

The Beach is Just the Beginning...



ENVIRONMENTAL STUDY REPORT

## TOWN OF WASAGA BEACH

### Bay Sands Development Area Storm Drainage & Outlet Improvements

Municipal Class Environmental Assessment  
Schedule "C"

ENVIRONMENTAL STUDY REPORT

June 2018

FINAL

JUNE 2018

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## ENVIRONMENTAL STUDY REPORT

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**THE PUBLIC RECORD**

This project has followed the Schedule 'C' planning and design process in accordance with the Municipal Class Environmental Assessment (Oct. 2000, as amended 2007, 2011 & 2015). This Environmental Study Report (ESR) has been prepared to document the Class EA process and by this Notice is being placed in the public record for review and comment. A digital copy of the ESR is available on the Town of Wasaga Beach's website at [www.wasagabeach.com](http://www.wasagabeach.com). A hard copy of the document is also available for review during regular business hours at the following locations:

Town Hall Town of Wasaga Beach 30 Lewis Street Wasaga Beach, ON Hours: Mon. to Fri. 8:30-4:30 pm	Wasaga Beach Public Library 120 Glenwood Drive Wasaga Beach, ON Hours: Tues. to Fri. 10:00 a.m. - 8:00 p.m. Sat. 10:00 a.m. - 4:00 p.m. and Sun. 12:00 p.m. - 4:00 p.m.
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In accordance with the Schedule 'C' Municipal Class Environmental Assessment process, this Environmental Study Report (ESR) will be made available for a 30 day public review period starting June 7, 2018 and ending July 9, 2018. If concerns regarding this project cannot be resolved with the municipality, a person or party may request that the Minister of the Environment make an order for the project to comply with Part II of the Environmental Assessment Act (referred to as a Part II order), which addresses individual environmental assessments. Requests for a Part II Order must be submitted in writing to the Minister of Environment at the address listed below by July 9, 2018. A duplicate copy of the request must also be forwarded to the Director of the Environmental Approvals Branch and Mr. Mike Latimer of the Town of Wasaga Beach at the addresses shown below:

The Honourable Chris Ballard Minister of Environment 77 Wellesley Street West 11 <sup>th</sup> Floor, Ferguson Block Toronto, Ontario M7A 2T5	Director, Environmental Approvals Branch Ministry of Environment and Climate Change 135 St. Clair Avenue West, 1st Floor Toronto, Ontario M4V 1P5	Mr. Mike Latimer, C.E.T. Project Coordinator Town of Wasaga Beach 30 Lewis Street Wasaga Beach, ON L9Z 1A1 Tel: (705) 429-2540 Fax: (705) 429-8226 <a href="mailto:m.latimer@wasagabeach.com">m.latimer@wasagabeach.com</a>
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## EXECUTIVE SUMMARY

The Bay Sands Development Area is located at the western end of the Town of Wasaga Beach, just east of Lyons Court and south of Mosely Street. As this development received approval in the seventies, today's standards of land use planning did not apply and as such, a servicing strategy was not developed prior to the subdivision being approved and the lots subsequently being sold. In order to proceed to development a suitable sanitary, water and drainage strategy must be established. Additionally, portions of the study area have been subject to historical, frequent flooding that needs to be addressed. This Schedule 'C' Class EA was initiated to develop a drainage strategy for the Bay Sands Development Area and to address flooding issues within the study area.

During Phase 2 of the Class EA process five alternative solutions were presented to the public at Public Information Centre No. 1. Following PIC No. 1 additional analysis determined that study area drainage would need to be divided into two areas and therefore two Preferred Solutions would be required. Following the receipt of input, the municipality selected the Preferred Solution(s) and presented two design alternatives each for Area 1 and Area 2 at PIC No. 2. Given the lack of public support for the Area 2 Preferred Solution and associated design options, the municipality reconsidered the selection for that area and re-opened discussions with a key agency (i.e. Ontario Parks). The municipality hosted a third PIC with the focus of re-visiting the options for Area 2. The public was generally supportive of the revised Preliminary Preferred Design Option.

The key concerns raised during the course of the project related to outlet locations, impacts on water quality, the need to address flooding as soon as possible, increased flows to the beach and general property owner concerns associated with an outlet in proximity to their residence.

With regard to existing conditions, an inventory of the natural heritage features within the study area was completed. It was determined that the drainage features within the study area consist of swales or ditches that are man-made, undefined and/or flow intermittently. The initial field assessment determined that none of the drainage features contain fish or fish habitat; however, a supplementary field visit determined that the channel located just east of 61st Street is ephemeral and provides seasonal fish habitat. The existing study area is primarily residential and developed with the exception of the 23 ha Bay Sands Development Area and the privately owned, vacant lands to the north that is similar in size, as well as a smaller 10 ha site owned by Infrastructure Ontario, but managed by Ontario Parks, at the north end of the study area. It is at these three locations and the eastern drainage feature (i.e. east of 61st Street) where

vegetation and wildlife habitat are primarily concentrated. Vegetation and wildlife is limited in the remainder of the study area given the developed nature of those areas. A single Butternut Tree was observed in the northwest area of the wetland unit. An unevaluated wetland was identified on the vacant lands north of the Bay Sands Development Area and a small, limited-quality remnant coastal wetland was observed north of the Ontario Parks' property.

The Preferred Solution for Area 1 involves the construction of a 10 m to 12 m wide grass lined drainage swale through private property north of the Bay Sands Development Area to a connection point near the intersection of Mosely Street and 67<sup>th</sup> Street. The 67<sup>th</sup> Street corridor will be urbanized with the existing ditch drainage being replaced with curb, gutter and storm sewer. The flow from the drainage channel will be conveyed via a large diameter storm sewer on 67<sup>th</sup> Street north to Shore Lane where it will be discharged to Nottawasaga Bay via the existing outlet at 67<sup>th</sup> Street.

The Preferred Solution for Area 2 proposes the construction of a new outlet on the vacant, Ontario Parks' property located to the north of the intersection of Shore Lane and 62<sup>nd</sup> Street. The 62<sup>nd</sup> Street corridor from approximately the Bay Sands Development Area east entrance will be urbanized. The municipal stormwater infrastructure will be extended north of Shore Lane across the Ontario Parks' property with the outlet structure situated near the north limits of the property.

The Preferred Solution(s) as selected will address the key deficiencies affecting the study area and as long as the recommendations are considered during detailed design and the mitigation as identified is implemented during construction the potential for impact is expected to be minimal.







### 1.3 Environmental Assessment Process

The purpose of the Ontario Environmental Assessment Act (OEAA) 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 Act applies to provincial ministries and agencies, municipalities and public bodies (i.e. Conservation Authorities and Metrolinx).

The Class EA is a planning process that has been approved under the OEAA for a class or group of undertakings. A Class EA follows an approved process designed to protect the environment and ensure compliance with the OEAA. A municipality is required to complete a Municipal Class Environmental Assessment (Class EA) before infrastructure improvements like the one proposed can be undertaken. Projects that are identified in the Class EA can proceed to implementation without further approval under the Act provided that the approved Class EA planning process is followed.

The Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015) as prepared by the Municipal Engineers Association defines the Class EA process to be followed based on the scope of the work proposed. The subject project is classified as a Schedule ‘C’ and requires completion of Phases 1 to 4, with implementation during Phase 5. The MCEA flow chart, included as Figure 3 in this report, illustrates the Class EA process and steps required for each phase. The process requires the evaluation of potential solutions and design concepts so as to select a suitable approach that will address the problem and / or opportunity, but also keep impacts to a minimum. The end goal is to select a solution that will address the problem, but create the least amount of impact on the area environment.

Consultation is an integral part of an environmental assessment. Opportunity is provided throughout the process for members of the public, key stakeholders, external agencies and Indigenous communities to provide input during the Class EA process.

The specific Class EA tasks completed for this project are as follows:

#### **Phases 1 & 2**

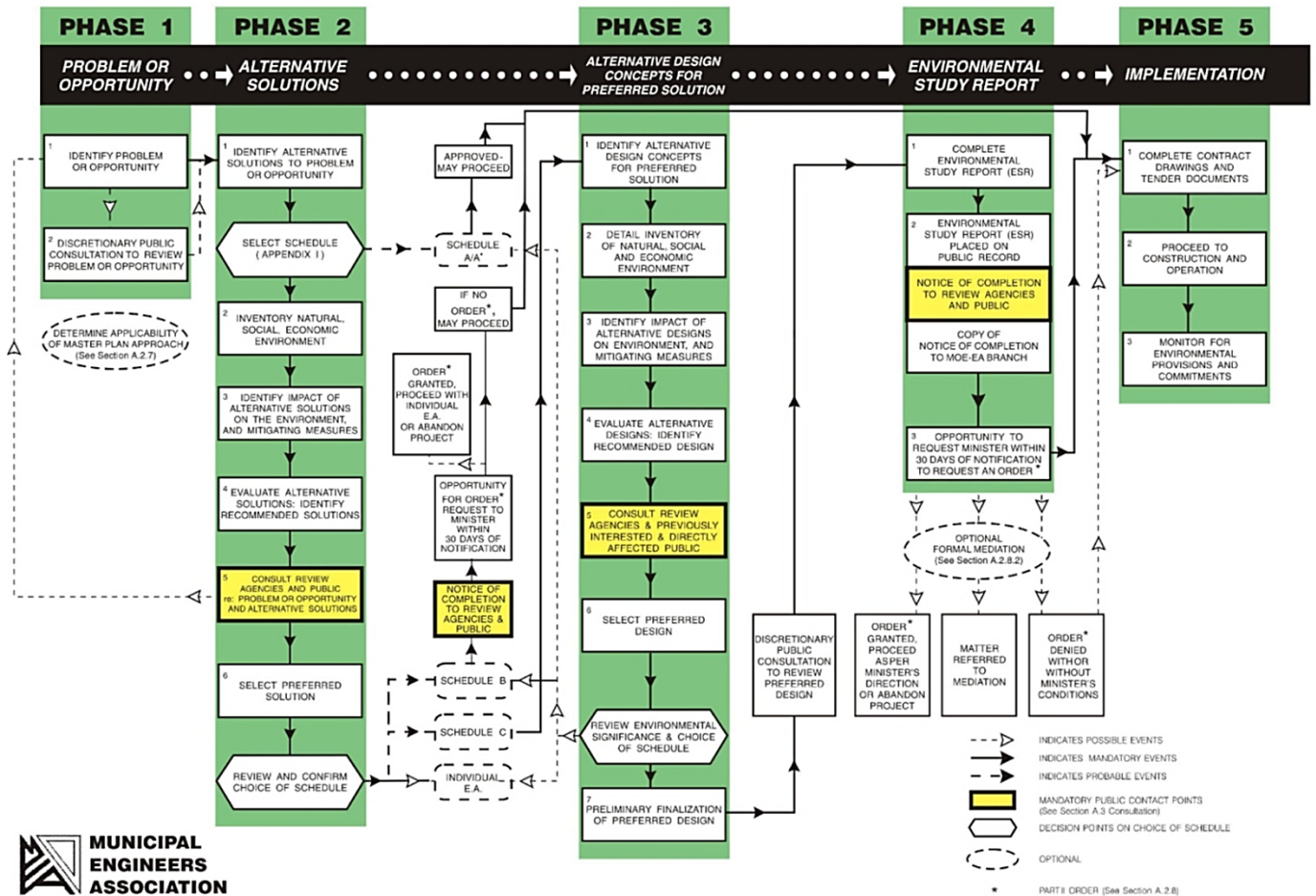
- Identify the problem/opportunity;

- Inventory the existing environment (physical, natural, social and economic);
- Develop alternative solutions to address the problem(s);
- Evaluate the proposed alternatives;
- Schedule Public Information Centre No. 1;
- Select the Preferred Solution in consideration of comments received.

Figure 3: Municipal Class Environmental Assessment Flow Chart

EXHIBIT A.2 MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

NOTE: This flow chart is to be read in conjunction with Part A of the Municipal Class EA



Phases 3 & 4

- Establish alternative design concepts to implement the Preferred Solution as selected at the close of Phase 2;
- Evaluate the impacts of the proposed alternative designs on the existing environment;



- Schedule Public Information Centre No. 2;
- Select the Preferred Design in consideration of comments received;
- Develop a suitable mitigation strategy to minimize potential environmental effects;
- Recommend to Council a Preferred Design;
- Prepare an Environmental Study Report (ESR) to document the Class EA process;
- File the ESR for a 30 day public review period.

### **Phases 5 - Implementation**

- Complete the detailed design and prepare the contract drawings and tender documents and proceed to construction.
- Monitor for environmental provisions and commitments.

## **1.4 The Canadian Environmental Assessment Act**

The Canadian Environmental Assessment Act was updated in 2012. The work proposed does not constitute a Designated Project under the revised Act and the project is not taking place on Federal lands. As such, a federal environmental assessment is not required under the Canadian Environmental Assessment Act for the current undertaking.

## **1.5 Project Team**

The project team involved in the completion of this Schedule 'C' Class EA included the following:

### **Town of Wasaga Beach**

- Mr. Kevin Lalonde, P. Eng., Director of Public Works
- Mr. Mike Pincivero, P. Eng., Manager of Engineering Services
- Mr. Mike Latimer, C.E.T., Project Coordinator

### **Ainley Group**

- Mr. Steve Fournier, P. Eng., Project Engineer
- Ms. Andrea Potter, B.E.S., Environmental Planner



## 1.6 Purpose of this Report

The purpose of this Environmental Study Report (ESR) is to document the Schedule 'C', Class EA planning process completed for this project. This report identifies the deficiencies affecting the subject study area and the rationale for this Class EA. The alternatives considered to address the existing deficiencies are summarized as well as the evaluation of these alternatives and the decision making process leading to selection of the preferred solution. The existing project environment (physical, natural, socio-economic, and cultural) is described in this report along with the potential for environmental impact and the mitigation strategy proposed. Consultation completed during this process is also summarized.

## 2.0 PLANNING CONTEXT

Prior to undertaking infrastructure improvements as proposed it is important to review the policy framework that guides land use planning and the development of area infrastructure. This section of the report provides a summary of the provincial and municipal planning policy that is applicable to this Municipal Class EA infrastructure improvement project.

### 2.1 Provincial Policy Statement

The Provincial Policy Statement (PPS) is issued under the authority of Section 3 of the Planning Act and came into effect on April 30, 2014. The PPS outlines provincial policies relating to land use planning and development. The policies provide for the efficient use of land, environmental protection and future sustainability. Growth is to be directed away from significant resources and focused within settlement areas. Land is to be managed to achieve an efficient use that accommodates both existing and future needs but also limits environmental impacts. The Planning Act requires that land use planning decisions be consistent with the policy statements issued under the Act. Some of the key policies applicable to this project are identified below:

- **Settlement Areas (S. 1.1.3.1):** "Settlement areas shall be the focus of growth and development, and their vitality and regeneration shall be promoted."
- **Sewage, Water and Stormwater (S. 1.6.6.7):** "Planning for stormwater management shall minimize or where possible, prevent increase in contaminant loads; minimize changes in water balance and erosion; not increase risks to human health and safety"

and property damage; maximize the extent and function of vegetative and pervious surfaces; and promote stormwater management best practices, including stormwater attenuation and re-use, and low impact development.”

- **Wise Use and Management of Resources (S. 2.0)** – The policies in this section provide for the wise use and protection of resources (natural heritage, water, agriculture, cultural heritage etc.). Some of the key applicable policies are listed as follows:

S. 2.1.5 Development and site alteration shall not be permitted in:

- b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1;
- d) significant wildlife habitat;
- f) coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy 2.1.4(b)

....unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

S. 2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

S. 2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

S. 2.2.1 h) Planning authorities shall protect, improve or restore the quality and quantity of water by ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces.

S. 2.6.2 Development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.

As the current project is following a Municipal Class Environmental Assessment process consideration is being given to the potential for impact from the project on the physical, natural, socio-economic and cultural environment prior to selection of the preferred design. The Class EA process will assist in establishing a feasible servicing strategy for the project study area that is both cost effective and environmentally responsible. The proposed undertaking is consistent with Provincial Policy Statements.

### **2.1.1 Growth Plan**

Under the Places to Grow Act (2005), regional Growth Plans have been developed to manage long-term growth and infrastructure renewal throughout the province. The *Growth Plan for the Greater Golden Horseshoe (2017)* is the document that provides direction for the Town of Wasaga Beach in this regard. The Growth Plan is a long-term plan that promotes the revitalization of downtown cores and the creation of “complete communities” that have all amenities, housing & employment in one location with the goal of eliminating urban sprawl, reducing traffic congestion and protecting important features such as farmland and environmentally sensitive areas.

Regional and local municipalities are required to comply with the policies of the Growth Plan and are to manage growth through their respective Official Plan documents using the population and employment growth forecasts contained in the Growth Plan. Schedules 3 & 7 of the *Growth Plan for the Greater Golden Horseshoe* identify a population of 27,500 for the Town of Wasaga Beach and an employment projection of 3,500 to the year 2031. The existing population within the municipality is approximately 21,000.

