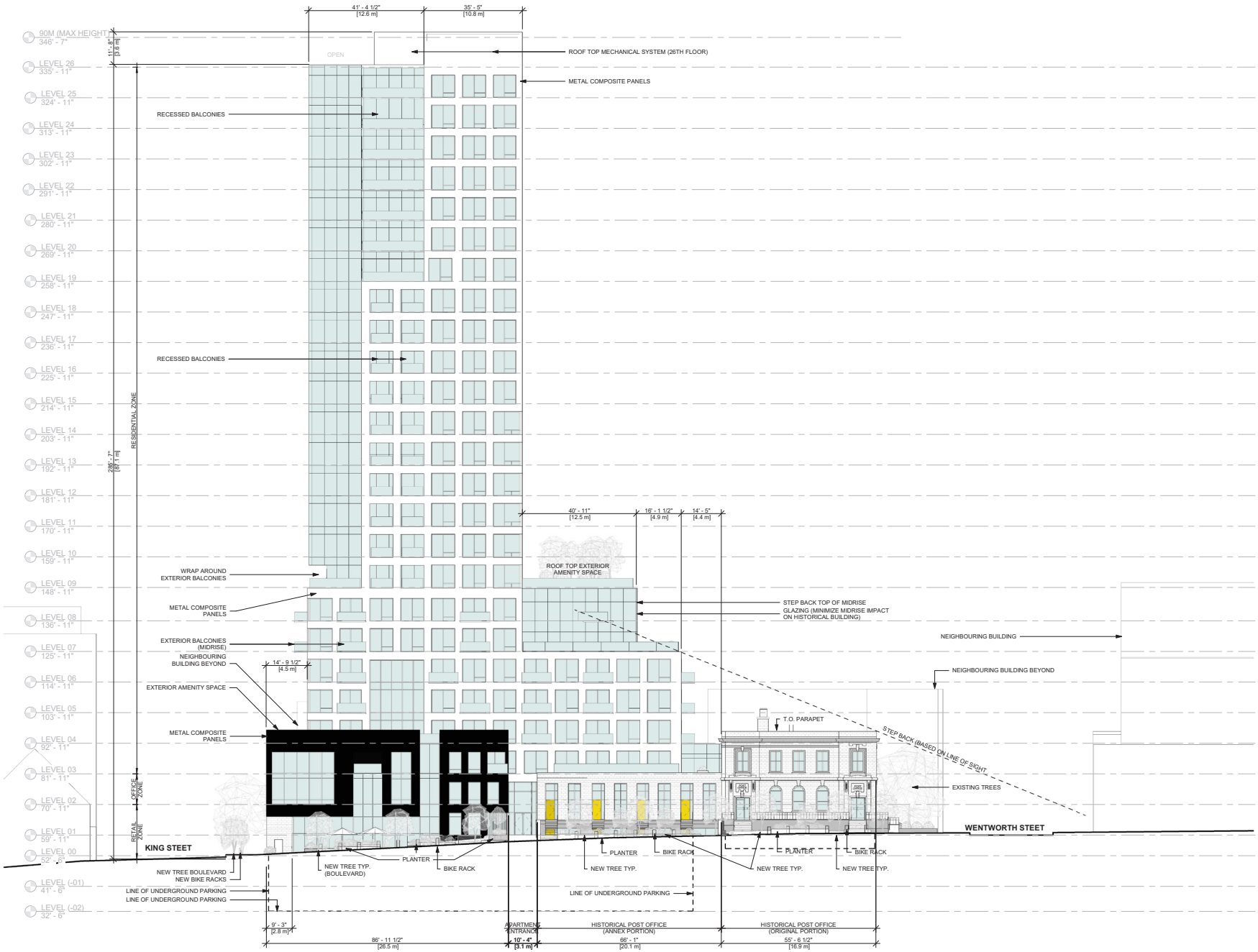

PROPOSED EAST ELEVATION

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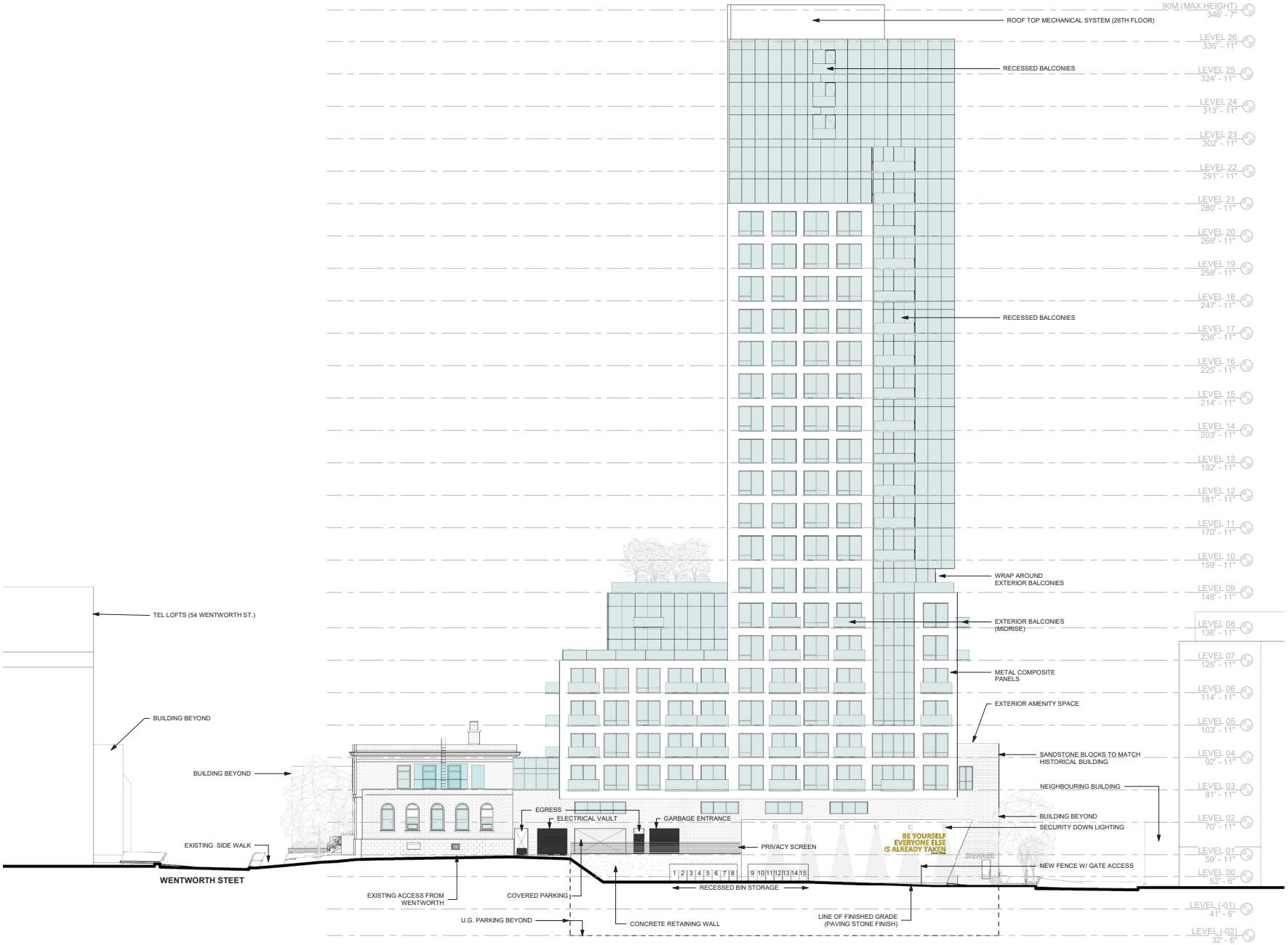

PROPOSED WEST ELEVATION

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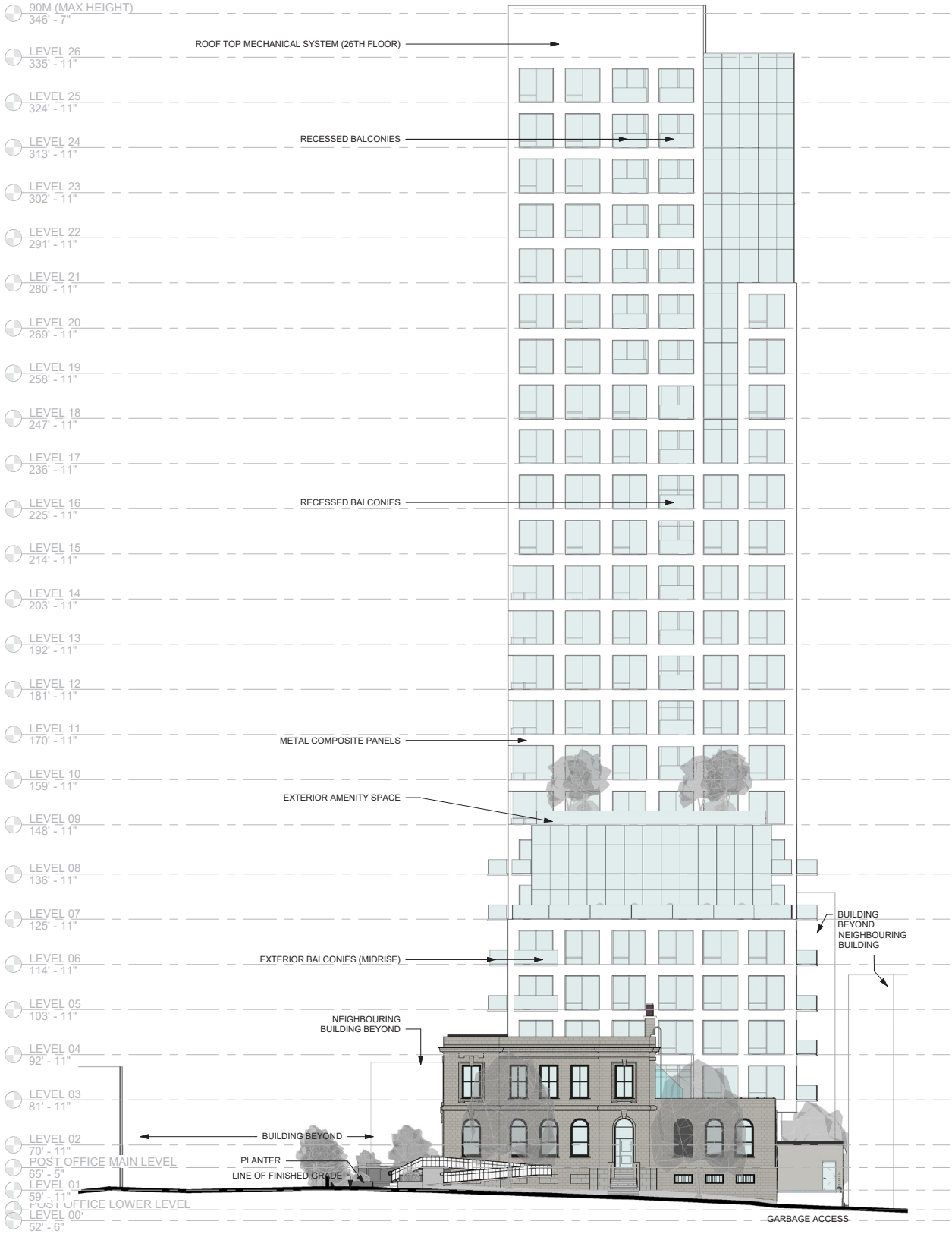
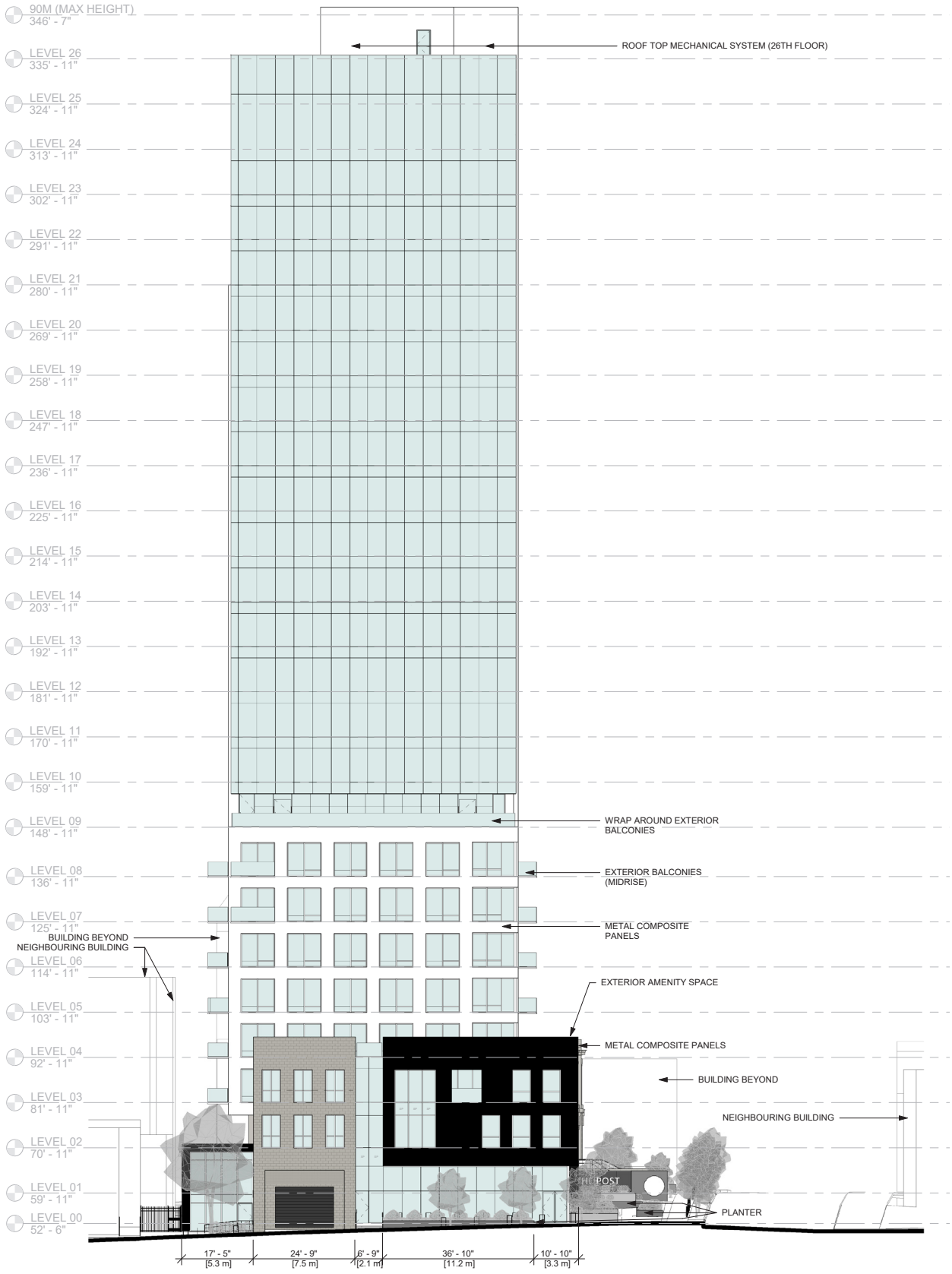


