

Appendix E8 –
Cultural Heritage Evaluation Report

Oshawa Creek



PARSONS

Prepared for Metrolinx
by IBI Group & Parsons

CULTURAL HERITAGE EVALUATION REPORT

**KING STREET WEST BRIDGE OVER OSHAWA CREEK (STRUCTURE NO. B-09)
KING STREET WEST OVER OSHAWA CREEK**

CITY OF OSHAWA, ONTARIO

FINAL REPORT

Parsons

625 Cochrane Drive, Suite 300
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ASI File: 21CH-058

May 2021 (Updated September and December 2021; January and February 2022)





Metrolinx acknowledges that it operates on the lands of Indigenous Peoples, including the Anishinaabe, the Haudenosaunee and the Wendat peoples, and that these lands are covered by Treaty.

In particular, we wish to recognize that the proposed work and project study area of the Durham-Scarborough BRT is situated on the treaty territory of the Williams Treaties First Nations, and the Mississaugas of the Credit First Nation, and we acknowledge that the lands are covered by the Gunshot Treaty 1788, the Williams Treaty 1923, and the Williams Treaty Settlement of 2018.*

Metrolinx has a responsibility to recognize and value the rights of Indigenous Nations and Peoples and conduct business in a manner that is built on the foundation of trust, respect and collaboration. Metrolinx is committed to building meaningful relationships with Indigenous Nations and working towards meaningful reconciliation with the original caretakers of this land. We wish to thank Indigenous Nations for their contributions to these reports.

** Notwithstanding the foregoing, nothing in this acknowledgement shall be interpreted so as to indicate Metrolinx's position on any Treaty territory or right.*

CULTURAL HERITAGE EVALUATION REPORT
KING STREET WEST BRIDGE OVER OSHAWA CREEK (STRUCTURE NO. B-09)
KING STREET WEST OVER OSHAWA CREEK
CITY OF OSHAWA, ONTARIO

EXECUTIVE SUMMARY

ASI was contracted by Parsons on behalf of Metrolinx to conduct a Cultural Heritage Evaluation Report (CHER) for the King Street West Bridge over Oshawa Creek (Structure No. B-09) (hereafter referred to as King Street West bridge) along King Street West over Oshawa Creek in the City of Oshawa. This CHER is part of the Durham-Scarborough Bus Rapid Transit Project (DSBRT). To date, ASI has completed a Cultural Heritage Report to determine which properties in the DSBRT Project Study Area require assessment for cultural heritage value and interest under *Ontario Regulations 9/06* and *10/06*. The King Street West bridge was identified as a potential built heritage resource that is anticipated to be directly impacted by the DSBRT preliminary design footprint (August 2021) as documented in the *Durham-Scarborough Bus Rapid Transit Cultural Heritage Report – Existing Conditions and Preliminary Impact Assessment: City of Toronto and Durham Region, Ontario* (ASI, 2021). As such, a CHER is required to determine if the bridge has cultural heritage value or interest (CHVI) under *Ontario Regulations 9/06* and *10/06*.

The King Street West bridge is located in the City of Oshawa. The bridge is a single-span earth filled cast-in-place concrete arch structure. The bridge carries four lanes of King Street West vehicular traffic over Oshawa Creek. The subject bridge was constructed in 1921 and measures 20 m in overall length. The King Street West bridge was evaluated using *Ontario Regulations 9/06* and *10/06* of the *Ontario Heritage Act*. This evaluation was prepared in consideration of data regarding the design/physical, historical/associative, and contextual values within the City of Oshawa and in the Province of Ontario. This evaluation determined that the King Street West bridge does not meet the criteria outlined in *Ontario Regulations 9/06* and *10/06*, and therefore does not have CHVI.

Property ownership and/or control of the King Street West bridge will be confirmed during detailed design.

The following recommendations are proposed for the King Street West bridge:

1. Metrolinx Heritage Committee has reviewed the results of the *Ontario Regulations 9/06* and *10/06* evaluations and is in agreement with the results and recommendations of this report. If it is confirmed that the property will be owned or controlled by Metrolinx, the Metrolinx Heritage Committee will issue a Metrolinx Heritage Committee Decision Form.
2. The Final CHER will be submitted to municipal heritage staff and the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) for their records.



PROJECT PERSONNEL

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QUALIFIED PERSONS INVOLVED IN THE PROJECT

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Senior Cultural Heritage Specialist | Senior Project Manager - Cultural Heritage Division

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

Laura Wickett, BA (Hon.), Dipl. Heritage Conservation

Cultural Heritage Analyst | Project Manager - Cultural Heritage Division

The Project Manager for the Durham-Scarborough Bus Rapid Transit (DSBRT) Cultural Heritage Evaluation Reports is **Laura Wickett** (BA (Hon.), Diploma Heritage Conservation), who is a Cultural Heritage Analyst and Project Manager within the Cultural Heritage Division at ASI. She was responsible for project coordination, scheduling, and stakeholder consultation. Trained in the theoretical and technical aspects of heritage conservation, Laura has five years' experience working in the field of cultural heritage resource management. She began working in ASI's Cultural Heritage Division as a Cultural Heritage Technician in 2017, providing support for a range of cultural heritage assessment reports, including Cultural Heritage Resource Assessments, Cultural Heritage Evaluation Reports, Heritage Impact Assessments, and Secondary Plan assessments. She has also contributed to Heritage Conservation District studies, Cultural Heritage Landscape inventories and Heritage Register reviews.

Johanna Kelly, MSc

Cultural Heritage Analyst | Project Manager - Cultural Heritage Division

The Cultural Heritage Analyst for this report is **Johanna Kelly** (MSc), who is a Cultural Heritage Analyst and Project Manager within the Cultural Heritage Division with ASI. She was responsible for the day-to-day management activities, including scoping of research activities and consulting on recommendations. With over ten years of experience in the field, Johanna has focused on the identification and evaluation of cultural heritage resources both above and below ground. With a background in archaeology, her current focus is the assessment, evaluation, and protection of above ground cultural heritage resources.



Johanna has been involved in numerous large scale and high profile projects in various capacities, including built heritage and cultural heritage landscape assessments under the *Ontario Environmental Assessment Act* for Class Environmental Assessments and Individual Environmental Assessments, and as required for various planning studies throughout the Province of Ontario.

*Kirstyn Allam, BA (Hon), Advanced Diploma in Applied Museum Studies
Cultural Heritage Technician | Technical Writer and Researcher - Cultural Heritage Division*

The report writer for this report is **Kirstyn Allam** (BA (Hon), Advanced Diploma in Applied Museum Studies), who is a Cultural Heritage Technician and Technical Writer and Researcher within the Cultural Heritage Division with ASI. She was responsible for preparing and contributing to research and technical reporting. Kirstyn Allam's education and experience in cultural heritage, historical research, archaeology, and collections management has provided her with a deep knowledge and strong understanding of the issues facing the cultural heritage industry and best practices in the field. Kirstyn has experience in heritage conservation principles and practices in cultural resource management. Kirstyn also has experience being involved with Stage 1-4 archaeological excavations in the Province of Ontario.



GLOSSARY

Term	Definition
Adjacent	“contiguous properties as well as properties that are separated from a heritage property by narrow strip of land used as a public or private road, highway, street, lane, trail, right-of-way, walkway, green space, park, and/or easement or as otherwise defined in the municipal official plan” (Ministry of Tourism, Culture and Sport, 2010).
Built Heritage Resource (BHR)	“...a building, structure, monument, installation or any manufactured remnant that contributes to a property’s cultural heritage value or interest as identified by a community, including an Indigenous community. Built heritage resources are located on property that may be designated under Parts IV or V of the <i>Ontario Heritage Act</i> , or that may be included on local, provincial, federal and/or international registers” (Government of Ontario, 2020, p. 41).
<i>Ontario Regulation 9/06</i> and <i>Ontario Regulation 10/06</i>	The two criteria sets share a requirement to fully understand the history, design and associations of all cultural heritage resources of the properties. The following differences between the two sets of criteria should be noted: <ul style="list-style-type: none"> • <i>Ontario Regulation 9/06</i> requires a consideration of the community context; and • <i>Ontario Regulation 10/06</i> requires a consideration of the provincial context.
Potential Cultural Heritage Resource	A potential cultural heritage resource is a property that has the potential for cultural heritage value or interest. This can include properties/project area that contain a parcel of land that is the subject of a commemorative or interpretive plaque, is adjacent to a known burial site and/or cemetery, is in a Canadian Heritage River Watershed, or contains buildings or structures that are 40 or more years old (Ministry of Tourism, Culture and Sport, 2016).
Significant	With regard to cultural heritage and archaeology resources, significant means “resources that have been determined to have cultural heritage value or interest. Processes and criteria for determining cultural heritage value or interest are established by the Province under the authority of the <i>Ontario Heritage Act</i> . While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation” (Government of Ontario, 2020, p. 51).



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1.0 INTRODUCTION

1.1 Report Purpose

ASI was contracted by Parsons on behalf of Metrolinx to conduct a Cultural Heritage Evaluation Report (CHER) for the King Street West Bridge over Oshawa Creek (Structure No. B-09)¹ (hereafter referred to as King Street West bridge) along King Street West over Oshawa Creek in the City of Oshawa (Figure 1 and Figure 2). This CHER is being undertaken as part of the Durham-Scarborough Bus Rapid Transit Project (DSBRT). The King Street West bridge was identified as a potential built heritage resource that is anticipated to be directly impacted by the DSBRT preliminary design footprint (August 2021) as documented in the *Durham-Scarborough Bus Rapid Transit Cultural Heritage Report – Existing Conditions and Preliminary Impact Assessment: City of Toronto and Durham Region, Ontario* (ASI, 2021). The infrastructure improvements along King Street West will result in the full replacement of the bridge as per the *DSBRT Structural List* (Parsons, 2021). As such, a CHER is required to determine if the bridge has cultural heritage value or interest (CHVI) under *Ontario Regulations 9/06 and 10/06*.

The scope of this CHER is guided by the Ministry of Tourism, Culture and Sports' (now administered by the Ministry of Heritage, Tourism, Sport and Culture Industries) *Ontario Heritage Tool Kit* (2006), the *City of Oshawa Official Plan* (2020), the Ministry of Transportation's (MTO) *Ontario Heritage Bridge Guidelines for Provincially Owned Bridges* (2008) and is compliant with the *Standards and Guidelines for Conservation of Provincial Heritage Properties: Heritage Identification and Evaluation Process* (Ministry of Tourism, Culture and Sport, 2014).

Property ownership and/or control of the King Street West bridge will be confirmed during detailed design.

1.2 Project Overview

In 2018, Metrolinx completed the DSBRT *Initial Business Case* (Metrolinx, 2018). The study recommended a preferred bus rapid transit alignment between Downtown Oshawa (in Durham Region) and Scarborough Centre (in the City of Toronto). The project has now advanced to the Preliminary Design Business Case and Environmental Assessment/Transit Project Assessment Process (TPAP) phase in accordance with the Metrolinx Business Case Framework, for capital investment projects. IBI Group and Parsons are managing the project on behalf of Metrolinx.

The DSBRT project proposes approximately 36 km of dedicated transit infrastructure, connecting downtown Oshawa, Whitby, Ajax, Pickering and Scarborough. This project builds on the existing PULSE service and will provide more dedicated transit infrastructure along Highway 2 and Ellesmere Road to connect to Scarborough Centre. The corridor has varied traffic, land use conditions and constraints. With rapid growth in the past decade, and an expectation for this growth to continue into the future, travel demand along the corridor will continue to increase and higher capacity transit will be needed to link communities and employment on both sides of the Toronto-Durham boundary. Transit infrastructure will include a range of design solutions in different segments of the corridor. The preliminary design

¹ The bridge is identified in the Environmental Project Report in Table 3.24 and in the *DSBRT Structural List* (Parsons, 2021).



concept includes segments with buses operating with transit priority measures, and segments with dedicated curbside or centre-median transit lanes. The design concept varies by segment based on available space, travel demand, and land use context.

1.3 Description of Property

The King Street West bridge carries King Street West over Oshawa Creek, in a northeast-southwest orientation, west of the intersection of King Street West and McMillan Drive/Queen Street, in the City of Oshawa (Figure 1 and Figure 2). The King Street West bridge is located in an urban context within the historic centre of the City of Oshawa. A parking garage is located to the northeast of the subject bridge, a parking lot to the southeast, a music venue/restaurant is located to the southwest, and a car dealership is to the northwest. Oshawa Creek flows from the northwest to the southeast below the bridge.

The structure is a single-span earth filled cast-in-place concrete arch structure measuring 20 m in overall length. The subject bridge was constructed in 1921 (Art Engineering Inc., 2019), however the designer and the builder of the bridge are unknown. The rehabilitation history of the bridge is also unknown at this time. Historically, the King Street West bridge is located on the boundary between Lot 11 Concession I-II in the former Township of Whitby, in the County of Ontario.

