Welcome to the Public Open House for The City Of Hamilton Utility Relocation Schedule "B" Class Environmental Assessment

Public Information Centre #2

May 3, 2016
6:00 pm to 8:00 pm
Knox Presbyterian Church
80 Mill Street North
Waterdown, Ontario

Welcome to the Public Open House for The City Of Hamilton Utility Relocation Schedule "B" Class Environmental Assessment

The objective of this Class Environmental Assessment (EA) is to identify and evaluate the alternative solutions to permit the replacement and potential relocation of existing utilities (water, wastewater, hydro, telecommunications utilities, etc.) as part of the future bridge rehabilitation activities.

Purpose of Tonight's Meeting

Tonight's Information Centre provides an opportunity for participants to review and provide comments on the alternatives and evaluation criteria. The staff of the City of Hamilton and the members of the Project Team are available to answer any questions that you may have about the project details and how the project may impact you.

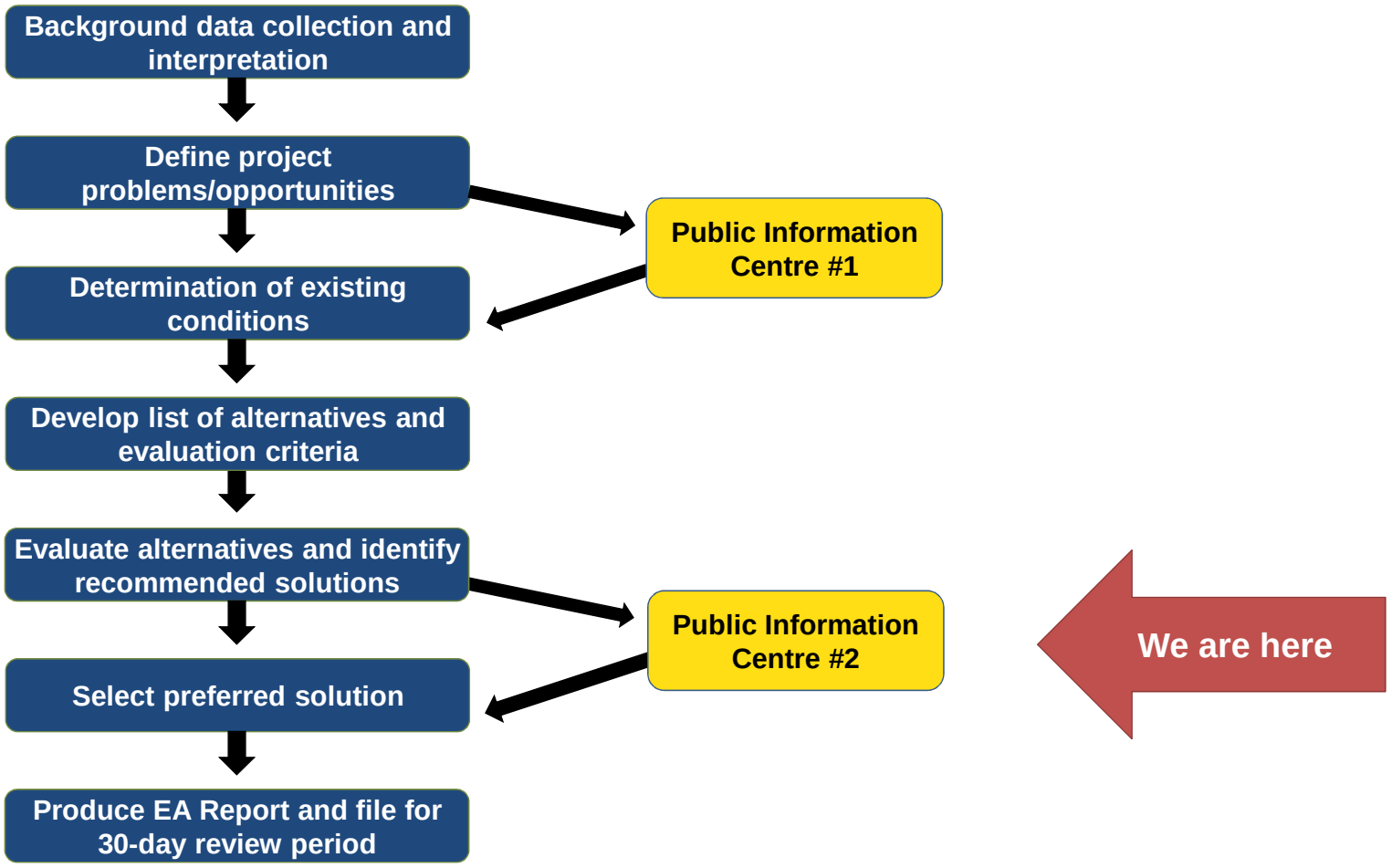
Study Area

