



TIME KEEPER'S OFFICE AND PORTICO BUILDING REVIEW REVISION 1

Prepared For:
Corporation of the City of Brantford

Attention:
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1. INTRODUCTION

Gravity Engineering Inc. (Gravity) was asked to provide a review of the two building structures located at 66 Mohawk Street, in Brantford, ON. The purpose of the review was to assess the existing conditions of various building elements in order to determine existing condition and provide recommendations on necessary repairs/replacements. Approximate budget figures for the indicated recommendations have been provided as part of this assessment.

A previous version of this report has been provided; however, changes have been made based on a revised direction for the project and a larger focus on preserving existing condition rather than repairing and updating to suit a specific vision for the site.

The request for the assessment was made by the Corporation of the City of Brantford (Brantford) and the assessment was completed by Gord Bendus, P.Eng., and Matthew Ramnauth of Gravity Engineering Inc. on July 13, 2023. It should be noted that the City of Brantford (Brantford) and the Canadian Industrial Heritage Centre (CIHC) accompanied Gravity for the majority of the review.

Previously conducted Building Condition Assessments (BCAs) of both building structures were conducted by Cion Consultants with subsequent reports titled "*Portico Building BCA Final*" dated October 2022 and "*Timekeepers Building BCA Final*" dated May 2022 and were provided by Brantford for review and should be read in conjunction with this report.

Our observations and comments will focus on the current found condition of the items mentioned above; and be based on the visual information available at that time. Existing building drawings were not able to be provided prior to the site visit. It should also be noted that The Portico Building (Cockshutt Office Portico) was sealed to the exterior and thus the interior was inaccessible at the time of site review.

2. EXISTING BUILDING

There are two buildings located on the North side of Mohawk Street, just east of Emilie Street on the subject property, 66 Mohawk Street in Brantford, Ontario. Both buildings appear to be of similar age, and based on the found construction, condition and documentation provided by the City of Brantford were built between 1877 and 1903.

66 Mohawk Street – PORTICO BUILDING appears to be a single storey building without a basement. The structure of this building appears to be of loadbearing masonry construction with a wood framed roof supported by masonry foundations. As previously mentioned, the entrance of this building was boarded shut and review from the interior was not possible to verify all existing elements. This building is currently unoccupied.

66 Mohawk Street – TIME KEEPER'S OFFICE is a single storey building without a basement. The structure of this building is of loadbearing masonry construction with both wood framed, and concrete slab on grade floors and a wood framed roof supported by concrete foundations. This building is currently unoccupied.

No plumbing, mechanical or electrical scope was reviewed or commented on as part of this review. Compliance with current or past building codes was also not considered part of this review.

3. REVIEW OF RELEVANT INFORMATION

3.1 VISUAL REVIEW

The building elements indicated in this report were visually assessed during a site walk-thru, to observe the condition and to identify physical deficiencies where present. The assessment did not include an intrusive investigation of wall assemblies, ceiling cavities, or any other enclosures/assemblies. No physical tests were conducted, and no samples of building materials were collected to further substantiate any observations made.

3.2 REPAIR HISTORIES

No written documentation on completed repairs was provided by Brantford at the time of the review. Should this information be available, Gravity Engineering is able to review and comment on this as necessary.

3.3 EXISTING DRAWINGS

No existing architectural and structural drawings were provided for review as part of this assessment.

3.4 3D LASERSCAN

3D laser scanning was completed on the site around the buildings, around the exterior of the Portico Building, and around and inside and the exterior of the Time Keeper's Office. This method of scanning utilized a Faro M70 3D laser scanner which captures a set of data and locational points by scanning the site in the positioned locations. These points are typically accurate within 1-3mm and are converted into a point cloud model to enable us to cut sections and measure elevations and dimensions of any area scanned with the camera. Once these data and location points are attained, we can compare this data and these points to review differences in elevation and various other positional references of existing objects within the areas scanned. We are also able to compare data points and locational information over a monitoring period. As the captured data measures as-built conditions, the generated model is effectively used for architectural and structural design and planning purposes.

Follow the link below for access to an interactive online version of the laserscan: [Link to Laserscan](#)

4. CONDITION ASSESSMENT & ANALYSIS

4.1. PORTICO BUILDING

The following *Table 1* summarizes the observations made on site at the Portico Building at the time of site review.