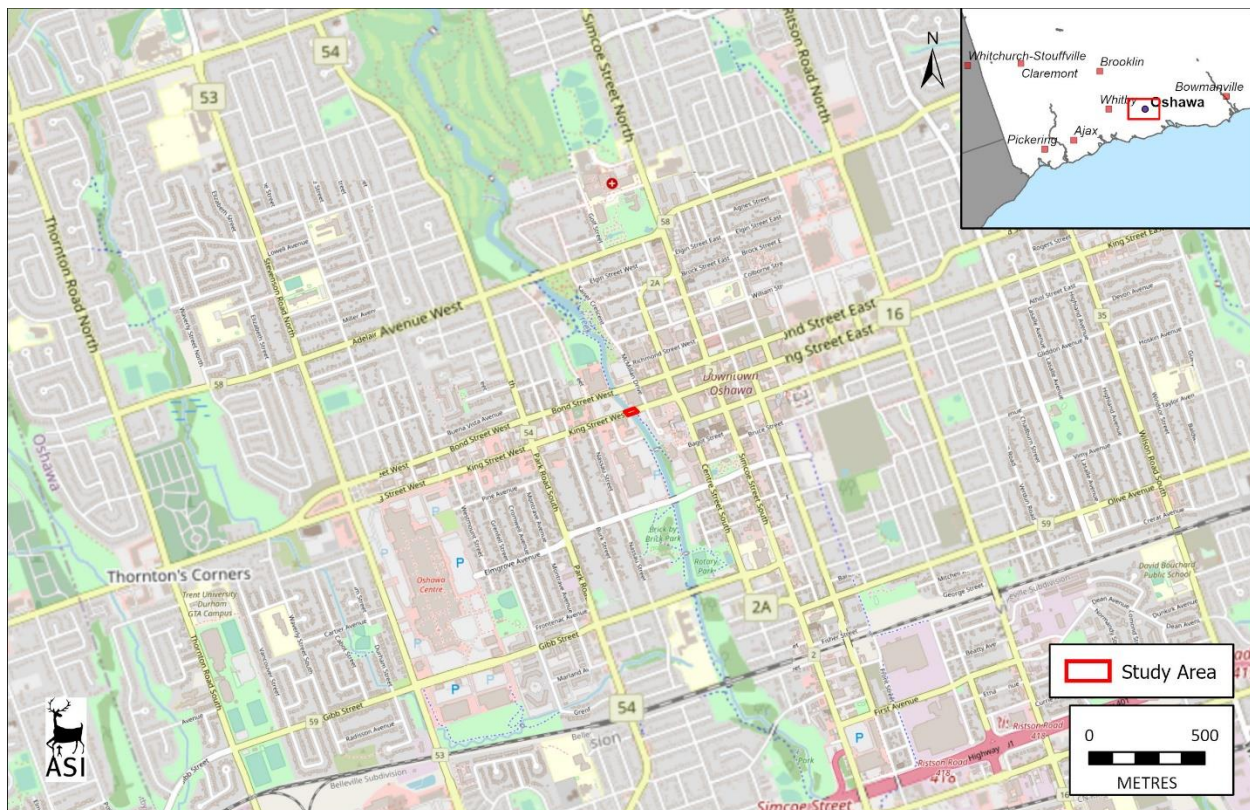


Figure 1: Location of the subject bridge in the City of Oshawa
(Source: © Open Street Map contributors, Creative Commons n.d.)

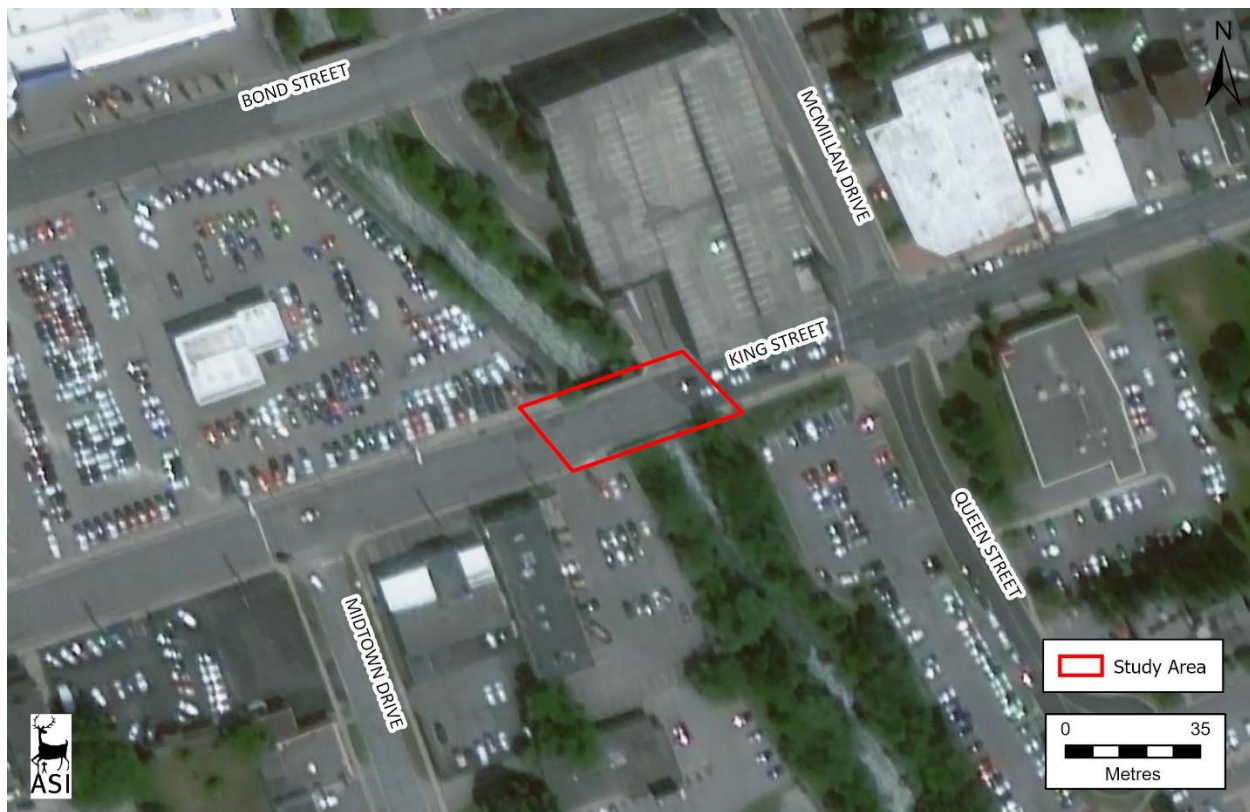


Figure 2: Location of subject bridge
Source: ESRI Ortho

2.0 METHODOLOGY AND SOURCES

2.1 Legislation and Policy Context

This cultural heritage evaluation considers cultural heritage resources in the context of improvements to specified areas, pursuant to the Ontario *Environmental Assessment Act* (Environmental Assessment Act, R.S.O., 1990). Pursuant to the *Environmental Assessment Act*, applicable infrastructure projects are subject to assessment to determine related impacts on above ground cultural heritage resources (Ministry of Transportation, 2007). Infrastructure projects have the potential to impact cultural heritage resources in a variety of ways such as loss or displacement of resources through removal or demolition and the disruption of resources by introducing physical, visual, audible, or atmospheric elements that are not in keeping with the resources and/or their setting.

The analysis used throughout the cultural heritage resource assessment process addresses cultural heritage resources under other various pieces of legislation and their supporting guidelines:

- *Environmental Assessment Act* (Environmental Assessment Act, R.S.O., 1990)
- *Ontario Heritage Act* (Ministry of Culture, 1990)
- *Standards and Guidelines for Conservation of Provincial Heritage Properties* (Ministry of Tourism, Culture and Sport, 2010)

- *Standards and Guidelines for Conservation of Provincial Heritage Properties: Heritage Identification & Evaluation Process* (Ministry of Tourism, Culture and Sport, 2014)
- *Ontario Heritage Tool Kit* (Ministry of Culture, 2006)
- *Planning Act* (Planning Act, R.S.O. 1990, c. P.13, 1990) and the *2020 Provincial Policy Statement* (Government of Ontario, 2020)

2.2 Approach to Cultural Heritage Evaluation Reports

The scope of a CHER is guided by the *Ontario Heritage Tool Kit* (Ministry of Culture, 2006), the MTO's *Ontario Heritage Bridge Guidelines for Provincially Owned Bridges* (2008), municipal Terms of Reference, if available, and is compliant with the *Standards and Guidelines for Conservation of Provincial Heritage Properties: Heritage Identification and Evaluation Process* (Ministry of Tourism, Culture and Sport, 2014). The City of Oshawa does not have Terms of Reference for the preparation of CHERs.

Generally, CHERs include the following components:

- A general description of the history of the study areas as well as detailed historical summaries of property ownership and building(s) development;
- A description of the cultural heritage landscapes and/or built heritage resources being evaluated as part of this report;
- Representative photographs of the exterior and interior of a building or structure, and character-defining architectural details;
- A cultural heritage resource evaluation guided by the *Ontario Heritage Act* criteria;
- A summary of heritage attributes;
- Historical mapping, photographs; and
- A location plan.

A field review was undertaken by Kirstyn Allam, Cultural Heritage Technician, ASI, on 14 April 2021 to conduct photographic documentation of the subject bridge's crossing from the existing right-of-way and to collect data relevant for completing a heritage evaluation of the structure. Photographic plates illustrating the condition of the bridge is available in Section 8.0.

Using background information and data collected during the site visits, the property is evaluated using criteria contained within *Ontario Regulation 9/06* of the *Ontario Heritage Act*. The criteria requires a full understanding, given the resources available, of the history, design and associations of the subject property.

2.3 List of Key Sources and Research Limitations

2.3.1 Key Sources

Background historical research, which includes consulting primary and secondary source documents, photos, and historic mapping, was undertaken to identify early settlement patterns and broad agents or themes of change in the study areas. In addition, archival research was undertaken at the following libraries and archives to build upon information gleaned from other primary and secondary materials:



- Oshawa Museum's Online Collection (Oshawa Museum, 2017)
- Oshawa Public Library Local History Online Collection (Oshawa Public Libraries, n.d.)

Available federal, provincial, and municipal heritage inventories and databases were also consulted to obtain information about the property. These included:

- *Heritage Oshawa Inventory of City of Oshawa Heritage Properties* (Heritage Oshawa, 2015);
- mapOshawa (City of Oshawa, n.d.);
- The Ontario Heritage Act Register (Ontario Heritage Trust, n.d.b);
- The Places of Worship Inventory (Ontario Heritage Trust, n.d.c);
- The inventory of Ontario Heritage Trust easements (Ontario Heritage Trust, n.d.a);
- The Ontario Heritage Trust's Ontario Heritage Plaque Guide: an online, searchable database of Ontario Heritage Plaques (Ontario Heritage Trust, n.d.d);
- Parks Canada's Directory of Federal Heritage Designations, an on-line database that identifies National Historic Sites, National Historic Events, National Historic People, Heritage Railway Stations, Federal Heritage Buildings, and Heritage Lighthouses (Parks Canada, n.d.b); and
- Parks Canada's Historic Places website, an on-line register that provides information on historic places recognized for their heritage value at all government levels (Parks Canada, n.d.a).

Previous consultant reports associated with potential above-ground cultural heritage resources and archaeological resources within and/or adjacent to the subject property in the Town of Whitby included the following:

- *Durham-Scarborough Bus Rapid Transit Cultural Heritage Report – Existing Conditions and Preliminary Impact Assessment: City of Toronto and Durham Region, Ontario* (ASI, 2021)
- *Stage 1 Archaeological Assessment – Durham-Scarborough Bus Rapid Transit Project (Former Townships of Scarborough, Pickering and Whitby) City of Toronto; City of Pickering; City of Oshawa; and Town of Ajax; Town of Whitby, Ontario – Existing Conditions* (ASI 2019)
- *Stage 1 Archaeological Assessment Durham-Scarborough Bus Rapid Transit Project Various Lots and Concessions, (Former Townships of Scarborough, Pickering and Whitby) City of Toronto; City of Pickering; City of Oshawa; and Town of Ajax; Town of Whitby, Ontario* (ASI, 2022)

A full list of references consulted can be found in Section 13.0 of this document.

2.3.2 Research Limitations

Research for this report was conducted in April 2021, during the COVID-19 global pandemic. Research limitations resulted from public health measures and emergency orders enacted or recommended by federal, provincial, and local governments. Of particular impact were the public health measures and restrictions resulting from orders made pursuant to the *Emergency Management and Civil Protection Act* on January 12, 2021 and the declaration of emergency and province-wide Stay-at-Home order issued April 8, 2021. These orders have fully restricted public access to libraries and archives. The inability to retrieve books and documents has limited the number and variety of documents available for review.

Additional information regarding the subject bridges was requested from the City of Oshawa but was not available at the time of report submission.



Original structure drawings for the King Street West bridge, presumably drawn in 1921 were not available. Parsons contacted the MTO to request drawings and any reports on the bridge however they were not able to provide any documentation. The MTO was contacted as the structure was likely maintained by the MTO until it was taken over by the City of Oshawa during the 1990s. Further, the engineers responsible for the design of the original structure are unknown, which limits the presentation of a complete historical description of the structure. Should the original structural drawings become available this report should be updated as required.

3.0 HERITAGE RECOGNITIONS

3.1 Municipal

The King Street West bridge is not listed as heritage property or designated under Part IV or V of the *Ontario Heritage Act* by the City of Oshawa.

3.2 Provincial

The King Street West bridge is not subject to heritage recognition at the provincial level for the following reasons:

- The subject structure is not a Provincial Heritage Property; and
- The subject structure has not been commemorated by the Ontario Heritage Trust.

3.3 Federal

The King Street West bridge is not subject to heritage recognition at the federal level for the following reasons:

- The subject structure is not recognized as a Federal Heritage Building; and
- The subject structure is not recognized as a National Historic Site.

4.0 ADJACENT LANDS

The King Street West bridge is not adjacent to any protected heritage properties, including those listed by the City of Oshawa or designated under Part IV or Part V of the *Ontario Heritage Act*.

A commemorative feature is located at 110 King Street West, adjacent to the King Street West bridge. This property features a parking structure with a commemorative plaque located on the southeast corner of the southern elevation of the building (Figure 3). The plaque commemorates the former Warren Mill, once operating in this location, which has since been replaced by the current parking garage. There are no known or potential heritage attributes associated with the Warren Mill remaining and the property is not protected.





Figure 3: View of the commemorative plaque on the parking garage (ASI 2021).

5.0 SUMMARY OF ARCHAEOLOGICAL ASSESSMENTS

The *Stage 1 Archaeological Assessment - Durham-Scarborough Bus Rapid Transit Project (Former Townships of Scarborough, Pickering and Whitby) City of Toronto; City of Pickering; City of Oshawa; and Town of Ajax; Town of Whitby, Ontario – Existing Conditions* (ASI, 2019) was completed in October 2019. The *Stage 1 Archaeological Assessment Durham-Scarborough Bus Rapid Transit Project Various Lots and Concessions, (Former Townships of Scarborough, Pickering and Whitby) City of Toronto; City of Pickering; Town of Ajax; Town of Whitby; and City of Oshawa, Ontario* (ASI, 2022) was completed in March 2022.

According to the above-noted Stage 1 report (ASI, 2022), the location of the subject structure was found to be disturbed with no potential. These findings are only for the portion of the location of the subject structure which are covered by the Project Study Area and are not an evaluation of the entire property parcel.