The focus of the study is the Highway 5 Dundas Street (Vinegar Hill) bridge spanning Grindstone Creek and the utilities that run beside, beneath, and within the bridge.

Key Map

Municipal Class Environmental Assessment Process

This study is being undertaken as a Schedule B project under the Municipal Class Environmental Assessment (EA) Process. The flow chart illustrates the key steps to be undertaken as part of the Class EA process.

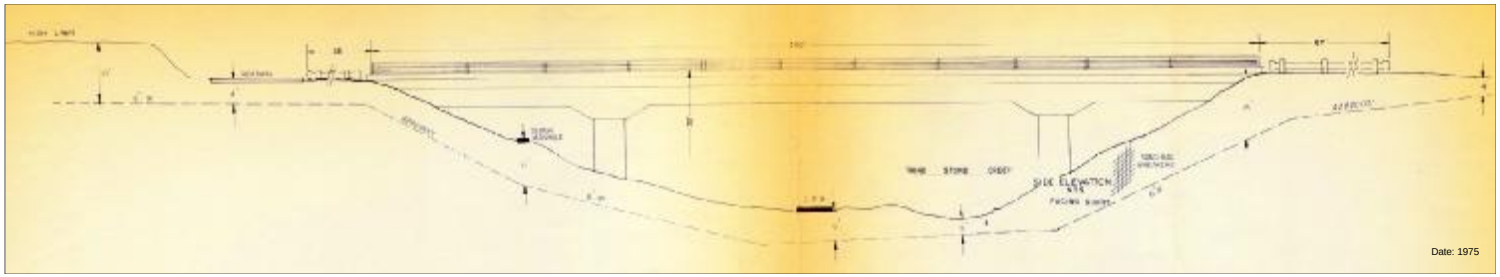


Problem and Opportunity

Definition of the Problem

Constructed in 1966, the Highway 5 Grindstone Creek bridge in Waterdown is reaching the end of its life span. The City of Hamilton will initiate reconstruction or rehabilitation of the bridge within 10 years. Prior to the commencement of work, this Class EA will identify and evaluate the alternative solutions to permit the replacement and/or potential relocation of existing utilities (water, wastewater, hydro, telephone, etc.) as part of the future bridge rehabilitation works.

Completing these options will require making potential arrangements including consultation with approval agencies, new bridge construction, and land purchasing. Current City land ownership can be seen in the figure on the right.



