Heritage Impact Assessment

Meaford Bridge No. 125

Municipality of Meaford, Ontario

Draft Report

Prepared for:

Centex Engineering and Development Inc.
7-265 Hanlon Creek Blvd.
Guelph, ON N1C 0A1

Archaeological Services Inc. File: 25CH-013

January 2025

ASI Providing Archaeological & Cultural Heritage Services
528 Bathurst Street Toronto, ONTARIO M5S 2P9
416-966-1069 F 416-966-9723 asiheritage.ca

Executive Summary

Archaeological Services Inc. (A.S.I.) was contracted by Centex Engineering and Development Inc. on behalf of the Municipality of Meaford, to conduct a Heritage Impact Assessment (H.I.A.) for the Meaford Bridge No. 125 (BR-125) in the Municipality of Meaford, Ontario. The structure is a single-span timber trestle railway bridge constructed in 1901 at Mile 113.99 of the Grand Trunk Railway (G.T.R.) Line. The bridge is currently used as a pedestrian bridge that carries the Georgian Trail recreational trail over Meaford Creek, north of Edwin Street East. The bridge is owned and maintained by the Municipality of Meaford.

A Cultural Heritage Evaluation Report (C.H.E.R.) completed by A.S.I. in October 2024 (Archaeological Services Inc., 2024) determined that the subject bridge meets two of the criteria outlined in Ontario Regulation 9/06 of the *Ontario Heritage Act*, and therefore has cultural heritage value or interest (C.H.V.I.) at the local level. In particular, the subject bridge is considered to be a good representative example of an early timber trestle railway bridge in the local context. The structure is believed to be the first bridge at the crossing, constructed in 1901 by the G.T.R., and continues to be used as a crossing on the rail corridor which has been converted to a recreational trail, thus preserving the bridge's visual and historical links with its surroundings. As the bridge was determined to have C.H.V.I., the H.I.A. in being completed to provide an assessment of how the proposed work will impact the subject bridge's C.H.V.I.

The proposed work includes the complete removal of the subject bridge and either its replacement with a new structure at the same crossing or the closure of the crossing and rerouting of the Georgian Trail to the neighbouring Edwin Street East bridge. The subject bridge is being assessed as a requirement of the Ministry of Citizenship and Multiculturalism's *Ontario Heritage Toolkit* (Ministry of Culture, 2006), the *Standards and Guidelines for the Conservation of Historic Places in Canada* (Parks Canada, 2010), the *Municipal Heritage Bridges Cultural, Heritage and Archaeological Assessment Checklist* (Municipal Engineers

Association, 2023), and *Ontario Regulation 160/02, Standards for Bridges* (Public Transportation and Highway Improvement Act, R.S.O. 1990, c.P.50, 2002).

Three alternatives were considered for Meaford Bridge No. 125, Alternative 1: Retain In-Situ and Rehabilitate Bridge, Alternative 2: Remove Bridge and Replace in Same Location, and Alternative 3: Remove Bridge and Reroute Georgian Trail to Edwin Street East. Where feasible, the preferred alternative for any bridge with identified C.H.V.I. should involve rehabilitating and retaining the structure in situ to maintain the physical/design, historical/associative, and contextual values of the bridge and crossing, therefore Alternative 1: Retain In-Situ and Rehabilitate Bridge is preferred from a cultural heritage perspective. However, due to the poor condition of the structure, Alternative 1 was deemed infeasible because of the prohibitive cost associated with the extensive rehabilitation work required. Rehabilitation alone would also not address code and service level deficiencies of the existing bridge. As the retention and rehabilitation of the subject bridge was determined to be infeasible, Alternative 2: Remove Bridge and Replace in Same Location is the second most preferred option from a cultural heritage perspective as it would retain the contextual value of the crossing and continue its historical function as a crossing over Meaford Creek. Alternative 3: Remove Bridge and Reroute Georgian Trail to Edwin Street East is the least preferred option as it is the most impactful to the identified C.H.V.I. of the subject bridge and crossing, through the demolition of the existing bridge and the closing of the crossing.

Both alternatives being considered for the subject bridge, Alternative 2: Remove Bridge and Replace in Same Location and Alternative 3: Remove Bridge and Reroute Georgian Trail to Edwin Street East, are anticipated to result in direct, permanent, adverse impacts to the cultural heritage attributes of the structure through the complete removal of the original bridge. Mitigation measures outlined in this report have been prepared to further minimize these impacts and should be implemented as appropriate to the extent practicable to ensure impacts to the design, historical/associative and contextual value of the crossing are reduced.

The following recommendations and mitigation measures have been developed and should be implemented:

1. Where feasible, the proposed undertaking should be designed and executed to ensure the fewest direct and permanent, non-reversible impacts to the identified heritage attributes of the subject bridge. In this respect, Alternative 1: Retain In-Situ and Rehabilitate Bridge is the preferred option from the cultural heritage perspective. However, Alternative 1 was eliminated from consideration due to the high cost associated with the extensive rehabilitation work required and its failure to address code and service-level deficiencies.