The Bay Sands Development Area is within the Settlement Area of the Town of Wasaga Beach and will assist in accommodating growth planned for the community. The current Class EA infrastructure project will establish a suitable drainage strategy for the Bay Sands Development Area and will address drainage deficiencies affecting the overall study area. As this is being completed in accordance with the Class EA process it will assist the Town in achieving land use planning objectives for the area in an environmentally responsible manner.

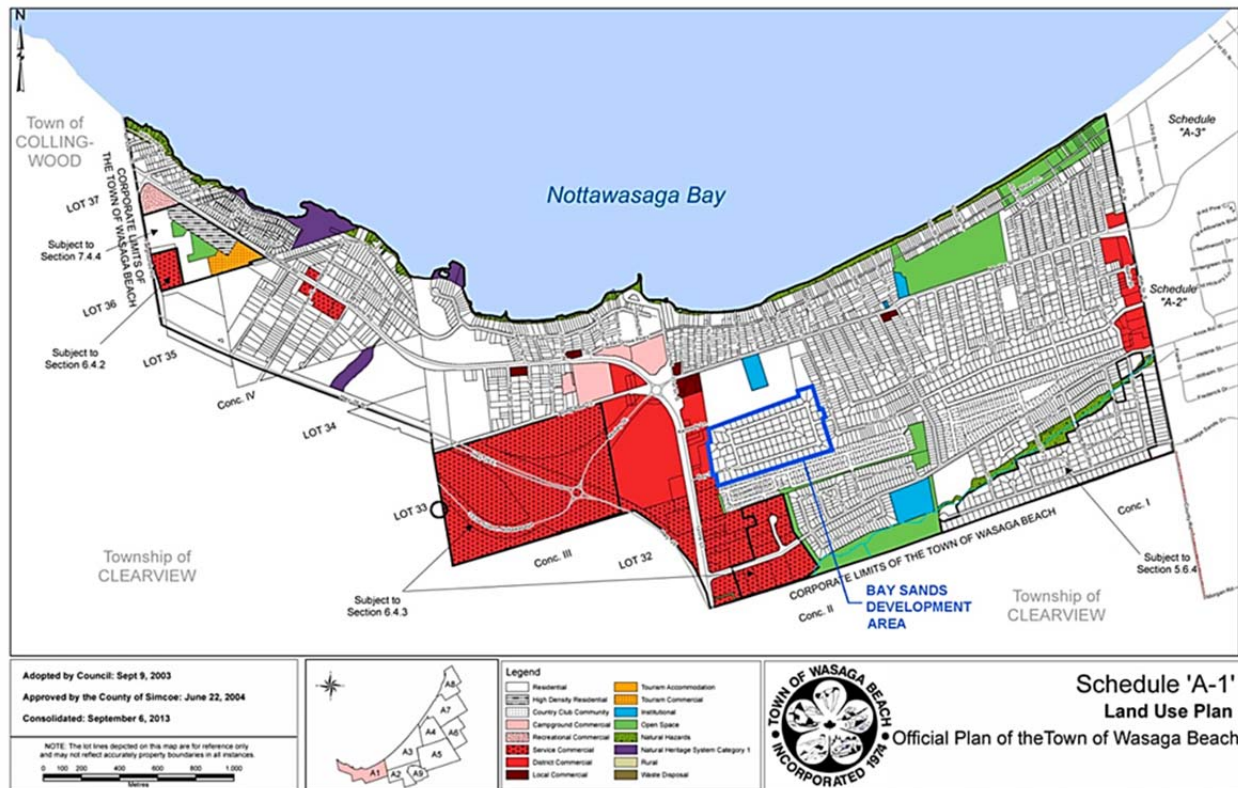
### 2.1.2 County of Simcoe Official Plan

At the regional level, provincial policy is implemented through the County of Simcoe’s Official Plan document. The County’s Official Plan promotes the wise use of the County’s resources & natural heritage features as well as the efficient use of land, cost-effective servicing, economic sustainability and public health & safety.

### 2.1.3 Town of Wasaga Beach Official Plan (2016)

The Town of Wasaga Beach Official Plan (2016) outlines the goals, objectives and policies for land use and development taking place within the Town of Wasaga Beach. As illustrated in Figure 4, the Bay Sands Development Area is designated as Residential in the Town’s Official Plan and it is located within a Settlement Area. The Town’s Official Plan includes policies for the protection of natural heritage (Section 13), cultural heritage (Section 15), and groundwater (Section 18) and provides direction for servicing (Section 17). This undertaking and the completion of the Class EA process is consistent with these policies.

Figure 4: Town of Wasaga Beach Official Plan Schedule A-1 Land Use



#### **2.1.4 Nottawasaga Valley Conservation Authority Guidance Documents**

Portions of the project study area are within an area regulated by the Nottawasaga Valley Conservation Authority (NVCA) and as such, a permit will be required from this agency prior to construction.

The *NVCA Planning and Design Guidelines* (NVCA, August 2009) is a guidance document that outlines the role of a conservation authority in the management of stormwater under the Conservation Authorities Act and the Planning Act. These guidelines provide direction relating to standards and requirements associated with the NVCA approvals. The *NVCA Stormwater Technical Guide* (NVCA, December 2013) provides technical guidance in the design of stormwater management infrastructure and report preparation.

Consideration was given to both of the aforementioned documents in the development of this Class EA and the NVCA was actively consulted during this process. Ontario Regulation 172/06 subsection 2(e) permits the construction of public infrastructure that has been approved through a satisfactory Environmental Assessment process.

#### **2.1.5 MOECC Stormwater Management Planning and Design Manual (2003)**

This *Stormwater Management Planning and Design Manual* (MOECC, 2003) provides technical and procedural guidance in the planning, design, and review of stormwater management practices. This document was utilized in the development of this project and the preparation of the drainage study. In April 2017 the MOECC released the Low Impact Development (LID) Stormwater Management Guidance Manual that outlines an innovative approach to the management of stormwater. The document is currently in draft format and while it has not yet been formalized, it was also reviewed in the context of the current Class EA. LID features will be included in the design of the Bay Sands Development Area and at other locations, where possible.

#### **2.1.6 Source Protection Plan**

The purpose of the Clean Water Act (2006) is to protect drinking water at the source and to safeguard human health and the environment. It ensures that municipal drinking water supplies are protected through prevention by the development of a watershed-based source protection plan. The project study area is subject to the South Georgian Bay Lake Simcoe Source



Protection Plan and is within the Nottawasaga Valley Source Protection Area. Source water protection planning for the Town of Wasaga Beach is coordinated by the NVCA who is a partner in the South Georgian Bay Lake Simcoe Protection Region.

Included within the Source Protection Plan are a series of assessment reports that summarize the technical studies completed to delineate vulnerable areas and potential significant drinking water threats within each municipality. Chapter 17 of the *Nottawasaga Valley Source Protection Area Assessment Report* provides direction for the Town of Wasaga Beach. The source protection plan was reviewed to identify existing vulnerable areas within the study area and to determine the potential for the subject undertaking to impact these areas and to develop the design and mitigation accordingly. This is discussed in more detail in the groundwater section of this report.

### **2.1.1 Climate Change**

The MOECC has recently finalized a document entitled *Considering Climate Change in the Environmental Assessment Process (2017)* that provides guidance relating to the ministry's expectations for considering climate change during the environmental assessment process. The Guide is now a part of the Environmental Assessment program's Guides and Codes of Practice. The environmental assessment of proposed undertakings is to consider how a project might impact climate change and how climate change may impact a project. It is important to note that the aforementioned document was finalized when the subject Class EA was coming to a close. Regardless, a section has been included in this Environmental Study Report to provide a brief discussion relating to this topic.

## **3.0 PROBLEM / OPPORTUNITY**

The municipality retained the Ainley Group in 2011 to complete a drainage assessment with the goal of developing a drainage strategy for the Bay Sands Development Area. The primary focus of the assessment was to identify any improvements that would be necessary to existing outlets and to determine capacity requirements within the 62nd Street right-of-way. The study evaluated the existing drainage infrastructure and reviewed alternative methods to address the stormwater management needs for the development post construction. The assessment reviewed different approaches to treat and safely convey drainage from the site to Nottawasaga Bay. The assessment also included a review of proposed improvements to existing local

drainage systems along 62nd Street and Shore Lane between 61st and 67th Streets. The results of the analysis were documented in a report entitled “62nd Street and Bay Sands Development Area Drainage Study Technical Brief” (Ainley Group, 2011). A copy of this document is included in Appendix ‘A’ of this report.

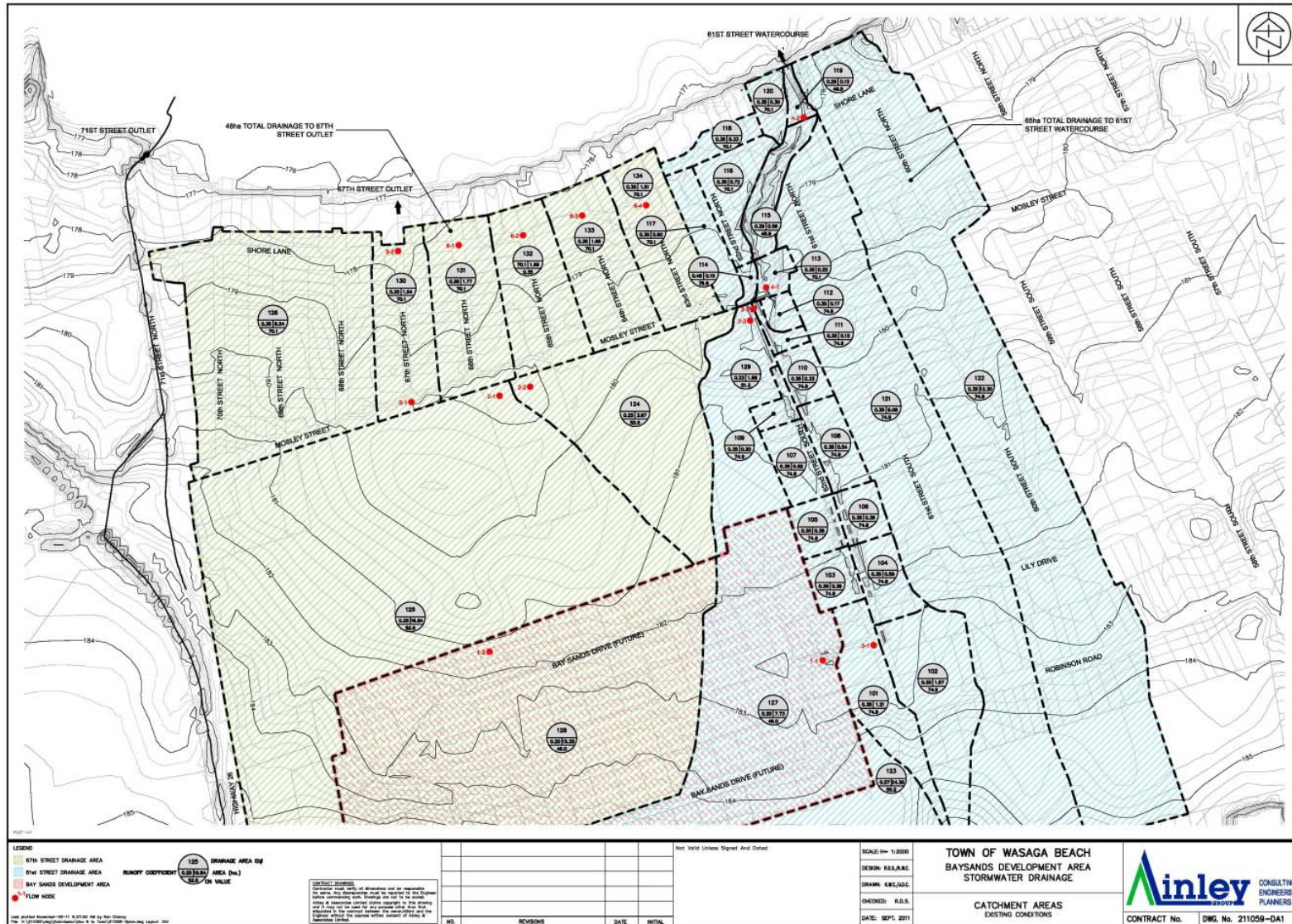
The 2011 drainage assessment included a review of the existing drainage infrastructure as potential outlet areas for the Bay Sands Development Area. An assessment of capacity was also completed to determine if the existing outlets can sufficiently convey existing flows and accommodate any additional flows from the Bay Sands Development Area.

As shown in Figure 5, the project study area currently drains to two outlets, one at 67th Street North and the other at the existing channel that passes through 1760 Shore Lane, east of 61st Street. Based on existing topography approximately 35% (77.73 ha) drains east towards the channel east of 61 St Street with the remaining 66% (15.25 ha) draining west towards the 67th Street Outlet.

For the purposes of the Class EA the study area was divided into three catchment areas as identified on Figure 6. These include the Shore Lane Drainage Area, the 61st Street Drainage Area and the 67th Street Drainage Area. This figure is generally the same as Figure 5, but with further separation of the Shore Lane catchment area to reflect adjustment of the drainage break point on Shore Lane to convey drainage east to 62nd Street or west to 67th Street. At this time the assumed break point is at 63rd Street.

The subsections that follow describe the three catchment areas in greater detail and summarize the assessment of the existing drainage infrastructure.

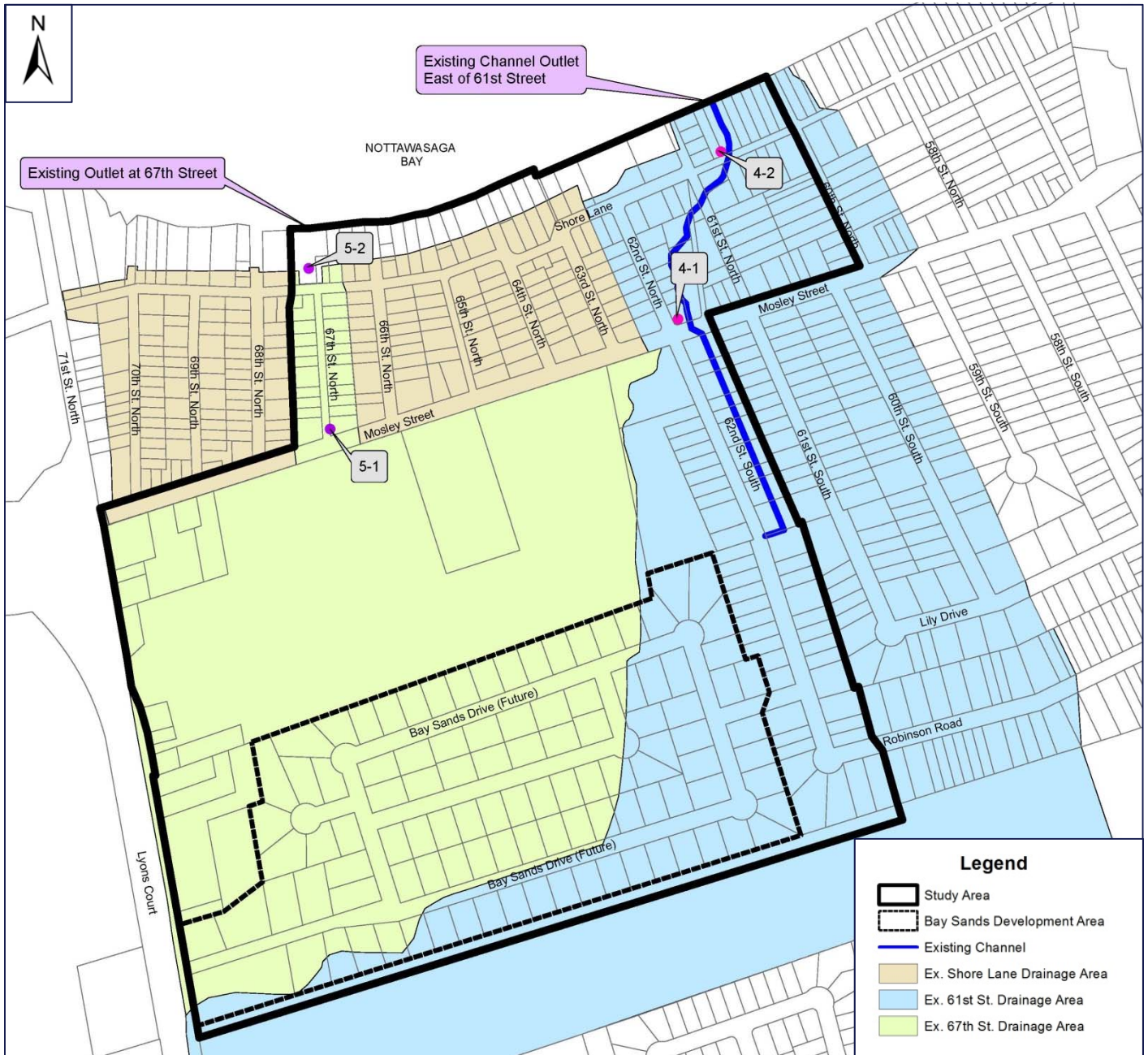
Figure 5: Existing Drainage Catchment Areas



(Source: 62nd Street and Bay Sands Development Area Drainage Study Technical Brief" (Ainley Group, 2011)).