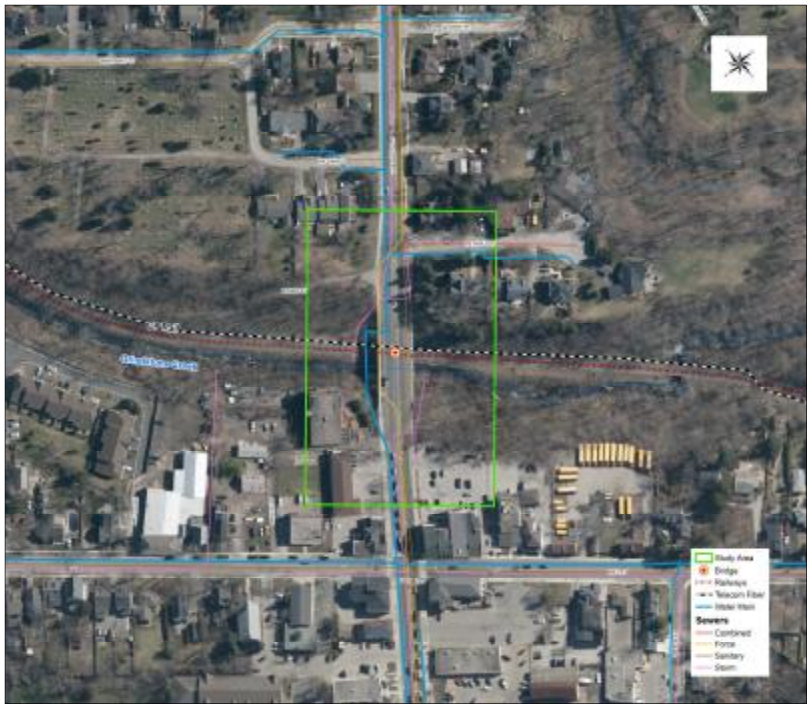
Existing Infrastructure

Existing Utilities

- 500mm Ø insulated sanitary forcemain
- 200mm Ø insulated ductile iron pipe watermain supported below the deck
- 250mm Ø sanitary sewer
- Bell telecommunications
    - 8 embedded 108mm diameter Bell ducts in the north sidewalk
    - 89mm diameter Bell duct supported on the southern exterior girder that was installed in 2009
- One (1) 76mm diameter electrical duct (transite) in each sidewalk

Other Infrastructure Notes

- Existing pumping station approximately 300m upstream
- Sanitary system is relatively new
- Watermain - 1 of 4 feeds to the east side of Waterdown
- CP Rail infrastructure, includes CP communications lines and Fiber-optic located approximately 5 feet from the edge of the railway tie/rail



Existing Environmental Conditions

In 2015, Dougan and Associates completed a natural heritage feature characterization of lands within 120 metres of the bridge over Grindstone Creek. Supporting studies included surveys for breeding birds, reptiles, amphibians, odonates, vegetation communities, flora, fish, and fish habitat as well as an assessment of Significant Wildlife Habitat. In addition, available background information from the City of Hamilton, Conservation Halton, and Ministry of Natural Resources and Forestry (MNRF) were reviewed.

Key Findings

Biophysical Surveys

- 11 common species of breeding birds were recorded.
- All of the 3 vegetation communities recorded within the study area are common in Southern Ontario.
- Of the 109 species of flora documented, 4 are considered locally significant.
- Eastern Gartersnake was the only reptile species found in the study area.
- Frogs and toads are not breeding within the study area; red-backed salamanders are present in the forest north east of the bridge.
- 3 common species of odonates (dragonflies and damselflies) were recorded, indicating that minimal breeding habitat is present in the study area.
- Fish habitat in the vicinity of Bridge 451 exhibits low-medium fish diversity.

Natural Heritage Assessment

- Natural heritage features/functions associated with the study area include: Significant Wildlife Habitat, Fish Habitat, and potentially Significant Valleylands (pictured, right)
- A portion of the study area is designated as Escarpment Natural Area and is subject to the Niagara Escarpment Plan.

(Dougan and Associates, 2015)

Recommendations and Next Steps

The preferred option under the EA will take into consideration the natural heritage features and functions of the surrounding environment and will seek to avoid, minimize, and mitigate potential impacts to the ecological form and function of natural heritage features.

Evaluation Criteria

The following criteria will be used to evaluate each alternative. It will help determine which alternative should be selected as the Preliminary Preferred Alternative. The Final Preferred Alternative will be selected based on agency and public input.

