



Hamilton

**CITY OF HAMILTON
HERITAGE BRIDGE GUIDELINE
&
HERITAGE BRIDGE CONSERVATION**

January 2006



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1.0 INTRODUCTION AND PURPOSE

The Municipal Class Environmental Assessment (Class EA) was updated in June 2000. A major addition to the Class EA was the requirements for Municipalities to undertake a Schedule B or C Class Environmental Assessment when considering “*construction, reconstruction or alteration of a structure or the grading adjacent to it when the structure is over 40 years old.*”

In March 2003, the Municipal Engineers Association clarified that the intent of this clause was to protect bridges of historical significance wherever possible. As such, any work “*that alters the basic structural system, overall configuration or appearance of a structure should fall under a Schedule B or C [Class EA]*” (Municipal Engineers Association Letter, Appendix C). All other works which do not affect the structure in this way (for example resurfacing the bridge deck or repairs to expansion joints) are considered Schedule A (minor) activities which do not require Environmental Assessment Approval.

In light of this new environmental assessment requirement, the intent of this document is to:

- Outline the process by which the City can assess the heritage value of bridges and associated structures which are over 40 years old;
- Document the existing inventory of structures in the City over 35 years old;
- Provide guidance to City staff on fulfilling Environmental Assessment requirements when considering work on structures over 40 years old.

This guideline is not intended to take the place of environmental and municipal planning processes, but rather to aid their implementation.

2.0 EVALUATING THE HERITAGE SIGNIFICANCE OF BRIDGES

2.1 INTRODUCTION

In September 2002 the City completed a *Heritage Structure Assessment*. The study and the assessment were conducted from May to August 2002. The assessment’s aim was to establish a heritage record for all bridge structures over the age of 35 years, to assist in meeting the requirements of the Class EA when work is proposed on a structure.

The *Heritage Structure Assessment* defines a bridge (similarly to CSA-S6-00’s definition) as “*any structure that provides for the passage of a mode of transportation across an obstruction or gap that is greater than 3m in span.*” This definition does not include culverts (“*a structure that forms an opening through an embankment*” according to the CSA-S6-00). The Assessment did include culverts if they were deemed to be worthy of heritage assessment. (Only one was actually added to the 2002 study.) It is not intended that this Guideline address culverts, as they are not subject to the 40-year old Class EA trigger which prompted the writing of this report (See interpretation in the MEA letter, Appendix C). This statement is not intended to prevent the City treating them as heritage structures, however, and implementing any conservation strategies for culverts that they see fit.

In late 2005, the Long Range Planning & Design Section of the City of Hamilton completed a Compendium of Resources for Heritage Bridge Conservation which is

appended to this report (Appendix D). This documentation is to be applied to Master Plans and municipal Class EA studies for heritage bridges.

2.2 HISTORY

The City has a rich cultural heritage. The following summarizes major developments in the history of road and bridge building in the city. A more detailed summary of the development of Hamilton's Roads and bridges is included in the Heritage Structural Assessment.

Ancaster

- 1796 Ancaster: Survey method requires establishment of roads on long sides of lots; predominant drainage pattern is parallel to these long sides of lots which spares many watercourse crossings;
- Ancaster develops quarries, mills at Tiffany Falls;

Dundas

- Desjardins Canal is created in 1837: as a result Dundas develops as a port city; High Level Bridge is constructed later;
- Dundas (became a township in 1848): main roads are created and several crossings of the Spencer Creek are necessary;

Flamborough

- In Flamborough (surveyed late 1700's) roads are created and coincide with numerous small creeks which are product of drumlins;
- Flamborough develops many small milling towns and quarry operations but remains largely undeveloped;

Glenbrook

- Glenbrook (surveyed 1794) roads must also cross many small creeks;
- Glenbrook develops farming-based economy;

Hamilton

- Rail development in the Hamilton area, (first railway in 1854; peak in early 1900's) due to industrialization and to the area's proximity to the Mid-Western States and congested rail routes south of Lake Erie produces many structures;
- 1900's Hamilton: Drastic increase in both road and railway traffic in downtown Hamilton; many rail and road intersections need to be grade-separated for safety and efficiency of movement.

Stoney Creek

- Stoney Creek (surveyed 1791) Survey method and associated road pattern spares many watercourse crossings;

2.3 HERITAGE ASSESSMENT METHODOLOGY

2.3.1 Overview

A review of current methodologies for assessing bridge heritage values in Ontario and from other jurisdictions was used to develop the methodology which Hamilton will use henceforth to assign historic values to its bridges. The method outlined in *The Ontario Heritage Bridge Guideline (1983, draft 2003)* formed the basis of the Hamilton approach, but it was also influenced by methods employed in historic bridge inventories from the states of Virginia and Oregon. The key elements of the resulting Hamilton method are:

- **Identification** of all structures currently over 35 years old;
- **Site visit** and literature review;
- **Compiling the inventory** of the main bridge elements to include: location; crossing notes; City's bridge ID number; former municipality; photo record; structural information; construction period; integrity; previous bridges on the site; historical associations; documentation; value; notes. (Refer to blank heritage structure survey form and explanatory notes in Appendix A)
- **Evaluation** of the bridges according to the following weighted criteria: age (20%); materials (20%); design (15%); integrity (15%); aesthetics and environment (10%); historical associations (18%); documentation/public interest (2%). Details of this evaluation method is included in section 2.3.1.
- **Score tallying**;
- **Classification** of the bridges based on the scores as follows:

Score	Class
70+	Class A: Exceptional Heritage Value
55-69	Class B: High Heritage Value
40-54	Class C: Moderate Heritage Value
39 or less	Class D: Low Heritage Value

- **Review**: several individuals in the City's heritage department will review the inventory, scoring and classification of each bridge to ensure a consistency of approach;
- **Score revision** for any bridge if further information becomes available, such as further historic information. This would be done when the bridge assessment inventory is updated (see section 3).

The method emphasizes simplicity, reproducibility and objectivity. It is meant to serve as a permanent approach to the evaluation of Hamilton's historic bridge value, customized to the City's requirements which can be applied in the future to any bridge by any member of the City's cultural heritage staff or a consultant.

2.3.2 Heritage Evaluation Criteria

The following is a summary of the criteria and weighting which will be used to assess the overall heritage value of bridges. Following the summary, a full description of each factor is included.

<u>Criterion</u>	<u>Points</u>	<u>Criterion</u>	<u>Points</u>
Age 20%	20	Integrity 15%	
Pre 1867		No known material modifications	15
1868-1900	16	Sympathetic modifications	10
1901-1939	12		
1940-1955	8	Aesthetics & Environment 10% (Cumulative)	
1956-1967	4	Ornamentation/Decoration	3
Materials 20%		Remnants of Previous Bridge Site	3
Stone	20	Landmark	2
Timber	15	Gateway	2
Concrete	8		
Steel	8	Historical Association 18% (Cumulative)	
Design 15%		Person/Group	5
Unique	15	Event	5
Unusual	10	Theme	5
Rare as survivor	10	Known/Prolific Builder	3
		Documentation/Public Interest 2%	
		Archived Information	2

Age: Age comprises 20% of the total score. The age criterion is quite straightforward. Five benchmarks have been established that reflect significance in the evolution of bridge design and construction. Using the date recorded in the survey, points are assigned to the structure. The point scale increases parallel to the age of the structure. This also supports the claim that the structure's worth will increase as it ages. All structures are guaranteed at least 4 points since they will be all of at least 35 years of age.

Materials: This criterion comprises 20% of the total. Four common materials found within are included in this criterion. The four materials are allocated points based on historical significance. Concrete and steel, by far the most common materials are given equal weight, while stone is scored higher, due to the intricate crafting that accompanies these structures, followed by timber. Both of these two latter materials were not as common after the turn of the twentieth century. The material used as the superstructure material will be defined as the relevant scoring characteristic. Instances where unique combinations of materials existed will be noted. Unique combinations will be noted under the design criterion and scored appropriately.

Design: This criterion accounts for 15% of the total score. It is the most subjective criteria in the entire assessment. Complications always arise in determining what could be defined as a unique, unusual or rare structure. Uniqueness should be determined with regards to other structures in the immediate area, as well as the collective history of bridge design. As a result, few structures will score points within this criterion--only those undeniably unique, unusual, or rare will score points in this criterion. Structures that are of large scale or unusual material combinations should be the types of structures that score points under this criterion. Although the classification of these structures is complicated, the scoring system is not. Equal points are scored for structures that are deemed either unusual or rare, while more points will be given to those that are truly unique.

Integrity: This criterion is weighted at 15% of the total score. A structure that showed no signs of adverse material modifications will score 15 points under this criterion, while structures that showed signs of sympathetic modifications will score 10 points. Characteristics such as balustrades or signs will not be considered adverse material modifications. However, signs or balustrades that were removed or replaced should be considered adverse as the original pieces were likely disposed of. In situations where the road over the structure is paved, and not part of the design, a sympathetic modification should be scored because the original deck still exists below the pavement.