In the general vicinity of the subject structure, the Pioneer Memorial Garden Cemetery at 185-201 Bond Street West in Oshawa was identified as a property requiring archaeological construction monitoring because of the potential for burials outside of the known limits of the cemetery (ASI, 2022).

More detailed information about archaeological potential in the study area can be found in the above reports.

6.0 SUMMARY OF COMMUNITY ENGAGEMENT

6.1 Relevant Agencies/Stakeholders

As part of the *Durham-Scarborough Bus Rapid Transit Cultural Heritage Report – Existing Conditions and Preliminary Impact Assessment: City of Toronto and Durham Region, Ontario* (ASI, 2021), stakeholder groups were contacted to collect information relating to this project. Heritage staff at the City of Oshawa and relevant agencies were contacted through email in October and November 2019, to confirm the presence of previously identified cultural heritage resources in the study area, and to inquire if there are any ‘in progress’ Part IV or Municipal Heritage Register properties in the study area. Heritage staff at the City of Oshawa were also contacted in April 2021 as part of this CHER to request information relating to the subject properties. See Table 1 for a list of organizations contacted and a description of information received.

Table 1: Results of Agency Data Collection

Contact Name/ Position	Organization	Contact Information	Date(s) of Communications	Description of Information Received
Tom Goodeye, Principal Planner, Planning Services	City of Oshawa	tgoodeve@oshawa.ca	September 2019	The City responded and provided two additional and one correction to the online inventory and the designation bylaw for the Pioneer Cemetery.
Connor Leherbauer, Planner B	City of Oshawa	clerhauer@oshawa.ca	April 2021	Response confirmed that the King Street West bridge does not have any heritage recognition by the City of Oshawa and the municipality does not have a heritage research report on the structure. The response also provided information on the City’s Official Plan and heritage impact assessments. There was not a Terms of Reference for ASI to follow for this CHER
Gary Muller Director of Planning	Regional Municipality of Durham	Gary.muller@durham.ca	September 2019	Response confirmed that within the Durham Region, heritage recognition is of municipal expertise.

Karla Barboza Team Lead, Heritage	Ministry of Heritage, Sport, Tourism and Culture Industries	Karla.Barboza@ontario.ca	September 2019; 20 and 25 May 2020; and 01 June 2020	Response confirmed that none of the subject properties are provincial heritage properties or adjacent to provincial heritage properties.
Kevin De Mille Heritage Planner	Ontario Heritage Trust	Kevin.DeMille@heritagetrust.on.ca	September 2019	Confirmed that none of the subject properties nor adjacent properties are Trust-owned or subject to OHT conservation easements.
Jennifer Weymark, Archivist	Oshawa Museum	archivist@oshawamuseum.org	April 2021	Request for information sent to the Archivist about the King Street West bridge. Response outstanding at the time of report submission.

6.2 Public Meetings/Public Consultation

This CHER will be made available for public review following the TPAP Notice of Completion in accordance with *Ontario Regulation 231/08*. The final CHER will go to public review through the 30-day review following the TPAP period. Consultation with the public regarding the cultural heritage component of the DSBRT project has been undertaken during a series of Public Information Centres (PICs): PIC #2 in November 2019; PIC #3 in September 2020; and PIC #4 in October 2021. Specific design plans pertinent to these properties were presented at PIC #3 and PIC #4.

6.3 Agency Review

The draft CHER was submitted to the City of Oshawa, the Metrolinx Heritage Committee and the MHSTCA for review and comment. Feedback was received in December 2021 and January 2022 and incorporated into the CHER. The Oshawa Heritage Advisory Committee will have an opportunity to review and comment during the public review period following the TPAP Notice of Completion, and any feedback received will be considered and incorporated as required.

6.4 Indigenous Nations Engagement

The draft CHER was submitted in January 2022 to the following Indigenous Nations: Alderville First Nation; Beausoleil First Nation; Chippewas of Georgina Island; Chippewas of Rama First Nation; Curve Lake First Nation; Hiawatha First Nation; Huron-Wendat Nation; Kawartha Nishnawbe First Nation; Mississaugas of the Credit First Nation; and Mississaugas of Scugog Island First Nation. Any feedback received has been incorporated into the CHER.



7.0 DISCUSSION OF HISTORICAL OR ASSOCIATIVE VALUE

This section provides a brief summary of historical research. A review of available primary and secondary source material was undertaken to produce a contextual overview of the study area, including a general description of Indigenous land use, and Euro-Canadian settlement.

7.1 Indigenous Peoples and Settlement

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years ago, or 11,000 Before the Common Era (B.C.E.) (Ferris, 2013).² During the Paleo period (c. 11,000 B.C.E. to 9,000 B.C.E.), groups tended to be small, nomadic, and non-stratified. The population relied on hunting, fishing, and gathering for sustenance, though their lives went far beyond subsistence strategies to include cultural practices including but not limited to art and astronomy. Fluted points, beaked scrapers, and gravers are among the most important artifacts to have been found at various sites throughout southern Ontario, and particularly along the shorelines of former glacial lakes. Given the low regional population levels at this time, evidence concerning Paleo-Indian period groups is very limited (Ellis & Deller, 1990).

Moving into the Archaic period (c. 9,000 B.C.E. to 1,000 B.C.E.), many of the same roles and responsibilities continued as they had for millennia, with groups generally remaining small, nomadic, and non-hierarchical. The seasons dictated the size of groups (with a general tendency to congregate in the spring/summer and disperse in the fall/winter), as well as their various sustenance activities, including fishing, foraging, trapping, and food storage and preparation. There were extensive trade networks which involved the exchange of both raw materials and finished objects such as polished or ground stone tools, beads, and notched or stemmed projectile points. Furthermore, mortuary ceremonialism was evident, meaning that there were burial practices and traditions associated with a group member's death (Ellis et al., 2009; Ellis & Deller, 1990).

The Woodland period (c. 1,000 B.C.E. to 1650 C.E.) saw several trends and aspects of life remain consistent with previous generations. Among the more notable changes, however, was the introduction of pottery, the establishment of larger occupations and territorial settlements, incipient horticulture, more stratified societies, and more elaborate burials. Later in this period, settlement patterns, foods, and the socio-political system continued to change. A major shift to agriculture occurred in some regions, and the ability to grow vegetables and legumes such as corn, beans, and squash ensured long-term settlement occupation and less dependence upon hunting and fishing. This development contributed to population growth as well as the emergence of permanent villages and special purpose sites supporting those villages. Furthermore, the socio-political system shifted from one which was strongly kinship based to one that involved tribal differentiation as well as political alliances across and between regions (Birch & Williamson, 2013; Dodd et al., 1990; Ellis & Deller, 1990; Williamson, 1990).

The arrival of European trade goods in the sixteenth century, Europeans themselves in the seventeenth century, and increasing settlement efforts in the eighteenth century all significantly impacted traditional

² While many types of information can inform the precontact settlement of Ontario, such as oral traditions and histories, this summary provides information drawn from archaeological research conducted in southern Ontario over the last century.



ways of life in Southern Ontario. Over time, war, disease and colonization efforts, contributed to death, dispersion, and displacement of many Indigenous peoples across the region. The Euro-Canadian population grew in both numbers and power through the eighteenth and nineteenth centuries. In many areas, Treaties between colonial administrators and First Nations representatives began to be initiated. Additional colonization practices began, such as the establishment of the *Indian Act* (1876), forced relocation to reserve lands and Indian Residential Schools began. These practices caused irreparable harm and devastation to the fabric of Indigenous society, ways of life and cultural practices.

The Project Study Area is within the Johnson-Butler Purchases and within the traditional territory of the Michi Saagiig and Chippewa Nations, collectively known as the Williams Treaties First Nations, including the Mississaugas of Alderville First Nation, Curve Lake First Nation, Hiawatha First Nation, Mississaugas of Scugog Island First Nation, Beausoleil First Nation, Chippewas of Georgina Island First Nation and the Chippewas of Rama First Nation (Williams Treaties First Nations, 2017).

The purpose of the Johnson-Butler Purchases of 1787/1788 was to acquire, from the Mississaugas, the Carrying Place Trail and lands along the north shore of Lake Ontario from the Trent River to Etobicoke Creek.

As part of the Johnson-Butler Purchases, the British Crown signed a treaty, sometimes referred to as the “Gunshot Treaty” with the Mississaugas in 1787 covering the north shore of Lake Ontario, beginning at the eastern boundary of the Toronto Purchase (Treaty 13, 1805), and continuing east to the Bay of Quinte, where it meets the Crawford Purchase (1783). It was referred to as the “Gunshot Treaty” because it purportedly covered the land as far back from the lake as a person could hear a gunshot. Compensation for the land apparently included “approximately £2,000 and goods such as muskets, ammunition, tobacco, laced hats and enough red cloth for 12 coats” (Surtees, 1984, pp. 37–45). First discussions about acquiring this land are said to have come about while the land ceded in the Toronto Purchase of 1787 was being surveyed and paid for (Surtees, 1984, pp. 37–45). During this meeting with the Mississaugas, Sir John Johnson and Colonel John Butler proposed the purchase of lands east of the Toronto Purchase (Fullerton & Mississaugas of the Credit First Nation, 2015). However, descriptions of the treaty differ between the British and Mississaugas, including the depth of the boundaries: “Rice Lake and Lake Simcoe, located about 13 miles and 48 miles north of Lake Ontario, respectively, were not mentioned as landmarks in the First Nations’ description of the lands to be ceded. Additionally, original descriptions provided by the Chiefs of Rice Lake indicate a maximum depth of ten miles, versus an average of 15-16 miles in Colonel Butler’s description” (Fullerton & Mississaugas of the Credit First Nation, 2015).

However, records of the acquisition were not clear regarding the extent of lands agreed upon (Surtees, 1984, pp. 37–45). To clarify this, in October and November of 1923, the governments of Canada and Ontario, chaired by A.S. Williams, signed treaties (Williams Treaties 1923) with the Chippewa and Michi Saagiig for three large tracts of land in central Ontario and the northern shore of Lake Ontario, one of the last substantial portions of land in southern Ontario that had not yet been covered by Treaty (Crown-Indigenous Relations and Northern Affairs, 2013).

In 2018 the Government of Canada reached a settlement with the Williams Treaties First Nations, re-establishing Treaty harvesting rights in the Williams Treaties territories of each of the seven nations.



The Project Study Area is also within the active Rouge River Valley Tract Claim, filed in 2015 by MCFN (Fullerton & Mississaugas of the Credit First Nation, 2015). The Rouge River Valley Tract Claim pertains to the southern portion of the Rouge River Valley watershed, east of the eastern limit of Treaty 13, the Toronto Purchase, extending from the source of the Rouge River in the north to the shore of Lake Ontario in the South. The 1788 Gunshot Treaty included the land encompassed by the Rouge River Valley Tract, however this treaty is considered invalid by the Mississaugas of the Credit First Nation due to an absence of sufficient supporting documentation (Fullerton & Mississaugas of the Credit First Nation, 2015).

The land at the mouth of the Rouge River was included in a list of un-surrendered lands submitted to the Crown by Mississaugas of the Credit Chiefs Joseph Sawyer and Peter Jones in 1847. In 1894 a delegation was sent to Ottawa to further pursue these claims, but matter of the land east of the Toronto Purchase remained unresolved (Fullerton & Mississaugas of the Credit First Nation, 2015).

Although the Rouge River Valley Tract was included in the Williams Treaty of 1923, the Mississaugas of the Credit were not signatories to the Williams Treaty and claim unextinguished title to their traditional territories within the southern part of the Rouge River Valley (Fullerton & Mississaugas of the Credit First Nation, 2015; Mississaugas of the Credit First Nation, 2018).

Additional oral history from CLFN and HWN is included in Appendix A.

7.2 Euro-Canadian Settlement History

The first Europeans to arrive in the area were transient merchants and traders from France and England, who followed existing transit routes established by Indigenous peoples and set up trading posts at strategic locations along the well-traveled river routes. All of these occupations occurred at sites that afforded both natural landfalls and convenient access, by means of the various waterways and overland trails, into the hinterlands. Early transportation routes followed existing Indigenous trails, both along the lakeshore and adjacent to various creeks and rivers (ASI 2006). Early European settlements occupied similar locations as Indigenous settlements as they were generally accessible by trail or water routes, and would have been in locations with good soil and suitable topography to ensure adequate drainage.

The following section describes the historical settings of the subject bridge within the former Whitby Township.

Historically, the King Street West bridge is located on the boundary between Lot 11 Concession I-II in the historic Township of Whitby in the County of Ontario.

The King Street West bridge is located in an urban context within the historic centre of the City of Oshawa. The bridge carries King Street West over Oshawa Creek, a historic road corridor. According to available documentation, the subject bridge was constructed in 1921 (Art Engineering Inc., 2019), however the designer and the builder of the bridge are unknown. The rehabilitation history of the bridge is also unknown at this time.



7.2.1 Whitby Township

Whitby Township, when first laid out in the 1790s, was designated Township 9 although the name was changed shortly thereafter to Norwich. The first survey of this township was made in 1791 and the first settler arrived in 1794 (Armstrong, 1985). The first Euro-Canadian settler was said to have been Benjamin Wilson, a Loyalist from Vermont, who settled along the lakeshore east of Oshawa (Farewell, 1907). Whitby was quickly settled by a mixture of Loyalists, disbanded troops, and emigrants from the United States, the United Kingdom, and Ireland. Two major settlements were soon established in the southern half of the township, Whitby and Oshawa. These communities were advantageously located where watersheds (such as that of Lynde Creek) were crossed by the Kingston Road. Whitby further benefited from its harbour and from the construction of the Grand Trunk Railway in the 1850s.

In 1852, Whitby Township became part of Ontario County and the township was divided in 1857, the western portion remained as Whitby Township. The eastern portion extending from a line between Whitby and Oshawa north to Durham County became the township of East Whitby (Hood, 1978). Throughout the next century, development occurred slowly, and the area remained in a large part agricultural. On January 1, 1968 the township was erected into a town, and on January 1, 1974, the Town of Whitby became part of the Regional Municipality of Durham (Mika & Mika, 1983).

