Badley Bridge (Metcalfe Street) Elora, County of Wellington

Revised and Final

Supplementary Cultural Heritage Evaluation and Heritage Impact Assessment Report

Prepared for BT Engineering

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BT ENGINEERING

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Executive Summary

This Revised and Final Supplementary Cultural Heritage Evaluation Report and Heritage Impact Assessment has been undertaken in order to comply with the Ministry of Environment and Climate Change (now Ministry of Environment, Conservation and Parks) decision regarding the Badley Bridge Environmental Assessment. The Environmental Assessment Report concluded that the existing truss had reached the end of its service life and it was not technically or economically feasible to rehabilitate based on the extent of deterioration of the bridge. The project has received environmental clearance to proceed subject to the conditions of the Minister of Environment, Conservation and Parks.

There have been two earlier reports completed regarding the Badley Bridge; a Cultural Heritage Evaluation Report (Second Revision) by MHBC and a Heritage Impact Assessment (Revised) by MHBC. These earlier versions of these reports were submitted to the MTCS for review, revisions made, and the reports re-submitted to MTCS for review.

MOECC subsequently issued an approval for the bridge project with a condition that a new or supplementary CHER and HIA be completed by a qualified heritage expert to ensure that the proposed undertaking of repairing or replacing the bridge is informed by appropriate conservation practices. On January 14, 2019 and February 2, 2019, additional comments were received from MTCS regarding these two previous reports, as well as the Supplementary Report of February 2018.

The Supplementary Report is intended to consider earlier work, namely the Cultural Heritage Evaluation Report (CHER) and the Heritage Impact Assessment (HIA) reports of April 2017 prepared by MHBC. This report reviewed the earlier reports and confirms that they have complied with current best practices in heritage conservation and have followed the guidance provided by the Ministry of Tourism, Culture and Sport (MTCS). As well, this report adds new information regarding the bridge design, an assessment of its heritage values, attributes, and its cultural heritage landscape. It also provides guidance for the design phase of the replacement bridge.

This final report has been prepared by Wendy Shearer, Cultural Heritage Specialist in consultation with MHBC who prepared in 2016-2017 the initial CHER and HIA for the Badley Bridge. The section regarding bridge design has been prepared by Mark Brandt, Conservation Architect who has experience with context sensitive bridge design.

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1 Introduction

This report originally prepared in February 2018, and the revised version of February 2019, is intended to provide an expert review of the cultural heritage issues as part of the Environmental Assessment for the Badley Bridge (Metcalfe Street) in Elora, Township of Centre Wellington in the County of Wellington. The Supplementary Report is part of the final approval process required by the Ministry of the Environment and Climate Change (MOECC)[1] and is intended to consider earlier work, namely the Cultural Heritage Evaluation Report (CHER) and the Heritage Impact Assessment (HIA) reports of April 2017 prepared by MHBC. This report reviewed the earlier reports and confirms that they have complied with current best practices in heritage conservation and have followed the guidance provided by the Ministry of Tourism, Culture and Sport (MTCS). As well, this report adds new information regarding the bridge design, and assessment of its heritage values, attributes, and its cultural heritage landscape. It also provides guidance for the design phase of the replacement bridge.

There have been two earlier reports completed regarding the Badley Bridge. The first 143-page report is titled Cultural Heritage Evaluation Report (Second Revision) by MHBC. The second 134-page report is titled the Heritage Impact Assessment (Revised) by MHBC. These earlier versions of these reports were submitted to the MTCS for review and the MTCS comment letter dated March 5, 2017 identified several additional issues to be considered. The comments were addressed in the final revised versions of April 10, 2017.

MOECC subsequently issued an approval for the bridge project with a condition that a new or supplementary CHER and HIA be completed by a qualified heritage expert to ensure that the proposed undertaking of repairing or replacing the bridge is informed by appropriate conservation practices.

The following is an excerpt from the MOECC letter sent to the County of Wellington and the Township of Centre Wellington on August 25, 2017:

[1] In June 2018, the Ministry of Environment and Climate Change (MOECC) changed their name to the Ministry of Environment, Conservation and Parks (MECP)

2. Wellington County in consultation with the Ministry of Tourism, Culture and Sport shall:

    a. Ensure that a qualified individual (with recent and relevant expertise and experience) submits completed or supplementary Heritage Impact Assessment and Cultural Heritage Evaluation Reports for the Badley (Metcalfe Street) Bridge to in accordance with Ministry of Tourism, Culture and Sport guidance and standards prior to detailed design.

    b. Ensure the Heritage Impact Assessment for the Badley (Metcalfe Street) Bridge demonstrates how cultural heritage resources have been incorporated in the evaluation of the alternatives for the overall Badley (Metcalfe Street) Bridge Environmental Assessment.

    c. Ensure that if the preferred alternative remains (construction of a new bridge), the Heritage Impact Assessment is used to guide the design for the replacement of the bridge by commemorating the existing Badley (Metcalfe Street) Bridge, and ensuring the replacement bridge is sympathetic to surrounding cultural heritage resources.

    d. Submit the amended Heritage Impact Assessment and Cultural Heritage Evaluation Report for the Badley (Metcalfe Street) Bridge to the Ministry of Tourism, Culture and Sport, the municipal heritage planner and the municipal heritage committee(s) for review prior to detailed design.

In order to address the first of the above MOECC requirements, a team of qualified heritage consultants was engaged to provide the necessary review of completed work. The team consisted of Wendy Shearer and Mark Brandt, who are heritage specialists with expertise in cultural heritage landscape assessment and context sensitive design for the replacement of heritage bridges.

Wendy Shearer, OALA, FCSLA, ASLA, CAHP is an award winning landscape architect and cultural heritage specialist. She has been involved in several cultural heritage assessment projects under the EA process and several of these projects involved road improvements and bridge evaluation. She is currently working on the assessment of several bridges in Ottawa and specifically in the cultural landscape context of the Rideau Canal World Heritage Site (along with Mark Brandt). She has also completed the assessment of the cultural landscape issues relating to the Black Bridge Road heritage bridge in the City of Cambridge. Wendy Shearer was responsible for the heritage assessment review and providing additional information and conclusions regarding the cultural heritage landscape.

Mark Thompson Brandt, OAA, MRAIC, LEED AP BD+C, CAHP, APTi, Context Sensitive Design Specialist, is Senior Conservation Architect and Urbanist with MTBA Associates Inc. He has over 30 years' experience managing, planning and designing complex urban design and building projects, as well as condition, context and heritage assessments for municipal, provincial and federal governments. Mark has been involved in numerous urban planning projects, including roadway and pathway development and is a conservation specialist with expertise in heritage value assessments, impact assessments, and high-value reviews and evaluations for built heritage and cultural landscapes. He is also considered a stakeholder consensus specialist with deep experience managing community and stakeholder input and gaining consensus through dialogue, demonstration and project management, and has carried out numerous Urban Intervention Studies using Context Sensitive Design. Mark is the author of **Appendix A.1** and the Design Option Sketches, with assistance from MTBA conservation architectural staff, Jorge Sosa and Carly Farmer.

Resumes of each of the team lead members are included in **Appendix A.2.**

The MOECC letter offers two alternatives for the CHER and HIA: one is to complete new reports and the second is to provide a Supplementary CHER and HIA.

After considering the work completed to date, the review team determined that the original CHER and HIA reports completed by MHBC follow the policies and requirements for these types of evaluation reports. The reports contain historical research, field work, a determination of heritage values using Ont. Reg. 9/06 of the Ontario Heritage Act and a list of heritage attributes. The MHBC staff members who completed the work are qualified and experienced heritage consultants and are members of the Canadian Association of Heritage Professionals (CAHP). As a result, the review team has determined that a Supplementary Report that builds on the information included in these early reports will address the MOECC requirement by adding new information and additional guidance for the treatment of the bridge in the detailed design phase.

This supplemental report has included the review of the Municipal Class EA prepared by BT Engineering, its overall consideration of all environmental issues, and hydrologic, structural, natural, cultural, and socio-economic issues in the project study area. The Class EA has demonstrated the need for a bridge management plan to provide a continued link in the County Road system and ensure the life safety of the travelling public over the deteriorating bridge structure. Interim holding strategy repairs were completed to allow the County time to complete the detailed review of alternatives, as required under the Class EA. The Class EA was completed in parallel with the planning for the reopening of the downstream Victoria Street Bridge. The Supplementary CHER and HIA Report provide additional information on the cultural heritage landscape context of the Badley Bridge and an analysis of the intent of the original design as a means of informing a new bridge design. The report will also consider the heritage values associated with the existing bridge as part of the Cultural Heritage Landscape of Elora.

On January 14, 2019 and February 2, 2019, additional comments were received from MTCS regarding these two previous reports, as well as the Supplementary Report of February 2018. The Revised Final Supplementary CHER and HIA Report addresses the comments from MTCS and complies with the list of items to be addressed as part of the approval of the Environmental Assessment. A chart outlining the recent MTCS comments and how they have been addressed is included as **Appendix A.5**.

1.1. Environmental Assessment Background

The synopsis of the Environmental Assessment is that it considered planning alternatives ranging from a bridge closure to rehabilitation and replacement alternatives. Preliminary Design alternatives were carried forward that included both rehabilitation of the existing bridge and replacement with a modern bridge that could include cycling and pedestrian facilities meeting current accessibility standards. The evaluation of the alternatives used a methodology described in the Environmental Study Report (ESR) as the Multi Attribute Trade-off System (MATS). This methodology has been used by municipalities and the Province for complex decision-making in environmental assessments where there is a need for traceability and accountability.

The MATS evaluation considered an initial list of 137 evaluation criteria under the factor groups of Transportation, Environmental, Hydraulics, Heritage, Social and Cultural Environment, Aesthetics, Economic, Cost and Structural considerations. Of these criteria, 51 were carried forward where there was judged to be meaningful and measurable differences among the alternatives. With respect to cultural heritage, technical heritage reports (i.e. archaeological assessments, CHERs and HIAs) were prepared to assess the existing environment from which the alternatives were evaluated. Stage 1 Archaeological, Stage 2 Archaeological, and Marine Archaeological assessment reports were submitted separately to the Ministry of Tourism, Culture and Sport. Appendix D of the ESR includes definitions of the measured effects for each sub-factor carried forward, including the cultural heritage criteria. From this detailed evaluation, the study recommendation was for a 3-span replacement bridge. The poor structural condition of the existing truss was one of the factors in not carrying forward the rehabilitation alternative. It was judged that rehabilitation could only be considered an interim solution and that bridge replacement would still be required at the subsequent rehabilitation cycle.

The EA recommendations included input from the Ministry of Tourism, Culture and Sport, County of Wellington, Township of Centre Wellington, First Nations, agencies, stakeholders and the general public. The Project has environmental clearance for construction subject to conditions of approval by the Minister of Environment and Climate Change (now renamed Ministry of the Environment, Conservation and Parks) dated August 25, 2017. This report contains information and additional cultural heritage data as required under the Minister's conditions of approval.

It is noted that the MATS process did not influence the cultural heritage evaluation and impact assessment. This followed the Ministry of Tourism, Culture and Sport's Info Sheet #5: Heritage Impact Assessments and Conservation Plans for identifying known and potential cultural heritage resources within and adjacent to the study area, measuring the impacts of identified project alternatives and recommending mitigation measures to avoid or mitigate potential negative impacts to known or potential cultural heritage resources.

Identification of the existing cultural heritage conditions was based on the MTCS Criteria for Evaluating for Potential Built Heritage Resources and Cultural Heritage Resources. All previously recognized built heritage resources and/or cultural heritage landscapes were identified. In addition, buildings and structures within the study area that are 40 years of age and older were evaluated during the survey for their potential to satisfy O.Reg.9/06 criteria. Ontario Regulation 9/06 (under the Ontario Heritage Act) provides the criteria for determining cultural heritage value or interest is provided in Ontario Regulation 9/06. Use of the 40 year threshold is accepted by both the federal and provincial authorities as a preliminary screening measure for cultural heritage value or interest. This practice does not hold that all buildings and structures more than 40 years of age are inherently of significant heritage value, nor does it exclude exceptional examples constructed within the past 40 years of being of significant cultural heritage value.

Those properties that were identified as containing cultural heritage value or interest were assigned cultural heritage resource number and can be found in Table 1.

2 Relevant Policies and Definitions

Understanding the history of the area, its evolution over time and the connections between the various parts of the cultural heritage landscape is a key part of conservation planning process and determining the appropriate intervention for the Badley Bridge. The following sections contain the relevant policies, regulations and practices that are part of the current assessment included in this Supplementary Report.

Photo 1: Badley Bridge

The Badley Bridge is a distinctive component of the cultural heritage landscape of Elora. The interconnection of the Grand River, past industrial and current commercial activities and the variety of built heritage resources all contribute to the unique visual character of the area.

2.1. Purpose and Content of a Cultural Heritage Evaluation Report (CHER)

A CHER is a comprehensive report that is intended to identify, describe and evaluate the heritage significance of the historic place. It contains a description of the extent of the built heritage and landscape resources that form part of the historic place. As well, it contains background information about the past uses and evolution over time, and an analysis of the heritage values associated with the place. It also includes a list of the heritage attributes including items such as materials, features, proportions, spatial relationships, and views that have heritage value, contribute to the heritage significance and that must be conserved in order to maintain the heritage value. The determination of heritage value and list of attributes

is summarized in a Statement of Heritage Value that includes a description of the heritage place, its heritage values and heritage attributes.

The CHER is the document that is the foundation for planning for future works. It informs the selection of the appropriate conservation intervention for the historic place: preservation, restoration or rehabilitation. It provides an understanding of the heritage resources based on scholarly research, field work and an application of heritage definitions and regulations.

The content of the completed CHER of April 10, 2017 generally follows this outline. It contains a great deal of information regarding the historical development of the Elora community and a list of heritage properties in the area around the bridge, their heritage values and a list of attributes. This work is reviewed in further detail in Section 3.

2.2. MTCS guidance on content of a HIA

The Heritage Impact Assessment report is undertaken in order to assess the impact of alternative treatments for the historic place. It provides guidance on mitigation measures that may be used to reduce negative impacts of changes that affect the heritage values.

In the case of the Badley Bridge, the deteriorating condition and insufficient traffic capacity of the structure have resulted in the need for a planning process to ensure that there is a safe and adequate river crossing on Metcalfe Street. The April 2017 HIA identified various mitigation alternatives and two alternatives, rehabilitation or replacement with a new bridge, were determined to require further consideration. This Supplementary Heritage Impact Assessment provides an evaluation of these alternatives, their impacts on heritage resources and considers mitigation strategies that may be used to lessen the impacts on the heritage resources.

The MTCS provides guidance on evaluating cultural heritage resources including built and cultural landscape resources. The guidance involves a multiphase process that includes research into the history of the properties in order to identify historical or associative heritage values. It also involves field work to identify the design, physical or contextual heritage values using Ont. Reg. 9/06 of the Ontario Heritage Act as an evaluation guide.

The recommended content of a Heritage Impact Assessment is outlined in the MTCS guideline InfoSheet #5 and consists of the following 7 Sections:

1. *Historical Research, Site Analysis and Evaluation*
    a. *If the available identification and description of the significance and heritage attributes of the cultural heritage resource are inadequate for the purposes of the heritage impact assessment, or the cultural heritage resource is newly identified, research, site survey and analysis, and evaluation are required. An explanation of the methodology used must accompany a clear statement of the conclusions regarding the significance and heritage attributes of the cultural heritage resource.*
2. *Identification of the Significance and Heritage Attributes of the Cultural Heritage Resource*

   a. *This is usually a summary of the cultural heritage value or interest and the heritage attributes contained in a heritage property municipal designation bylaw, heritage conservation easement agreement, or other listings. This summary should clearly articulate the cultural heritage value or interest and heritage attributes of the heritage resource. If the property is not a protected heritage property but is listed or is newly identified and may possess heritage significance, statements of cultural heritage value or interest and the heritage attributes should still be developed.*

3. *Description of the Proposed Development or Site Alteration*
   a. *This description details the rationale and purpose for the development or site alteration, the proposed works and graphical layout, and how the development or site alteration fits with the objectives of the municipality or approval authority.*

4. *Measurement of Development or Site Alteration Impact*
   a. *Any impact (direct or indirect, physical or aesthetic) of the proposed development or site alteration on a cultural heritage resource must be identified. The effectiveness of any proposed conservation or mitigative or avoidance measures must be evaluated on the basis of established principles, standards and guidelines for heritage conservation.*

5. *Consideration of Alternatives, Mitigation and Conservation Methods*
   a. *Where an impact on a cultural heritage resource is identified, and the proposed conservation or mitigative measures including avoidance, are considered ineffective, other conservation or mitigative measures, or alternative development or site alteration approaches must be recommended.*

6. *Implementation and Monitoring*
   a. *This is a schedule and reporting structure for implementing the recommended conservation or mitigative or avoidance measures, and monitoring the cultural heritage resource as the development or site alteration progresses.*

7. *Summary Statement and Conservation Recommendations*
   a. *This is a description of:*
      i. *The significance and heritage attributes of the cultural heritage resource;*
      ii. *The identification of any impact that the proposed development will have on the cultural heritage resource;*
      iii. *An explanation of what conservation or mitigative measures, or alternative development or site alteration approaches are recommended to minimize or avoid any impact on the cultural heritage resource; and*
      iv. *If applicable, clarification of why some conservation or mitigative measures, or alternative development or site alteration approaches are not appropriate.*

2.3. Determining Heritage Value by applying Ontario Regulation 9/06 of the Ontario Heritage Act (Ont. Reg. 9/06)

Consideration of heritage value or interest is determined by applying the numerous criteria included in Ont. Reg. 9/06 of the Ontario Heritage Act. This regulation provides a process whereby the physical or design aspects of a resource may be evaluated. Ont. Reg. 9/06 has been used to evaluate the long list of built heritage resources in the CHER and HIA that were completed in 2017. It has been applied to the bridge and its landscape setting in this report, to determine additional heritage value relating to the cultural heritage landscape.

In the case of the Badley Bridge, it is representative of a Camelback bridge design used throughout North America during the last century.

The regulation also considers the historical or associative aspects of the resource that contribute heritage value and that may not be evident in the extant features. For example, the Metcalfe Street Bridge has been named the Badley Bridge after Arthur A. Badley from Elora who was a past Warden of the County of Wellington. This adds associative heritage value or interest to the structure.

A third criterion that indicates heritage value is contextual. This criterion allows for consideration of the setting of the resource. It is this criterion that is the basis of describing the resource as a contributor to a larger cultural heritage landscape. In the case of the Metcalfe Street Bridge, its setting contributes considerably to the overall heritage value of the bridge.

2.4. Definition of a Cultural Heritage Landscape

The Provincial Policy Statement (PPS) defines a cultural heritage landscape as:

> *"…a defined geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Aboriginal community. The area may involve features such as structures, spaces, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association. Examples may include, but are not limited to, heritage conservation districts designated under the* Ontario Heritage Act*; villages, parks, gardens, battlefields, mainstreets and neighbourhoods, cemeteries, trailways, viewsheds, natural areas and industrial complexes of heritage significance; and areas recognized by federal or international designation authorities (e.g. a National Historic Site or District designation, or a UNESCO World Heritage Site)."*

In Ontario, several municipalities are developing inventories and planning policies in order to identify cultural heritage landscapes within their boundaries. Once identified, there are various means to manage and protect these types of heritage resources including designation under Part IV of the Ontario Heritage Act (where there is a single owner of the property) or designation under Part V as a Heritage Conservation District (where there are multiple owners).

The core area of Elora that includes the Badley Bridge has been recognized as a Heritage Area in the Centre Wellington Official Plan although it is not designated under the Ontario Heritage Act. This area that includes the Badley Bridge meets the definition of a continuing evolved cultural landscape, one that shows changes over time and that contains a variety of components that collectively demonstrate the evolution of the historic place and its context. This acknowledgement that the Badley Bridge is a component of a wider Cultural Heritage Landscape allows for an evaluation of its contribution to that significant context.

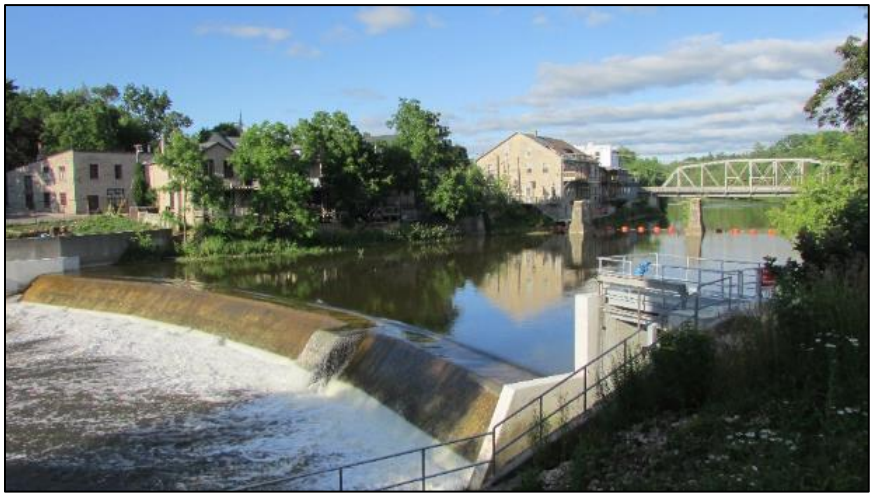


Photo 2: Riverscape and Heritage Buildings

The cultural heritage landscape of Elora is dominated by the riverscape and views of heritage buildings.