Aesthetics and Environment: This criterion is weighted at 10% of the total score. The points that could be awarded in this criterion are cumulative providing the structure can meet any of the 4 characteristics noted. Each characteristic is valued equally. Satisfaction of any of the characteristics will not outrank any other satisfaction, whereas one satisfaction would be valued more than another would. The 4 characteristics are as follows:

Ornamentation/Decoration: Any decorative cuts, markings, plates, fixtures, plaques, or symbols, etc., are regarded as satisfaction of this characteristic.

Remnants of Previous Bridge Site: Any sign of former materials, old abutments, etc., on or in the proximity of the structure are regarded as satisfaction of this characteristic.

Landmark: Any structure that could possibly be identified, locally or formally, as a tourist or navigational landmark is regarded as satisfying this characteristic.

Gateway: Any structure that served as a gateway or entrance to a community or point of interest is regarded as satisfying this characteristic.

Historical Association: This characteristic is weighted at 18% of the total score. There are four characteristics that could be satisfied to produce a cumulative score for this criterion. Similar to the aesthetics criterion, no satisfaction of any characteristic will be valued as more or less satisfying for any given characteristic. The characteristics of this criterion will be scored equally except for the Builder characteristic. The associations are deemed more significant than the builder unless the builder was of great prominence and significance. The builder could score as both a Person/Group and a Prolific Builder for a total of 8 points. Points will be given out for only one satisfaction of each characteristic. For example being associated with 2 people should not score the structure 10 points. The 4 characteristics are as follows:

Person/Group: Any person, place, or thing the structure was dedicated to, or funded by, or otherwise tied to, is regarded as satisfaction of the characteristic.

Event: Any time, event, or moment the structure was commemorated for, or otherwise tied to are regarded as having satisfied this characteristic.

Theme: Any specific or common theme that relates to the construction or usage of the structure is regarded as satisfaction of this characteristic. Themes should be identified on the evaluation sheet of the specific structure.

Known Builder (Prolific Builder): If the person responsible for the construction of the structure can be clearly identified it is regarded as satisfying this characteristic. However, if the builder was of known prominence and significance to the history of bridge design and construction, this characteristic will be coupled with the Person/Group characteristic to maximize the points it could be awarded.

Documentation/Public Interest: This criterion is weighted as 2% of the total score. 2 points will be given to structures that possessed any kind of written record outside of the Transportation, Operations, and Environment Department of the City. This is to attribute heritage value to structures whose presence is felt in the community.

3.0 EXISTING HERITAGE INVENTORY

3.1 SUMMARY OF 2002 ASSESSMENT

The results of the 2002 historical assessment are summarized in the following chart which is provided here as a baseline “snapshot” of the current heritage bridge resources in the City over 35 years old. It is notable that only about 2 per cent of the bridges were rated Class A, while roughly 66 per cent were rated Class D. Some structures included in the 2002 survey were not given a heritage value. It was determined after detailed examination of the evidence that these bridges did not meet the age qualifier in 2002. As these

structures reach the 35 year age criterion they will be scored by future surveys.

Former Municipality	Ancaster	Dundas	Flamborough	Glanbrook	Hamilton	Stoney Creek	Class Totals
Class A	1	-	1	-	1	-	3
Class B	-	-	6	-	3	-	9
Class C	1	1	3	3	28	3	39
Class D	14	6	41	20	12	14	107
Not Evaluated*	1	1	0	2	0	1	5
Bridge Totals	17	8	51	25	44	18	163

*Did not meet the 35-year age qualifier.

The source material for this chart (contained in the Heritage Structure Survey #1, 2002) will be reviewed and updated every 5 years and will continue to include all bridges over 35 years old to ensure that the Heritage Bridge Inventory is always current for work planning purposes. New heritage material that has become available and any impact of structural repairs on the "Integrity" score could be incorporated at this time (refer to section 2.3.2).

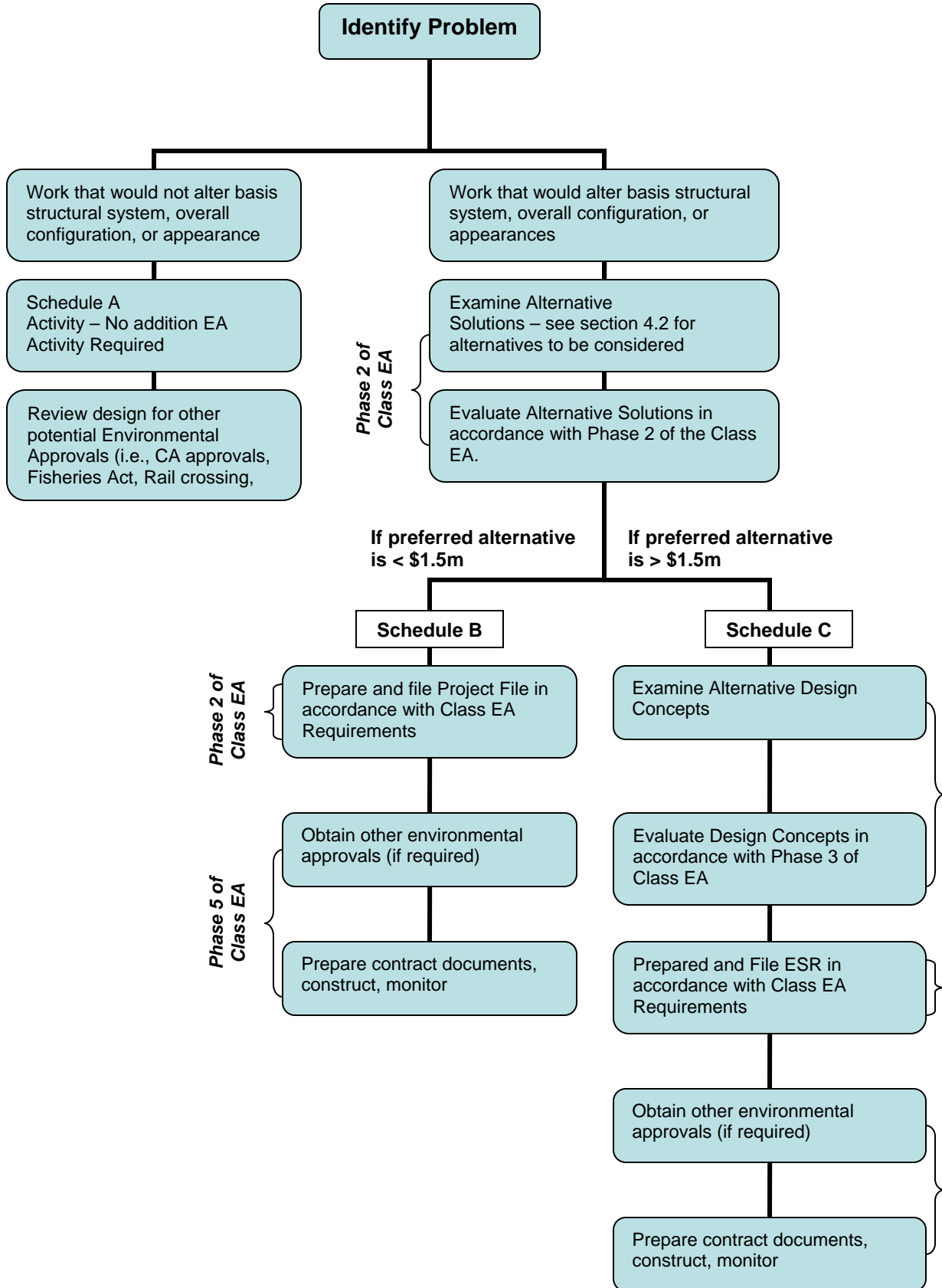
4.0 OVERVIEW OF THE CLASS ENVIRONMENTAL ASSESSMENT PROCESS

4.1 THE PROCESS AS IT APPLIES TO HERITAGE BRIDGES

The following flow chart outlines the environmental assessment (EA) process as it would apply to a city owned bridge structure. A different environmental process would apply if a bridge is not city owned. Federally owned railway bridges, for example, would be subject to the Canadian Environmental Assessment Act (if they have not been turned over to the city for another use such as a recreational trail crossing). Work to provincially owned bridges would be subject to the *Class Environmental Assessment for Provincial Transportation Facilities* (2000). Determining the ownership is the crucial first step which must be completed prior to determining which environmental assessment procedures apply to a particular bridge.

At the time of writing, the City was in progress on determining ownership of bridges in Hamilton. When this information has been confirmed, it is suggested that the environmental features chart "ownership" section (Appendix B) be updated.

This flow chart summarizes the basic EA requirements for typical bridge construction work. The Class EA should be reviewed to identify detailed requirements and consultation opportunities.