ELEMENT	OBSERVATIONS	COMMENTS	REF. PHOTOS
FAÇADE	– Significant brick and mortar joint cracking and deterioration	– Significant cracking and deterioration of bricks and mortar joints was found along all elevations, with the majority being along the back (North) elevation.	1,4
	– Displacement of stones and missing mortar	– The lower façade stones along the front elevation of the building appears to be displaced with a visible gap present in multiple locations.	2
	– Large area of damaged loose bricks at back (North) of the Portico structure	– Due to the method of demolition to the previously attached/adjacent structure, there is a large area of damaged loose bricks at the back of Portico. This will need to be addressed and re-built wholistically and fully, and in a method which is accessible to the design intent of this building. This item should be discussed further prior to providing a recommendation to City of Brantford Staff.	-
ENTRANCE	– Cracking, deteriorated stone steps	– The entrance steps had several through cracks and vegetation growth between steps, the extent of which is unable to be verified until removal.	3
ROOF	– Not accessible	– Further investigation and access are needed to the interior of the structure to determine any potential ceiling/roof structural concerns.	

WINDOWS AND DOORS	– Deteriorated wood lintel	– A deteriorated wood lintel was noted above a West window opening as observed from the exterior ground level. This lintel appears to be aesthetic.	-
	– Boarded, sealed windows	– Window openings were boarded, and the majority of windows not exposed for review, however the visible portions did indicate wear and deterioration.	4
	– Boarded, sealed door	– The entrance door opening was boarded, and the majority of the door not exposed for review, however the visible portions did indicate wear and deterioration.	5

Table 1: Site Observations of Portico Building

Recommendations: Based on the found condition, the building is showing signs of age and deterioration at various locations throughout the building exterior elevations and interior as indicated. It is likely that some of this deterioration was due to demolition activities on adjacent and/or connecting structures to the Portico structure. As discussed with Brantford and given the nature of the heritage designation and intention to maintain the historic elements, Gravity Engineering has the following recommendations to address the areas of concern and deterioration of the indicated items, including the facade, roof, windows, and doors, as well as the interior flooring and interior finishes.

FAÇADE

- Provide masonry repairs/replacements to the areas of deteriorated masonry and tuckpointing – **BUDGET \$60,000**
 - There is currently a small inventory of potentially matching bricks stored in the Time Keeper's Office. These bricks should be closely compared to existing and used to source more bricks as necessary for all required repairs.
 - Special attention should be paid to the characteristics of the existing mortar and repair material sourced to match.
 - Displaced stones should be repositioned and pointed.
 - Further investigation and access are needed to the interior of the structure to determine any potential interior structural concerns.
- Back of Portico structural repairs – **BUDGET \$50,000**
 - Due to the method of demolition to the previously attached/adjacent structure, there is a large area of damaged loose bricks at the back of Portico. This will need to be addressed and re-built holistically and fully, and in a method which is associated with the future intent of this building/site. This item should be discussed with the stakeholders further prior to providing a recommendation to Brantford.
 - A budget has been provided as a placeholder for a relevant potential repair strategy.

ENTRANCE

- Provide removal and reinstallation of entrance stair stones – **BUDGET \$40,000**
 - Remove existing front stones in a method which allows for maintenance of condition and re-use of the stone stairs.
 - Regrade and provide an adequate base (concrete or granular) for the existing stones to be reinstalled.
 - Reinstall removed existing stones to match existing size and shape of stairs.

ROOF

- Rehabilitation of existing ROOF – **BUDGET \$10,000**
 - Further investigation and access are needed to the interior of the structure to determine any potential ceiling/roof structural concerns.

WINDOWS AND DOORS

– Rehabilitation to windows and doors– **BUDGET \$10,000**

- Sand, stain, and apply protective finish to exterior window and door frames. Replace to match any portions of wood that are rotten and have lost structural integrity.
- Replace existing plywood with black painted new marine-grade plywood as per Property Standards By-law (Article 29, Section 4) .

Recommendation	Budget Cost
Façade restoration	\$60,000
Back of Portico Building repairs	\$50,000
Entrance repairs	\$40,000
Roof Structure repairs	\$10,000
Window and Door Frame repairs & Plywood Boarding	\$10,000
TOTAL:	\$170,000.00

4.2. TIME KEEPER'S OFFICE

The following *Table 2* summarizes the observations made on site at the Time Keeper's Office at the time of site review.