Figure 6: Drainage Catchment Areas for Class EA



### 3.1 61<sup>st</sup> Street Drainage Area

This drainage area includes the eastern segment of the Bay Sands Development Area and extends eastward to include all properties that front onto 62nd Street South, 61st Street South & 60th Street from just south of Robinson Road north to Nottawasaga Bay. Figure 7 provides a typical view of 62nd Street.

**Figure 7: Typical View of 62<sup>nd</sup> Street**

Mosley Street and 62nd Street south are currently constructed as a rural cross-section and therefore stormwater is conveyed via ditches located on both sides of the corridor. In general the remaining roads such as Shore lane, 62nd Street North, 67th Street and most of the north/south streets have semi-urban cross-sections.



Existing drainage in this area flows via ditch and overland flow to the existing channel, east of 61st Street. The existing channel outlet crosses several private properties and the overland flow routes are poorly defined. Drainage flows into the channel and is conveyed under Mosley Street through a 3700mm (span) by 1800mm (rise) concrete box culvert which outlets to a defined watercourse that drains through the lots between 61st and 62nd Street where it crosses under 61st Street through a 900mm diameter CSP culvert. It then flows through a second section of watercourse between 61st Street and Shore Lane and then passes under Shore Lane through a 1730 mm (span) by 1095 mm (rise) elliptical CSP. Once north of Shore Lane it drains through another segment of the watercourse that passes through private property (1760 Shore Lane) before exiting to Nottawasaga Bay.

One of the key issues affecting the existing outlet is that it does not have sufficient capacity to accommodate overland flow for a storm event with a return period of once in one hundred years. The stormwater analysis completed in 2011 determined that the section of the channel between Mosley Street and Shore Lane has limited capacity and is capable of conveying less than the 2-year event under existing conditions. It was recommended that additional flow not be directed to this outlet and that, where possible, existing drainage should be directed away from it. The channel that crosses Shore Lane through the 1095 mm x 1730 mm diameter CSP leading to the channel segment is also under capacity.

Another prime concern with the existing channel is that it passes through a number of private properties and is not in an assigned easement. As illustrated in Figure 8, dwellings and other structures have been constructed in close proximity to the watercourse.

**Figure 8: Existing Channel North of Shore Lane**



The *Drainage Study Technical Brief* included in Appendix 'A' of this report noted that “the limiting factor in the capacity of the natural watercourse is the channel section between Mosley and Shore Lane. This section of the outlet has the capacity to convey less than the 2-year event under existing conditions. Given the channel containment depth in some locations is only 0.5 m, and the channel bottom is narrow with steep side

slopes, in the order of 2:1, the capacity of this channel, as estimated by the SWMM5 model, is only 0.7 m<sup>3</sup>/s. The outlet channel section has an estimated conveyance capacity of 1.2 m<sup>3</sup>/s which would indicate conveyance of the existing 2-year event.” (page 9). Table 1 provides a summary of the flows to the 61st Street drainage outlet.

62nd Street currently has a rural cross section and the drainage capacity of this corridor is limited by the driveway culverts and road profile. The existing driveway culverts within the 62nd Street corridor are 300 mm diameter CSP culverts that have a limiting capacity of approximately 0.05 m<sup>3</sup>/s which leads to frequent overtopping of driveways. The drainage assessment concluded that the existing capacity along 62nd Street is limited and no additional flow should be directed to 62nd Street without drainage infrastructure improvements.



**Table 1: Existing 61<sup>st</sup> Street Drainage Outlet Flows**

SWMM5 Estimated Peak Flows (m <sup>3</sup> /s)		
Storm Event	Mosley (4-1)	Outlet (4-2)
25mm	0.51	0.90
4 hour Chicago		
2 year	1.06	1.87
5 year	1.44	2.55
10 year	1.73	3.05
25 year	2.10	3.70
50 year	2.39	4.22
100 year	2.72	4.77
SCS		
5 year 6 hour	1.31	2.33
100 year 6 hour	2.70	4.78
5 year 12 hour	1.28	2.28
100 year 12 hour	2.53	4.51
5 year 24 hour	1.20	2.12
100 year 24 hour	2.36	4.23
Regional (Timmins)	2.19	3.72

Note: Refer to Figure 6 for locations of 4-1 and 4-2  
(Source: 62nd Street and Bay Sands Development Area Drainage Study Technical Brief (Ainley Group, 2011)).

### 3.2 67<sup>th</sup> Street Drainage Area

The 67th Street Drainage Area includes approximately three quarters of the Bay Sands Development Area as well as lands north to Mosely Street. Drainage in this area is currently controlled by infiltration and overland flow to the existing semi-urban 67th Street outlet to Nottawasaga Bay. As there are no existing storm sewers south of Shore Lane all drainage during extreme events is conveyed by overland flow which leads to flooding.

**Figure 9: Existing 67<sup>th</sup> Street Outlet**



The existing 67th Street outlet, as illustrated in Figure 9, consists of a 1.8 m (span) x 0.9 m (rise) concrete storm sewer which conveys minor drainage through a municipal easement from Shore Lane to Nottawasaga Bay at 0.27% and a capacity of approximately 2.9 m<sup>3</sup>/s. The *Drainage Study Technical Brief* included in Appendix ‘A’ of this

report concluded that this structure has “enough capacity within this existing outlet for concentrated flow from the tributary area which currently drains via overland flow along the affected length of Shore Lane. When considering natural attenuation, the outlet would operate at approximately 50 percent of capacity, and eliminating natural attenuation the outlet could operate at full capacity under the 100-year return period event.” (Section 6.2, pg. 11). A summary of the flows draining to the 67th Street Outlet with and without the natural area is provided in Table 2.

**Table 2: 67th Street Drainage Outlet Flows**

Storm Event	SWMM5 Estimated Peak Flows (m <sup>3</sup> /s)			
	Mosley (5-1)		67th Outlet (5-2)	
	No Storage	With Storage	No Storage	With Storage
25mm	0.38	0.03	0.66	0.31
4 hour Chicago				
2 year	0.77	0.06	1.39	0.68
5 year	1.03	0.08	1.83	0.88
10 year	1.20	0.09	2.14	1.03
25 year	1.39	0.11	2.51	1.23
50 year	1.55	0.16	2.83	1.44
100 year	1.74	0.22	3.19	1.67
SCS				
5 year 6 hour	0.83	0.07	1.52	0.76
100 year 6 hour	1.50	0.24	3.00	1.74
5 year 12 hour	0.79	0.07	1.48	0.76
100 year 12 hour	1.42	0.24	2.86	1.68
5 year 24 hour	0.72	0.07	1.37	0.72
100 year 24 hour	1.32	0.25	2.71	1.64
Regional (Timmins)	1.54	0.77	2.72	1.95

*Note: Refer to Figure 6 for locations of 5-1 and 5-2  
(Source: 62nd Street and Bay Sands Development Area Drainage Study Technical Brief" (Ainley Group, 2011)).*

### 3.3 Existing Shore Lane Drainage Area

This drainage area is in the northwest section of the project study area and includes all of the properties fronting onto 63rd Street North through to 66th Street North as well as 68th Street North to 70th Street North. Drainage for this area is currently conveyed via ditch, storm sewer and overland flow to Nottawasaga Bay. A photo included as Figure 10 illustrates an existing segment of Shore Lane.

The existing storm sewer along Shore Lane extends from west of 64th Street to the outlet at

67th Street. The area east of the storm sewer drains primarily by overland flow northward to the Nottawasaga Bay over private properties with no defined drainage easements, with some flow directed to Town road allowances at 64th and 61st Streets.

**Figure 10: Existing Shore Lane**



There is existing storm sewer infrastructure within Shore Lane that extends from approximately 64th Street to the existing 67th Street outlet. The lands to the east of the storm sewer drain by overland flow north to Nottawasaga Bay over private properties with no defined drainage easements. Some flow is directed to 64th Street and 61st Street.

### **3.4 Existing Flooding**

The lack of stormwater infrastructure within the Project Study Area leads to flooding since drainage during extreme events must be conveyed by overland flow. Shore lane, 62nd Street North, 67th Street and most of the north/south streets have semi-urban cross-sections and therefore have minimal drainage capacity. 62nd Street has limited existing capacity and no additional flow can be directed to this road allowance unless the existing drainage infrastructure is improved.

During the course of this Class EA area residents described frequent flooding in the area of Shore Lane and 63rd Street North that has been ongoing for many years. Figure 11 depicts one such flooding event in this area. 63<sup>rd</sup> Street in this area has a semi-urban cross-section and, as a result, the capacity of this section is limited by the driveway culverts, boulevard swales and the road profile.

**Figure 11: Flooding at 63<sup>rd</sup> Street North and Shore Lane**

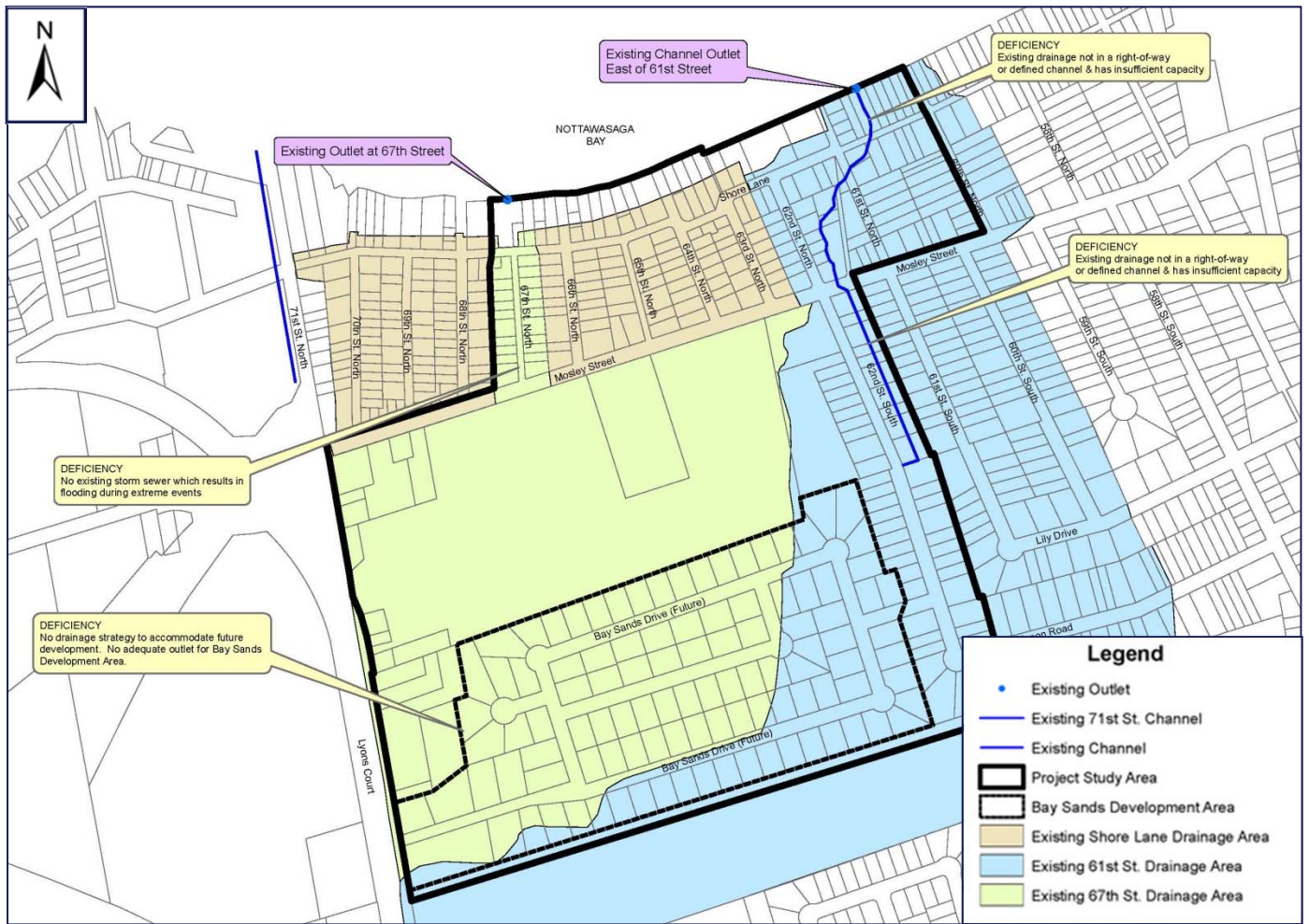


As summarized in Figure 12, the main deficiencies affecting the project study area are as follows:

- An outlet is required for the Bay Sands Development Area
- Infrastructure upgrades are necessary to address flooding
- Municipal infrastructure is not in a defined easement and is lacking from many of the corridors as they currently have a rural cross-section.



Figure 12: Deficiencies Affecting Study Area



### 3.5 Problem / Opportunity Statement

The purpose of this Class EA is to establish a drainage strategy for the Bay Sands Development Area and to address flooding issues affecting the overall project study area.



## 4.0 EXISTING CONDITIONS

This section provides an inventory of the existing physical, natural, socio-economic and cultural environment associated with the project study area. This inventory was established through the completion of field investigations, a review of existing engineering drawings and background reports.

### 4.1 Physical Environment

#### 4.1.1 Water and Sanitary Servicing Infrastructure

As shown in Figure 13 most existing properties within the project study area, except for the Bay Sands Development Area, are connected to municipal water and sanitary services. The existing watermain on 62nd Street, Shore Lane and 67th Street is 150 mm diameter. The watermain is located on the west side of 62nd Street and 67th Street and along the north side of Shore Lane. A 400 mm diameter watermain is located on Mosley Street. Sanitary sewers are located within all north/south streets and along Mosley Street and Shore Lane. The existing sanitary sewers are at a suitable depth and have the capacity to accommodate the Bay Sands Development Area.

Figure 13: Existing Municipal Services



(Source: Town of Wasaga Beach Official Plan)

#### **4.1.2 Utilities**

Area utilities, including Powerstream, Hydro One, Bell, Rogers Cable and Enbridge Gas have been consulted as part of this process. Utility servicing within the project study area includes Powerstream, Bell and Rogers using overhead cable. Street lighting, where provided, is installed on the hydro poles. A buried gas main is located on the east side of 62nd Street.

#### **4.1.3 Stormwater Infrastructure**

For details pertaining to existing stormwater infrastructure within the study area please refer to Section 3.0 of this report.

#### **4.1.4 Transportation Network**

The transportation network in the area of study consists of a north-south route, Highway 26, located to the west that is identified as a provincial highway/future collector road in the Town's Official Plan. Mosely Street travels east-west through the project area, to the north of the Bay Sands Development Area, and is identified as an arterial road in the Town's Official Plan. The remaining residential streets to the north of Mosley Street and to the east of the project study area are identified as local roads in the Town's Official Plan.

The road system within the study area is a mix of rural, semi-urban and urban. 62nd Street south of Mosley Street and Mosley Street itself consist of a rural cross-section. 62nd Street north of Mosley Street and 67th Street are semi-urban streets. Shore Lane east of 61st Street has an urban cross-section with curb and gutter and to the west of 61st Street is a semi-urban cross-section. There are two access points for the Bay Sands Development Area that include an easterly access from 62nd Street South and a westerly access from 71st Street.

