Town of Wasaga Beach Constance Boulevard Drainage Improvements Schedule ‘C’ Municipal Class Environmental Assessment

Public Information Centre No. 1

March 3, 2022

Ainley GROUP

Introduction

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Agenda

1. Project Background and Study Area
2. The Municipal Class Environmental Assessment Process
3. Existing Conditions
4. Alternative Solutions Considered
5. Comment Period 1
6. Evaluation of Alternative Solutions
7. Next Steps
8. Comment Period 2

Project Background

- The Town of Wasaga Beach has retained the services of Ainley Group to undertake a Municipal Class Environmental Assessment (Class EA) to identify a suitable solution for reducing the probability of flooding events in the area of Constance Boulevard and Thomas Street to Bayswater Drive, particularly in consideration of snow melt occurrences as well as increased rainfall intensities expected due to climate change.
- The current capacity of the side road ditch along Constance Boulevard in this area is insufficient to contain larger stormwater events and results in flooding.
- The origin of the drainage watercourse is from lands south of Beachwood Road. The watercourse flows north along Thomas Street and crosses under Thomas Street to the south side of Constance Blvd. The water is directed west towards Bayswater Drive where it flows through a culvert under Constance Blvd. and then north in a channel to Georgian Bay.

Study Area

- The study area (outlined roughly in red) is located in the western end of the Town of Wasaga Beach, close to Brocks Beach.
- The study area is focused around the corridors of Thomas Street, Bayswater Drive, and the segment of Constance Boulevard that runs parallel to the shoreline of Georgian Bay.

*The Town is undertaking a 2D hydraulic model specific to the area of George Avenue, Marilyn Avenue South, and Robert Street South. This undertaking (area boundary outlined roughly in yellow and beyond) is a separate project and being conducted under the Drainage Master Plan.

Municipal Class EA Process

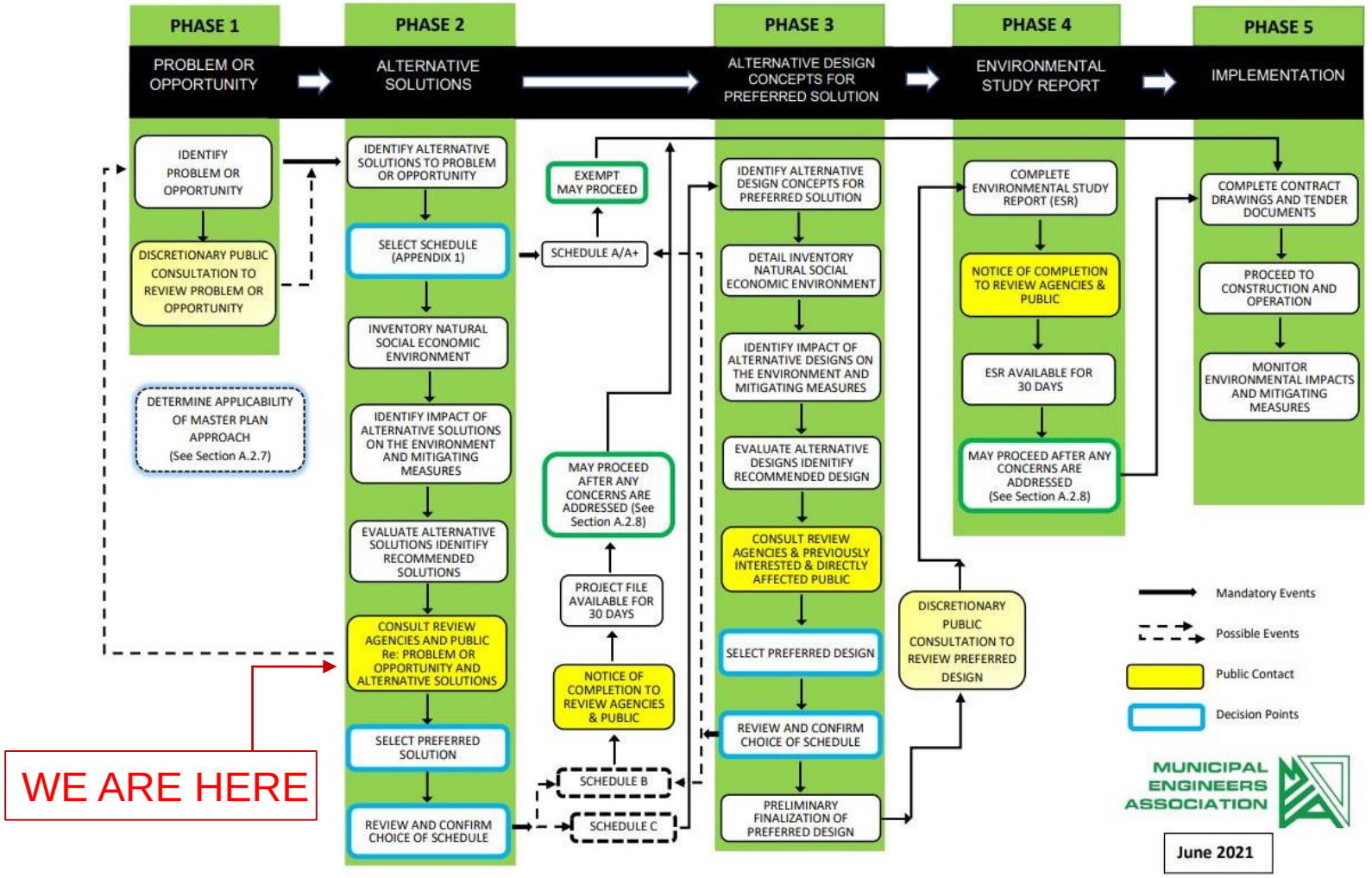
- A municipality is required to conduct a Municipal Class Environmental Assessment before this type of infrastructure improvement project can proceed to construction. A Municipal Class Environmental Assessment follows an approved planning process designed to protect the environment and to ensure compliance with the *Environmental Assessment Act* (EA Act).
- The purpose of the EA Act is to provide for "…the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment." The term 'environment' is broadly defined and includes the built, natural, socio-economic and cultural environments.
- The process requires the evaluation of potential solutions and design concepts so as to select a suitable approach that will address the problem/opportunity, but also keep impacts to a minimum.
- This project is classified as a Schedule 'C' in accordance with the Municipal Class Environmental Assessment (Oct. 2000, as amended 2007, 2011 & 2015) and requires completion of Phases 1 to 4 of the process.