4.2 OVERVIEW OF ALTERNATIVES THAT SHOULD BE CONSIDERED

Schedule B or C projects both require consideration of alternatives to the proposed work. (Phase 2, Item 1). The following alternatives must be considered and a clear rationale for the proposed course of action should be documented. The alternatives are arranged in a continuum from strategies with the least impact to the structure and its heritage value (most preferable), to those with the most impact (least preferable): The evaluation of alternatives must consider natural, social, economic and cultural conditions in addition to technical and cost considerations.

- a. 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;
- b. retention of existing bridge with no major modifications undertaken;
- c. retention of existing bridge with sympathetic modification;
- d. retention of existing bridge with sympathetically designed new structure in proximity;
- e. retention of existing bridge no longer in use for vehicle purposes but adapted for pedestrian walkways, cycle paths, scenic viewing, etc.;
- f. relocation of bridge to appropriate new site for continued use (see d) or adaptive re-use (see e);
- g. retention of bridge as heritage monument for viewing purposes only;
- h. replacement/removal of existing bridge with salvage of elements/members of heritage bridge for incorporation into new structure or for future conservation work or displays;
- i. replacement/removal of existing bridge with full recording and documentation of the heritage bridge.

In addition, two mitigation options are suggested by the *Ontario Heritage Bridge Guideline* in the case of bridge replacement/removal:

- 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;
- 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.

The alternative chosen should respond directly to the heritage value which has been determined for the bridge: *“the higher the heritage score, the more diligent should be the efforts to conserve the bridge in the most desirable manner possible.”* In Hamilton’s case, this means that bridges rated by the *Heritage Assessment* as Class A should receive treatments closer to the top of this list, while those rated Class D receive treatments closer to the bottom of the list. Of course, the choice of any option cannot be made without careful consideration of technical, financial, natural environmental and other concerns. The mitigation components of these options would be used to satisfy Phase 3, Item 3 of the Class EA process: *“Identify impact of alternative designs on environment, and mitigating measures.”*

4.3 OTHER ISSUES THAT SHOULD BE CONSIDERED

The Class EA process entails “Detail Inventory of natural, social, and economic environment”. The purpose of this step with respect to bridge construction work is to identify all features which may be negatively impacted by the construction methods and/or the permanent bridge installation. These elements include: fisheries resources, navigable waters, land uses like agriculture, archaeological resources, built heritage in the vicinity, etc. A series of charts was developed in 2002 which addressed, in a cursory way, the relevant environmental conditions of the 2002 35-year-old city bridges, including the current heritage value for each of the then-assessed structures (Appendix C).

These charts are included here because they provide Hamilton-specific examples of typical environmental information which must be considered for each bridge when structural repair is being scheduled. They also serve as handy summaries of Hamilton bridge baseline information for 2002, which could be used in the near future for initial scoping of environmental approvals for these structures. Naturally these could only be used for preliminary environmental scoping only, and their information must be kept updated if it is to be of use, and must be studied in much greater detail if an environmental approval is sought. It is suggested that the basic information in these charts be reviewed and updated every five years when the heritage information is reviewed.

Of course several other approvals may be required for a bridge project, related to the concerns listed above and others, such as: Department of Fisheries and Oceans approval in relation to work affecting fisheries resources, Coast Guard approval in relation to navigation issues, conservation authority approval for work around watercourses and within flood plains, approval of the railway companies for work that would impact their structures. Work that would affect provincial highway traffic would require Ministry of Transportation approval of construction staging and detours.

4.4 CONCLUSION

It must be reiterated that this Guideline is not intended to take the place of environmental and municipal planning processes. The determination of an acceptable work plan for a heritage bridge requires a case-specific balancing of all concerns. It must also necessarily involve specialists with a diverse range of professional skills, and consultation with the relevant agencies the general public. It is hoped that this Guideline will help guide these difficult processes in the future.

APPENDIX A

HERITAGE STRUCTURE SURVEY FORM

HERITAGE STRUCTURE SURVEY FORM

UTM reference: E: N: Asset ID:

Street and crossing:

Former Municipality(ies): Date of survey(s):

Built heritage inventory file no:

[Insert Photos]

Bridge type: beam/deck/slab [] Arch [] Pony/Through Truss []
Cantilever [] Bailey []

Other:

No. of spans: Single span [] Continuous span [] Multi-span [] No. of spans []

No. of lanes:

Construction period: Pre-1867 [] 1868-1900 [] 1901-1939 [] 1940-55 [] Post 1955 []

Date if known _____ Builder/Engineer if known _____

Abutment construction material(s): Stone [] Concrete [] Timber []
Other _____

Pier construction material: Stone [] Concrete [] Timber []
Other _____

Superstructure construction material: Stone [] Wrought Iron [] Steel []
Concrete [] Timber []

Integrity: Little Altered [] Altered [] Adversely Altered []

Previous bridges/bridge site:

Historical associations (If known):

Person/group

Event

Activity or use

Documentation:

Group and/or landmark value:

Notes:

Photos:

HERITAGE STRUCTURE SURVEY FORM - INSTRUCTIONS

The entire form should be limited to one page in length for each structure. Refer to the completed survey forms in the current Heritage Structure Assessment for examples.

The top section of the survey form contains identification information. The **Built heritage inventory file number** and **Asset ID**, are reference numbers that are used to document bridge information in databases owned by the Transportation, Operations, and Environment Department and the Heritage and Urban Design Section of the City. The asset ID number is the number currently used by the City to manage bridge structures.

The **UTM reference number** is a way of geographically representing the location of a structure commonly used for topographic maps. Northing and easting coordinates to identify the structure's position should be inserted here. The **street name(s) and crossing element(s)** such as creek or railway name are inserted as another way of identifying the location of the structure.

Identification of the **former municipality** within which the structure is located provides reference to the ownership and responsibility of a structure should it be necessary in the future. It should be noted that this category does not differentiate between structures that the city is responsible for and ones they are not.

At least two photos of the structure taken from major angles including at least one side view should be inserted into the second section of the survey form.

The third section of the survey form contains all the characteristics that are relevant to heritage value:

Bridge type: The most common Hamilton area bridge design styles are noted, and should be listed here for each structure. Another option is included for unusual bridge design types. On most occasions a subtype should be recorded in this spot if applicable. City Transportation, Operations, and Environment Department records indicate subtypes. The intent of this section is to make as much information from city records present on the survey form as possible to ensure consistency.

Number of Spans: This is reflective of the design characteristics of a structure.

Number of Lanes: This characteristic is inserted to indicate the traffic capacity of a structure, if applicable.

Construction Period: Five significant eras in the evolution of bridge design were included in this category. They identify important times when design philosophies and material usage changed or progressed. A more thorough explanation of these eras is found under "Age" in Section 2.4 of this Guideline.

Date: A construction date should not be recorded unless it can be verified either by an imprint or plaque on the structure or a written record outside of the city database. This is done because there have been inaccuracies found in the database construction dates. In some cases, dates when a bridge was repaired or refurbished had replaced the original

date of construction. However, the actual date of construction is not as significant as the construction period. Using other physical characteristics and recorded information construction periods can be hypothesized.

Builder/Engineer: This information, as expected, has been very hard to come by because this data was never consistently recorded. Still sometimes evidence of a builder/engineer is found as part of the bridges' historical records, and it should be included here.

Abutment, Pier, and Superstructure Materials: The most common materials used in Hamilton's bridge designs have been identified in the form for each of these structural components and should be recorded for each structure. Notes should be made of other, unusual or significant combinations of materials.

Integrity: Current field observations should be noted regarding the historical integrity of the structure. It is important to observe and note signs of unsympathetic modifications that will negatively impact the heritage value of the structure. Sympathetic or non-adverse alterations should also be noted, but will not count against the structure's score. This characteristic is difficult to gauge and thus has to be carefully interpreted on a case-by-case basis. To avoid a subjective process, any alterations should be judged in consultation with several staff members to see if they prove to be detrimental to a structure's overall value.

Previous Bridges/bridge site: If evidence of previous bridges on the site is available it should be recorded here. In past surveys this evidence has included observations of reused materials such as former abutments and decking in the structures. A review of written records should also be made to uncover information about previous structures and former bridge sites. However, unless former bridge construction or the immediate area's history is well documented, this source has failed in past surveys to yield consistent results.

Historical Associations: Any information that provided a link between the structure and a person, event, or activity should be recorded because it contributes to the heritage value of the structure. In some cases this information may be abundant, whereas with others it may be non-existent. It was found in previous surveys that sometimes structures had apparent ties to the immediate history of an area but it was not officially recorded. In these cases connection of the structure to a 'theme' should be suggested so as to appropriately score the potential heritage value of that structure. For example: a recurring observation in Hamilton is that many structures span railways, and so their obvious connection with the 'theme' of rail development in Hamilton would be recorded.

Documentation: Some of the City's structures possess well-organized records that contain construction details, historical associations, newspaper articles and photographs. However, there are many others that were not documented at all. A comment on the volume and type of records available for each structure, if any, should be made in this section of the form because it can reveal the level of public interest in individual structures which impacts their score, but also has potential to improve awareness of the level of document organization at local heritage archives.