## 4.2 Natural Environment

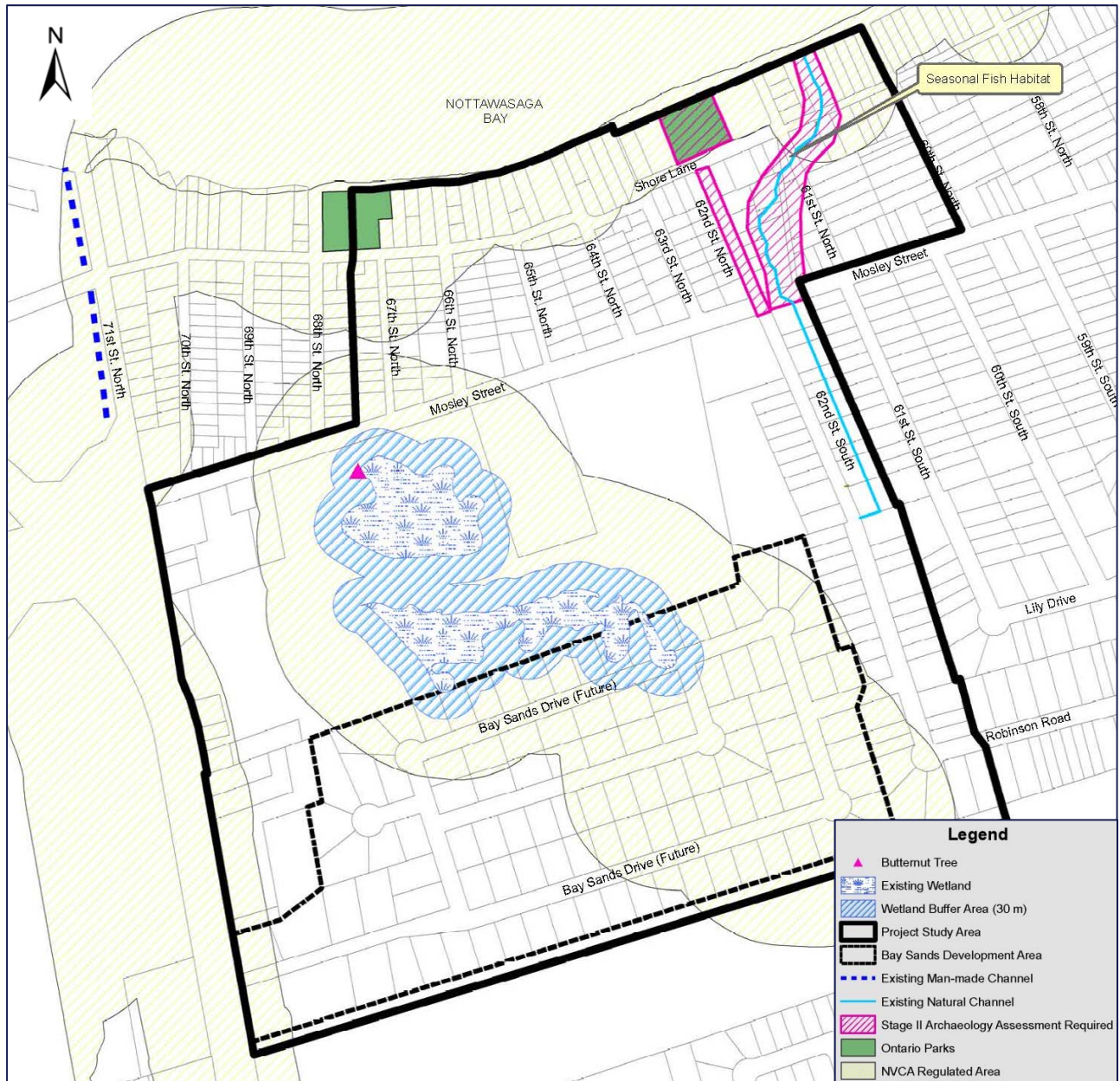
To assist in the development of the environmental inventory, Azimuth Environmental Consulting Inc. (Azimuth), on behalf of Ainley Group, was retained to complete an inventory of the natural heritage features present within the area of study. The Nottawasaga Valley Conservation Authority was consulted to confirm the scope of study necessary prior to initiation. The assessment included two evening amphibian (frog & toad) surveys, one dawn breeding bird survey and two seasonal vegetation surveys. The area was reviewed for the presence of wildlife (i.e. birds, mammals, reptiles, and amphibians) and their habitat through an examination of tracks, scat, and vocalizations. Azimuth also completed a Species at Risk (SAR) screening for both terrestrial and aquatic species. All relevant background material was reviewed which included information from the Natural Heritage Information Centre (NHIC) as well as data provided by the Ministry of Natural Resources & Forestry (MNRF) District Office. An assessment for the presence of SAR and SAR habitat was completed based upon background information received and field observations. During the field surveys habitat types were compared with the habitat of Species at Risk reported by NHIC to be present within the area. An assessment of the existing aquatic habitat conditions found within the study was also completed to confirm the existence of fish and fish habitat.

The aforementioned assessment was documented in the *Bay Sands Development Area Stormwater Drainage Scoped Environmental Impact Study* (Azimuth, March 2015). Once it became apparent that a drainage crossing would be viable from the Bay Sands Development Area north to Mosely Street, representatives from Azimuth, the Ainley Group, and the NVCA met on-site to walk the affected property to the north of the Bay Sands Development Area to delineate the limits of the existing unevaluated wetland. Azimuth later issued Addendum No. 1 to the original EIS in the form of a letter dated March 24, 2017 to summarize the results of the field visit including updated SAR information and associated mitigation.

As the Class EA process progressed additional review was completed by Azimuth in localized areas. This was documented in a second addendum to the original EIS in the form of a report entitled "Environmental Impact Study Addendum No. 2" (Azimuth, March 2018). The subsections that follow provide an inventory of the existing natural environment associated with the project study area. The locations of key environmental features are illustrated in Figure 14. Copies of the Azimuth reports are included in Appendix 'B' of this document.



Figure 14: Environmental Constraints



#### 4.2.1 Soils and Topography

As discussed in the *62nd Street and Bay Sands Development Area Drainage Study Technical Brief* (Ainley Group, November 2011) soil in the project study area consists of Alliston Sandy Loam and Sargent Gravelly Sandy Loam, both of which are classified as hydrologic group soil type “AB”. Based on existing topography, 7.7 ha (34%) drains to the east towards the 61st Street outlet, while 15.3 ha (66%) drains to the west towards the 67th Street outlet.

#### 4.2.2 Designated Areas

The site is not within an area that is subject to the Greenbelt Plan (2017), the Niagara Escarpment Plan (2017) or the Oak Ridges Moraine Conservation Plan (2017). There are no Provincially Significant Wetlands (PSW) or Areas of Natural & Scientific Interest (ANSI) within or adjacent to the subject study area.

There are two properties within the project study area that are identified as Ontario Parks. As illustrated in Figure 14, one site fronts onto Shore Lane opposite 62nd Street North and the second location is the north side of Shore Lane between 67th Street North and 68th Street North. During the Class EA process the affected property north of 62nd Street/Shore Lane was confirmed to be owned by Infrastructure Ontario, but managed by Ontario Parks. For the purposes of this report the land is referred to as Ontario Parks (Ministry of Natural Resources and Forestry) property.

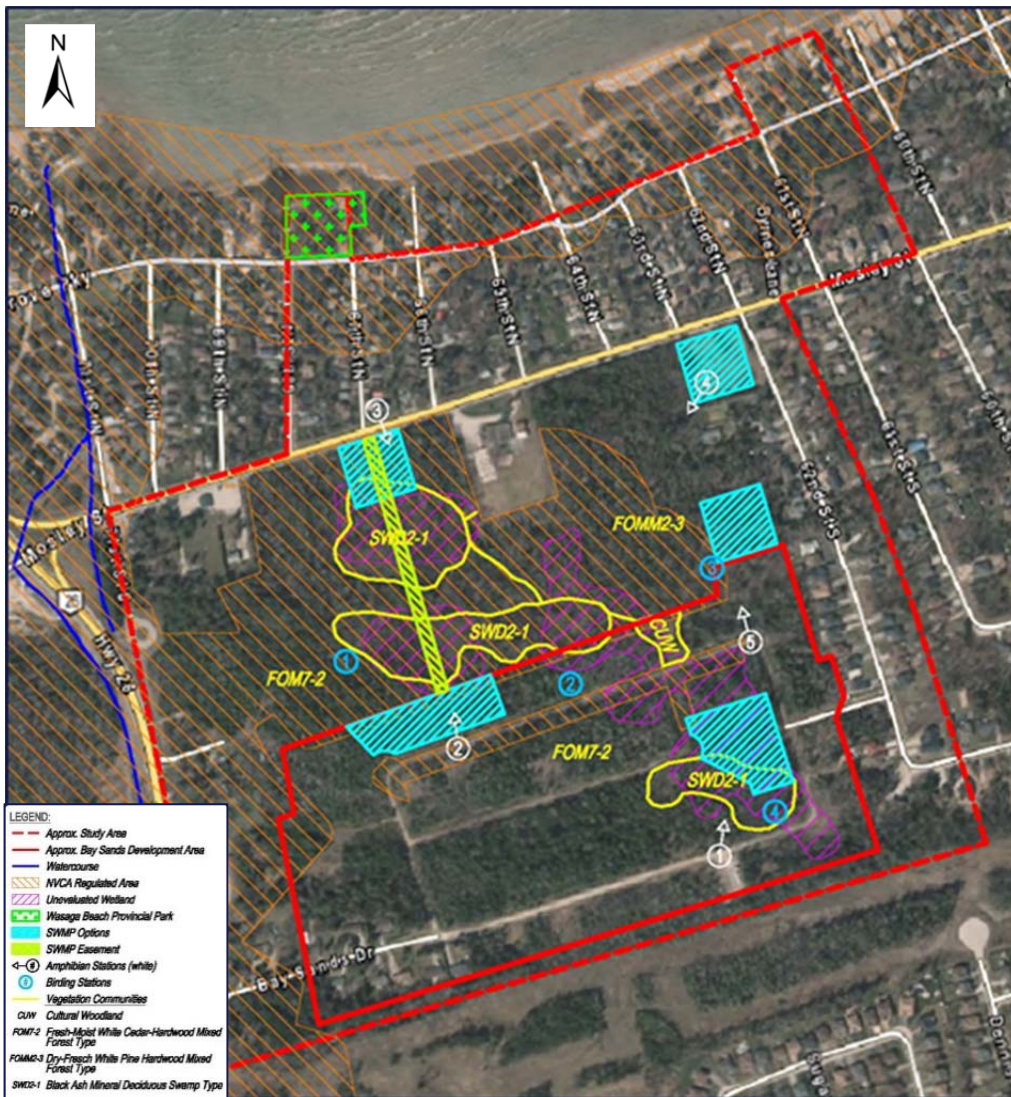
A portion of the subject study area is located within an area regulated by the Nottawasaga Valley Conservation Authority (NVCA) as shown in Figure 14.

#### 4.2.3 Vegetation (Including Species at Risk)

Vegetation communities were identified using the Ecological Land Classification for Southern Ontario (ELS, 1998). As illustrated in Figure 15 four vegetation communities were found to be present within the Bay Sands Development Area and the adjacent vacant lands to the north. Fresh Moist White Cedar-Hardwood Mixed Forest (FOM7-2) is located throughout most of the area and consists primarily of Eastern White Cedar and Trembling Aspen with species of Balsam Poplar, White Spruce and White Pine also present. Dry Fresh White Pine Hardwood Mixed Forest (FOM2-3) is found in the north-eastern section and is comprised mainly of Eastern White Pine and Trembling Aspen. A small localized area of Cultural Woodland (CUW) was found within the Bay Sands Development Area consisting of Eastern White Pine, Eastern White Cedar, Trembling Aspen, Paper Birch, Poison Ivy, Bracken Fern and Red Raspberry. Three areas of Black Ash Mineral Deciduous Swamp (SWD2-1) were observed in the wetland areas. The primary species in these three areas include the Black Ash and Silver Maple with Green Ash, Trembling Aspen and American Elm also present as well as species typical of a wetland environment that include cattails, Red-osier Dogwood, Dwarf Raspberry, Horsetail, Speckled Alder and Sensitive Fern.



Figure 15: Existing Vegetation



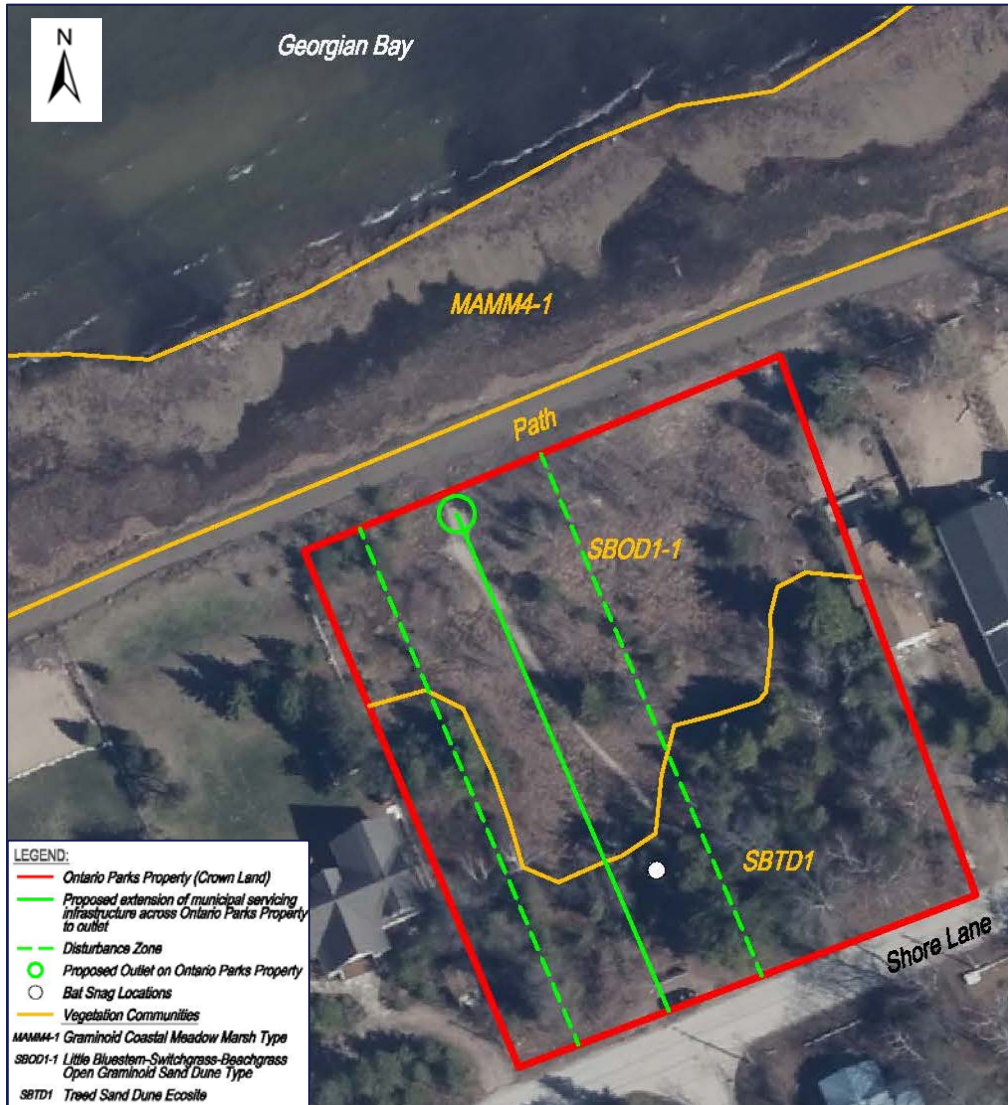
(Source: Environmental Impact Study (Azimuth, March 2015).)

The forested areas within the Bay Sands Development Area and the vacant lands to the north were found to be deficient in size and ecological function to be considered a Significant Woodland. The forested area lacks a linkage function given the surrounding residential developments and the absence of no significant natural features or watercourses in proximity. In accordance with provincial guidelines, the forest on the subject properties are not considered to be a Candidate Significant Woodland given its overall size, presence of forest interior habitat (i.e. forested habitat 100m from forest edge), and the existence of MNRF unevaluated wetlands.

A Species at Risk (SAR) screening was also completed for the project study area. The background review identified several species as having the potential to be in the area of the project. This included the Butternut Tree (Endangered), Spotted Wintergreen (Endangered), and Hill's Thistle (Threatened). A single Butternut Tree (Endangered) was observed on lands north of the Bay Sands Development Area during the November 2016 field visit with the NVCA to delineate the limits of the wetland unit. The location of the Butternut Tree is shown in Figure 14. Hill's Thistle (Threatened) has been documented within Wasaga Beach and there is potential suitable habitat for this species in the gaps of woodland areas found within the Bay Sands Development Area and the vacant lands to the north. It was not observed during the field surveys. There were no other vegetative SAR or habitat found within the subject area.

Figure 16 illustrates the vegetation communities present on the Ontario Parks' property located at the north end of the study area opposite the intersection of Shore Lane and 62nd Street. The three main vegetation types include Treed Sand Dune (SBTD1) located at the south end of the subject property, Little Bluestem-Switchgrass-Beachgrass Open Graminoid Sand Dune (SBOD1-1) at the north end, and Shrub Sand Barren Ecosite (SBS1) in the beach area separating the property from Nottwasaga Bay. The SBTD1 community is dominated by Eastern White Cedar, but also consists of White Pine, Green Ash, and White Birch. The understory and ground layer consist of a mixture of native and non-native invasive species such as Red Raspberry, Alternate-leaved Dogwood, Poison Ivy, Periwinkle, Tartarian Honeysuckle and Garlic Mustard. The SBOD1-1 community is dominated by open-grown herbaceous species, both native and non-native that include Little Bluestem, Poverty Oat Grass, Queen Anne's Lace, Panicked Aster and Bearberry. Scattered, regenerating trees and shrubs were also observed. Invasive plant species such as Scots Pine, Tartarian Honeysuckle, and Smooth Brome are dispersed throughout the SBOD1-1 community. The Azimuth review determined that the subject vegetation community is disconnected from similar habitats along the lakeshore by adjacent residential land use and encroachment to the east and west.

Figure 16: Existing Vegetation on Ontario Parks' Property



(Source: Environmental Impact Study Addendum 2 (Azimuth, March 2018).

In terms of SAR there were no Butternut Trees identified on the Ontario Parks' property. The vegetation survey included consideration for rare and SAR plant species highlighted as a concern for this area that included the Spotted Wintergreen, Hill's Thistle, and Ram's-head Lady's-slipper; however, no evidence of these species was observed.