2.5. Parker Truss and Camelback Bridge Design

In order to determine the heritage value of the design executed in the construction of the Badley Bridge in 1952, (opened in 1953) it is important to understand the intent and merits of the Camelback bridge design that was chosen for this crossing of the Grand River. Image taken from MHBC report of the original design drawings.

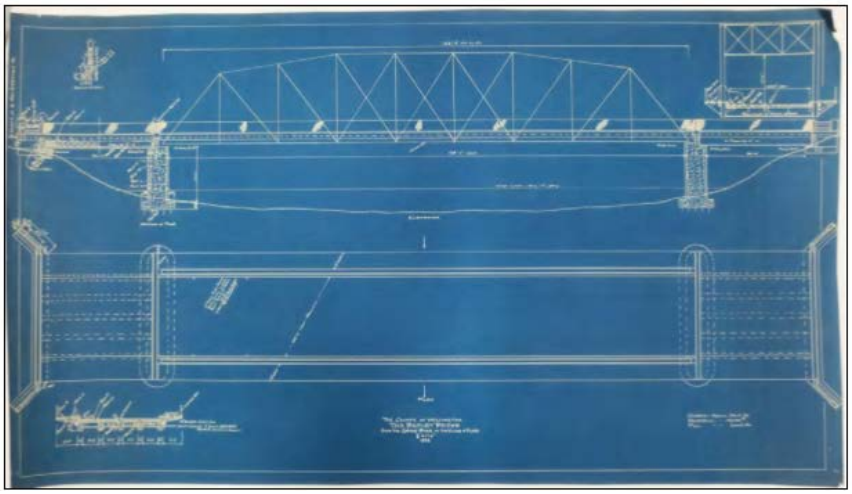


Figure 1: Blueprint plan for Badley Bridge, 1952 (Source: Wellington County Museum and Archives, MAP 536)

Since the early nineteenth century, Pratt Through Truss bridges were constructed across North America of timber, or more commonly steel, that was pinned, riveted or bolted in place. This type of bridge design was popular and became a common part of the landscape especially in rural areas because of its efficiency and cost. The Pratt ThroughTruss design was often used for railway bridges because of its ability to carry heavy loads and extend long distances. "The Pratt offered ease of design and fabrication using economical, standard rolled-angle and channel sections, plates, bars, rods, and I beams." (NCDOT Types of Bridges.)

Many improvements to the Pratt Through Truss design were made over the years with several variations that improved performance and reduced material requirements. One of the variations is the Parker Through Truss design that has a polygonal top chord. The advantage of this design is that the verticals at either end of the truss structure are shorter reducing the amount of steel required and putting the support in the middle of the bridge where it is needed. The Parker design may have several slopes on the top chord depending on the length and height of the bridge. This design is well suited for long lengths.

Figure 2: Parker Truss diagram (source: HAER)

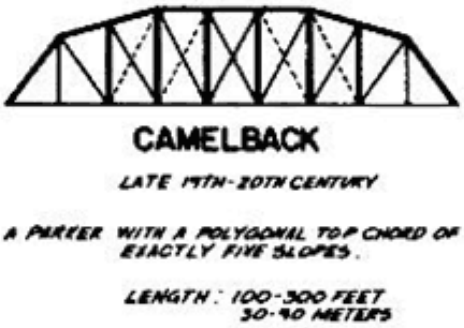


Figure 3: Camelback Truss diagram (source: HAER)

The Camelback bridge design is a variation of the Parker bridge design type. The Camelback bridge design has exactly five slopes on the top chord. The Camelback design was frequently chosen since it was structurally efficient in that it minimized the use of materials in the truss and was well suited for shorter lengths. It was probably not chosen in situations where a conventional truss using standard identical sized members made them more cost effective to build.

The Badley Bridge is a typical example of a Camelback bridge design type with the addition of sidewalks and railings on either side on side to accommodate the pedestrian traffic in the village core.

There are two inventories of bridges in the Grand River Watershed completed in 2004 and most recently, in 2013. A review of the numbers and types of bridges found within this larger context of the Badley Bridge reveals that there are 167 Heritage Bridges of a total of 678 bridges that were inventoried. Of this number, there are a total of 253 bridges in the County of Wellington and 91 bridges in the Township of Centre Wellington. Of this latter number, 27 were identified as Heritage Bridges. Since there has been continued renewal of bridges in the municipalities since the last report was prepared, there may be some change in the actual

numbers. However, the reports do contain valuable information about the family of heritage bridges in the watershed.

There are 15 different design types identified in the latest inventory. The majority of the bridges (15%) are described as Through Truss. (For comparison, the second largest category is Concrete Bowstring Arch at 11%). There is no further breakdown of the Through Truss category into Pratt, Parker or Camelback design types. However, a review of the detailed inventory sheets reveals that there are eight Camelback bridges in the watershed (as of 2013). Further field investigation has confirmed that there is an identical Camelback bridge, the Caldwell Bridge, built in 1953 on the eastern side of Fergus in the Township of Centre Wellington. As well, the Princess Elizabeth Bridge is a Camelback design. Other Camelback bridges are identified as being located in Blandford-Blenheim, Woolwich and Wilmot Townships.

(Note to reader: The Inventory Report uses confusing terminology in some places describing the design as Parker Camelback (Badley) and Camelback Through Truss (Caldwell). For the purposes of this report it is acknowledged that the Camelback bridge design is a variation of the Parker ThroughTruss bridge design and it contains five slopes on the top chord.)

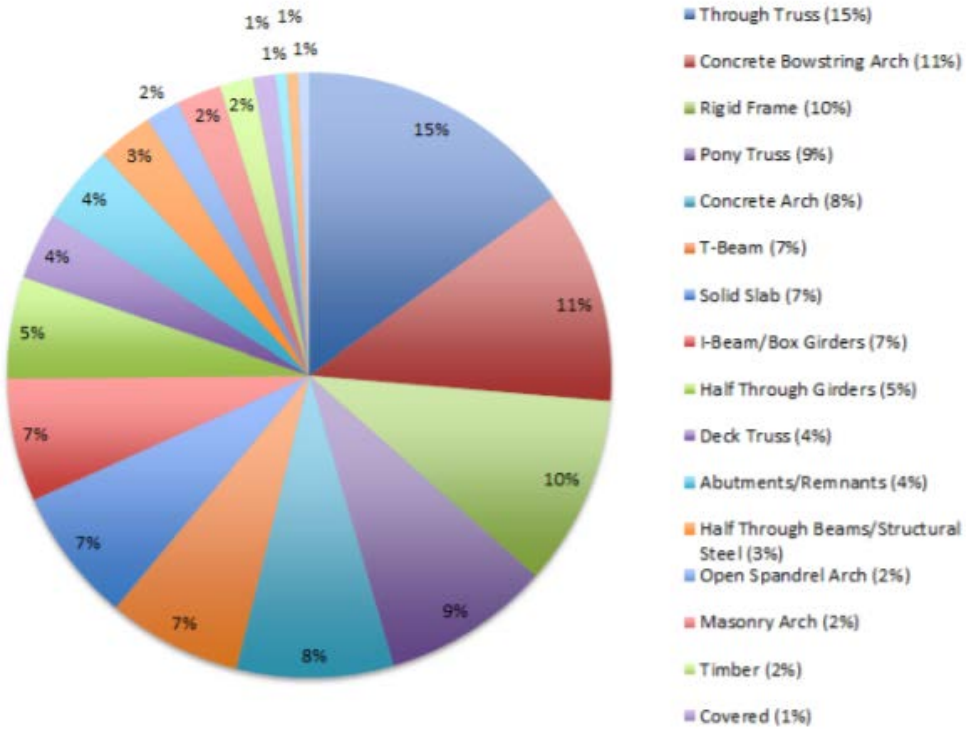


Figure 4: Heritage Bridges Identified by Type

From the Grand River Watershed Heritage Bridge Inventory, 2013, page 358.

The County of Wellington has an inventory of all the bridges within the Township of Centre Wellington and as expected there are fourteen through truss bridges. This number includes two other Camelback bridges, one located in Fergus and the second, the Princess Elizabeth

Bridge located on Wellington Road 12 near Third Line. Research into the historic County Council records provides a glimpse into the rationale for bridge construction. After the war, the County had a "vigorous policy of bridge construction as rapidly as conditions permit. The investment was in new and adequate bridges as an excellent and lasting achievement for many years to come." (June 17, 1952 County Road Committee Report.) The construction of the Badley Bridge was part of this policy. The choice of bridge design was based on adequacy rather than aesthetics.

Photo 3: Princess Elizabeth Bridge, Wellington County

Princess Elizabeth Bridge, Wellington County is a Camelback bridge design similar to Badley Bridge (historicbridges.org).

3 Evaluation of Work Completed to Date

3.1. Cultural heritage resource inventory and assessment

As confirmed earlier, there have been two reports already prepared regarding the heritage issues related to this undertaking. The completed CHER follows a multi-phase process that included historic research, field work, and application of current policies, regulations and practices for the evaluation of heritage resources. The report completed in April 2017 by MHBC contains several sections: a description of the site location, its status within the Township of Centre Wellington and County of Wellington Official Plans, and a list of 12 properties within the immediate context. It contains completed Ont. Reg. 9/06 evaluations, identifying heritage value or interest for each of these properties as well as their heritage attributes and a similar evaluation of the Badley Bridge and the Grand River. It contains historic photos and insurance maps of the area, and a summary of the Structural Condition Assessment of the bridge. The HIA also includes an assessment of the potential for impacts and required mitigation as a result of the proposed development.

Stantec Consulting was involved in the Environmental Assessment process for the adjacent Victoria Bridge reconstruction project, and completed a CHER and HIA to evaluate resources within the study area as well. While a separate project, the findings were integrated into the work undertaken by MHBC, and have been included in this report as additional background.

The table on the following pages summarizes the findings of the CHER / HIA process, and excerpts from the April 2017 MHBC CHER have been includes as **Appendix A.3** for information.

A Structural Condition Assessment was completed by MMM Group Limited in 2014-15. This report records the rehabilitation actions that have been undertaken beginning in 1975, and the current deficiencies of the bridge. The conclusion of the Structural Condition Report confirms that the bridge requires considerable upgrading or replacement to be safe and have the capacity appropriate for the traffic volumes that use it. It is noted that the bridge is in an advanced state of deterioration and is approaching the end of its service life, requiring substantial maintenance, rehabilitation and/or replacement.

Table 1: Summary of CHER/HIA Findings

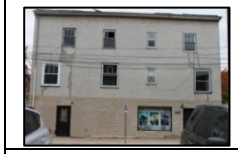
Photo	Address	Heritage Value?	Description / Attributes	Proximity to project	Direct Impact		Indirect Impact					Discussion / Mitigation
					Destruction	Alteration	Shadows	Isolation	Obstruction	Change in Land Use	Land Disturbance	
	Badley Bridge (Metcalfe Street)	Yes	Representative of Camelback Through Truss Bridge, an example of work by Hamilton Bridge Company, and represents a landmark in Elora.	Within study area	Y	Y	N	N	N	N	Y	Adverse impact on physical value from removal; minor impact on historical and contextual value. Recommended to select bridge with high level of architectural design.
	23 Metcalfe Street	Yes	Mid-19th century stone building constructed for military purposes. Designated Part IV by Township.	Within study area	N	N	N	N	N	N	N	None.
	8-12 West Mill Street	Yes	Constructed c.1859 in rectangular plan with 3 commercial units. Associated with mid-19th century growth. Listed by Township.	Within study area	N	N	N	N	N	N	N	None.
	23-43 West Mill Street	Yes	Commercial Hotel, one of Elora's earliest hotels (1848). Designated Part IV by Township.	Within study area	N	N	N	N	N	N	N	None.
	22 Metcalfe Street	Yes	Red brick building with Flemish bond pattern, built c.1852. Listed by Township.	Within study area	N	N	N	N	N	N	N	None.

Photo	Address	Heritage Value?	Description / Attributes	Proximity to project	Direct Impact		Indirect Impact					Discussion / Mitigation
					Destruction	Alteration	Shadows	Isolation	Obstruction	Change in Land Use	Land Disturbance	
	5 East Mill Street	Yes	Constructed c.1865 as a mill. Representative of early industrial and commercial development in Elora. Listed by Township.	Within study area	N	N	N	N	N	N	N	None.
 Source: Centre Wellington	9 East Mill Street	Yes	2 storey brick building built c. 1880. Associated with early commercial development. Listed by Township.	Within study area	N	N	N	N	N	N	N	None.
 Source: Centre Wellington	11 East Mill Street	Yes	1.5 storey dwelling built in 1885, siding covered, trim maintained. Listed by Township.	Within study area	N	N	N	N	N	N	N	None.
	59 Metcalfe Street	Yes	Constructed c.1910 and associated with early commercial development. Listed by Township.	Within study area	N	N	N	N	N	N	N	None.
	The Grand River	Yes	Contributes to sense of beauty of area, and associated with early development and native group activity. Supports historic character of Elora.	Within study area	N	N	N	N	N	N	N	None.
	Study Area	Yes	Contributes to scenic beauty of area through retention of built heritage features and relation to Grand River. Associated with early development and water crossings.	N/A	Y	Y	N	N	N	N	Y	Loss of bridge is a major impact, but impacts to the overall study area are minor. Minor impacts to physical value and contextual value. Recommended to select design that is complementary to heritage character of area, and has high level of architectural design.

Photo	Address	Heritage Value?	Description / Attributes	Proximity to project	Direct Impact		Indirect Impact					Discussion / Mitigation
					Destruction	Alteration	Shadows	Isolation	Obstruction	Change in Land Use	Land Disturbance	
Note: the following heritage resources were identified as part of the Stantec CHER / HIA and have been included here for completenes.												
 Source: Stantec	16-18 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
 Source: Stantec	22 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
 Source: Stantec	36 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
 Source: Stantec	40 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
 Source: Stantec	42 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
	45 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.

[2] Subject to separate CHER and HIA by Stantec Consulting.

Photo	Address	Heritage Value?	Description / Attributes	Proximity to project	Direct Impact		Indirect Impact					Discussion / Mitigation
					Destruction	Alteration	Shadows	Isolation	Obstruction	Change in Land Use	Land Disturbance	
Source: Stantec												
 Source: Stantec	48 West Mill Street	Yes	Designated by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
 Source: Stantec	50-52 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
 Source: Stantec	51 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
 Source: Stantec	56 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
 Source: Stantec	58 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.
 Source: Stantec	60 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.

Photo	Address	Heritage Value?	Description / Attributes	Proximity to project	Direct Impact		Indirect Impact					Discussion / Mitigation
					Destruction	Alteration	Shadows	Isolation	Obstruction	Change in Land Use	Land Disturbance	
 Source: Stantec	70 West Mill Street	Yes	Listed by Township. [2]	Within study area	N/A	N/A	N/A	N/A	N/A	N/A	N/A	None.

In order to supplement the work included in the completed CHER, the following tasks have been completed: additional research into Arthur A. Badley to determine the historical and associative value of this leading citizen; a description and evaluation of the collection of bridges in the Elora area to determine if there are comparable heritage bridges; a comprehensive description and evaluation of the area surrounding the Badley Bridge as a Cultural Heritage Landscape; and a supplementary Statement of Heritage Value and an enhanced list of heritage attributes.

This additional information complements and expands the information of the completed CHER and forms the basis for the supplementary analysis that considers the alternatives, the impacts on the heritage resources and potential mitigation strategies to reduce those impacts. The earlier HIA identified two alternatives, repair/rehabilitation or replacement.

This Supplementary HIA evaluates the two alternatives of rehabilitation or replacement, and based on several factors, including heritage considerations, concludes that the Badley Bridge requires replacement and that context sensitive design principles should be used as the foundation for detailed design of the new bridge.

3.2. Background of Environmental Study Report

The following summary describes the Environmental Assessment process mandated by the Province of Ontario for municipalities managing infrastructure projects. The sequential decision-making process of the Class EA is illustrated below.

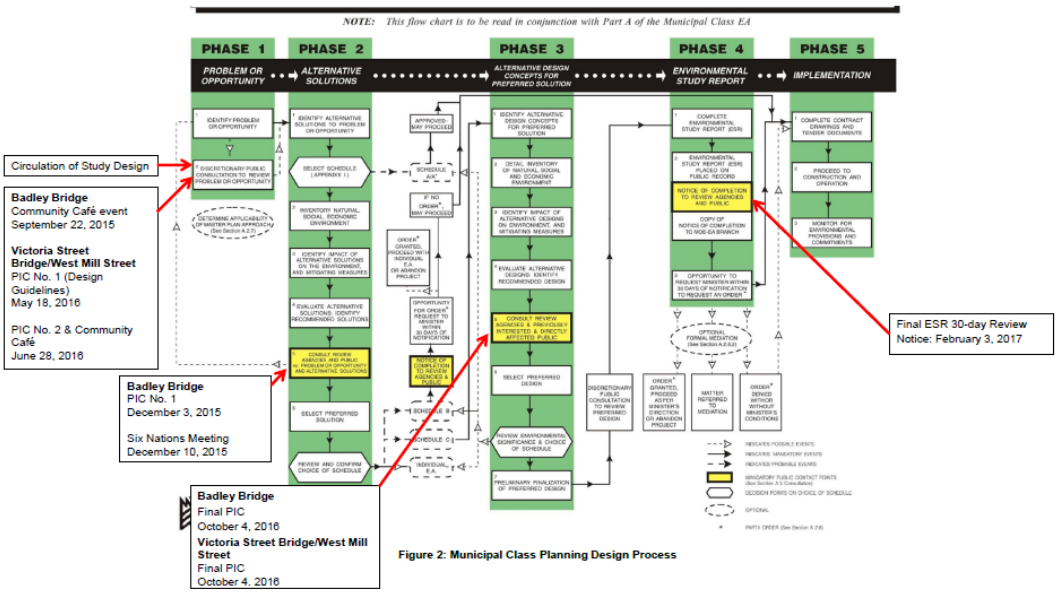


Figure 5: Municipal Class EA Process

The Municipal Class EA had previously considered alternatives including: do nothing, close the bridge, rehabilitation, or replacement of the existing bridge crossing over the Grand River. These approaches were initially considered as Planning Alternatives and this was followed by a

detailed evaluation of the alternatives carried forward (Rehabilitation and Replacement bridge alternatives).

Preliminary Design alternatives were carried forward that included both the rehabilitation of the existing bridge and the replacement with a modern bridge that could include cycling and pedestrian facilities meeting current accessibility standards. The alternatives were evaluated using a methodology described in the Environmental Study Report (ESR) as the Multi Attribute Trade-off System (MATS). This methodology has been used by municipalities and the Province for complex decision-making in environmental assessments where there is a need for traceability and accountability.

The MATS evaluation considered an initial list of 137 evaluation criteria under the factor groups of Transportation, Environmental, Hydraulics, Heritage, Social and Cultural Environment, Aesthetics, Economic, Cost and Structural considerations. Of these criteria, 51 were carried forward where there was judged to be meaningful and measurable differences among the alternatives. Two (2) specialist technical reports (CHER and HIA) were prepared (among others prepared as part of the EA) to assess the existing environment from which the alternatives were evaluated. (Stage 1 Archaeological, Stage 2 Archaeological, and Marine Archaeological reports were also prepared and submitted separately to the Ministry of Tourism, Culture and Sport.) Appendix D of the Analysis and Evaluation Report includes definitions of the measured effects for each sub-factor carried forward including the cultural heritage criteria.

The heritage criteria carried forward included: loss of First Nations' riverbed; impact on adjacent built resources; landscape - river valley; landscape - Grand River; impact on bridge as a landmark/gateway; impact on bridge's contribution to the historic character of Elora; impact on historical value of the bridge; and design value of the existing bridge. The definitions of these sub-factors are documented in Appendix M of the ESR and the utility scores of each alternative under each criterion were determined by subject area experts.

The evaluation was completed by a diverse team of technical experts including County and Township staff to establish the ranking of the bridge management alternatives. Ministry of Tourism, Culture and Sport staff were invited to attend this session as they were part of the Technical Advisory Committee. The evaluation results were then subjected to a sensitivity testing of the weighting (prioritization of criteria) to assess how robust the technical recommendation was. The Study recommendation, as documented in the ESR, was for a replacement bridge including mitigation (documentation and commemoration of the existing truss bridge).

From this detailed evaluation, the study recommendation was for a 3-span replacement bridge. The poor structural condition of the existing truss was one of the factors in not carrying forward the rehabilitation alternative. It was judged that rehabilitation could only be considered an interim solution and that bridge replacement would still be required at the subsequent rehabilitation cycle. The study concluded that the existing truss had reached the end of its service life and it was not technically or economically feasible to rehabilitate based on the extent of deterioration of the bridge. The bridge has significant section loss of structural members. To protect the live safety of users of the bridge, the technical recommendation was for a replacement bridge.