RHAD ARCHITECTS

PROPOSED NORTH ELEVATION



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PROPOSED SOUTH ELEVATION

HALIFAX

P.O. Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Item No. 9.1.2
Heritage Advisory Committee
July 22, 2020

TO: Chair and Members of the Heritage Advisory Committee

SUBMITTED BY: ***-Original Signed-***

Kelly Denty, Director of Planning and Development

-Original Signed-

Jacques Dubé, Chief Administrative Officer

DATE: March 6, 2020

SUBJECT: **Case H00493: Request to Include 53 Queen Street, Dartmouth in the Registry of Heritage Property for the Halifax Regional Municipality**

ORIGIN

On January 14, 2020 the following motion of Regional Council was put and passed:

"THAT Halifax Regional Council request a staff report examining the potential for including the Dartmouth Post Office, PID 00108043, in the Registry of Heritage Properties for the Halifax Regional Municipality. The report should be referred to the Heritage Advisory Committee for evaluation."

LEGISLATIVE AUTHORITY

The *Heritage Property Act*

RECOMMENDATION

It is recommended that the Heritage Advisory Committee recommend that Regional Council:

1. Set a date for a heritage hearing to consider the inclusion of 53 Queen Street, Dartmouth, as shown on Map 1, in the Registry of Heritage Property for the Halifax Regional Municipality; and

2. Approve the request to include 53 Queen Street, Dartmouth, as shown on Map 1, in the Registry of Heritage Property for the Halifax Regional Municipality as a municipal heritage property.

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BACKGROUND

On January 14, 2020, Regional Council directed staff to examine the potential of including the Dartmouth Post Office (53 Queen Street) in the Registry of Heritage Properties for the Halifax Regional Municipality. The subject property is located in downtown Dartmouth and has frontage on Wentworth, Queen, and King Streets (See Map 1) which contains the two-storey Post Office. The original sandstone brick building was designed in the Edwardian Baroque style by John Ewart and constructed between 1914-1917.

This application is being considered in accordance with Sections 14 (Recommendation as a municipal heritage property) and 15 (Registration as a municipal heritage property) of the *Heritage Property Act*.

HRM's *Heritage Property Program*

The purpose of the HRM Heritage Property Program is to help protect and conserve significant heritage resources including buildings, streetscapes, sites, areas, and conservation districts that reflect the rich heritage found in local communities throughout HRM. One of the principal aims of the Heritage Property Program is to recognize significant heritage resources through the inclusion of properties into the Municipal Registry of Heritage Properties.

Under the Heritage Property Program, all registration applications for heritage buildings are evaluated by the Heritage Advisory Committee (HAC) using "The Evaluation Criteria for Registration of Heritage Buildings in Halifax Regional Municipality" (Attachment A).

The Evaluation Criteria for scoring a property and building are broken down into six categories as follows:

Criterion	Highest Possible Score
1. Age	25
2. Historical or Architectural Importance	20
3. Significance of Architect/Builder	10
4. Architectural Merit: Construction type and Style	20
5. Architectural Integrity	15
6. Relationship to Surrounding Area	10
Total	**100**

Should the HAC score a property with more than 50 points, a positive recommendation will be forwarded to Regional Council. If the property does not score more than 50 points, then the report will not be forwarded to Regional Council.

Nova Scotia Heritage Property Act

HRM's Heritage Property Program receives its authority from the *Heritage Property Act* which seeks:

> *"…to provide for the identification, designation, preservation, conservation, protection and rehabilitation of buildings, public-building interiors, structures, streetscapes, cultural landscapes, areas and districts of historic, architectural or cultural value, in both urban and rural areas, and to encourage their continued use".*

Sections 14(2) and 15(1) under the *Heritage Property Act* require that notice of recommendation is given to the property owner at least thirty (30) days prior to any Council decision to include the property in the Registry of Heritage Property for the Halifax Regional Municipality. The property owner is also given an opportunity to address Council before they make a decision on the registration request. Should a positive recommendation be forwarded to Council, heritage staff will ensure the required notices are sent to the owners and deposited at the Registry of Deeds.

DISCUSSION

Heritage registration applications are evaluated by the HAC relative to six evaluation criteria as outlined previously, and described in greater detail in Attachment A. To assist the HAC in their evaluation and scoring, staff offer the following comments based on a historical research report (Attachment B). The historical research in support of this application has been undertaken by an experienced research consultant.

1. Age:

In 1913, the Federal Department of Public Works expropriated seven parcels of land to accommodate the new Dartmouth Post Office. The Post Office was constructed between 1914 and 1916 at the corner of Wentworth Street and Queen Street. James Renner was the Post Office's first caretaker. An addition was added near Queen Street and King Street in 1941 and was eventually replaced by a larger addition in 1961 (after more land was purchased from Dartmouth Town Council). The building also contains an addition along Wentworth Street constructed at an undetermined date (between 1947 and 1960).

The original Post Office was constructed between 1914 and 1916 and as such, staff recommend a score of 9 points for age.

2. Historical OR Architectural Importance:

Important / Unique Architectural Style or Highly Representative of an Era

The Dartmouth Post Office and its character defining elements are reflective of the Baroque architectural style, which was popular for civic buildings during the Edwardian Era (late 1890s and 1910s). This style relied on balanced designs, symmetry, simple rooflines and un-complicated, yet decorative moldings, which are evident in the Dartmouth Post Office. Further, the building incorporates some Classical and Beaux-Arts elements, which is a common feature of Baroque civic buildings from this era.

The Post Office's uniqueness is elevated by the shortage of early-20th Century civic buildings in downtown Dartmouth. Further, there are few sandstone buildings throughout the municipality and this is the sole example in downtown Dartmouth. With these considerations in mind, staff recommend a score between 16 and 20 points.

3. Significance of Architect or Builder:

The Post Office was designed by John Ewart, who moved to Canada from Scotland in 1971 and worked alongside the Chief Architect of the Federal Department of Public Works, Thomas Fuller, from 1884 to 1896. Ewart was promoted to the position of Chief Architect of the Department of Public Works from 1897 to 1914. As the chief government architect, he designed more than 340 government buildings across Canada, including Ottawa's Dominion Observatory (1902) and Royal Canadian Mint (1908).

In 1903, Ewart was one of the first recipients of the Imperial Service Order (in recognition of superb public service). He was a founding member of the Ontario Institute of Architects (1889), and the Royal Architectural Institute of Canada (1907). He retired in 1914 at the age of 73, and immediately received the unique position as the Dominion Consulting Architect; a position that he held until his death in 1921.

In addition to the Dartmouth Post Office, Ewart also designed the Halifax Customs House, which was constructed in 1902 and demolished around 1960 (due to the deterioration of the building's red sandstone). The only remnants of the Customs House are two sandstone lions which were removed and are now located in Granville Mall.

Due to the significance of John Ewart's architectural career, staff recommend a score of between 7 and 10 points.

4. Architectural Merit:

Construction type or building technology
The exterior of the Dartmouth Post Office was constructed from sandstone brick in an Edwardian Baroque style. Many buildings constructed in this style were made from expensive materials crafted to make a formal statement with a range of Classical elements. Granite stones and sandstone brick, quarried in Cumberland County, Nova Scotia, were used throughout the building. One of the Post Office's interesting features is the use of stone and brick that is cut-back around the edges to make its size and placement very clear and visible.

In the 19th century, architects experimented in the use of reinforced concrete in large institutional buildings, and it began to gain widespread use as ferro-concrete frames were often encased with stone. The Dartmouth Fire Insurance Plan of 1961 shows the building having a concrete foundation, along with being built of steel and brick. The sandstone brick may have been used to cover the use of steel and concrete as a means of hiding the use of modern materials.

As relatively few buildings with this construction type remain in Dartmouth today, staff recommend a score between 4 and 10 points.

Style
The heritage character and primary character-defining elements of the Dartmouth Post Office are derived from its Baroque architecture. This style was made popular for civic buildings during the Edwardian era (late 1890s to 1910s), as it borrowed and overlapped with the Beaux-Arts style. This style provided simple and balanced designs, simple rooflines, relatively un-complicated ornamentation and detailing. Some typical architectural elements include the use of a striking display of symmetry through fenestration, the use of a centralized grand entrance, and decorative moulding and brackets.

The character-defining elements, which are derived from the original Post Office, include:

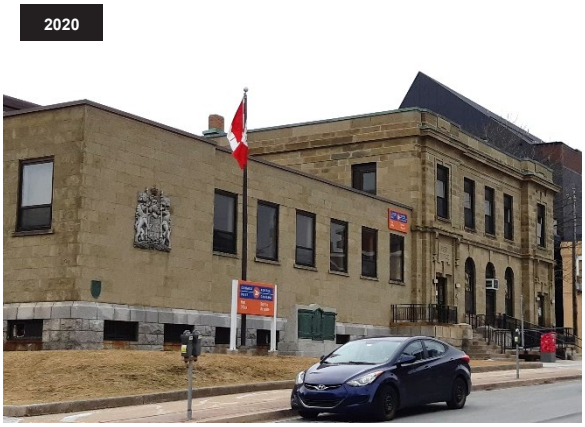
- Cornice line that wraps around the original building;
- 5-bay symmetrical façade with large voussoirs (tapered stones within an arch);
- Large window sills;
- Brick string course that separates the building's base from the upper storey;
- Sandstone "POST OFFICE" inscription above inflated keystones;
- Moulded lintels and brackets above the entryways; and
- Masonry granite foundation.