There are two rare vegetation communities identified for the Ontario Parks property that include the Little Bluestem – Switchgrass – Beachgrass Open Graminoid Sand Dune Type (SBOD1-1; S2) and the Graminoid Coastal Meadow Marsh Type (MAMM4-1; S2). These are categorized



as provincially rare and have the potential to be considered Significant Wildlife Habitat. While both of these communities contain representative flora and landform features, both are also strongly influenced by human disturbance and invasive species which have reduced the quality of habitat present. The location has been fragmented due to adjacent land use which has reduced the habitat size and eliminated connectivity to other dune areas. The vegetative character is changing given the presence of Trembling Aspen and invasive species. The MAMM4-1 vegetation community has also been impacted by human influence through fragmentation, the creation of a foot path and the presence of invasive species. Vegetation within the remainder of the overall study area is limited given the developed nature of the area.

#### 4.2.4 Wetlands

The MNRF identified a wetland unit in the area of the Bay Sands Development Area and the vacant lands to the north. This wetland unit is classified as ‘unevaluated.’ During the course of the project representatives from Azimuth, the Ainley Group, and the NVCA met on-site on November 16, 2016 to delineate the limits of the existing unevaluated wetland. The surveyed limits of the wetland and the associated buffer area are illustrated in Figure 14.

A coastal wetland was also identified on the lands to the north of the Ontario Parks’ property (identified as ELC community type Graminoid Coastal Meadow Marsh MAMM4-1). It is neither provincially or locally significant. The Azimuth assessment determined that the quality of this coastal wetland is limited given the small size, impaired connectivity with other wetland habitat, presence of invasive species, and extent of human disturbance. Azimuth therefore concluded that it is more representative of a limited-quality remnant coastal wetland.

#### 4.2.5 Wildlife (Including Species at Risk)

The following wildlife was observed during the field visits completed by Azimuth:

- **Mammals:** Several mammals were found to be using the wooded areas within the Bay Sands Development Area and the lands to the north. These species included the White-tailed Deer, the Grey Squirrel and the Red Squirrel. There were no species observed that are considered to be rare or of conservation concern within the project study area. The natural heritage review also determined that wildlife movement to and from the forested area of the subject study area is likely quite restricted given the surrounding residential properties and roadways and it was therefore determined that the site does not contribute to wildlife movement through the general area.

- **Reptiles and Amphibians:** Five amphibian survey stations were established in the project study area and two evening anuran amphibian surveys were completed during the 2014 field season. Chorus Frogs were heard at Stations 2 and 5 (see Figure 15); however, the remaining stations had minimal or no calls. The Garter Snake was also observed during the field surveys. Other than the Chorus Frog, none of the observed amphibians were of provincial or federal conservation concern.
- **Birds:** A total of 28 bird species were documented during the dawn breeding bird survey conducted June 2, 2014 as illustrated in Table 3. A number of sensitive forest breeding birds (i.e. Pine Warbler, Black-throated Green Warbler, Black and White Warbler, Ovenbird, American Redstart, Winter Wren, and Blue-headed Vireo) were observed. A species is considered sensitive in that it requires a large tract of suitable habitat in order to maintain population levels.

**Table 3: Azimuth Breeding Bird Survey Data**

		Breeding Bird Survey Data										
Family	Scientific Name	Common Name <sup>1</sup>	Sample Stations					Conservation Rank <sup>2</sup>				
			1	2	3	4	Incidental	G-rank	S-rank	COSEWIC Status	SARO Status	
Anatidae	<i>Anas platyrhynchos</i>	Mallard						X	G5	S5		
Anatidae	<i>Branta canadensis</i>	Canada Goose						X	G5	S5		
Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	S					X	G5	S5B		
Cardinalidae	<i>Cardinalis cardinalis</i>	Northern Cardinal						X	G5	S5		
Cardinalidae	<i>Passerina cyanea</i>	Indigo Bunting				S			G5	S4B		
Columbidae	<i>Zenaidura macroura</i>	Mourning Dove	S						G5	S5		
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow		S				X	G5	S5B		
Emberizidae	<i>Melospiza melodia</i>	Song Sparrow				S			G5	S5B		
Emberizidae	<i>Zonotrichia albicollis</i>	White-throated Sparrow	S					X	G5	S5B		
Laridae	<i>Larus delawarensis</i>	Ring-billed Gull			FO				G5	S5B,S4N		
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee						X	G5	S5		
Parulidae	<i>Dendroica petechia</i>	Yellow Warbler						X	G5	S5B		
Parulidae	<i>Dendroica pinus</i>	Pine Warbler				S		X	G5	S5B		
Parulidae	<i>Dendroica virens</i>	Black-throated Green Warbler		S				X	G5	S5B		
Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat						X	G5	S5B		
Parulidae	<i>Mniotilta varia</i>	Black-and-white Warbler						X	G5	S5B		
Parulidae	<i>Seiurus aurocapilla</i>	Ovenbird		S					G5	S4B		
Parulidae	<i>Sciurus noveboracensis</i>	Northern Waterthrush						X	G5	S5B		
Parulidae	<i>Setophaga ruticilla</i>	American Redstart						X	G5	S5B		
Parulidae	<i>Vermivora peregrina</i>	Tennessee Warbler	S						G5	S5B		
Parulidae	<i>Vermivora ruficapilla</i>	Nashville Warbler						X	G5	S5B		
Picidae	<i>Colaptes auratus</i>	Northern Flicker						X	G5	S4B		
Troglodytidae	<i>Troglodytes troglodytes</i>	Winter Wren						X	G5	S5B		
Turdidae	<i>Turdus migratorius</i>	American Robin	S			S			G5	S5B		
Tyrannidae	<i>Contopus virens</i>	Eastern Wood-pewee			S	S		X	G5	S4B		
Tyrannidae	<i>Sayornis phoebe</i>	Eastern Phoebe						X	G5	S5B		
Virgonidae	<i>Vireo olivaceus</i>	Red-eyed Vireo		S					G5	S5B		
Virgonidae	<i>Vireo solitarius</i>	Blue-headed Vireo			S				G5	S5B		

<sup>1</sup> Nomenclature based on Ontario Ministry of Natural Resources (OMNR), Natural Heritage Information Centre (NHIC) database - <http://nhic.mnr.gov.on.ca/MNR/nhic/species.cfm>  
<sup>2</sup> Conservation Rankings: From Ontario Ministry of Natural Resources, Natural Heritage Information Centre ([http://nhic.mnr.gov.on.ca/nhic\\_cfm](http://nhic.mnr.gov.on.ca/nhic_cfm))  
<sup>3</sup> Breeding Bird Evidence Codes: OBS - Species observed; I; S - Singing male (Possible Breeding); more than 1 week apart, FO - Flyover (no evidence of use of property).  
 Breeding Bird Survey Sample Conditions: Date: June 2, 2014, Observer: M. Fuller, Temperature 16°C; Cloud cover <0%; Wind: B0, Precipitation: Nil, Search Time 5:36 to 6:24. )

(Source: EIS 1, Azimuth Environmental, March 2015)



A wildlife Species at Risk (SAR) screening was also completed for the project study area. A review was made of the Ontario Breeding Bird Atlas and consultation was completed with the Ministry of Natural Resources & Forestry (MNR). Habitat types were compared with the habitat of Species at Risk reported to be present within the area.

A number of species as noted below were identified as having the potential to be in the area of the project:

- Birds: Barn Swallow (Threatened), Bobolink (Threatened), Cerulean Warbler (Threatened), Common Nighthawk (Special Concern), Eastern Meadowlark (Threatened), Golden-Winged Warbler (Special Concern), Least Bittern (Threatened), Piping Plover (Endangered), and Red-headed Woodpecker (Special Concern).
- Reptiles/Amphibian: Eastern Hog-nosed Snake (Threatened), Milksnake (Special Concern), Snapping Turtle (Special Concern).
- Aquatic: Lake Sturgeon (Threatened).
- Mammals: Northern Long-eared Myotis (Endangered), Little Brown Myotis (Endangered) and Tri-coloured Bat (Endangered).
- Sensitive Species: Two species identified by MNR (names withheld by MNR).

Of the above noted species, only the following were either directly observed during the field visits and / or habitat was observed within the study area.

- Eastern Wood-pee-wee (Special Concern): The forested areas located north of the Bay Sands Development Area may provide habitat for this species. The Eastern Wood-Pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. This species was observed during the bird surveys and the forested areas provide confirmed habitat for this species.
- Eastern Hog-nosed Snake (Threatened): The Wasaga Beach Provincial Park is known to provide core habitat for this species. While potential habitat suitable for this species may be present within the vacant, forested portion of the project study area, the natural heritage review determined that it is unlikely that this area would support a viable population for the long term given its isolation by roadways and residential development. The subject vacant, wooded areas are not considered to be Significant Habitat for this species.

- Milksnake (Special Concern): This species is known to utilize a variety of habitats and can live in almost any habitat that provides shelter and a food source. The vacant, wooded lands within the study area could be utilized as habitat for this species.
- Piping Plover (Endangered): This species is a shorebird that nests on dry sandy or gravelly beaches just above the reach of high water and waves and it has been known to historically utilize the beach area of Wasaga Beach. The Friends of Nancy Island Historic Site and Wasaga Beach Park have for the past ten years worked on a Piping Plover Recovery Program at Wasaga Beach Provincial Park. When birds return to the area volunteers and park staff install perimeter fencing on the beach and place metal cages over the nest to protect eggs from predators. Monitoring continues during the nesting period.

While this species is well known within the greater Wasaga Beach region, no nesting pairs were identified by MNRF in the beach areas of the project. The loose, sandy beach area located between the SBOD1-1 and MAMM4-1 vegetation communities north of the Ontario Parks' property was determined to be both narrow and exhibit signs of human disturbance along the existing pathway which would indicate that it is not ideal for nesting habitat for this species. In addition, the overall landscape disturbance and modification nearby has reduced the habitat quality and the likelihood of use. No evidence of Piping Plover was observed.

- Red-headed Woodpecker (Special Concern): While this species was not observed during the field surveys potential nesting habitat for this species may be found within the wooded areas of the Bay Sands Development Area and the vacant lands to the north.
- Western Chorus Frog: This species was observed during the field surveys and habitat exists in areas of the Bay Sands Development Area and the vacant lands to the north. The Chorus Frog is provincially ranked as an S3 species by the MNRF which indicates that it is Vulnerable due to restricted range, few populations and widespread declines, vulnerability or extirpation. The S3 ranking may also qualify the habitat in which it was found as candidate Significant Wildlife Habitat. Federally, the species is designated as 'Threatened' by the Committee on the Status of Endangered Wildlife of Canada (COSEWIC) and would normally qualify for legal protection under the Species at Risk Act (SARA); however, SARA is not applicable to the subject property since it is not on federal lands. Under the Ontario Endangered Species Act (ESA) the species is

classified as 'Not at Risk' because healthy populations are found in many areas of southern Ontario. It is therefore not protected under any provincial legislation in Ontario.

- Monarch Butterfly (Special Concern): This species forages in open vegetation communities with wildflowers present. While wildflowers were present in the SBOD1-1 vegetation community of the Ontario Parks' property located to the north of the intersection of Shore Lane and 62nd Street, it was determined that it is unlikely that the location provides breeding or foraging habitat. The species was not observed during the field assessment.
- Lake Sturgeon (Threatened): Nottawasaga Bay provides habitat for the Lake Sturgeon. The shoreline of Georgian Bay at the north end of the study area may constitute non-specific habitat as species migrate to the mouth of the Nottawasaga River in search of spawning grounds.
- Bat Species: Potential habitat for three species of bat (i.e. Northern Long-eared Myotis (Endangered), Little Brown Myotis (Endangered), and Tri-coloured Bay (Endangered)) may exist within the forested areas of the Bay Sands Development Area and the vacant lands to the north of the development. The wooded areas of the Ontario Parks' property north of the intersection of Shore Lane and 62<sup>nd</sup> Street may also provide habitat for the Little Brown Myotis and the Northern Myotis. These bat species utilize cavity trees during the summer months to raise their young.

A Bat Snag Density Survey was completed on November 21, 2017 for the vacant Ontario Parks' property located north of the intersection of Shore Lane and 62<sup>nd</sup> Street. The survey confirmed that only one snag tree was present within the SBTD1 vegetation community and it is unlikely to provide maternity roost habitat.

The Bay Sands Development Area and the vacant lands to the north were identified as Candidate Significant Wildlife Habitat based on the presence of suitable habitat for sensitive breeding birds, potential Milksnake (Special Concern) habitat and confirmed Eastern Wood-pewee and Chorus Frog habitat. Potential impacts are expected to be minimal since natural heritage features will continue to function, post construction.

#### 4.2.6 Fish and Fish Habitat

The existing drainage features within the study area consist of swales or ditches that are man-made, undefined and/or flow intermittently. The study area drains to Nottawasaga Bay through two municipal drainage features as illustrated in Figure 14. A drainage feature is located west of

the Bay Sands Development Area running parallel with Highway 26, north to the existing channel at 71st Street. It was confirmed that this drainage feature does not provide for fish and fish habitat.

The second drainage feature is the channel located east of 62nd Street that drains north to Nottawasaga Bay, just east of 61st Street. The initial field assessment determined that this location does contain fish or fish habitat; however, a supplementary field visit determined that the watercourse is ephemeral and provides seasonal fish habitat.

The Azimuth assessment determined that the Nottawasaga Bay fish populations are not able to access the above noted drainage features due to the physical separation by the beach and a difference in elevation between the outlet and the lake water level.

#### **4.2.7 Groundwater**

The project study area is subject to the South Georgian Bay Lake Simcoe Source Protection Plan and is within the Nottawasaga Valley Source Protection Area. As illustrated in Figure 17, the subject location is not within a Wellhead Protection Area, Intake Protection Zone, Significant Groundwater Recharge Area or Highly Vulnerable Aquifer Area.

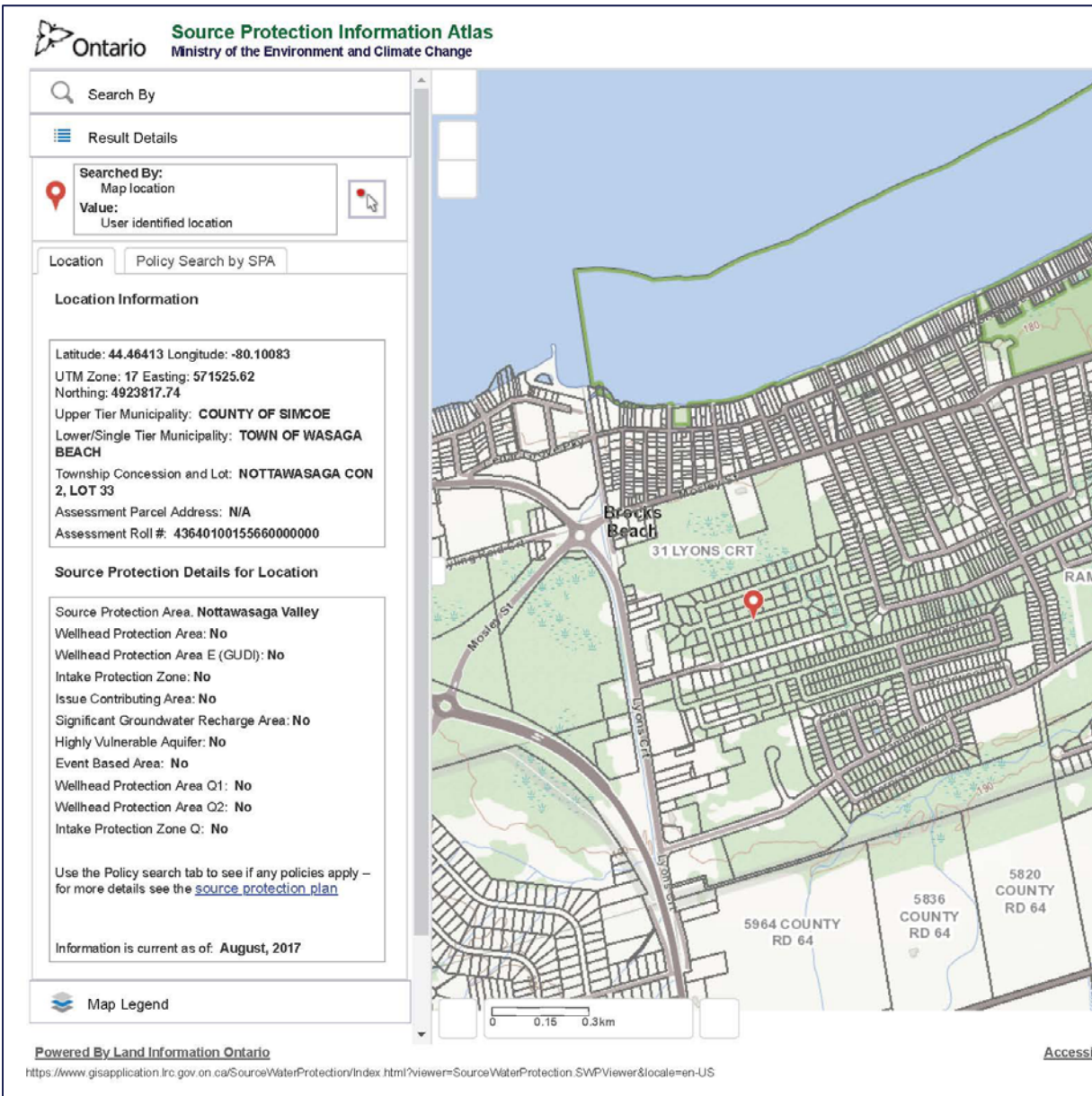
The majority of properties within the area of study are on municipal services; with the exception of No. 2 and 6 Byrnes Lane which are not presently connected to the Town's water system and rely on private wells.

