

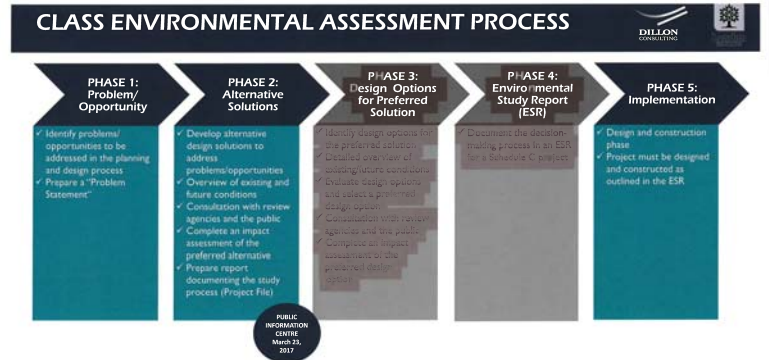


WELCOME

The City's 'Old North Servicing Strategy' identified the need to improve drainage in the Old North neighbourhood, which will include constructing a new trunk storm sewer on William Street between Huron Street and Grosvenor Street. The storm sewer will be constructed over a number of years, with the first phase including upgrades to the existing outlet at the end of William Street, in Huron Street Woods.

Presentation Outline:

- SUMMARIZE** existing conditions in the Study Area
- OUTLINE** alternatives considered and the technically preferred solution
- PRESENT** summary of the Environmental Impact Study completed
- OUTLINE** the next steps in the planning and design process
- DELIVER** a copy of the EIS for EEPAC review and consideration.



The Study followed the requirements of the *Municipal Class Environmental Assessment (EA) (2015)* as a Schedule 'B' project. The study followed Phases 1 and 2 of the Class EA process.



ALTERNATIVE 1 – DO NOTHING



- Description:**
- Basic channel improvements from the existing headwall to the maintenance road
 - Replace existing culvert with a larger culvert or bridge
 - Maintain existing open aquatic/swamp feature but eliminate significant water ponding
- Pros**
- Reduce flooding and standing water on the Thames Valley Parkway
 - Minimal impact on natural environment
 - Improved drainage
 - Lowest construction cost
 - Eliminate standing water at top of slope at rear of Harrison Crescent properties.

- Cons**
- Potential for culvert to be impacted by beaver activity in the future

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ALTERNATIVE 2 – RECOMMENDED



- Description**
- Remove existing headwall
 - Extend storm sewer approximately 35m
 - Install new energy dissipating headwall
 - Replace existing culvert with a larger culvert or bridge
 - Maintain existing open aquatic/swamp feature but eliminate significant water ponding
- Pros**
- Reduce flooding and standing water on the Thames Valley Parkway
 - Impacts of increased flow are reduced (i.e. storm flow is contained in sewer longer), improving slope stability
 - Minimal impact on natural environment

- Cons**
- Potential for culvert to be impacted by beaver activity

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ALTERNATIVE 3 – NOT RECOMMENDED



- Description**
- Remove existing headwall and culvert
 - Extend storm sewer under maintenance road before outfalling to the existing channel
 - Install new energy dissipating headwall
 - Maintain existing open aquatic/swamp feature but eliminate significant water ponding
- Pros**
- Reduce flooding and standing water on the Thames Valley Parkway
 - Reduce standing water
- Cons**
- Greater impact on natural environment
 - Construction may not be cost effective due to existing soil conditions

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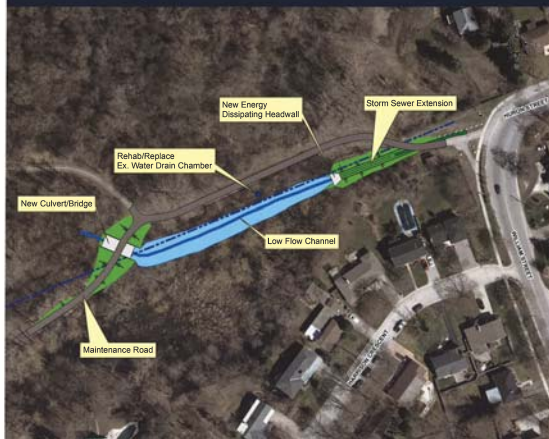
ALTERNATIVE 4 – NOT RECOMMENDED



- Description**
- Remove existing headwall and culvert
 - Extend storm sewer under maintenance road before outfalling to the existing channel
 - Install new energy dissipating headwall
 - Install drain to direct overland flow to the storm sewer
 - Grade and plant existing open aquatic/swamp feature using native species
- Pros**
- Reduce flooding and standing water on the Thames Valley Parkway
- Cons**
- Greatest impact on natural environment
 - Construction may not be cost effective due to existing soil conditions

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Summary of Preferred Alternative



- Extension of the storm sewer will improve slope stability
- New storm headwall will be installed, complete with energy dissipation baffle blocks which will assist with decreasing erosion and sediment transport
- Channel designed with a low flow channel, complete with a slight meander to further assist with energy dissipation

EIS OVERVIEW

An Environmental Impact Study (EIS) was completed for the technically preferred solution.