Natural Environment

- Impact on existing vegetation
- Impact on erosion & flooding
- Impact on fish & aquatic habitat
- Impact on wildlife & wildlife habitat
- Impact on groundwater

Social/Cultural

- Impact on traffic & transit
- Impact on businesses
- Impact on residents (e.g., noise, dust, mud)

Economic/Financial

- Estimated construction cost – including bridge rehabilitation
- Estimated operation & maintenance cost
- Potential cost for property acquisition

Legal/Jurisdictional

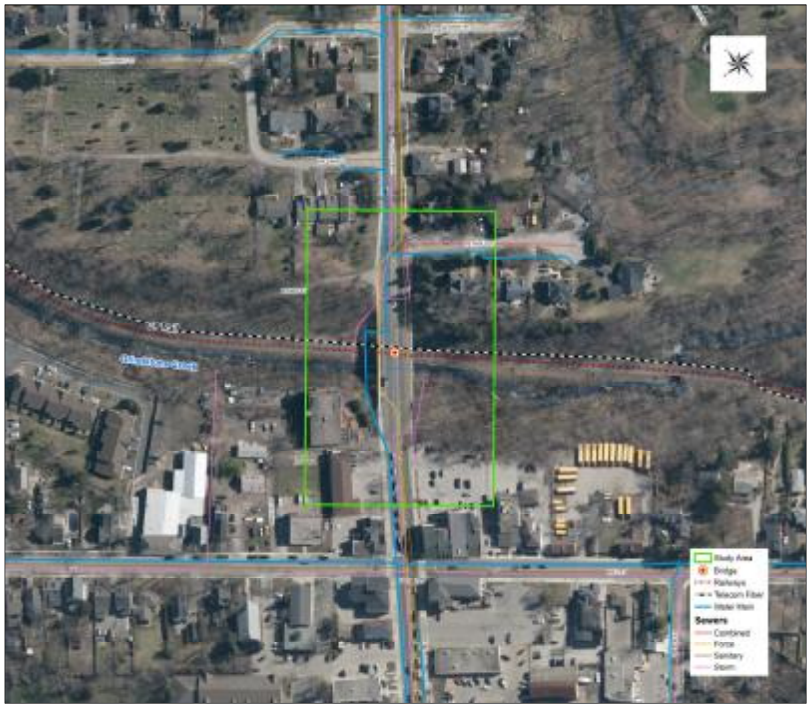
- Need for property acquisition
- Ease of approvals/potential for delays

Technical

- Impact on existing utilities
- Impact on bridge rehabilitation
- Ease of construction – including proposed bridge rehabilitation
- Construction risks (e.g., deep tunnels)
- Ease of maintenance
- Coordination with other capital projects

Alternative #1 – Existing Utilities Remain on Bridge

Description:
For this alternative, the existing utilities would be temporarily relocated during rehabilitation of the bridge. The utilities would then be relocated to the bridge during the construction process. As a result, the anticipated 10 month period to rehabilitate the bridge would take longer.



Opportunities	Constraints
• All works are completed during one period	• Increased construction time during rehabilitation of bridge; thereby resulting in significant impact to business, residents and traffic
• Potentially a more streamlined approvals process	• Long term operation and maintenance of utilities least preferable •Higher capital cost as a result of lengthened construction process