2. As retaining and rehabilitating the subject bridge was determined to be infeasible, Alternative 2: Remove Bridge and Replace in Same Location should be carried forward for consideration as it is the second most preferred option from the cultural heritage perspective. Should this alternative be carried forward as the Preferred Alternative, construction of a sympathetically-designed replacement structure should be considered as a suitable means of reducing the impacts to the physical/design value of the crossing.

3. To reduce negative impacts to the cultural heritage value of the crossing, the development of suitable commemoration should be considered. In this respect, consideration should be given to developing a commemorative interpretation at the crossing featuring information relating to the original structure and its use as a rail bridge on the G.T.R. line. Consultation should be completed with the Municipality of Meaford regarding any potential commemorative interpretation.

4. Prior to removal of the subject bridge, full recording of the structure would ensure proper documentation for archival purposes and ensure suitable material is available for inclusion with a commemoration

strategy. The C.H.E.R. (Archaeological Services Inc., 2024) and this H.I.A. are considered to be sufficient documentation.

5. The proponent should submit this report to heritage staff at the Municipality of Meaford and to the Ministry of Citizenship and Multiculturalism for review. Any feedback will be considered and incorporated into the report, where appropriate. The final report should be submitted to the Municipality of Meaford for future reference.

Report Accessibility Features

This report has been formatted to meet the Information and Communications Standards under the *Accessibility for Ontarians with Disabilities Act*, 2005 (A.O.D.A.). Features of this report which enhance accessibility include: headings, font size and colour, alternative text provided for images, and the use of periods within acronyms. Given this is a technical report, there may be instances where additional accommodation is required in order for readers to access the report's information. If additional accommodation is required, please contact Annie Veilleux, Manager of the Cultural Heritage Division at Archaeological Services Inc., by email at aveilleux@asiheritage.ca or by phone 416-966-1069 ext. 255.

Project Personnel

- **Senior Project Manager**: Lindsay Graves, M.A., C.A.H.P., Senior Cultural Heritage Specialist, Assistant Manager - Cultural Heritage Division
- **Project Coordinator:** Jessica Bisson, B.F.A. (Hon.), Cultural Heritage Technician, Division Coordinator – Cultural Heritage Division
- **Project Manager**: John Sleath, M.A., Cultural Heritage Specialist, Project Manager - Cultural Heritage Division
- **Field Review**: Leora Bebko, M.M.St., Cultural Heritage Technician, Technical Writer and Researcher – Cultural Heritage Division
- **Report Production**: Leora Bebko
- **Graphics Production**: Carolyn Nettleton, B.A., Archaeologist, Geomatics Technician – Operations Division
- **Report Reviewer(s)**: John Sleath and Lindsay Graves

Table of Contents

List of Figures

1.0 Introduction

Archaeological Services Inc. (A.S.I.) was contracted by Centex Engineering and Development Inc. on behalf of the Municipality of Meaford, to conduct a Heritage Impact Assessment (H.I.A.) for the Meaford Bridge No. 125 (BR-125) in the Municipality of Meaford, Ontario. The structure is a single-span timber trestle railway bridge constructed in 1901 at Mile 113.99 of the Grand Trunk Railway (G.T.R.) Line. The bridge is currently used as a pedestrian bridge that carries the Georgian Trail recreational trail over Meaford Creek, north of Edwin Street East. The bridge is owned and maintained by the Municipality of Meaford.

A cultural heritage evaluation report (C.H.E.R.) completed by A.S.I. in October 2024 (Archaeological Services Inc., 2024) determined that the subject bridge meets two of the criteria outlined in Ontario Regulation 9/06 of the *Ontario Heritage Act*, and therefore has cultural heritage value or interest (C.H.V.I.) at the local level. In particular, the subject bridge is a good representative example of an early timber trestle railway bridge in the local context. The structure is believed to be the first bridge at the crossing, constructed in 1901 by the G.T.R., and continues to be used as a crossing on the rail corridor which has been converted to a recreational trail, thus preserving the bridge's visual and historical links with its surroundings. As the bridge was determined to have C.H.V.I., the H.I.A. is being completed to provide an assessment of how the proposed work will impact the subject bridge's C.H.V.I.

The proposed work includes the complete removal of the subject bridge and either its replacement with a new structure at the same crossing or the closure of the crossing and rerouting of the Georgian Trail to the neighbouring Edwin Street East bridge. Retention and rehabilitation of the subject bridge (Alternative 1: Retain In-Situ and Rehabilitate Bridge) is the preferred option from the cultural heritage perspective. However, Alternative 1 was eliminated from consideration due to the high cost associated with the extensive rehabilitation work required and its failure to address code and service-level

deficiencies (Centex Engineering and Development Inc. email communication 13 January 2025).