7.2.2 City of Oshawa

The City of Oshawa was one of two major settlements in the Township of Whitby. Benjamin Wilson is said to have settled near the mouth of Oshawa Creek with his family in 1794 and lived in a log cabin that had been a French trading post. Also arriving were the Farewell brothers and Jabez Lynde at the turn of the century. One of the Farewells built a saw and grist mill on Harmony Creek along with a tavern on Dundas Street, which was to become a popular resting place along the stagecoach route. In 1809, Jabez Lynde was the first to own property in what was to become the village of Oshawa. Oshawa, was first known as Skae's Corners, named after popular merchant Edward Skae (Mika & Mika, 1983). The name was later changed when local trader Moody Farewell invited two Mississauga friends from Rice Lake to propose a more original name around 1842. They suggested *ajawi*, signifying 'crossing to the other side' or 'shore of a river or lake', and the name Oshawa evolved from it. Edward Skae went on to become the first postmaster on October 6, 1842 (Rayburn, 1997). Oshawa received village status in 1850 and town status in 1879 (Mika & Mika, 1983).

The Sydenham Harbour Company was established in the early 1840's and constructed piers and a breakwater to develop harbour facilities. The company later became the Port Oshawa Harbour Company. The port became a customs port in 1853 and in 1856 the Grand Trunk Railway, passed south of Oshawa. These two events led to industrial growth in Oshawa. In 1852, the Oshawa Manufacturing Company was created and in 1858, it was purchased by Joseph Hall. Hall was to turn the company into an important producer of farming tools. In 1861, a tin and sheet metal company was established. Ten years later, the Ontario Malleable Iron Company was established to ensure a local source of malleable iron for Oshawa's industries and to attract developers. In 1876, Robert McLaughlin moved his carriage company to Oshawa, which grew to be the largest in the British Empire. With the increased use of cars after the turn of the twentieth century, the McLaughlins began producing them in 1908. In 1918, General Motors of Canada Limited was created after the merger of the McLaughlin Motor Car Company



and the Chevrolet Motor Car Company of Canada with Robert Samuel McLaughlin as president (Mika & Mika, 1983).

The first schools in Oshawa were one-room log buildings, with one of the earliest being located at King Street and Simcoe Street as early as 1829. The Union School was constructed in 1835 and Centre Street School was built in 1856 with part of the school being used as a high school. An independent high school was built in 1865. Ward schools were constructed in 1877 after the municipality was divided into wards. Many of the early religious meetings took place at the Union School until the congregations of the various churches were able to construct their own buildings. In 1841, the Wesleyan Methodist and the Roman Catholics built their churches, followed by the Christian Church the year after. In 1843, St. George's Anglican Church was constructed, and the Presbyterians constructed a church in 1862 (Mika & Mika, 1983).

A public library began in 1864 as a Mechanics' Institute in Oshawa. A Carnegie Library was formed in 1906. Colonel R.S. McLaughlin gifted the city a library, the present McLaughlin Public Library in 1954, with further funds being donated in 1966 for an expansion of the library (Mika & Mika, 1983). In 1922, Oshawa annexed part of East Whitby Township and was incorporated as a city in 1924. Another annexation of part of the Township occurred in 1951. When Ontario County was dissolved in 1974, Oshawa became part of the Regional Municipality in 1974 (Mika & Mika, 1983).

7.2.3 Kingston Road

Kingston Road (Danforth Road, Highway 2, Dundas Street, King Street, Bond Street) began in 1798 when the government at the time hired Asa Danforth to construct a road from York (Toronto) to Kingston. This important transportation corridor was intended to provide an overland military route between Lake Ontario, Lake Saint Clair and Lake Huron. The road was intended to serve a dual purpose – to support settlement in Upper Canada and to deter expansionist American interests. Work on the road commenced in 1793, but the rocky and heavily treed landscape made progress slow and the route was still barely passable when Simcoe returned to England in 1796 (Byers & McBurney, 1982). Eventually, however, Dundas Street served the purpose of supporting settlement in southern Ontario once the colonial government purchased new lands adjacent to it.

In 1799, a portion of the route was completed, from Toronto to Port Hope. The original road was no more than a muddy horse path before it was macadamized in the mid-1800s. The final route between Windsor and the Quebec border was 837 km long. Highway 2 was part of the first 73.5 km stretch to be maintained by the provincial Department of Highways in 1917 and remained an important east-west route for the movement of goods and people between Toronto and Quebec until it was eclipsed by the construction of Highway 401. The route was no longer deemed a provincial highway in 1998 (Ontario Ministry of Transportation and Communications, 1984).

7.3 Historical Chronology and Setting

The 1860 *Tremaine's Map of the County of Ontario* (Tremaine, 1860) and the 1877 *Illustrated Historical Atlas of the County of Ontario* (Beers, 1877), and the 1894 *Municipal Plan of Oshawa* (Deans, 1894) were reviewed to determine the historical setting of the subject bridges in the nineteenth century (Figure 4 to



Figure 6). It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference regarding the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

Nineteenth-century mapping indicates that the subject bridge was within a developed context west of the historic centre of the City of Oshawa (Figure 4 to Figure 6). The 1860 mapping illustrates that King Street West was present in its current northeast-southwest alignment by the mid-nineteenth century (Figure 4). Bond Street West to the north of the subject bridge terminates to the east of Oshawa Creek. Oshawa Creek is illustrated intersecting Lot 11 in the location of the subject bridge, and while no bridge is specifically shown it is likely that a structure carried King Street West over the waterway. A mill race is depicted northeast of the location of the subject bridge leading to the mill that was northeast of the bridge. Oshawa is labelled as a village at the time and its western limit is to the east of the subject bridge. A drawing of the Warren Mill, included in the Tremaine map, shows the location and context of the subject bridge at this time (Figure 12). The bridge illustrated in this drawing appears to be a timber bridge carrying King Street West over Oshawa Creek. The inset map of Oshawa in the 1877 Illustrated Historical Atlas of Ontario County depicts the location of the subject bridge in a similar context to the earlier mapping, but again no bridge structure is specifically depicted (Figure 5). The boundary of Oshawa has extended westwards passed the subject bridge. The 1894 mapping (Figure 6) is the first map in the series to show a bridge structure, it depicts a bridge of unidentified material carrying King Street West over Oshawa Creek. Both the 1877 and the 1894 mapping illustrate the town lots around the location of the subject bridge as being laid out at the time. The mill to the northeast is labelled as a flour mill.

In addition to nineteenth-century mapping, fire insurance plans, historical topographic mapping, and aerial photographs from the twentieth-century were examined. This report presents maps and aerial photographs from 1911, 1930, 1954, and 1976 (Figure 7 to Figure 11).

Early twentieth-century mapping indicates that the area surrounding the subject bridge remained in a similar context to the earlier mapping. The 1911 Fire Insurance Plan (Figure 7) depicts a bridge crossing Oshawa Creek on the key plan of the Fire Insurance Plan, however the construction material is still not identified and the structure is omitted from the Fire Insurance Plan itself. The flour mill to the northeast is a wooden building. A curling rink is now illustrated to the south southwest and is also a wooden building. The 1930 topographic map (Figure 8) depicts King Street West as being carried over Oshawa Creek and the road is now a first class metalled roadway. A saw mill is located to the south of the location of the subject bridge. To the east of the bridge, McMillan Drive/Queen Street are depicted as unmetalled roads.

The mid- to late-twentieth-century mapping continues to depict the subject bridge within developed context along King Street West. The 1954 aerial photograph (Figure 9) captures the urbanization which had taken place over the early twentieth century of the historic centre of Oshawa. Many buildings line the streets in the area and Bond Street West to the north of the subject bridge now extends westwards over Oshawa Creek. The 1976 topographic map (Figure 10) illustrates the subject bridge within a similar context. King Street West is depicted as a hard surface all weather road of more than two lanes. The infill of structures along the Oshawa Creek is not as dense as the surrounding streets, as indicated by the red shading, due to the more commercial nature of the properties around the creek. The 1976 aerial photograph (Figure 11) captures the subject bridge in this context as well as including the bridge itself.



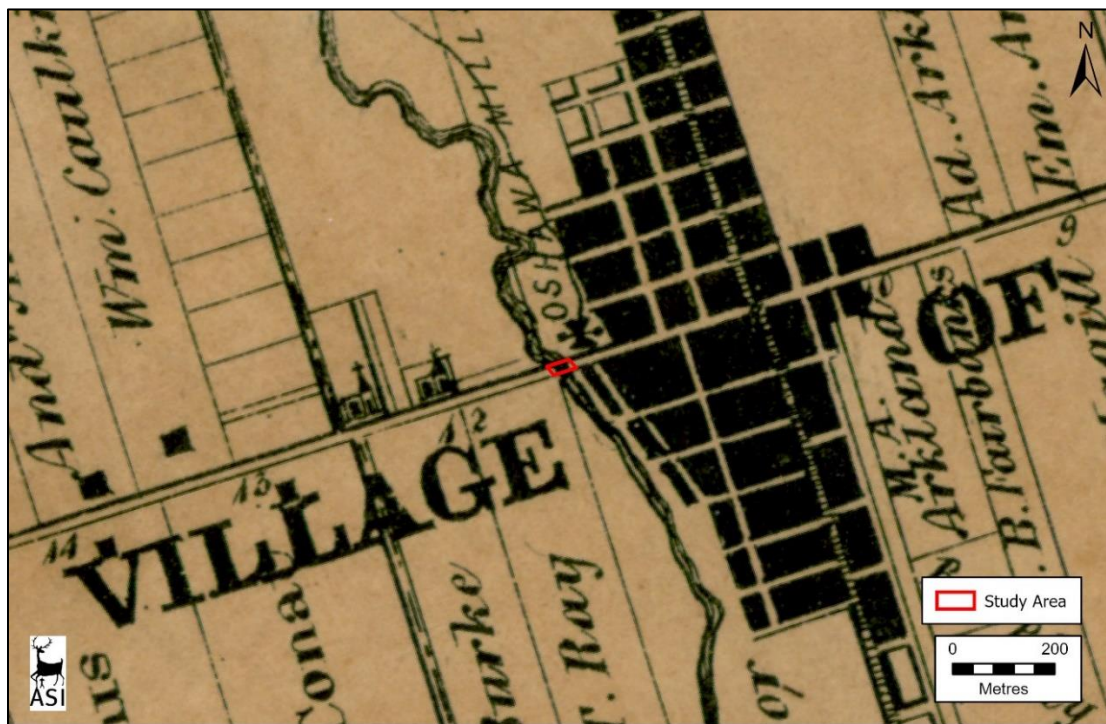


Figure 4: The location of the subject bridge overlaid on the 1860 Tremaine Map of the County of Ontario

Source: *Map of the County of Ontario, Upper Canada* (Tremaine, 1860)



Figure 5: The location of the subject bridge overlaid on the 1877 Illustrated Historical Atlas of the County of Ontario

Source: *Illustrated Historical Atlas of the County of Ontario* (Beers, 1877)



Figure 6: The location of the subject bridge overlaid on the 1894 Municipal Plan of Oshawa
Source: *Municipal Plan of Oshawa* (Deans, 1894)

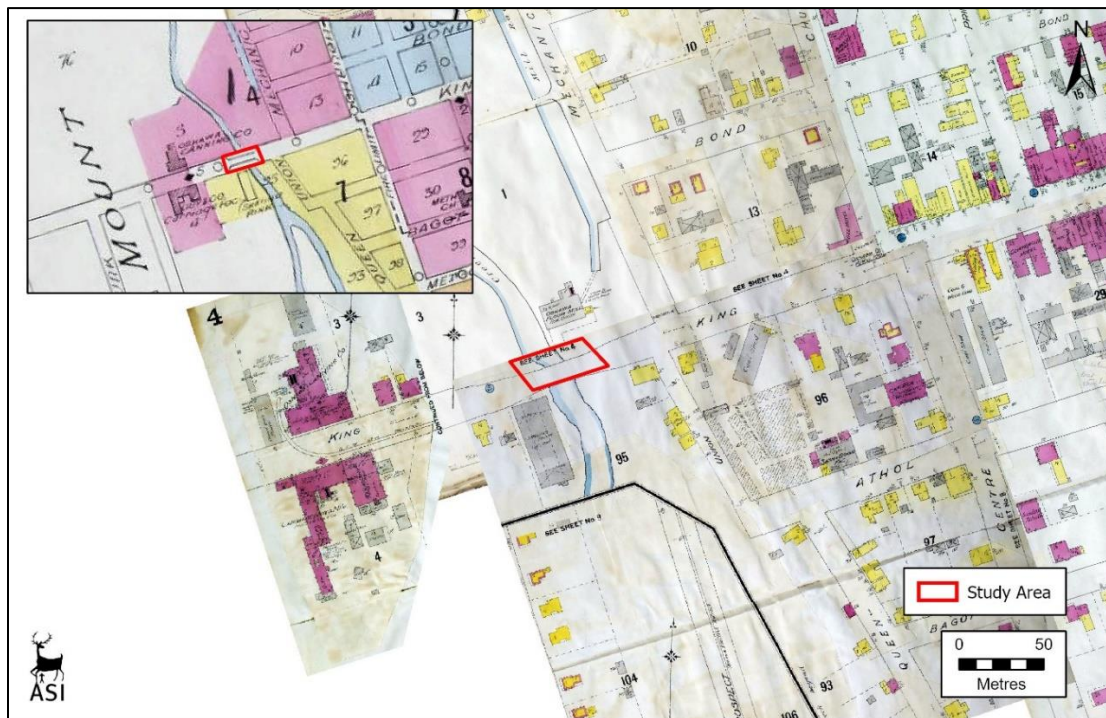


Figure 7: The location of the subject bridge overlaid on the 1911 Fire Insurance Plan of Oshawa. The inset map shows the Key Plan for the Fire Insurance Plan
Source: *Fire Insurance Plan of Oshawa* (Goad, 1911)



Figure 8: The location of the subject bridge overlaid on the 1930 topographic map of Oshawa
Source: Oshawa Sheet No. 108 (Department of National Defence, 1930)



Figure 9: The location of the subject bridge overlaid on the 1954 aerial photograph of Oshawa
Source: Plate 438.784 (Hunting Survey Corporation Limited, 1954)