Group and/or landmark value: Many structural types recur in bridge designs throughout the city. Any unique and unusual distinctions between these similar structures should be recorded in this section. Any landmark or gateway characteristics of the bridge as explained in detail under “Aesthetics and Environment” in Section 2.4 of this Guideline.

Notes: A brief discussion of the structure’s overall heritage value should be included in this section which notes significant factors that contributed to its score.

Photos: This section allows space to describe the photo views.

APPENDIX B

SUMMARY OF ENVIRONMENTAL FEATURES (2002)

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Ancaster

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
Arch				
372	Wilson Street – Tiffany Creek Ownership: City	Masonry arch culvert Road over/creek under	Pre-1867 (confederation) single span tooled rock-faced stone arch culvert Score & Grade: 70, A (exceptional)	Adjacent Land Uses: Rural road. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
Rigid Frame				
100	Gravel pit road— Former rail line Ownership: N/A	Concrete rigid frame/ vertical legs/ fixed articulation Road under/trail over	1901-1939 concrete with metal balustrade Score & Grade: 40,C (moderate)	Adjacent Land Uses: Rural road, trail. Archaeological Resources: Not likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
Slab				
99	Jerseyville Road – Unknown creek Ownership: City	Concrete solid slab/ fixed articulation Creek under/road over	Not evaluated: not believed to be over 35 years old Score & Grade: N/A	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Ancaster

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
102	Butter Rd.- Big Creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	Post 1955 simple concrete box Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
103	Butter Rd.- Big Creek Ownership: City	Concrete box/open footing/ Fixed articulation Creek under/road over	Post 1955 simple concrete box Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land, horse track. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
104	Book Rd.- Unknown creek Ownership: City	Concrete box/open footing/ Fixed articulation Creek under/road over	1940-1955 simple concrete box Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Ancaster

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
105	Book Rd- Unknown creek Ownership: City	Concrete box/open footing/ fixed articulation Creek under/road over	1940-1955 concrete box Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
106	Alberton Road – Unknown creek Ownership: City	Concrete solid slab/ simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
107	Field Rd.- Big Creek Ownership: City	Concrete solid slab/ simply supported Creek under/road over	Post 1955 concrete box Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
108	Indian Trail Rd.- Fairchild Creek Ownership: City	Concrete box/open footing/ Fixed articulation Creek under/road over	1949 - 1955 concrete box Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Ancaster

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
109	Powerline Rd.- Fairchild creek Ownership: City	Concrete box/open footing/ Fixed articulation Creek under/road over	Post 1955 concrete box Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, open space. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
110	Weir Rd.- Fairchild Creek Ownership: City	Concrete box/open footing/ Fixed articulation Creek under/road over	Post 1955 concrete box Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
111	Mineral Springs Road- Spencer Creek Ownership: City	Concrete box/closed footing/ Fixed articulation Creek under/road over	Post 1955 concrete box with decorative cuts and balustrade Score & Grade: 25,D (low)	Adjacent Land Uses: Rural road. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
113	Sulphur Springs- Spencer Creek Ownership: City	Concrete box/rigid frame/vertical legs/fixed articulation Creek under/road over	Post 1955 concrete box Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road with homes set well back. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Ancaster

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
114	Golf Links Rd- Ancaster Creek Ownership: City	Concrete box/rigid frame/vertical legs/fixed articulation Creek under/road over	Post 1955 concrete box; refurbished Score & Grade: 30,D (low)	Adjacent Land Uses: Suburban road, homes not adjacent to bridge. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
115	Lower Lions Club - Tiffany Creek Ownership: City	Concrete box/closed footing/ Fixed articulation Creek under/road over	1940-1955 concrete box Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road with homes set well back. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
116	Lower Lions Club Rd- Ancaster Creek Ownership: City	Concrete box/open footing/ Fixed articulation Creek under/road over	Post 1955 concrete box with wing walls Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road with homes set well back. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Dundas

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
Beam				
89	Market Street- Spencer Creek Ownership: City	Precast concrete I-beams simply supported Creek under/road over	Post 1955 steel beams with concrete deck and concrete abutments Score & Grade: 30,D (low)	Adjacent Land Uses: Urban collector road, residential area, parkland. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
297	Osler/Main Street- Spencer Creek Ownership: City	Steel I-beams simply supported Creek under/road over	Post 1955 steel beams with concrete deck and concrete abutments; steel and concrete balustrade Score & Grade: 35,D (low)	Adjacent Land Uses: Urban highway, residential area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
309	York Rd. – C.N. Rail line Ownership: N/A	Steel I-beams simply supported Rail over/road under	1964 steel structure with concrete abutments Score & Grade: 40,C (moderate)	Adjacent Land Uses: Rural road, conservation area, open space. Archaeological Resources: Not likely Natural Resources: Creeks nearby, wooded area.
Rigid Frame				

HAMILTON BRIDGES MASTER PLAN SUMMARY OF ENVIRONMENTAL FEATURES Dundas

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
92	Alma Street Ownership: City	Precast concrete slab/box/open footing/fixed articulation Watercourse under/road over	Not evaluated: not believed to be over 35 years old Score & Grade: N/A	Adjacent Land Uses: Minor urban road, residential area with houses adjacent. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
296	Governor's Road – Spencer Creek Ownership: City	Concrete solid slab with fixed articulation Creek under/road over	1957 concrete with simple concrete/steel balustrade Score & Grade: 35,D (low)	Adjacent Land Uses: Major urban road, industrial area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
Slab				
91	Ogilvie-Spencer Creek Ownership: City	Precast rectangular concrete/ simply supported Creek under/ road over	Post 1955 concrete slab with simple steel balustrade; adjacent remnants of suspected earlier bridge Score & Grade: 38,D (low)	Adjacent Land Uses: Minor urban road, industrial area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Dundas

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
95	Thorpe Street- Spencer Creek Ownership: City	Precast concrete/rectangular/ simply supported Creek under/road over	1940-1955 Concrete with decorative steel balustrade Score & Grade: 34,D (low)	Adjacent Land Uses: Minor urban road, residential, commercial. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
300	Cootes Drive- Coldwater/ Syndenham Creek Ownership: City	Concrete box/open footing/fixed articulation Creek under/road over	Post 1955 Concrete with steel railing Score & Grade: 12,D (low)	Adjacent Land Uses: Major urban road, open space. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
Trestles				
79	Snake Road – C.P. Rail Ownership: City	Timber trestle/simply supported/ 7 spans Rail under/road over	1901-1939 timber trestle; scarce bridge type; one of a few in Hamilton area Score & Grade: 57,B (high)	Adjacent Land Uses: Town (Waterdown) collector road, open space, single family residential. Archaeological Resources: Not likely Natural Resources: Wooded area.
Box Beam				
352	Mill Street- CP rail line Ownership: City	Steel half-through beams/ simply supported Road under/rail over	1911 steel beams on concrete abutments Score & Grade: 55,B (high)	Adjacent Land Uses: Town (Waterdown) road, park, residential, open space, pumping station. Archaeological Resources: Not likely Natural Resources: Wooded area.
Beam				
3	Weir Road – Former Grand Trunk Rail Line Ownership: City	Steel I-beam simply supported Road under/pedestrian over	1868-1900 steel beams on stone abutments Score & Grade: 57,B (high)	Adjacent Land Uses: Rural road, residential, agricultural. Archaeological Resources: Likely Natural Resources: Wooded area.

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
6	Studiman Road – Moffat's Creek Ownership: City	Timber planks on I-beams simply supported Creek under/road over	1940-1955 steel/timber Score & Grade: 38,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
8	Concession 6 W – Moffats Creek Ownership: City	Timber planks on I-beams simply supported Creek under/ road over	1901-1939 timber/steel deck supported by stone abutments; road inactive Score & Grade: 35,D (low)	Adjacent Land Uses: Rural road. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
30	Crooks Hollow – Spencer Creek Ownership: City	Precast concrete I-beams simply supported Creek under/road over	1901-1939 concrete with concrete abutments; remains of steel structure to north Score & Grade: 32,D (low)	Adjacent Land Uses: Rural collector road, conservation area, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
31	Pedestrian path off Fallsview Rd. – Spencer Creek Ownership: City	Steel I-beams simply supported/ 4 spans Creek under/trail over	Post 1955 steel with concrete abutments; abutments possibly part of a former structure Score & Grade: 38,D (low)	Adjacent Land Uses: Minor town (Flamborough) road, single family residential, commercial. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation)
33	Weir Road- Barlow Creek Ownership: City	Steel I-beams simply supported/ Creek under/ road over	1901-1939 steel and concrete with concrete abutments; road inactive. Score & Grade: 35,D (low)	Adjacent Land Uses: Rural road near Troy, agricultural. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
34	Woodhill Road - Former Grand Trunk rail line Ownership: N/A	Steel I-beams/ simply supported Road under/rail over	Pre-1867 steel beams on rock-faced stone abutments Score & Grade: 66,B (high)	Adjacent Land Uses: Rural road, agricultural, single family residential. Archaeological Resources: Likely Natural Resources: Wooded area.