The environmental planning and decision-making process under the Environmental Assessment Act allows public projects to be carried forward that include residual effects. Mitigation is included where possible to reduce the residual effects of a project. The Provincial Policy Statement states:

> *"The Province's natural heritage resources, water resources, including the Great Lakes, agricultural resources, mineral resources, and cultural heritage and archaeological resources provide important environmental, economic and social benefits. The wise use and management of these resources over the long term is a key provincial interest. The Province must ensure that its resources are managed in a sustainable way to conserve biodiversity, protect essential ecological processes and public health and safety, provide for the production of food and fibre, minimize environmental and social impacts, and meet its long-term needs.*
>
> *It is equally important to protect the overall health and safety of the population. The Provincial Policy Statement directs development away from areas of natural and human-made hazards. This preventative approach supports provincial and municipal financial well-being over the long term, protects public health and safety, and minimizes cost, risk and social disruption."*

Section 2.6 of the Provincial Policy Statement restricts development from archaeological and culturally significant areas; however, these restrictions do not restrict "activities that create or maintain infrastructure authorized under an environmental assessment process" (reference: page 41, Provincial Policy Statement, 2014). The County, through its use of the Municipal Class EA, has followed the mandatory requirements and obtained environmental clearance for the works under the Environmental Assessment Act (subject to conditions of the Minister of Environment, Conservation and Parks). This supplemental report addresses the conditions of the Minister.

4 Findings of Additional Research and Assessment

4.1. Arthur A. Badley

The Metcalfe Street Bridge is also known as the Badley Bridge named after Arthur A. Badley 1895-1972 (Elora Cemetery Records in the Wellington County Archives). He was an active community member, prominent in social and political activities in Elora. He was employed at the Mundell Furniture Factory, a local business first established in 1851 and located in the building complex on the south bank of the river adjacent to the Victoria Bridge. The company was known for its production of all types of furniture and in the First World War, it made shell boxes for the army. He was Reeve of Elora from 1934-1943 and for 4 months in 1954. He became the first County of Wellington Assessor in 1952 when the position was created and held the position until 1965. He was Warden of the County in 1937. His community activities included acting as past Grand Master of the Independent Order of Oddfellows in 1926, serving as the announcer for an amateur radio programme in 1936, managing the fundraising campaign for the Red Cross in 1940, and the VE Celebration Committee in 1945. (Allan, 1982).

The archival record of the County Council Minutes 1951-1952 does not contain any specific information regarding the rationale for naming the Metcalfe Street Bridge after Arthur A. Badley except that it was known that he was a long serving Reeve of Elora, past Warden and participated in the daily life of Elora in a way that benefitted the entire community. The naming of the bridge in his honour adds historical and associative value to the Badley Bridge.

4.2. Bridges in the Elora Area

There are several bridges in the Elora area that have been inventoried in order to determine if the Badley Bridge has special qualities that add to its heritage value. There are four bridges in close proximity to the Badley Bridge, the Grand River Bridge, the David Street Bridge, the Salem Bridge and the Caldwell Bridge. In addition to these existing bridges, there are the stone piers of the former Victoria Bridge located immediately west of the Badley Bridge and slated for rehabilitation and reconstruction as a pedestrian-only bridge.

The most recent of these nearby bridges, opened in the 1981, is the Grand River Bridge on Wellington Road 7 that crosses the Grand River at a high elevation because of the depth of the gorge in this location. This bridge was constructed to provide a route for traffic that by-passed the core area of Elora and Salem. Prior to construction, the Badley Bridge was the only crossing of the Grand River in Elora.
The simple design of this bridge includes the use of transparent panels along its side railings in order that those crossing the bridge may view the river and gorge. This bridge has a concrete

deck and spans the gorge without piers. The design addressed local concerns for maintaining the scenic view of the Elora Gorge especially from Victoria Park located north of the core area. Victoria Park is a popular park used by residents and visitors to overlook the intersection of the Grand and Irvine Rivers.

The Grand River Bridge is without ornamentation and offers little distraction from the view to the west that is available from Lover's Leap overlook in Victoria Park because of the distance and the design. The Grand River Bridge is visible from the lookout in Victoria Park

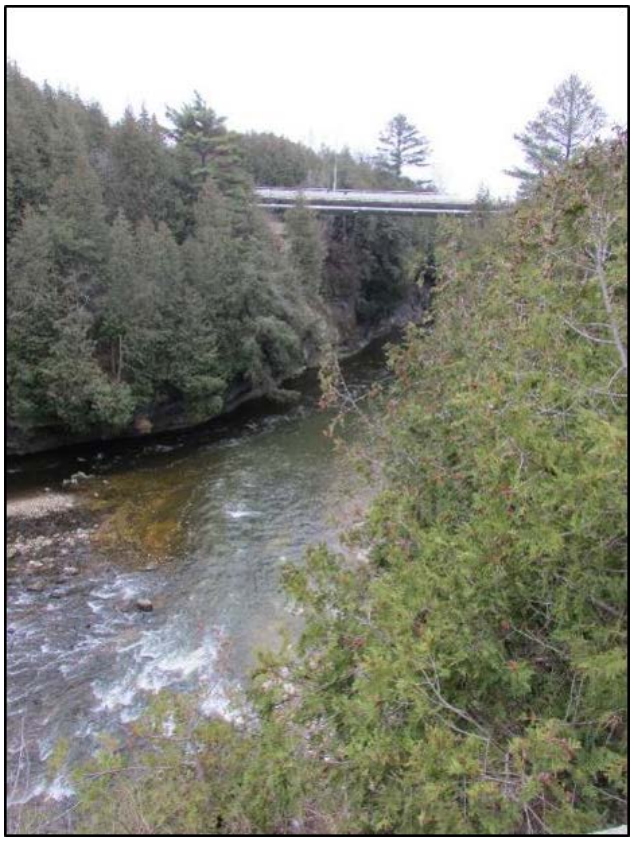


Photo 4: View of Grand River Bridge from the lookout in Victoria Park

A second bridge in proximity to the Badley Bridge is the David Street Bridge. This bridge is also visible from Victoria Park and consists of a distinctive natural stone centre pier supporting two open spandrel concrete arches. This bridge is the fifth bridge that has been constructed in this location. The earlier designs included a cantilevered type, a timber truss with a polygonal top chord, a double Pratt through truss bridge with the centre pier built in 1867-1868 and in 1875, and an inverted steel truss reusing the centre pier. (Allan, 1982). The David Street Bridge crosses Irvine River and is at a high elevation from the river in a similar manner as the Grand River Bridge. The height accentuates the visual depth of the gorge. Recent work on the bridge has added a decorative concrete balustrade type railing in keeping with the highly visible bridge. The design and rehabilitation work that has been completed on this bridge respects the scenic view of the bridge. A nearby commemorative plaque interprets the history of the bridge for the community. The David Street Bridge is visible from Victoria Park. The central pier and arched elements contribute to the scenic view.

Photo 5: View of David Street Bridge from Victoria Park

Photo 6: David Street Bridge detail

The Wellington Road 18 or Woolwich Street Bridge in Salem is a steel pony truss bridge built in 1952. Unlike the Grand River Bridge and the David Street Bridge, this bridge is much shorter

and lower in elevation (within four metres of the river surface) than the Grand River and David Street Bridges. It is located close to historic stone mill buildings and residences. The pony truss design is a type of truss design where the bridge deck is carried on the lower beams resulting in a lower height of the truss components above the deck closer to eye level. There are no overhead connections. The pony truss bridge design is utilitarian and functional with the individual parts, rivets and connections open to view. There is no ornamentation or intent to make this bridge a scenic component of its setting. The Pony Truss Bridge in Salem was built in the same period as the Badley Bridge. It has no overhead connection elements.

Photo 7: The Pony Truss Bridge

The Camelback Bridge on Wellington Road 43 (Gartshore Street) in Fergus, like Badley Bridge, crosses the Grand River. It was built in 1955 by the Dominion Bridge Company of Toronto under the direction of W.H. Keith, County of Wellington Engineer. It is adjacent to the former Monkland Mills complex and provides an important link for traffic that by-passes the core area of Fergus. This bridge is the same design type as the Badley Bridge and shares many of the same characteristics as all steel truss bridges that were built for utility with efficient use of materials. The structure, connections and materials are all visible to the viewer. Oblique views of the bridge are available from the west from the parking areas on the north and south sides. The bridge deck is approximately four metres about the river's surface. Views from the bridge are readily available up and down the river with the western view incorporating Wilson's dam in the foreground.

Photo 8: The Caldwell Bridge

In summary, the five existing bridges in the Elora area provide necessary crossings of Irvine River and the Grand River allowing for alternate routes that by-pass the settlement areas of Fergus, Salem and Elora. Of these bridges, three are a type of steel truss design and were constructed between 1952 and 1955.

Prior to the demolition of its deck, the Victoria Bridge was a key part of the cultural heritage landscape of Elora. It provided the only core area link for vehicles and pedestrians until it was demolished. The stone piers of the Victoria Street Bridge are visible from the Badley Bridge.

Photo 9: Stone Piers of the Victoria Street Bridge

The remaining piers are a significant component to the cultural heritage landscape and the new pedestrian bridge will integrate them in the new plan for this section of the crossing.

Each of these bridges may be described as a type of landmark in the community since each is visually distinguishable from its setting. However, as with all bridges, they are wholly integrated in the unique characteristics of their location and the height, length, materials and

design type reflective of the time in which they were first constructed. Scenic views of the bridges were not necessary components of the original design intent despite the current appreciation of their aesthetics.

4.3. Description of the Cultural Heritage Landscape Context of the Badley Bridge

The Badley Bridge is located in the core area of Elora providing a direct route for the crossing of the Grand River. Prior to 1952, all traffic was carried across the river on the narrow Victoria Bridge located west of the current location of the Badley Bridge. To cross the Victoria Bridge, all traffic had to make its way through the settlement area following a route along Metcalfe and Mill Streets that involved several right angled turns. When the first river crossing was constructed in the early nineteenth century, the industrial uses of the river were close by and the commercial and service buildings extended along Mill Street and Metcalfe Street. The early insurance map of this area shows that the buildings were built close to the edge of the street and the lot where the Badley Bridge joins Metcalfe Street is shown as an unopened road allowance.

The Cultural Heritage Landscape of the core area contains many components that require identification and assessment in order to determine their heritage value and the attributes that must be considered in the evaluation of the bridge alternatives. These components are built heritage resources (already identified and evaluated in the CHER), and landscape features such as views and visual relationships, circulation patterns, vegetation and landform and topography.

4.3.1. Built Heritage Resources

The completed April CHER has included a description and evaluation of the heritage buildings within the setting of the Badley Bridge. These are located on the north side of the river along Mill Street, on Metcalfe Street, and on the south side of the street the former drill hall and the late nineteenth century residence at 22 Metcalfe Street. Each of these properties has been photographed and evaluated using Ont. Reg.9/06 as the guide for determining their heritage value or interest in the CHER.

One of the key features of the Built Heritage Resources that has not been evaluated fully, and that adds to their heritage value, is their relationship to each other especially in the case of the Mill Street properties. Most of these buildings are part of a continuous street wall on the north frontages that is set close to the angle parking that abuts the sidewalk. The scale, form and location of these buildings create an inviting pedestrian environment. The photos that are included in the CHER are of the front facades or in the case of the properties at the corner of Metcalfe and Mill Streets, the photos show their side views. These important views will not be affected by changes to the Badley Bridge.

4.3.2. Views or Visual Relationships

There are several significant historic views within the bridge setting that contribute to the heritage value of the area. One of the key views is from the south bank to the north to the rear of the buildings. The southern frontages of the Mill Street buildings have an important relationship to the river that is visible from the south and from the bridge location. The south facades of these buildings are accented with rows of windows, balconies and decks. There is a variety in the visual composition of the south facades that contributes to the cultural heritage landscape and adds scenic value to the view. The summer view from the south bank shows the rear facades of the Mill Street buildings, the Victoria Street bridge piers and the Badly Bridge in the background.

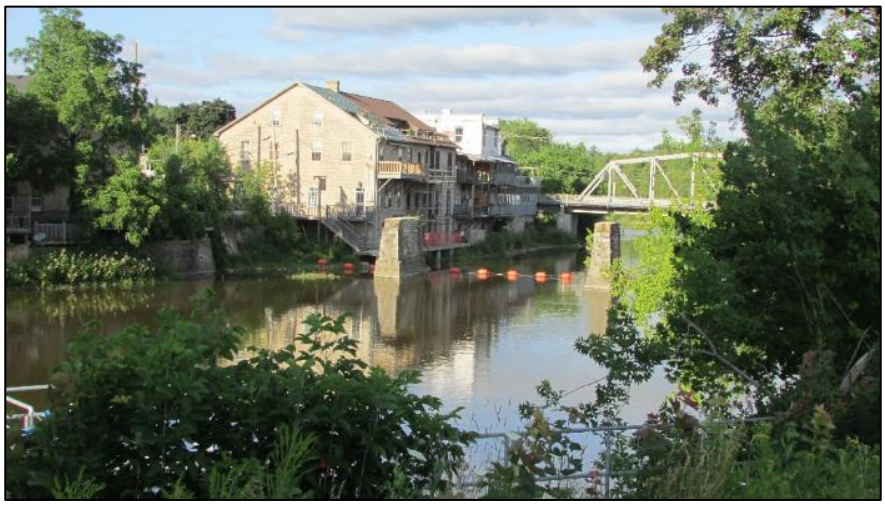


Photo 10: Rear Facades of the Mill Street Buildings

A second view to the north is from the area in front of the former drill hall (now the LCBO) on Metcalfe Street. Prior to the construction of the bridge, this view contained a panoramic view north towards the village core along the unopened road allowance. After 1953, the Badley Bridge added to the composition forming part of the foreground of this view. The Badley Bridge is located within the view across the wide river valley. The former drill hall and historic buildings frame the view on the south side of the river.

Photo 11: Badley Bridge South Side Vew

While crossing the Badley Bridge, pedestrians are able to look west to take in the view of the rear facades of the Mill Street buildings, the stone piers of the former Victoria Bridge and the former industrial remnants on the south side of the river. This view is appealing in its variety and interest created by the composition of the stone buildings and the gently flowing river.

The view from the bridge to the east is also appealing but is very different in content. The view east, while highlighted by the south façade of the stone building at 5 Mill Street East, is primarily of the river flowing through non-human made banks that are lined with cedar trees and naturalized vegetation. The view east terminates in the pedestrian bridge in the distance. These views are essentially unchanged since the bridge was constructed in 1952-53.

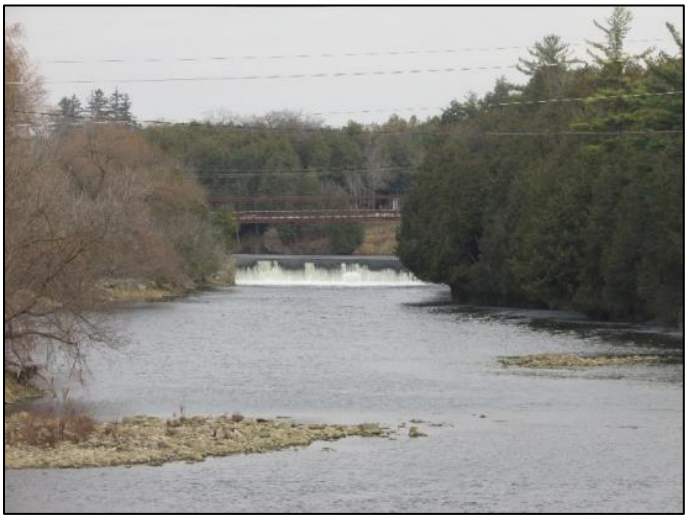


Photo 12: View east from the Badley Bridge to the pedestrian bridge.

Those people who are crossing the bridge in a vehicle are more restricted in their viewing opportunities. The truss design, with its large steel members and supports, creates a filtered view further distracted by the width of the bridge and the proximity of oncoming traffic. Views from vehicles are obscured by the bridge components that are a part of safety and structural requirements.

Photo 13: View of the east sidewalk.

The view south on Metcalfe Street towards the Badley Bridge is unobstructed except by moving traffic and pedestrians. This view reveals how close the adjacent buildings are to the street at the corner of Metcalfe Street at Mill Street. The view encompasses the distant buildings on the south side of the river that border on the street as it curves and slopes up to the roundabout at McNab and Victoria Streets.

Photo 14: view south on Metcalfe Street towards the Badley Bridge

Photo 15: The corner buildings at Mill Street are located close to the road allowance.

In summary, these key views contain features that have changed in many of the details over time. However the scale, form and layout of the built heritage resources and the relationship to the river have remained essentially unchanged as the area evolved from serving local residents and industry to a destination for tourism and commercial activities.

The views from the bridge will not be altered with its replacement, expect for the addition of an enhanced viewing opportunity from the proposed bump-out on the west side of the bridge.

Since 1953, when Badley Bridge was opened, there have been several new additions to the area that were facilitated by the new bridge location on Metcalfe Street. The direct linking of the north and south sides of the river on Metcalfe Street supported the conversion of the historic drill hall to a new use and an increase of commercial properties in the south. Street improvements further south on Metcalfe Street include a roundabout at Victoria Street and McNab Streets and a widened and direct route to Wellington Road 21 that links with traffic travelling on Wellington Road 7. These enhancements take advantage of the bridge location in direct line with the upper sections of Metcalfe Street which has also seen an increase in commercial uses and institutional uses such as the library and township administration office.

Photo 16: View to the north section of Metcalfe Street is framed by historic buildings at Mill Street and by the Badley Bridge.

One of the most significant changes underway at the present time is the rehabilitation and redevelopment of the former industrial lands on the south side of the river across from the Elora Mill. The proposed hotel and conference centre will integrate the built heritage resources and the natural setting of the Grand River with new construction adding to the continuing evolved cultural heritage landscape. This development will result in increased pedestrian traffic on both sides of the river taking advantage of a new Victoria Street bridge and improved sidewalks on the Badley Bridge.

Photo 17: Views towards the north riverbank at the southwest end of the bridge and the riverscape on the north bank from the closed viewing platform.

Small scale changes to the pedestrian environment on Mill Street and Metcalfe Street have created a high quality streetscape inviting to residents and visitors alike. One of the newest features is “Corner Grass”, a small parkette located on the northeast corner. It replaces a former gas station with a high quality park design with seating, public art and space for community events and has become an important community open space for visitors and residents for special events and public art. This corner is complemented by other streetscape

improvements such as boulevard planting, ornamental lighting, interpretive signage and seating areas that enhance the public realm.

Photo 18: Corner Grass Parkette

These changes have built on the early works and confirm that this is a continuing evolved cultural heritage landscape. The crossroads of Mill and Metcalfe remains a prominent component of this cultural landscape with renewed features within the pattern created in the nineteenth century.

4.3.3. Circulation Patterns

The construction of the Badley Bridge in 1952 permanently changed the historic route for vehicles travelling through Elora. Previously the route was by means of narrow Victoria Avenue that, on the south side of the river, travelled through a residential area. After crossing the river on the substantial stone piers of the Victoria Street Bridge that remain today, the vehicular

traffic made two ninety degree turns to access Metcalfe Street and head north through the core area. The new route using the Badley Bridge and Metcalfe Street on the south side of the river is wider and without right angled corners, resulting in an improved flow of traffic. The vehicular route also includes access to public parking areas on both sides of the river as well as on-street parking on Mill and Metcalfe Streets.

The construction of the Badley Bridge added to the pedestrian linkages between both sides of the river until the removal of the Victoria Street Bridge that left it as the only pedestrian connection in the core area. The Badley Bridge has sidewalks on both sides that connect to the sidewalks on Mill and Metcalfe Streets. The sidewalk environment is narrow on the north side of the bridge but it does provide a necessary route to and from the core area.

When the Badley Bridge was constructed there was little consideration of current Active Transportation initiatives that encourage cycling. The current design of the bridge accommodates truck, bus and car traffic as well as pedestrians. The MOECC has identified the addition of space for cyclists as a requirement for the bridge alternatives.

4.3.4. Vegetation

The Badley Bridge is located in a settlement area with deliberately planted vegetation in the streetscape and in the adjacent “Corner Grass” parkette. It also is part of a natural landscape with native cedars lining the riverbank to the southeast and naturalized trees and shrubs along the southwest riverbank. This vegetation in leaf-on conditions blocks the view of the bridge from the south shore overlook and parking area. The contrast between the different types of vegetation adds to the variety and visual appeal of the cultural landscape. The view from the pedestrian bridge, west to the Badley Bridge, indicates the native cedar trees along the natural river’s edge.

Photo 19: View from the Pedestrian Bridge, west to the Badley Bridge

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4.3.5. Landforms and Topography

The natural landforms of the Elora core area dominate the landscape character of the area. The underlying limestone geology has eroded over time creating a dramatic and varied riverscape that includes the Elora Gorge. Depending on the location, the quality of the river changes from a gentle flow to a fast and powerful current at the various dams along its route. The views from the Badley Bridge confirm the smooth river surface in the reflection of the Victoria Street bridge piers.