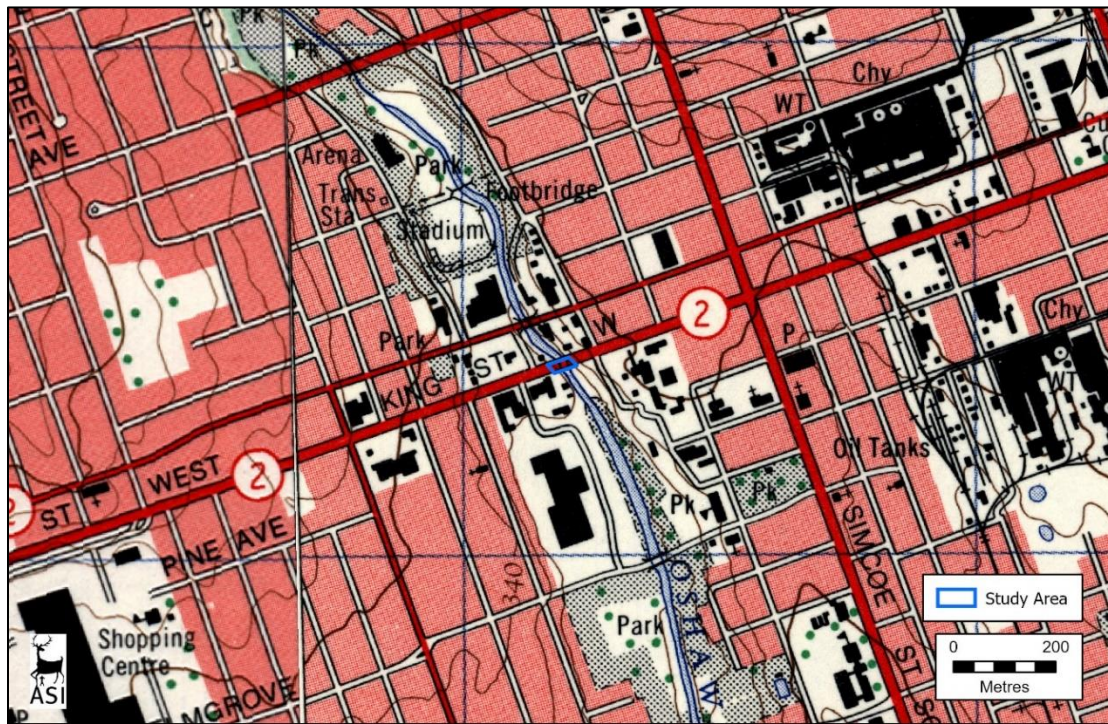


Figure 10: The location of the subject bridge overlaid on the 1976 topographic maps of Brooklin and Oshawa

Source: Brooklin Sheet 30M/15e and Oshawa Sheet 30M/15f (Department of Energy, Mines and Resources, 1976a, 1976b)



Figure 11: Aerial view of the downtown Oshawa area, the blue arrow indicates the location of the subject bridge (Anonymous, 1976)

7.4 Transportation History

7.4.1 Previous Bridges

A drawing included in the 1860 Tremaine map illustrates the location of the subject bridge at that time (Figure 12). The drawing is of the Warren Mill with presumably a timber bridge carrying King Street West over Oshawa Creek. This previous bridge was also captured in photographs from 1890 and 1910 with a dirt wearing surface and railings (Figure 13 to Figure 15). The previous bridge abutments are visible in Figure 15. A postcard from the early twentieth century provides the most complete view of the previous bridge (Figure 16). The bridge appears to be a timber deck, with timber railings, and masonry abutments. In 1921 a photograph was taken of the construction of the extant arch bridge with the previous bridge in the right of the picture (Figure 17).

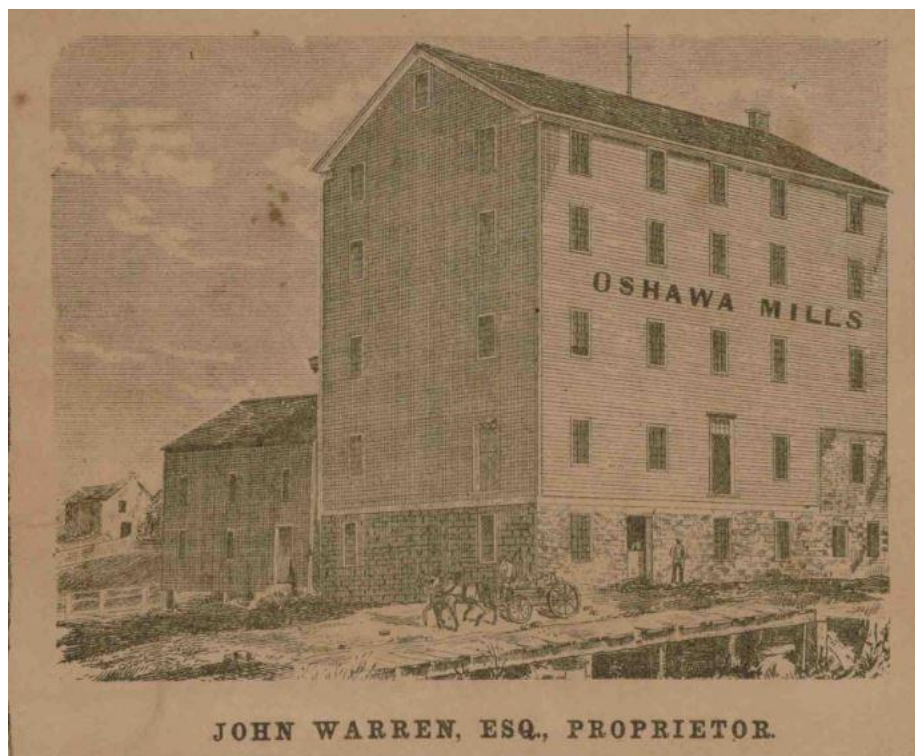


Figure 12: Drawing of the Warren Mill with a bridge carrying King Street West over Oshawa Creek (Tremaine, 1860)



Figure 13: Photograph of the location of the subject bridge in 1890 (Valentine, 1890)



Figure 14: Photograph of the location of the subject bridge in 1910 (Anonymous, 1910a).

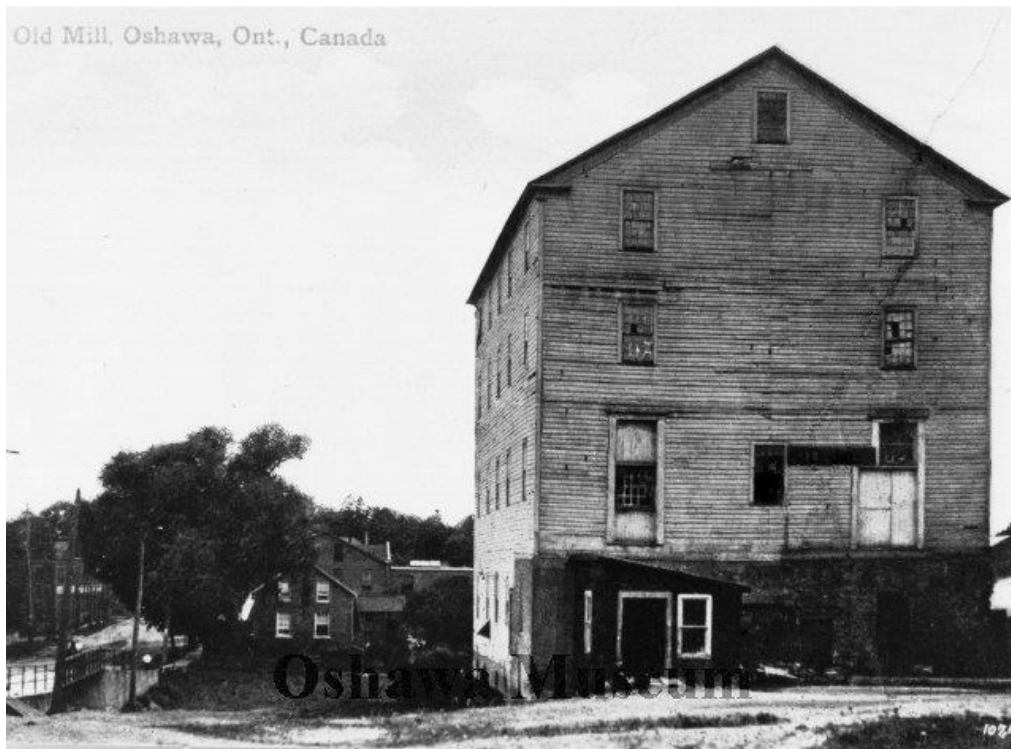


Figure 15: Photograph of the Warren Mill, the location of the subject bridge is in the bottom left (Anonymous, 1910b)



Figure 16: Postcard depicting the bridge over Oshawa Creek (Valentine and Sons Publishing Co. Ltd, n.d.)



Figure 17: Photograph of the construction of the King Street West Bridge (Anonymous, 1921)

7.4.2 Early Bridge Building in Ontario

Up until the 1890s, timber truss bridges were the most common bridge type built in southern Ontario. Stone and wrought iron materials were also employed, but due to their higher costs and a lack of skilled craftsman, these structures were generally restricted to market towns. By the 1890s, steel was becoming the material of choice when constructing bridges given that it was less expensive and more durable than its wood and wrought iron predecessors. Steel truss structures were very common by 1900, as were steel girder bridges. The use of concrete in constructing bridges was introduced at the beginning of the twentieth century, and by the 1930s it was challenging steel as the primary bridge construction material in Ontario (Heritage Resource Centre, 2008).

Factors impacting bridge design included increasing road allowances and clearance requirements, heavier traffic, higher speeds, safety standards, and most importantly, cost limitations (Cumming, 1983). From the 1930s to the early 1950s, fewer bridges were constructed as a result of a steel shortage, and builders were challenged to develop more efficient ways to build structures with a heavier emphasis on concrete and minimal steel usage. Some of the stronger concrete bridges constructed in the 1930s formed part of the “Depression Era” Public Works Program that created work for the unemployed (Region of Waterloo: Planning, Housing, and Community Services (PHCS)), 2007). Some of the new techniques developed included: pre-casting concrete components off site; “Hi-bond type” of reinforcing concrete; and pre-stressed concrete beam construction (Heritage Resource Centre, 2008). The rigid

frame, hollow concrete box beam and post-tensioned voided slab are some of the bridge types to develop during this period.

7.4.3 Concrete Arch Bridge Construction

Concrete arch bridges were first used on North America's roads in the first decades of the twentieth century. Soon after the introduction of concrete in slab and rigid-frame bridge construction, engineers realized the strength of the material under compression made it ideal for use in arch designs. Early arch designs were filled or closed arches, where a solid arch was created by pouring concrete over a metal framework of thin, cylindrical steel members. The first of these concrete arch structures built in Ontario was completed in 1906 (Archaeologix Inc., 2008, p. 13). Other popular early twentieth-century concrete arch bridges included open spandrel arches and bowstring arch bridges, both of which place an increased emphasis on aesthetics than closed arch designs.

8.0 DISCUSSION OF PHYSICAL AND DESIGN VALUE

The 2015, 2017, and 2019 Ontario Structure Inspection Manual (OSIM) reports of the subject bridge were reviewed as part of this assessment (Art Engineering Inc., 2019; Chisholm, Fleming & Associates, 2015, 2017). Original structural drawings and rehabilitation drawings were unavailable for the subject bridge. A field review was undertaken by Kirstyn Allam, Cultural Heritage Technician, ASI, on 14 April 2021 to conduct photographic documentation of the bridge crossing and to collect data relevant for completing a heritage evaluation of the structure. The following description of the construction, including the dates of interventions, and existing conditions is based on a combination of the results of the field review and historical background research on the subject bridge. Photographic documentation of the current condition of the bridge is provided in Section 8.2.

8.1 Physical Characteristics

The King Street West bridge is a single-span earth filled cast-in-place concrete arch structure. The bridge carries four lanes of King Street West northeast vehicular traffic over Oshawa Creek. The subject bridge is located approximately 55 m west from McMillan Drive/Queen Street, within the historic centre of the City of Oshawa (Plate 1 to Plate 10). The OSIM reports note a 1921 construction date (Art Engineering Inc., 2019; Chisholm, Fleming & Associates, 2015, 2017) and Figure 17 from 1921 depicts the construction of the subject bridge. The designer and the builder of the bridge are unknown. The rehabilitation history of the bridge is also unknown at this time. The bridge measures 20 m in overall length with a width of 16.5 m (Art Engineering Inc., 2019).

The substructure of the bridge features masonry wingwalls. The superstructure of the subject bridge is cast-in-place reinforced concrete and features a concrete deck with asphalt wearing surface. There are asphalt boulevards with concrete sidewalks and curbs along both the north and south sides of the bridge. The barriers along the bridge are cast-in-place concrete parapet walls with a double railing of hot dip galvanizing metal. The parapet walls are replacements to an earlier barrier system of concrete pillars and railings (Figure 18 and Figure 19).



Oshawa Creek flows in a general northwest-southeast orientation under the subject bridge. The creek appears to have been channelized at some point. The embankments north of the subject bridge feature natural vegetation with slope protection in the form of a retaining wall of gabion baskets on the east side and a retaining wall of gabion baskets on the west side. The naturalized vegetation ends on the east side at the bridge and then continues on the west side south of the bridge. The retaining wall on the both the east and west sides south of the bridge are stone-faced.

The King Street West bridge is currently owned and maintained by the City of Oshawa. Inspections undertaken in August 2019 noted the following deficiencies and observations:

- There are several large areas of severe concrete defects and the age of the structure suggest the need for concrete core sampling and testing to properly evaluate the need for replacement vs. rehabilitations
- The asphalt of the wearing surface has cracking, pothole, and rutting
- The barrier system has four railing end caps missing from the south railing and two railing end caps are missing from the north railing
- There is leakage in the northwest wingwall and a large spall with exposed and corroded rebar
- The parapet walls have medium crack and rust stains; there is alkali-aggregate reaction cracking throughout
- Along the soffit there is severe spalling, disintegration, and delamination at the base of the west abutment; there is delamination along the north and south edges; and there is large sections of honeycombing and moderate scaling at the waterline
- Along the asphalt wearing surface of the deck there is medium to wide sealed and unsealed cracks, and light to medium rutting
- The slope protection gabions in the northwest quadrant are severed at the waterline
- Along the north sidewalk there is a wide transverse crack and along the south sidewalk there are medium to wide isolated cracks (Art Engineering Inc., 2019).

