

**Cultural Heritage Evaluation and  
Heritage Impact Assessment:  
Hillsburgh Dam Bridge**

**Station Street over the Spillway Separating  
Hillsburgh Pond and Ainsworth Pond  
Lot 24, Concession VII  
Town of Erin, Wellington County, Ontario  
Structure No. 2064**

Prepared for:

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**EXECUTIVE SUMMARY**

Archaeological Services Inc. (ASI) was contracted by Triton Engineering Services Limited to conduct a Cultural Heritage Evaluation and Heritage Impact Assessment of the Hillsburgh Dam Bridge. This report will establish the cultural heritage significance of the structure and assess impacts of the proposed undertaking in consideration of its determined cultural heritage value. This assessment is being conducted under the Municipal Class Environment Process. The bridge carries one lane each of eastbound and westbound Station Street traffic over the spillway separating Hillsburgh Pond and Ainsworth Pond in the Town of Erin, Ontario (Figure 1). According to available bridge documentation, the Hillsburgh Dam Bridge was built in 1917 (Town of Erin Bridge Inventory 2013).

Based on the results of archival research, an analysis of bridge design and construction in Ontario, field investigations and heritage evaluation, the Hillsburgh Dam Bridge was determined to retain cultural heritage value following application of Regulation 9/06 of the *Ontario Heritage Act*. Its heritage significance centres on its artistic merit, historical and contextual value, location on the Hillsburgh Dam, its early construction date and associations with Gooderham and Worts as well as general historic settlement in the region. As such, the structure was found to meet at least one of the criteria of Regulation 9/06 under the *Ontario Heritage Act* and may therefore be considered for municipal designation under the *Ontario Heritage Act*.

Following the evaluation of potential impacts on the heritage resource (see Table 3), it was determined that Conservation Alternatives 1 – 3 are the preferred alternatives, given that no impacts are expected to the heritage resource and its identified heritage attributes, with Alternative 1 being the most preferred. The remaining conservation alternatives (4 – 9) have a range of impacts, with Alternatives 8 and 9 being the least preferred options given the level and nature of the impacts resulting from the removal of the bridge.

Given the identified heritage value of the Hillsburgh Dam Bridge, the following recommendations and mitigation measures should be considered and implemented:

1. Conservation Alternatives 1 -3 are the preferred alternatives, with Alternative 1 being the most preferred. As part of the selection of the preferred alternatives as part of the Environmental Assessment, a clear rationale for the proposed course of action should be documented.
2. This report should be filed with the heritage staff at the Town of Erin, Wellington County Museum and Archives, the Archives of Ontario, and other local heritage stakeholders that may have an interest in this project.
3. This report should be filed with the Ministry of Tourism, Culture and Sport for review and comment.



4. Should retention of the bridge be chosen as the preferred alternative (one of Conservation Alternatives 1 – 7), the character-defining elements identified in Section 8.1 should be retained and treated sympathetically.
5. Should replacement of the bridge be chosen as the preferred alternative (Conservation Alternative 8 or 9), three mitigation options should be considered:
  - a. Replacement/removal of existing bridge and construction of a new bridge with replication of the appearance of the heritage bridge in the new design, with allowances for the use of modern materials. The character-defining elements identified in Section 8.1 should be considered for replication.
  - b. Replacement/removal of existing bridge and construction of a new bridge with historically sympathetic design qualities to the heritage bridge, with allowances for the use of new technologies and materials.
  - c. In addition to (a) and (b), development of a commemorative strategy, such as plaquing, may be appropriate.
6. Should replacement of the bridge be chosen a documentation report should be completed by a Cultural Heritage Specialist and filed with the Town of Erin, the Archives of Ontario, and any other local heritage stakeholders that may have an interest in this project.



**ARCHAEOLOGICAL SERVICES INC.  
CULTURAL HERITAGE DIVISION**

**PROJECT PERSONNEL**

<i>Senior Project Manager:</i>	Annie Veilleux, MA <i>Cultural Heritage Specialist and Manager of the Cultural Heritage Division</i>
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<i>Cultural Heritage Specialist:</i>	Joel Konrad
<i>Project Coordinator:</i>	Sarah Jagelewski, Hon. BA <i>Staff Archaeologist and Assistant Manager of the Environmental Assessment Division</i>
<i>Project Administrator:</i>	Carol Bella, Hon. BA <i>Research Archaeologist</i>
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<i>Report Preparation:</i>	Joel Konrad
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	Joel Konrad
<i>Report Reviewer:</i>	Annie Veilleux



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## 1.0 INTRODUCTION

Archaeological Services Inc. (ASI) was contracted by Triton Engineering Services Limited to conduct a Cultural Heritage Evaluation and Heritage Impact Assessment of the Hillsburgh Dam Bridge. This report will establish the cultural heritage significance of the structure and assess impacts of the proposed undertaking in consideration of its determined cultural heritage value. This assessment is being conducted under the Municipal Class Environment Process. The bridge carries one lane each of eastbound and westbound Station Street traffic over the spillway separating Hillsburgh Pond and Ainsworth Pond in the Town of Erin, Ontario (Figure 1). According to available bridge documentation, the Hillsburgh Dam Bridge was built in 1917 (Town of Erin Bridge Inventory 2013).

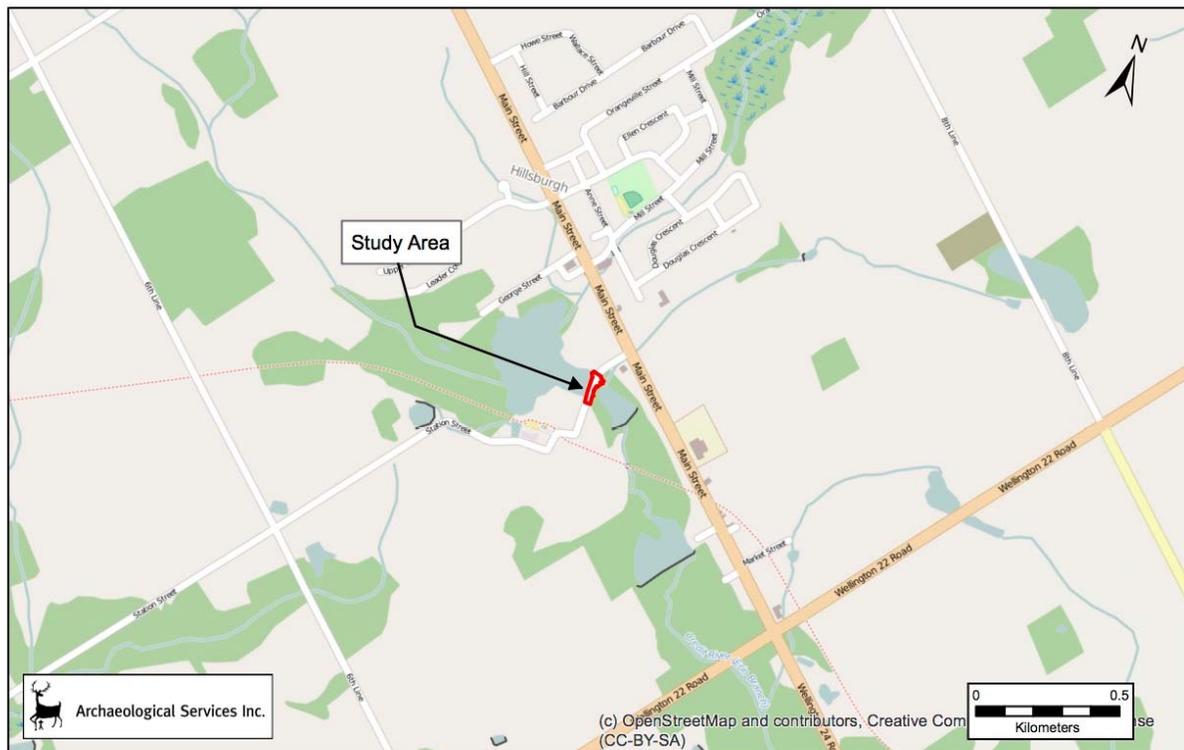


Figure 1: Location of the Study Area.