The subject bridge is being assessed as a requirement of the Ministry of Citizenship and Multiculturalism's *Ontario Heritage Toolkit* (Ministry of Culture, 2006), the *Standards and Guidelines for the Conservation of Historic Places in Canada* (Parks Canada, 2010), the *Municipal Heritage Bridges Cultural, Heritage and Archaeological Assessment Checklist* (Municipal Engineers Association, 2023), and *Ontario Regulation 160/02, Standards for Bridges* (Public Transportation and Highway Improvement Act, R.S.O. 1990, c.P.50, 2002).

1.1 Description of Structure

Meaford Bridge No. 125 is a single-span timber trestle bridge that was constructed to carry the G.T.R. line extension to its new terminal station at Meaford Harbour in 1901 (Figure 1) (Hughes, 2022). The bridge has since been converted to a pedestrian bridge on the Georgian Trail. The structure's single span carries the Georgian Trail over Meaford Creek, a small and generally slow-moving waterway which empties into Georgian Bay approximately 0.75 kilometres northeast of the subject crossing.

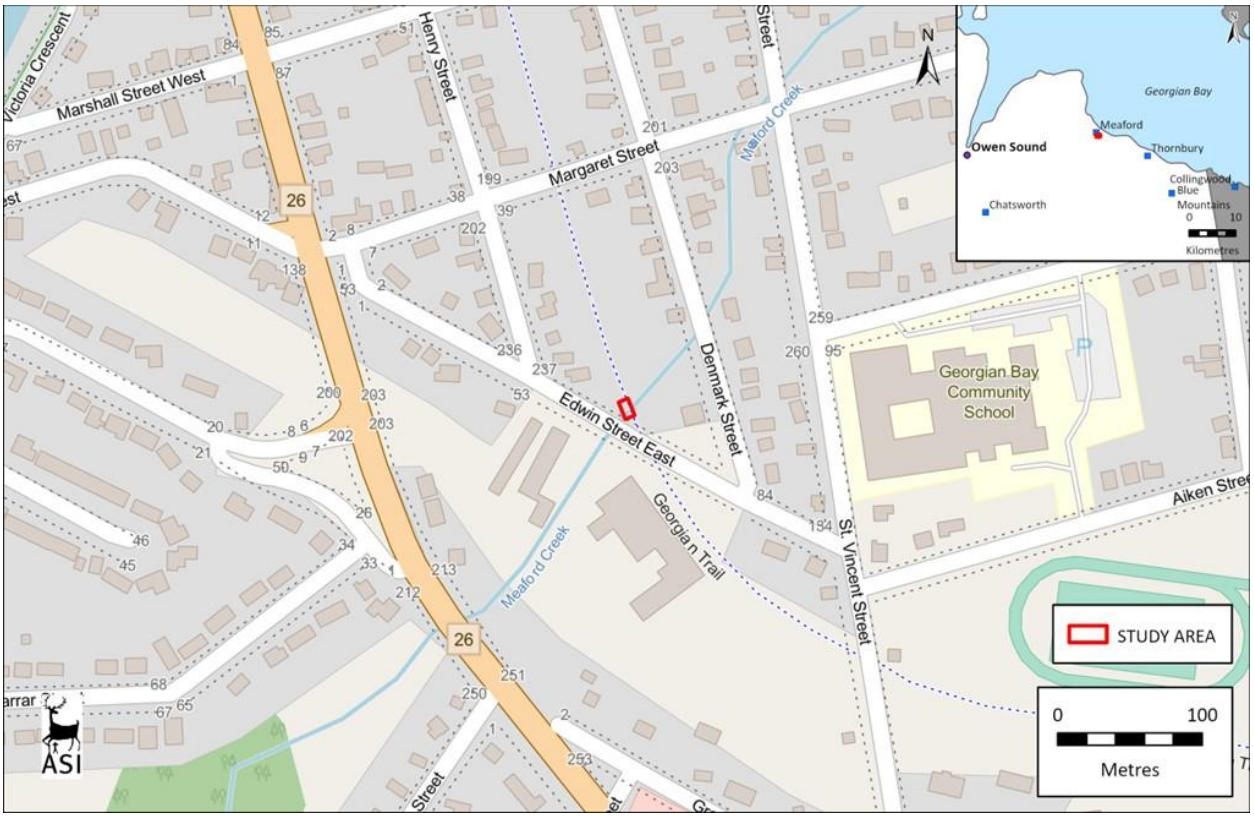

Figure 1: Location of the subject bridge in the Municipality of Meaford (Base Map: ©OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA))

2.0 Draft Statement of Cultural Heritage Value

Meaford Bridge No. 125 in the Municipality of Meaford meets two out of nine criteria outlined in Ontario Regulation 9/06 of the *Ontario Heritage Act*, which considers the bridge within the local context. As such the subject bridge should be considered to have cultural heritage value or interest at the local level.

This section provides the description of the bridge, a description of its cultural heritage value or interest, and a list of associated heritage attributes.