This architectural style is relatively rare in the municipality and relatively few examples have been maintained, particularly those which utilized sandstone. Staff recommend a score between 7 and 10 points.

5. Architectural Integrity:

The Dartmouth Post Office has generally high architectural integrity. The original Post Office building sits prominently at the Queen Street / Wentworth Street intersection and has been maintained using largely traditional materials. Numerous character-defining elements – such as the 5-bay symmetrical façade, granite foundation, brick string course, sandstone "POST OFFICE" inscription, etc. – remain intact.

The original clock tower was removed from the building due to structural concerns in 1977. This portion of the building was restructured, and compatible architectural detailing (including the cornice line) was re-instated.



The Dartmouth Post Office addition was added to the southern portion of the building in 1941 on the former site of the Central School. Following the purchase of the Queen Street / King Street corner lot in 1959, this addition was demolished to make way for a larger one-storey addition which opened in 1961. There is also a one-storey addition to the west of the original Dartmouth Post Office, along Wentworth Street. The history of this feature is not well-known, however HRM's records indicate that it was constructed between 1947 and 1960.

While the property has undergone additions during the past century, the essential form and integrity of the original Dartmouth Post Office Building has largely been maintained. With these considerations in mind, staff recommend a score between 1 and 10 points.

6. Relationship to Surrounding Area:

This landmark building is of significant historical and civic value to Downtown Dartmouth. It stands on the former site of the first Quaker meeting-house (1784-1822) and public school (1866-1917). Furthermore, this prominent civic institution has served the community as the main post office for over 100 years. Despite taking up much of a city block in area, the building is setback from the property line. Standing two-storeys tall with one-storey additions, the building is compatible with the surrounding streetscape and existing buildings in terms of height massing, and scale.

The building is an architectural asset that contributes to the heritage character of the surrounding area. It is also downtown Dartmouth's most prominent civic building from the early 20th century. As such, staff recommend a score between 6 and 10 points.

FINANCIAL IMPLICATIONS

The HRM costs associated with advertising and processing this application can be accommodated within the approved 2020/21 operating budget for C340 – Heritage and Social Policy.

RISK CONSIDERATION

There are no significant risks associated with the recommendations in this Report.

COMMUNITY ENGAGEMENT

The community engagement process for a heritage registration is consistent with the intent of the HRM Community Engagement Strategy. The level of community engagement was information sharing achieved through public access to the required Heritage Advisory Committee meeting. As a provision of the *Heritage Property Act*, no registration of a municipal heritage property shall take place until Regional Council has given the owner of the property an opportunity to be heard.

ENVIRONMENTAL IMPLICATIONS

There are no significant environmental implications associated with the recommendations in this Report.

ALTERNATIVE

1. The Heritage Advisory Committee may choose to reject the application to include 53 Queen Street, Dartmouth in the Registry of Heritage Property for the Halifax Regional Municipality. In doing so, the application will not proceed to Regional Council for evaluation.

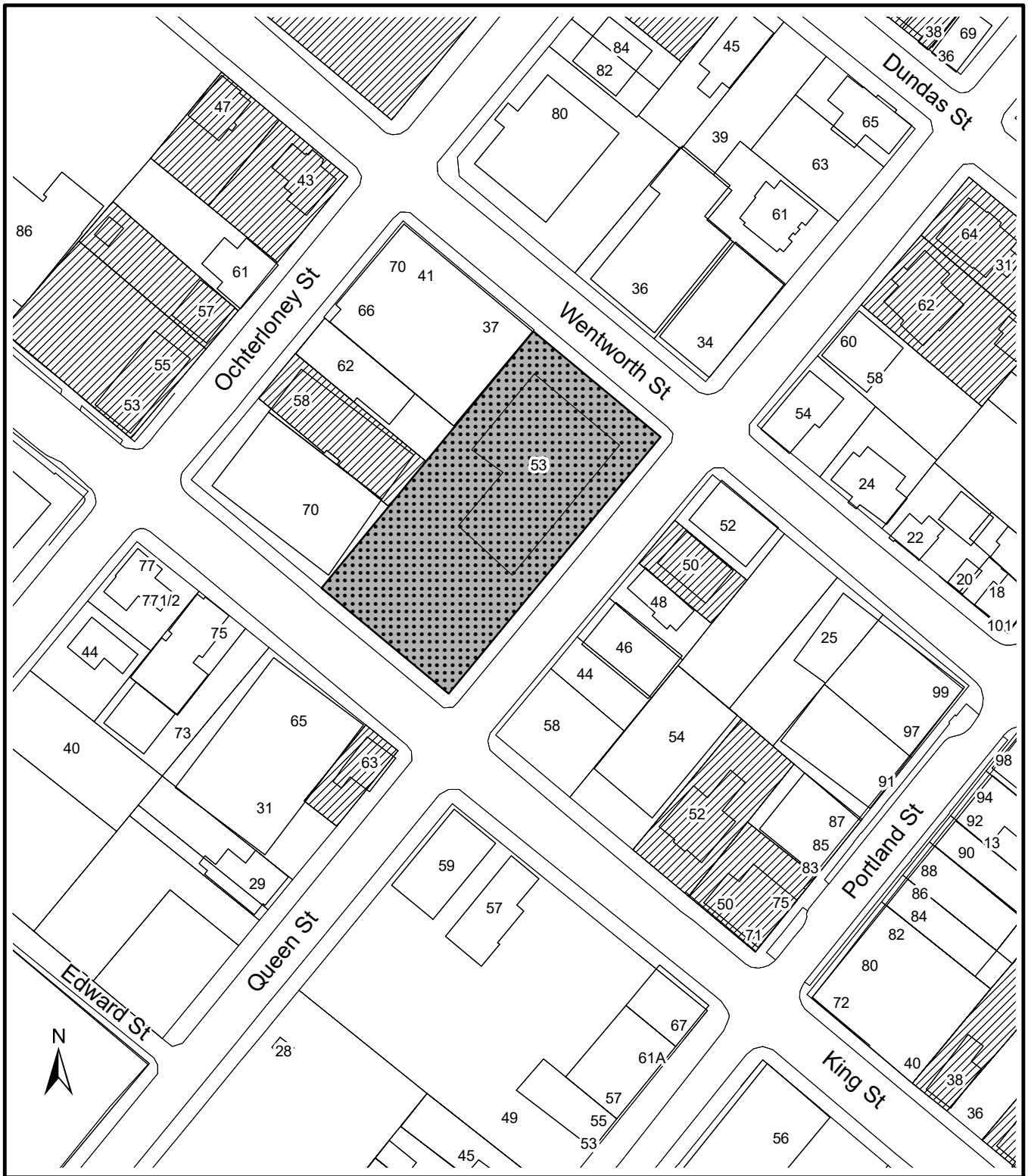
ATTACHMENTS

Map 1: Location Map

Attachment A: Evaluation Criteria
Attachment B: Research Report

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Jesse Morton, Planner II, 902.490.4844



Map 1 - Location Map

53 Queen Street,
Dartmouth

Registered Heritage Property

Subject Property

HALIFAX

0 10 20 30 40 m

HRM does not guarantee the accuracy of any representation on this plan.

3 March 2020

Case H00493

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RHAD ARCHITECTS

March 18th, 2022

Prepared for:
RHAD Architects
63 King Street
Dartmouth, NS
B2Y 2R7

ATTENTION: Darren Fransen – Intern Architect, NSAA, M.Arch., BEDS

RE: Former Dartmouth Post Office Building – Structural Condition Assessment

1.0 INTRODUCTION & BACKGROUND

BMR Structural Engineering Limited (BMR) was engaged by Rayleen Hill Architecture & Design (RHAD) to perform a visual condition assessment of the former Dartmouth Post Office building located at 53 Queen Street in downtown Dartmouth, Nova Scotia. The existing building is currently included on the Registry of Heritage Properties for the Halifax Regional Municipality. According to the HRM Heritage Advisory Committee report dated 22 July 2020, the building was constructed in several stages (**See Figure 1**), with the original post office constructed between 1914 and 1917. The north addition was constructed in approximately 1947 and the current west addition was constructed in 1961. A clock tower located above the southeast corner of the original building roof was removed in 1977. The property is set to undergo a major redevelopment with a portion of the existing structure to be demolished to make way for new construction. BMR did not review the areas slated for future demolition, which are noted in Figure 1.

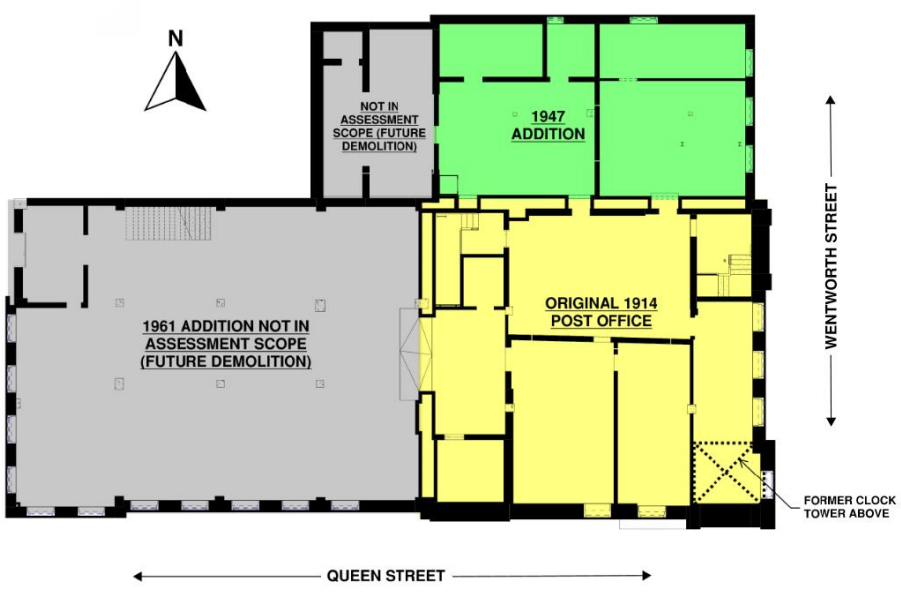

Figure 1: Key Plan – Former Dartmouth Post Office

The purpose of the project was to perform a visual condition assessment of the existing structural building components with a focus on the following: *Structural impact of the planned interior fit-up on the original Post Office and 1947 Addition as it relates to the National Building Code of Canada (NBCC), documentation and analysis of key structural elements throughout the building, general recommendations for permanent remediation of the structure*, as well as *general recommendations related to any anticipated temporary works during construction*. Please note that detailed design solutions are not part of the scope of this assessment; therefore, detailed construction cost analysis is not included. BMR recommends working with the General Contractor to obtain rough order of magnitude costing based on the recommendations noted in this report. It is our understanding that the Historic exterior stone façades are to be maintained in their current condition, wherever possible. The planned construction sequencing will require portions of the stone façade in the 1961 addition to be removed and reinstalled along with the new works, the extent of which will be determined by RHAD.

BMR was provided with as-found drawings and an electronic building model based on a recently completed 3D scan of the building. In addition, BMR was provided with concept architectural drawings dated 1 Feb 2022 that outline plans for the new Spirit Spa interior fit-up work. Shortly after completion of the scan, all interior finishes were removed as part of a planned asbestos remediation, thereby exposing most of the building's structural components. Scott Clarke and Jason Landry of BMR visited the site on 28 February 2022 and 1 March 2022 to, wherever possible, measure and visually document existing structural elements, compile site sketches and photos, as well as determine existing load paths.

2.0 DESIGN LOADS

The following section details all structural design data used in the assessment of as-found framing members and systems. For existing buildings, including Heritage properties, which have a proven performance record over time, previous structural design standards and codes are allowed to be considered and/or relaxed under *NBCC Commentary L – Application of NBC Part 4 of Division B for the Structural Evaluation and Upgrading of Existing Buildings.* For this section of the code to be used, several criteria must be met as follows:

- No change in use or occupancy loads
- The structure has not experienced significant damage, distress, or deterioration
- The structure has not been changed in a way that could impair its performance
- The safety of the building has not been compromised because of known or potential defects

As will be shown in forthcoming sections of this report, none of the criteria noted above applies to the existing Post Office based on the as-found conditions and planned redevelopment. Therefore, all design data considered in this assessment are based on the limit states method and minimum standards noted in Part 4 of the latest version of the National Building Code of Canada. As per NBCC Table 4.1.2.1, the Importance Category is 'Normal' and the project location for climatic data is Dartmouth, Nova Scotia.