Base Map: ©OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA ESRI Street Maps)

The following report is presented as part of an approved planning and design process subject to Environmental Assessment (EA) requirements. This portion of the EA study is intended to address the proposed replacement/rehabilitation of the subject structure. The principal aims of this report are to:

- Describe the methodology that was employed and the legislative and policy context that guides heritage evaluations of bridges over 40 years old;
- Provide an historical overview of the design and construction of the bridge within the broader context of the surrounding township and bridge construction generally;
- Describe existing conditions and heritage integrity;

- Evaluate the bridge within Regulation 9/06 of the *Ontario Heritage Act* and draw conclusions about the heritage attributes of the structure; and
- Assess impacts of the undertaking, ascertaining sensitivity to change in the context of identified heritage attributes and recommend appropriate mitigation measures.

## **2.0 LEGISLATION AND POLICY CONTEXT**

Infrastructure projects have the potential to impact cultural heritage resources in a variety of ways. These include 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.

A 40-year-old threshold is used as a guiding principle when considering cultural heritage resources in the context of improvements to specified areas. While identification of a resource that is 40 years old or older does not confer outright heritage significance, this threshold provides a means to collect information about resources that may retain heritage value. Similarly, if a resource is slightly younger than 40 years old, this does not preclude the resource from retaining heritage value.

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

- *Environmental Assessment Act* (R.S.O. 1990, Chapter E.18)
  - *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (MCC 1992)
  - *Guidelines on the Man-Made Heritage Component of Environmental Assessments* (MCR 1981)
- *Ontario Heritage Act* (R.S.O. 1990, Chapter O.18) and a number of guidelines and reference documents prepared by the Ministry of Tourism and Culture (MTC):
  - *Ontario Heritage Tool Kit* (MCL 2006)
  - *Screening for Impacts to Built Heritage and Cultural Heritage Landscapes* (November 2010)

## **2.1 Municipal Context and Policies**

### *2.1.1 The Town of Erin Official Plan*

The *Town of Erin Official Plan* outlines existing policies in the municipality pertaining to cultural heritage resources. Section 3.3 of the plan provides a “framework for the identification, protection and enhancement of the Towns heritage resources” (Town of Erin 2012: 14).

This plan identifies specific objectives pertaining to the identification and conservation of heritage resources. These include

- a) To encourage the protection of those heritage resources which contribute in a significant way, to the identity and the character of the town;



- b) To encourage the maintenance, restoration and enhancement of buildings, structures, areas or sites in Erin which are considered to be of significant architectural, historical or archaeological value; and
- c) To encourage new development, redevelopment and public works to be sensitive to, and in harmony with, Erin's heritage resources.

Heritage resources are described in section 3.3.3 as:

- a) A property or area of historic value or interest, possessing one of the following attributes:
  - i) An example of the Town's past social, cultural, political, technological or physical development;
  - ii) A representative example of the work of an outstanding local, national or international personality;
  - iii) A property associated with a person who has made a significant contribution to the social, cultural, political, economic, technological or physical development of the Town, County, Province or Country
  - iv) A property which dates from an early period in the Town's development
- b) A property or area of architectural value or interest, possessing one of the following attributes:
  - i) A representative example of a method of construction which was used during a certain time period or is rarely used today;
  - ii) A representative example of an architectural style, design, or period of building;
  - iii) An important Town landmark;
  - iv) A work of substantial engineering merit;
  - v) A property which makes an important contribution to the urban composition or streetscape of which it forms a part.
- c) A property or area recognized by the Province as being archaeologically significant.
- d) An area in which the presence of properties collectively represent a certain aspect of the development or cultural heritage landscape of the Town, or which collectively are considered significant to the community as a result of their location or setting.

Section 3.3.4 states that by-laws may be passed to designate heritage buildings, landscapes, or districts based on Part IV and Part V of the *Ontario Heritage Act*. These by-laws are based on the following criteria:

- a) An area associated with a particular aspect, era or event in the history of the development of the municipality; or
- b) An area characterized by a style of architecture, design, construction or ambience which is considered architecturally or historically significant to the community as a result of location or setting; or
- c) An area considered unique or otherwise significant to the community as a result of location or setting; or
- d) An area characterized by a group of buildings which are not architecturally or historically significant individually but are when considered collectively.



### **2.1.2 Municipal Consultation**

The Town of Erin was also consulted for additional information on the bridge.<sup>1</sup> According to this correspondence, and contrary to the 2013 Structure Inventory provided by the Town of Erin, the bridge is listed on the Town of Erin's heritage register.

## **2.2 Cultural Heritage Evaluation and Heritage Impact Assessment Report**

The scope of a Cultural Heritage Evaluation (CHE) is guided by the Ministry of Tourism, Culture and Sport's *Ontario Heritage Toolkit* (2006). Generally, CHEs include the following components:

- A general description of the history of the study area as well as a detailed historical summary of property ownership and building(s) development;
- A description of the cultural heritage landscape and built heritage resources;
- 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.

Using background information and data collected during the site visit, the cultural heritage resource is evaluated using criteria contained within Regulation 9/06 of the *Ontario Heritage Act*.

*Ontario Heritage Act* Regulation 9/06 provides a set of criteria, grouped into the following categories which determine the cultural heritage value or interest of a potential heritage resource in a municipality:

- i) Design/Physical Value;
- ii) Historical/Associative Value; and
- iii) Contextual Value.

Should the potential heritage resource meet one or more of the above mentioned criteria, a Heritage Impact Assessment (HIA) is required and the resource considered for designation under the *Ontario Heritage Act*.

In early 2011, the Ministry of Tourism and Culture (MTC) indicated that bridges not owned by the Ministry of Transportation be evaluated against Ontario Regulation 9/06 and not the Ministry of Transportation's *Ontario Heritage Bridge Guidelines* (Interim, 2008) or the *Ontario Heritage Bridge Program* (1991). With this in mind, the MTC recommends that a Heritage Impact Assessment is necessary for structures found to have potential heritage significance, as determined by the cultural heritage evaluation (MTC, June 2011).

The scope of a Heritage Impact Assessment (HIA) is provided by the MTC's *Ontario Heritage Tool Kit*. An HIA is a useful tool to help identify cultural heritage value and provide guidance in supporting environmental assessment work. As part of a heritage impact assessment, proposed site alterations and

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<sup>1</sup> Email correspondence occurred in October 2014.



project alternatives are analyzed to identify impacts of the undertaking on the heritage resource and its heritage attributes. The impact of the proposed development on the cultural heritage resource is assessed, with attention paid to identifying potential negative impacts, which may include, but not limited to:

- Destruction of any, or part of any, significant heritage attributes or features;
- Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance;
- Shadows created that alter the appearance of a heritage attribute or change the viability of an associated natural feature or plantings, such as a garden;
- Isolation of a heritage attribute from its surrounding environment, context or a significant relationship;
- Direct or indirect obstruction of significant views or vistas within, from, or of built and natural features;
- A change in land use (such as rezoning a church to a multi-unit residence) where the change in use negates the property's cultural heritage value;
- Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect a cultural heritage resource, including archaeological resources.

Where negative impacts of the development on the cultural heritage resource are identified, mitigative or avoidance measures or alternative development or site alteration approaches are considered.

### **3.0 HISTORICAL CONTEXT AND CONSTRUCTION**

#### **3.1 Introduction**

Built in 1917, the Hillsburgh Dam Bridge is a single span rigid frame structure carrying one lane each of eastbound and westbound Station Street vehicular traffic over the spillway separating Hillsburgh Pond and Ainsworth Pond in the Town of Erin, Ontario. Historically, the study area is located within Lot 24, Concession XII in the Township of Erin, Ontario (Figures 2 and 3).

Cultural heritage resources are those buildings or structures that have one or more heritage attributes. Heritage attributes are constituted by and linked to historical associations, architectural or engineering qualities and contextual values. Inevitably many, if not all, heritage resources are inherently tied to "place"; geographical space, within which they are uniquely linked to local themes of historical activity and from which many of their heritage attributes are directly distinguished today. In certain cases, however, heritage features may also be viewed within a much broader context. Section 3.0 of this report details a brief historical background to the settlement of the surrounding area. A description is also provided of the construction of the bridge within its historical context.