#### **4.2.8 Surface Water**

As indicated, there are two drainage features within the area of study as illustrated in Figure 14. These include the channel that is located east of 62nd Street that drains north to Nottawasaga Bay just east of 61st Street. A second drainage feature is located west of the development running parallel with Highway 26, north to the existing channel at 71st Street. Nottawasaga Bay is located immediately to the north of the north limits of the project study area. As indicated, the study area consists of swales or ditches that are man-made, undefined and/or flow intermittently. For additional details pertaining to existing drainage within the study area, please refer to Section 3.0.



Figure 17: Source Protection Information



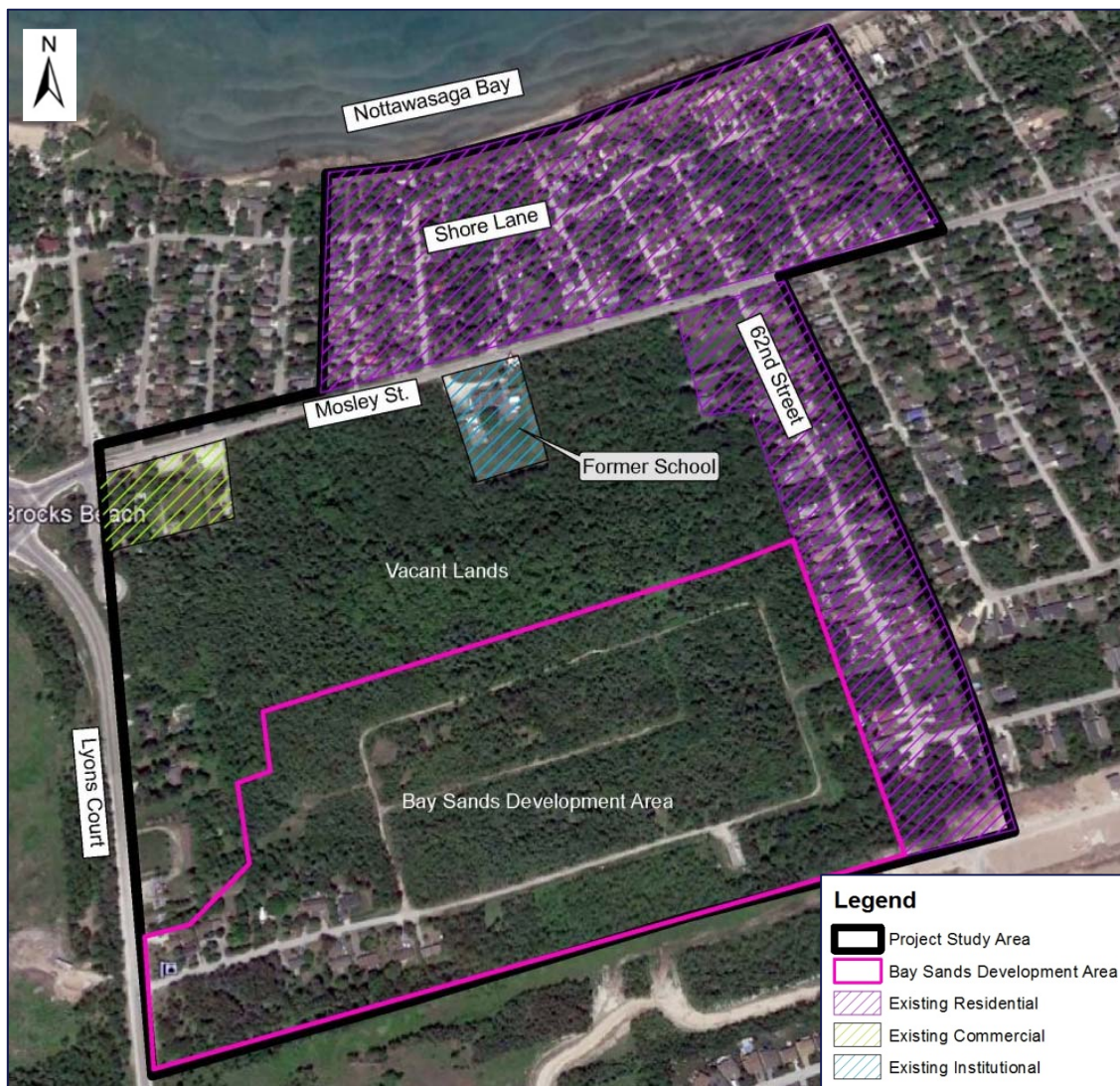
(Source: MOECC Source Protection Information Atlas)

### 4.3 Socio-Economic Environment

#### 4.3.1 Area Land Use

Land use within the project study area is primarily residential as shown in Figure 18. Lands immediately to the north and south of the Bay Sands Development Area are currently vacant but designated as Residential in the Town's Official Plan. One property located to the north of the Bay Sands Development Area, fronting onto Mosely Street is designated Institutional in the Town's Official Plan. This site is a former public school. Commercial land use is located to the west of the development fronting onto Lyons Court. All lands to the east have been completely developed as residential lots.

Figure 18: Area Land Use



### 4.3.2 Noise

The main noise sensitive areas within the study area are the residential properties located to the east of the Bay Sands Development Area and to the north between Mosley Street and Nottawasaga Bay. Lands to the west adjacent Lyons Court are primarily commercial. There are no hospitals, nursing homes or other noise sensitive land uses within the study area or in proximity.

## 4.4 Cultural Environment

### 4.4.1 Archaeological Resources

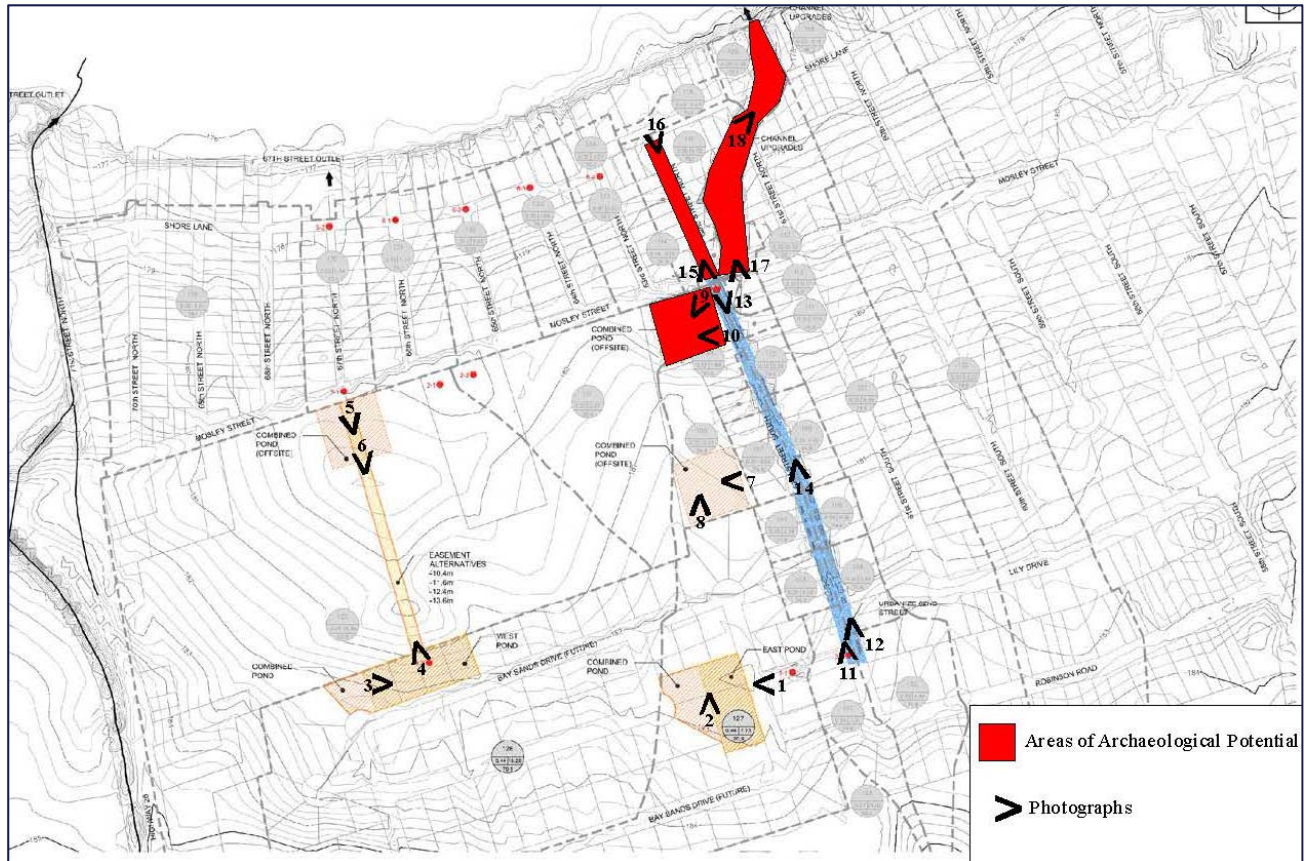
A Stage 1 archaeological assessment was completed for the project. Given the large study area the assessment focused on locations with the potential to be impacted by the alternatives under consideration. As such, the study focused primarily on the areas proposed for use as stormwater management ponds, the proposed drainage easement corridor (vacant lands north of the Bay Sands Development Area), the area of road reconstruction and the section of the existing watercourse (east of 62<sup>nd</sup> Street, north of Mosely St.) that may be subject to a widening. The assessment determined that four of the five pond locations and the area subject to a proposed drainage easement (i.e. vacant lands north of the Bay Sands Development Area) do not have any archaeological potential due to poor drainage in the area. Additionally, the 62<sup>nd</sup> Street South corridor, south of Mosley Street was also cleared of archaeological concerns due to previous disturbance.

As delineated in Figure 19, there are several locations within the study area that will require further assessment. 62<sup>nd</sup> Street North (north of Mosley Street) was deemed to require a Stage 2 assessment given that the lands immediately adjacent the corridor contain some lawn areas that are undisturbed. Unlike 62<sup>nd</sup> Street South, the segment north of Mosely Street is not flanked by drainage ditches, but is rather partially flanked by residential lawns and may have some archaeological potential. Some of the lands adjacent the watercourse north of Mosely Street, east of 62<sup>nd</sup> Street may also have archaeological potential. The assessment noted that these locations may have some potential for both aboriginal and Euro-Canadian archaeological resources. Should construction proceed in these areas, a Stage 2 analysis is required to confirm archaeological potential. There is also one additional site that was not included in the initial archaeological review and therefore not shown on Figure 19 that will also require



additional archaeological review to confirm potential. The subject site is the Ontario Parks' property located north of the Shore Lane and 62<sup>nd</sup> Street intersection. The need for a Stage 2 assessment for the 67<sup>th</sup> Street corridor subject to urbanization should also be reviewed further during detailed design. A copy of the archaeological report is included in Appendix 'C' of this document.

**Figure 19: Archaeological Potential**



(Source: Stage 1 Archaeological Assessment (Archaeological Assessments Ltd., May 2014))

#### 4.4.2 Built Heritage and Cultural Heritage Landscapes

The *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes Checklist*, as provided by the Ministry of Tourism, Culture and Sport, was completed for this project. The purpose of this checklist is to assist proponents in determining if a project has the potential to impact known or potential cultural heritage resources. The heritage representative at the Town of Wasaga Beach was consulted to confirm if there are any cultural heritage properties in the area of the project that are designated under the Ontario Heritage Act and on the municipal register or if there are any properties that have not been



formally designated but are of cultural heritage interest. The municipality confirmed that there are no such resources within the area of the project.

Following consultation with the municipality and completion of the checklist it was determined that there are no cultural heritage resources within the study area or in proximity that could be impacted by the project. The MTCS checklist and supporting documentation are included in Appendix 'D' of this report.

## **5.0 PHASE 2 ALTERNATIVE SOLUTIONS**

### **5.1 Description of Alternative Solutions**

As part of Phase 2 of the Class EA process, several alternative solutions were developed to address the aforementioned deficiencies and presented to the public at Public Information Centre No. 1 on November 6, 2014. These are detailed in the sections that follow.

#### **5.1.1 Alternative 1 – “Do Nothing”**

This option does not propose any improvements to existing drainage. The existing situation would remain unchanged. The 'Do Nothing' alternative is given consideration during the Class EA process and is used as a benchmark to gauge the potential for environmental impact.

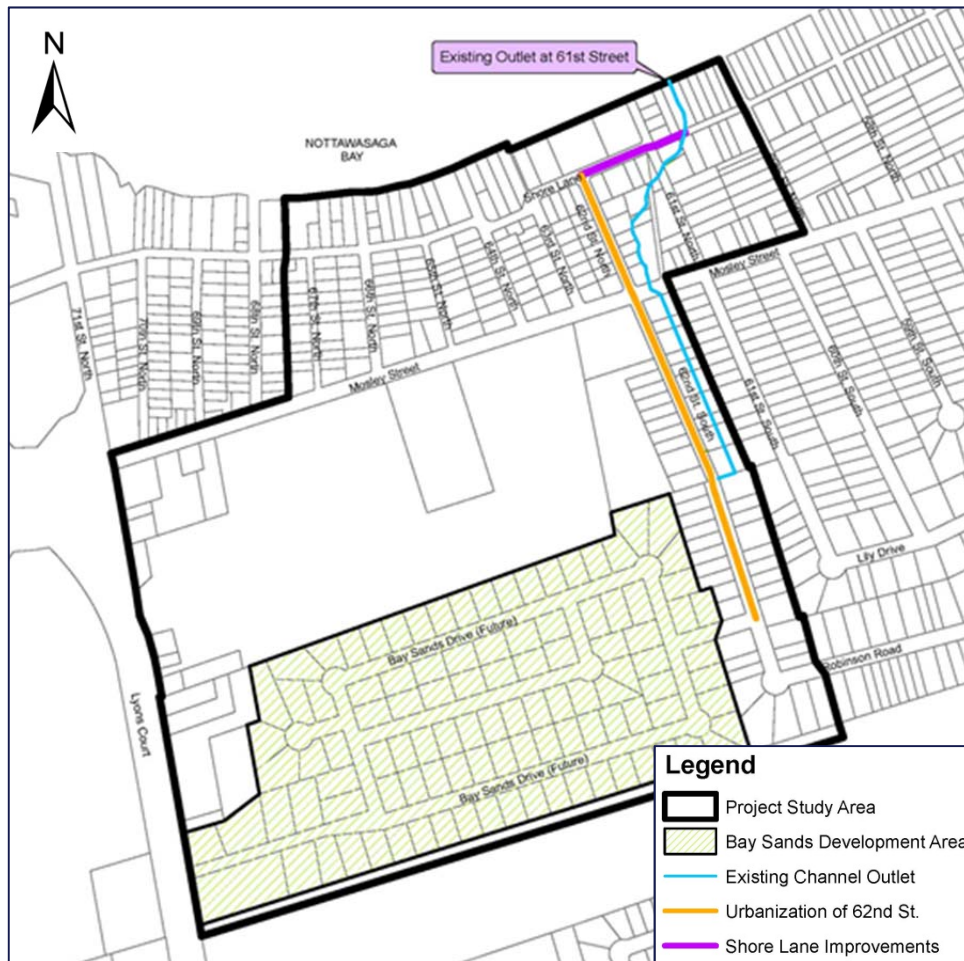
#### **5.1.2 Alternative 2A (Utilize Existing Channel Outlet and Urbanization)**

As illustrated in Figure 20, this alternative proposes to utilize the existing channel outlet located east of 61st Street, north of Shore Lane. This watercourse has insufficient capacity to handle current flows in the area. The section north of Shore Lane is only able to convey less than the 2-year flow. In order to provide sufficient capacity to convey the existing 100-year flows, the watercourse in this section would require significant upgrades or some combination of channel improvement and storm sewer on 62<sup>nd</sup> Street.

This alternative also proposes the urbanization of 62nd St. from the Bay Sands Development Area entrance north to Shore Lane as well as improvements to Shore Lane from 62nd Street east to the existing channel. The flows from the Bay Sands Development Area, controlled to pre-development rates, would be directed to 62<sup>nd</sup> Street. Urbanization means that it would be

reconstructed with curb, gutter, catch basins and storm sewers that would replace the existing ditch drainage. Once the road is urbanized, drainage would be conveyed via the storm sewer and overland flow to the improved channel outlet east of 61st Street where it would then be discharged to Nottawasaga Bay. With this alternative no additional quality control will be provided beyond that to be undertaken within the Bay Sands Development Area.