Description of Structure

Meaford Bridge No. 125 (BR-125) is a single-span timber trestle bridge resting on four timber bents. The bridge measures 4.5 metres in length with a width of

4.3 metres. The bridge was constructed to carry the Grand Trunk Railway's (G.T.R.) North Grey Railway line over Meaford Creek at Mile 133.99 but now serves as a pedestrian and cycle bridge on the Georgian Trail. The bridge was constructed in 1901 by the G.T.R. and was likely modified for pedestrian use in 1989 when the Georgian Trail was opened as a recreational trail along the former G.T.R. and North Grey Railway (N.G.R.) alignment.

The bridge is located in the Municipality of Meaford, just north of Edwin Street East, on the Georgian Trail.

Cultural Heritage Value or Interest

Meaford Bridge No. 125 has physical and design value as it was constructed in 1901 making it one of the four oldest bridges in the Municipality of Meaford. These bridges are of similar timber trestle construction and were likely all constructed around the same time. These four bridges are the only extant timber bridges in the Municipality of Meaford. The subject bridge is constructed of four timber bents made of log piles, timber beam girders, and wooden railroad ties treated with creosote and is a good representative example of an early timber trestle railway bridge.

Meaford Bridge 125 has contextual value as it was constructed in 1901 for the Grand Trunk Railway line and is an original bridge at the crossing. Though the railway itself has been decommissioned and removed, the rail corridor has been maintained and repurposed as the Georgian Trail and continues to be used as crossing on the rail corridor, maintaining the subject bridge's visual and historical links to its surroundings.

Heritage Attributes

Physical attributes of Meaford Bridge No. 125 that express the design value of the structure include:

- Timber construction;
- Single-span structure supported by four bents and timber abutment walls;

- Log piles;
- Timber beam stringers;
- Timber abutment walls; and
- Wooden, creosote-treated railroad ties.

3.0 Assessment of Existing Condition

A field review of the study area was undertaken by Leora Bebko of Archaeological Services Inc. (A.S.I.), on 12 September 2024. The site visit included photographic documentation of the exterior of the structure from the Georgian Trail and Edwin Street West rights-of-way. Permission to Enter was not required for adjacent properties, as all work was conducted from the publicly-accessible rights-of-way.

The superstructure of the subject bridge consists of timber girders which run the length of the bridge across Meaford Creek (Figure 2). Above these beams, running in a perpendicular direction, are creosote-treated timber railroad ties (Figure 3). Every second railroad tie is attached to the timber beams by metal strapping at either end (Figure 4). The beams and ties appear to be good condition with few signs of deterioration.

The substructure of the subject bridge features timber abutments and timber bents. There are two sets of bents on either side of the creek. Each of these bents are constructed of six piles made of timber with a timber crossbeam forming the pile cap and supporting the girders above (Figure 5). These bents show considerable signs of damage, particularly on the west side of the bridge where the bent closest to the waterway appears to have been completely washed away. The central piles of the bent behind, along the abutment wall, are also severely damaged (Figure 6). The remaining bents are intact, but show considerable damage and deterioration, particularly near the waterline. The cap of the bent at the eastern abutment has begun to collapse toward the abutment. The subject bridge's ballast walls are constructed of stacked timbers that extend beyond the width of the superstructure on either side. The ballast walls on both sides of the waterway have begun to collapse inward (Figure 7).

The piles meant to retain the ballast walls have also begun to lean inward (Figure 8). There is significant vegetative overgrowth and incursion throughout the ballast walls including a tree growing directly behind the wall on the north side of the structure on the west side of the waterway which is pushing the wall inward (Figure 9).

The deck of the subject bridge is constructed of timber planks laid diagonally across the width of the structure with timber curbs on either side (Figure 10 and Figure 11). There are timber railings which are bolted to the exterior of the superstructure. The timber deck and railing system were likely added when the bridge was converted for pedestrian use in 1989 and seem to be in good condition (Figure 12). At the northwest portion of the ballast wall, a tree growing alongside the wall has wound itself through the railing. The railing and a small portion of the bridge deck are overgrown with ivy at the southwest portion of the ballast wall (Figure 13).

Figure 2: South elevation of the subject bridge, looking northeast (A.S.I., 2024)

Figure 3: The bridge superstructure, the beams and railroad ties are visible beneath the railing (A.S.I., 2024)

Figure 4: Detail view of the strapping connecting railroad ties to beams (A.S.I., 2024)

Figure 5: The bents on the eastern side of the bridge, note the leaning cap on the pier along the ballast wall (A.S.I., 2024)

Figure 6: Detail view of the broken piles and severe deterioration on the western piers (A.S.I., 2024)

Figure 7: The southeastern ballast wall. Note the warping of the wall and vegetation growing through (A.S.I., 2024)

Figure 8: Detail view of the leaning northeastern ballast wall pile (A.S.I., 2024)

Figure 9: Detail view of the northwestern ballast wall. The tree pushing the wall inward in visible through the gap in the wall (A.S.I., 2024)

Figure 10: The timber bridge deck, looking southeast (A.S.I., 2024).