#### **3.2 Local History and Settlement**

##### **3.2.1 Erin Township**

The land within Erin Township was acquired by the British from the Mississaugas in 1818. The first township survey was undertaken in 1819, and the first legal settlers occupied their land holdings in the following year. The township was first named for a poetic name of Ireland, *Ierne*, mentioned by the Greek geographer Strabo. Erin was initially settled by the children of Loyalists, soldiers who had served during



the War of 1812, and by immigrants from England, Scotland and Ireland (Smith 1846:55-56; Erin 1967; McMillan 1974; Armstrong 1985:143; Rayburn 1997:113).

### **3.2.2 Hillsburgh**

This post office village was situated on the Grand River on part Lots 22 to 25 Concessions VII and VIII, Erin Township. The village was founded in the 1840s, when a tavern and sawmill were constructed by Hiram and Nazareth Hill. It became a post office village in 1851. Registered plans of subdivision for this village date from 1857-1862. It contained two grist mills, a woollen factory, a foundry and tannery. The village also contained four churches, four stores, three hotels and a telegraph office. It was a station on the Canadian Pacific Railway. The population was approximately 400 in 1873 (Crossby 1873:145; Winearls 1991:697; Scott 1997:102; Rayburn 1997:158). By the mid-nineteenth century Hillsburgh had become an important market town for grains harvested from the surrounding farms. This grain was sent to larger settlements in the south such as Oakville and Toronto.

### **3.3 History of the Study Area, Station Street, and Previous Bridge Crossings**

Historically, the subject bridge crossing is located on Lot 24, Concession XII in Erin Township, Ontario. A review of historic mapping, archival records, council minutes, and periodicals confirmed that an earlier bridge crossing was extant adjacent to the location of the present structure. According to the Abstract Index for Lot 24, Concession VII, the subject property was granted to Patrick McCartin by the Crown in 1832 and was subsequently sold to Mary O'Reilly in 1850. In that same year the land was sold to William Gooderham and J.E. Worts, partners in the large Toronto distilling firm Gooderham and Worts. Part of the property was sold to the Credit Valley Railway Company in 1875 before the remaining land, including the study area, was passed to George Gooderham, William's son, in 1877.

As Station Street does not appear on the 1877 *Historical Atlas of Waterloo and Wellington Counties*, it is not considered an historically surveyed road (Figure 2). At that time Lot 24, Concession VII was owned by George Gooderham and a flour mill was established south of the study area. It is likely that the Hillsburgh Dam and an early bridge were built at the same time as the mill, sometime between 1877 and 1890.

According to the Abstract Index and additional land transfer documents dating to 1902, the land was then sold to local farmers John and Isaiah Aurey in 1890 (Davis 1902: 9). These documents confirm that the Hillsburgh Dam and Station Street were extant by 1902 and outline the maintenance details of the dam and mill raceway. J.C. MacMillan confirms that the Aurey brothers constructed another mill, likely sometime between 1877 and 1890 (MacMillan 1974: 10). However, the contract does not describe a structure spanning the spillway, and thus it is unclear what type of structure existed there at this time.

According to a 1902 *Plan of the Town of Hillsburgh* (Figure 3), the Hillsburgh Dam and Station Road had been surveyed and subdivided lots were proposed flanking the thoroughfare to the south of the dam. The road was likely named for the Credit Valley Railway station located to the southwest of the subject bridge. The *Historical Atlas of Wellington County*, published in 1906 (Figure 4), confirms that a dam and bridge structure fording the spillway existed prior to 1917, though no further information is offered regarding its type, size, or condition. In addition to indicating the existence of a structure, the map confirms that the Aurey Brothers owned the lot surrounding the bridge, including Hillsburgh Pond. The



map indicates that a house had been built to the southeast of the subject bridge. A railway station is pictured contiguous with the railway to the south of the bridge.



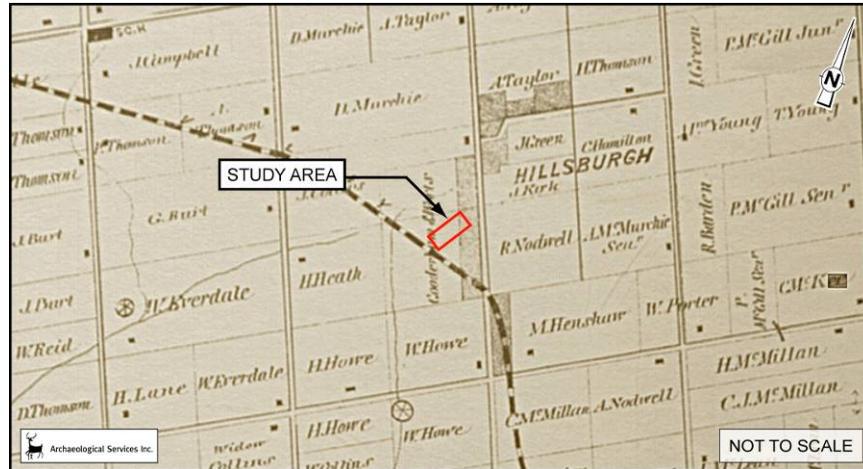


Figure 2: Subject bridge located on 1877 mapping  
Base Map: *Illustrated Historical Atlas of Waterloo And Wellington Counties, 1877*



Figure 3: Subject bridge located on 1902 mapping  
Base Map: *Plan Showing the Property of the Village of Hillsburgh, 1902*

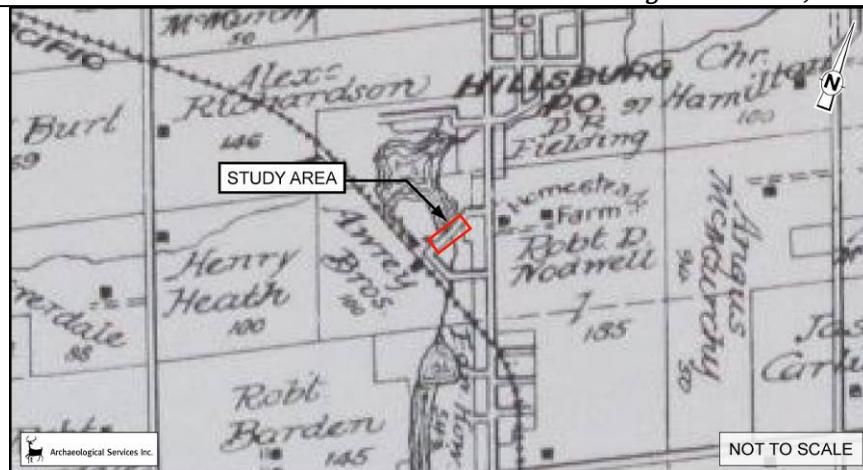


Figure 4: Subject bridge located on 1906 mapping  
Base Map: *Illustrated Historical Atlas of the County of Wellington, 1906*

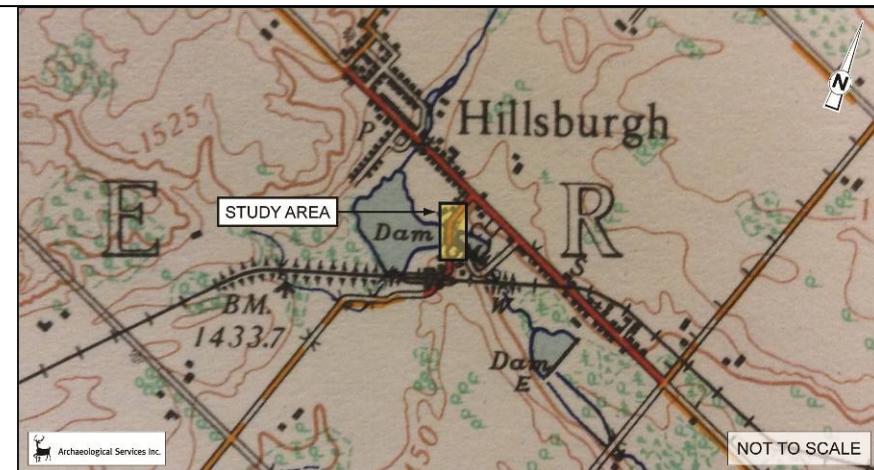


Figure 5: Subject bridge located on 1937 mapping  
Base Map: *Energy, Mines, and Resources Canada, NTS 40 P/16*