The following table summarizes all design loads used by level:

OCCUPANCY	SDL (PSF)	LL (PSF)	SL (PSF)	PL (PSF)
POST OFFICE HIGH ROOF LEVEL				
N/A	25	N/A	40	N/A
POST OFFICE UPPER LEVEL (INCL. CONCRETE TOPPING)				
RESIDENTIAL UNIT	35	40	N/A	20
COORIDORS	35	100	N/A	20
POST OFFICE MAIN LEVEL (TIMBER FLOOR + LEVELLER)				
COMMERCIAL	35	100	N/A	20
POST OFFICE MAIN LEVEL (CONCRETE FLOOR + LEVELLER)				
COMMERCIAL	110	100	N/A	20

LEGEND: SDL = Superimposed Dead Load, LL = Live Load, SL = Snow Load, PL = Partition Load, PSF = Pounds per Square Foot

3.0 STRUCTURAL FRAMING ASSESSMENTS

BMR performed an assessment of primary and secondary structural elements at the *upper roof framing (Figure 2A)*, *second level framing (Figure 3A)*, and *main level framing (Figure 4A)*. Included in the scope of our assessment for Section 3.0 were the timber floor and roof joists, structural steel girder beams, and structural steel columns within the original 1914 Post Office and the 1947 Addition. Comments associated with the load-bearing masonry will be provided separately. With regards to the load-bearing capacity of a particular member, each is noted with a percentage figure (over or under) its maximum capacity of 100% as prescribed by the latest version of the NBCC. Any figure over 100% will require some form of reinforcement.

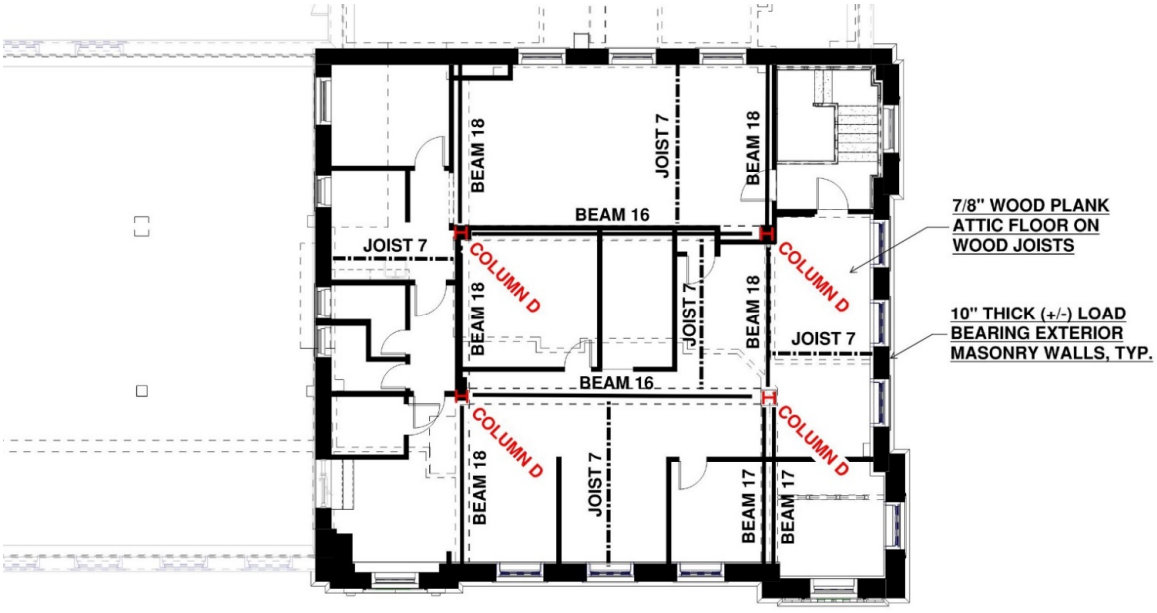

Figure 2A: Upper Roof Framing Plan. Structural elements shown in red require reinforcement, see Figure 2B.

UPPER ROOF FRAMING					
MARK	**SHAPE**	**MATERIAL**	**YEAR**	**STRESS CAPACITY (%)**	**REINF. REQ'D**
BEAM 16	S18x54.7	STRUCTURAL STEEL	1914	93.33	NO
BEAM 17	S20x66	STRUCTURAL STEEL	1914	46.67	NO
BEAM 18	S8x18.4	STRUCTURAL STEEL	1914	93.33	NO
JOIST 7	2"x10" @ 16" c/c	ROUGH-SAWN TIMBER	1914	92.86	NO
COLUMN D	W6x20	STRUCTURAL STEEL	1914	**175.00**	**YES**

Figure 2B: Upper Roof Framing Chart

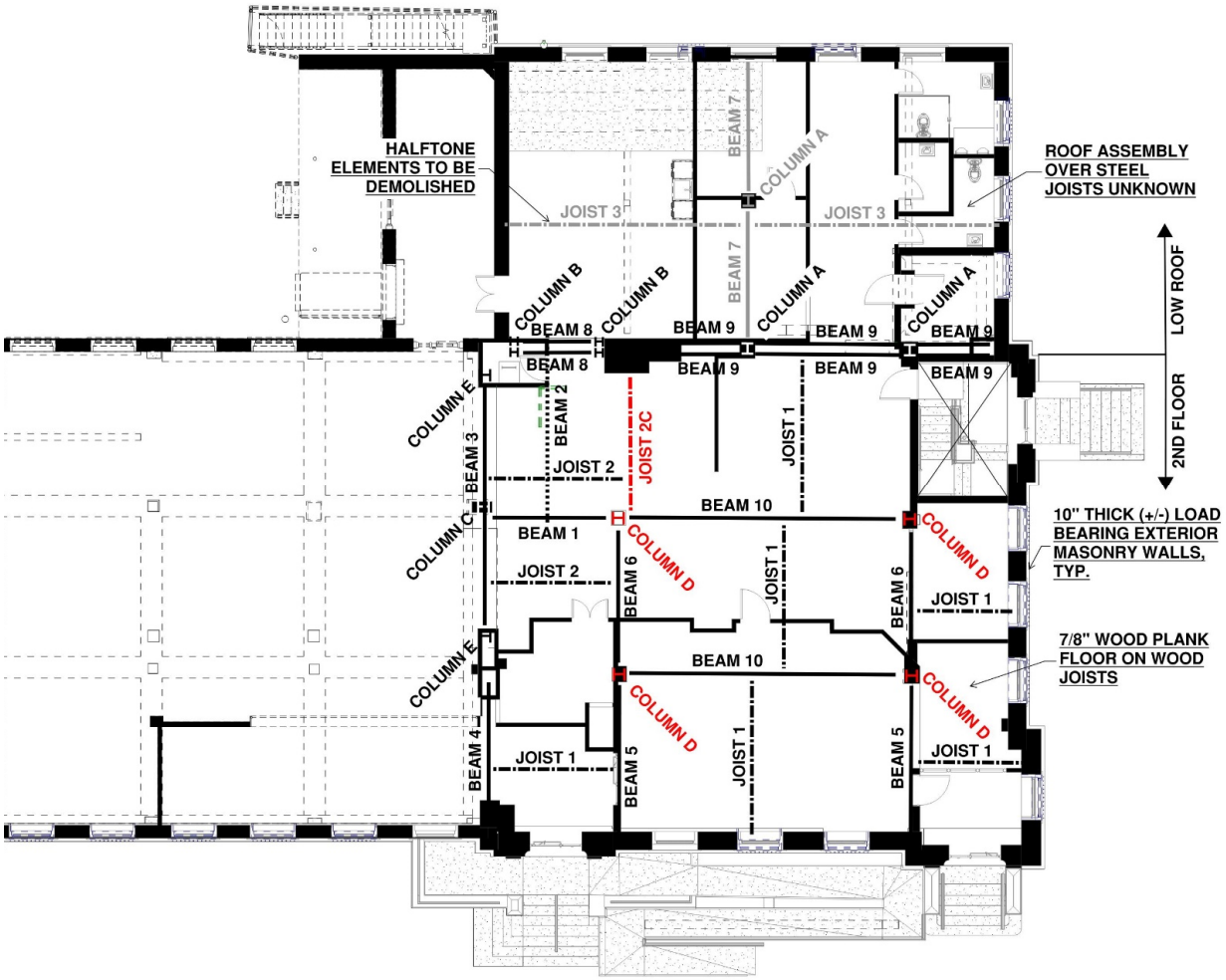

Figure 3A: Second Floor and Low Roof Framing Plan. Structural elements shown in red require reinforcement, see Figure 3B.

SECOND FLOOR FRAMING					
MARK	**SHAPE**	**MATERIAL**	**YEAR**	**STRESS CAPACITY (%)**	**REINF. REQ'D**
BEAM 1	W8x28	STRUCTURAL STEEL	1914	100.00	NO
BEAM 2	W8x28	STRUCTURAL STEEL	1947	100.00	NO
BEAM 3	W12x161	STRUCTURAL STEEL	1941	95.00	NO
BEAM 4	W12x133	STRUCTURAL STEEL	1941	95.00	NO
BEAM 5	S8x23	STRUCTURAL STEEL	1914	95.00	NO
BEAM 6	S10x25.4	STRUCTURAL STEEL	1914	86.36	NO
BEAM 7	S15x42.9	STRUCTURAL STEEL	1947	100.00	NO
BEAM 8	W6x20	STRUCTURAL STEEL	1947	100.00	NO
BEAM 9	S12x35	STRUCTURAL STEEL	1947	100.00	NO
BEAM 10	S24x80	STRUCTURAL STEEL	1914	95.00	NO
JOIST 1	2"x12" @ 16" c/c	ROUGH-SAWN TIMBER	1914	100.00	NO
JOIST 2	2x12 @ 16" c/C	DIMENSIONAL LUMBER	1961	100.00	NO
JOIST 2C	2-PLY 2x12	DIMENSIONAL LUMBER	1961	**167.00**	**YES**
JOIST 3	16" DP. OWSJ	OPEN-WEBBED STEEL JOIST	1947	**NOT REVIEWED**	**REMOVE**
COLUMN A	8" x 8"	BUILT-UP STEEL	1947	100.00	NO
COLUMN B	W6x20	STRUCTURAL STEEL	1947	50.00	NO
COLUMN C	W8x24	STRUCTURAL STEEL	1941	75.00	NO
COLUMN D	W6x20	STRUCTURAL STEEL	1914	**175.00**	**YES**
COLUMN E	W6x20	STRUCTURAL STEEL	1941	60.00	NO

Figure 3B: Second Floor Framing Chart.