**Figure 20: Alternative 2A (Utilize Existing Channel and Urbanization)**



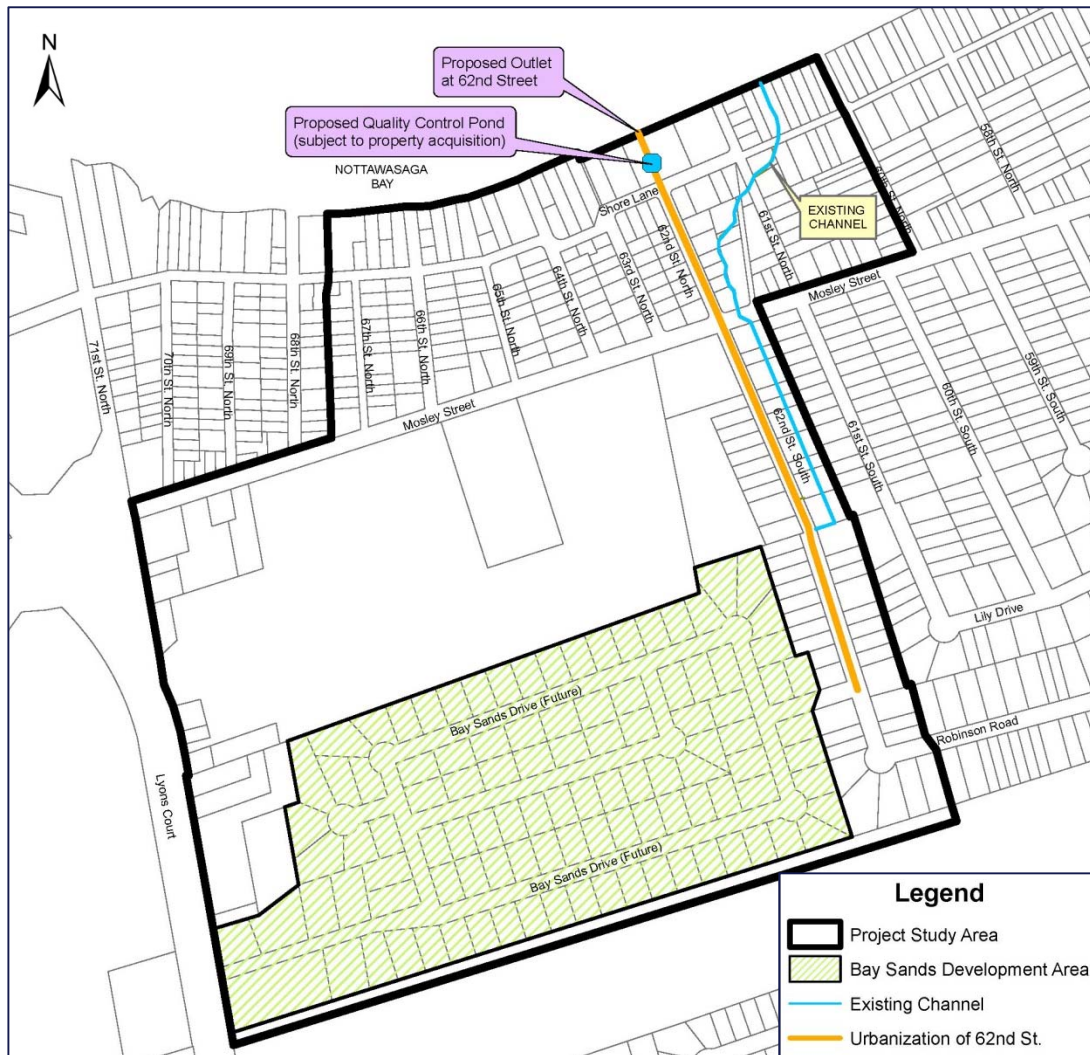




### 5.1.4 Alternative 2C (Outlet at 62<sup>nd</sup> Street and Urbanization)

As illustrated in Figure 22, this alternative proposes to relocate the existing outlet from the channel east of 61st Street to a vacant parcel of land north of the intersection of 62nd Street and Shore Lane. Similar to Alternatives 2A and 2B, 62nd Street would be urbanized from the Bay Sands entrance north to Shore Lane which would include the installation of a twin 900 mm storm sewer within the 62nd Street right-of-way. The municipal infrastructure would also be extended north of Shore Lane across the Ontario Parks (MNR) property with the outlet structure situated near the north limits of the property.

Figure 22: Alternative 2C (Outlet at 62nd Street and Urbanization)





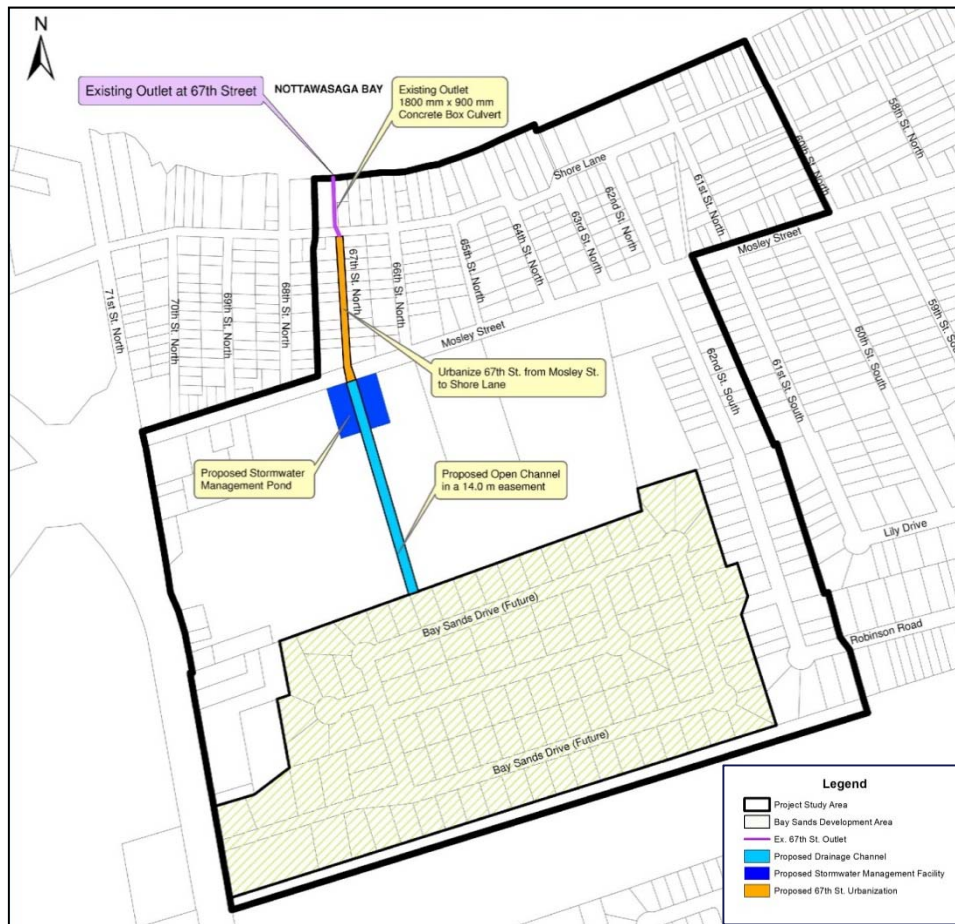
### 5.1.5 Alternative 3 (Utilize Existing 67<sup>th</sup> Street Outlet)

As illustrated in Figure 23, this alternative provides for the construction of an open channel from the Bay Sands Development Area north to Mosely Street. Flow would then be conveyed via a large diameter storm sewer on 67th Street north to Shore Lane where it would be connected to the existing outlet at 67th Street. The existing 67th Street outlet is a concrete box culvert outlet that has sufficient capacity to convey the existing 100-year flows. This alternative also proposes to urbanize 67th Street to accommodate overland flow that exceeds the capacity of the storm sewer. None of the Bay Sands Development Area flows would be directed to 62<sup>nd</sup> Street as proposed with Alternative 2A, 2B and 2C. Resolution of existing drainage issues along the 62<sup>nd</sup> street corridor would be resolved separately.

A drainage easement through private lands north of the Bay Sands Development Area would be required to accommodate the drainage channel as it crosses private property. The channel would consist of a grass lined drainage swale with the capability of conveying the greater of the 100-year or Regional flows and a maintenance access route. To convey drainage for the western section of the development, the width of the easement required would be 10.4 m. To convey the entire site, a drainage easement of 12.4 m in width would be required. Negotiations would be required with the affected property owner to acquire the lands necessary to accommodate the easement. Whether the easement conveys the western section or the entire site would be dependent on the negotiations.

Quantity control would be required to control post-development flows to pre-development flows. A stormwater management facility is proposed for this alternative; however, it would be constructed outside of the existing Bay Sands Development Area.

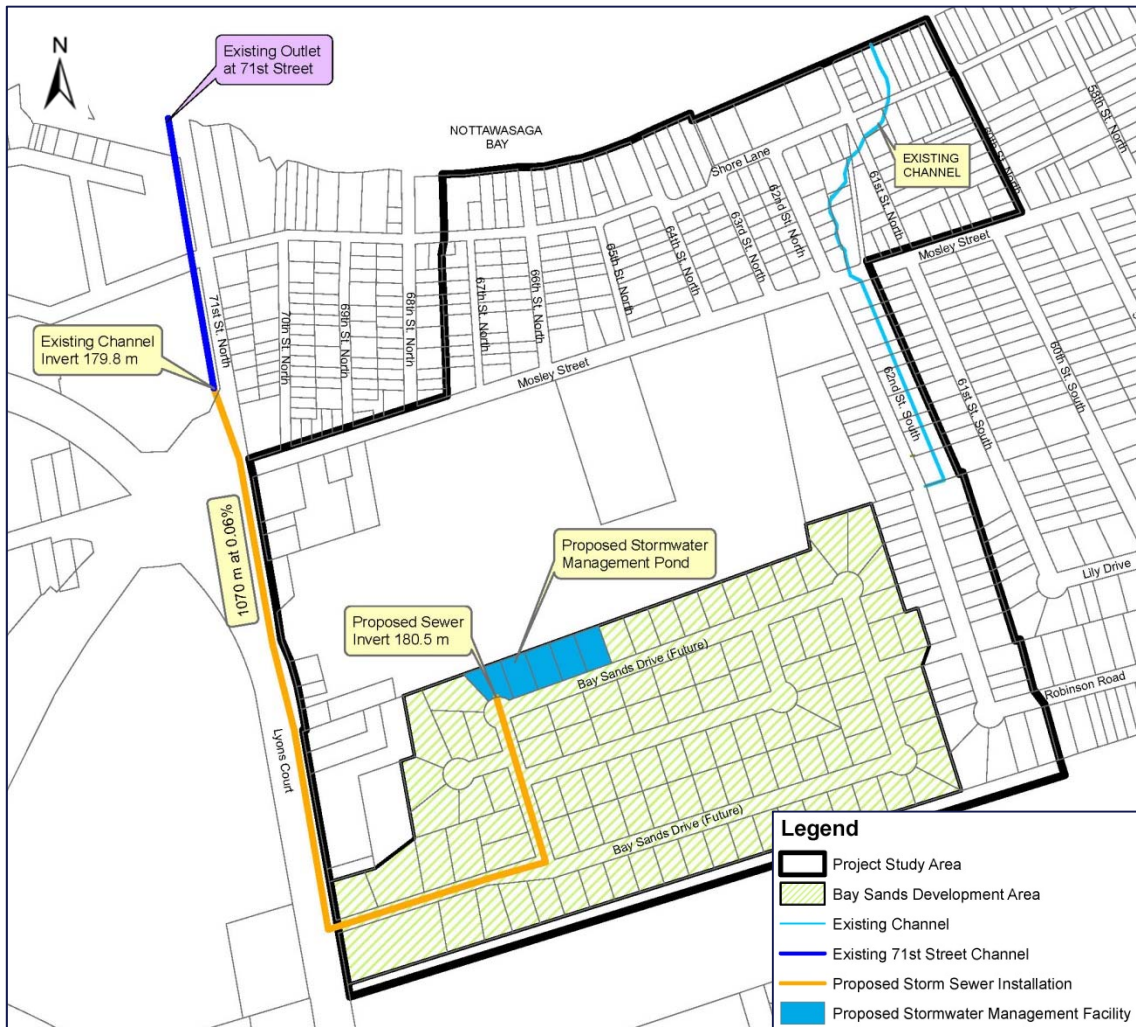
Figure 23: Alternative 3 (Utilize Existing 67<sup>th</sup> Street Outlet)



### 5.1.6 Alternative 4 (Utilize Existing 71<sup>st</sup> Street Outlet)

As illustrated in Figure 24, this option proposes that drainage from the Bay Sands Development Area be conveyed via a proposed large diameter storm sewer constructed on Highway 26 (formerly 71st Street North) to the existing channel at 71st Street utilizing the existing 71st Street outlet to discharge to Nottawasaga Bay. A preliminary review of this option revealed that the resulting storm sewer grades will be approximately 0.06% and therefore unacceptable. This option also has existing capacity issues along the route that would need to be addressed. This alternative was included as an option, but was not evaluated further because it was deemed to be unacceptable.

Figure 24: Alternative 4 (Utilize Existing 71<sup>st</sup> Street Outlet)



## 5.2 Stormwater Management Facility

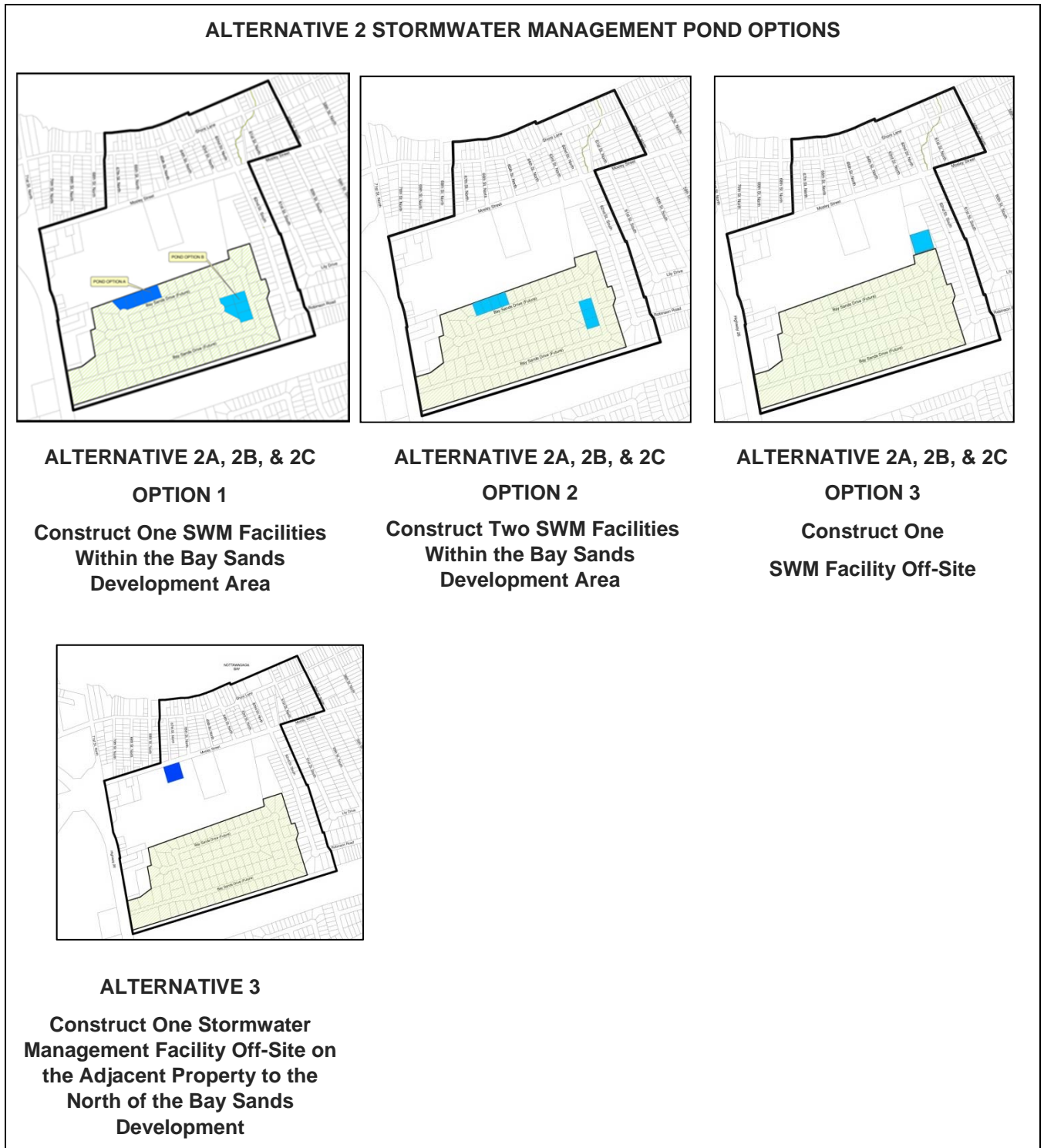
Each of the alternative solutions presented at PIC No. 1 included option(s) for a stormwater management facility to address quality and quantity control as identified in Figure 25. However, following PIC No. 1 and discussions with the NVCA it was determined that it was premature to establish the location for the pond during the Class EA process for the following reasons:

- As the Bay Sands Development Area is not expected to be developed in the near future there is the potential that regulations governing stormwater management facilities will change. There is the possibility that Low Impact Development (LID) requirements will evolve resulting in an elimination of the need for a stormwater management pond or a requirement for some combination of both.
- The exact location of the proposed facility would need to be established in conjunction with any development proposal submitted for the private lands located north of the Bay Sands Development Area. Since no land development application has been submitted for the lands to the north of Bay Sands it is not feasible to establish a specific location for a stormwater management facility at this time as it would be subject to change in the future to accommodate a development proposal. The need to acquire lands for a stormwater management facility to address the Bay Sands Development Area can be addressed at a future date in more detail.