Municipal Class EA Process

- The Problem/Opportunity statement is described below:

> *"The purpose of this study is to identify a suitable solution for reducing the probability of flooding events in the area of Constance Boulevard and Thomas Street to Bayswater Drive, particularly in consideration of* snow melt occurrences as well as *increased rainfall intensities expected due to climate change. The current capacity of the side road ditch along Constance Boulevard in this area is insufficient to contain larger stormwater events and results in flooding.*"

Municipal Class EA Process



Existing Conditions

Various field studies have been completed to determine existing environmental conditions as well as to identify any potential impacts the alternative solutions pose to the environment.

- PHYSICAL ENVIRONMENT
  - The existing roadside ditch is approximately 1m deep and is relatively flat.
  - Drainage area is approximately 328 ha and is made up of road drainage and residential areas.
  - The culvert at Constance Blvd. and Thomas St. conveys flows under from Thomas St. west towards the outlet condition.
  - Flooding occurs most often at the low point in the road in front of 12 and 18 Constance Boulevard.

The top photo is the view along the southern side of Constance Blvd. looking east. The bottom photo is showing the watercourse crossing under Constance Blvd. at Bayswater Drive. The arrows indicate the flow direction of the watercourse.

Existing Conditions

- NATURAL ENVIRONMENT
  - The majority of the study area is comprised of residential lots with a wooded area located in the easterly area. The majority of the project area is regulated by the Nottawasaga Valley Conservation Authority (NVCA) owing to the watercourse and low-lying floodplain along the Georgian Bay shoreline.
  - According to the Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) Natural Heritage Information Centre (NHIC) database, no known occurrences of terrestrial Species at Risk (SAR) are present within the study area.
  - Endangered Bat species have the potential to occur within treed areas of the study area. Suitable habitat is found within the woodlot habitat of the study area.
  - The drainage feature within the study area is a Tributary to the Nottawasaga Bay that originates approximately 2.5km to the south, and crosses Highway 26 and Beachwood Road before entering the roadside ditches of the project area.
  - Considering the flow permanency, water depths, aquatic plants present and connectivity to Georgian Bay, the tributary and connecting ditches in the study area are considered fish habitat, protected under the Federal *Fisheries Act*.