ELEMENT	OBSERVATIONS	COMMENTS	REF. PHOTOS
FAÇADE	– Minor brick and mortar joint cracking and deterioration	– Minor cracking and deterioration of bricks and mortar joints was found along the north and south face of the bricked structure.	6
	– Delaminated and deteriorated parging over bricks.	– Acoustical sounding revealed delamination of the parging covering a small portion of the West wall.	7
	– “Time Office” concrete medallion sign dowels exposed.	– The “Time Office” concrete sign above the main entrance had areas of delamination and spalling and what appeared to be exposed corroded dowels.	8
	– Deteriorated wood siding	– Deteriorated wood siding and peeling paint was noted along the east wooden (washroom) structure, along with areas covered with deteriorated plywood.	9
	– Deteriorated and concerning wall and foundation for exterior east washroom area	– Posts and other framing members appeared to be exposed within the east washroom structure. These structural members could deteriorate further due to weathering if left untreated or reinforced. Given the condition of the exterior siding, there were concerns with the overall integrity of the wall and foundation framing.	-
ROOF	– New roof shingles	– The shingles appeared to have been recently replaced as they appear new with no major concerns.	-
	– Exposed ceiling joists	– An area of missing ceiling finish revealed the roof joists above.	10
WINDOWS AND DOORS	– Exposed steel lintel.	– The exposed lintel was above a window within the West portion of the building, as observed from the interior. It should also be noted that cracking of the masonry was noted beneath a bearing location.	11
	– Deteriorated concrete lintel	– A deteriorated concrete lintel was noted within the East portion of the building, as observed from the interior.	12
	– Boarded, sealed windows	– Window openings were boarded, and the majority of windows not exposed for review, however the visible portions did indicate wear and deterioration.	13
	– Boarded, sealed entrance door	– The entrance door opening was boarded, and the majority of the door not exposed for review, however the visible portions did indicate wear and deterioration.	14
INTERIOR FLOORING	– Deteriorated flooring and exposed joists	– The plywood atop wooden floor joists were displaced, deteriorated and missing in areas, exposing the wood floor joists below. – The interior flooring within the central portion of the building appeared to require replacement and repairs to several members including joists and various structural members.	15
	– Deteriorated wood furring	– The wood furring strips along with the covering plywood within the West portion of the building appeared to be deteriorated and in need of replacement	16

		in several areas	
INTERIOR FINISHES	– Deteriorated floor finishes	– Floor finish appeared to be heavily deteriorated in areas, particularly the wood framed areas in the central and West rooms, and in need of restoration.	-
	– Deteriorated interior wall finishes	– The interior wall was clad with plaster atop the brick in areas and appeared to be deteriorated and in need of replacement.	17
	– Areas of missing ceiling	– There were areas of missing ceiling finish and exposed roof joists in both the main and East Washroom portion of the building. Within the East portion there was hanging and displaced batt insulation.	-

Table 2: Site Observations of Time Keeper's Office

Recommendations: Based on the found condition, the building is showing signs of age and deterioration at various locations throughout the building exterior elevations and interior as indicated. As discussed with Brantford and given the nature of the heritage designation and intention to maintain the historic elements, Gravity Engineering has the following recommendations to address the areas of concern and deterioration of the indicated items, including the facade, roof, windows and doors, as well as the interior flooring and interior finishes.

FAÇADE

- Provide masonry repairs/replacements to the areas of deteriorated masonry and tuckpointing – **BUDGET \$60,000**
 - There is currently a small inventory of potentially matching bricks stored in the building. These bricks should be closely compared to existing and used to source more bricks as necessary for all required repairs.
 - Special attention should be paid to the characteristics of the existing mortar and repair material sourced to match.
 - The areas covered in parging should be removed and bricks assessed and replaced as necessary. Full parging can be removed to expose the existing brick for aesthetics at the discretion of Brantford
- Provide masonry repairs and/or interior support to the areas of deteriorated concrete medallion – **BUDGET \$15,000**
 - The steel dowels of the concrete medallion appear to have corroded, delaminated, and spalled the concrete at dowel locations. Given this, lateral support of the medallion is a concern. Typical concrete repairs to the medallion may not allow for adequate support, thus steel brackets on the back of the concrete are recommended. These will not be visible from the front of the building.
- Provide wood repairs and support to the areas of deteriorated wood siding and framing within the east wooden structure area of the building – **BUDGET \$50,000**
 - Existing deteriorated wood posts and framing members should be reinforced and replaced as necessary.
 - Provide cleaning and selective demolition as required to expose structure and determine condition of members and repairs/reinforcing needed.
 - Wood siding should be restored and repainted/stained/protected to match existing aesthetic, with minimal replacements as necessary.