Metcalfe Street travels through a wide river valley from high points at the roundabout on the south side and the intersection with Geddes Street on the north side. The considerable changes in grade between each side of the river contribute to the compact spatial quality of the Mill Street pedestrian environment. The topography of Metcalfe Street also increases panoramic views that encompass the bridge location.

4.3.6. Cultural Environment

In summary, the Cultural Heritage Landscape of the Badley Bridge setting is a unique combination of many features including built heritage and landscape components of views and visual relationships, circulation patterns, vegetation and landforms and topography. These features create an overall visual character that is scenic and has heritage value.

The completed April CHER includes a list of heritage attributes for each of the historic properties that were inventoried. There is also the following list of heritage attributes for the Grand River in Section 6.14 and for the Study Area in Section 6.15.

> *The study area is roughly oval in shape and represents the context surrounding the Victoria Street Bridge piers and abutments and the Badley Bridge (Metcalfe Street Bridge). While the study area has not been formally identified as a cultural heritage landscape, the following provides a review of the study area as per Ontario Regulation 9/06.*
>
> *The entirety of the study area is comprised of the following attributes:*
>
> - *Badley Bridge (Metcalfe Street Bridge);*
> - *Victoria Street Bridge piers;*
> - *The Grand River; and*
> - *Properties of cultural heritage value or interest along West Mill Street, Carton Place, Ross Street, Victoria Street, and Metcalfe Street.*
>
> *At the study area, the Grand River's significance is its former contribution to navigation and settlement in the area, particularly where it allowed for the establishment of mills and other industries in Elora, with properties constructed nearly to its banks.*
>
> *Heritage attributes of the River as they relate to the study area:*
>
> - *Existing rivercourse with 19th century buildings lining the north banks near the study area;*
> - *Moderate flow as controlled by nearby dams allowing for recreational use;*
> - *Vegetation along banks where there are not built structures; and*
> - *Sloping topography from Church Street and Water Street toward the river banks*

4.4. Statement of Heritage Value

The Statement of Heritage Value summarizes the heritage resources, values and attributes and is a useful foundation for evaluating the alternatives for future work at the Badley Bridge.

The Badley Bridge is part of a varied Cultural Heritage Landscape that has evolved since it was first created in the nineteenth century and that continues to evolve today with new developments in the public realm and private adjacent lands. The landscape is made up of a

diverse collection of built heritage resources set in a human made landscape that is dominated by the Grand River.

There is Design and Physical Value in the vernacular architecture built of local materials. The bridge itself is an example of a Camelback bridge design that was similarly used for the Caldwell Bridge in the same period in nearby Fergus and is also found in other townships in the watershed. It is representative of a bridge design that is utilitarian and cost effective because of the reduced materials when compared to the Pratt Through Truss design, also common in the watershed.

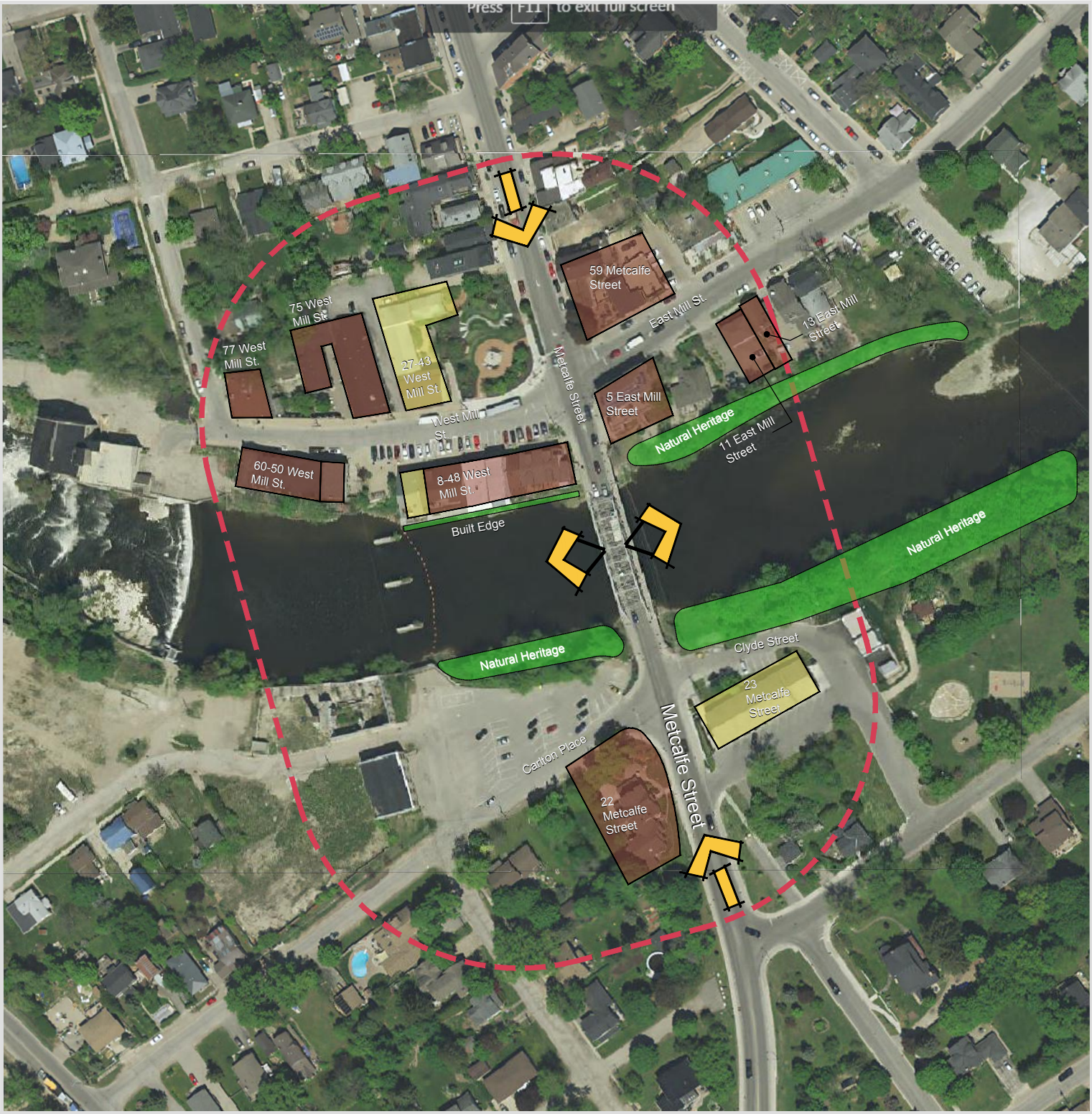
There is Historical and Associative Value in the connection with several key figures who were involved with the construction of the bridge, the County Engineer, W.H. Keith who oversaw the project, the Hamilton Bridge and Company of Hamilton who fabricated the bridge and A. H. MacLellan who was the contractor. It is also associated with Arthur A. Badley, a well-known community leader, past reeve of Elora, former County of Wellington Warden and the first County of Wellington Assessor from 1951-1965. The plaque on the bridge also commemorates the Warden at the time of the opening in 1953, W.G. Tilden and the members of the County Road Committee.

The Contextual Value of the bridge is that is contributes to the overall visual character of the core area providing important views of the river and the Mill Street heritage properties. Badley Bridge is a landmark in that it is distinct from its surroundings. Badley Bridge is one of several bridges in the nearby area: the Grand River Bridge, the David Street Bridge, the Salem Bridge, the Victoria Street Bridge and the Camelback design Caldwell Bridge. Each of them is a landmark designed to address the specific condition of each of the different locations.

In addition to these attributes, the following specific attributes should be noted:

- the close spatial relationship between the river and the adjacent buildings that are a result of nineteenth century use of the river for industrial and commercial activities.
- the circulation pattern that includes the layout of the Metcalfe Street route through the area that uses the original road allowance for the placement of the Badley Bridge.
- the design of the bridge to accommodate a variety of vehicle types as well as a separate space for pedestrians.
- the views and visual relationships to and from the bridge, specifically from the former drill hall location and the south bank to the bridge and core area, the view to the south of the bridge and the south bank from the upper section of the Metcalfe Street, the view from the bridge to the west to Victoria Street bridge piers, the former historic buildings on the south bank and the rear facades of the historic buildings fronting on Mill Street, the view from the bridge to the east of the Grand River, its natural bank and the distant pedestrian bridge.
- the natural topography of the area that has been integrated in the height of the bridge piers and deck level to ensure a smooth transition to the existing grade at Mill Street and that accommodates changes in the river levels in flood and ice conditions.

Map 1 on the following page depicts the study area and surrounding built heritage resources and cultural heritage landscape features.



Map 1: Study Area and Surrounding Cultural Heritage Resources

Badley Bridge
Town of Elora
Wellington County

LEGEND

- Badley Bridge Study Area
- Designated Property
- Listed Property
- Cultural Heritage Landscape Resources
- Key Heritage Views
- Outward View

Base Map Source: Google Earth 2016

DATE: April 2019

FILE: 12217AA

SCALE 1 : 1,500

DRAWN: NZ

north

K:\12217AA\DWG\STUDY AREAS DESGINATED AND LISTED - APRIL 5, 2019.DWG

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5 Evaluation of design alternatives

There are two alternative treatments that have been considered for the Badley Bridge. They are Rehabilitation or Replacement with a new bridge.

The actions required to prolong the life of the Badley Bridge are determined by the existing structural condition of the bridge. The Structural Condition Assessment report completed in 2014-2015 by MMM Group Limited is a comprehensive review of the bridge, including past repairs, the individual components and its overall condition. The condition assessment revealed that many structural components of the bridge have deteriorated and require replacement. The Environmental Study Report process undertook a detailed evaluation of the potential alternatives as described in Section 3.1 of this Supplementary Report, in order to determine the recommended alternative solution.

Photo 20: Condition Assessment Report – Bridge Deterioration

The bridge has deteriorated since repair work began on it in 1975. Photos included in the report reveal that in many places the vital connecting plates have been perforated over time as a result of rust and corrosion. Repairing these and any other damaged components of the bridge requires the removal and replacement with new materials. Any changes recommended to increase the strength and traffic capacity of the bridge to meet current standards require further interventions that impact on the heritage integrity of the bridge. The end result of the extensive rehabilitation works that are needed to meet current uses and additional

requirements for the accommodation of cyclists (a requirement of the MOECC approval) would be a major loss of heritage materials. This has significant long-term adverse effects.

Considering whether Rehabilitation is an acceptable undertaking may be evaluated using the guidance of Heritage Resources in the Land Use Planning Process – InfoSheet #5 (Principles in the Conservation of Historic Properties) issued by the Ministry of Tourism and Culture (now Ministry of Tourism, Culture and Sport). There are several principles in this document that are relevant to the Badley Bridge: Principle 3 - Respect for Historic Material; and Principle 4 - Respect for Original Fabric both advise on repair and use of like materials without altering the integrity of the heritage resource.

However, because of the extent and nature of the deterioration of the Badley Bridge structural components, the extensive repairs that are needed will result in a significant loss of historic materials and a change in the dimensions of the bridge to increase its traffic capacity and to add accommodation for cyclists. Considering these principles, rehabilitation of the bridge is not recommended. (Refer to Resources section.)

For new design, there are two important principles. The principle, Respect for Historic Material, notes 'except where absolutely necessary', which is the case for the Badley Bridge. The second principle that is relevant to provide direction for design of the replacement bridge is Legibility, which notes that new work be distinguishable from old.

The MTO Ontario Heritage Bridge Guidelines for Provincially Owned Bridges 2008 provides a clear decision process that when followed confirms if rehabilitation rather than replacement is the appropriate approach. The list of questions to be asked when applied to the Badley Bridge lead to the recommendation that the bridge be replaced.

-Does the current state of the bridge compromise safety?	Yes
-Is the cost of rehabilitation prohibitive compared to replacement?	Yes
-Is the bridge altered from its original form?	No
-Are changes necessary to meet new demands?	Yes

In the case of the Badley Bridge, the poor condition of the bridge and the requirement to accommodate cyclists precludes retaining the bridge.

The MTO Ontario Heritage Bridge Guidelines for Provincially Owned Bridges provides principles to be followed in the design of a new structure. These are outlined as two mitigation options to address the loss of a Listed Heritage Bridge. (The Guidelines document contains an inventory of both Provincially Owned and Municipality Owned Heritage Bridges. Badley Bridge is not listed.)

There are two options for new design. The first mitigation option is "Replication of the appearance of the heritage bridge in the new bridge design, with allowances for use of modern materials or use of salvaged components from the heritage bridge." This option was not considered as it does not follow best practices in heritage conservation, since the structure as it currently exists cannot be replicated without changing the span material sizes and dimensions to meet current safety and capacity requirements. This would result in an

inaccurate replica. Some materials that have not deteriorated from years of salt use and heavy traffic are planned to be salvaged and incorporated in the interpretative signage that is planned.

The second option is Compatible New Development where a new bridge is sympathetic to the design qualities of the original bridge and its setting. The Guidelines further stress the importance of compatibility of the setting of the bridge. In the case of the Badley Bridge, the setting is the cultural heritage environment of Elora. The location of the Badley Bridge as the southern gateway into the historic core warrants a new design that does not detract from the cultural heritage landscape setting but adds to it.

The MTO Heritage Bridge Guide (2008) is clearly intended for Provincially-owned heritage bridges, whereas the Badley Bridge is owned by the County of Wellington. However, applying the direction in this guide would involve replication of the original bridge. Since the document was published, the current best practices do not encourage replication or re-creation to mimic the original design. Following the second option for compatible new design is the approach that has been selected based primarily on the deteriorated condition of the existing bridge.

5.1. Recommended design option

From a best practices in heritage conservation perspective, extensive replacement of components and the addition of new reinforcing and features such as an increased width to accommodate cyclists, will result in an extensively altered heritage resource with a significant loss of heritage integrity and value. Based on this analysis of the impact of necessary Rehabilitation work, it is recommended that a Replacement with a new bridge be undertaken.

New design guidance is provided by best practices to ensure that design features are a product of their own time and not a re-creation or replica of an earlier construction period.

Appendix A.1 contains a discussion and exploration of various design options for the new bridge. This section was prepared by MBTA and was instrumental in leading discussion with County staff and the Centre Wellington Municipal Heritage Committee about the preferred Bridge Design Option.

The selected Design is based on Option B. The features of this design concept include decorative lighting, a pedestrian overlook on the west side allowing for a view of the rear facades of the Mill Street heritage buildings, the riverscape and the new Victoria Street bridge. The decorative concrete railing is similar to the design used on the David St. Heritage Bridge in Elora and meets the engineered safety requirements for bridge railings. Option B provides for vertical features at each side of the south end of the bridge to define the entrance onto the bridge and act as a gateway feature.

One change to Option B is at the southwest corner of the bridge approach where the property is currently in private ownership. Any public use of that corner for plaques or a parkette would require an agreement with the owner.

6 Conclusion and Recommendations

This Supplementary Heritage Impact Assessment (HIA) draws on several earlier heritage assessment reports primarily the CHER and HIA of April 2017 by MHBC. The properties that have been included in the current inventory are those that are found within the Study Area and Surrounding Cultural Heritage Resources indicated on Map 1. The original boundary of the Study Area was expanded to include the cultural heritage landscape feature of the landform of the Grand River valley that establishes the limit of the views north and south on Metcalfe Street. This viewscape includes Badley Bridge as a component of the cultural landscape. The east and west limit of the Study Area has been established as the areas visible from the Badley Bridge along the river corridor.

A key feature of the Study Area is that it reflects a continuing cultural heritage landscape that has evolved from industrial uses along the Grand River to commercial services focused on tourism. The immediate context of Badley Bridge has seen several changes such as the conversion of the Drill Hall to LCBO, the ruins of the Factory on the south side of the river to new residential development and a conference centre and a new replacement Victoria Bridge. The historic commercial buildings along Mill Street remain a key contribute to the cultural environment.

Within the Study Area there are properties that have been designated as heritage properties under Part IV of the OHA and properties listed by the municipality as having heritage potential or interest. A review of the Study Area confirms that there are no other properties that have heritage potential or interest.

Each of the listed heritage properties has been evaluated for potential adverse impacts resulting from the undertaking of removing and replacing Badley Bridge. In summary, the two heritage components of the inventory that have been assessed as having adverse impacts are the bridge itself (major) and the cultural heritage landscape of the Study Area (minor).

The impact to the cultural heritage landscape by the replacement of the Badley Bridge may be mitigated by a new bridge that is designed in a manner that reflects the value of the crossing as an entrance to the core area. The new bridge will not result in any changes to the adjacent heritage buildings, the road network, the landform and vegetation of the river corridor. The new bridge will continue to be a part of the viewscape of the core area.

The Supplementary HIA includes a discussion of various design options for the new bridge. The resulting new bridge design should comply with current best practices for new design that respects the heritage aspects of the setting. As well, prior to removal of the Badley Bridge, full documentation and selection of appropriate pieces of the bridge suitable for interpretation should be salvaged.

6.1. Environmental Study Report Conclusions

The Environmental Assessment Report concluded that the existing truss had reached the end of its service life and it was not technically or economically feasible to rehabilitate based on the extent of deterioration of the bridge. The bridge has significant section loss of structural members. To protect the live safety of users of the bridge, the technical recommendation was for a new 3-span replacement bridge. The study recommendations were made based on extensive consultation with Federal and Provincial Agencies, First Nations, stakeholders and the public. The decision-making process used a detailed defendable evaluation methodology to compare performance, impacts and costs associated with alternatives. It included significant consultation exceeding the mandatory requirements of the Class EA. The planning was completed in parallel with the Township of Centre Wellington project for the reconstruction of the adjacent Victoria Street Bridge, and followed Bridge Design Guidelines used for both municipal projects.

The ESR documents all technical studies and investigations including the CHER and HIA reports and archaeological investigations. The CHER and HIA reports have been reviewed by the MTCS and final reports were issued in April 2017. The ESR provides commitments from the County regarding the construction of the project and mitigation (ESR Table 1 – Mitigation Plan and Table 14 – Summary of Comments, Proposed Mitigation and Commitments to Future Work).

The project has received environmental clearance to proceed subject to the conditions of the Minister of Environment, Conservation and Parks. This report responds to one of these conditions. **Appendix A.5** documents the technical review of the draft report by the MTCS and the approach to finalizing the study documentation. Another condition is that the County of Wellington will hold a Public Information Centre prior to the initiation of construction.

The Recommended Plan for the Badley (Metcalfe Street) Bridge is illustrated below.

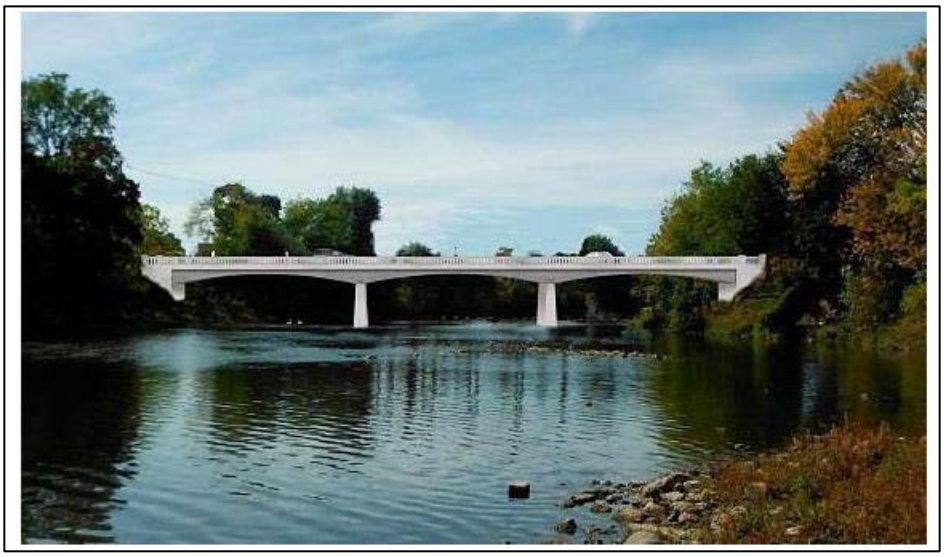

Photo 21: Rendering of Badley Bridge Recommended Plan

6.2. Cultural Heritage Resource Conclusions

Part of the heritage value of the Badley Bridge is that it is one of several bridges built after the Second World War when the County of Wellington embarked on building new and "adequate" bridges. The Warden's Address to County Council of October 13, 1953 summarizes the County's approach to bridge design. *"You have already replaced all of your most decrepit structures with new and modern bridges adequate in all ways for present use and all at reasonable costs. Wellington has always been known as a County of many large bridges and may well be known as a County of many excellent large bridges."* (County Council Minutes 1953-54).

The design intent for new bridge design in the County was focussed on efficiency and economy. The choice for a Camelback bridge design was part of this approach to practical approach where pride was taken in delivering excellent bridges in the County at reasonable cost rather than creating landmark structures.