Approximate Cost: $3.8 million

Alternative #2 – Relocation of Existing Utilities

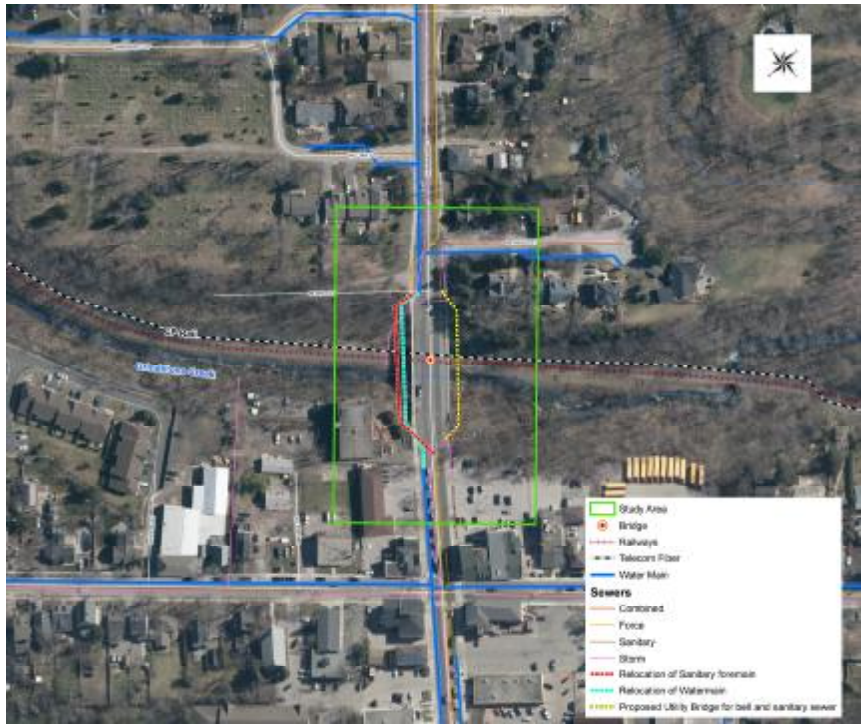
Description:
For this alternative, all existing utilities would be relocated to a separate utility bridge in advance of the bridge rehabilitation. Relocation of the utilities will allow for a expedited rehabilitation of the bridge.

Opportunities	Constraints
• Reduced bridge closure time during rehabilitation thereby minimizing impact to businesses, residents and traffic	•Short term partial closures of Grindstone Creek Bridge during construction of utility bridge
• Ease and cost of long term operation and maintenance of utilities is improved (or reduced) •Lowest capital cost of the three alternatives	• Requires approval from Conservation Halton, Bell Utilities, Union Gas and Canadian Pacific Railway

Approximate Cost: $2.5 million

Alternative #3 – Relocation of Some of the Existing Utilities

Description:
For this alternative, the existing sanitary forcemain and watermain would be relocated subsurface (under Grindstone Creek) in advance of the bridge rehabilitation. Relocation of the other utilities (bell and sanitary sewer) would be placed on the utility bridge thus allowing for a somewhat expedited rehabilitation/replacement of the bridge.



Opportunities	Constraints
• Somewhat reduced bridge closure time during rehabilitation thereby lessening impact to businesses, residents and traffic	• Higher Capital Cost •Short term partial closures of Grindstone Creek Bridge during construction of utility bridge
• Ease and cost of long term operation and maintenance of utilities is improved (or reduced)	• Requires approval from Conservation Halton and Canadian Pacific Railway •Temporary or permanent acquisition of property may be required .

Approximate Cost: $3.8 million

Evaluation of Alternative

Evaluation Criteria	Alternative #1	Alternative #2	Alternative #3
Natural Environment			
• Impact on existing vegetation	◕	◕	◕
• Impact on erosion & flooding	●	●	●
• Impact on fish & aquatic habitat	●	◕	◕
• Impact on wildlife & terrestrial habitat	◕	◕	◕
• Impact on groundwater	●	●	◑
Social/Cultural			
• Impact on traffic & transit	○	◕	◕
• Impact on businesses	○	◕	◑
• Impact on residents (e.g. noise, disruption of services)	○	◕	◑

Legend

○ ◔ ◑ ◕ ● ▭

Least Preferred — Most Preferred — Preferred Alternative

Evaluation of Alternative

Evaluation Criteria	Alternative #1	Alternative #2	Alternative #3
Economic/Financial			
• Estimated construction cost – including bridge rehabilitation			
• Estimated operation & maintenance cost			
• Potential cost for property acquisition			
Legal/Jurisdictional			
• Need for property acquisition			
• Ease of approvals/potential for delays			
Technical			
• Impact on existing utilities			
• Impact on bridge rehabilitation			
• Ease of construction – including proposed bridge rehabilitation			
• Construction risks (e.g. deep tunnels)			
• Ease of maintenance			
• Coordination with other capital projects			