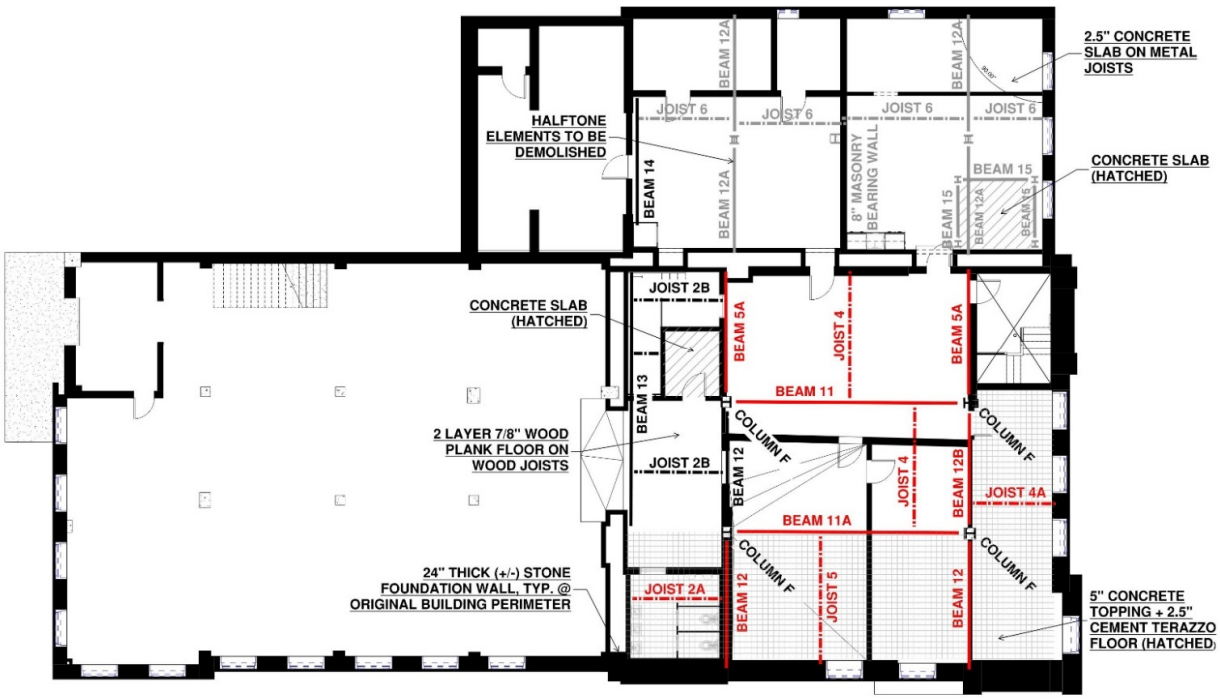

Figure 4A: Main Floor Framing Plan. Structural elements shown in red require reinforcement, see Figure 4B.

MAIN FLOOR FRAMING					
MARK	**SHAPE**	**MATERIAL**	**YEAR**	**STRESS CAPACITY (%)**	**REINF. REQ'D**
BEAM 5A	S8x23	STRUCTURAL STEEL	1914	**129.17**	**YES**
BEAM 11	S24x80	STRUCTURAL STEEL	1914	**129.17**	**YES**
BEAM 11A	S24x80	STRUCTURAL STEEL	1914	**109.04**	**YES**
BEAM 12	S10x25.4	STRUCTURAL STEEL	1914	96.88	***YES**
BEAM 12A	S10x25.4	STRUCTURAL STEEL	1914	**131.36**	**REMOVE**
BEAM 12B	S10x25.4	STRUCTURAL STEEL	1914	**115.00**	**YES**
BEAM 13	L5x5x5/16	STRUCTURAL STEEL	1961	N/A	NO
BEAM 14	W8x40	STRUCTURAL STEEL	1947	100.00	NO
BEAM 15	W6x15	STRUCTURAL STEEL	1947	**NOT REVIEWED**	**REMOVE**
JOIST 2A	2"x12" @ 16" c/c	ROUGH-SAWN TIMBER	1914	**122.34**	**YES**
JOIST 2B	2x12 @ 16" c/c	DIMENSIONAL LUMBER	1961	100.00	NO
JOIST 4	2"x12" @ 18" c/c	ROUGH-SAWN TIMBER	1914	**178.16**	**YES**
JOIST 4A	2"x12" @ 18" c/c	ROUGH-SAWN TIMBER	1914	**143.75**	**YES**
JOIST 5	3"x12" @ 18" c/c	ROUGH-SAWN TIMBER	1914	**200.00**	**YES**
JOIST 6	10" DP. OWSJ	OPEN-WEBBED STEEL JOIST	1947	**NOT REVIEWED**	**REMOVE**
COLUMN F	9.5"x10.5"	BUILT-UP STEEL	1914	97.14	NO

Figure 4B: Main Floor Framing Chart.

***Beam 12 bearing points at foundation walls in poor condition. Steel is heavily corroded and in need of immediate remediation**.

4.0 OBSERVATIONS AND RECOMMENDATIONS

The following section will summarize visual observations made by BMR staff, provide site photos of key issues, and outline general recommendations for remediation. The observations will be broken down and summarized by level as follows: *Upper Level, Main Level,* and *Basement Level*.

4.1 Upper-Level Observations

The upper roof framing consists of a two-tier roof framing system with a small attic space in between that was constructed in 1914. *The attic space was not accessible at time of review due to the presence of batt or blown-in insulation on the attic floor*. Based on limited visibility at the attic hatch, the upper roof framing is sloped for drainage and consists of timber roof joists that are supported on a series of timber beams and posts that are in turn supported on the lower roof framing system, which is flat and previously supported the interior ceiling as well. The lower roof framing system consists of a series of 2"x10" rough-sawn timber joists at 16" on centre. The attic sub-floor consists of 1" tongue-and-groove planks of various widths. The timber joists are supported on approximately 10" thick (3 wythes) load-bearing masonry walls along the perimeter exterior walls and a series of interior structural steel girder beams. The steel girders are supported within the space on a series of concrete encased steel W-columns (**See figures 2A and 2B** for individual member analysis). The steel girder beams are supported at the exterior walls by granite blocks that are inset into the load-bearing masonry walls. Light steel lintels are inset into the load-bearing masonry walls to span the window openings.

4.2 Upper-Level Recommendations

The following is a list of recommended remediations at the upper level along with accompanying photos for reference:

1. Re-point all damaged and degraded mortar joints at interior surfaces of load-bearing masonry walls
2. Provide new 2x6 load-bearing stud walls along entire perimeter of exterior masonry walls (new interior walls shown on architectural concept plans) to shift from existing point-loaded condition to new distributed bearing condition.
3. Reinforce or replace all water-damaged timber joists
4. Install new, 5/8" thick exterior-grade plywood over existing damaged & loose plank sub-floor within attic space to stiffen roof diaphragm.
5. Reinforce existing interior steel columns per Figures 2A and 2B.
6. Remove existing attic insulation to allow for detailed structural review of sloped upper roof framing.

BMR Photo 4.2.A: 2"x10" timber joists with loose/damaged attic planks. Joists bearing on masonry wall (28 Feb 2022).

BMR Photo 4.2.B: Water stained/damaged roof joists bearing on masonry wall (28 Feb 2022).

BMR Photo 4.2.C: Granite bearing block at steel girder beam within load-bearing masonry wall. Degraded mortar joints present in masonry walls (28 Feb 2022).

BMR Photo 4.2.D: 2"x10" timber joists supported on steel girder beams and concrete-encased W-columns (28 Feb 2022).

4.3 Main-Level Observations

The second-floor framing consists of floor structure within the original 1914 building as well as a low-roof structure above the 1947 addition. The second-floor structure consists of a series of 2"x12" rough-sawn timber joists at 16" on centre with a portion of the floor consisting of newer, standard 2x12 timber joists at 16" on centre. The second-floor subfloor consists of 1" tongue-and-groove planks of various widths. The timber joists are supported on approximately 10" thick (3 wythes) load-bearing masonry walls along the perimeter exterior walls and a series of interior structural steel girder beams. The steel girders are supported within the space on a series of concrete encased steel W-columns (**See figures 3A and 3B** for individual member analysis). The steel girder beams are supported at the exterior walls by granite blocks that are inset into the load-bearing masonry walls.

The roof structure above the 1947 addition consists of open-webbed steel joists that are supported on load-bearing masonry walls along the exterior perimeter and on structural steel girder beams within the space. No lateral bridging or bracing is included with the roof joist system. There appears to be corrosion present on the steel structural members and several of the open-webbed steel roof joists have failed based on severe buckling of the members observed at the time of review. **Due to its poor condition, the entire 1947 addition roof structure will need to be demolished and replaced.**

During construction of the 1961 (1941) and 1947 additions, large openings were cut into the original, load-bearing masonry walls to allow access to the new spaces. Structural steel header beams were installed to support the existing masonry walls and stone cladding up to the roof level above. These beams are supported on structural steel columns of various sizes, which are exerting large point loads on the existing masonry walls below. **The load-bearing masonry walls below most steel beam bearing points are in poor condition and in need of immediate attention.** It is unclear if the damage observed was present prior to the recent asbestos remediation or if the masonry was damaged during demolition of the interior finishes.

4.4 Main-Level Recommendations

The following is a list of recommended remediations at the main level along with accompanying photos for reference:

1. Re-point all damaged and degraded mortar joints at interior surfaces of load-bearing masonry walls
2. Provide new 2x6 load-bearing stud walls along entire perimeter of exterior masonry walls (new interior walls shown on architectural concept plans) to shift from existing point-loaded condition to new distributed bearing condition.
3. Reinforce girder joist noted in Figures 3A and 3B
4. Install new, 3/4" thick plywood subfloor over existing damaged & loose plank sub-floor on second level to stiffen floor diaphragm and provide solid surface for planned concrete floor topping.
5. Reinforce existing interior steel columns per Figures 3A and 3B.
6. Re-build and reinforce all loose and damaged load-bearing masonry below structural steel header bearing points at openings into 1961 and 1947 additions. Temporary shoring of the floor, roof, and/or load-bearing masonry structures may be required to complete this work (**See Section 5.0**).
7. Demolish and replace failed steel roof structure over 1947 addition. Temporary shoring of the load-bearing masonry walls may be required to complete this work (**See Section 5.0**).

BMR Photo 4.4.A: Double 2"x12" timber header joist to be reinforced (28 Feb 2022).

BMR Photo 4.4.B: Damaged load-bearing masonry below west end of steel header beam at 1947 addition opening (28 Feb 2022).

BMR Photo 4.4.C: Damaged and loose load-bearing masonry below east end of steel header beam at 1947 addition opening (28 Feb 2022).

BMR Photo 4.4.D: Loose and damaged load-bearing masonry above and adjacent header beams into 1961 addition (28 Feb 2022).

BMR Photo 4.4.E: Failed roof joists at 1947 addition shown buckled out of plane. No bracing or bridging present (28 Feb 2022).

BMR Photo 4.4.F: Timber joists bearing on exterior masonry wall. Girder beam bearing on granite block (28 Feb 2022).

4.5 Basement-Level Observations

The main floor framing consists of floor structure within the original 1914 building as well as a floor structure within the 1947 addition. The original floor structure consists of a series of 2"x12" rough-sawn timber joists at 18" on centre with a portion of the floor consisting of 3"x12" rough-sawn timber joists at 18" on centre. The floor structure in the addition consists of 10" and 8" deep open-webbed steel joists supporting an approximately 2" thick concrete floor slab that appears to be reinforced with welded wire mesh. No lateral bracing or bridging is installed between the joists (**See figures 4A and 4B** for individual member analysis). The subfloor at the main level in the original building consists of two different assemblies. The floor area as you enter the building from Queen Street consists of approximately 5" thick concrete infills between each timber joist with an approximately 2.5" thick cement terrazzo floor overpoured on top. The concrete is supported by 1.25" thick tongue-and-groove planks installed between each timber floor joist. The rest of the floor structure within the original building consists of a double layer of 7/8" thick tongue-and-groove wood planks installed perpendicular to one another.

Within the original building, the timber joists are supported on a combination of interior steel girder beams and load-bearing interior masonry walls. Along the exterior perimeter walls, the floor joists are supported on the approximately 24" thick stone foundation walls. The 3"x12" timber joists below the concrete floor at the Queen Street entrance appear to have deflected over their lifespan under the load of the floor. In addition, it appears that some joists have failed in shear at the foundation bearing point. The steel girders are supported within the space on a series of concrete encased steel W-columns (**See figures 4A and 4B** for individual member analysis). The steel girder beams bear directly on the stone foundation walls along the exterior perimeter. Within the original building, **the steel girders are heavily corroded at the foundation bearing points along Queen Street and require immediate attention.** The steel joist floor structure within the 1947 addition is supported on a combination of load-bearing masonry walls, steel girder beams, and the stone foundation walls. No lateral bridging or bracing is included with the floor joist system. There appears to be corrosion present on the steel structural members. Based on the architectural plan for the interior fit-up, it will be necessary to remove substantial portions of the floor in the 1947 addition. Therefore, the existing open-webbed steel joists were not analysed as part of this report. If they were to remain, the expectation is that extensive reinforcement would be required to meet the latest requirements of the building code.