Figure 11: Detail view of the bridge deck and timber curb (A.S.I., 2024).

Figure 12: Detail view of the railing system on the southern elevation. Note the bolts connecting the railing to the superstructure (A.S.I., 2024).

Figure 13: Detail view of the tree growing through the railing at the northwest ballast wall (A.S.I., 2024).

4.0 Description and Purpose of Proposed Activity

The proposed replacement of the subject bridge is being undertaken as part of the Rehabilitation or Reconstruction of Meaford Bridge No. 125 Municipal Class Environmental Assessment (M.C.E.A.).

The 2023 Ontario Structural Inspection Manual (O.S.I.M.) report evaluated the bridge as being in generally poor condition with a Bridge Condition Index (B.C.I.) score of 44.5 and recommended replacement of the subject bridge within two years (R. J. Burnside & Associates Limited, 2023). As rehabilitation of the bridge has been deemed infeasible due the prohibitive cost and the extent of rehabilitation work required, the proposed work for Meaford Bridge No. 125 will include the demolition of the existing bridge and either its replacement with a new structure at the same crossing or the closure of the crossing and rerouting of the Georgian Trail to the neighbouring Edwin Street East bridge.

5.0 Impact Assessment

The following section includes a description of the approach to impact assessments and an impact assessment analysis for the subject bridge.

5.1 Approach to Impact Assessment

To assess the potential impacts of the proposed works on the cultural heritage value of Meaford Bridge No. 125, the identified heritage attributes outlined in Section 2.0 were considered against a range of possible impacts. The scope of this Heritage Impact Assessment (H.I.A.) is provided by the Ministry of Citizenship and Multiculturalism's *Ontario Heritage Toolkit* (Ministry of Culture, 2006). An H.I.A. is a useful tool to help identify cultural heritage value and provide guidance in supporting environmental assessment work. As part of an H.I.A., proposed site alterations and project alternatives are analysed to identify impacts of the undertaking on the heritage resource and its heritage attributes. The impact of the proposed development on the built heritage resource (B.H.R.) or cultural heritage landscape (C.H.L.) is assessed, with attention paid to identifying potential negative impacts, which may include, but are not limited to:

- Destruction of any, or part of any, significant heritage attributes or features;
- Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance;
- Shadows created that alter the appearance of a heritage attribute or change the viability of an associated natural feature or plantings, such as a garden;
- Isolation of a heritage attribute from its surrounding environment, context or a significant relationship;
- Direct or indirect obstruction of significant views or vistas within, from, or of built and natural features;

- A change in land use (such as rezoning a church to a multi-unit residence) where the change in use negates the property's cultural heritage value;
- Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect a cultural heritage resource, including archaeological resources.

Where negative impacts of the development on the B.H.R. or C.H.L. and/or attributes are identified, mitigative or avoidance measures or alternative development or site alteration approaches are considered. Conservation options are outlined in the *Ontario Heritage Bridge Guidelines* (O.H.B.G.) (Ministry of Culture and Ministry of Transportation, 2008), which is regarded as current best practice for conserving heritage bridges in Ontario. While intended for use in the assessment of provincially-owned structures and not directly applicable to the municipal context, the O.H.B.G. ensures that heritage concerns and appropriate mitigation options are considered.

Indirect adverse impacts are identified where activities on or near the structure may adversely affect its cultural heritage value or interest and/or heritage attributes. Positive impacts may also result where a structure's cultural heritage value or interest and/or heritage attributes is conserved or enhanced. As the subject bridge was determined to have cultural heritage value or interest, the proposed structure replacement should be planned in a manner that is visually, physically, and functionally sympathetic to the original structure at the crossing.

5.2 Impact Assessment Analysis

The results of the impact assessment are based on the information provided in the Technical Memo Bridge-125 Rehabilitation Options (Centex Engineering and Development, 2024) the 2023 Ontario Structure Inspection Manual Inspection (O.S.I.M.) Report (R. J. Burnside & Associates Limited, 2023), and additional email communications with Centrex Engineering and Development Inc. It considers possible direct adverse impacts, indirect adverse impacts, and positive impacts. See Section 2.0 for a description of the cultural heritage attributes identified for the subject bridge.

The proposed alterations to the structure include the complete removal of the 1901 timber railway bridge. The complete removal of the subject bridge is a direct, permanent, adverse impact to the identified cultural heritage value or interest (C.H.V.I.) of the structure. All physical heritage attributes including the bridge's timber construction, single span structure, log piles, timber beam stringers, timber abutment walls, and wooden creosote-treated railroad ties are anticipated to be completely removed. The subject bridge is described as being in poor condition with a Bridge Condition Index (B.C.I.) score of 44.5 in the 2023 O.S.I.M. report (R. J. Burnside & Associates Limited, 2023) which recommended the replacement of the structure within two years. Due to the poor condition of the bridge and a review of the financial and engineering constraints, retention of the bridge in-situ with rehabilitation of the existing structure has been deemed infeasible.