The opening of the Badley Bridge was expected in June of 1953 as reported by County Engineer W.H. Keith in his report to County Council (County Council Minutes 1953). However, a search of the local newspaper accounts did not result in finding any mention of the bridge opening. This may be in part because news during that period of time was occupied by the coronation of young Queen Elizabeth and a visit to Elora by the then Prime Minister, Louis St. Laurent. It may also be that the community was relieved at last to welcome a solution to the circuitous traffic flow through the core area.

The opening of the bridge, providing a direct and convenient crossing of the Grand River, may have been overshadowed by the other special events of the day but it had a major impact on the local day-to-day life in the community. The Badley Bridge was inserted into a well-established urban setting without removing any earlier layers and its location improved the circulation pattern of the existing street layout. A new bridge design that continues this pattern will also add to the cultural heritage landscape setting. The bridge design approach should follow the County of Wellington long-standing policy of creating new bridges designed for efficiency and economy. It should also reflect the fact that it is one of many built elements within the cultural landscape.

As part of the mitigation strategy, a location for an Interpretation Feature is planned. Located on the southeast side of the bridge, there is a prominent site adjacent to the sidewalk that is used by visitors and residents who are parking in the public parking lot that has been created there. The lot is on the north side of the former Drill Hall now LCBO. The interpretation feature will consist of a large interpretative sign mounted on a frame that uses the salvaged material from the bridge. A key piece will highlight the rivet connectors at the corner braces as well as the I-beam. The sign itself will contain historic photos of the bridge and area, recognition of Arthur A. Badley, the Grand River, valued as a Canadian Heritage River and by First Nations, the camelback truss design at this 1953 crossing and the evolution of the cultural environment from a river based industrial town to a tourist destination known for its natural beauty, music and art. Visitors will be able to stop and read the interpretative sign before crossing the bridge. The location will not impede pedestrian flow in the area. Further, the new

interpretative sign will complement the other interpretative signs that have been added in the core area.

6.3. Recommendations

In order to proceed with the preferred approach, the following recommendations should be implemented:

- Incorporate the design principles expressed in **Appendix A.1** regarding the design of a new bridge;
- While developing the design of the new bridge, seek advice from a qualified person with expertise and recent experience in addressing the incorporation of sympathetic design elements into new structures; and
- Allow agency and public review for information, including the Township of Centre Wellington to ensure that any new design achieves a sympathetic solution to reflect the cultural heritage value of the existing bridge and is compatible with the cultural heritage landscape
- Documentation:
    - Undertake full as-found recording and documentation (including photographs) of the existing Badley Bridge structure and its setting;
    - Ensure that any existing drawings of the current bridge are augmented with as-found annotations at the time of demolition and replacement of the bridge and, as necessary, prepare new measured drawings;
    - This work is be done to the standards of the Historic American Engineering Record (US National Parks Service) and deposited in an appropriate institution such as the Wellington County Archives where the historic records of the County Roads Committee are found. When sending the documentation to the institution, the County will copy MTCS on the cover letter.
- Interpretation:
    - The County shall erect a plaque/interpretation signage, preferably on the public land located close to the south-east corner of the bridge and adjacent to the public parking lot. The plaque/interpretation signage will narrate the history of the crossing and incorporate historical photographs. The County shall consult with the Centre Wellington Municipal Heritage Committee and, as appropriate, with Indigenous communities, to develop the plaque/interpretation signage. This work will be undertaken within one year after the construction of the new bridge.
    - During the detailed design phase, the County will examine the feasibility of salvaging an element of the bridge and incorporating this within the interpretation signage described above.

7 Resources

North Carolina Department of Transportation, 2013. Accessed January 2018, https://www.ncdot.gov/projects/ncbridges/historic/types/?p=17#types .

Standards and Guidelines for the Conservation of Historic Places in Canada, 2011 2nd Edition, Parks Canada.

Ontario Heritage Trust InfoSheet on Cultural Landscapes, 2012.

Historic Bridges, 2018. Accessed January 2018, http://historicbridges.org/bridges/browser/?bridgebrowser=ontario/wellingtonroad12/

The Grand River Watershed Heritage Bridge Inventory, 2013. Accessed February 2018, https://www.grandriver.ca/en/our-watershed/resources/Documents/CHRS/CHRS_2013_BridgeInventory.pdf

County of Wellington Archives. Elora Cemetery Records.

County of Wellington Archives. County Council Minutes 1951-1952, 1953-1954 Published by J.F. Beattie.

Ministry of Transportation Ontario Heritage Bridge Guidelines for Provincially Owned Bridges, 2008.

Appendices

A.1. Investigation of Replacement Bridge Options and Preferred Options

Having determined that the 1952/53 Badley Bridge must be replaced, it is incumbent upon the stewards of Elora and County Wellington, and their consultants, to execute an appropriate new bridge. The intent of this section of the Supplementary CHER/HIA is to provide sound and sympathetic design advice, as part of the conservation and bridge design processes. This design guidance is provided in full knowledge of and harmony with the fact that the bridge design will require engineering best practices in collaboration with conservation best practices. Other factors that will be part of the decision-making matrix of the design process will be: costs, constructability, scheduling, protection of natural and built heritage resources, and many other criteria.

Design within the Cultural Landscape

In order to develop appropriate design options for the new bridge structure that will replace the Badley (Metcalfe Street) Bridge, it is imperative that the designer fully understand the cultural heritage landscape (CHL) in which it sits, including its heritage value and character-defining elements of that setting. Previous sections of this report, and the previous CHER and HIA reports, provide much evaluation and information in this quest for understanding. The bridge design, as an intervention within the cultural landscape, must also take into account the urban design factors of the setting and the general context. It is strongly recommended that in order to effectively plan for, design and communicate the proposed bridge to the community, that three-dimensional modelling, showing a good area of the bridge setting and the proposed bridge option(s) within that setting, be incorporated into the process. This is by far the best means to achieve success.

The following is a view of an orientation map found on West Mill Street that provides a community-driven sense of the immediate cultural landscape. Badley Bridge is noted (red tone) and the two proposed pedestrian bridges are added (purple tone).

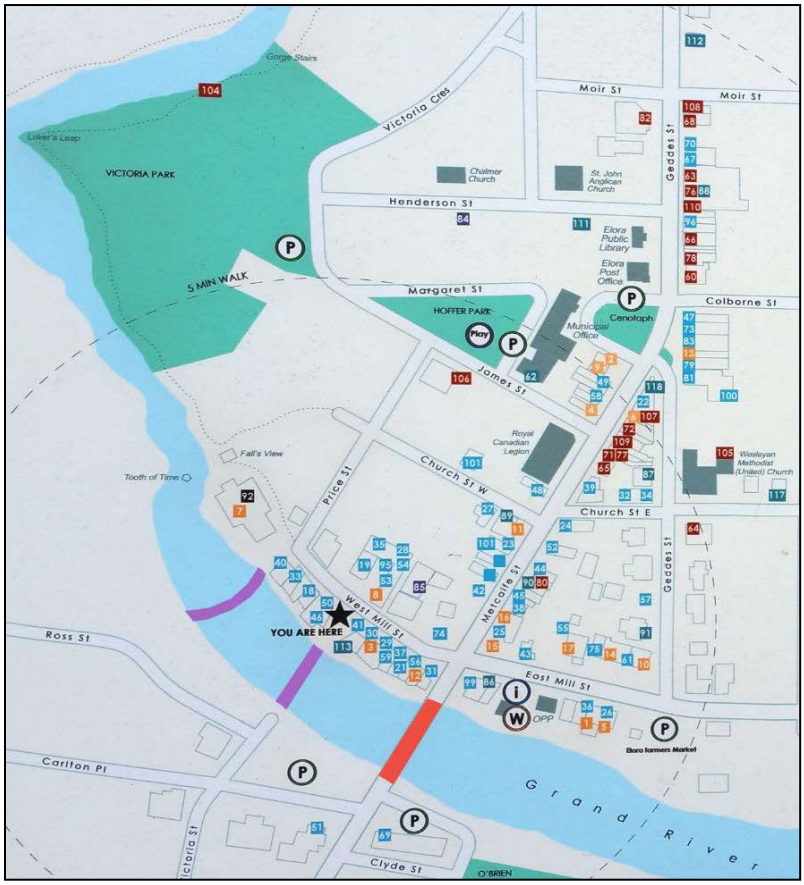

Figure 6: Orientation Map of West Mill Street

This satellite image site plan provides another view of the cultural heritage landscape. Note the pedestrian/cycling trail opportunities and the relationship between the Badley Bridge and its surroundings. A strong character of the cultural landscape is the pedestrian access to and interaction with the river.

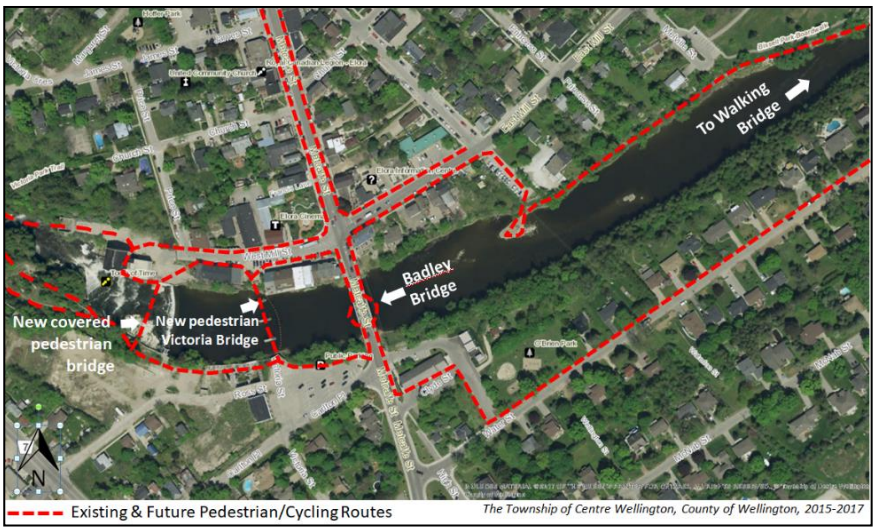

Figure 7: Satellite Image Site Plan

Key Context Factors

The cultural landscape that is the bridge setting is a composition of intimate scale natural and built forms and visual relationships, providing scenic views of high interest and heritage value. Therefore, of the many CHL character elements discussed in the documents above, and beyond the standards, guidelines and principles discussed above, the following are determined to be the three key unique factors that specifically should guide design of the new Metcalfe Street Bridge:

Relationships between built heritage resources

The bridge design should respond to relationships among the various built heritage resources within the landscape, particularly the Mill Street properties and the other nearby bridges within the viewscape (note for the purposes of this report, we will presume that the two pedestrian bridges to be built just west of the Badley replacement bridge will indeed be the currently proposed bridges, based on 3D views available for same).

This view looking west from the Badley Bridge, showing the back of Mill Street buildings overlooking the river setting, as well as the piers from the historic Victoria Street Bridge (to be re-used for proposed new pedestrian bridge “A”) and the dam just beyond (where the proposed new pedestrian bridge “B” will cross) shows the composition of the amalgam of built form that defines one of the character elements of the CHL. This forms a scenic “stage” of cultural landscape character. This character will change with the two new pedestrian bridges soon to be built.

Photo 22: View looking West from the Badley Bridge

The next photo demonstrates the view looking east towards the Badley Bridge from the south side of the dam. The existing Badley Bridge is in the far right background. This view of the cultural landscape will dramatically change with the addition of two new pedestrian bridges within this view: a stone bridge (already approved) at the old Victoria Bridge piers and a proposed covered bridge near the dam. The river “viewshed” at this location will become much more dense with built fabric. The new Badley Bridge replacement design should take this into account as well as the fact that it is sited at a (usually) flat water location, where bridge design should consider bridge reflection on the water.

Photo 23: East View of the Badley Bridge from the dam

Views and visual relationships

Key context factors include the views and visual relationships identified in Section 4 above, plus an additional very important view: the axial view looking directly north, from south of the bridge right on Metcalfe Street, for automobile/truck drivers, cyclists and pedestrians approaching the bridge and the downtown. This is a prime view as this is the most prominent "Gateway to Elora" and should be celebrated as such. It combines the experience of crossing the Grand River/Elora Gorge with the experience of entering the core of the historic village. Any new bridge design should take this directly into account.

Photo 24: Metcalfe Street – North View Gateway to Elora

The following photo demonstrates the Historic view looking south down Metcalfe street, showing the relationship between the commercial structures and the bridge

Photo 25: Metcalfe Street – Historic View

Multi-modal connectivity

Multi-modal connectivity around/through the CHL is in and of itself a cultural character element that the replacement bridge will play an important role in. The way people experience the cultural landscape is by moving around it and through it by auto, cycle, foot and paddle. The delight of this part of Elora and the Grand River that must be preserved involves the conservation and enhancement of the ability to experience this place through time, with multiple character views and multiple character element relationships exposed as one moves through this space. The bridge's ability to carry multiple modes, including active living means of moving, and the bridge's ability to offer more of the delightful views of this landscape and its compact spatial qualities, will be a large measure of its success.

The view looking east from the Badley Bridge is a key "natural" connection. The undeveloped banks lead to a view in the distance of another pedestrian bridge, adding further access and interaction with the river. The natural resources of the CHL are as important as the built resources and the combination of the two at Elora and the Gorge provides a unique historic place like no other. The replacement for the Badley Bridge offers the opportunity to take advantage of the range of view types, and the connectivity in all four directions.

Photo 26: View looking east from the Badley Bridge

Design Parameters

The following five key design objectives should be incorporated into the design of the replacement bridge:

1. **enhance the public realm,** through form, character, utility, views and connectivity;
2. **provide respect** for the historic bridge and local heritage character;
3. **engage minimal intervention,** understanding it as one of many elements in the landscape;
4. **employ contemporary 'language**' of form and materials to provide a new element or 'layer' in the CHL that complements its surroundings; and
5. **acknowledge the site and bridge as a gateway** to the Village of Elora.

Design Demonstration Concept Options

In order to assist the reader with visualizing how these context factors and design parameters, combined with cost restraint and sound engineering, could possibly manifest into a new replacement bridge, three demonstration concept options are provided. These are not a final bridge design; that will be executed separately. Instead, they are intended to demonstrate these factors and parameters to show possibility and to provide guidance on design that respects the cultural heritage value of this evolving historic landscape. All options are based upon a base structural design by others that was taken as a "given". All are efficient and essentially utilitarian solutions supporting the important multi-modal circulation and views within the cultural landscape. All make acknowledgement of this site as the primary "gateway" into Elora Village. As the Badley Bridge replacement will sit within a single view of the cultural landscape alongside two other proposed pedestrian bridges, simplicity should be a key factor in its design.

All options provide a new significant heritage interpretation panel at the south end. They all presume the existing street lights at the ends of the bridge will remain and the existing stairs at the northwest corner down to West Mill Street remain in place.

Larger images of each Option, and concept sketches of how one could envision the bridge from the south as one proceeds through the 'Gateway' are located in an Appendix.

Option “A”

The most minimal of interventions, this option seeks to be open and light by using a visually light steel balustrade. This is accomplished by running a continuous protection wall between bike lanes and pedestrian sidewalks. In order to have the bridge acknowledge its important gateway function, this option relies on new tall limestone end piers at the south to provide the gateway. Smaller limestone piers mark the north end of the bridge. The limestone relates directly to the geology of the gorge. Enhanced street lighting is used to trace the Camelback outline of the former bridge, which adds an historic interpretative element while also adding some whimsy and fun to a very minimal design.

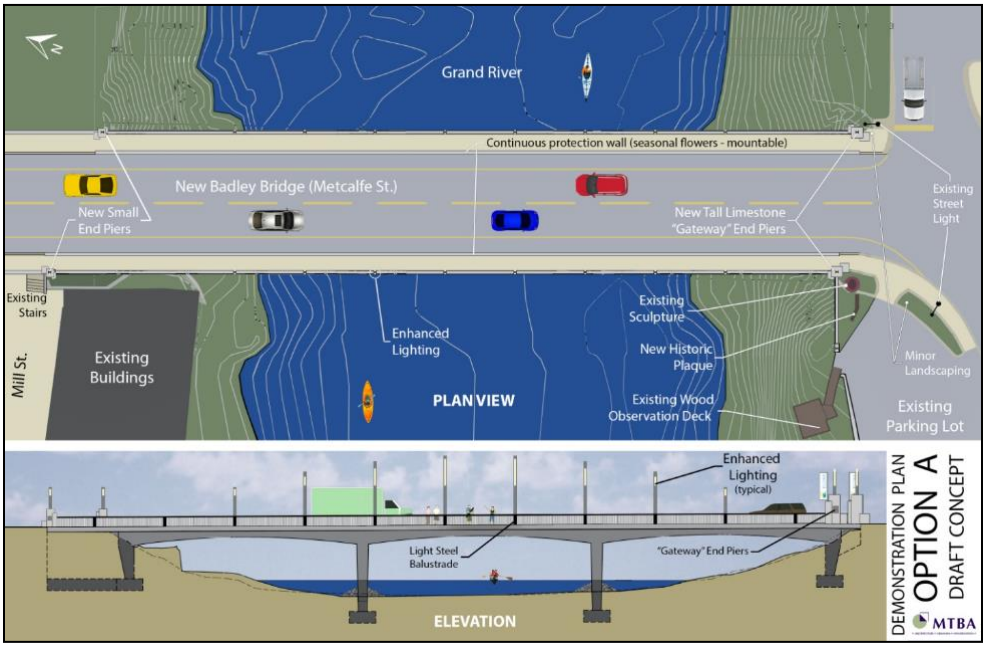

Figure 8: Option “A”

Option "B"

Option "B" includes the following changes from Option "A":

- standard precast balustrades with narrow openings;
- an observation deck or belvedere on the west side at mid-span, large enough for a family or two to stand for photos and views while out of the way of passing pedestrians; this includes partial protection walls to guard against the light steel railings used at the belvedere;
- replacement of the existing wood observation deck on the south bank with a new enhanced parkette and new observation deck with connectivity to the Victoria Bridge (would require negotiation with private owner); and
- simpler new enhanced lighting.

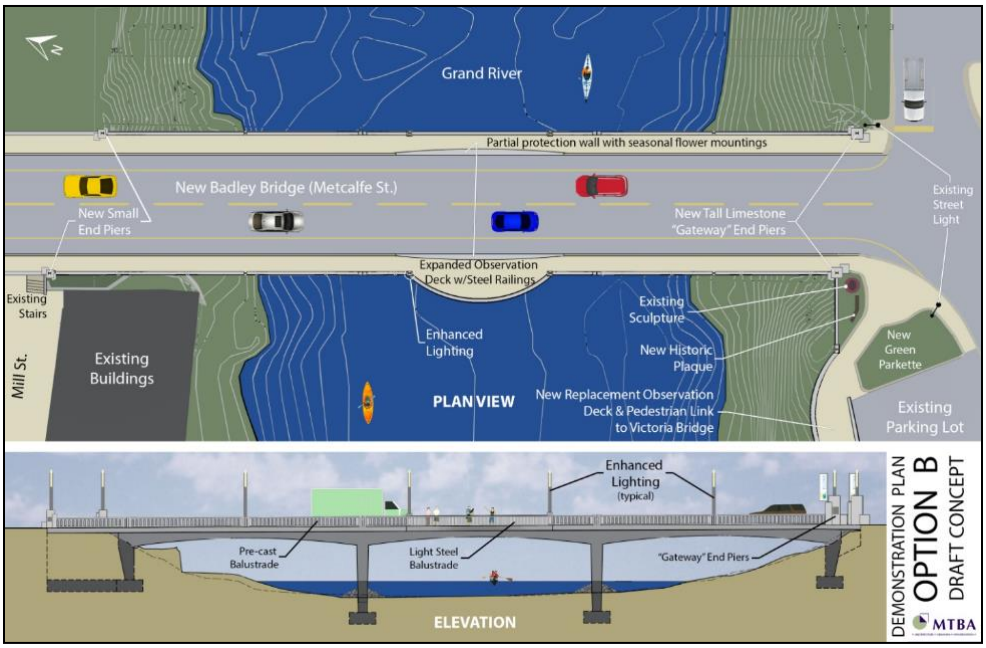

Figure 9: Option "B"

Option "C"

Option "C" includes the following changes from Option "B":

- Rebuild or repair the existing south bank wood observation deck;
- more modest limestone piers at north and south bridge ends;
- return to the various-height enhanced lighting as in Option "A";
- addition of a light steel "pergola" element to provide a better sense of "village gateway" and to honour the current camelback truss bridge, located at the mid-span component of the original, sized to match its profile;
- installation of a belvedere on both west and east sides at mid-span to take advantage of both cultural and natural views – note that the east belvedere is an extension beyond the ESR requirements.