The 2019 OSIM report also recommended rehabilitation of the following elements and presented these timings for the repairs:

- One to five years recommended work:
 - Repave the wearing surface approaches or as an alternative, patch, rout, and seal the deck and approach wearing surface;
 - Repair the concrete along the wingwalls;
 - Repair the concrete of the soffit;
 - Repave the deck wearing surface; and,
 - Repair the concrete along the sidewalks
- Six to ten years recommended work:
 - Replace the barriers
- Maintenance repairs with no timing indicated:
 - Replace the end caps of the railings; and,
 - Repair the gabions (Art Engineering Inc., 2019).



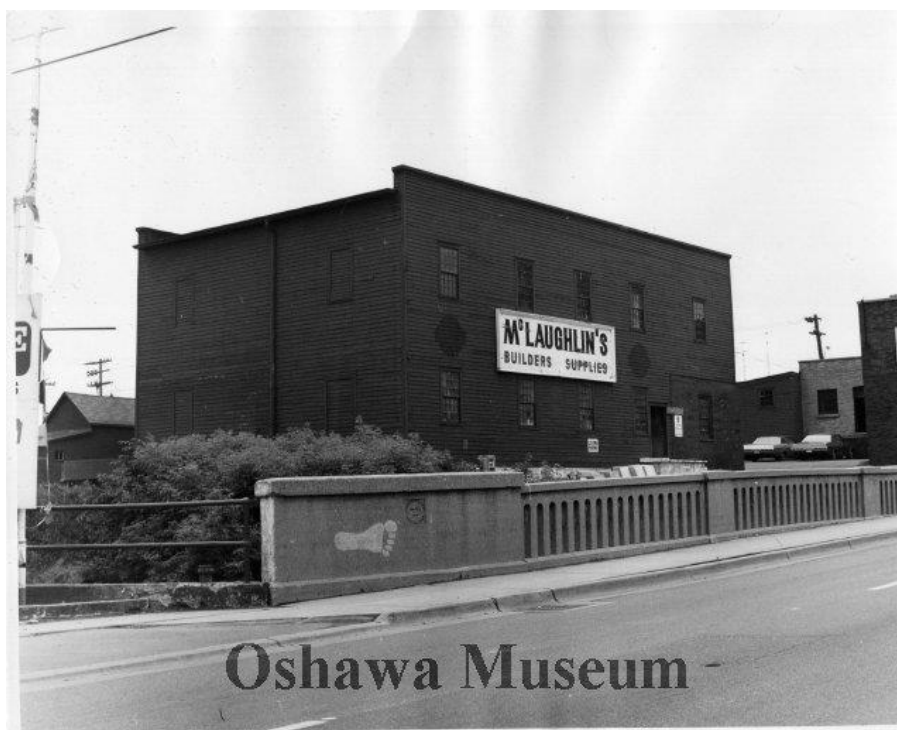


Figure 18: Photograph of the original barrier system (Anonymous, 1970)



Figure 19: Photograph of the original barrier system (Anonymous, 1981)

8.2 Existing Conditions Photographs



Plate 1: Southern elevation of the King Street West bridge (ASI 2021).



Plate 2: Northern elevation of the King Street West bridge (ASI 2021).



Plate 3: Southeast abutment and retaining wall (ASI 2021).



Plate 4: Northwest abutment and retaining wall with gabion baskets (ASI 2021).



Plate 5: View of the wearing surface of the bridge (ASI 2021).



Plate 6: Northern barrier system and parapet wall (ASI 2021).



Plate 7: View of the spalling and exposed rebar on the southern elevation (ASI 2021).



Plate 8: View of the soffit and west abutment (Art Engineering Inc., 2019)



Plate 9: View of the King Street West bridge and Oshawa Creek from the Bond Street West bridge, looking south (ASI 2021).

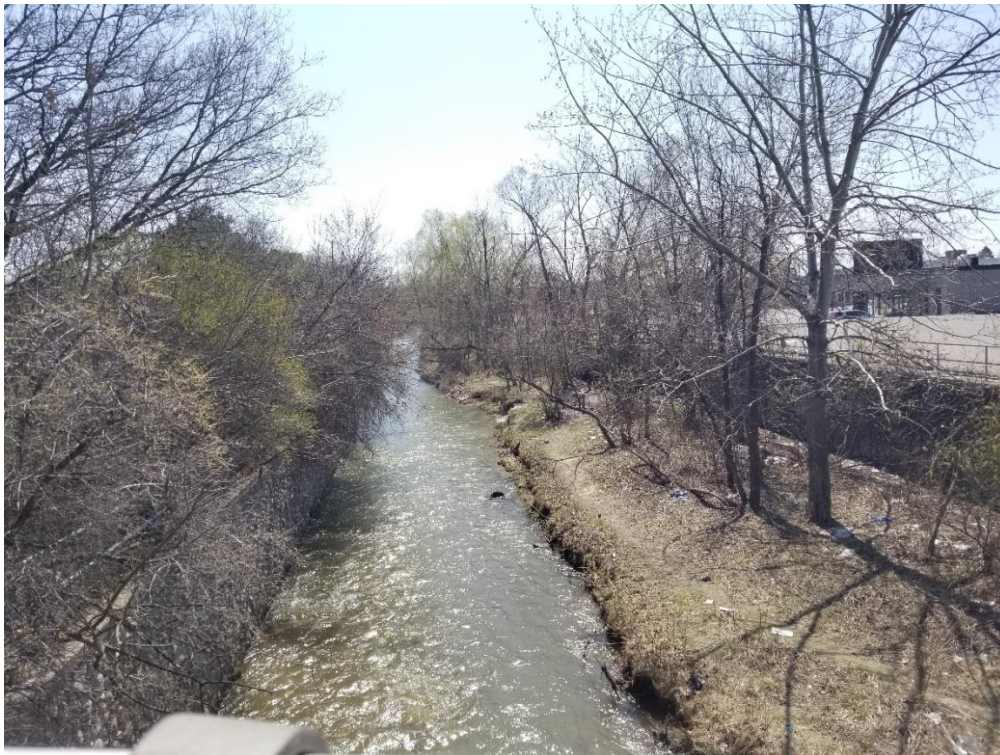


Plate 10: View of Oshawa Creek, looking south from the King Street West bridge (ASI 2021).

9.0 DISCUSSION OF CONTEXTUAL VALUE

9.1 Setting and Character of the Bridge and Surroundings

The King Street West bridge is located approximately 55 m west from the King Street West and McMillan Drive/Queen Street intersection, crossing Oshawa Creek within the City of Oshawa. The structure carries four lanes of King Street West eastbound vehicular traffic over Oshawa Creek. The King Street West bridge is located in a developed context with a parking garage is located to the northeast of the subject bridge, a parking lot to the southeast, a music venue/restaurant is located to the southwest, and a car dealership is to the northwest. A trail system following the Oshawa Creek has an entrypoint immediately east of the subject bridge. The bricklaid trail follows the creek along the top of the eastern bank, elevated above the waterway. Oshawa Creek flows from the northwest to the southeast below the bridge.

The King Street West bridge is an earth filled cast-in-place concrete arch bridge in the City of Oshawa. Concrete structures were commonly constructed to carry roadways due to their low cost, ease of construction and readily-available construction materials. Popular in the early to mid-twentieth century they were commonly used to replace aging nineteenth-century structures. As such, concrete structures are a widespread part of road networks, and their physical and functional connection to the roadway is not regarded as an exceptional contributor to their contextual value.

9.2 Community Landmark

The King Street West bridge carries King Street West over Oshawa Creek to west of the King Street West and McMillan Drive/Queen Street intersection. Though the structure is visible to motorists along Bond Street West and pedestrians walking along the creek bank along the Oshawa Creek, the bridge is not considered to be an important landmark to the local residents of the City of Oshawa. Furthermore, the bridge is not considered to be a gateway feature or to act as a significant physical or contextual division between neighbourhoods or streetscapes. Additionally, the structure is not considered to be a significant landmark to the local community.

Located northeast of the subject bridge is a parking garage with a commemorative plaque marking the location of a mill that had previously stood on the property (Figure 3 and Plate 11). The mill was constructed in 1837 and featured a large six-storey structure that continued its operations until 1922 after which a coal business operated out of the building. At some point in the twentieth-century, the top two floors were removed and eventually, after falling into disrepair, the mill was torn down in 1981 (Oshawa Museum, n.d.). Given the removal of the former mill structure, which had stood as a landmark as mentioned in the plaque, and that the bridge itself was not directly integrated with the structure or the operation of the mill, the contextual value and the landmark status of the King Street West bridge is limited and not significant.



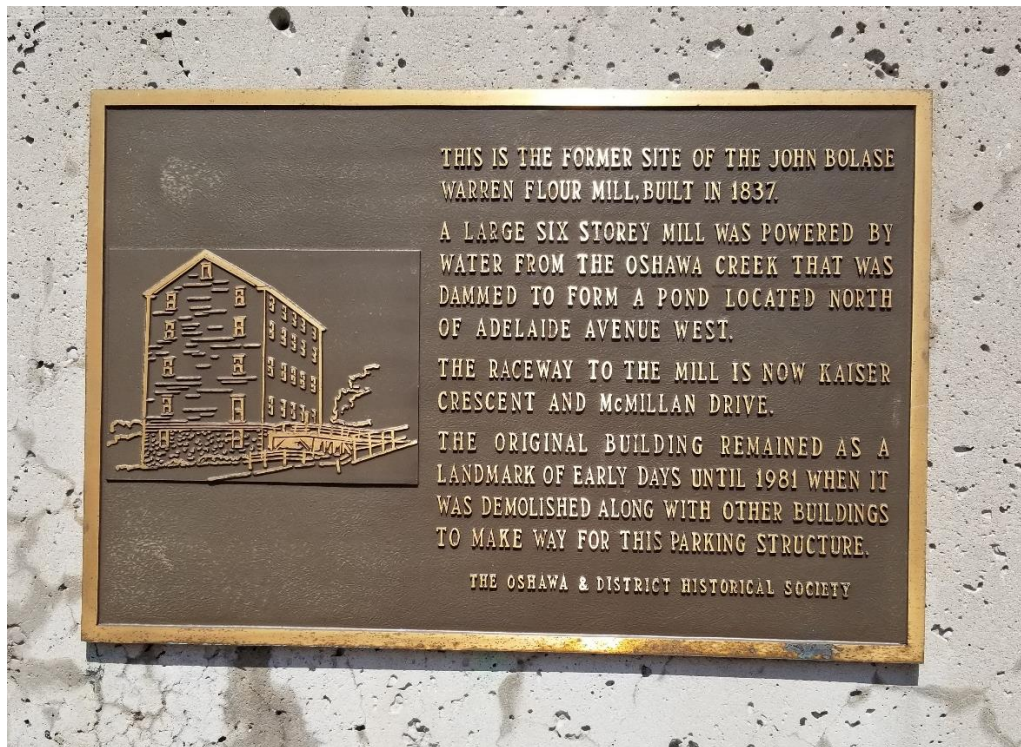


Plate 11: Detail photograph of the plaque commemorating the mill (ASI 2021).

10.0 COMPARATIVE ANALYSIS

The King Street West bridge is a single-span earth filled cast-in-place concrete arch structure. The bridge carries four lanes of King Street West northeast vehicular traffic over Oshawa Creek. The subject bridge was constructed in 1921, and measures 20 m in overall length with a width of 16.5 m.

While the subject structure is an earth filled arch bridge, the following comparative analysis includes structurally-similar closed spandrel arch bridges as well due to a small sample of known earth filled arch bridges in the comparative data.

The overall structure was compared with similar structures found in the *Ontario Heritage Bridge List*, the *MTO Bridge Inventory for the Central Region*, and the historical bridge inventory on *Historicbridges.org*. An inventory of structures within the Town of Oshawa was unavailable at the time of report writing. According to this comparative sample, there are 43 known earth filled and closed spandrel arch bridges in southern Ontario (this list of comparative bridges is contained in Appendix C).

The subject bridge and the Murray Street Bridge, both constructed in 1921, are the tenth oldest of the structures in the comparative analysis. The Canal Lake Bridge, constructed in 1905 is the oldest, predating the subject bridge by 16 years. The subject bridge is not significant in terms of its age of construction.

The subject bridge, measuring 20 m in overall length, is the fifth longest of the 43 bridges in this comparative sample with bridge measurements included. The Oshawa Creek Site No. 22-175/1

Eastbound Lane and the Oshawa Creek Site No.-175/2 Westbound Lane with total lengths of 47.2 m are the longest. The subject bridge is not significant in terms of the overall length.

With regards to the number of spans, the single span of the subject bridge is not significant in terms of the number of spans. The William B. Rankine Generating Station Bridge has the most number of spans with five, is located in Niagara Falls. Single-span is the most common form of this type of structure and the longest single-span bridge in the sample is the Maple Leaf Cemetery Bridge South, measuring 36.58 m in overall length. The subject bridge is not significant in terms of overall number of spans.

Based on a review of all available data, the King Street West bridge is not considered to be significant in terms of age, overall length, and overall number of spans.

Images have been included to provide a comparison between the subject bridge and like structures within the comparative sample (Plate 12 to Plate 14).



Plate 12: Canal Lake Bridge, the oldest bridge in the comparative sample (Holth, 2020a)



Plate 13: Oshawa Creek Site No. 22-175/1 Eastbound Lane, the longest bridge with measurements provided in the comparative sample (Google Streetview, 2018)



Plate 14: William B. Rankine Generating Station Bridge, the bridge with the most spans in the comparative sample (Holth, 2020b)

11.0 HERITAGE EVALUATION

The evaluation of the King Street West bridge using the criteria set out in *Ontario Regulations 9/06* and *10/06* is presented in the following sections (Table 2 to Table 3).