As noted in Section 4.3, large openings were cut into the original, load-bearing masonry walls on the main level to allow access to the new addition spaces. The intent appears to have been to transfer the column point loads on the main level onto the load-bearing masonry walls below. **The load-bearing masonry walls below these bearing points and other locations are in poor condition and require immediate attention.** It is unclear if the damage observed was present prior to the recent asbestos remediation or if the masonry was damaged during demolition of the interior finishes.

4.6 Basement-Level Recommendations

The following is a list of recommended remediations at the basement level along with accompanying photos for reference:

1. Re-point all damaged and degraded mortar joints at interior surfaces of load-bearing masonry walls
2. Provide new 2x6 load-bearing stud walls along entire perimeter of exterior masonry walls (new interior walls shown on architectural concept plans) to shift from existing point-loaded condition to

new distributed bearing condition. New concrete strip footing within, or below new concrete slab-on-grade will be required to support new bearing walls.

3. Reinforce all timber joists noted in Figures 4A and 4B. This may involve doubling up on existing joists or providing new bearing lines in coordination with architectural to reduce the existing structural spans.
4. Reinforce existing steel girder beams per Figures 4A and 4B. This may involve welding of added steel to strengthen the beams or providing additional columns and pad footings in coordination with architectural to reduce the structural spans.
5. Re-build and reinforce all loose and damaged load-bearing masonry below structural steel bearing points at openings into 1961 and 1947 additions above. Temporary shoring of the floor, roof, and/or load-bearing masonry structures may be required to complete this work (**See Section 5.0**).
6. Demolish and replace steel floor structure within 1947 addition. Temporary shoring of the load-bearing masonry walls may be required to complete this work (**See Section 5.0**).

BMR Photo 4.6.A: 3”x12” floor joists with concrete infill between and cement terrazzo floor on top (1 Mar 2022).

BMR Photo 4.6.B: Heavily corroded steel girder beam at foundation bearing point. **Requires immediate attention** (1 Mar 2022).

BMR Photo 4.6.C: Timber floor joist that appears to have failed at the bearing point (1 Mar 2022).

BMR Photo 4.6.D: Damaged load-bearing masonry and concrete infill with large column point load above door frame. **Requires immediate attention** (1 Mar 2022).

BMR Photo 4.6.E: Steel girder beam, 2"x12" joists, 3"x12" joists all require reinforcement (1 Mar 2022).

BMR Photo 4.6.F: Corroded steel floor joists and steel girder beam at 1947 addition. Recommend floor be demolished and replaced (1 Mar 2022).

5.0 TEMPORARY STRUCTURAL SUPPORT

The following section will provide general commentary on expected areas of temporary structural support that may be required based on the architectural concept drawings provided to-date as well as the as-found conditions as part of this assessment. The design of all temporary shoring and bracing will be provided by a professional structural engineer licenced in Nova Scotia and engaged by the building contractor. The observations will be broken down as follows: *1947 Addition Removals, Load-Bearing Masonry Wall Remediation,* and *New Parkade construction*.

5.1 1947 Addition Removals

As noted in Section 4.0 above, BMR recommends that the existing floor and roof framing in the 1947 addition be demolished and replaced. Removing the structural diaphragms exposes the exterior load-bearing masonry and stone foundation walls to wind, soil, and potential seismic loads that they were not designed and constructed to resist. All temporary bracing will need to remain in place until construction of the new floor and roof structures are complete.

Removal of the roof structure will require temporary steel bracing be installed prior to demolition to temporarily shore the exterior stone and masonry walls. Based on the location of the property lines shown on the architectural as-built drawings provided to BMR, it appears this bracing could be installed on the outside of the building. Continuous horizontal steel elements on the inside and outside face of the building will be required to transfer the lateral loads into the bracing. Wherever possible, steel connection rods for the horizontal elements will be placed through window openings to minimize the need for holes to be drilled through the existing stone cladding.

Removal of the floor structure will require temporary steel bracing first be installed inside the building from the top of the stone foundation wall down to the basement slab-on-grade. This will allow the walls to resist the exterior soil loads during construction of the new floor diaphragm. The expectation is that a continuous horizontal steel element will be connected to the stone wall with drilled masonry anchors to provide a connection point for the diagonal braces.

5.2 Load-Bearing Masonry Wall Remediation

As noted in Section 4.0 above, BMR recommends that all damaged and/or loose interior load-bearing masonry be immediately repaired. While some areas requiring repair are only supporting the immediate floor framing above, several locations of concern are supporting a combination of floor, roof, and brick wall structure all together. To safely repair these damaged bearing points, temporary shoring will be required to support the floor (main and second level) and roof structures. In addition, the dead load of the load-bearing masonry walls will also need to be temporarily supported. Temporary shoring posts and beams, for example, could be installed at each level to support the floor structures during the work. Horizontal steel elements will need to be connected to each face of the load-bearing masonry wall above the area of work to temporarily support the dead load of the brick until repairs are complete.

Prior to beginning any temporary shoring or demolition, BMR recommends that minor selective demolition be undertaken to create small openings in the basement slab-on-grade at the base of the stone foundation wall and an interior load-bearing masonry wall (away from areas of concern). This is necessary to determine how far below the basement slab-on-grade the foundation walls extend as well as the current bearing condition below the interior masonry walls. This information will be required to complete the structural upgrades recommended in Section 4.0.

5.3 New Parkade Construction

To facilitate construction of the new parkade and residential tower, it will be necessary to demolish the 1961 addition to the original post-office. This will expose the west end of the original 1914 building, which includes the openings that were cut into the load-bearing masonry walls to access the new addition. As shown on the architectural drawings provided to BMR, there is an approximately 14'-6" buffer zone from the face of the original Post Office to the new, two-level parkade foundation wall. Provided the bedrock is sound within the buffer zone, BMR does not anticipate that temporary bracing will be necessary to support the existing above-ground stone and masonry walls on the west end of the building. The condition and suitability of the bedrock for all future construction methods and sequencing will need to be confirmed by a professional geotechnical engineer licensed to practice in Nova Scotia. Given the openings cut into the masonry walls noted above, a permanent solution to the lateral stability of the post office will need to be incorporated into the future structural design of the new residential tower.

BMR Photo 5.3.A: Interface between 1961 addition to be demolished in foreground and original Post Office in background. Original load-bearing masonry and stone removed to create this opening (28 Feb 2022).

6.0 CONCLUSION

The historic post office at 53 Queen Street in Dartmouth will require significant remediation work as part of the upcoming redevelopment project. Due to a change in use or occupancy loads, significant damage and deterioration, previous performance impairing changes, as well as known safety defects, the building structure must be upgraded to adhere to limit states methodology and the minimum standards noted in Part 4 of the latest version of the National Building Code of Canada. Over and above the planned architectural fit-up work, these upgrades will include, not necessarily limited to, new structural bearing walls, new interior footings, reinforcement of timber joist systems, new floor and roof diaphragms, reinforcement of structural steel girders and columns, rehabilitation of load-bearing masonry walls, replacement of failed structural systems, as well as extensive temporary shoring of various structural elements. BMR recommends working with an experienced building contractor should a rough order-of-magnitude budget be required to proceed further. We will do our best to clarify any questions from the contractor related to the content of our report.

Please note that the upgrades recommended in this report cover known *structural* deficiencies based on BMR's visual assessment of those portions of the building noted in Figure 1 only. No other construction defects or building code violations, whatsoever, are included in the scope of this report. Examples include building envelope assemblies, building egress, energy and thermal requirements, floor vibration, sound transmission, etc. Further remediation work may be required should additional structural deficiencies be discovered after selective demolition and construction commence.

This report was completed for the sole benefit of RHAD Architects and the former post office Property Owners. No other person or entity may rely on this report without the express written consent of BMR Structural Engineering Ltd. We would like to thank RHAD Architects for the opportunity to work with their team on the upcoming redevelopment project.

Please feel free to contact the undersigned should you require further assistance.

Yours Truly,

BMR STRUCTURAL ENGINEERING LTD.

Prepared By:

[redacted]

Scott Clarke, C.E.T.
Senior Structural Technologist

Reviewed and Approved by:

[redacted]

John Richardson, M.Sc., P.Eng.
Senior Structural Engineer

CAMPBELL COMEAU ENGINEERING LIMITED
• STRUCTURAL • CIVIL • MARINE •

2719 Gladstone Street
Suite 110
Halifax, NS B3K 4W6

t: 902.429.5454
cce@campbellcomeau.ns.ca

June 30, 2022

Mr. Darren Fransen
RHAD Architects
63 King Street
Dartmouth, NS B2Y 2R7

Dear Darren:

RE: ***Structural Review / 53 Queen Street / Post Office Building Renovation***
Dartmouth, NS

Campbell Comeau Engineering Limited has been retained by RHAD Architects to provide a structural review of the former Post Office building at 53 Queen Street in Dartmouth. We have attended site visits to view the existing framing and perimeter walls. We have also received from you drawings outlining the proposed renovation for the new spa which will be housed in the building.

At the present time, the exterior masonry of the building is undergoing restoration. Work is being carried out to the exterior perimeter sandstone as well as to the interior faces of the brick masonry.

This building includes constructions added to the original 1914 Post Office. The building was expanded to the north in 1947. In 1961 an addition was provided on the west side of the building facing along Queen Street and extending to the King Street side of the building to the west. The proposed redevelopment of the site will include the original 1914 post office and the 1947 addition to the north. The 1961 construction to the west will be demolished and this area is not part of our structural review.

We are including as-found schematic framing plans for each level. These plans, SK-1, SK-2, and SK-3 are attached.

1914 ORIGINAL POST OFFICE BUILDING

The original post office building was a two-storey load bearing masonry structure (Photo No. 1). At the southeast corner of the building a clock tower was featured. Currently the clock tower is not present.

The 1914 wing has a stone masonry foundation. The construction is typical of Halifax/Dartmouth "iron stone" masonry. The perimeter walls are in the order of 22 inches thick and are generally in good condition relative to their age. Brick trim is provided at the window openings in this wall into the basement area. The exterior face of the original 1914 masonry walls are faced with granite above grade to the level of the upper sandstone which extends from the main floor level to the roof.

Wesley G. Campbell, B.E., LL.B.,LL.D (07), P.Eng., FCSCE., FEC
Michel P. Comeau, M.Sc. (Eng.), P. Eng., FCSCE, FEC
Gilles P. Comeau, M. Eng., P. Eng., GCBA
Daniel P. O'Halloran, M.Sc., P. Eng., FEC

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The stone foundation viewed from the interior of the basement is in good condition relative to its age. We did observe an area of the north wall where a pier between windows was removed to create a door opening (Photo No. 25).

The wood joist framing of the Main Floor is supported on an interior grid of steel girders. The steel girders are supported upon the masonry foundation at the building perimeter as are the wood joists. The steel girders are supported by steel columns. The columns are encased in concrete.

At the south and east side of the building a concrete topping is included within the depth of the wood joists. The upper floor surface of the floor is finished with a terrazzo topping.

The Second Floor framing is similar to the main floor framing: wood joists supported on steel girders. The girders are supported on concrete encased steel columns and upon the perimeter loading bearing masonry walls. The girder ends at the exterior walls are also supported within the masonry. The exterior walls below and above this level consist of a 6 inch sandstone facing with a three wythe brick 12 inch masonry backup at the head of the east stair, a section of the floor is a concrete slab.

The roof framing layout is similar to the second floor and the main floor. Wood joists are supported on the masonry at the perimeter and on the steel girders at the interior. The brick backup to the sandstone is two wythes, 8 inches. Steel concrete encased columns extend up to the roof girders. The girders are supported on the masonry wall at the exterior.

Above the horizontal joists of the ceiling there is sloped upper roof which supports the roofing membrane (Photo No. 6). A low attic space is present between the ceiling joist and the sloped roof framing. The sloped roof framing is propped to the horizontal ceiling framing. Insulation is present over the ceiling in this attic space (Photo No. 22). The remains of the masonry at the base of the original clock tower are visible in the attic space where the hatch (Photo No. 21) is located at the southeast corner bay (Photo No. 23).

1947 ADDITION

This 1947 addition on the north side of the building is one storey in height with a basement below (Photo No. 3). The perimeter foundation walls are of cast in place concrete. The concrete is in good condition relative to its age. There are some cracks present in the concrete walls which have been repaired in the past. We also observed some cracks in the slab on grade (Photo No. 26).