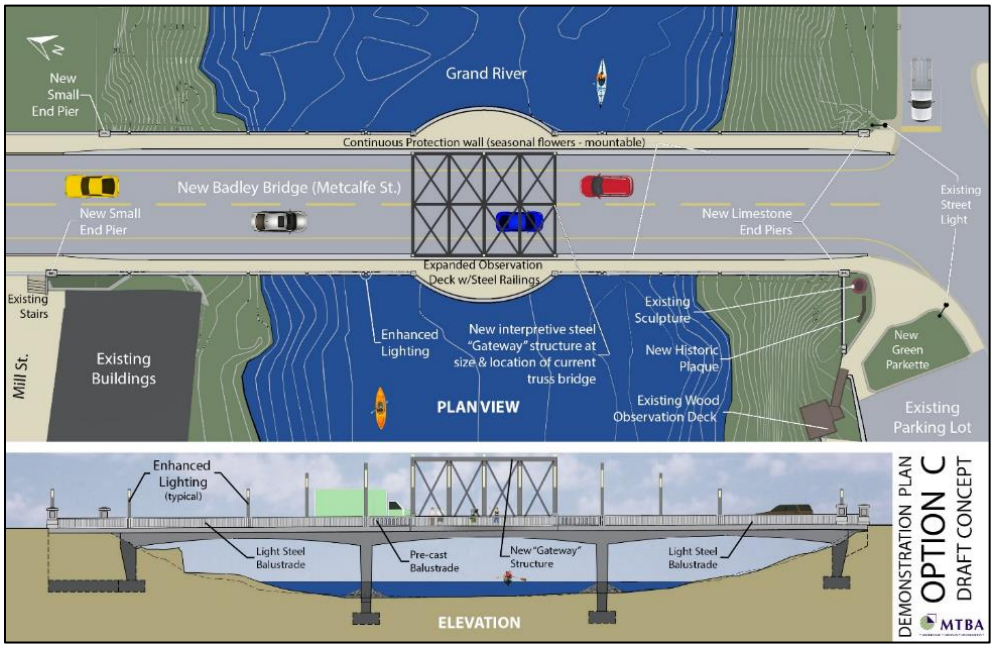

Figure 10: Option "C"

Recommended Option "D"

All of the above demonstration concept options are viable and would make good choices, following the design advice provided. It is also possible to combine specific elements of these options into a "hybrid" option. The recommended option, on balance of consideration of the full range of objectives and parameters, would be a hybrid of taking Option "A", adding the two belvederes of Option "C" and the west side south bank landscape treatment of Option "B". We will call this hybrid option, **Option "D"** (not illustrated)**.**

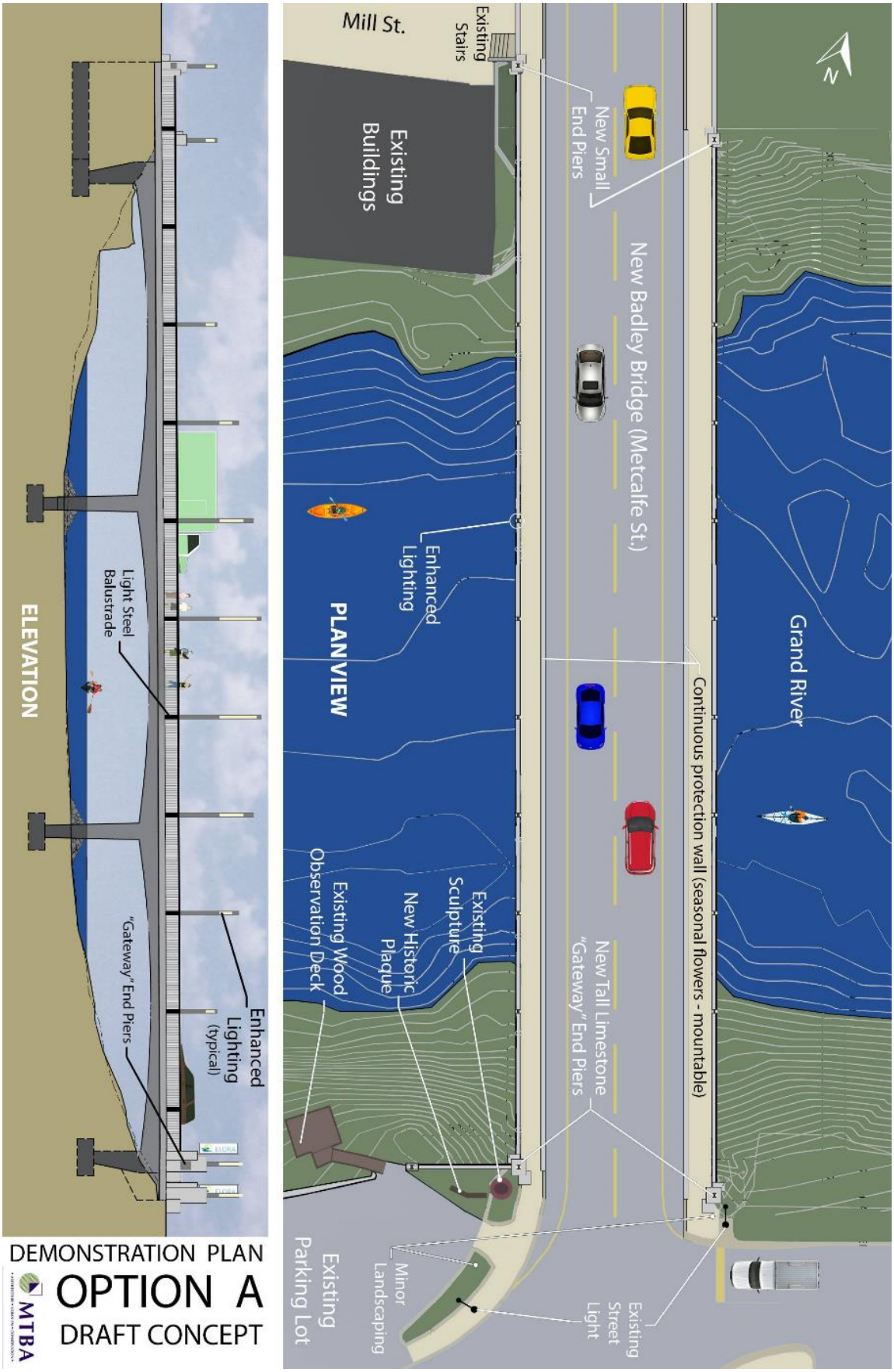

Figure 11: Option "A" - Enlarged

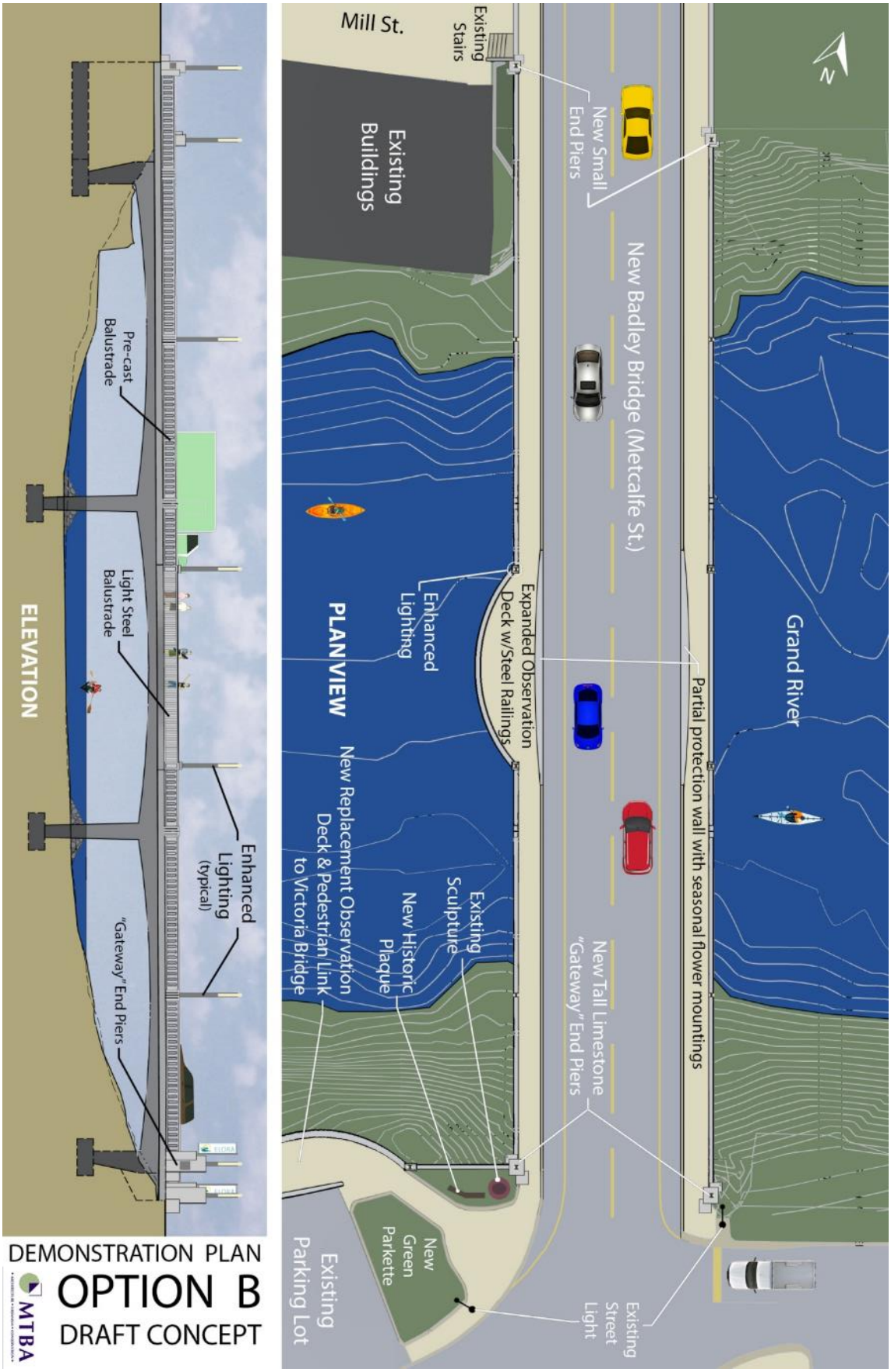

Figure 12: Option "B" - Enlarged

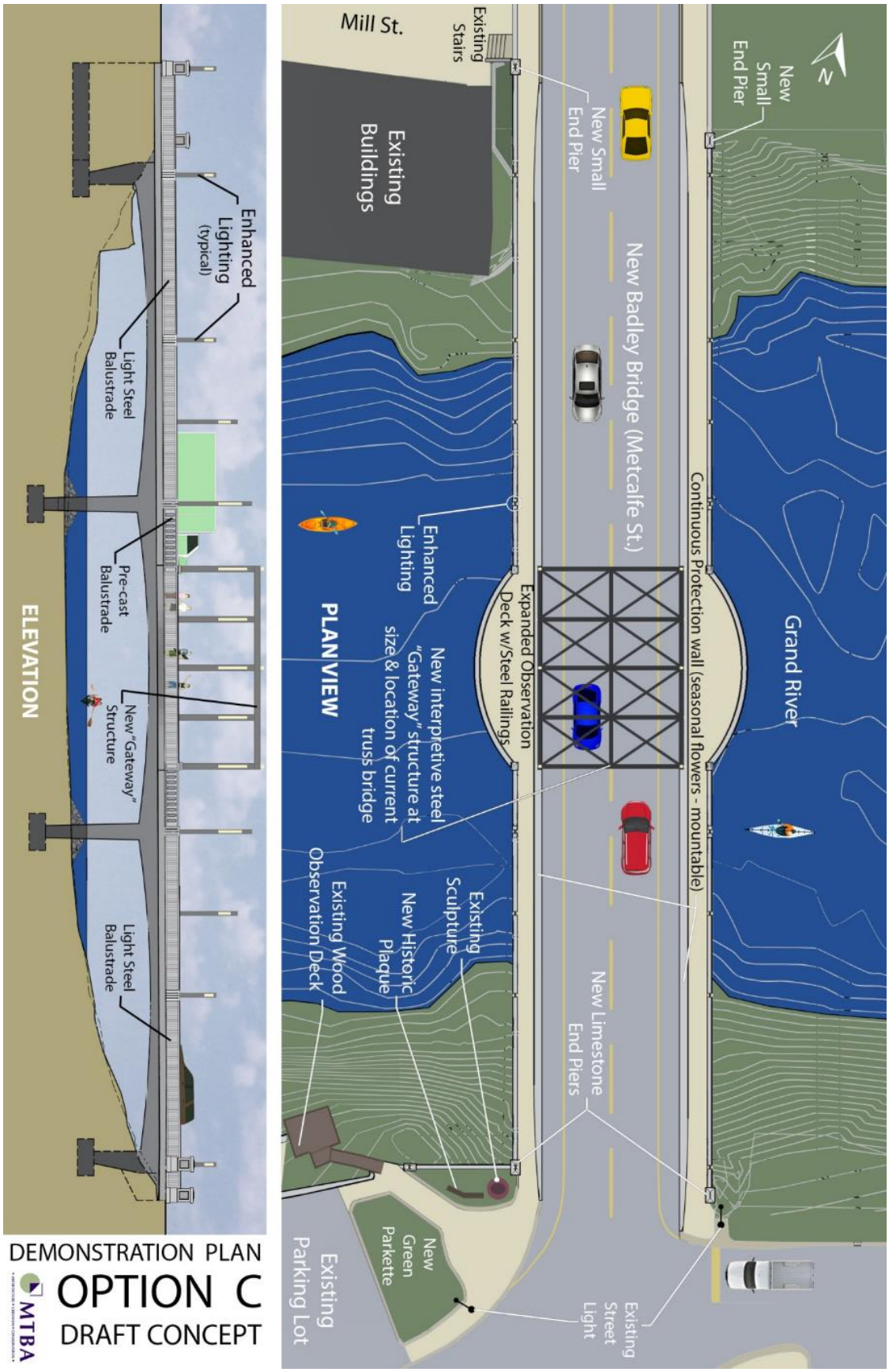

Figure 13: Option "C" - Enlarged

A.2. Resumés

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Cultural Heritage Specialist
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- Full Member, Canadian Society of Landscape Architects
- Full Member, American Society of Landscape Architects
- Full Member since 1989, Canadian Association of Heritage Professionals (CAHP)

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1981 - Bachelor of Landscape Architecture, University of Guelph
1970 - Toronto Teachers' College
1969 - Bachelor of Arts, major: History, Glendon College, York University

PROFESSIONAL SERVICE

2015-present	Secretary-Treasurer, CSLA College of Fellows
2007-present	Instructor, Cultural Landscape Course, Cultural Resource Management Program, UVic
2000 - 2001	Chair, American Society of Landscape Architects, Historic Preservation Professional Interest Group
1998 – 2010	Executive Member, Board of Directors, The Alliance for Historic Landscape Preservation, Vice-President 2001-2004, Secretary, Canadian Treasurer 2004 - 2010
1995 - 1999	Adjunct Professor, School of Landscape Architecture, University of Guelph

PROFESSIONAL EXPERIENCE

2014-present	Wendy Shearer Cultural Heritage Specialist Consultant
2008 - 2013	Managing Director Cultural Heritage MacNaughton Hermsen Britton Clarkson Planning Limited (MHBC)
1984 - 2008	Principal and owner, Wendy Shearer Landscape Architect Limited

AWARDS

2015 UNIVERSITY OF GUELPH	ONE OF 50 NOTABLE GRADUATES IN 50 YEARS OF THE SCHOOL OF LANDSCAPE ARCHITECTURE
2014 LIFETIME ACHIEVEMENT	CANADIAN ASSOCIATION OF HERITAGE PROFESSIONALS
2012 Architectural Conservancy of Ontario	Margaret and Nicholas Hill Cultural Heritage Landscape Award
2012 CAHP Restoration Award	Battlefield Park NHS restoration of 1920s Dunington-Grubb Commemorative Landscape
2012 CAHP Heritage Planning Award	Cultural Landscape Assessment for Rondeau Provincial Park

2011 CAHP Heritage Restoration Award Historic Landscape at Hamilton City Hall

2011 CAHP Heritage Restoration Award Oil Heritage District, Lambton County

PROFESSIONAL ACTIVITIES

Wendy Shearer has been in private practice as a consulting landscape architect for over 30 years and has been responsible for a wide range of cultural heritage landscape projects including conservation management plans, significance and condition assessments, heritage impact assessments as part of the Environmental Assessment or Site Plan Approval process, maintenance manuals for historic sites, restoration plans for period gardens and heritage landscapes, and numerous heritage conservation districts studies and plans.

She has been an expert witness before the Ontario Municipal Board (OMB) and the Conservation Review Board. She has participated in the Think Tank on Cultural Landscapes with Public Works Canada as part of the preparation of the Standards and Guidelines for the Conservation Historic Sites in Canada. She is an active member of the heritage community and a frequent presenter on the theory and practice of heritage conservation in both the US and Canada. She is currently the Secretary of the Canadian Society of Landscape Architect College of Fellows

She has been involved with a wide range of historic properties of local, provincial and national heritage significance and of a variety of types: agricultural and industrial properties, rural settlements, historic urban core areas, country estates, period gardens, and large institutional properties and educational sites. She has also worked on a range of public sites including court houses, registry buildings, Carnegie libraries, city halls, museums, and parks undertaking select conservation activities from restoration to rehabilitation.

Recent projects include:

Lansing Heritage Site, Nacho Nyak Dun and Yukon Government, Conservation Management Plan
Niagara Parks Commission, Queen Victoria Parklands Niagara Falls, Cultural Heritage Evaluation Report and Strategic Conservation Plan
Cultural Heritage Assessment as part of the EA for road improvements, Brant County and Peterborough County
Gwich'in Lands, North West Territories, Cultural Resource Management planning framework for 31 designated sites and a Community Consultation Strategy for 2 selected sites
Montgomery's Inn historic setting restoration, City of Toronto
Winnipeg Armstrong's Point Heritage Conservation District Study and Plan
Bala Heritage Conservation District Study and Plan
Cultural Heritage Assessment for EA of Blackbridge Road/Townline Rd., Cambridge

Previous projects include:

- Legislative Assembly Grounds, Toronto
- Battlefield Park National Historic Site, Hamilton
- Former London Psychiatric Hospital redevelopment lands, London
- David Dunlap Observatory, Town of Richmond Hill
- Billings Estate National Historic Site Cemetery, Ottawa
- Oil Heritage Conservation District and NHS, Oil Springs, Lambton County
- Todmorden Mills Heritage Site, Toronto
- Dundurn NHS, Hamilton
- Burlington Heights Heritage Lands Management Plan for Royal Botanical Gardens NHS, Burlington
- Garden District Heritage Conservation District, Toronto

MARK THOMPSON BRANDT, **OAA Licence 4048, MRAIC, LEED AP, CAHP, APTi**
Senior Conservation Architect & Urbanist

Mark Brandt, OAA, MRAIC, LEED AP BD+C, CAHP, APTi, Context Sensitive Design Specialist, is Senior Conservation Architect and Urbanist with MTBA Associates. He brings over 30 years' experience managing, planning and designing complex urban design and building projects, as well as condition, context and heritage assessments for municipal, provincial and federal governments. He has been involved in numerous urban planning projects, including roadway and pathway development and is a conservation specialist with expertise in heritage value assessments, impact assessments, and high-value reviews and evaluations for built heritage and cultural landscapes. Mark is also considered a stakeholder consensus specialist with deep experience managing community and stakeholder input and gaining consensus through dialogue, demonstration and project management and has carried out numerous Urban Intervention Studies using Context Sensitive Design.

Curriculum vitae

Select Projects Brandt has led or co-led:

Hwy 417 Bridges – Ottawa Downtown, Context Sensitive Design & Bridge Architecture, Preliminary Design and Enviro Assessment, Rehab/Replacement
Hwy 417, part of the Trans-Canada Highway, is the major freeway corridor in Ottawa. MTBA is part of a Team to undertake this study for the rehabilitation or replacement of seven bridges (four locations) on Hwy. 417 (Queensway) from Metcalfe to Main Streets, downtown.
Several design alternatives were reviewed for each bridge, including structural and construction staging, in order to minimize disruption to the Queensway and to incorporate optimal context-sensitivity. As bridge architects, MTBA is working with the structural engineers to develop key design features, especially for the bridges of the historic Rideau Canal World Heritage Site, along with providing mitigation measures to reduce or negate short and long term negative impacts.
MTBA's role is providing context sensitive architectural and urban design for the project. Issues of bridge façade, the Centretown community context, lighting, streetscaping, heritage values, and visual appearance and safety for pedestrian, cyclist and motorist users were all addressed, via in-depth report and 3D modelling design. MTBA also participates in public and stakeholder consultations.

Queensway Bridges – Ottawa Midtown, Context Sensitive Bridge/Urban Design, Preliminary Design & Enviro Assessment, Rehab/Replacement
The Queensway, part of the Trans-Canada Highway, is the major freeway corridor in Ottawa. MTBA was part of a large Engineering Team to undertake this study for the rehabilitation or replacement of twenty-three bridges (twelve locations) on Hwy. 417 (Queensway) from Holland Ave to O'Connor St. in mid-town.
Several design alternatives were reviewed for each bridge, including structural and construction staging, in order to minimize disruption to the Queensway and to incorporate optimal context-sensitivity. In addition, environmental and property requirements were established, along with identification of mitigation measures to reduce or negate short and long term negative impacts.
MTBA's role was providing context sensitive architectural and urban design for the project. Issues of bridge façade, the Centretown community context, lighting, streetscaping, heritage values, and visual appearance and safety for pedestrian, cyclist and motorist users were all addressed, via in-depth report and 3D modelling design. MTBA also participated in public and stakeholder consultations.