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SUMMARY OF ENVIRONMENTAL FEATURES
Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
35	Inksetter Road- Former Grand Trunk Rail line Ownership: City	Steel half-through beams/simply supported/3 spans Rail under/road over	1901-1939 steel beams on steel piers with concrete bases Score & Grade: 40,C (moderate)	Adjacent Land Uses: Minor rural road, agricultural land, single family residential. Archaeological Resources: Not likely Natural Resources: No significant features.
36	Binkley Road - CNR Ownership: N/A	Masonry earth covered arch slab simply supported Road under/rail over	Pre-1867 finely tooled, rock face stone arch; one of a few bridges of this type in Hamilton Score & Grade: 75,A (exceptional)	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Wooded area, creek nearby.
37	Weirs Line- Former Grand Trunk rail line Ownership: N/A	Steel I-beams/simply supported Road under/rail over	Pre-1867 steel beams on rock- faced stone abutments Score & Grade: 56, B (high)	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Wooded area.
70	Concession 10 E- Carlisle Creek Ownership: City	Steel I-beams/ simply supported Creek under/road over	1901-1939 steel and concrete structure on concrete abutments and simple balustrade Score & Grade: 35,D (low)	Adjacent Land Uses: Rural collector road, agricultural land. Archaeological Resources: Likely Natural Resources: Wooded area, watercourse (consider fisheries and navigation).

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Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
71	Greenspring Rd.- C.P. rail line/ Bronte Creek Ownership: City	Steel I-beams/ simply supported Creek & road under/rail over/ 3 spans	1911-1912 steel structure on concrete abutments and piers Score & Grade: 57,B (high)	Adjacent Land Uses: Minor town (Carlisle) road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
72	Progreston Rd. – Bronte Creek Ownership: City	Precast concrete T-beams/ simply supported Creek under/road over	1963 concrete beams on concrete abutments with balustrade Score & Grade: 30,D (low)	Adjacent Land Uses: Minor town (Carlisle) road, single family residential area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
81	Harvest Road- Rail line Ownership: N/A	Steel I-beams/ simply supported; rails removed Road under/rail over	1901-1939 steel beams on concrete abutments; deck not accessible: fenced off. Score & Grade: 40,C (moderate)	Adjacent Land Uses: Town (Flamborough) collector road, single family residential area, open lot, conservation area. Archaeological Resources: Not likely Natural Resources: No significant features.

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Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
347	Carlisle Road- Bronte Creek Ownership: City	Concrete T-beams/simply supported Creek under/road over	1901-1939 concrete structure on concrete abutments; concrete balustrade with decoration Score & Grade: 38,D (low)	Adjacent Land Uses: Rural collector road, agricultural, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
349	Centre Road- Bronte Creek Ownership: City	Steel I-beams/simply supported Creek under/road over	1901-1939 concrete and steel structure on concrete abutments; concrete balustrade Score & Grade: 38,D (low)	Adjacent Land Uses: Rural collector road, school, single family residential, agricultural. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
26	Concession 4 W – West Spencer Creek Ownership: City	Concrete rigid frame, fixed articulation Creek under/road over	Post 1955 concrete Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
27	Orkney Road – Spencer Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	Post 1955 concrete Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).
68	Concession 11 E – Mountsberg Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	Post 1955 concrete with post and cable railing Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, single family residential, campground. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
69	Concession 10 E – Mountsberg Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	Post 1955 concrete with post and cable railing; much deteriorated Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, single family residential, campground. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.

HAMILTON BRIDGES MASTER PLAN SUMMARY OF ENVIRONMENTAL FEATURES Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
341	Westover Rd. – Unknown creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	1949 Concrete with concrete balustrade and metal guide rail Score & Grade: 19,D (low)	Adjacent Land Uses: Rural road, agricultural land, open lot. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
342	Westover Rd. - Spencer Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	1949 Concrete with concrete balustrade and metal guide rails Score & Grade: 19,D (low)	Adjacent Land Uses: Rural road, agricultural land, residential, open lot. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
450	Highway 5 W – Unknown Creek Ownership: City	Concrete rigid frame/vertical legs/continuous articulation/ 2 spans Creek under/road over	1940-1955 concrete supported by concrete pier Score & Grade: 31,D (low) <i>Noted as Score: 31, Class 'C' on Heritage sheets.</i>	Adjacent Land Uses: Rural highway, single family residential, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).

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SUMMARY OF ENVIRONMENTAL FEATURES
Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
451	Dundas St. - Canadian Pacific Rail line/ Grindstone Creek Ownership: N/A	Concrete T-beams/ continuous articulation/4 spans Creek & rail under/road over	1966 concrete on concrete piers, metal balustrade; several former structures on site Score & Grade: 44,C (moderate)	Adjacent Land Uses: Town (Waterdown) highway, commercial, residential areas. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
Slab				
4	Concession 8 W – Unknown creek Ownership: City	Cast in place concrete solid slab simply supported Creek under/road over	1940-1955 concrete slab with unsympathetic patching and metal guiderails Score & Grade: 26,D (low)	Adjacent Land Uses: Rural road, agricultural land, open lot. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
7	Concession 7 W – Moffats Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).

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SUMMARY OF ENVIRONMENTAL FEATURES
Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
9	Concession 6 W – Moffats Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).
10	Concession 6 W – Unknown creek Ownership: City	Concrete solid slab simply supported/2 spans Creek under/road over	Post 1955 concrete slab on concrete piers Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).
11	Concession 8 W – Spencer Creek/Beverly Swamp Ownership: City	Concrete solid slab Creek under/road over	Post 1955 concrete slab with concrete balustrades Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, conservation area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wetland, wooded area, wetland.

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SUMMARY OF ENVIRONMENTAL FEATURES
Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
13	Concession 6 W – Moffats Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	1940 concrete with concrete balustrades Score & Grade: 34,D (low)	Adjacent Land Uses: Rural road, single family residential, open lot. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).
15	Concession 4 W – Spencer Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	1940 concrete slab Score & Grade: 34,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
16	Concession 4 W – Spencer Creek Ownership: City	Concrete solid slab, simply supported with guiderails/ 2 spans Creek under/road over	1940-1955 concrete slab with concrete piers Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.

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Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
17	Concession 4 W – Spencer Creek Ownership: City	Concrete box closed footing fixed articulation Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).
18	Concession 5 W- Barlow Creek Ownership: City	Concrete solid slab, simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
20	5 th Road West- Fairchild Creek Ownership: City	Concrete solid slab/ simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), narrow wooded area.

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Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
23	Lynden Road- Fairchild Creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	1940-1955 concrete slab Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
24	Concession 4 W – Barlow creek Ownership: City	Concrete box/open footing/ continuous articulation Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
25	Lynden Road- Barlow creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	1940 concrete slab with concrete balustrade Score & Grade: 38,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).

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SUMMARY OF ENVIRONMENTAL FEATURES
Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
63	Puslinch Townline - Bronte Creek Ownership: City	Concrete solid slab/simple supported with concrete railing Creek under/road over	1925 concrete slab Score & Grade: 38,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).
64	Concession 14 E - Bronte Creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	1948 concrete slab Score & Grade: 34,D (low)	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
65	Mountsberg Rd. – Bronte Creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.

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SUMMARY OF ENVIRONMENTAL FEATURES
Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
66	Mountsberg Rd. – Bronte Creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	1940-1955 concrete slab with concrete balustrade Score & Grade: 34,D (low)	Adjacent Land Uses: Rural road. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
67	Concession 11 E- Unknown creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	Post 1955 concrete slab Score & Grade: 22,D (low)	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
75	Concession 5 E- Grindstone Creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	Post 1955 concrete slab with metal guiderail Score & Grade: 12,D (low)	Adjacent Land Uses: Suburban/rural collector road, open lot, park, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.

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Flamborough

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
335	Regional Road 97- Unknown creek/ Beverly Swamp Ownership: City	Concrete box/open footing/ fixed articulation Creek under/road over	1940-1955 concrete box Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area, possibly wetland.
338	Rockton Road- Barlow Creek Ownership: City	Concrete box/open footing/ fixed articulation Creek under/road over	1940-1955 concrete box with concrete balustrade Score & Grade: 31,D (low)	Adjacent Land Uses: Major town (Rockton) road, single family residential, agricultural, exhibition grounds. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation).
340	Concession 5 W- Spencer Creek Ownership: City	Concrete box/open footing/ fixed articulation Creek under/road over	1940-1955 concrete box with steel guiderail Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, single family residential, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
344	Concession 5 W- Unknown creek Ownership: City	Concrete box/open footing/ fixed articulation Creek under/road over	1940-1955 concrete box Score & Grade: 16,D (low)	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.
348	Cambellville Road- Bronte Creek Ownership: City	Concrete solid slab/ fixed articulation Creek under/road over	1949 concrete slab Score & Grade: 34,D (low)	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries and navigation), wooded area.