The main floor framing is of steel joist construction. The steel joists support a steel mesh and paper based formwork which spans the 24 inches between the open web steel joists. The concrete topping over this forms the floor surface. The topping varies from 2 inches approximately over the joists to 3 inches + thick between the joists where there is a natural sag in the formwork.

The open web steel joist depth is 10 inches with the easterly bay having 8 inch deep joists. A concrete framed vault was later added in the basement at the southeast corner of this 1947 construction.

The open web steel joists are supported on the perimeter concrete foundation walls and at the original 1914 masonry walls above the foundation. There is also a brick masonry wall in the basement that is a center support wall for the floor joists. Steel girders supported by steel columns provide additional interior lines of support.

The roof framing of the 1947 addition is similar to the main floor framing of this addition. Sixteen inch deep open web steel joists spaced at 22 inches on center support a concrete form which creates the structural roof support surface. The concrete slab spanning between the joists supports the roof membrane. The roof is supported on the perimeter masonry walls and on the interior steel column and steel girder framing. There may be a space with wood framing present to support the roof membrane. This was not viewed during the site visit.

1961 Addition

In 1961 additions were made to the building to the west (Photo No. 2). Access to the additions through the west wall was made by providing large openings in the existing masonry. The openings were made using steel lintel beams to support the original masonry above the openings. The masonry remains in place above these steel beams (Photo No. 24). The 1961 addition is to be demolished in the future and the structure of the 1961 addition is not included in this review.

Structural Observations

The wood floor framing of the 1914 building was found to be in good condition. We understand that the framing of the main floor and the second floor in this building may be replaced to satisfy current code requirements. This is with respect to the presence of combustible materials in the new development. The combustible materials cannot remain in place.

The steel framing, the girders, and the columns, will likely require reinforcing to accommodate the floor loadings of the structure of the new development. This could take the form of new steel plates or shapes welded to the existing steel to increase the member capacities. Additional lines of support could be introduced.

The existing building foundations/footings are not available to be viewed and no existing construction drawings are available. Part of the new work would include evaluating any increase in loading on the foundations, particularly at interior column locations, compared to the existing loadings. At that time, a typical interior footing in each of the 1914 and the 1947 areas could be partially exposed for viewing.

The interior faces of the brick masonry are in good condition relative to their age. Additionally, repointing of the interior faces is now underway. This is improving the finish of the interior wall surface as well as the structural integrity of the wall.

The exterior faces of the sandstone are generally in good condition. Work is underway to repoint and restore the sandstone façade. We did observe that there are some cracks in the north elevation of the original 1914 building above the low roof of the 1947 addition (Photo No. 4).

The wood framing of the 1914 roof is stained from water leaks. This can be observed at the underside of the structural ceiling framing above the second floor. A few of the stained locations were probed on each of the interior wall faces at the individual joists to see if wood rot was present. At each observation location the wood at the masonry wall face was found to be in good condition with no rot.

The steel joists of the 1947 addition are in good condition with limited expected surface corrosion. However, at the low roof area of this addition a number of the steel joists are rotated from the vertical. This reduces the structural capacity of the joists. The condition has likely been present since construction (Photos No. 27 and 28).

The low 1947 roof is adjacent to the high roof of the 1914 construction. Current code requirements are that snow loads are increased where there is a step in a roof due to the potential for drifting at the roof step. Such requirements were not in place in 1947 when the addition was made to the 1914 building. The 1947 roof requires reinforcing to address the snowdrift condition. The work required to reinforce the roof can also address the deficiencies found in the joists due to the out of plumb position.

We note that a large skylight is proposed for this area in the new development. This, in itself, will require reframing of the 1947 roof. The current code snow load conditions can be addressed with the reframing.

RECOMMENDATIONS

In general, this historic building is in good condition relative to its age.

The exterior masonry restoration should address the cracks that are present in the exterior sandstone.

There is structural reinforcing required at the low roof of the 1947 addition to address the open web steel joist (OWSJ) deficiencies. The joists are out of plumb and have a curved alignment. It appears that they were installed in this manner. Also, reinforcing of this roof is required to address current NBCC snow drift loading at the stepped roof condition.

The end bearing of the OWSJ's requires review. Some joists have a short bearing length on the supporting steel and also on the supporting masonry. At the east wall of the 1947 addition the masonry supporting the joists is corbelled. Additional support is likely required.

The concrete foundation walls of the 1947 addition have some cracks present. These are not a structural concern, but they have leaked water in the past. Consideration should be given to resealing these cracks.

We understand that the wood floors in the 1914 building may be replaced to meet Code non-combustible requirements. The new floor systems will be heavier than the wood framing. The

foundations will require review and new columns and footings will likely be required to accommodate the loading.

At the north wall of the 1914 building a new opening was made for a door. This area has had a pier between the original windows removed. The area should be reviewed and the window opening could be filled in with masonry if additional support is required.

The west wall of the 1914 block is supported on steel lintels where openings were made through the wall on the Main level. The masonry above the openings displays some voids when viewed at the second floor. These voids should be reviewed and likely filled in.

At the lintels over the basement windows the Main Floor joists are notched. Typically, these connections would be reinforced with the use of joist hangars. This should be carried out if the wood framing is kept in the building.

At the lintel bearings at the basement windows and at the second floor windows there is some brick cracking and voids are present in the masonry. These areas require review and repair.

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We trust this is the information which you require at this time. We are available at your convenience to review and discuss our report with you and answer any questions that you may have.

Yours very truly,

CAMPBELL COMEAU ENGINEERING LIMITED

[redacted]

Michel P. Comeau, P. Eng.

MPC/emc
Enclosures Photographs
Sketches

17522

Photo No. 1 – View from Queen Street – South Elevation. Low roof area at left side will be demolished.

Photo No. 2 – West Elevation above 1961 addition roof.

Photo No. 3 – North Elevation, original 1914 building, wall above 1947 roof.

Photo No. 4 – North Elevation – Crack in sandstone above window jamb. Mortar missing in some joints.

Photo No. 5 – Chimney in good condition.

Photo No. 6 – Upper roof (1914) with slopes to drains.

Photo No. 7 – Foundation at grade with granite facing and sandstone above.

Photo No. 8 – Deteriorated joints and below sill infill at foundation wall opening.

Photo No. 9 – Open joints in granite at east entry area.

Photo No. 10 – View of 1914 basement masonry walls and wood framing overhead. Interior support girders and concrete encased columns visible.

Photo No. 11 – View of 1914 main floor joists supported on wood lintel over window opening.

Photo No. 12 – Detail at basement window lintel with notched floor joists. **Note** ledger strips and forms supporting concrete infill between floor joists. Terrazzo floor topping above this area.

Photo No. 13 – 1914 Main level view looking through openings in 1914 west and north walls with 1961 addition beyond and 1947 addition to the right.

Photo No. 14 – Opening through existing wall with window sill cut out. Sandstone facing with three wythe brick back up wall.

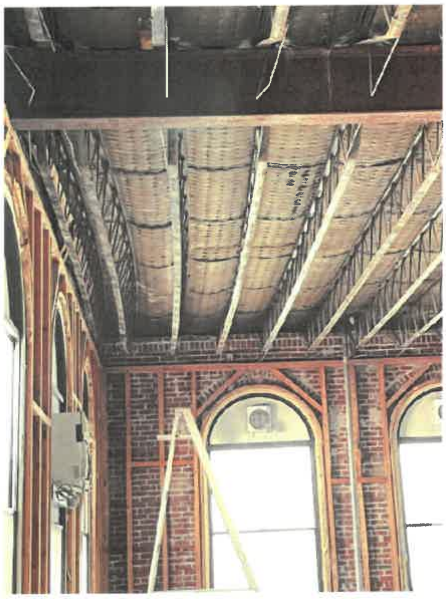

Photo No. 15 – Curved and out of plumb open web steel joists (OWSJ) in roof of 1947 addition.

Photo No. 16 – Limited OWSJ bearing on brick corbel at exterior load bearing masonry wall – 1947 addition.

Photo No. 17 – Second floor of 1914 block with ceiling and roof support joists visible. Steel girders and concrete encased columns visible.

Photo No. 18 – Interior grid steel girders supporting roof. **Note** wood headers at former roof opening.

Photo No. 19 – Steel beam bearing at exterior wall.

Photo No. 20 – Steel lintel over window with jamb brick cracking at window head. **Note** water staining of wood framing above.

Photo No. 21 – Attic roof hatch at former Clock Tower location (South East).

Photo No. 22 – View of attic space. Sloped roof support framing with props to ceiling joists below. Insulation on top of ceiling visible.

Photo No. 23 – Remaining Clock Tower base masonry visible in attic space.

Photo No. 24 – Base of exterior wall at Second Floor. Masonry infill over steel lintel framing over west wall openings through 1914 building.

Photo No. 25 – Pier removal at door opening.

Photo No. 26 – Slab on grade crack in floor – 1947.

Photo No. 27 – Close view of 1947 roof joist.

Photo No. 28 – Bend in 1947 roof joist.

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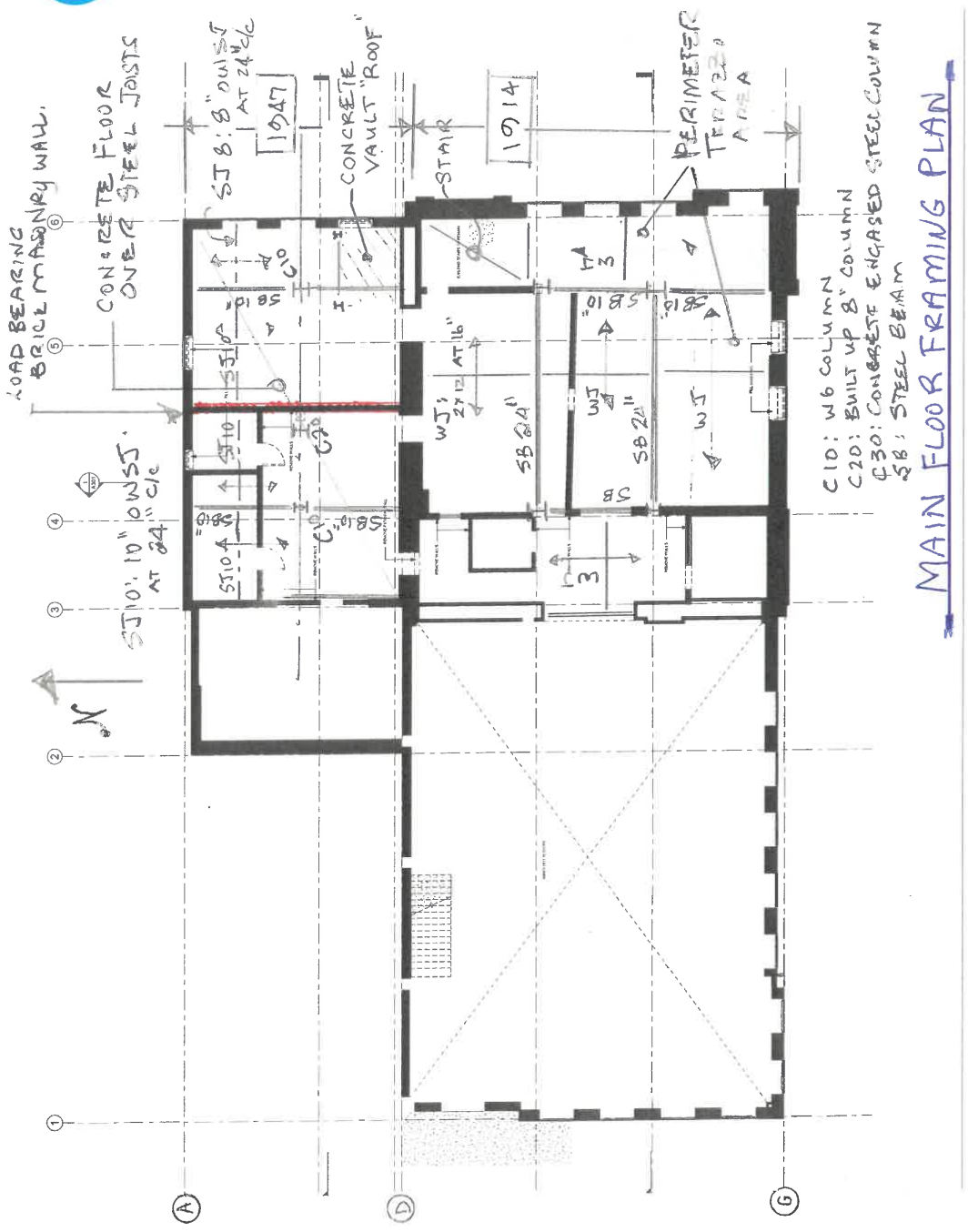
HALIFAX, NOVA SCOTIA

Project: 53 Queen Street.