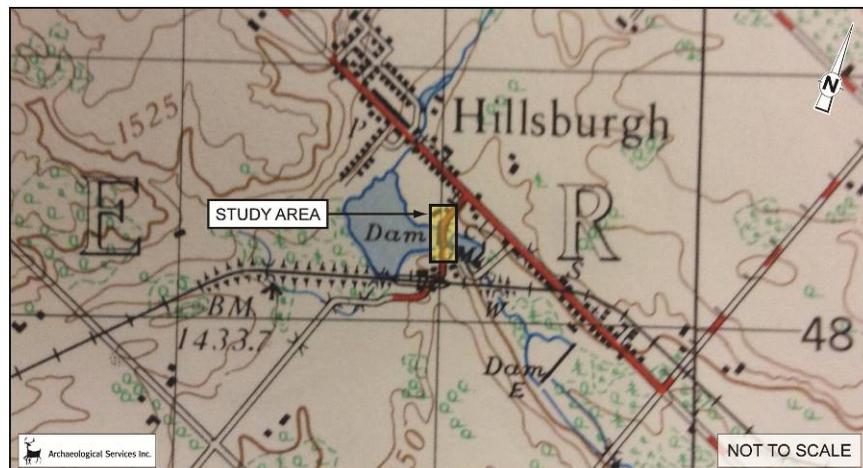


Figure 6: Subject bridge located on 1952 mapping  
Base Map: Energy, Mines, and Resources Canada, NTS 40 P/16



Figure 7: Subject bridge located on 1954 aerial mapping  
Base Map: Hunting Survey Corporation, 1954

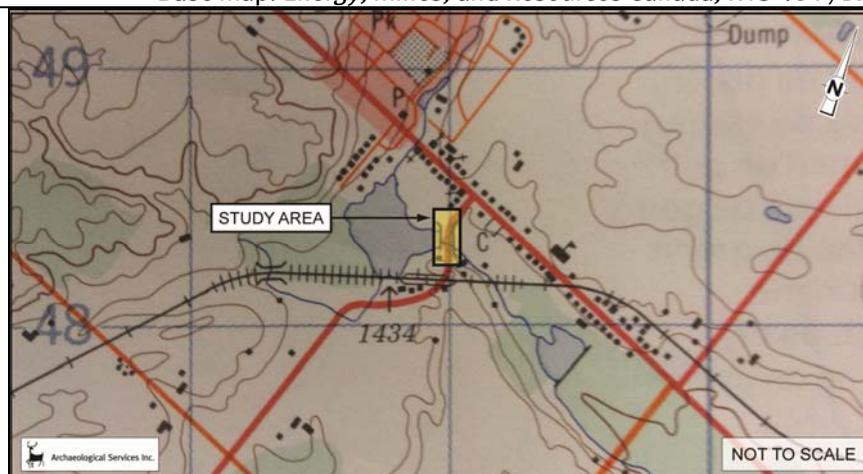


Figure 8: Subject bridge located on 1979 mapping  
Base Map: Energy, Mines, and Resources Canada, NTS 40 P/16



Figure 9: Subject bridge located on 1994 mapping  
Base Map: Energy, Mines, and Resources Canada, NTS 40 P/16, 1994

NTS mapping dating to 1937 reveals that both Main Street and Station Street were paved roads, and that no significant changes had been made to the Hillsburgh Dam. A mill is pictured to the southeast of the dam, located on the south bank of Ainsworth Pond. The map indicates that a number of houses existed to the north of the bridge and that the Hillsburgh train station was still extant to the south. In addition, a significant increase in house construction appears to have occurred along Main Street to the north of the subject bridge.

Topographic mapping and aerial photography dating to the 1950s indicates that little change had occurred since 1937 (Figures 6 and 7). However, it appears that the Hillsburgh train station located to the south of the subject bridge had been removed by this time.

By 1979, significant settlement had occurred to the north of the subject bridge, however little development had occurred to the Hillsburgh Dam and the subject bridge (Figure 8). NTS mapping dating to 1994 indicates that several new buildings had been erected directly adjacent to the north of the subject bridge (Figure 9).

### **3.4 Bridge Construction**

#### *3.4.1 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 higher costs and a lack of skilled craftsmen, these structures were generally restricted to market towns. By the 1890s, steel was becoming the material of choice when constructing bridges given that concrete 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 (Ministry of Culture and Ministry of Transportation [n.d.]:7-8).

#### *3.4.2 Construction of the Hillsburgh Dam Bridge*

The Hillsburgh Dam Bridge is a single-span, solid concrete slab bridge carrying two lanes of Station Street traffic over the spillway separating Hillsburgh Pond and Ainsworth Pond in the historic Erin Township, Wellington County, Ontario. According to available documentation, the bridge was completed in 1917, likely to replace an earlier structure of unknown construction. Unfortunately, original bridge drawings were not in the holdings at the Town of Erin or the Wellington County Museum and Archives. In addition, council minutes for the Erin Township and Wellington County were consulted to establish further detail about the construction of the bridge. However, no information could be determined from these sources.

According to the available reference documents, no refurbishments have been undertaken on the subject bridge.

## **4.0 EXISTING CONDITIONS AND INTEGRITY**



A field review was undertaken by Joel Konrad on 9 October 2014 to conduct photographic documentation of the bridge crossing and to collect data relevant for completing a heritage evaluation of the structure. Results of the field review and bridge inspection reports received from the client were then utilized to describe the existing conditions of the bridge crossing. This section provides a general description of the bridge crossing and associated cultural heritage features. For ease of description the bridge is considered to have a north-south orientation. Photographic documentation of the bridge crossing is provided in Appendix A.

The Hillsburgh Dam Bridge is located on Lot 24, Concession VII, in the Town of Erin (Figure 8). The concrete, rigid frame bridge was built in 1917 to carry two lanes of Station Street traffic over the spillway separating Hillsburgh Pond and Ainsworth Pond.

The bridge crossing is bounded by a small wooded area at the northeast corner of the bridge, beyond which sits the Hillsburgh Fire Station. To the northeast of the bridge is a new area under development adjacent to an early-twentieth-century brick dwelling. To the west of the bridge sits the Hillsburgh Pond, and to the southwest a nineteenth-century farmhouse is extant. A number of mid- to late-twentieth-century houses sit to the southwest of the bridge while the Ainsworth Pond is visible to the east. The subject bridge is identified as a heritage structure by the Town of Erin, though it is not designated under Part IV of the *Ontario Heritage Act* and is not currently on the *Ontario Heritage Bridge List*.