Two options are being considered following the removal of the existing bridge. The first option includes the full replacement of the subject bridge with a new structure at the same crossing (Alternative 2). This option would result in the direct adverse impacts described above relating to the removal of the subject bridge but would maintain the contextual value of the crossing which has been in use since the 1901 construction of the Grand Trunk Railway (G.T.R.) extension line and would preserve the crossing's visual and contextual links to its surroundings. In this respect, Alternative 2: Remove Bridge and Replace in Same Location is the preferred options from a cultural heritage perspective at it would retain the contextual value of the crossing.

The second option includes the closure of the crossing and the rerouting of the Georgian Trail to the neighbouring Edwin Street East bridge (Alternative 3). This alternative would result in the direct adverse impacts described above relating to the removal of the subject bridge in addition to direct permanent adverse impacts to the contextual value of the crossing through the closure of the crossing, which has been in use for nearly 125 years as a rail and pedestrian crossing, and the rerouting of the trail away from the historical alignment of the G.T.R. line. In this respect, Alternative 3: Remove Bridge and Reroute Georgian Trail to Edwin Street East is the least preferred option from a cultural heritage

perspective as it is the most impactful to the identified C.H.V.I. of the subject bridge and crossing.

6.0 Considered Alternatives and Mitigation Measures

Three alternatives were reviewed to address the structural deficiencies in the subject bridge. The three preliminary options included:

- Alternative 1: Retain In-Situ and Rehabilitate Bridge
- Alternative 2: Remove Bridge and Replace in Same Location
- Alternative 3: Remove Bridge and Reroute Georgian Trail to Edwin Street East.

The subject bridge is in poor condition and shows considerable signs of deterioration to elements of the substructure. Due to the poor condition of the structure as described in the 2023 O.S.I.M. report (R. J. Burnside & Associates Limited, 2023), Alternative 1: Retain In-Situ and Rehabilitate Bridge was deemed infeasible because of the prohibitive cost associated with the extensive rehabilitation work required. Rehabilitation alone would also not address code and service level deficiencies of the existing bridge. As it had already been excluded from consideration, Alternative 1 was excluded from the Technical Memo Bridge BR-125 Rehabilitation Options (Centex Engineering and Development, 2024) which describes Alternatives 2 and 3.

Alternative 2: Remove Bridge and Replace in Same Location involves the removal of the subject bridge and its replacement with a new structure at the same crossing. The new structure would be a pedestrian bridge constructed of cast-in-place concrete abutments with a prefabricated steel truss superstructure. The bridge would be designed to carry the load of a winter maintenance vehicle and would be fully compliant with all accessibility standards for pedestrian bridges and multi-use trails (Centex Engineering and Development, 2024).

Alternative 3: Remove Bridge and Reroute Georgian Trail to Edwin Street East includes the removal of the subject bridge and the closing of the crossing. In this alternative, the Georgian Trail would be redirected to the existing crossing at Edwin Street East, just southwest of the subject bridge. The proposed work would include improvements to the watercourse embankments, installation of new cast-in-place concrete retaining structures at the existing abutment/wingwall locations, installing guardrails/signage at the watercourse crossing, and minor grading associated with the new trail alignment onto Edwin Street East (Centex Engineering and Development, 2024).

Where feasible, the preferred alternative for any bridge with identified cultural heritage value or interest should involve rehabilitating and retaining the structure in situ to maintain the physical/design, historical/associative, and contextual values of the bridge and crossing. Retention and sympathetic rehabilitation with allowances made for inclusion of modern materials to meet current design and safety codes is the preferred option from a heritage perspective as it would retain the heritage attributes identified in Section 2.0 and retain the physical and design value of the subject bridge. In this respect, Alternative 1: Retain In-Situ and Rehabilitate Bridge is preferred from a cultural heritage perspective. However, Alternative 1 was eliminated from consideration due to the high cost associated with the extensive rehabilitation work required and its failure to address code and service-level deficiencies (Centex Engineering and Development Inc. email communication 13 January 2025).

As the retention and rehabilitation of the subject bridge was determined to be infeasible, Alternative 2: Remove Bridge and Replace in Same Location is the second most preferred option from a cultural heritage perspective as it would retain the contextual value of the crossing and continue its historical function as a crossing over Meaford Creek which has been in use by trains and pedestrians for nearly 125 years. Should this alternative be selected, the construction of a sympathetically-designed replacement structure should be considered as a means of reducing the impacts to the physical/design value of the crossing. A sympathetic replacement superstructure should be designed to be compatible with the style and character of the subject bridge, be based on physical and

documentary evidence such as photographs and original structural drawings, and be mindful of the context, scale, massing, and material of the original structure (Ministry of Culture and Ministry of Transportation, 2008). In this respect, consideration should be given to replacement with similar single-span structure with glue-laminated timber beams. Further, the replacement structure could replicate the subject bridge's trestle construction or incorporate design elements that evoke the trestle design and incorporate a timber deck and railings. A sympathetically-designed replacement bridge would maintain this historical bridging point over Meaford Creek and maintain the crossing's visual links to its historical use as a railway bridge.