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Glanbrook

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
Beam				
# N/A <i>Note: Not in City inventory.</i>	Former Hall Rd – Unknown creek Ownership: City	Steel beam simply supported Creek under/road over	1901-1939 steel beams on concrete abutments; steel balustrade Score & Grade: 35,D (low)	Adjacent Land Uses: Rural road. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
118	Woodburn- Twenty Mile Creek Ownership: City	Concrete T-beams simply supported Creek under/ road over	1922 concrete beams with concrete balustrade; plaque Score & Grade: 40,C (moderate)	Adjacent Land Uses: Rural road, single family residential, agricultural. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
355	White Church Rd. – Former C.N. Rail line Ownership: N/A	Steel I-beams simply supported/ 3 spans Trail under/road over	1958 steel beams on concrete piers and abutments; box-girder style is rare Score & Grade: 37,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Not likely Natural Resources: Wooded area.

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Glanbrook

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
427	Haldibrook Road- Buckhorn Creek Ownership: City	Steel I-beam simply supported Creek under/road over	1901-1939 steel beams on concrete abutments with steel balustrade; inactive road Score & Grade: 35,D (low)	Adjacent Land Uses: Rural road. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
432	Sinclairville Rd. – Welland River Ownership: City	Steel I-beam simply supported/ 3 spans River under/road over	Post 1950 steel and concrete structure supported by concrete piers Score & Grade: 44,C (moderate)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
Rigid Frame				
414	Miles Rd. - Twenty Mile Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	1951 concrete with steel balustrade Score & Grade: 34,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.

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Glanbrook

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
415	Trinity Rd. – Twenty Mile Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	1940-1955 concrete Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
419	Golf Club Road- Unknown creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	Post1955 concrete Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
420	Hendershot Rd. – Twenty Mile Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	1940-1955 concrete with concrete balustrade Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
429	Woodburn Road – Unknown Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	1964, concrete with simple concrete balustrade Score & Grade: 30,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
430	Westbrook Rd. - Unknown creek Ownership: City	Steel I-beams/simply supported Creek under/road over	Not evaluated: not believed to be over 35 years old Score & Grade: N/A	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
431	Westbrook Rd.- Unknown creek Ownership: City	Concrete Rigid frame/vertical legs/fixed articulation Creek under/road over	Not evaluated: not believed to be over 35 years old Score & Grade: N/A	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
433	Westbrook Road – Wolf Creek/ Welland River Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	1947 concrete with concrete/steel balustrade Score & Grade: 47,C (moderate)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
434	Westbrook Road – Unknown creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	Post 1955 concrete Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, single family residential, commercial. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
435	Berry Rd.- Little Wolf Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	1963 concrete Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.

Slab

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
356	Nebo Road- Twenty Mile Creek Ownership: City	Concrete solid slab/fixed articulation Creek under/road over	1940-1955 concrete slab with concrete balustrade and steel guiderail Score & Grade: 12,D (low)	Adjacent Land Uses: Rural road, agricultural land, open lot. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
357	Fletcher Road — Twenty Mile Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	Post 1955 concrete slab Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
358	Fletcher Road – Unknown creek Ownership: City	Concrete solid slab simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
360	Blackheath Road- Buckthorn Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	1940-1955 concrete slab; unsympathetic patching Score & Grade: 16,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
417	Harrison Road Unknown Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	1939-1955 concrete slab Score & Grade: 16,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
418	Harrison – Buckhorn Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation) wooded area.
421	Hendershot – Sinkhole Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, open lot, agricultural, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
422	Guyatt Road – Unknown creek Ownership: City	Concrete solid slab simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
423	Kirk Road – Wolf Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	1962 concrete slab Score & Grade: 30,D (low)	Adjacent Land Uses: Rural road, agricultural land, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
424	Kirk Road – Little Wolf Creek Ownership: City	Concrete solid slab simply supported Creek under/road over	1962 concrete slab Score & Grade: 30,D (low)	Adjacent Land Uses: Rural road, agricultural land, residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation) wooded area.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
Trestles				
173	Ray Street – Former T.H.&B. rail line Ownership: City	Timber/log simply supported/ 5 span Rail under/ pedestrian over (formerly traffic over)	1868-1900 wooden trestle; scarce bridge type Score & Grade: 53,C (moderate)	Adjacent Land Uses: Urban pedestrian way, single family residential. Archaeological Resources: Likely Natural Resources: No significant features.
174	Pearl Street – Former T.H.&B. rail line Ownership: City	Steel I-beams/ simply supported/ 5 spans Rail under/ pedestrian over (formerly traffic over)	1868-1900 wooden trestle; scarce bridge type Score & Grade: 53,C (moderate)	Adjacent Land Uses: Urban pedestrian way, single family residential. Archaeological Resources: Likely Natural Resources: No significant features.
Trusses				
186	Emerald Street – CN rail line Ownership: N/A	Steel half through truss/continuous 3 spans Rail under/ pedestrian over	1915 steel truss on steel piers; timber deck Score & Grade: 43,C (moderate)	Adjacent Land Uses: Minor urban road, residential with houses adjacent. Archaeological Resources: Not likely Natural Resources: No significant features.
Arch				

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
292	Mud St./Mountain Brow Blvd. – Red Hill Creek Ownership: City	Concrete earth covered arch slab/ fixed articulation Creek under/road over	1901-1939 Concrete arch with stepped wing walls and simple decorative balustrade Score & Grade: 48,C (moderate)	Adjacent Land Uses: Suburban residential, wooded area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area, Niagara Escarpment.
Cantilevered				
310	York Blvd.- Desjardins Canal Ownership: City	Steel spandrel arch/continuous/ 3 spans Canal under/road over	1932 steel and concrete structure with heavy decoration Score & Grade: 77,A (exceptional)	Adjacent Land Uses: Highway & Expressway, arboretum, open space, cemetery, canal. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wetland, Hamilton Harbour.
Bailey				