Project No: 17522 Date: 2022/06/30

By: M.c. Sheet No: SK-1



RHAD ARCHITECTS

CAMPBELL COMEAU ENGINEERING LIMITED

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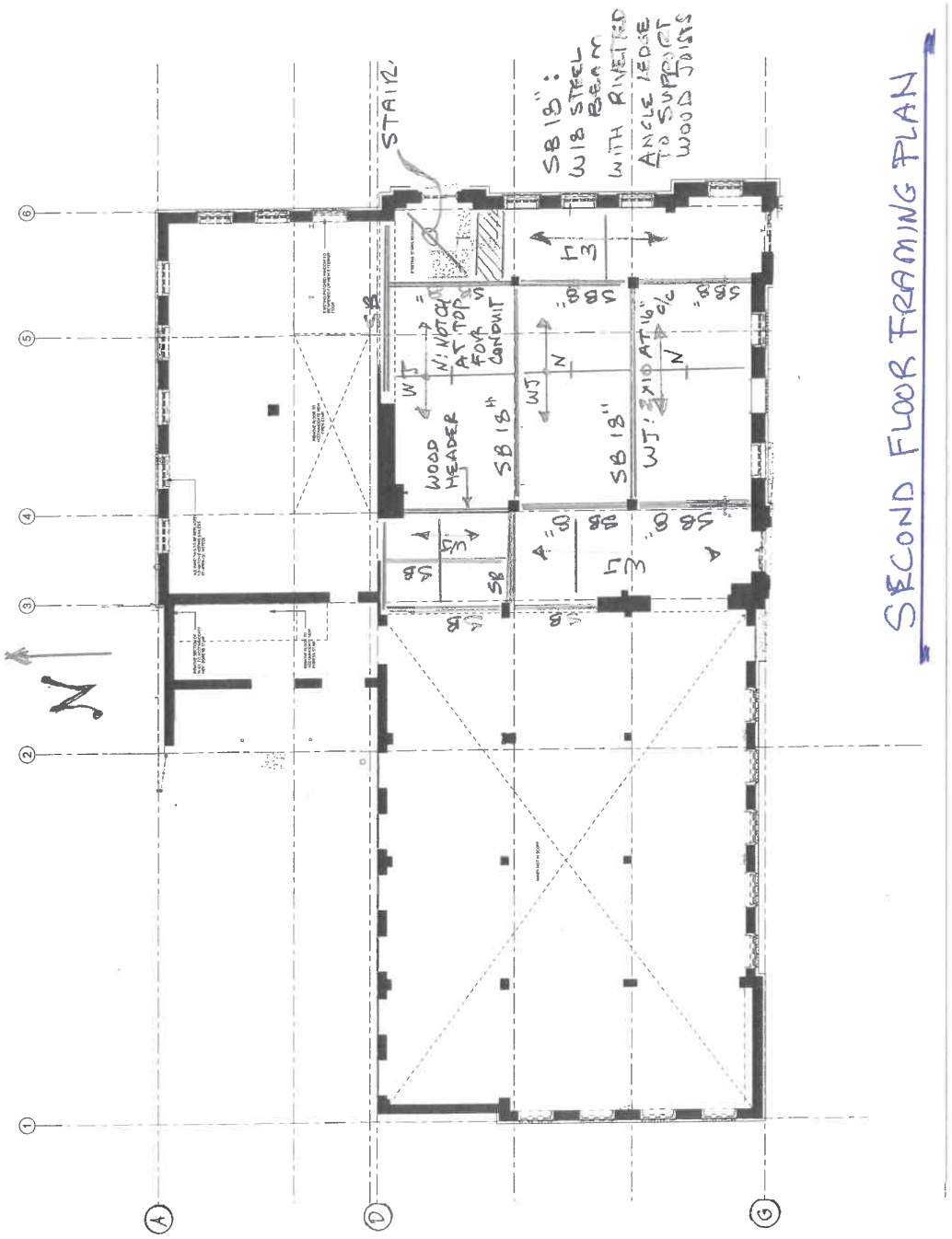
HALIFAX, NOVA SCOTIA

Project: 53 Queen Street

Project No: 17522 Date: 2022/06/3

By: r.m.c. Sheet No: SK-2



RHAD ARCHITECTS

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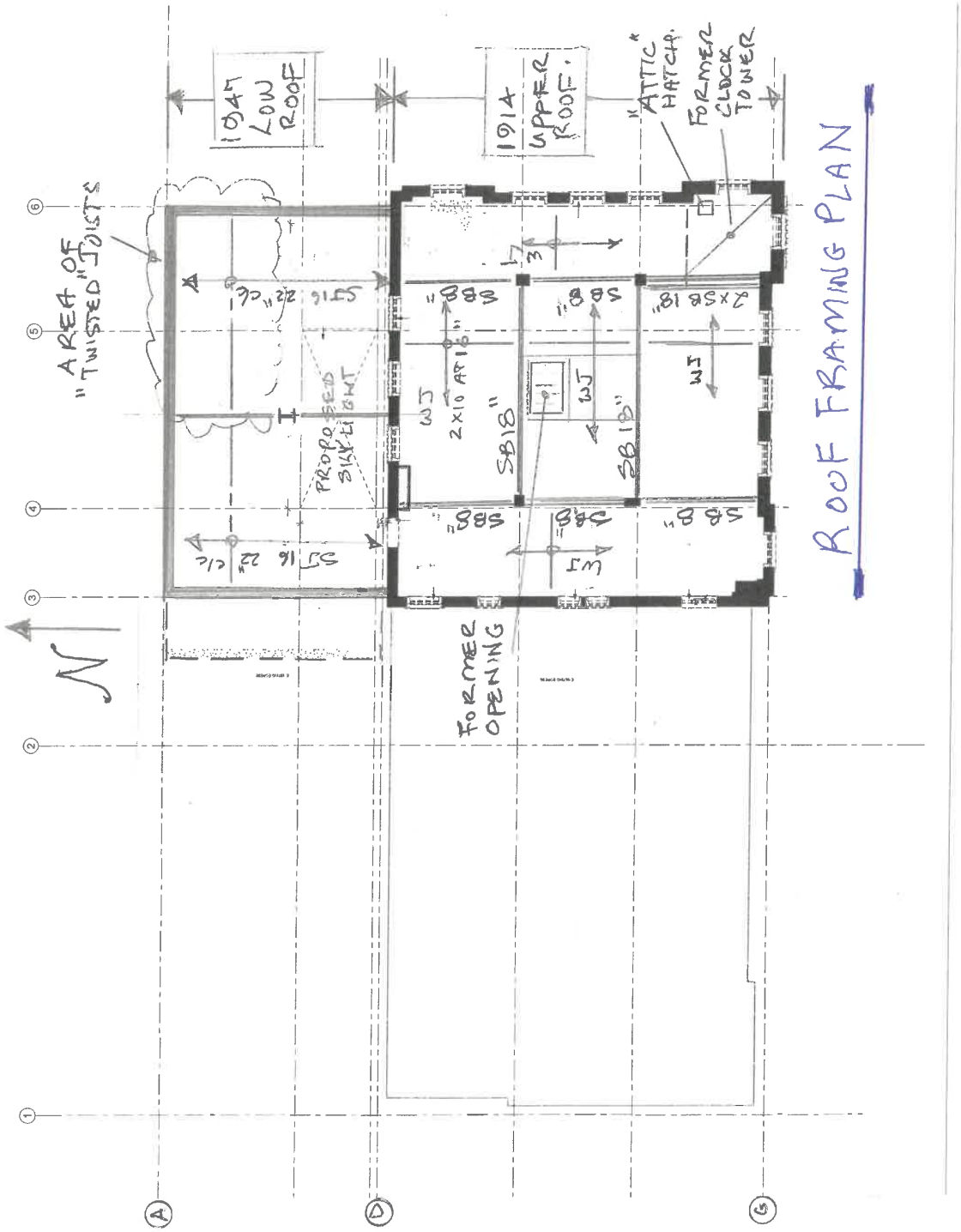
HALIFAX, NOVA SCOTIA

Project: 53 Queen Street

Project No: 17522 Date: 2022/06/

By: M.C. Sheet No: SK-3



RHAD ARCHITECTS

CRM
COASTAL RESTORATION & MASONRY LTD

Phone: (902) 876-8333 Fax: (902) 876-5072

May 25, 2023

Dartmouth Post Office
53 Queen Street
Dartmouth, Nova Scotia

Annex Section - Sandstone, Granite Removal, Salvage, Re-installation

1) Record existing granite wall/window dimensions/details.
2) Record existing sandstone wall/window dimensions/details.
3) Record existing War Memorial on Queen St.
4) Dismantle memorial, numbering each piece, send to storage yard.
5) Erect scaffold on south and west elevations to access areas where sandstone and granite are currently in place.
6) Remove existing Coats of Arms and plaque on Queen St. elevation, package for safe storage, send to storage yard.
7) Record # of granite courses, each course height and # of stones per course, develop stone location identification plan.
8) Record # of sandstone courses, each course height and # of stones per course, develop stone location identification plan.
9) Document any cracked or split stones.
10) Descale/clean stones as required.
11) Cut mortar joints to break bond between stones.
12) Cut/remove existing caulking around any openings.
13) Remove existing parapet flashing to expose top of stones in the top course, salvage flashing if possible.
14) Remove stone from wall, clean off all existing mortar, apply corresponding stone location identification mark, place on shipping/storage pallet. Tag pallet.
15) Continue step 10 until all stones have been cleaned, identified, and palletized.
16) Truck stones to Coastal Storage yard in Goodwood, offload and store until new construction is ready to have stone cladding installed.
17) Install granite and sandstone are required, making necessary adjustments to fit new openings, and building features.
18) Install salvaged War Memorial, Coats of Arms and plaque in specified location.

NOTES:

1) Site supervisor, masons and labourers to be experienced in heritage masonry restoration.
2) Mortars to be lime based, matching existing as best as possible.
3) Stone anchors and fasteners to be stainless-steel set in purpose made 2 part epoxy.

Quotation is valid for 30 days and thereafter may be subject to change

CRM
COASTAL RESTORATION & MASONRY LTD

Phone: (902) 876-8333 Fax: (902) 876-5072

Please feel free to contact me if there are any questions or concerns with this scope of work, cell# 902-237-5080, email: spower@coastalrestoration.ca

Sincerely,

Shawn Power
Projects Manager

Quotation is valid for 30 days and thereafter may be subject to change

14
APPENDIX G: ARBORIST REPORT

INVOICE

ARBOR-US TOTAL
TREE SERVICE INC.

8 Lorraine St.
Dartmouth NS, B3A 2C1
(902) 492-4561
arborus1@gmail.com

FOR: RHAD – Rayleen Hill

DATE: Feb. 15/2022

DESCRIPTION:

Tree Assessment for corner of King and Queen St. in downtown Dartmouth (old post office site). The three trees are all Norway Maples – Acer platanoides. The are showing significant signs of decline and are predisposed to many things that could warrant their removal. The one closest to the building has significant damage already around the base and the other two have circling roots that girdle the tree from beneath the ground inhibiting their ability to conduct nutrients into the canopy. This is a common problem with this invasive species and a reason they rarely live a long life in an urban setting. They are hardy trees, but in the state they are in, the trees are surviving more than thriving. They are also prone to splitting as they have codominant stems. As Norway maples develop, these factors almost always result in a hazardous, unaesthetic mess. The fibrous, shallow nature of their root system also makes it hard for grass or any other plant to survive around them. The trees are from Europe and are considered invasive because of their propensity to regenerate at an alarming rate and take over forests alienating native species.

Thanks again, Trevor Lowthers