11.1 Ontario Regulation 9/06

Table 2: Evaluation of the King Street West bridge – *Ontario Regulation 9/06*

1. The property has design value or physical value because it:		
Ontario Heritage Act Criteria	Response (Y/N)	Analysis
i. is a rare, unique, representative or early example of a style, type, expression, material or construction method;	N	<p>The subject bridge does not meet this criterion.</p> <p>While the bridge is representative of a single-span earth filled cast-in-place concrete structure, the relative condition of the bridge and the replacement of the original elements such as the barrier system, diminish the bridge as a candidate for an intact representative example of this type of structure.</p> <p>Furthermore, based on a review of the available data, the King Street West bridge is not a rare, unique, representative, or early example of a single-span earth filled cast-in-place concrete structure.</p>
ii. displays a high degree of craftsmanship or artistic merit; or	N	<p>The subject bridge does not meet this criterion.</p> <p>The subject bridge is a common example of an earth filled cast-in-place concrete arch structure and does not display a greater than industry standard for the time in either its material, tooling or assembly. Accordingly, there is no evidence of exemplary craftsmanship or artistic merit in the design or construction of this structure.</p>
iii. demonstrates a high degree of technical or scientific achievement.	N	<p>The subject bridge does not meet this criterion.</p> <p>The subject bridge is a single-span earth filled cast-in-place concrete arch structure in an easily-accessible urban setting constructed from common materials and does not demonstrate a high degree of technical or scientific achievement.</p>
2. The property has historical value or associative value because it:		
Ontario Heritage Act Criteria	Response (Y/N)	Analysis
i. has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community;	N	<p>The subject bridge does not meet this criterion.</p> <p>The structure was constructed in 1921 in an historical urban area that continued to experience further development into the twentieth and twenty-first centuries. Though the structure maintains a direct connection with King Street West, a historically surveyed roadway, the bridge is not associated with the settlement, growth, and/or development in the region.</p>



ii. yields, or has the potential to yield, information that contributes to an understanding of a community or culture; or	N	<p>The subject bridge does not meet this criterion.</p> <p>This criterion is not satisfied given that the structure does not contribute to an understanding of a community or culture.</p>
iii. demonstrates or reflects the work or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.	N	<p>The subject bridge does not meet this criterion.</p> <p>The designer and the builder of the bridge could not be confirmed.</p>
3. The property has contextual value because it:		
Ontario Heritage Act Criteria	Response (Y/N)	Analysis
i. is important in defining, maintaining or supporting the character of an area;	N	<p>The subject bridge does not meet this criterion.</p> <p>The subject bridge carries King Street West over Oshawa Creek in a developed area in the City of Oshawa. Much of the surrounding area of the bridge has been altered over time through the replacement of all of the original buildings immediately adjacent to the King Street West bridge with modern structures. The bridge itself has been altered significantly, through rehabilitation and replacement of the barrier system. The subject bridge is not considered to define or maintain the character of the area.</p>
ii. is physically, functionally, visually or historically linked to its surroundings; or	N	<p>The subject bridge does not meet this criterion.</p> <p>The location has served as a historical bridging point for pedestrians and vehicles over Oshawa Creek and is physically associated with King Street West. However, the bridge does not exhibit any exemplary features or functions in relation to its surroundings, and while it is in close proximity to a former mill site, it was never directly integrated with the mill race or any part of the mill structure. The subject bridge is not considered to define or maintain the character of the area.</p>
iii. is a landmark.	N	<p>The subject bridge does not meet this criterion.</p> <p>The subject structure is not considered to be an important landmark or gateway structure within the City of Oshawa and is not considered to meet this criterion.</p>

11.2 Ontario Regulation 10/06

Table 3: Evaluation of the King Street West bridge – *Ontario Regulation 10/06*

Ontario Heritage Act Criteria	Response (Y/N)	Analysis
i. The property represents or demonstrates a theme or pattern in Ontario's history;	N	The subject bridge is associated with transportation development and improvements along King Street West within the City of Oshawa. However, the structure does not strongly or overtly evoke this theme at the local level or provincial level. The subject bridge does not meet this criterion.
ii. The property yields, or has the potential to yield, information that contributes to an understanding of Ontario's history;	N	The subject bridge is one of a number of earth filled cast-in-place concrete arch structures located in southern Ontario. This type of structure is common on the provincial level, and the subject culvert does not have the potential to yield information that contributes to the understanding of Ontario's history. The subject bridge does not meet this criterion.
iii. The property demonstrates an uncommon, rare or unique aspect of Ontario's cultural heritage;	N	The subject bridge does not demonstrate an uncommon, rare or unique aspect of Ontario's cultural heritage. The subject bridge does not meet this criterion.
iv. The property is of aesthetic, visual or contextual importance to the province;	N	The subject bridge does not demonstrate any elements which may be considered of aesthetic, visual, or contextual importance to the province. The subject bridge does not meet this criterion.
v. The property demonstrates a high degree of excellence or creative, technical or scientific achievement at a provincial level in a given period;	N	Following review of the secondary source material and comparing this bridge to similar structures (Section 10.0) it was determined that this structure does not demonstrate a high degree of excellence or creative, technical or scientific achievements at the provincial level. The subject bridge does not meet this criterion.
vi. The property has a strong or special association with the entire province or with a community that is found in more than one part of the province. The association exists for historic, social, or cultural reasons or because of traditional use;	N	The subject bridge does not retain a strong or special association with the entire province or with a specific community throughout the province. The subject bridge does not meet this criterion.
vii. The property has a strong or special association with the life or work of a person, group or organization of importance to the province or with an event of importance to the province; and,	N	The designer and builder of the subject bridge could not be confirmed. The subject bridge does not meet this criterion.
viii. The property is located in unorganized territory and the Minister (MHSTCI) determines that	N	The subject bridge is located within the City of Oshawa (an incorporated municipality), therefore, Criterion 8 does not apply.



there is a provincial interest in the protection of the property.		
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11.3 Recommended Outcome of Heritage Evaluation

An evaluation using the criteria outlined in *Ontario Regulation 9/06* determined that the King Street West bridge does not retain CHVI at the local level and an evaluation using the criteria outlined in *Ontario Regulation 10/06* determined that the subject bridge does not retain CHVI at the provincial level.

12.0 RECOMMENDATIONS

This report includes an evaluation of the cultural heritage value of the King Street West bridge as determined by the criteria in *Ontario Regulations 9/06* and *10/06*. This evaluation determined that the King Street West bridge does not meet the criteria outlined in *Ontario Regulations 9/06* and *10/06*, and therefore does not have CHVI.

The following recommendations are proposed for the King Street West bridge:

1. Metrolinx Heritage Committee has reviewed the results of the *Ontario Regulations 9/06* and *10/06* evaluations and is in agreement with the results and recommendations of this report. If it is confirmed that the property will be owned or controlled by Metrolinx, the Metrolinx Heritage Committee will issue a Metrolinx Heritage Committee Decision Form.
2. The Final CHER will be submitted to municipal heritage staff and the MHSTCI for their records.



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APPENDIX A: Indigenous Engagement and Report Review Feedback - Oral History and Perspectives Table

Community	Feedback
Curve Lake First Nation	<p>The traditional homelands of the Michi Saagiig (Mississauga Anishinaabeg) encompass a vast area of what is now known as southern Ontario. The Michi Saagiig are known as “the people of the big river mouths” and were also known as the “Salmon People” who occupied and fished the north shore of Lake Ontario where the various tributaries emptied into the lake. Their territories extended north into and beyond the Kawarthas as winter hunting grounds on which they would break off into smaller social groups for the season, hunting and trapping on these lands, then returning to the lakeshore in spring for the summer months.</p> <p>The Michi Saagiig were a highly mobile people, travelling vast distances to procure subsistence for their people. They were also known as the “Peacekeepers” among Indigenous nations. The Michi Saagiig homelands were located directly between two very powerful Confederacies: The Three Fires Confederacy to the north and the Haudenosaunee Confederacy to the south. The Michi Saagiig were the negotiators, the messengers, the diplomats, and they successfully mediated peace throughout this area of Ontario for countless generations.</p> <p>Michi Saagiig oral histories speak to their people being in this area of Ontario for thousands of years. These stories recount the “Old Ones” who spoke an ancient Algonquian dialect. The histories explain that the current Ojibwa phonology is the 5th transformation of this language, demonstrating a linguistic connection that spans back into deep time. The Michi Saagiig of today are the descendants of the ancient peoples who lived in Ontario during the Archaic and Paleo-Indian periods. They are the original inhabitants of southern Ontario, and they are still here today.</p> <p>The traditional territories of the Michi Saagiig span from Gananoque in the east, all along the north shore of Lake Ontario, west to the north shore of Lake Erie at Long Point. The territory spreads as far north as the tributaries that flow into these lakes, from Bancroft and north of the Haliburton highlands. This also includes all the tributaries that flow from the height of land north of Toronto like the Oak Ridges Moraine, and all of the rivers that flow into Lake Ontario (the Rideau, the Salmon, the Ganaraska, the Moira, the Trent, the Don, the Rouge, the Etobicoke, the Humber, and the Credit, as well as Wilmot and 16 Mile Creeks) through Burlington Bay and the Niagara region including the Welland and Niagara Rivers, and beyond. The western side of the Michi Saagiig Nation was located around the Grand River which was used as a portage route as the Niagara portage was too dangerous. The Michi Saagiig would portage from present-day Burlington to the Grand River and travel south to the open water on Lake Erie.</p> <p>Michi Saagiig oral histories also speak to the occurrence of people coming into their territories sometime between 500-1000 A.D. seeking to establish villages and a corn growing economy – these newcomers included peoples that would later be known as</p>

	<p>the Huron-Wendat, Neutral, Petun/Tobacco Nations. The Michi Saagiig made Treaties with these newcomers and granted them permission to stay with the understanding that they were visitors in these lands. Wampum was made to record these contracts, ceremonies would have bound each nation to their respective responsibilities within the political relationship, and these contracts would have been renewed annually (see Gitiga Migizi and Kapyrka 2015).</p> <p>These visitors were extremely successful as their corn economy grew as well as their populations. However, it was understood by all nations involved that this area of Ontario were the homeland territories of the Michi Saagiig.</p> <p>The Odawa Nation worked with the Michi Saagiig to meet with the Huron-Wendat, the Petun, and Neutral Nations to continue the amicable political and economic relationship that existed – a symbiotic relationship that was mainly policed and enforced by the Odawa people.</p> <p>Problems arose for the Michi Saagiig in the 1600s when the European way of life was introduced into southern Ontario. Also, around the same time, the Haudenosaunee were given firearms by the colonial governments in New York and Albany which ultimately made an expansion possible for them into Michi Saagiig territories. There began skirmishes with the various nations living in Ontario at the time. The Haudenosaunee engaged in fighting with the Huron-Wendat and between that and the onslaught of European diseases, the Iroquoian speaking peoples in Ontario were decimated.</p> <p>The onset of colonial settlement and missionary involvement severely disrupted the original relationships between these Indigenous nations. Disease and warfare had a devastating impact upon the Indigenous peoples of Ontario, especially the large sedentary villages, which mostly included Iroquoian speaking peoples. The Michi Saagiig were largely able to avoid the devastation caused by these processes by retreating to their wintering grounds to the north, essentially waiting for the smoke to clear.</p> <p>Michi Saagiig Elder Gitiga Migizi (2015) recounts: <i>“We weren’t affected as much as the larger villages because we learned to paddle away for several years until everything settled down. And we came back and tried to bury the bones of the Huron but it was overwhelming, it was all over, there were bones all over – that is our story.</i></p> <p><i>There is a misnomer here, that this area of Ontario is not our traditional territory and that we came in here after the Huron-Wendat left or were defeated, but that is not true. That is a big misconception of our history that needs to be corrected. We are the traditional people, we are the ones that signed treaties with the Crown. We are recognized as the ones who signed these treaties and we are the ones to be dealt with officially in any matters concerning territory in southern Ontario.</i></p> <p><i>We had peacemakers go to the Haudenosaunee and live amongst them in order to change their ways. We had also diplomatically dealt with some of the strong chiefs to</i></p>
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the north and tried to make peace as much as possible. So we are very important in terms of keeping the balance of relationships in harmony.

Some of the old leaders recognized that it became increasingly difficult to keep the peace after the Europeans introduced guns. But we still continued to meet, and we still continued to have some wampum, which doesn't mean we negated our territory or gave up our territory – we did not do that. We still consider ourselves a sovereign nation despite legal challenges against that. We still view ourselves as a nation and the government must negotiate from that basis."

Often times, southern Ontario is described as being "vacant" after the dispersal of the Huron-Wendat peoples in 1649 (who fled east to Quebec and south to the United States). This is misleading as these territories remained the homelands of the Michi Saagiig Nation.

The Michi Saagiig participated in eighteen treaties from 1781 to 1923 to allow the growing number of European settlers to establish in Ontario. Pressures from increased settlement forced the Michi Saagiig to slowly move into small family groups around the present day communities: Curve Lake First Nation, Hiawatha First Nation, Alderville First Nation, Scugog Island First Nation, New Credit First Nation, and Mississauga First Nation.

The Michi Saagiig have been in Ontario for thousands of years, and they remain here to this day.

****This historical context was prepared by Gitiga Migizi, a respected Elder and Knowledge Keeper of the Michi Saagiig Nation.****

Publication reference:

Gitiga Migizi and Julie Kapyrka

2015 Before, During, and After: Mississauga Presence in the Kawarthas. In *Peterborough Archaeology*, Dirk Verhulst, editor, pp.127-136. Peterborough, Ontario: Peterborough Chapter of the Ontario Archaeological Society

Additional Community Perspectives:

****The following perspectives come from a June 2021 letter provided to Metrolinx from Curve Lake First Nation, on file with ASI.****

Curve Lake First Nation

2021 Curve Lake First Nation Review/Comments for: Cultural Heritage Evaluation Report: 571 Kingston Road West, 575 Kingston Road West, 577 Kingston Road West AND 579 Kingston Road West Town of Ajax, Ontario.

“The Duffin’s creek watershed and river mouth are part of an area that should have some recognition in terms of Michi Saagiig history. This area was extremely significant to the Michi Saagiig and is recognized internally as a significant cultural heritage landscape. Recently the Ontario Government has indicated a desire to add increased protection to these areas now referred to as “urban creeks/urban river systems” as part of their Greenbelt protection plan. These systems are at risk across the entirety of the Pickering and Ajax regions, due in large part to settler development activities. What was once a cultural heritage landscape has been significantly degraded which means it has also undergone irreparable ecological damage.”

“Our Elders tell of our peoples living harmoniously with the early settlers, often setting up small camps on the edge of farmer’s fields and along shorelines. Families engaged in trade and travel throughout the entire region.”