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
457	Valley Inn Rd.- Grindstone Creek Ownership: City	Steel Temporary modular bridge/ Simply supported/3 spans	Post 1955 Connecting steel panels and timber deck on concrete abutments; only bridge of this type in Hamilton area Score & Grade: 57,B (high)	Adjacent Land Uses: Minor suburban road, botanic gardens, cemetery. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), Hamilton Harbour.
Box Beam				
303	Main Street W. – Former rail line Ownership: City	Steel half-through beams/simply supported Road under/trail over	1901-1939 steel structure on decorated concrete abutments; rare bridge type in Hamilton area Score & Grade: 43,C (moderate)	Adjacent Land Uses: Major urban road, trail, residential, commercial, open space. Archaeological Resources: Not likely Natural Resources: Wooded area, creek nearby.
321	Kenilworth Access- Former TH&B rail line Ownership: City	Steel half-through beams/continuous/2 spans Road under/trail over	1940-1955 steel structure on concrete abutments; rare bridge type in Hamilton area Score & Grade: 49,C (moderate)	Adjacent Land Uses: Major urban road, open space, residential. Archaeological Resources: Not likely Natural Resources: Niagara Escarpment.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
330	Birch Ave – CN rail line Ownership: N/A	Steel half-through beams/continuous/3 span Road under/rail over	1915 steel and concrete structure on concrete piers; rare bridge type in Hamilton area Score & Grade: 58,B (high)	Adjacent Land Uses: Urban collector road, industrial area. Archaeological Resources: Not likely Natural Resources: No significant features.
331	Birch Ave – CN rail line Ownership: N/A	Steel half-through beams/simple supported Road under/rail over	1901-1939 steel structure on concrete abutments; rare bridge type in Hamilton area Score & Grade: 50,C (moderate)	Adjacent Land Uses: Urban road, industrial, open space. Archaeological Resources: Not likely Natural Resources: No significant features.
Beam				
85	Parkdale Ave.— Lawrence Road Ownership: City	Concrete I-beams/simple supported/3 spans Road under/road over	1955 pre-stressed concrete on concrete piers and abutments; simple metal balustrade; first bridge of this kind in Hamilton Score & Grade: 45,C (moderate)	Adjacent Land Uses: Minor urban roads, residential area with houses adjacent but set well back, parkland. Archaeological Resources: Not likely Natural Resources: No significant features.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
86	Melvin Ave- Red Hill creek Ownership: City	Concrete T-beams/fixed articulation Creek under/road over	1920 steel beam and concrete deck with decorative concrete balustrade Score & Grade: 28,D (low)	Adjacent Land Uses: Urban collector road, residential, commercial. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
87	Mountain Park- Sherman Access Ownership: City	Steel I-beams/simply supported Road under/road over	1901-1939 steel beam with decorative concrete and steel balustrade Score & Grade: 43,C (moderate)	Adjacent Land Uses: Major urban road, collector road, hospital and residential area. Archaeological Resources: Not likely Natural Resources: Niagara Escarpment.
164	Kenilworth Access– Former T. H. & B. Rail line Ownership: N/A	Steel half-through beams/ 2 spans Road under/rail over	1940-1955 steel beams on concrete pier and abutments; some decorative features Score & Grade: 40,C (moderate)	Adjacent Land Uses: Major urban road, residential area, open space. Archaeological Resources: Not likely Natural Resources: Niagara Escarpment.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
166	Young St- Former TH&B rail line Ownership: N/A	Steel half-through beams/continuous/ 3 spans Road under/rail over	1940-1955 steel beams on concrete pier and abutments; some decorative features Score & Grade: 43,C (moderate)	Adjacent Land Uses: Minor urban road, residential area, industrial area, buildings adjacent. Archaeological Resources: Not likely Natural Resources: No significant features.
168	Walnut Street – Former TH&B rail line Ownership: N/A	Steel I-beams/continuous/ 4 spans Road under/rail over	1930-1933 steel and concrete structure on steel piers with concrete bases Score & Grade: 43,C (moderate)	Adjacent Land Uses: Minor urban road, residential area with buildings adjacent. Archaeological Resources: Not likely Natural Resources: No significant features.
169	John Street – Former TH&B rail line Ownership: N/A	Steel I-beams/continuous/ 4 spans Road under/rail over	1930-1933 steel and concrete structure on steel piers with concrete bases Score & Grade: 43,C (moderate)	Adjacent Land Uses: Major urban road, residential and commercial areas. Archaeological Resources: Not likely Natural Resources: No significant features.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
170	MacNab Street – Former TH&B rail line Ownership: N/A	Steel I-beams/simple supported Pedestrian under/rail over	1930-1933 concrete structure Score & Grade: 43,C (moderate)	Adjacent Land Uses: Minor urban road, residential and commercial areas. Archaeological Resources: Not likely Natural Resources: No significant features.
178 <i>Note: This bridge is noted as located in Glanbrook in the 2002 Heritage Assessment, but it is located in Hamilton.</i>	Hunt Street – Former T.H.& B rail line Ownership: N/A	Steel I-beam simply supported CP Rail under/ road over	Post 1955 steel beams on concrete abutments; steel balustrade Score & Grade: 40,C (moderate)	Adjacent Land Uses: Minor urban road, residential area, religious school nearby. Archaeological Resources: Not likely Natural Resources: Narrow wooded area.
180	Mary Street- C.N. rail line	Steel half-through beams/ continuous/3 spans Rail under/road over	1901-1939 steel beams on concrete abutments Score & Grade: 53,C (moderate)	Adjacent Land Uses: Urban road, residential and industrial uses, open space. Archaeological Resources: Not likely Natural Resources: No significant features.
184	MacNab-Former GWR line Ownership: N/A	Steel I-beams/continuous/ 3 spans Rail under/road over	1901-1939 steel structure on concrete and steel piers Score & Grade: 58,B (high)	Adjacent Land Uses: Minor urban road, residential, commercial. Archaeological Resources: Not likely Natural Resources: No significant features.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
185	Bay St.-Former GWR line Ownership: N/A	Steel I-beams/continuous/ 3 spans Rail under/road over	1929 steel structure on concrete piers Score & Grade: 53,C (moderate)	Adjacent Land Uses: Minor urban road, industrial, residential. Archaeological Resources: Not likely Natural Resources: No significant features.
187	Victoria Ave S- Former TH&B rail line Ownership: N/A	Steel I-beams/continuous/ 3 spans Rail under/road over	1930-1933 steel structure on steel piers with concrete bases; fenced Score & Grade: 43,C (moderate)	Adjacent Land Uses: Urban road, industrial, residential, open space. Archaeological Resources: Not likely Natural Resources: No significant features.
188 <i>Note: This bridge is noted as located in Glanbrook in the 2002 Heritage Assessment but is located in Hamilton.</i>	Cathedral Lane – Former T.H.& B rail line Ownership: N/A	Steel I-beam simply supported Rail under/ road over	Post 1955 steel beams on concrete abutments; steel balustrade Score & Grade: 40,C (moderate)	Adjacent Land Uses: Minor urban road, church, residential, commercial. Archaeological Resources: Not likely Natural Resources: Narrow wooded area.
247	Kenilworth Ave - Former GWR rail line Ownership: N/A	Steel I-beams/continuous/ 2 spans Road under/ CNR rail over	1915 steel/concrete structure on steel piers; deck concrete decoratively cut Score & Grade: 43,C (moderate)	Adjacent Land Uses: Major urban road, commercial, industrial, and residential. Archaeological Resources: Not likely Natural Resources: No significant features.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
304	Aberdeen Ave – TH&B rail line Ownership: N/A	Steel half through beams simply supported/ 2 spans Road under/ rail over	1940-1955 half-through steel beams on concrete abutments and piers; simple steel balustrade Score & Grade: 39,D (low)	Adjacent Land Uses: Major urban road, industrial, golf course. Archaeological Resources: Not likely Natural Resources: No significant features.
305	Dundurn Street- Former TH&B rail line Ownership: N/A	Steel I-beams/continuous/ 5 spans Rail under /road over	1901-1939 steel structure on steel piers with concrete bases; steel balustrade Score & Grade: 48,C (moderate)	Adjacent Land Uses: Major urban road, industrial and residential areas. Archaeological Resources: Not likely Natural Resources: No significant features.
306	Dundurn-Former T.H.&B. Rail line	Steel I-beams/continuous/ 5 spans Rail under/road over	1901-1939 steel beams on steel and concrete piers Score & Grade: 48,C (moderate)	Adjacent Land Uses: Major urban road, industrial and residential areas. Archaeological Resources: Not likely Natural Resources: No significant features.
307	Main –Former T.H.&B. rail line Ownership: N/A	Steel I-beams simply supported Rail under/road over	Post 1955 steel beam/concrete deck on concrete abutments; steel balustrade Score & Grade: 35,D (low)	Adjacent Land Uses: Urban highway, industrial and commercial areas. Archaeological Resources: Not likely Natural Resources: No significant features.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
308	King Street-Former T.H.&B. Rail line Ownership: N/A	Steel I-beams/ simply supported Rail under/road over	Post 1955 steel beam/concrete deck on concrete abutments Score & Grade: 40,C (moderate)	Adjacent Land Uses: Urban highway, industrial, residential and commercial areas. Archaeological Resources: Not likely Natural Resources: No significant features.
311	James Street S– Former T.H.&B. Rail line Ownership: N/A	Steel I-beams/continuous/ 4 spans Road under/rail over	Post 1955 steel beam/concrete deck on concrete abutments Score & Grade: 43,C (moderate)	Adjacent Land Uses: Major urban road, commercial, public transit station, community centre. Archaeological Resources: Not likely Natural Resources: No significant features.
312	Catherine Street- Former T.H.&B. Rail line Ownership: N/A	Steel I-beams/continuous/ 4 spans Road under/rail over	1930-1933 steel and concrete structure on steel piers with concrete bases Score & Grade: 43,C (moderate)	Adjacent Land Uses: Minor urban road, residential, commercial. Archaeological Resources: Not likely Natural Resources: No significant features.
319	Concession- Sherman Access Ownership: N/A	Concrete T-beams/ simply supported Rail under/road over	1901-1939 concrete beams on concrete abutments; decorative concrete balustrade Score & Grade: 25,D (low)	Adjacent Land Uses: Major urban road and collector road, hospital and residential areas. Archaeological Resources: Not likely Natural Resources: Niagara Escarpment.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
332	Birch Ave – CN rail line Ownership: N/A	Steel I-beams/continuous/2 spans Road under/rail over	1901-1939 steel structure on concrete abutments and steel piers concrete beams on concrete abutments; remains of timber deck Score & Grade: 40,C (moderate)	Adjacent Land Uses: Urban collector road, industrial and residential areas. Archaeological Resources: Not likely Natural Resources: No significant features.
Rigid Frame				
314	Claremont Access- Charlton Ownership: City	Concrete rigid frame/vertical legs/continuous/2 spans Road under/road over	1940-1955 concrete on decorative concrete piers Score & Grade: 32,D (low)	Adjacent Land Uses: Urban highway and collector roads, commercial, open space. Archaeological Resources: Not likely Natural Resources: Niagara Escarpment.
Slab				
163	Centennial Parkway - CN Rail Ownership: N/A	Concrete solid slab/simple supported/2 spans Road under/rail over	1929 concrete slab on decorative concrete piers; simple steel balustrade Score & Grade: 48,C (moderate)	Adjacent Land Uses: Suburban highway, commercial, industrial. Archaeological Resources: Not likely Natural Resources: No significant features.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
167	Ferguson Ave – Former TH&B rail line Ownership: N/A	Concrete box /closed footing/fixed articulation Pedestrian under/rail over	1901-1939 concrete Score & Grade: 38,D (low)	Adjacent Land Uses: Minor urban road, single family residential, commercial (tavern). Archaeological Resources: Not likely Natural Resources: No significant features.
181	John Street- Former G.W.R. line Ownership: N/A	Precast concrete slab /circular voids/simply supported/8 spans Rail under/road over	1928 concrete slab on decorative concrete piers Score & Grade: 33,D (low)	Adjacent Land Uses: Major urban road, industrial and residential areas, open space. Archaeological Resources: Not likely Natural Resources: No significant features.
295	Mountain Brow Blvd – Former TH&B rail line Ownership: City	Precast concrete box/simply supported Road under/trail over	1940-1955 concrete slab on concrete abutments with simple steel balustrade Score & Grade: 36,D (low)	Adjacent Land Uses: Major urban road, parkland. Archaeological Resources: Not likely Natural Resources: Niagara Escarpment.
316	Claremont Access- Stinson Ownership: City	Concrete solid slab simply supported Road under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Urban highway and minor road, residential area. Archaeological Resources: Not likely Natural Resources: No significant features.