Existing Conditions

- CULTURAL ENVIRONMENT
  - There are no known archaeological resources within the study area.
  - There are areas that have been previously disturbed, due to development or Town/Capital servicing of sewer/water, that no longer exhibit archeological potential.
  - Other areas have been identified to have archeological potential and require further field investigation to confirm archaeological potential.
  - Review of the project area has determined the presence of a Cultural Heritage Landscape, this being the beach/shoreline.

- SOCIAL AND ECONOMIC ENVIRONMENT
  - The lands within the project study area are classified as ‘Residential’ and ‘Natural Hazards’ under the Town of Wasaga Beach’s Official Plan.
  - The beach/shoreline within the project area is a private access beach and not open to the public, with the exception of municipal road allowances leading to waters edge.

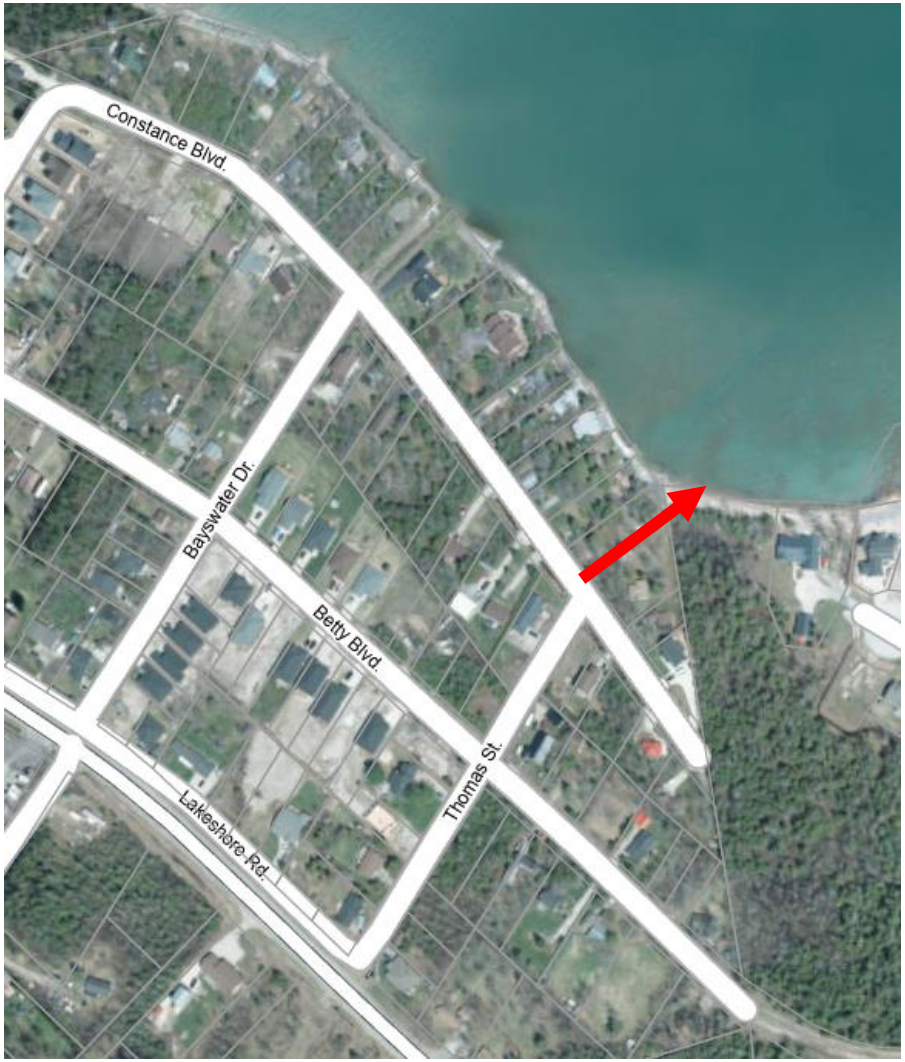
Alternative Solutions

As part of Phase 2 of the Class EA process, several alternative solutions were developed to address the problem/opportunity.

- ***Option* 1 - "Do Nothing"/Status Quo**

The "Do-Nothing" option considers no improvements and/or modifications. This alternative does not address the problem/opportunity statement and is provided as a benchmark to gauge the potential impacts of the other options being considered.