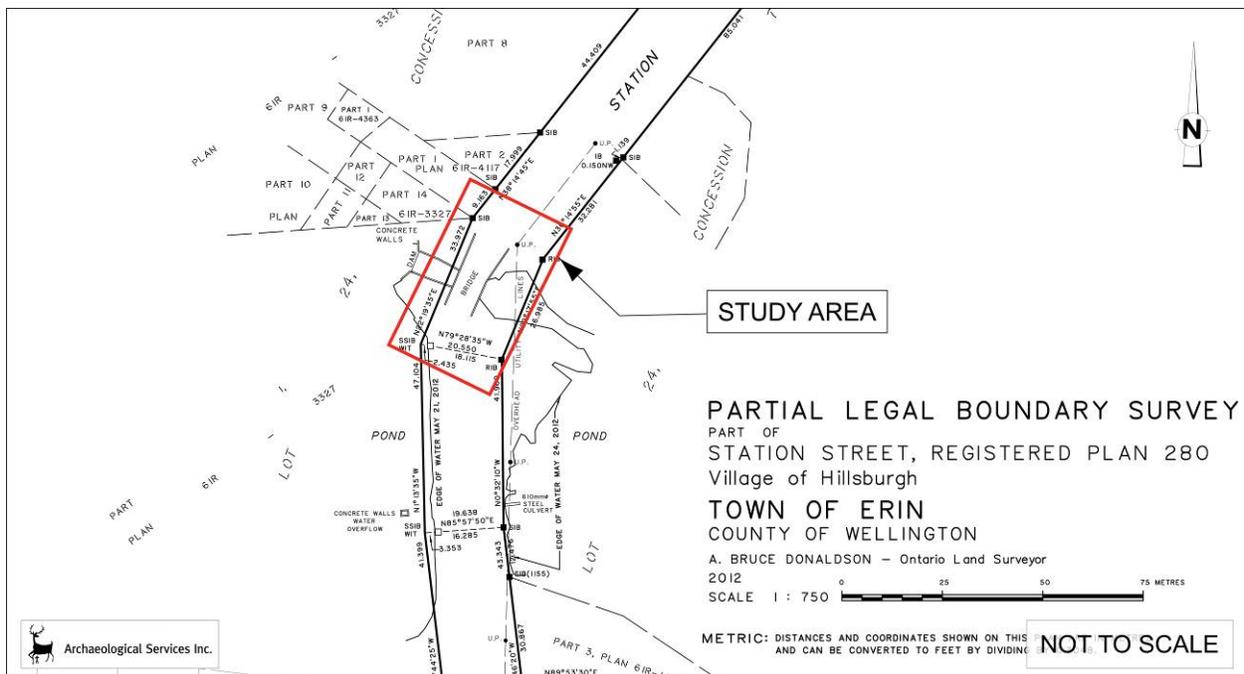


Figure 10: Site Plan of the subject bridge, 2012.

Base Map: Black, Shoemaker, Robinson & Donaldson Limited, Project Number 12-9198

The Hillsburgh Dam Bridge is currently owned/maintained by the Town of Erin. According to an inspection undertaken in 2013, the structure features a total deck length of 5.2 metres with a 6 metre wide asphalt wearing surface (AECOM 2013: 2). The existing bridge features a rigid frame, poured-in-place concrete deck and concrete abutments. The original concrete railing system is still extant and features concrete posts connected by concrete rails, separated by concrete spindles. A sphere adorns the southeast concrete railing endpost, indicating that three similar spheres likely existed atop the other endposts of the

bridge. Several spindles have been removed from the west railing while, between the east and west railings, the asphalt-wearing surface of the bridge deck is cracked. The wingwalls and abutments are free from ornamentation and appear to have been parged with concrete, though significant concrete deterioration is still visible. A concrete stop log control structure is located on the west side of the subject bridge while the spillway runs beneath the bridge and down towards Ainsworth Pond to the east of the structure. Both concrete abutments terminate at the spillway. It was not possible to view the bridge's west elevation from a distance during fieldwork due to access constraints.

According to the data received from the client, the bridge has not been rehabilitated by the Town of Erin or Wellington County, though the bridge was identified for replacement as early as 1973.

The Town of Erin Municipal Structure Inspection Form, completed in 2013, presented the following deficiencies regarding the bridge:

- Decks: Narrow to wide transverse cracks and localized potholes in asphalt wearing surface;
- Soffit: Spalling and delaminations, narrow stained cracks, exposed corroded rebar, spalls on south fascia, and efflorescence;
- Railing System: Five missing spindles on the west side, narrow to wide cracks, abrasions, isolated delaminations – Missing three of four end cap pieces (decorative feature), section of barrier in SW quadrant has been fitted with steel beam guiderail;
- Abutments: Narrow to wide cracks, light to medium scaling, delaminations, and spalls;
- Wingwalls: Narrow to wide cracks, light to severe scaling, spalls, delaminations;
- Signs: Hazard marker missing at southwest quadrant; and
- Approaches: Narrow to medium longitudinal cracks.

#### **4.1 Comparative Geographic and Historic Context of Rigid Frame Bridges**

ASI requested Triton Engineering to contact the Town of Erin to procure an inventory of bridges owned by the municipalities. This inventory can be found in Appendix B of this report.

Built in 1917, the Hillsburgh Dam Bridge is indicated as the second oldest bridge (excluding culverts) in the Town of Erin, and the oldest of its type. "Bridge 2," a concrete Bowstring Arch Bridge built in 1910 and located on the 10<sup>th</sup> line, is listed as the oldest bridge owned by the Town of Erin. Subsequently, the Hillsburgh Dam Bridge is understood to be the oldest concrete rigid frame bridge owned by the Town of Erin.

The Hillsburgh Dam Bridge has the 29<sup>th</sup> longest span of structures owned by the Town of Erin, and has the 29<sup>th</sup> longest structure length. "Bridge 16," located on Mill Street, has the longest span and structure length of any bridge owned by the Town of Erin, recorded as 18.25m.

#### **4.2 Additional Cultural Heritage Resources**

There are no previously identified cultural heritage resources located adjacent to the subject bridge. However, two nineteenth-century farmhouses located on the southeast and southwest of the subject bridge were identified during field review (see Appendix A, Plates 21 and 22).



## 5.0 HERITAGE EVALUATION OF THE HILLSBURGH DAM BRIDGE

While the Hillsburgh Dam Bridge is listed on the Town of Erin’s register of heritage properties, it does not appear to have been evaluated against Regulation 9/06 of the *Ontario Heritage Act* - Table 1 contains the evaluation of Hillsburgh Dam Bridge against criteria as set out in the regulation. Within the Municipal EA process, Regulation 9/06 is the prevailing evaluation tool when determining if a heritage resource, in this case a bridge, has cultural heritage value.

**Table 1: Evaluation of the Hillsburgh Dam Bridge using *Ontario Heritage Act* Regulation 9/06**

1. The property has design value or physical value because it :

<i>Ontario Heritage Act</i> Criteria	Analysis
i. is a rare, unique, representative or early example of a style, type, expression, material or construction method;	The Hillsburgh Dam Bridge’s rigid frame construction is an early example of its type and is the first of its type owned by the Town of Erin. However, both the span and structure length are not significant when compared to the bridges owned by the Town of Erin.
ii. displays a high degree of craftsmanship or artistic merit, or;	The Hillsburgh Dam Bridge retains a degree of craftsmanship exemplified in the spindled concrete railing system. However, the railing system has sustained some damage and is now missing spindles and three of its four decorative spheres placed at the four bridge endposts.
iii. demonstrates a high degree of technical or scientific achievement.	This bridge exhibits a low degree of technical achievement given its short span, easy access, and gentle water flow along the spillway.

2. The property has historical value or associative value because it:

<i>Ontario Heritage Act</i> Criteria	Analysis
i. has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community;	The structure maintains a direct connection with a number of significant themes. First, the bridge is associated with Hillburgh’s rail history as it is located along Station Street, the primary route to the former Hillsburgh Railway Station. Second, the bridge sits upon a mill dam constructed in the late nineteenth century by the influential distillers Gooderham and Worts and spans the dam’s spillway. Finally, the construction of the bridge facilitated increased settlement east of Hillsburgh.
ii. yields, or has the potential to yield, information that contributes to an understanding of a community or culture, or;	This criterion is not satisfied given that the structure does contribute to an understanding of a community or culture.
iii. demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.	Unfortunately, no information on the construction of this bridge was uncovered.



**Table 1: Evaluation of the Hillsburgh Dam Bridge using *Ontario Heritage Act* Regulation 9/06**

3. The property has contextual value because it:

<i>Ontario Heritage Act</i> Criteria	Analysis
i. is important in defining, maintaining or supporting the character of an area;	The design, scale and general massing of the bridge is small in scale and reflects the surrounding natural/agricultural landscape. This bridge continues to complement the rural character of the area and contributes to the picturesque setting of the spillway connecting Hillsburgh Pond and Ainsworth Pond.
ii. is physically, functionally, visually or historically linked to its surroundings, or;	The bridge is physically, functionally and historically linked to its surroundings. It serves as a bridging point for vehicles over the spillway and is physically associated with Hillsburgh Pond, Ainsworth Pond, and the settlement of Hillsburgh. This is a traditional bridging point and was probably first established between 1877 and 1890 when Hillsburgh Dam was created.
iii. is a landmark.	Due to its location adjacent to the settlement of Hillsburgh and ornate railing system this bridge can be considered a gateway structure.