ROOF

- Roof framing and joist repairs and reinforcing as necessary – **BUDGET \$10,000**
 - As noted above, only a small area of the roofing structure was exposed and reviewed. Given the age of the building and condition of the interior, further investigation is required to determine the full extent of any required repairs and reinforcements, thus the budget above should be considered a placeholder until further investigation. However, based on our review, no deterioration was noted.

WINDOWS AND DOORS

– Rehabilitation of wood doors and windows – **BUDGET \$10,000**

- Sand, stain, and apply protective finish to exterior window and door frames. Replace to match any portions of wood that are rotten and have lost structural integrity.
- Replace existing plywood with black painted new marine-grade plywood as per Property Standards By-law (Article 29, Section 4)
- Repair or replace existing concrete and steel lintels as necessary. These items should be further investigated and reviewed during construction.

Recommendation	Budget Cost
Façade restoration (\$60,000 + \$15,000 + \$50,000)	\$125,000
Roof structure repairs	\$10,000
Window and Door Frame repairs & Plywood Boarding	\$10,000
TOTAL:	\$145,000.00

5. DISCUSSION & RECOMMENDATIONS

Based on the found condition of the existing building elements, review of the previously conducted BCAs, and discussions with Brantford; there are repairs and replacements required to restore The Portico and Time Keeper Office to ensure structural integrity of the buildings are maintained to allow for future use and to ensure heritage and cultural aesthetic is preserved. A previous version of this report has been provided; however, changes have been made based on a revised direction for the project and a larger focus on preserving existing condition rather than repairing and updating to suit a specific vision for the site. It should be noted that the indicated exterior repairs to the Portico Building should be considered as a priority given the found condition of the masonry cladding. See below for an overall summary of the recommended repairs for both buildings.

BUILDING	ITEM	BUDGET COST
PORTICO	Façade restoration	\$60,000
	Back of Portico Building repairs	\$50,000
	Entrance repairs	\$40,000
	Roof structure repairs	\$10,000
	Window and Door Frame repairs & Plywood Boarding	\$10,000
TIME KEEPER'S OFFICE	Façade restoration	\$125,000
	Roof structure repairs	\$10,000
	Window and Door Frame repairs & Plywood Boarding	\$10,000
TOTAL:		\$315,000.00

6. STATEMENT OF LIMITATIONS

This should not be construed as an overall acceptance of the building structure but refers only to observations made on site on the condition of the noted structural and non-structural elements mentioned in this report. Responsibility for the design of the structure and insulation systems remains with the design team that originally designed them. Observations and opinions are based on what was visually accessible at the time of review. Gravity Engineering accepts no responsibility or liability for the design, or construction of the building elements mentioned in this report. Gravity Engineering only reviewed areas mentioned within this report, if other areas require review,

Gravity should be informed of this in writing. No calculation on the capacity of existing structural members were completed as part of this report.

We trust that this report meets your immediate requirements and should you have any concerns or questions regarding the contents of this document, please do not hesitate to contact our office.

Report prepared by:

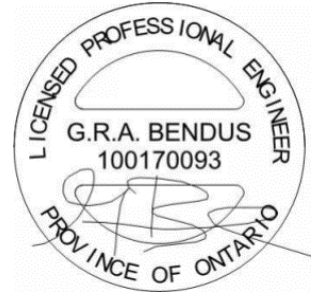
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APPENDIX A: PHOTOGRAPHS



Photo 1: Cracking, deteriorated masonry and joints.



Photo 2: Displaced lower stone and missing mortar.



Photo 3: Cracked, deteriorated stone steps.



Photo 4: Boarded window and cracking brick



Photo 5: Boarded door.



Photo 6: Cracking, deteriorated masonry and joints.



Photo 7: Delaminated parging and deteriorated brick behind.



Photo 8: Deteriorated stone medallion and exposed dowels.



Photo 9: Deteriorated wood siding.



Photo 10: Exposed roof joists.



Photo 11: Steel lintel.



Photo 12: Deterioration of concrete lintel.



Photo 13: Boarded windows.



Photo 14: Boarded door.



Photo 15: Deteriorated wood flooring.



Photo 16: Deteriorated wood flooring.



Photo 17: Deteriorated interior finishes.

N/A

N/A