Alternative Solutions



- ***Option 2 - Create New Outlet to the Bay through Property at 18 Constance Boulevard***

This option includes a new drainage outlet constructed through private residence at 18 and 24 Constance Boulevard. A new outlet to Georgian Bay would be constructed and the current outlet would continue to convey the flows from west of Thomas Street along Constance Boulevard.

Alternative Solutions

- ***Option 3 - Increase Capacity of Constance Boulevard Ditch to Outlet North of Bayswater Drive***

This option proposes to increase the capacity of the ditch along the south side of Constance Boulevard between Bayswater Drive and Thomas Street. To increase capacity, the current ditch would be regraded and the existing culverts would be replaced. The work proposed under this option would be maintained within the current road right of way (ROW).

Alternative Solutions

- ***Option 4A - Redirect Drainage to Other Private Lands***

Under this option the flows along Thomas Street would be diverted easternly along Constance Boulevard to a connection point in the proposed West End Depot ditch.

- ***Option 4B - Redirect Drainage to Other Private Lands***

Under this option the flows along Thomas Street would be diverted easternly along Betty Boulevard to a connection point in the proposed West End Depot ditch.

Comment Period 1

Evaluation of Alternative Solutions

- Each of the alternatives were evaluated based on their potential impact to the study area environment (physical, natural, cultural, and socio-economic).
- The evaluation is presented in a table or matrix to provide a simplified, visual comparison.

Legend:

Positive	Positive Neutral	Neutral	Negative Neutral	Negative

- Green represents the most preferred option, as it will address the key concerns, but create the least amount of environmental impact.
- Red is indicative of a least preferred option as it has a higher potential to impact the environment.
- A blank space indicates that the impact is considered neutral

Evaluation of Alternative Solutions

EVALUATION CRITERIA	OPT 1	OPT 2	OPT 3	OPT 4	DESCRIPTION OF IMPACTS
PHYSICAL ENVIRONMENT					
Increases Capacity to Reduce Flooding					Option 2 provides additional capacity by creating a new outlet. Option 3 will allow for increased capacity along Constance Blvd. which will help reduce flooding but not to the same extent as Option 2. Option 4 is not feasible due to constructability and grading issues as identified below, therefore no increase to conveyance capacity and no improvements to flooding issues are provided.
Constructability					Option 2 and 3 help improve deficiencies in the site and are constructable. Option 4 cannot be constructed as the connection location within the proposed West End Depot ditch is higher then the existing elevations within the Thomas Street ditch.
Erosion Potential					Increased erosion is possible where the conveyance route turns. Options 3 and 4 have several 90^{o} bends, or sharper, at road intersections. Option 2 provides the straightest flow pathway for flows from Thomas St.
Sufficient Grade					Higher grades within the conveyance route allow for more capacity. Option 3 is the longest route and has the flattest grade. The diversions to the east considered in Option 4 go against the natural contours in the area creating flat or negative grades. Option 2 follows the natural contours in the area over the shortest pathway providing the best option for grading purposes.
Required Footprint					Given the existing capacity issues Option 3 would require a significant increase in the width of the ditch impacting several properties from Thomas St. to Bayswater Dr. Although the proposed West End Depot ditch could remain unchanged to accommodate the diversion an issue similar to that described for Option 3 would be expected where a new route would be constructed adjacent to private properties. Option 2 allows for the most efficient cross section.
Expected Performance					The potential for increased capacity along the route proposed for Option 3 is limited by the potential impact to private properties, limiting the opportunity to reduce flooding. The amount which can be diverted to the proposed West End Depot ditch is limited by the expected capacity required to convey flow from the Depot and surrounding properties per the original design of that system. Option 2 is the most efficient and can allow for the diversion of the most flow. The channel can be placed to allow for future severance of this lot and maximizing the development potential while provided a positive outlet.