If removal and replacement with a new structure at the crossing (Alternative 2) is determined to be infeasible, Alternative 3: Remove Bridge and Reroute Georgian Trail to Edwin Street East should be carried forward. Alternative 3 is the least preferred option from a cultural heritage perspective as it is the most impactful to the identified C.H.V.I. of the subject bridge and crossing, however, negative impacts could be lessened with full documentation and the development of a suitable commemoration strategy.

Prior to removal, full recording of the structure would ensure proper documentation for archival purposes and ensure suitable material is available for inclusion with a commemoration strategy. The C.H.E.R. (Archaeological Services Inc., 2024) and this H.I.A. are considered to be sufficient documentation.

To reduce negative impacts to the cultural heritage value of the crossing, the development of suitable commemoration should be considered. In this respect, consideration should be given to developing a commemorative interpretation at the crossing featuring information relating to the original structure and its use as a rail bridge on the G.T.R. line. Consultation should be completed with the Municipality of Meaford regarding any potential commemorative interpretation.

7.0 Summary of Community Engagement

Community engagement was completed as part of the Meaford Bridge No. 125 Cultural Heritage Evaluation Report (C.H.E.R.) in October 2024 and included email communications with heritage planning staff and development staff at the Municipality of Meaford, the Ministry of Citizenship and Multiculturalism, the Ontario Heritage Trust, and the Grey Roots Museum and Archives (see Section 2.1 of the C.H.E.R. for a full record of consultation). Community engagement determined that the subject bridge was not listed by the municipality, designated under Part IV of the *Ontario Heritage Act,* or subject to any other level of heritage recognition. Further, no properties directly adjacent to the bridge have any heritage recognition.

The draft Heritage Impact Assessment will be submitted to heritage planning staff at the Municipality of Meaford and with the Ministry of Citizenship and Multiculturalism (M.C.M.) for review and comment. Relevant comments will be incorporated into the final report where appropriate.

8.0 Recommendations

Both alternatives being considered for the subject bridge, Alternative 2: Remove Bridge and Replace in Same Location and Alternative 3: Remove Bridge and Reroute Georgian Trail to Edwin Street East, are anticipated to result in direct, permanent, adverse impacts to the cultural heritage attributes of the structure through the complete removal of the original bridge. Mitigation measures outlined in this report have been prepared to further minimize these impacts and should be implemented as appropriate to the extent practicable to ensure impacts to the cultural heritage value of the crossing are reduced.

The following recommendations and mitigation measures have been developed and should be implemented:

1. Where feasible, the proposed undertaking should be designed and executed to ensure the fewest direct and permanent, non-reversible impacts to the identified heritage attributes of the subject bridge. In this

respect, Alternative 1: Retain In-Situ and Rehabilitate Bridge is the preferred option from the cultural heritage perspective. However, Alternative 1 was eliminated from consideration due to the high cost associated with the extensive rehabilitation work required and its failure to address code and service-level deficiencies.

2. As retaining and rehabilitating the subject bridge was determined to be infeasible, Alternative 2: Remove Bridge and Replace in Same Location should be carried forward for consideration as it is the second most preferred option from the cultural heritage perspective. Alternative 2 would include the complete removal of the existing structure and its replacement with a new structure at the same crossing. Should this alternative be carried forward as the Preferred Alternative, construction of a sympathetically-designed replacement structure should be considered as a suitable means of reducing the impacts to the physical/design value of the crossing.

3. To reduce negative impacts to the cultural heritage value of the crossing, the development of suitable commemoration should be considered. In this respect, consideration should be given to developing a commemorative interpretation at the crossing featuring information relating to the original structure and its use as a rail bridge on the Grand Trunk Railway line. Consultation should be completed with the Municipality of Meaford regarding any potential commemorative interpretation.

4. Prior to removal of the subject bridge, full recording of the structure would ensure proper documentation for archival purposes and ensure suitable material is available for inclusion with a commemoration strategy. The cultural heritage evaluation report (C.H.E.R.) (Archaeological Services Inc., 2024) and this heritage impact assessment (H.I.A.) are considered to be sufficient documentation.

5. The proponent should submit this report to heritage staff at the Municipality of Meaford and to the Ministry of Citizenship and Multiculturalism for review. Any feedback will be considered and incorporated into the report, where appropriate. The final report should be submitted to the Municipality of Meaford for future reference.

9.0 References

Archaeological Services Inc., (A.S.I.). (2024). *Cultural Heritage Evaluation Report Meaford Bridge No. 125* [Cultural Heritage Evaluation Report]. On file with A.S.I.