The above evaluation confirms that this structure meets at least one of the criteria contained in Regulation 9/06 of the *Ontario Heritage Act*. In particular, it was determined to retain design, historical and contextual value given its construction and location on Station Street and the Hillsburgh Dam which is associated with settlement, growth, and economic development in the region. Given that the Hillsburgh Dam Bridge met at least one of the criteria contained in Regulation 9/06, this structure is considered to be a cultural heritage resource and is eligible for designation under the *Ontario Heritage Act*.

In summary, character-defining elements associated with the Hillsburgh Dam Bridge include but are not limited to:

- Location of the bridge on Station Street;
- Historical associations with mill owned by Gooderham and Worts;
- Spindled concrete railing system;
- Early construction date; and
- Association with the settlement, growth, and economic development of Hillsburgh.

## **6.0 ALTERNATIVES TO BE CONSIDERED FOR HERITAGE BRIDGES AS PART OF THE ENVIRONMENTAL ASSESSMENT PROCESS**

Following the evaluation of the subject cultural heritage resource, the Hillsburgh Dam Bridge was determined to retain cultural heritage value. The following nine conservation options/alternatives are arranged according to the level or degree of intervention from minimum to maximum. The conservation options are based on the *Ontario Heritage Bridge Program* (1991), which is regarded as current best practice for conserving heritage bridges in Ontario and ensures that heritage concerns, and appropriate mitigation options, are considered.

1. Retention of existing bridge and restoration of missing or deteriorated elements where physical or documentary evidence (e.g., photographs or drawings) can be used for their design;
2. Retention of existing bridge with no major modifications undertaken;



3. Retention of existing bridge with sympathetic modification;
4. Retention of existing bridge with sympathetically designed new structure in proximity;
5. Retention of existing bridge no longer in use for vehicle purposes but adapted for pedestrian walkways, cycle paths, scenic viewing etc.;
6. Relocation of bridge to appropriate new site for continued use or adaptive re-use;
7. Retention of bridge as heritage monument for viewing purposes only;
8. Replacement/removal of existing bridge with salvage elements/members of heritage bridge for incorporation into new structure or for future conservation work or displays;
9. Replacement/removal of existing bridge with full recording and documentation of the heritage bridge.

Given that the bridge was found to retain cultural heritage value under Regulation 9/06, all nine of these conservation options should be considered as part of the Hillsburgh Dam Bridge Cultural Heritage Evaluation Report.

## **7.0 ENVIRONMENTAL ASSESSMENT OPTIONS**

Based on the age of the structure and deficiencies observed in 2009 and 2013, the Town of Erin retained Triton Engineering to complete a Class Environmental Assessment to assess alternatives for replacing the Hillsburgh Dam Bridge. As part of the study, the nine conservation alternatives listed in Section 6.0 are under consideration as bridge improvement alternatives.

### **7.1 Evaluation of Impacts**

To assess the potential impacts of the proposed alternatives, the cultural heritage resource and identified heritage attributes were considered against a range of possible impacts (Table 2) as outlined in the Ministry of Tourism and Culture document entitled *Screening for Impacts to Built Heritage and Cultural Heritage Landscapes* (November 2010), which include:

- Destruction of any, or part of any, significant heritage attribute or feature (III.1).
- Alteration which means a change in any manner and includes restoration, renovation, repair or disturbance (III.2).
- Shadows created that alter the appearance of a heritage attribute or change the visibility of a natural feature of plantings, such as a garden (III.3).
- Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship (III.4).
- Direct or indirect obstruction of significant views or vistas from, within, or to a built and natural feature (III.5).
- A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces (III.6).
- Soil disturbance such as a change in grade, or an alteration of the drainage pattern, or excavation, etc. (III.7)



**Table 2: Evaluation of the Potential Impacts of Bridge Improvement Alternatives on the Cultural Heritage Resource and Identified Heritage Attributes**

Nine Bridge Improvement Alternatives	Destruction, removal or relocation	Alteration	Shadows	Isolation	Direct or indirect obstruction of significant views	A change in land use	Soil disturbance
1) Retention of existing bridge and restoration of missing or deteriorated elements where physical or documentary evidence (e.g. photographs or drawings) can be used for their design	No impact.	No impact.	No impact.	No impact.	No impact.	No impact.	No impact.
2) Retention of existing bridge with no major modifications undertaken	No impact.	No impact.	No impact.	No impact.	No impact.	No impact.	No impact.
3) Retention of existing bridge with sympathetic modification	No impact.	No impact given that alterations would be sympathetic to heritage attributes.	No impact.	No impact.	No impact.	No impact.	No impact.
4) Retention of existing bridge with sympathetically designed new structure in proximity	No impact.	Yes – impacts are expected given that a new bridge in proximity to the existing one will alter the immediate setting and context of the bridge site. In particular, both Hillsburgh and Ainsworth Ponds would be severely impacted by the construction of a new bridge.	No impact.	No impact.	No impact.	No impact.	Yes – impacts are expected through the construction of a new structure in proximity.
5) Retention of existing bridge no longer in use for vehicle purposes but adapted for pedestrian walkways, cycle paths, scenic viewing etc	No impact.	Yes – a change in use would result in alterations to the heritage resource.	No impact.	No impact.	No impact.	Yes – use of bridge for pedestrian walkways, cycle paths, scenic viewing, et cetera, would result in a change from the original use of the structure.	No impact.
6) Relocation of bridge to appropriate new site for continued use or adaptive re-use	Yes – impacts to the heritage resource are expected through relocation.	Yes – alterations to the resource are expected through relocation.	No impact.	Yes – relocation of the resource will isolate it from its original context and relationship to Hillsburgh Pond, Ainsworth Pond, Hillsburgh Dam, and the spillway.	No impact.	Yes – the adaptive re-use of the bridge for purposes other than vehicular purposes would result in a change from the original use of the structure. If the bridge remains in vehicular use, no impact is expected.	Yes – impacts are expected through process of removing the bridge from its current location.
7) Retention of bridge as heritage monument for viewing purposes only	No impact.	Yes – use of bridge for viewing purposes only would result in a change from the original use of the structure and thus is considered to be an alteration.	No impact.	No impact.	No impact.	Yes – use of bridge for viewing purposes only would result in a change from the original use of the structure.	No impact.
8) Replacement/removal of existing bridge with salvage elements/members of heritage bridge for incorporation into new structure or for future conservation work or displays	Yes - Impacts to the heritage resource are expected through removal.	Yes – alterations to the resource are expected through removal.	No impact.	No impact.	No significant impacts to the Station Street streetscape are expected provided that a new bridge incorporates a similar grade and concrete construction.	No impact.	Yes – impacts are expected through removal of the existing bridge and the introduction of a new structure.
9) Replacement/removal of existing bridge with full recording and documentation of the heritage bridge	Yes - Impacts to the heritage resource are expected through removal.	Yes – alterations to the resource are expected through removal.	No impact.	No impact.	No significant impacts to the Station Street streetscape are expected provided that a new bridge incorporates a similar grade and concrete	No impact.	Yes – impacts are expected through removal of the existing bridge and the introduction of a new

**Table 2: Evaluation of the Potential Impacts of Bridge Improvement Alternatives on the Cultural Heritage Resource and Identified Heritage Attributes**

					construction.		structure.
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## **8.0 CONCLUSIONS**

Based on the results of archival research, an analysis of bridge design and construction in Ontario, field investigations, and application of Regulation 9/06 of the *Ontario Heritage Act*, the Hillsburgh Dam Bridge was determined to possess heritage value. The following factors determined this assessment: bridge design, early bridge construction date, and both historical and contextual value given its location on the Hillsburgh Dam which is associated with Gooderham and Worts as well as the general settlement, growth, and economic development in the region. Given that the Hillsburgh Dam Bridge met at least one of the criteria contained in Regulation 9/06, this structure is considered to be a cultural heritage resource and is eligible for designation under the *Ontario Heritage Act*.