Evaluation of Alternative Solutions

EVALUATION CRITERIA	OPT 1	OPT 2	OPT 3	OPT 4	DESCRIPTION OF IMPACTS
PHYSICAL ENVIRONMENT					
Impacts to Existing Utilities					Option 2 proposed work is on private property and may impact private utility services. Option 3 proposes work within the existing ROW, there are hydro poles/lines on the southern side of Constance Blvd. that may be impacted by improvements. Option 4 proposes work within the ROW of Constance Blvd. easterly and there are hydro poles/lines present that may be impacted by the construction of the diversion ditch.
NATURAL ENVIRONMENT					
Terrestrial Vegetation (Includes SAR)					The work proposed under Option 2 may include tree removals dependent on size of channel. No tree removals are anticipated under Options 3, as the surrounding land is manicured lawns no impacts are anticipated to vegetation. Options 4 involves the construction of a diversion channel within a woodlot, vegetation removal is required. No SAR tree species have been identified within the project study area.
Wildlife (Includes SAR)					The woodlot to the east of the project area contains potential habitat for Endangered bats, construction work proposed under Option 4 in this area may impact this wildlife habitat.
Fish Habitat (Includes SAR)					While the alignment of Option 2 and Option 4 doesn't currently include fish habitat constraints the options involve fisheries considerations. If the Tributary in the current alignment were altered or eliminated, the impacts may constitute the harmful alteration, disruption or destruction of fish habitat. Option 3 would maintain the existing drainage alignment and substrate may even be improved.
Ground Water					The project area is within a highly vulnerable aquifer zone. Further geotechnical studies will be conducted during the detailed design stage. It is not anticipated that any of the work proposed under the options would impact ground water conditions. There are approximately 10 residential wells located within the study area. Residents are connected to municipal water.
SOCIAL ENVIRONMENT					
Noise					Options 2, 3 and 4 would have temporary noise disturbances due to construction activity. There are numerous residential dwellings in close proximity.

Evaluation of Alternative Solutions

EVALUATION CRITERIA	OPT 1	OPT 2	OPT 3	OPT 4	DESCRIPTION OF EFFECTS
SOCIAL ENVIRONMENT					
Archaeological					The work proposed under Options 2 and 4 have the potential to impact archaeological resources, however further field investigation is required to confirm. Option 3 involves work within areas that are designated as previously disturbed and there is no anticipated impact to archaeological resources.
Cultural and Built Heritage					The beach/shoreline is identified as a Cultural Heritage Landscape and the construction of a new channel outlet as proposed under Options 2 and 4 may have a negative impacted on the CHL. As the existing outlet will continue to be used as part of Option 3, no additional impacts to the CHL are anticipated.
Property Impacts					Under Option 1 private property will continue to be at risk for flooding. Option 2 would have major property impacts to construct a new outlet. Options 3 and 4 will have impacts associated with the construction or ditch improvements along Constance Blvd ROW.
Climate Change					As Option 1 does not address flooding, adaptation to climate change and increased flooding events will not occur. Options 2 to 4 propose work to increase drainage capacity and the ability to convey larger storm events, with Option 2 providing the greatest increase in capacity.
ECONOMIC ENVIRONMENT					
Construction Costs					The construction cost associated with Option 4 are substantially higher than Options 2 and 3 as the length of the drainage channel and land clearing is a significant factor in determining cost.
Operating and Maintenance Costs					Option 1 involves continued maintenance associated with flooding, road closures, and potential damages. Options 2 to 4 would not require regular maintenance and are considered a positive impact to existing costs incurred.
TOTALS					
					The Options have been ranked using the evaluation of all criteria to select a suitable approach that will address the problem/opportunity but also keep impacts to a minimum.

Preliminary Preferred Solution

- ***Option 2 - Create New Outlet to the Bay through Property at 18 Constance Boulevard***

Given the results of the preliminary evaluation, it is recommended that Option 2 be selected as the Recommended Solution.

Next Steps

- All PIC material will be available on the Engineering Services – Environmental Assessment Studies page of www.wasagabeach.com
- The Project Team will receive comments for consideration until **March 17, 2022.** The project team will then confirm the Preferred Solution and the project will move into Phase 3 of the Class EA process.
- During Phase 3, alternative design concepts for the Preferred Solution will be identified and evaluated.
- A second Public Information Centre will be scheduled at a future date to present the alternative design concepts developed to implement the Preferred Solution.
- Advanced notification of the second Public Information Centre will be provided.

Comments

- We invite you to provide any comments in writing via email.
- All comments are to be submitted by **March 17, 2022** to one of the following members of the Project Team:

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Thank you for your attendance at this meeting!
We appreciate your participation.

MUNICIPAL FREEDOM OF INFORMATION & PROTECTION OF PRIVACY ACT

Comments and information regarding this project are being collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act for the purpose of meeting environmental assessment requirements. With the exception of personal information, all comments received will become part of the public record.