“The cultural heritage landscape, the Duffins Creek Watershed, that existed in the area of study of this CHER, and at the time that the first houses and roads were built, has largely been obliterated – and did not have the opportunity to be assessed and protected. Since then, development has altered the shape and course of the creek – this is clearly visible in the historical pictures provided in this report.”

“The very locations of where these buildings were built in relation to where the early towns and villages originated were determined based upon the resources within the particular landscape. Milling was the predominant activity in the region that ultimately attracted more industry to the area. The watershed and local resources on the land were integral to this process. For different reasons, but equally as significant, the Duffins Creek watershed was part of a larger cultural heritage landscape for Michi Saagiig people that included creeks and river mouths all along the shore of Lake Ontario. The value and significance of these lands from a Michi Saagiig perspective is not acknowledged. “

“The 28,000 acres that was expropriated for the site of former Defence Industries Ltd was part of a significant cultural heritage landscape that was once entirely connected and spanned along the vast shoreline of Lake Ontario - and would have been used by Michi Saagiig peoples at the time. The massive infrastructure and development of the region resulted in the disconnection of this culturally significant landscape and thus in reduced access for the Michi Saagiig to hunt and fish.”

“It should be noted that during these times of industrial and commercial expansion Michi Saagiig peoples were being driven from their lands, their fishing grounds, their hunting grounds, their trapping grounds and harvesting grounds. In some cases they were being shot at and pursued. The 1923 Williams Treaties were a culmination of the increased encroachment on these lands and the harassment and persecution of the First Nations who had rights under the very treaty that allowed for European settlement in this area of Ontario. These large urban developments increased the footprint of destruction upon the landscape and in doing so had a detrimental impact upon Michi Saagiig rights to gather foods and live off the land.”

	<p><i>Note: This oral history reflects community perspective shared as part of Indigenous engagement for this report. The oral history was provided by Curve Lake First Nation and does not necessarily reflect the views of other Indigenous Nations, Metrolinx or ASI.</i></p>
Huron-Wendat Nation	<p>As an ancient people, traditionally, the Huron-Wendat, a great Iroquoian civilization of farmers and fishermen-hunter-gatherers representing between 30,000 and 40,000 individuals, traveled widely across a territory stretching from the Gaspé Peninsula in the Gulf of Saint Lawrence and up along the Saint Lawrence Valley on both sides of the Saint Lawrence River all the way to the Great Lakes.</p> <p>According to our own traditions and customs, the Huron-Wendat are intimately linked to the Saint Lawrence River and its estuary, which is the main route of its activities and way of life. The Huron-Wendat formed alliances and traded goods with other First Nations among the networks that stretched across the continent.</p> <p>Today, the population of the Huron-Wendat Nation is composed of 1497 on-reserve members and 2390 off-reserve members for a total of 3900 members of the Huron-Wendat Nation.</p> <p>The Huron-Wendat Nation band council (CNHW) is headquartered in Wendake, the oldest First Nations community in Canada, located on the outskirts of Quebec City (20 km north of the city) on the banks of the Saint Charles River. There is only one Huron-Wendat community, whose ancestral territory is called the Nionwentsïo, which translates to "our beautiful land" in the Wendat language.</p> <p>The Huron-Wendat Nation is also the only authority that have the authority and rights to protect and take care of her ancestral sites in Wendake South.</p> <p>**This historical context was provided by Maxime Picard in a December 2020 email to Metrolinx, on file with ASI**</p> <p><i>Note: This oral history reflects community perspective shared as part of Indigenous engagement for this report. The oral history was provided by Huron-Wendat Nation and does not necessarily reflect the views of other Indigenous Nations, Metrolinx or ASI.</i></p>

APPENDIX B: COMPARABLE EARTH FILLED ARCH AND CLOSED SPANDREL ARCH BRIDGES

Compiled by ASI from the Ontario Heritage Bridge List (Ministry of Transportation, 2008), MTO Central Region Structural Inventory (Ministry of Transportation, n.d.), and information available at Historicbridges.org

Table 4: Comparative Earth Filled Arch Bridges in the Heritage Bridge List

Bridge List No.	Bridge Name	Roadway	Location	Length (m)	No. Span(s)	Year Built	MTO Region
40	Lawlor (Little Falls)	Former Mara Township	Ramara Township (Simcoe)	n/a	1	1909	Central
108	Oshawa Creek Site No. 22-175/1	Hwy 401	Oshawa (Durham)	47.2	3	1938/1939	Central

Table 5: Comparative Earth Filled Arch Bridges in the MTO Structural Inventory – Central Region

Structure OID	ID	Name	Highway	Year Built	No. Span(s)	Deck Length (m)	Deck Width (m)
1992688	22-175/2	Hwy 401/Oshawa Creek Bridge Westbound Lane	401	1939	3	47.2	25.9
1623226	22-182/C	Harmony Creek Arch	401	1952	1	n/a	62.5
1312960	24-81/	Snelgrove Creek Bridge	10	1964	1	16.5	47.5
1227958	18-221/C	40 Mile Creek Bridge at Olive Street	1	1972	1	n/a	40.6

Table 6: Comparative Concrete Closed Spandrel Arch Bridges in Ontario found in HistoricBridges.org

Name	Location	Year Built	No. Span(s)	Structure Length (m)	Structure Width (m)	Notes
5 th Line Bridge (Bridge No. CW6)	5 th Line over Irvine Creek, Centre-Wellington, Wellington County	Circa 1910	1	52.8 ft (16.09 m)	17.4 ft (5.3 m)	The original railings have been replaced which aside from the narrow roadway width and posted weight limit hide the age of the bridge.
7 th Line Bridge (Bridge No. CW5)	7 th Line over Irvine Creek, Centre-Wellington, Wellington County	1925	1	39 ft (11.89 m)	16.4ft (5 m)	This bridge is a small unornamented concrete arch bridge.
23 rd Line Bridge	Canadian Pacific Railroad over 23 rd Line in Zorra, Oxford County	1909	1	n/a	n/a	This bridge is a very old example of a concrete spandrel arch, with the oldest dating to 1905. The

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Name	Location	Year Built	No. Span(s)	Structure Length (m)	Structure Width (m)	Notes
						23 rd Line Bridge has been unaltered and features modest architectural treatments.
Blenheim Road Arch Bridge	Blenheim Road (abandoned alignment) over Burgess Lake Outlet, Township of Blandford-Blenheim, Oxford County	Unknown	1	n/a	n/a	The unaltered bridge is along an abandoned alignment of Blenheim Road and is a good example of this bridge type.
Canal Lake Bridge	Centennial Park Road over Canal Lake, Kawartha Lakes	1905	1	60 ft (18 m)	n/a	This National Historic Site of Canada is the oldest known concrete arch in Canada and an exceedingly rare Melan arch bridge.
Chippewa Avenue Bridge	Chippewa Avenue over Inner Harbour, Toronto	Unknown	1	n/a	n/a	This is a slender arch bridge with some nice architectural details.
Chorley Park Bridge	Pedestrian Walkway over pedestrian walkway, Toronto	1911	1	n/a	n/a	This attractive arch bridge was originally part of a long-lost Government House complex.
Cleaver Road Bridge	Cleaver Road over Whitemans Creek, Brant County	Unknown	1	n/a	n/a	This bridge has a surprising amount of aesthetic detail to it and has not been altered, remaining in good condition.
Concession Road 4 Bridge	Concession Road 4 over Arranvale Creek, Elderslie, Bruce County	Unknown	1	n/a	n/a	This bridge is a rare example of a concrete arch bridge in Ontario.
CR-109 Middle Bridge	CR-109 (former KH-9) over Conestogo River, Wellington North, Wellington County	1931	1	n/a	n/a	One of several old and unaltered concrete bridges along this stretch of road, this is the only one that is an arch bridge.
Doon Village Road Bridge East (Schneider Creek Bridge East)	Doon Village Road over Schneider Creek, Kitchener, Waterloo Region	1929	1	65.6 ft (19.99 m)	26.6 ft (8.11 m)	One of two nearly identical concrete arch bridges on this section of road.
Doon Village Road Bridge West (Schneider Creek Bridge West)	Doon Village Road over Schneider Creek, Kitchener, Waterloo Region	1929	1	60 ft (18.29 m)	26.6 ft (8.11 m)	One of two nearly identical concrete arch bridges on this section of road.
Durham Highway 2 Bridge	Canadian Pacific Railroad over Durham Highway 2, Newcastle, Durham Region	1912	1	n/a	n/a	This is a very old example of a concrete arch bridge in Ontario.
Governor's Bridge	Governors Road over Mud Creek, Toronto	1923	3	n/a	n/a	This is a large, but simply ornamented example of an uncommon bridge type in Ontario.
Jewel Bridge	Jewel Bridge Road over Sauble River, South Bruce Peninsula, Bruce County	Unknown	1	n/a	n/a	This outstanding heritage bridge is noted for its rare ribbed arch design, with the centre of the deck supported by T-beams.

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Name	Location	Year Built	No. Span(s)	Structure Length (m)	Structure Width (m)	Notes
Jordan Bridge	King Street (RR-81) over 20 Mile Creek, Lincoln, Niagara Region	1936	3	120 ft (36.58 m)	80 ft (24.38 m)	This bridge is an extremely rare, unusual, and beautiful unaltered example of concrete arch construction in Ontario.
Maple Leaf Cemetery Bridge North	Cemetery Drive over McGregor Creek, Chatham, Chatham-Kent Region	1935	1	83 ft (25.3 m)	9.8 ft (2.99 m)	This is one of two attractive concrete arch heritage bridges in this cemetery.
Maple Leaf Cemetery Bridge South	Cemetery Drive over McGregor Creek, Chatham, Chatham-Kent Region	1935	1	120 ft (36.58 m)	12.3 ft (3.75 m)	This is the more intricate of two attractive concrete arch bridges in this cemetery.
Mohrs Road Bridge	Mohrs Road over Mississippi River, Ottawa	1919	1	n/a	n/a	This is a small but early and uncommon Ontario example of a concrete arch bridge.
Murray Street Bridge	Murray Street over Mohawk Waterway, Brantford, Brant County	1921 (rehabilitated in 2003)	1	n/a	n/a	This is a beautiful example of a concrete arch bridge with substantial aesthetic details.
Niagara Hydro Canal Middle Railway Bridge	Railroad (abandoned Niagara, St. Catharines and Toronto Railway) over Niagara Hydro Canal, Niagara Falls, Niagara Region	1919	1	n/a	n/a	One of three remaining concrete arch bridges over the Niagara Hydro Canal.
Niagara Hydro Canal Northern Railway Bridge	Railroad (Canadian National) over Niagara Hydro Canal, Niagara Falls, Niagara Region	1920	1	n/a	n/a	One of three remaining concrete arch bridges over the Niagara Hydro Canal.
Niagara Parkway Black Creek Bridge	Niagara Parkway over Black Creek, Fort Erie, Niagara Region	Unknown	1	n/a	n/a	With ornate metal railing panels and a stone facing on the arch, this is a very beautiful bridge.
North Line Road Bridge	Northline Road over Saugeen River, West Grey, Grey County	1920	1	n/a	n/a	This simple bridge is a regionally rare example of a concrete deck arch bridge and appears to be a very old example as well. .
North Line Saugeen River Bridge	North Line over Saugeen River, West Grey (Glenelg), Grey County	1920	1	46 ft (14 m)	n/a	This is a simple, but unaltered example of a concrete arch bridge, an uncommon bridge type in this region.
Old 4 th Line Bridge (Bridge No. CW2)	4 th Line (abandoned alignment) over Eramosa River Tributary, Centre-Wellington, Wellington, County	1908	1	n/a	n/a	On old alignment, this is a long abandoned concrete arch bridge.
Old Bayview Avenue Bridge	Bayview Avenue (abandoned alignment) over West Branch Don River, Toronto	Unknown	1	n/a	n/a	This is a long abandoned arch bridge of simple design, that appears to serve an old highway alignment.

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Name	Location	Year Built	No. Span(s)	Structure Length (m)	Structure Width (m)	Notes
Old Mill Bridge	Old Mill Road over Humber River, Toronto	1916	3	n/a	n/a	This beautiful stone-faced concrete arch bridge was designed by a noted area engineer.
Olympic Island Bridge	Pedestrian Walkway over Inner Harbour, Toronto	Unknown	1	n/a	n/a	This inviting park foot bridge on the Toronto Island is a slender, graceful structure that showcases the aesthetic potential of concrete.
Plaza Bridge	Wellington Street, Rideau Street, and Elgin Street over Rideau Canal, Ottawa	1912	3	n/a	n/a	This extremely unusual bridge is a very wide variety of Y-bridge.
Southside Park Bridge	Southside Park Road over Cedar Creek, Woodstock, Oxford County	Unknown	1	n/a	n/a	This is an old concrete arch bridge in a park setting that has been rehabilitated.
Twin Bridges	Holland Sydenham Townline over Walters Creek, Meaford, Grey County	Unknown	1	n/a	n/a	This crossing is actually two separate bridges that are separated by only a tiny section of land.
Vineland Research and Innovation Centre Bridge	Vineland Research and Innovation Centre Drive over Wine Creek, Lincoln, Niagara Region	Unknown	1	n/a	n/a	This is an old bridge that was built as a concrete arch with a stone facing as well as stone railings.
Washington Street Bridge (Bridge No. CW19)	Washington Street over Irvine Creek, Centre-Wellington (Elora), Wellington County	1925	1	33.8 ft (10.3 m)	20.3 ft (6.19 m)	This is a small concrete arch bridge with original concrete railings.
Webster's Falls Bridge	Pedestrian Walkway over Spencer Creek, West Flamborough, Hamilton	1938	1	n/a	n/a	Located right by a beautiful waterfall, this stone-faced heritage bridge built on the site of a 1905 dam contributes its own beauty also.
Whitney Bridge	KH-60 over Madawaska River, Whitney, Nipissing District	1941	1	99 ft (30 m)	n/a	This is a rare example of a concrete arch bridge in this region of Ontario.
William B. Rankine Generating Station Bridge (Canadian Niagara Power Bridge)	Niagara Parkway over William B. Rankine Generating Station Intake, Niagara Falls, Niagara Region	1923	5	n/a	n/a	This stone-faced concrete arch bridge was designed to look attractive in this park setting around the famous Niagara Falls.