EDUCATION

B.Arch. – 1982 / B.EnvD – 1980
Restoration/Conservation:
Historic Structures - 1997
Dalhousie University

Env.Design – 1976 – 1978
University of Waterloo

LEED AP BD+C – 2011
CaGBC

Cultural Landscapes Cert.- 2012
Willowbank School

Eco-Districts Practitioner
Certificate 2012
Portland Sustainability Institute

PROFESSIONAL EXPERIENCE

2003 – Present
Principal, MTBA Associates Inc.

1988 – 2003
Partner, Thompson Brandt Architects

2002 – 2004
Professor, Architectural Design
Algonquin College

1987 – 1988
Architectural Consultant
Mark Brandt Studio

1979 – 1987
Intern, Project Architect,
Associate Architect
Various firms

MTBA

Project List - Selected

- Hwy 417 Bridges – Downtown Ottawa, **Context Sensitive Design & Bridge Architecture, Preliminary Design & Environ. Assessment, Rehabilitation/Replacement,** with BTE Engineering/Wendy Shearer for MTO, Current
- Metcalfe St. Badley Street Bridge – Elora, **Context Sensitive Design & Bridge Architecture , with** BTE Engineering/Wendy Shearer for MOECC , Current
- East Block (c.1866 – FHBRO Classified), Parliament Hill, **Envelope Rehabilitation**, with A49/DFS for PWGSC, Current
- Chateau Laurier, Proposed Development Addition, **Heritage Inventory & CHIS**, Private Developer, 2017
- 506 Kent Street, **Cultural Heritage Impact Statement**, Private Developer, Current
- 411 Wellington Street, **Barriefield Heritage-Sensitive/Urban Design Concept Input & Cultural Heritage Impact Statement**, Private Developer for City of Kingston, 2016
- 51-57 Queen Street & 282 Ontario Street/18 Queen Street, **Heritage-Sensitive/Urban Design Concept Input & Cultural Heritage Impact Statement**, Private Developer for City of Kingston, Current
- 171 Bruyer, **Cultural Heritage Impact Statement and Concept Design**, Ottawa Community Housing, 2015
- **Heritage Evaluations**, Township of Russell, 2015
- Iroquois Waterfront Redevelopment, **Pre-feasibility Study and Preliminary Design**, South Dundas, 2015
- National Printing Bureau (c. 1950 FHBRO-Classified) **Exterior Wall Repairs**, with CIMA+ for PWGSC, 2015
- 5 Ontario Locations, **Heritage Building Condition Assessments**, with MHBC for Infrastructure Ontario, 2015
- Queensway Bridges – Mid-town Ottawa, **Context Sensitive Architecture/Urban Design**, with Morrison Hershfield/BTE Engineering for MTO, 2015
- 6 Ottawa Locations, **Heritage Building Condition Assessments**, with WSP for City of Ottawa, 2015
- SS#1 Community Centre (c. 1886), Reconstruction and Accessibility Rehabilitations, **Full Architectural Services**, City of Ottawa, 2015
- Sir John A. Macdonald Building (c. 1930-32 - FHBRO Classified), Parliament Hill, Adaptive Reuse of bank to House of Commons Hall of State, **Full Architectural Services**, with NORR for PWGSC, 2015
- **Authored** *Building Resilience: Practical Guidelines to Sustainable Rehabilitation of Buildings in Canada*, for Federal, Provincial, Territorial Historic Places Collaboration, 2016
- CMC, Langevin Block (FHBO Classified), Security Upgrade, **Full Architectural Services**, PWGSC, 2014
- 185 Mill Street/15 Clarence Street, **Heritage Impact Statement Peer Review**, Town of Gananoque, 2014
- 101 South Street, **Heritage Impact Statement Peer Review**, Town of Gananoque, 2014
- Providence Care Hospital, **Cultural Heritage Impact Study**, Ellis Don for City of Kingston, 2013
- Pleasant View, **Development Guidelines/Heritage Impact Assessment**, Private Developer for City of Kingston, 2013
- 1003 Prince of Wales, **Cultural Heritage Impact Study**, City of Ottawa, 2013
- Frontenac County Courthouse (Kingston), **Building Condition Assessment**, Infrastructure Ontario, 2013
- Morrisburg Waterfront Redevelopment, **Pre-feasibility Study and Preliminary Design**, South Dundas, 2013
- Pump House Steam Museum (c. 1849 – Designated OHA Part 4), Heritage/Adaptive Reuse Exhibit Hall Fit Up Design & Construction, **Full Architectural Services**, City of Kingston, 2012
- Purdy's Mills Mixed Use Urban Development, **Cultural Heritage Impact Study**, Private Developer, Kingston, 2012
- Collins Bay Penitentiary (c. 1931-43 – FHBRO Recognized), **Heritage Conservation Review & Design of New Addition and Restoration**, with Cole & Associates for PWGSC, 2011
- East Block Southwest Tower (c. 1863-70 – FHBRO Classified), Parliament Hill, **Investigation & Analysis of Building Envelope Deterioration**, PWGSC, 2011
- Butler's Barracks (c. 1816 - NHSC), **Conservation Options Analysis**, with NORR for Parks Canada/PWGSC, 2011
- Landsdowne Park – Mixed Use Urban Development, **Heritage Architecture Advice and Expert Presentation**, Ottawa Sports and Entertainment Group, 2010
- Barriefield Village, **Heritage Site Evaluation & Feasibility Study**, City of Kingston, 2010
- Guelph Correctional Centre, **Conservation Master Plan and Cultural Heritage Landscape Evaluation**, with Content Works for Ontario Realty Corporation, 2009
- Connaught Building (c. 1916 – FHBRO Classified), Revenue Canada National HQ Upgrades, **Full Architectural Services**, PWGSC, 2009
- E.B. Eddy Site, **Heritage Conservation District Studies**, City of Hull and the Quebec Ministry of Culture and Communications, 1995
- Chaudiére Industrial Heritage District, **Development of Master Plan**, National Capital Commission, 1995

A.3. MHBC CHER excerpts

6.0 Evaluation of Cultural Heritage Value

6.1 Badley Bridge (Metcalfe Street Bridge)

The Badley Bridge (Metcalfe Street Bridge), is a nine-panel rivet-connected Parker Camelback Through Truss bridge.

There are many types of bridge trusses, often named for those who are credited with patenting the design. In its most basic sense, a truss bridge refers to a bridge type that includes structural truss components comprised of top chords, bottom chords and vertical and/or diagonal members that distribute the tension and compression, and are often able to carry heavy loads by using a relatively small amount of building materials.

The Parker Truss is a subset of the Pratt Truss type. The Pratt truss was patented in 1844 by Thomas and Caleb Pratt. Typically, the top chords and vertical elements were made using wood and acted in compression, while the bottom chords were constructed with iron and acted in tension. By the 19th century, entirely metal bridges were common, and the Pratt type truss was commonly used in North America well into the 20th century (Iowa Department of Transportation, 2015).

The widespread use of the Pratt truss bridge can be attributed to its adaptability and reliability in terms of compression and tension. The bridge also required minimal materials and had few construction complications. Therefore, the Pratt Truss type bridge is common in Ontario, especially when constructed in steel which was (generally) available after steel bridges first appeared in Ontario in the mid 1800s, and proliferated after 1900. Steel bridges became more prevalent in Ontario as the material became increasingly affordable and readily available. In addition to this, the demand for steel bridges increased due to their ability to support heavier traffic loads. Therefore, Pratt Truss bridges constructed in materials such as timber and wrought are generally considered earlier examples which are becoming increasingly rare in Ontario (Cuming, 1983).

The Parker truss was a modified version of the Pratt Truss, adopted by Charles H. Parker. Parker's design modified the design of the top chord which was constructed on an incline, without

members parallel to the bottom chord (Iowa Department of Transportation). The 'Camelback' type typically refers to bridges that contain five slopes on the top chord.

The bridge itself provides a distinctive gateway feature of downtown Elora and is one of 7 similar Camelback steel truss bridges on the Grand River Watershed. This includes 5 examples of the Pratt Camelback steel truss bridges, which is the predecessor of the later Parker Camelback variation (Heritage Resources Centre, 2013). According to Cumings (1983, p.78), a bridge span's prototypicality should be evaluated in terms of its significance. Here,

> *Bridges are often modified to remedy a variety of deficiencies. Those that have escaped unchanged are of particular importance in illustrating their original form.*

Therefore, the original Pratt Truss bridges may be considered of particular heritage significance over the its later variations, including the Parker Truss bridges which attempted to rectify or improve upon the original Pratt Truss design.

The Badley Bridge (Metcalfe Street Bridge) has sidewalks on both sides, which allows for use by pedestrians and vehicles alike. Located directly to the west of Badley Bridge are the stone piers of the former Victoria Bridge, which was partially demolished in 2005 due to its deteriorating condition. The Victoria Bridge was designated under Part IV of the *Ontario Heritage Act* but the designation was repealed in order to remove the bridge.

Figure 14 - View of Badley Bridge from Victoria Street Bridge Pier south observation area. (MHBC October, 2015)

Figure 15 - View of Badley Bridge looking south toward McNab Street (MHBC October, 2015)

Figure 16 - View of Badley Bridge and shops on Mill Street West from northwest corner of Badley Bridge intersection (MHBC October, 2015)

Figure 17 - View of Victoria Street Bridge Piers from centre of Badley Bridge (MHBC October, 2015)

Figure 18 - View of Metcalfe Bridge and rear view of businesses along Mill Street (MHBC October, 2015)

6.1.2 Evaluation of Badley Bridge (Metcalfe Street Bridge)

Based on the criteria as per *Ontario Regulation 9/06* of the *Ontario Heritage Act*, Badley Bridge (Metcalfe Street Bridge) demonstrates significant cultural heritage value, which has also been identified in previous studies (Grand River Conservation Authority, 2004; Heritage Resource Centre, 2014). Evaluation through this report confirms that the bridge demonstrates cultural heritage value, vested in its design value and contextual value.

The bridge demonstrates design/physical value as follows,

- Representative of a style/type of bridge, that being the Camelback Through Truss, and an example of the Parker Camelback Through Truss Bridge variation of the Pratt Camelback Through Truss Bridge, which is the predecessor to the Parker Camelback Through Truss Bridge.

The bridge demonstrates historical/associative value as follows,

- An example of work by the Hamilton Bridge Company, a well-known bridge design and construction company in the late 19th and 20th century.

The bridge demonstrates contextual value as follows,

- Important in supporting the character of historic Elora. Though constructed in the mid 20th century, the bridge is representative of a construction type that is no longer commonly used, but was common between the mid 19th and mid 20th century; and
- Represents a landmark in the Village of Elora as a gateway/entrance feature to the historic downtown core.

Heritage attributes:

- Steel truss structure, representative of the Parker Camelback Through Truss design by the Hamilton Bridge Company;
- Steel railings (guardrail and lattice types);
- Concrete abutments;
- Views from the bridge deck across the Grand river to the east and west; and
- Views of the visible truss profile as a landmark feature entering/exiting the historic core of Elora from Metcalfe Street.

6.2 23 Metcalfe Street

The property located at 23 Metcalfe Street (formerly High Street) was designated under Part IV of the *Ontario Heritage Act* in 2013. The property was designated as a National Historic Site under the Historic Sites and Monuments Act and was listed on the federal Register on March 13, 2009. The designating by-law for the property identifies its significance as the former Armoury Hall, or Elora Drill Shed, a mid-19th century stone building constructed as a military training facility and hall to serve the needs of the local community. The Drill Hall (constructed in 1865) is noted to have been of better design and construction quality than other such halls found in areas with lower rates of military enrollment (Town of Elora, Parks Canada). The designating by-law cites this as the community's desire to build a structure that would provide opportunities for re-use in the future, beyond military training (Town of Elora). The hall has a neoclassical design with semi-circular fanlight above the entrance and oculus in the gable. The hall is associated with the history of the Canadian military. It was one of many drill sheds constructed in areas near the American border in response to the American Civil war and threat of Fenian Raids. The hall was constructed before standardization of drill hall design by the Department of Defence (Township of Centre Wellington, Parks Canada).

Figure 19 - Former Drill Shed, 23 Metcalfe Street (formerly High Street) (MHBC, 2015)

The hall was later used as a Town Hall, Council Chamber, Armoury Storeroom and space for the fire department pumper. A central part of the community, it was used for political meetings, temperance meetings, concerts, theatre, and parties until 1909 when it became once again used by the Canadian Government for military purposes. During the 1920s and 30s, it became a theatre that raised funds for the Red Cross (Township of Centre Wellington).

The hall became owned by the Town of Elora in 1949, and was a popular location for local dances throughout the 1940s and 1950s. The property was leased to the L.C.B.O in 1972, and remains operated by the L.C.B.O to this day (Township of Centre Wellington).

The building is one of two remaining drill sheds, and is the only remaining stone drill shed. The property has contextual value as a prominent local landmark and reminder of the Town's military history.

The following Heritage Attributes are identified for the property in the Designating By-law:

Attributes that contribute to design value:

- The departure from the typical drill shed design and the use of classical proportions;
- The symmetrically-designed façade with Neoclassical details such as the multiple light transom and semi-circular fan light over the front door and the oculus in the gable above;

- The use of quality natural materials such as cut stone and wood detailing;
- All four stone walls and stone voussoirs over all windows;
- The fenestration pattern on front and two side elevations with flat arches over windows in the side elevations and segmental arches over the windows in the front elevation;
- Form of the multi-pane 9 over 6 double hung wood sash windows (replacement);
- The open floor plan and the integrity of the original interior materials, furnishings and fittings; and
- The later addition of the wooden front portico with semi-circular roof and fluted edges supported by double wooden Doric-style columns.

Attributes that contribute to historic value:

- Rectangular footprint of the original drill shed and its single storey massing under a medium-pitch gable roof;
- Association with Canada's military past as a training space for local militia and role as community hall for over a century as evidenced by its open floor plan;
- Early one storey east addition that served as council chambers and storage area; and
- The carved stone rooster above the front door, donated by J.M. Fraser (reeve and owner of Elora Mill) representing the victory of those who influenced its location on the south side of the River after much local debate.

Attributes that contribute to contextual value:

- Prominent and highly visible location that serves as a gateway into Elora's downtown when entering from the south;
- Location adjacent to and overlooking the historic Grand River;
- Use of local Elora Quarry limestone that echoes nearby historic buildings north of the River.

6.3 27-43 West Mill Street

The property located at 27-43 West Mill Street (adjacent to the study area) was designated under the *Ontario Heritage Act* in 2005. The property was designated because it was one of Elora's earliest hotels, known as the Commercial Hotel. The oldest part of the building was constructed in 1848, followed by subsequent additions that resulted in an establishment with 70 bedrooms for rent, four "sample" rooms for travelling salesmen to display their wares, five parlours, a dining room, bar room and stable. The hotel was notable for hosting political meetings and rallies, particularly for the "Clear Grit" reformers.

From 1865 to the turn of the Century, twice-daily stage coach to and from Guelph operated from the Hotel. The designating bylaw outlines the contextual value of the property as having a commanding presence and as such is considered to be an important part of the streetscape in Downtown Elora (Township of Centre Wellington).

The designating bylaw does not identify heritage attributes for the property.

Figure 20 - 27-43 West Mill Street, the former Commercial Hotel (MHBC, 2015)

6.4 22 Metcalfe Street

The property located at 22 Metcalfe Street is thought to have been constructed in 1852. It is of red brick construction, using Flemish bond pattern and sits on a stone foundation. The former dwelling demonstrates design/physical value having influence of the gothic revival architectural style, evident in the one and one half storey massing with centre gable and symmetrical facade.

Figure 21 – View of 22 Metcalfe Street (right) looking north along Metcalfe Street across from 23 Metcalfe Street (L.C.B.O) (MHBC, 2015)

The property demonstrates historical/associative value due to its connection to the theme of early residential development in the community of Elora. The property demonstrates contextual value by supporting the historic character of the community, which is comprised of numerous 19th century structures.

Heritage attributes:

- Red brick, Flemish bond construction, stone foundation;
- One and one half storey massing with central gable;
- Symmetrical facade with entrance featuring sidelights and transom, rectangular windows; and
- Orientation to Metcalfe Street.

6.5 5 East Mill Street

The building located at 5 East Mill Street is a three storey stone structure. It demonstrates design or physical value as a representative industrial/commercial building built using local vernacular stone. The third storey may have been added at a later date.

The structure is thought to have been constructed in 1865 as a mill. Assessment records in 1890 list Thouson Williams, a glover, as the owner of the property. Fire insurance maps identify the building as "GRO", typically the abbreviation for a grocer, suggesting that there may have been several uses on the site and that they likely evolved over time.

The property demonstrates contextual value by supporting the historic character of the community, which is comprised of numerous 19th century structures.

Figure 22 – View of 5 East Mill Street, a former mill built in 1865 with cut stone, low hip roof, reflects Village's early history. The property is listed on the Municipal Heritage Register (MHBC, October 2015)

Heritage attributes:

- Two storey stone structure built to rectangular plan and one storey rear stone addition;
- Stone quoins and voussoirs;
- Rectangular window and door openings;
- Orientation to Mill Street; and

- Location backing onto the Grand River.

6.6 8-12 West Mill Street

The property located at 8-12 West Mill Street is thought to have been constructed in 1859, and is a two and one half storey brick structure built to a rectangular plan with three commercial units. The building has been altered over the years with stucco/EIFS covering the brick construction and replacement windows. Replacement storefront windows generally follow the pattern of traditional commercial storefronts.

Figure 23 - View of West Mill Street from northeast corner of Badley Bridge (Metcalfe Street Bridge) intersection. Note the structure in the foreground, 8-12 Mill Street West, which is listed on the Municipal Heritage Register (MHBC October, 2015)

The building demonstrates historical value for its association with mid 19th century commercial development in the core area of Elora. Despite the alterations, its massing and profile contribute to supporting the historic character of the commercial core.

Heritage attributes:

- Two and one half storey massing, rectangular plan and side gable roof;
- Organization into three commercial storefronts reflective of original arrangement; and
- Orientation to West Mill Street.

6.7 16-18 West Mill Street

According to the Township of Centre Wellington Heritage Register, the property located at 16-18 West Mill Street is a 2 storey commercial building with apartments above, thought to be constructed in 1860. The building displays grey brick quoins, low gabled roof and stretcher bricks.

This building, and the adjacent buildings along the south wside of West Mill Street were placed on land owned by Andrew Geddes as investment property, one of Elora's earliest founders.

Figure 24 - View of 16-18 West Mill Street looking south from West Mill Street (MHBC October, 2015)

The building demonstrates historical value for its association with mid 19th century commercial development in the core area of Elora and supports the historic character of the commercial core.

Heritage attributes:

- Two storey massing with roughly square-shaped plan
- Stretcher brick construction;
- Grey quoins;
- Original window openings and commercial storefront;
- Orientation to West Mill Street.

6.8 22-30 West Mill Street

According to the Township of Centre Wellington Heritage Register, the building located at 22-30 West Mill Street is a 3 storey brick commercial building with apartments above. The building is thought to have been constructed in 1885 and displays stretcher bricks and grey brick quoins.

Figure 25 - View of 22-30 West Mill Street looking south from West Mill Street (MHBC October, 2015).

Heritage attributes:

- Three storey massing with roughly square-shaped plan
- Stretcher brick construction;
- Grey quoins;
- Original window openings and commercial storefront;
- Orientation to West Mill Street.

6.9 36 West Mill Street

According to the Township of Centre Wellington Heritage Register, the building located at 36 West Mill Street is a 2 storey brick commercial building with apartments above. The building is thought to have been constructed in 1866 and displays stretcher bricks with a flat roof.

Figure 26 - View of West Mill Street looking south-east from north side of West Mill Street (MHBC October, 2015)

Heritage attributes:

- Two storey massing with roughly square-shaped plan and flat roof;
- Stretcher brick construction;
- Original window openings and commercial storefront;
- Orientation to West Mill Street.

6.10 38-40 West Mill Street

According to the Township of Centre Wellington Heritage Register, the building located at 38-40 West Mill Street is a 2 storey commercial building. The building is of stone construction, wigh a gabled roof, constructed in 1870. The building displays a commercial storefront with one dual-set of windows and one smaller window to the east. These windows may not be original to the building, or have been adapted.

Figure 27 - View of West Mill Street looking south-east from the north side of West Mill Street (MHBC October, 2015)

Heritage attributes:

- Two storey massing with roughly square-shaped plan and gabled roof;
- Cut stone construction;
- Commercial storefront;
- Orientation to West Mill Street.

6.11 42-44 West Mill Street

According to the Township of Centre Wellington Heritage Register, the building located at 42-44 West Mill Street is a 2 storey commercial building. The building displays stone construction with a gabled roof and large stone quoins. The building displays a dormer above, which is likely a modern addition and not original to the building. The building displays a small brick chimney towards the western end. As per fire insurance plans, the building was constructed prior to 1890.