Centex Engineering and Development. (2024). *Technical Memo Bridge BR-125 Rehabilitation Options* [Technical Memo]. On file with the author.

Hughes, R. (2022, January 3). Meaford Railway Stations. *Ontario Railway Stations*. https://ontariorailwaystations.wordpress.com/home/grey-county/meaford-railway-stations/

Ministry of Culture. (2006). *Property Evaluation*. http://www.mtc.gov.on.ca/en/publications/Heritage_Tool_Kit_HPE_Eng.pdf

Ministry of Culture and Ministry of Transportation. (2008). *Ontario Heritage Bridge Guidelines (OHBG) (Interim – January 11 2008)*.

Municipal Engineers Association. (2023, April 27). *Municipal Bridges Criteria for Evaluating Potential for Cultural Heritage Resources (revised April 27, 2023)*.

Parks Canada. (2010). *Standards and Guidelines for the Conservation of Historic Places in Canada*. Canada's Historic Places. https://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf

Public Transportation and Highway Improvement Act, R.S.O. 1990, c.P.50, Ontario Regulation 160/02, Standards for Bridges. (2002). https://www.ontario.ca/laws/regulation/r02160

R. J. Burnside & Associates Limited. (2023). *Meaford Bridge No. 125 OSIM* [Ontario Structural Inspection Manual (OSIM) Report]. On file with the author.

Appendix A: Qualified Persons Involved in the Project

Lindsay Graves, M.A., C.A.H.P.
Senior Cultural Heritage Specialist, Assistant Manager - Cultural Heritage Division

The Senior Project Manager for this Heritage Impact Assessment is **Lindsay Graves** (M.A., Heritage Conservation), Senior Cultural Heritage Specialist and Assistant Manager for the Cultural Heritage Division. She was responsible for: overall project scoping and approach; development and confirmation of technical findings and study recommendations; application of relevant standards, guidelines and regulations; and implementation of quality control procedures. Lindsay is academically trained in the fields of heritage conservation, cultural anthropology, archaeology, and collections management and has over 15 years of experience in the field of cultural heritage resource management. This work has focused on the assessment, evaluation, and protection of above ground cultural heritage resources. Lindsay has extensive experience undertaking archival research, heritage survey work, heritage evaluation and heritage impact assessment. She has also contributed to cultural heritage landscape studies and heritage conservation plans, led heritage commemoration and interpretive programs, and worked collaboratively with multidisciplinary teams to sensitively plan interventions at historic sites/places. In addition, she is a leader in the completion of heritage studies required to fulfill Class Environmental Assessment processes and has served as Project Manager for over 100 heritage assessments during her time at A.S.I. Lindsay is a member of the Canadian Association of Heritage Professionals.

John Sleath, M.A.
Cultural Heritage Specialist, Project Manager - Cultural Heritage Division

The Project Manager for this Heritage Impact Assessment is **John Sleath** (M.A.), who is a Cultural Heritage Specialist and Project Manager within the Cultural Heritage Division with A.S.I. He was responsible for the day-to-day management

activities, including scoping of research activities and site surveys and drafting of study findings and recommendations. John has worked in a variety of contexts within the field of cultural heritage resource management for the past 13 years, as an archaeologist and as a cultural heritage professional. In 2015 John began working in the Cultural Heritage Division researching and preparing a multitude of cultural heritage assessment reports and for which he was responsible for a variety of tasks including: completing archival research, investigating built heritage and cultural heritage landscapes, report preparation, historical map regression, and municipal consultation. Since 2018 John has been a project manager responsible for a variety of tasks required for successful project completion. This work has allowed John to engage with stakeholders from the public and private sector, as well as representatives from local municipal planning departments, museums, and Indigenous nations and organizations. John has conducted heritage assessments across Ontario, with a focus on transit and rail corridor infrastructure including bridges and culverts.

Leora Bebko, M.M.St.
Cultural Heritage Technician, Technical Writer and Researcher - Cultural Heritage Division

The report writer for this for this project is **Leora Bebko** (M.M.St.), who is a Cultural Heritage Technician and Technical Writer and Researcher within the Cultural Heritage Division. She was responsible for preparing and contributing research and technical reporting. In Leora's career as a cultural heritage and museum professional she has worked extensively in public programming and education within built heritage spaces. Leora is particularly interested in the ways in which our heritage landscapes can be used to facilitate public engagement and interest in our region's diverse histories. While completing her Master of Museum Studies she was able to combine her interest in heritage architecture and museums by focusing on the historic house museum and the accessibility challenges they face. As a thesis project, Leora co-curated the award-winning exhibit *Lost & Found: Rediscovering Fragments of Old Toronto* on the grounds of Campbell House Museum. Since completing her degree she has worked as a historical interpreter in a variety of heritage spaces, learning a

range of traditional trades and has spent considerable time researching heritage foodways and baking in historic kitchens. In 2022, she joined A.S.I.'s Cultural Heritage team as a Cultural Heritage Technician.