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
322	King Street- Kenilworth Access Ownership: City	Concrete channel/simple supported/2 spans Road under/road over	1940-1955 concrete slab; simple decorative steel balustrade Score & Grade: 36,D (low)	Adjacent Land Uses: Two major urban roads, open space with residential beyond. Archaeological Resources: Not likely Natural Resources: No significant features.
323	Lawrence Road- Kenilworth Access Ownership: City	Concrete slab/circular voids/continuous/2 spans Road under/road over	1940-1955 concrete slab on concrete piers; simple decorative steel balustrade; deck decorated Score & Grade: 36,D (low)	Adjacent Land Uses: Major urban road and collector road, parkland, residential. Archaeological Resources: Not likely Natural Resources: Niagara Escarpment.
455	Macklin Street- Unknown creek Ownership: City	Concrete solid slab/continuous articulation/3 span Creek under/road over	Post 1955 concrete slab with simple steel balustrade on concrete piers Score & Grade: 27,D (low)	Adjacent Land Uses: Minor suburban road, parkland, adjacent to highway 403. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation)

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Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
456	Valley Inn Road – Former Grand Trunk rail line Ownership: N/A	Concrete solid slab/continuous articulation Road under/rail over	1868-1900 concrete and steel structure; simple steel railing; stone abutments original; rest likely rehabilitated Score & Grade: 48,C (moderate)	Adjacent Land Uses: Suburban road, conservation area Archaeological Resources: Likely Natural Resources: Hamilton Harbour nearby, wooded area.

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Stoney Creek

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
Beam				
150	Tapleystown Rd.- Stoney Creek Ownership: City	Steel I-beams/simply supported Creek under/road over	1937 steel beams on concrete abutments; concrete balustrade Score & Grade: 41,C (moderate)	Adjacent Land Uses: Collector road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
361	Tapleystown Rd.- Stoney Creek Ownership: City	Steel I-beams/impily supported Creel under/road over	Not evaluated: not believed to be over 35 years old Score & Grade: N/A	Adjacent Land Uses: Collector road, agricultural, residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
362	Mud Street- Stoney Creek Ownership: City	Steel I-beam/simply supported Creel under/road over	1936 steel beams on concrete abutments with concrete balustrade Score & Grade: 41,C (moderate)	Adjacent Land Uses: Major rural road, agricultural, single family residential, open space. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).

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Stoney Creek

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
452	Centennial Parkway – C.P. Rail Ownership: N/A	Concrete T-beams simply supported/3 spans Rail under/road over	Post 1955 concrete beam with concrete piers; simple steel balustrade Score & Grade: 37,D (low)	Adjacent Land Uses: Suburban highway, park, Bruce trail, single family residential. Archaeological Resources: Not likely Natural Resources: Niagara Escarpment, wooded area.
Rigid Frame				
49	Collegiate – Stoney Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	1940-1955 concrete with concrete/steel balustrade with some decoration Score & Grade: 34,D (low)	Adjacent Land Uses: Suburban minor road, single family residential area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
50	3 rd Road E.- Stoney Creek Ownership: City	Concrete rigid frame/vertical legs/fixed articulation Creek under/road over	Post 1955 concrete Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
Slab				

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Stoney Creek

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
46	Willow Street- Stoney Creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	1940-1955 concrete slab Score & Grade: 31,D (low)	Adjacent Land Uses: Minor suburban road, single family residential area. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
48	Jones Road- Stoney Creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	1955 concrete slab with simple balustrade Score & Grade: 34,D (low)	Adjacent Land Uses: Minor suburban road, single family residential, park, restaurant. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
51	Green Mt. Road – Stoney Creek Ownership: City	Concrete solid slab/simple supported Creek under/road over	Post 1955 concrete slab Score & Grade: 12,D (low)	Adjacent Land Uses: Rural road, single family residential, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).

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Stoney Creek

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
52	Second Road E.- Stoney Creek Ownership: City	Concrete solid slab/simply supported Creek under/road over	1940-1955 concrete box Score & Grade: 26,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
53	Third Road E.- Stoney Creek Ownership: City	Concrete box/closed footing/ continuous Creek under/road over	Post 1955 concrete box Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, single family residential, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
54	Green Mountain Road- Forty Mile Creek Ownership: City	Concrete box/closed footing/ continuous Creek under/road over	Post 1955 concrete with concrete wing walls Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, single family residential, agricultural land, open space. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Stoney Creek

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
59	9 th Rd. East-Twenty Mile Creek Ownership: City	Concrete solid slab/simply supported Creek under/road over	Post 1955 concrete slab Score & Grade: 27,D (low)	Adjacent Land Uses: Rural road, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
120	11 th Rd. East-Forty Mile Creek Ownership: City	Concrete solid slab/ fixed articulation Creek under/road over	1940-1955 concrete slab Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, single family residential, agricultural land. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
165	New Mountain Road- Former T.H.Rail Ownership: N/A	Concrete solid slab/ fixed articulation Road under/rail over	1901-1939 concrete slab; to the southwest are possible former abutment remnants Score & Grade: 43,C (moderate)	Adjacent Land Uses: Suburban collector road, single family residential area. Archaeological Resources: Not likely Natural Resources: Niagara Escarpment, wooded area.

HAMILTON BRIDGES MASTER PLAN
SUMMARY OF ENVIRONMENTAL FEATURES
Stoney Creek

Bridge Type/ID	Location/ Ownership	Description of Bridge Structure	Bridge Heritage Value	Associated Environmental Features
365	11 th Road E – Forty Mile Creek Ownership: City	Concrete solid slab/fixed articulation Creek under/road over	1940-1955 concrete slab with timber and cable railing Score & Grade: 31,D (low)	Adjacent Land Uses: Rural road, agricultural. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).
367	King Street East- Stoney Creek Ownership: City	Concrete solid slab/fixed articulation Creek under/road over	Post 1955 concrete slab; simple balustrade Score & Grade: 25,D (low)	Adjacent Land Uses: Suburban major road, conservation area, single family residential. Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation), wooded area.
368	King Street - Stoney Creek Ownership: City	Concrete solid slab/fixed articulation Creek under/road over	Post 1955 concrete slab; simple decorative concrete and steel balustrade; wood fence Score & Grade: 30,D (low)	Adjacent Land Uses: Suburban major road, residential, commercial, heritage (Battlefield House). Archaeological Resources: Likely Natural Resources: Watercourse (consider fisheries & navigation).

APPENDIX C

**CLARIFICATION FROM THE MUNICIPAL
ENGINEERS ASSOCIATION**

**Municipal Engineers Association
Municipal Class EA Monitoring Committee Clarification
March 2003
Structures over 40 Years Old**

There has been some concern expressed for the appropriate interpretation of the Table in Appendix I to the Class EA document as it relates to project type 29 and the requirement to follow a Class B or C

approach for structures greater than 40 years of age.

In order to clarify the application of this section of Class EA document as it relates to the classification

of structural projects, it is important that there is additional interpretation to clarify the applicability of

the relevant portions of Appendix I.

Firstly, the following definitions should apply. According to CSA-S6-00 a bridge is defined as:

“A structure that provides a roadway or walkway for the passage of vehicles, pedestrians, cyclists across an obstruction, gap...and has a span greater than 3 m.”

By contrast a culvert is defined by CAS-S6-00 as:

“A structure that forms an opening through an embankment.”

On the basis of the foregoing definitions it is clear that culverts are a distinct structure type from bridges

and the requirements for such works are adequately covered by project types 17 and 18 in Appendix I.

Bridges are an integral portion of the road of which they are a part. It is clear that the intent of project

types 1, 19, and 23 in Appendix I is to cover projects which have the intent to reinstate a facility to its

prior state and that such projects should be approved without delay. The works should result in a

rejuvenated bridge which has all the capabilities of the originally constructed bridge. This would include

rehabilitations to existing structures where there is no outwardly obvious difference in character or

appearance between the previous and resultant facility.

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1/13/2006

<http://www.municipalengineers.on.ca/classea/convertedPDFs/Structuresover40YearsOld.a...>