The EIS included:

- Two years of natural environment inventories (2016-2017).
- An evaluation of significance and impact assessment.
- A summary of impacts and recommended mitigation measures and monitoring to be carried into detail design and construction.

Key objectives of the EIS were to:

- Determine potential impacts on the existing natural heritage system.
- Recommend areas for avoidance of impacts and/or mitigation to ensure protection of significant features and functions.
- Avoid impacts to aquatic resources, Species at Risk (SAR) and natural features.
- Develop recommendations for appropriate mitigation and monitoring plans, including a landscape restoration plan and invasive species management plan.

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EIS OVERVIEW



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EIS FINDINGS



Ecological Land Classification

The site contains a former flooded shallow water aquatic community transitioning to a vegetated terrestrial community. Surrounding communities include a Buckthorn deciduous shrub thicket and low density residential areas. Vegetation species are typical of disturbed sites, with high coverage of invasive species. The study area includes part of Huron Street Woods, which is considered a Significant Woodland.

Aquatic Resources

The storm sewer channel outlets to Huron Creek, a tributary to the North Thames River, and provides seasonal fish habitat with a warm water thermal regime.

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EIS FINDINGS



Amphibians and Other Fauna

A small population of American Toads was identified in the site, but is not large enough to be considered significant wildlife habitat for amphibians. No other amphibians, reptiles, mammals or insects were identified in the site.

Breeding Birds

Background records found a variety of bird species in the surrounding area, including five Species at Risk or Special Concern (SC) species: Eastern Wood-pewee, Bank Swallow, Wood Thrush, Chimney Swift and Barn Swallow.

Species at Risk and Special Concern Species

No SAR or SC species were observed during the 2016-2017 inventories. The site contains potential habitat for Eastern Wood-pewee, Bank Swallow, and Wood Thrush, as well as Spiny Softshell turtle and Snapping Turtle, but these species were not identified in the site.

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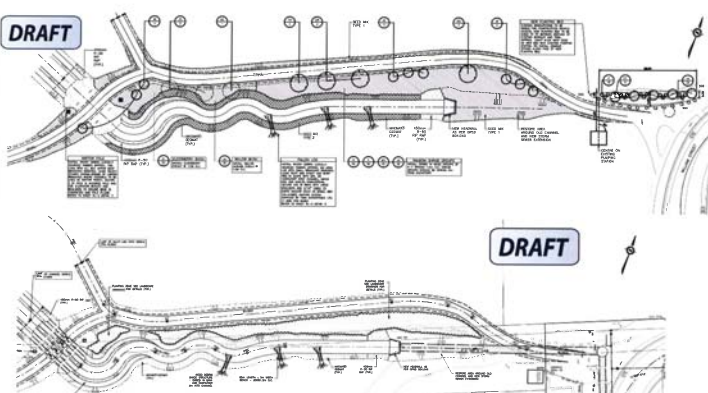
KEY RECOMMENDATIONS

In addition to typical mitigation measures (erosion and sediment control, timing windows, bird nest searches, etc.), additional key recommendation from the EIS include:

- The works are designed to maintain existing flows in the channel, and to cause no negative impacts to aquatic habitat, shoreline stability and connectivity. The storm sewer extension has been designed to minimize the reduction of habitat to the extent feasible, limited to areas of steep grades with high erosion risk and bank instability, which will be addressed by the extension.
- Fish and wildlife habitat enhancement will be implemented along the remaining portion of the channel from the new outfall location downstream to the new crossing.
- Tree and shrub removal will be limited to the extent feasible, limited to removal of only a few small diameter individuals, including removal of existing invasives. No significant loss of corridor linkage, or fragmentation of the connectivity in Huron Street Woods is expected to occur.
- Wildlife exclusion fencing is recommended to be installed around the project site during construction. A qualified biologist will be available to monitor construction and provide safe relocation of wildlife, if encountered.
- An Invasive Species Management Plan will be implemented to reduce the proliferation of invasives in the Study Area post-construction.
- A Landscape Restoration Plan will be implemented to plant new trees and shrubs of native species.

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DRAFT RESTORATION PLAN



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NEXT STEPS

Environmental Impact Study (EIS):

- Receive input from EEPAC, UTRCA and MNRF by June 14, 2018
- Finalize EIS.

Environmental Study Report (ESR):

- Finalize EA document - June 2018
- Present EIS and EA document to Council for endorsement
- 30-day public and agency review period – Anticipated summer 2018.

Construction:

- Construction could begin as early as 2020.

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Questions?