Heritage attributes:

- Two storey massing with roughly rectangular-shaped plan and gabled roof;
- Stone construction;
- Brick chimney;
- Commercial storefront;
- Original window openings;
- Orientation to West Mill Street.

6.12 46-48 West Mill Street

The property located at 46-48 West Mill Street is designated under Part IV of the Ontario Heritage Act, known as 'Pariscope', a confederation-era commercial building.

The building has historical/associative value as it relates to the theme of early commercial development along West Mill Street. The property is associated with Robert Mitchell, a prominent local businessman and harness and saddle maker who constructed the first building at 48 West Mill Street. The other half of the building was rented to David Massie as a bakery. The upper level of Mitchell's store housed the Mechanic's Institute reading room as Mitchell served as its secretary. Mitchell and his family resided in the second and third floors of the building. The building was subsequently used for community groups including a shooting gallery (c. 1905), the Elora Legion (c. 1935-1938), among others. The building was preserved subsequent to a fire in 1991 causing damage to the upper storey.

The building exhibits design/physical value as a representative example of a 3-storey 3-bay Georgian commercial building with a commercial storefront constructed in 1867. The facade displays local cut limestone with rubble stone sides and rear facades, with chamfered quoins. The front entrance displays two bay windows on either side of the front entrance with transom and sidelights, detailed with stained glass. The building has retained its original window and door openings. The limestone materials complement the materials of adjacent buildings. The property includes a side yard with a wooden deck and stairs to access a lower boardwalk adjacent to the river.

The property has contextual value as it is located at the northeast corner of the Victoria Street bridge and is located within a series of limestone buildings of the same style and period. It contributes to the theme of early commercial development of the south side of West Mill Street, north of the Grand River. This property will continue to retain its relationship to the Victoria Street Bridge once it is reinstated.

Figure 28 - View of 46-48 West Mill Street looking south from north side of West Mill Street. (MHBC October, 2015)

Heritage Attributes:

- Height, scale and massing of original 1867 three storey building (two storeys at the front);
- Medium pitched end gabled roof with projecting eaves;
- Cut and chamfered (beveled) quoins;
- Cut stone lintels and flat arch radiating voussoirs over windows on north and west facades;
- Size and pattern of window and door openings;
- Front entrance including storefront windows on either side of front doorway, with detailed wood millwork and muntins, transom and sidelights around front door with stained glass; and
- Transom above apartment entrance to the east on the front facade.

6.13 59 Metcalfe Street

The property located at 59 Metcalfe Street is thought to have been constructed in 1910. A structure appears on Fire Insurance Plans in 1894 and 1904 with a similar footprint, suggesting that it could have been constructed earlier, but the proportions of the structure on the fire insurance plan are not reflective of the existing structure, suggesting that it was either added to or constructed later.

Figure 29 - 59 Metcalfe Street, a stucco-clad building built in 1910. The property is listed on the Municipal Heritage Register (MHBC, October 2015)

The structure demonstrates some influence of architectural features found in the Classical Revival style, including pedimented roof with semicircular window and three bay facades that is nearly symmetrical. The style pre-dates what would appear to be an early 20th century construction date, but many classical decorative features became popular again in the early 20th century.

The property demonstrates historical value associated with the theme of commercial development in the Elora core, and its proportions and features contribute to supporting the historic character of the area.

Heritage attributes:

- Two and one half storey massing with rectangular plan and front gable roof;
- Pedimented roof with semicircular window;
- Three bay facade;
- Rectangular wood-frame windows; and
- Orientation to Metcalfe Street.

6.14 The Grand River

The Grand River was designated as a Canadian Heritage River in 1994. Its overall significance is summarized on the CHRS website as follows:

> *The Grand...meandering past towns where many 10th century mills, foundries and factories still stand...winding peacefully through marshes and forests of sycamore, walnut, hackberry and other Carolinian species rare in Canada. A network of riverside trails, world-class brown trout fishing, one of the world's largest potholes, the limestone walls of Elora Gorge – all combine to make a Grand delight.*

At the study area, the Grand River's significance is its former contribution to navigation and settlement in the area, particularly where it allowed for the establishment of mills and other industries in Elora, with properties constructed nearly to its banks.

Heritage attributes of the River as they relate to the study area:

- Existing rivercourse with 19th century buildings lining the north banks near the study area;
- Moderate flow as controlled by nearby dams allowing for recreational use;
- Vegetation along banks where there are not built structures; and
- Sloping topography from Church Street and Water Street toward the river banks.

6.15 The Study Area

The study area is located within the downtown core of the community of Elora, within the Township of Centre Wellington. The study area is located within a 'heritage area', as per Schedule 'A' of the Township of Centre Wellington Official Plan. The study area is roughly oval in shape and represents the context surrounding the Victoria Street Bridge piers and abutments and the Badley Bridge (Metcalfe Street Bridge). While the study area has not been formally identified as a cultural heritage landscape, the following provides a review of the study area as per Ontario Regulation 9/06.

The entirety of the study area is comprised of the following attributes:

- Badley Bridge (Metcalfe Street Bridge);
- Victoria Street Bridge piers;
- The Grand River; and
- Properties of cultural heritage value or interest along West Mill Street, Carton Place, Ross Street, Victoria Street, and Metcalfe Street.

Badley Bridge, as described in Section 6.1 of this report, is a Parker Camelback Through Truss bridge constructed in 1953 by the Hamilton Bridge Company. The structure is constructed of steel

and is a landmark feature of the local community, providing access north and south of the Grand River.

As described in Section 6.14 of this report, the Grand River is significant to the development of the area, and the construction of the former Victoria Street Bridge and the existing Badley Bridge, and is designated as a Canadian Heritage River. The Grand River is a slow-moving, shallow river with naturalized vegetative banks and some concrete retaining walls.

The piers of the former Victoria Street Bridge are located west of the existing Badley Bridge, which consist of three rubblestone piers and abutments. Further details regarding the Victoria Street Bridge can be found in the CHER and HIA prepared by Stantec Consulting Ltd. The former Victoria Street Bridge is located north of former industrial lands, which contains the remnants of a former factory, the Little Folks administrative building and the former Kiddie Car factory. A municipal parking lot is located is also located south of the former Victoria Street Bridge.

The majority of built heritage resources are located along West Mill Street, which forms an intact wall of two and three storey commercial buildings dating to the 19th century.

The study area demonstrates design/physical value as it contains a variety of built heritage resources (as listed in Section 6.0 of this report and included in the CHER provided by Stantec Consulting Ltd.).

While there is a concentration of built heritage resources in the study area that have retained their heritage integrity, the styles, expression, materials and construction methods are not rare or unique. The resources within the study area demonstrate a level of craftsmanship associated with this form of construction. They do not demonstrate significant technical or scientific achievement.

The study area demonstrates historical/associative value for its early associations with the 19th century Euro-Canadian settlement of the area, and prior historical associations with First Nations Groups, particularly of the Grand River. The study area is associated with the theme of early industrial/commercial development, demonstrated through the surviving commercial buildings located on West Mill Street, north of the Grand River. The community continues to be influenced by the presence of the Grand River.

The study area demonstrates contextual value as containing resources which contribute to the historic downtown core which is representative of an 18th century Ontario mill town. The area is defined by these resources, which is mainly comprised of historic commercial and industrial buildings, the Grand River, and the Victoria Street Bridge piers and Badley Bridge.

6.16 Acknowledgement of Additional Resources of the Study Area

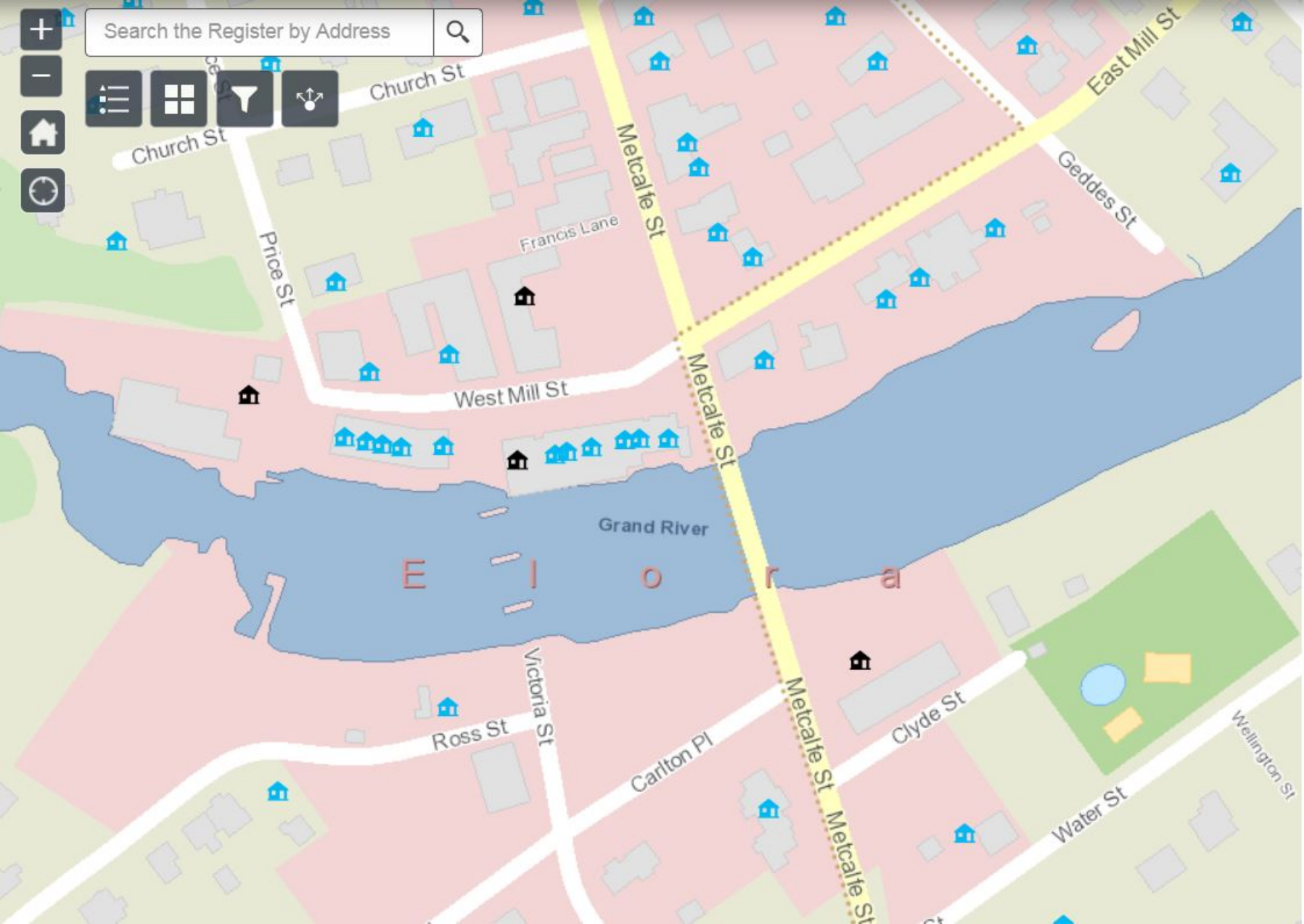
This CHER acknowledges that additional cultural heritage resources are considered part of the expanded study area. This CHER has identified and evaluated cultural heritage resources surrounding the context of the existing Badley Bridge (Metcalfe Street Bridge). The CHER prepared by Stantec Consulting Ltd. has evaluated the remaining cultural heritage resources of the study area which are located within the vicinity of the former Victoria Street Bridge.

The CHER prepared by Stantec has identified the following cultural heritage resources within the vicinity of the former Victoria Street Bridge:

- Victoria Street Bridge Piers;
- 16-18 West Mill Street
- 22 West Mill Street;
- 36 West Mill Street;
- 40 West Mill Street;
- 42 West Mill Street;
- 23-43 West Mill Street;
- 45 West Mill Street;
- 48 West Mill Street;
- 50-52 West Mill Street;
- 51 West Mill Street;
- 56 West Mill Street;
- 58 West Mill Street;
- 60 West Mill Street;
- 70 West Mill Street;
- 32 Ross Street;

- Grand River;
- West Mill Streetscape;
- 62 Metcalfe Street;
- 54 Victoria Street;
- 24 Carlton Place;
- Study Area.

A.4. Centre-Wellington online map excerpt


Search the Register by Address
Church St
Church St
Price St
Francis Lane
Metcalfe St
East Mill St
Geddes St
West Mill St
Metcalfe St
Grand River
E l o r a
Victoria St
Ross St
Carlton Pl
Metcalfe St
Metcalfe St
Clyde St
Water St
Wellington St

A.5. BTE response table

MEETING NOTES

BT ENGINEERING BTE	**Project Name:** County of Wellington Badley Bridge Class Environmental Assessment	**Project Number:** BT 15-020

TYPE/NUMBER:	Ministry of Tourism Culture and Sport Meeting 2019 No.1 **Rev.1**
DATE:	January 22, 2019
LOCATION/TIME:	Telephone Conference Call, 9:30 am
PURPOSE:	Review MTCS comments on the cultural heritage technical reports.

NAME	COMPANY	PROJECT ROLE
PRESENT		
Karla Karboza	Ministry of Tourism Culture and Sport (MTCS)	
Katherine Kirzati	MTCS	
Don Kudo	County of Wellington	
Wendy Shearer		
Dan Currie	MHBC	
Steve Taylor	BT Engineering Inc. (BTE)	
DISTRIBUTION		
All Present		

Item		Assigned
1.0	**Introduction**	
1.1	The meeting purpose was to review the technical comments received from MTCS staff on the last two Cultural Heritage reports (2017 MHBC CHER and HIA reports and the March 2018 Wendy Shearer report). The MTCS comments were received January, 14, 2019. The review comments are included as **Attachment 1** to these meeting notes. The review table covers 15 discrete comments; the tables have comments in column 3 for the final submission of the April 2017 MHBC reports and column 4 for the March 2018 Supplemental report by Wendy Shearer.	
1.2	The format to respond to columns 3 and 4 was discussed and it was agreed that these comments will be incorporated into an update to the February 2018 Supplemental report and no further changes will be made to the April 2017 reports.	
2.0	**Discussion of Itemized Comments:** The following numerical listing of comments reflects the ID numbers in **Attachment 1**.	

Item		Assigned
2.1	ID numbers 1 to 7 have been addressed. It was requested that ID No. 3 include a section in the Supplementary report to acknowledge that the archaeological report has been submitted separately to the MTCS.	Wendy Shearer
2.2	ID No. 8. It was agreed that the Supplemental report would be updated to include a map of resources in close proximity to the bridge project (see item 2.18 for sample table). This would number individual sites in close proximity with conclusions of the effect to these resources from the project i.e. no effect or effect and the mitigation (if any).	
2.3	ID No 8. Confirm that the MHBC Statement of Cultural Heritage Value statement was complete or if more information is required. It was clarified there is no need for an update in the Supplementary report if it is included in the MHBC report.	
2.4	The MTCS agreed to provide their tracked change (proposed for the Supplementary report).	MTCS
2.5	ID No.8. It was clarified that the National Guideline described in the Supplementary Report, although accepted by all other Provinces, has not yet been accepted by Ontario. Ontario did approve of the 2002 edition of the Standards and Guidelines, so theoretically the consultant believed that these are still in effect in Ontario. (For clarity: The Ontario Heritage Trust, Ontario's Heritage Agency recognizes the Standards and Guidelines as best practice in heritage conservation. They have been adopted by all provinces and territories and most municipalities).	
2.6	ID No. 8. MTCS staff does not wish to have the Standards and Guidelines referenced in the report. (MTO has some issues with their works). It can be removed from the Supplementary report or noted that it is not yet accepted by Ontario, and therefore at the time of writing this report is not applicable but does reflect a best practise of other Canadian jurisdictions.	
2.7	ID No. 9. No action to CHER/HIA.	
2.8	ID No. 9 Supplementary Report - Section 7 complete, no action.	
2.9	ID No. 9 Supplementary Report – Section 8: Clarify that the objectives of the checklist have been previously accomplished. Dan Currie to assist Wendy to confirm previous work has achieved this.	Wendy Shearer Dan Currie

Item		Assigned
2.10	ID No.9 Supplemental Report – Confirm in the Supplemental report that within the recommendations discussion of impacts from the previous report that they are consistent with MTCS and the EA work. The table of each cultural heritage site and map can be used.	
2.11	BTE confirmed that the project recommendations are for the replacement of the existing truss bridge with commemoration and documentation of the heritage truss. The replacement work will apply the sympathetic design guidance from the Supplemental report, and will include salvage of a component of the truss for display with interpretive signage of the bridge and its history. There is a holding strategy for the existing bridge (a term MTO uses to temporarily hold a bridge until the replacement can occur) which will maintain the bridge until it is replaced. Construction will begin in the fall of 2019.	
2.12	ID No 10. See comments for ID No. 9.	
2.13	ID No. 11 – Supplemental report to expand the executive summary. Ensure consistency. See MTCS tracked changes.	Wendy Shearer Dan Currie
2.14	ID No. 12. Complete.	
2.15	ID No. 13. Complete.	
2.16	ID No. 14. The standards and guidelines were discussed which are followed nationally. It was explained that these have not been adopted (yet) because discussions have not been finalized with MTO.	
2.17	ID No. 14. To address MTCS comments on Section 2.3 of the HIA it was agreed the Supplemental report will address this comment. The report update will include a map of the resources and note if there could be any impact to the resource.	Wendy Shearer Dan Currie
2.18	ID 14. A proposed approach is a table to go with the map that has the following columns: ***ID No.*** | ***Resource Description*** | ***Effect of Project (no impact or impact)*** | ***Mitigation Plan***	Wendy Shearer Dan Currie
2.19	ID 14. Section 5.0 to provide a clear description of the undertaking. Steve Taylor to provide text.	BTE

Item		Assigned
2.20	ID 14. Section 6 - Provide clarity to give documentation of the engineering rationale for the replacement. The Supplemental report needs to provide a statement and refer to engineering reports etc. Mr. Taylor provided a brief description of the bridge deficiencies. The life safety issues (to users of the bridge) relate to the corrosion of sections of the truss - a truss bridge is at high risk of catastrophic collapse compared to other modern bridge types which have multiple load paths or experience large deflections before collapse. As corrosion occurs in individual pieces of the truss there can reach a point where the loss of a single member can collapse the entire bridge i.e. loss of a single steel section from corrosion can collapse one of the 2 trusses and if 1 truss collapses they both collapse. The existing truss is in a severe state of corrosion. The technical recommendations of the EA are that this truss cannot be repaired. It was agreed that this conclusion should be included in the Supplemental report for clarity to balance the cultural heritage issues being discussed. Steve Taylor to provide text for the Supplemental report.	BTE
2.21	ID 14 - Section 6.4 Complete.	
2.22	ID 14 - Section 6.5. Supplemental report to provide more clarity that the interim holding strategy is in place until the bridge is replaced (2019-2020).	
2.23	ID 14 – Section 7: Expand why the rehabilitation option was not considered feasible. Be clear that the recommendation is for replacement. The Supplemental report is post EA and can frame the rationale of the final outcome of the EA and heritage assessments.	
2.24	ID 14 - Provide greater explanation of the interpretation plan i.e. commitment that it will be undertaken; interpretive plaque and elevation view of the original truss; salvage for display of a section of the original truss (public can see and feel the original material); high level guidance for the designer; commit to consultation with public (June PIC). Clarify what are “high quality materials”.	
2.25	ID 14 - Section 7: Provide a clear statement: Be clear this is not a replication but rather sympathetic design.	
2.26	ID 14 - Provide clarity of the “Centre Wellington Bridge Design Guidelines” for the new bridge: a. Openness (ability to listen to river)	

Item		Assigned
	b. Space for viewing and photos with river and Victoria Street in distance (from west side of bridge) c. Arch of lighting (sense of previous arch truss and location for lights and flower baskets provided by previous bridge) d. Interpretation and wording of history on plaque e. Documentation of history f. Salvage section of steel truss for display g. Gateway feature on south side	
2.27	ID 14 – Section 8: Revise to be clear of the replacement recommendation.	
2.28	ID 14 – Section 9: Same comment i.e. clarity of replacement recommendation.	
2.29	ID 14 - It was suggested to add a report section to provide clarity of consultation/engagement including: a. Heritage Planner for Township on TAC b. Consultant Heritage Planners on TAC c. MTCS members on TAC d. Public meetings e. Heritage Committee presentation f. Upcoming June 2019 PIC	
2.30	ID 15 – Addressed.	
2.31	General. The MTCS tracked changes to be provided.	MTCS
2.32	It was agreed that the MTCS will issue a letter after receipt of final Supplemental report.	
2.33	It was agreed that the final report can be submitted to both the MTCS and Township Heritage Planner at the same time.	
2.34	Schedule: a. The final Supplemental report to be submitted to MTCS February 22 to 25, 2019. b. Target MTCS letter by the end of March 2019 c. PIC June 2019 d. Tender July-August 2019 e. Construction of piers (fall 2019)	

Prepared by:
Steve Taylor, P.Eng.

Sent via email

Attachments: Badley Bridge - MTCS Detailed Comments