### **8.1 Summary Statement of Cultural Heritage Value**

The Hillsburgh Dam Bridge is a single span, concrete rigid frame bridge that was built in 1917 to carry Station Road over the spillway connecting Hillsburgh Pond and Ainsworth Pond in the Township of Erin. The bridge has undergone limited modifications since its construction in 1917 and no major alterations to its original form or design are apparent.

Historically, the Hillsburgh Dam Bridge retains direct associations with the Hillsburgh Dam, built for milling purposes by Gooderham and Worts, likely between 1877 and 1890, as well as Station Street, a thoroughfare connecting Hillsburgh to the Credit Valley Railway station to the southwest.

In terms of design value this bridge exhibits some degree of craftsmanship and artistic merit. The retention of the original concrete railing system, in particular, adds to the Bridge's heritage value.

Contextually, the Hillsburgh Dam Bridge contributes to the scenic character of Station Street and functions as a gateway structure. Moreover, it is strongly linked to its location on Station Street, which served as an historic thoroughfare in the region and continues to be an important road.

In summary, character-defining elements associated with the Hillsburgh Dam Bridge include but are not limited to:

- Location of the bridge on Station Street;
- Historical associations with mill owned by Gooderham and Worts;
- Spindled concrete railing system;
- Early construction date; and
- Association with the settlement, growth, and economic development of Hillsburgh.

## **9.0 RECOMMENDATIONS**

Based on the results of archival research, an analysis of bridge design and construction in Ontario, field investigations and heritage evaluation, the Hillsburgh Dam Bridge was determined to retain cultural heritage value following application of Regulation 9/06 of the *Ontario Heritage Act*. Its heritage significance centres on its artistic merit, historical and contextual value, location on the Hillsburgh Dam, its early construction date and associations with Gooderham and Worts as well as general historic settlement in the region. As such, the structure was found to meet at least one of the criteria of Regulation



9/06 under the *Ontario Heritage Act* and may therefore be considered for municipal designation under the *Ontario Heritage Act*.

Following the evaluation of potential impacts on the heritage resource (see Table 2), it was determined that Conservation Alternatives 1 – 3 are the preferred alternatives, given that no impacts are expected to the heritage resource and its identified heritage attributes, with Alternative 1 being the most preferred. The remaining conservation alternatives (4 – 9) have a range of impacts, with Alternatives 8 and 9 being the least preferred options given the level and nature of the impacts resulting from removal of the bridge.

Given the identified heritage value of the Hillsburgh Dam Bridge, the following recommendations and mitigation measures should be considered and implemented:

1. Conservation Alternatives 1 -3 are the preferred alternatives, with Alternative 1 being the most preferred. As part of the selection of the preferred alternatives as part of the Environmental Assessment, a clear rationale for the proposed course of action should be documented.
2. This report should be filed with the heritage staff at the municipalities of the Town of Erin, Wellington County Museum and Archives, the Archives of Ontario, and other local heritage stakeholders that may have an interest in this project.
3. This report should be filed with the Ministry of Tourism, Culture and Sport for review and comment.
4. Should retention of the bridge be chosen as the preferred alternative (one of Conservation Alternatives 1 – 7), the character-defining elements identified in Section 8.1 should be retained and treated sympathetically.
5. Should replacement of the bridge be chosen as the preferred alternative (Conservation Alternative 8 or 9), three mitigation options should be considered:
  - a. Replacement/removal of existing bridge and construction of a new bridge with replication of the appearance of the heritage bridge in the new design, with allowances for the use of modern materials. The character-defining elements identified in Section 8.1 should be considered for replication.
  - b. Replacement/removal of existing bridge and construction of a new bridge with historically sympathetic design qualities to the heritage bridge, with allowances for the use of new technologies and materials.
  - c. In addition to (a) and (b), development of a commemorative strategy, such as plaquing, may be appropriate.
6. Should replacement of the bridge be chosen a documentation report should be completed by a Cultural Heritage Specialist and filed with the Town of Erin, the Archives of Ontario, and any other heritage stakeholders that may have an interest in this project.



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**APPENDIX A:  
Photographic Plates**



Plate 1: North approach to the bridge.



Plate 2: South approach to the bridge.





Plate 3: East elevation of the bridge.



Plate 4: Oblique view of the east elevation, looking north. Note the spherical adornment on the southeast endpost of the railing system.





Plate 5: Oblique view of the west elevation, looking north.



Plate 6: Oblique view of the east elevation, looking south.





**Plate 7: Oblique view of the west elevation, looking south.**



**Plate 8: View of the bridge deck, looking south. Note the concrete railings with spindles lining the asphalt deck.**





**Plate 9: View of concrete railing system at the northwest corner of the bridge.**



**Plate 10: Detail of steel barrier attached to the concrete railing system at the southeast corner of the bridge.**





Plate 11: Detail of east side of east railing.



Plate 12: Detail of circular design on bridge post.





Plate 13: Detail of concrete railing system with spindles removed.



Plate 14: Detail of soffit, east railing system, and south abutment.





Plate 15: Detail of concrete deterioration at east side of north abutment.



Plate 16: View towards east side of south abutment.





Plate 17: Detail of the footings on the southeast corner of the south abutment.

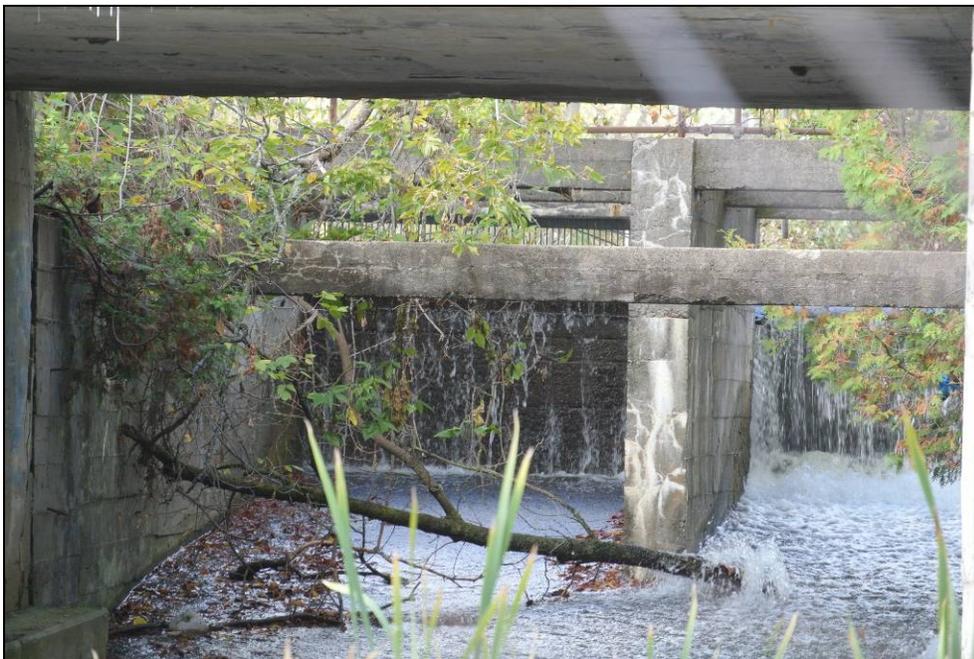


Plate 18: View west along the spillway to the stop log control structure.





Plate 19: Detail of stop log control structure.



Plate 20: Spillway to the east of the subject bridge, looking northeast.





Plate 21: View along the Hillsburgh Dam to the south of the subject bridge.



Plate 20: View west towards Hillsburgh Pond from Hillsburgh Dam.





Plate 21: Nineteenth-century, two-storey farmhouse with hipped roof located to the southwest of the subject bridge.



Plate 22: Two-storey, nineteenth-century brick farmhouse with "L" shape footprint and gable roof located to the northwest of the subject bridge.