Legend

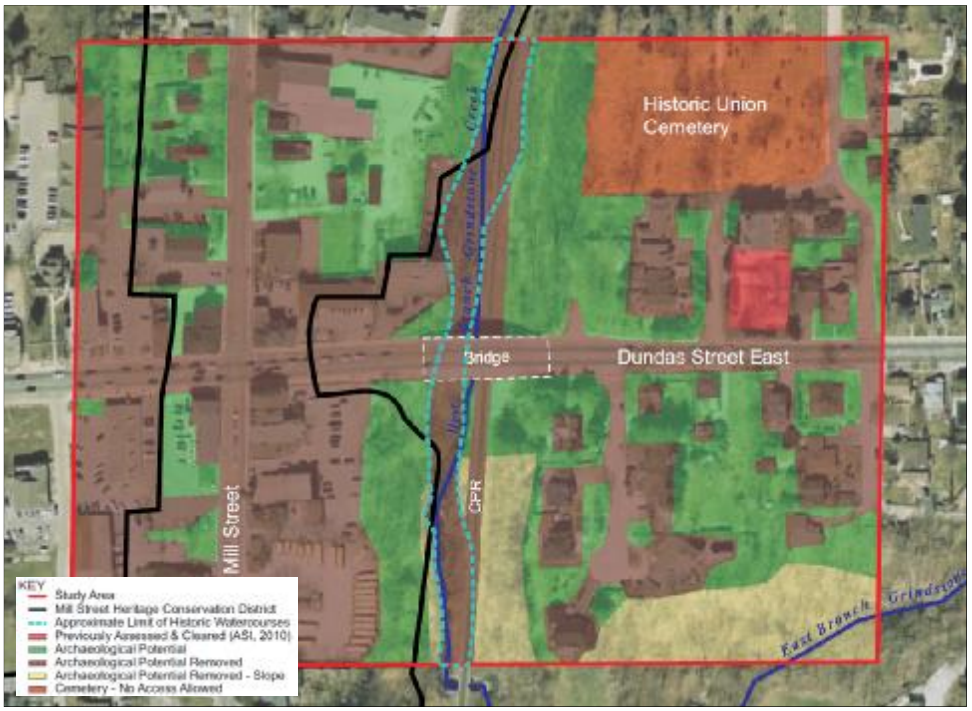
Least Preferred

Most Preferred

Preferred Alternative

Archaeological Findings

A Stage 1: Archaeological Background Research report for the Grindstone Creek bridge study area was completed in 2015 by Historic Horizon Inc. This stage of the archaeological assessment involves background research and property inspection, in order to determine the potential for the presence of archaeological heritage resources and known cultural heritage resources.



(Historic Horizon Inc, 2015)

Key Findings

- The study area has intermittent archaeological potential in part of the creek ravine, around remaining 19th century buildings, and under old parking areas (as illustrated by green shading in the figure).
- A search of the Ontario Sites Database shows 42 registered archaeological sites or findspots within a one kilometre radius of the bridge, the majority being of Aboriginal origin.
- 19th century structures include:
  - Probable mills on the islands north and south of the bridge,
  - The Vances' house and barn, and
  - A structure on the east bank of the ravine.

Recommendations and Next Steps

The proposed works will not result in subsurface impacts and therefore the Stage 2 archaeological assessment would not have to be completed before the conclusion of this Class EA study. This study will make a recommendation as to whether a Stage 2 study is required for areas that may have subsurface impacts.

Next Steps and Contact Information

After this Public Information Centre, the study team will consider verbal and written comments in order to refine the project problems and opportunities.

For more information on this project, or to submit your comments or feedback, and to be placed on our mailing list, please contact:

Winston Wang, M.A., Sc., P. Eng.
Project Manger, Water & Wastewater Planning
Infrastructure Planning & Systems Design
City of Hamilton | Public Works Department
77 James Street North, Suite 400
Hamilton, Ontario L8R 2K3
T: 905.546.2424 extension 4092
winston.wang@hamilton.ca

Dave Maunder, MSc., P. Eng.
Project Manager
Aquafor Beech Ltd
#6-202 2600 Skymark Avenue
Mississauga, Ontario L4W 5B2
T: 905.629.0099 extension 290
maunder.d@aquaforbeech.com

Thank You for Participating