**APPENDIX B:  
Town of Erin Bridge Inventory**

Structure ID	Road Name	Location	Owner	Structure Class	Structure Type	Total Deck Length	Overall Structure Width	SPANS	TOTAL_SPAN_LENGTH	No. of Lanes	CONST_YEAR
2066	Erin - Garafraxa Townline	1.3km East of Wellington Rd 24	Town of Erin	Culvert	Open Footing	4.1	17.1	1	3.6	2	0
2068	Erin - Garafraxa Townline	0.5km East of First Line	Town of Erin	Culvert	Open Footing	4.2	7.4	1	3.7	2	0
1	Winston Churchill Blvd	0.1 km North of Sideroad 27	Town of Erin	Culvert	Open Footing	6.6	5	1	6.1	1	1930
2002	Winston Churchill Blvd	1.1 km North of Sideroad 27	Town of Erin	Culvert	Open Footing	5.7	17	1	5	2	1990
2026	Sideroad 32	0.3 km East of Sixth Line	Town of Erin	Culvert	Rectangular Culvert	4.5	10.25	1	4	0	1990
2027	Sideroad 32	0.4 km West of Sixth Line	Town of Erin	Culvert	Open Footing	7.5	8.5	1	3	0	1940
2046	5th. Line	1.6 km South of Sideroad 17	Town of Erin	Culvert	Rigid Frame, Vertical legs	9.35	7.82	1	8.55	2	
2048	5th. Line	0.5 km South of Sideroad 24	Town of Erin	Culvert	Rectangular Culvert	4.1	7.4	1	3.6	2	1960

2051	8th. Line	1.8 km North of Wellington Rd 22	Town of Erin	Culvert	Rectangular Culvert	4.9	19.7	1	4.2	2	1920
16P	Mill Street	0.1km East of Main Street	Town of Erin	Bridge		18.25	2.5	1	18.25	0	0
2052	8th. Line	0.1 km South of Erin-Garafraxa Town Line	Town of Erin	Culvert	Rectangular Culvert	3.7	9.5	1	3.2	2	1910
2053	27th Sideroad	1.2 km east of Ninth Line	Town of Erin	Culvert	Rectangular Culvert	5.6	6.7	1	5	2	1950
2055	17th Side Road	0.6 km East of Fifth Line	Town of Erin	Culvert	Rectangular Culvert	3.9	14.5	1	3.9	2	1950
2057	17th Side Road	0.1 km East of First Line	Town of Erin	Culvert	Rectangular Culvert	3.6	7	1	3.1	2	1945
2059	Station Road (Sideroad 24)	1.3 km West of Fifth Line	Town of Erin	Culvert	Rectangular Culvert	4.5	6.2	1	3.6	2	1930
2060	Station Road (Sideroad 24)	0.2 km East of Fifth Line	Town of Erin	Culvert	Rectangular Culvert	3.5	8	1	3	2	1960
2061	Station Road (Sideroad 24)	0.4 km east of Fifth Line	Town of Erin	Culvert	Rectangular Culvert	4.1	6.4	1	3.6	2	1930

2064	Station Road	0.2 km West of Wellington Rd. 24	Town of Erin	Bridge	Solid Slab	5.2	7.4	1	4.4	2	1917
2067	East Garafraxa Erin Townline	0.01 km East of Second Line	Town of Erin	Culvert	Arch Culvert	5.1	15	1	3.2	2	2000
2071	East Garafraxa Erin Townline	0.1 km East of Third Line	Town of Erin	Culvert	Rectangular Culvert	5.4	14	1	4.7	2	1996
2072	East Garafraxa Erin Townline	0.8 km East of Third Line	Town of Erin	Culvert	Rectangular Culvert	5.4	11.7	1	4.9	2	1970
2082	9th Line	0.8 km South of Erin-Garafraxa Town Line	Town of Erin	Culvert	Rectangular Culvert	4.8	15.7	1	4.2	2	1970
3	1st Line	6.1 km North of Sideroad 32	Town of Erin	Bridge	Frame, Inclined Legs	10.9	5.6	1	10	0	1920
4	1st. Line	4.5 km North of Wellington Rd 22	Town of Erin	Culvert	Rectangular Culvert	10.8	20.6	2	9.6	2	1985
5	2nd. Line	1.2 km South of Erin-Garafraxa	Town of Erin	Bridge	T-Beam	6.5	5.6	1	6	2	1920

		Town Line										
6	3rd Line	1.5 km North of Wellington Rd. 124	Town of Erin	Bridge	T-Beam	9.3	5.6	1	8.5	0	1920	
7	3rd. Line	2.1 km North of Sideroad 27	Town of Erin	Bridge	Bowstring Arch	8.8	7.2	1	7	2	1925	
8	4th Line	0.1 km South of Wellington Rd 22	Town of Erin	Culvert	Rectangular Culvert	7.5	11.6	1	6.6	2	1960	
9	8th Line	0.2 km South of Sideroad 17	Town of Erin	Bridge	Earth Filled Arch	9.8	6.5	1	8	1	1930	
2	10th Line	1.5km South of 15th Sideroad	Town of Erin	Bridge	Bowstring Arch	12	5.8	1	11	1	1910	
10	17th Sideroad	0.1km West of 8th Line	Town of Erin	Culvert	Arch Culvert	10	16	2	8	2	1970	
11	8th Line	0.01KM North of Sideroad 17	Town of Erin	Bridge	T-Beam	8.8	5.8	1	7.3	1	1920	
12	Sideroad 17	0.2km East of Third Line	Town of Erin	Bridge	Frame, Inclined Legs	14	9.1	1	13	2	2001	
13	Dundas St. West	0.4KM West of Main St.	Town of Erin	Culvert	Rectangular Culvert	11.2	10.3	2	10	2	1976	

14	Church Street	0.3km West of Main St.	Town of Erin	Culvert	Rectangular Culvert	4.3	6.8	1	3.5	1	1930
15	Charles Street	0.1KM West of Main St.	Town of Erin	Bridge	Rectangular Voided Slab	9.2	6	1	8	2	1964
16	Mill Street	0.1km East of Main St.	Town of Erin	Culvert	Rectangular Culvert	5	8.5	1	4.2	2	1930
2005	10th Line	1.4km North of Wellington Rd. 124	Town of Erin	Culvert	Rectangular Culvert	5.6	12.2	1	5	2	1965
2009	15th Sideroad	1.0km West of Winston Churchill Blvd. (Wellington Rd. 25)	Town of Erin	Culvert	Arch Culvert	6.3	11.4	1	5	2	2006
2010	15th Sideroad	0.7km West of Winsotn Churchill Blvd (Wellington Rd. 25)	Town of Erin	Culvert	Arch Culvert	5	11.9	1	3.5	2	2006
2011	10th Line	0.2km South of Sideroad 15	Town of Erin	Culvert	Rectangular Culvert	7	9.4	1	5.8	2	1988
2018	1st. Line	5.0km North of Sideroad 32	Town of Erin	Culvert	Rectangular Culvert	7.4	6.3	1	3.7	2	
2019	3rd. Line	1.2km South of Hwy 124	Town of Erin	Culvert	Rectangular Culvert	7.2	7.2	1	3	2	

2023	5th. Line	South of Side road 10	Town of Erin	Culvert	Rectangular Culvert	5.6	12.4	1	4.8	2	1965
2033	1st. Line	0.3km South of Sideroad 17	Town of Erin	Culvert	Rectangular Culvert	4.3	5.6	1	3.6	2	
2039	3rd. Line	0.6KM North of Sideroad 27	Town of Erin	Culvert	Rectangular Culvert	4.9	11.1	1	4.4	0	1970
2040	4th. Line	1.1km South of Erin-Garafraxa Townline	Town of Erin	Culvert	Rectangular Culvert	3.5	14.5	1	3.1	0	2003
2042	Forth Line	0.1km North Station Rd. (Sideroad 24)	Town of Erin	Culvert	Rectangular Culvert	4.2	11.7	1	3.6	2	1970
2045	4th. Line	0.8km South of Sideroad 17	Town of Erin	Culvert	Rectangular Culvert	5.6	8	1	5	2	1950