Given the above this Class EA process will not detail the location and sizing of the facility at this time. While the pond options were presented and evaluated at PIC No. 1, they will not be discussed in this document or carried forward in the Class EA process. The main focus will be to identify a legal drainage outlet for the Bay Sands Development Area and identify improvements required to address existing deficiencies in the study area.



Figure 25: Stormwater Management Facility Location Options



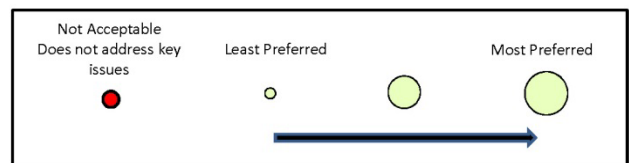
### 5.3 Evaluation of Alternative Solutions

In order to select the preferred solution, an evaluation matrix was developed using criteria considered key to this project to compare each of the alternatives under consideration and to evaluate their potential to impact the area environment (physical, natural, socio-economic, and cultural). Table 4 identifies the criteria used for this evaluation as presented at PIC No. 1.

**Table 4: Phase 2 Evaluation Criteria**

PHASE 2 EVALUATION CRITERIA	
Physical Environment	Cultural Environment
Meets with Town Land Use Planning Objectives	Archaeological Resources
Ability to address Stormwater System Capacity Issues	Built Heritage Resources
Ability to alleviate future flooding & property damage	
Outlet Requirements	
Impacts to existing utilities & services	
Natural Environment	Economic Environment
Terrestrial Vegetation/Wildlife	Property Acquisition Costs
Aquatic Vegetation and Wildlife	Construction Costs
Wetlands	Operation/Maintenance Costs
Surface Water Quality	
Surface Water Quantity	
Social Environment	
Adjacent Property Impacts	
Noise	
Traffic Impacts	
Property Access	

The matrix completed for this evaluation is shown in Table 5. The evaluation matrix used a visual comparison to illustrate the positive and negative impacts associated with each alternative. A small circle indicates that the proposed alternative creates a more negative impact and is therefore a least preferred option. Conversely, a large circle indicates a more positive impact and therefore a more preferred option. A red circle was used to demonstrate that the impact from a specific alternative was considered to be unacceptable. An alternative with an increased number of large circles indicates a more preferable alternative that addresses deficiencies, but minimizes negative impacts to the area environment. Alternative 4 was not evaluated further because it was deemed to be unacceptable due to significant design constraints.



**Table 5: PIC No. 1 Evaluation Matrix**

EVALUATION CRITERIA	ALT 1	ALT 2A	ALT 2B	ALT 2C	ALT 3	DESCRIPTION OF EFFECTS
<b>PHYSICAL ENVIRONMENT</b>						
Meets the Town of Wasaga Beach Land Use Planning Objectives	●	○	○	○	○	The Bay Sands Area cannot be developed until a servicing strategy is in place. Alternatives 2A, 2B, 2C & 3 will contribute to the development of Bay Sands.
Addresses Stormwater System Capacity Issues	●	○	○	○	○	Alt. 1 is the least preferred as it does not propose any improvements and will therefore not address capacity issues. Alts. 2A, 2B, 2C & 3 will all address capacity issues and provide opportunities for further drainage improvements on Shore Lane.
Alleviates the Potential for Future Flooding Issues & Property Damage	●	○	○	○	○	Alt. 1 is the least preferred as it does not address flooding issues. Alts. 2A, 2B, 2C & 3 will all address flooding issues. Alt. 2B and 2C provide the most opportunity to address existing drainage issues.
Impacts to Existing Channel	○	○	○	○	○	Alt. 3 is the most preferred of these options since it does not require any improvements to the existing channel. Alt. 2A is the least preferred as it proposes the most amount of channel improvements that will have strong impacts on adjacent properties.
Impacts to Existing Outlet	○	○	○	○	○	Alt. 3 is the most preferred as it does not require any improvements to the existing outlet at 67 <sup>th</sup> Street. All of the Alt. 2 options require improvement to the existing outlet at 61 <sup>st</sup> Street or the construction of a new outlet at 62 <sup>nd</sup> Street.
Impacts to Existing Utilities	○	○	○	○	○	Alt. 3 is the most preferred since it affects the shortest length of an existing r.o.w. Alt. 2A would be the least preferred since it affects the longest length of an existing r.o.w.
Impacts to Existing Services (water & sewage)	○	○	○	○	○	Alt. 3 is the most preferred since it affects the shortest length of an existing r.o.w. Alt. 2A would be the least preferred since it affects the longest length of an existing r.o.w.
<b>NATURAL ENVIRONMENT</b>						
Terrestrial Vegetation/Wildlife	○	○	○	○	○	Alt. 2A is the least preferred since it requires reconstruction of the channel from Bay Street to 61 <sup>st</sup> Street. The next least preferred option would be Alt 3 as the channel construction is proposed within a wooded area.
Aquatic Vegetation & Wildlife	○	○	○	○	○	Alt. 2A & Alt.3 are the least preferred since Alt. 2A requires channel improvements and Alt. 3 crosses an NVCA regulated area. Alt. 2B & 2C is most preferred since all construction is proposed within an existing right-of-way.
Wetlands	○	○	○	○	○	Alt. 3 is the least preferred as construction will be required within an NVCA regulated area. The remaining alternatives do not propose construction within the wetland area and are therefore preferred.
Surface Runoff Quality	○	○	○	○	○	Alt. 1 is the least preferred since it proposes no improvements to surface water quality. Alt 2C and Alt. 3 provide additional quality control.
Surface Water Quantity	○	○	○	○	○	Alt. 1 is the least preferred since it will not address surface water quantity. The remaining options will all address this issue.
<b>SOCIAL ENVIRONMENT</b>						
Adjacent Property Impacts (Building setbacks etc.)	○	○	○	○	○	Alt. 3 is the most preferred as it will require property from the least number property owners & involves the shortest length of road reconstruction. Alt. 2A is the least preferred as it involves the most extensive channel improvements and will affect the largest number of existing property owners.
Noise	○	○	○	○	○	Alt. 3 is the most preferred since the majority of construction will be within a vacant property. Impacts will be temporary and limited to the period of construction.
Archaeological	○	○	○	○	○	Alts. 2A, 2B & 2C will all require additional study to confirm that the areas are free of archaeological potential.
Built Heritage	○	○	○	○	○	There are no built heritage structures within the project study area and as such, there will be no impacts in this regard.
Traffic Impacts	○	○	○	○	○	Alt. 3 is the most preferred since construction will affect the shortest segment of an existing r.o.w. Alt. 2A is the least preferred as it will affect the longest segment of an existing r.o.w and rear yard drainage channel.
Property Access	○	○	○	○	○	Alt. 3 is the most preferred since construction will affect the shortest segment of an existing r.o.w. Alt. 2A is the least preferred as it will affect the longest segment of an existing r.o.w.
<b>ECONOMIC ENVIRONMENT</b>						
Property Acquisition Costs	○	○	○	○	○	Preliminary estimates rate Alt. 3 as the most costly and Alt. 2B as the least costly.
Construction Costs	○	○	○	○	○	Alternative 3 has the lowest overall cost for construction & property acquisition.
Operating/Maintenance Costs	○	○	○	○	○	Alt. 1 is the least preferred as there may be future costs associated with flooding & resulting property damage. Alts. 2B & 3 are the least costly in this regard since the majority of necessary infrastructure will be within the existing or created r.o.w. Alt. 3 has the advantage that the existing adequate outlet to the Bay is in an existing r.o.w.

As shown in Table 5, Alternative 3 has an increased number of larger circles indicating that it is a more preferable alternative. Below is a brief description of the advantages and disadvantages associated with each alternative.

- a) Alternative 1 (Do Nothing): This alternative was assigned a red circle in terms of meeting the Town's land use planning objectives, addressing stormwater capacity issues and for alleviating flooding. This option proposes no improvements and was therefore deemed 'unacceptable' as these are key items that must be addressed. If a drainage strategy is not established for the Bay Sands development it cannot move forward to construction and this will not meet the Town's land use planning objectives for the area. Additionally, the existing channel outlet east of 61st Street does not have the capacity required to accommodate current or future drainage in the area. If the situation was to remain 'as is' with no improvements, flooding would continue. Although Alternative 1 does not incur any costs in terms of property acquisition or construction, neglecting the drainage concerns as identified could create future costs associated with flooding & resulting property damage.
  
- b) Alternative 2A (Utilize Existing Channel Outlet): The key advantage associated with this option is that it proposes use of an existing outlet. It provides a drainage strategy for the project study area and will assist in moving the Bay Sands development forward and meeting Town land use planning objectives for the area; however it does not fully address stormwater capacity and flooding issues to the same extent as Alternatives 2B and 2C. Another disadvantage of this alternative is that it will require extensive improvements in order to properly accommodate current and future flows and will therefore result in increased property impacts. Due to the channel improvements it will also have an increased potential to impact natural heritage features (i.e. terrestrial and aquatic vegetation and wildlife). In terms of water quality this option does not provide any additional measures (i.e. oil and grit separator) prior to discharge to Nottawasaga Bay like Alternatives 2B and 3. An additional archaeological investigation (i.e. Stage 2) will be required to clear the area of archaeological concerns. There would also be additional costs associated with the purchase of one lot. In comparison to Alternatives 2B, 2C and 3 it will have higher operating and maintenance costs.



- c) Alternative 2B (61st Street Outlet): This alternative will fully address stormwater capacity issues, alleviate flooding and provide a drainage strategy for the Bay Sands Development Area. A key advantage of this alternative is that all work can be contained within the existing right-of-way with no property acquisition. This will result in the least amount of impact to terrestrial and aquatic vegetation and wildlife, since the majority of construction will take place within an existing municipal right-of-way, an area already previously disturbed. This alternative will also include an oil and grit separator which adds another layer of water quality improvement prior to discharge to Nottawasaga Bay. With regard to social impacts it will have the potential to impact noise, property access and area residents during the construction period. A key disadvantage of this option is that it requires the construction of a new outlet and construction will significantly impact the existing servicing and access of several homes in the affected area. Also, based on existing topography and proximity of the existing homes, the 61st Street right-of-way cannot be re-graded to provide positive overland / surface drainage to the Nottawasaga Bay. In terms of cost this alternative will have one of the higher construction costs given that it has the longest length of required construction of the alternatives; however, it will not incur costs associated with property acquisition.
- d) Alternative 2C (62nd Street Outlet): This alternative will fully address stormwater capacity issues, alleviate flooding and provide a drainage strategy for the Bay Sands Development Area. However, it will require a new location for an outlet. Since it proposes crossing property not owned by the municipality it will require either purchase or an easement across the affected property. As it will require the crossing of a vacant, undisturbed area there is the potential to impact natural heritage features. In terms of water quality this alternative provides additional water quality control prior to discharge to Nottawasaga Bay. During the construction period it may generate negative effects relating to noise, property access and traffic flow. An advantage of this option is that construction of the outlet on vacant property can be screened by existing and proposed vegetation making it less visible. Urbanization associated with Alternative 2C also has the potential to impact area utilities and may require the repositioning of utility poles to accommodate construction. Construction and operating / maintenance costs are considered to be moderate for this alternative. This option may incur property acquisition costs associated with construction of the outlet.

e) Alternative 3 (67th Street Outlet): The key advantage of Alternative 3 is that it utilizes an existing, established outlet. While it will accommodate the Bay Sands Development Area it does not fully address stormwater capacity issues or alleviate existing flooding in the area of 61<sup>st</sup> Street, 62<sup>nd</sup> Street, and 63<sup>rd</sup> Street and Shore Lane to the same extent as Alternatives 2B and 2C. It will provide an additional measure for water quality improvement through the existing oil and grit separator prior to discharge to Nottawasaga Bay as well as through the proposed grass drainage swale proposed north of the Bay Sands Development Area that will permit increased filtration. Since it proposes construction across vacant, undisturbed property it does have an increased potential to impact natural heritage features, including wetland areas. This option proposes the shortest segment of urbanization and crosses vacant lands for a large extent and is therefore expected to generate the least amount of negative effects to the social environment (i.e. property impacts, noise, built heritage, and property access). In terms of cost this alternative has the lowest overall cost for construction and for operating and maintenance. Since it proposes the crossing of private property it will require property acquisition or an easement and there may be associated costs.

#### 5.4 Phase 2 Input Received

This section provides a brief summary of comments received following PIC No. 1 as it pertains to the evaluation of the alternatives and in selection of the Preferred Solution. For a more complete summary of the consultation program completed for this project and additional details pertaining to comments received, please refer to Section 8.0.

The comment sheet made available at PIC No. 1 identified either Alternative 2B (61st Street outlet) or Alternative 3 (67th Street outlet) as the Town's preference as a preliminary Preferred Solution. The majority of the respondents indicated that Alternative 3 was their preference. Comments received focused on the following key areas of concern:

- Bay Sands Development Area: Residents questioned why and how it would be developed.
- Water Quality: Residents expressed concern that contaminants & sediment as a result of additional flow from the Bay Sands Development area would negatively impact the water quality of the receiving water body, Nottawasaga Bay. They questioned how this proposal would influence water quality.

- Quality of Beach Area: There was concern with the existing overgrowth of invasive vegetation (i.e. phragmites) on the beach area at the existing outlet on 67th Street and whether this undertaking will make conditions worse.
- Multiple Outlets: Some resident were not in favour of a new outlet being proposed at any location.
- PIC Material: Members of the public provided input on the evaluation of the alternatives completed.
- Urbanization: Questions were received relating to urbanization and costs associated with new services.
- Flooding: Existing flooding issues and ponding water were identified. Concern was expressed that the development of Bay Sands (i.e. flooding identified north of Bay Sands/south of Mosely Street and at bottom of 63rd Street) might worsen the problem.
- Existing 67<sup>th</sup> Street outlet: Concerns that the current in that area is reduced and that there will be issues with effluent and sediment not being effectively cleared away from the shore and that any new flows to either a 71st Street outlet or to a new outlet at 67th Street would make matters worse.
- Costs: Potential additional costs. Residents do not do not want to incur any costs for the Bay Sands Development Area moving forward; and
- Provincial Park: Impacts to the existing lands of the Provincial Park.

Following PIC No. 1 the alternatives were given further consideration in view of the input received from agencies, the public and Indigenous communities. Additional follow up was also completed for the options considered viable.

For Alternative 3 additional discussions were held with the property owner of the lands located to the north of the Bay Sands Development to determine if an easement across the affected lands was possible so as to connect to the existing infrastructure at Mosely Street and 67th Street. The property owner was agreeable to permitting an easement across the property.

Additional discussions were also held with the NVCA regarding the natural heritage features and wetland areas on these lands. Supplementary field work was completed and it was determined that an appropriate routing could be established that would minimize impacts to the

existing natural heritage features of the property. The NVCA also recommended that the Bay Sands Development Area and associated drainage be viewed as part of a broader planning package with the property to the north. This would include maximizing protection and enhancement of area wetlands and key forest features. The NVCA suggested that it would be beneficial to understand the Town's future planning objectives on the north property to better guide drainage decisions and that the Town work toward a form of development that utilizes the eastern and western portions of the site north of the Bay Sands Development Area while retaining a central wetland and forest block. They also indicated that the preferred option should avoid encroachment into wetland areas north of the Bay Sands Development Area and that the proposed stormwater management facilities be designed to enhance the existing wetland feature and offset any losses that may occur in the Bay Sands Development Area.

Alternative 2C was not considered viable at this point in the process since preliminary discussions with Ontario Parks determined that municipal infrastructure would not be permitted on the subject property.

Additional discussions were also completed with Ontario Parks regarding the overgrowth of an invasive species (i.e. Phragmites), particularly in the area of the existing 67th Street outlet, to determine an approach that would mitigate this issue. The municipality reviewed the existing 67th Street structure to determine if anything could be done to improve the overgrowth of phragmites at this location as residents claimed that the outlet was a contributing factor. It was agreed that regular maintenance involving raking of the beach assists in reducing the overgrowth of vegetation; however, the existing rip rap at the 67th Street outlets prevents Ontario Parks from raking that area. The municipality subsequently removed the existing rip rap at the 67 outlet.

In terms of public comments regarding multiple outlets, one of the alternatives presented was Alternative 2A which proposed use of the existing channel outlet east of 61st Street; however, it was confirmed that it does not have sufficient capacity to handle existing and future flows and it would also require channel improvements that would result in extensive impacts to that property and house at 1760 Shore Lane.

Following PIC No. 1 additional analysis determined that it would not be feasible to combine the Bay Sands Development Area with the 61st Street catchment area since the existing outlet at

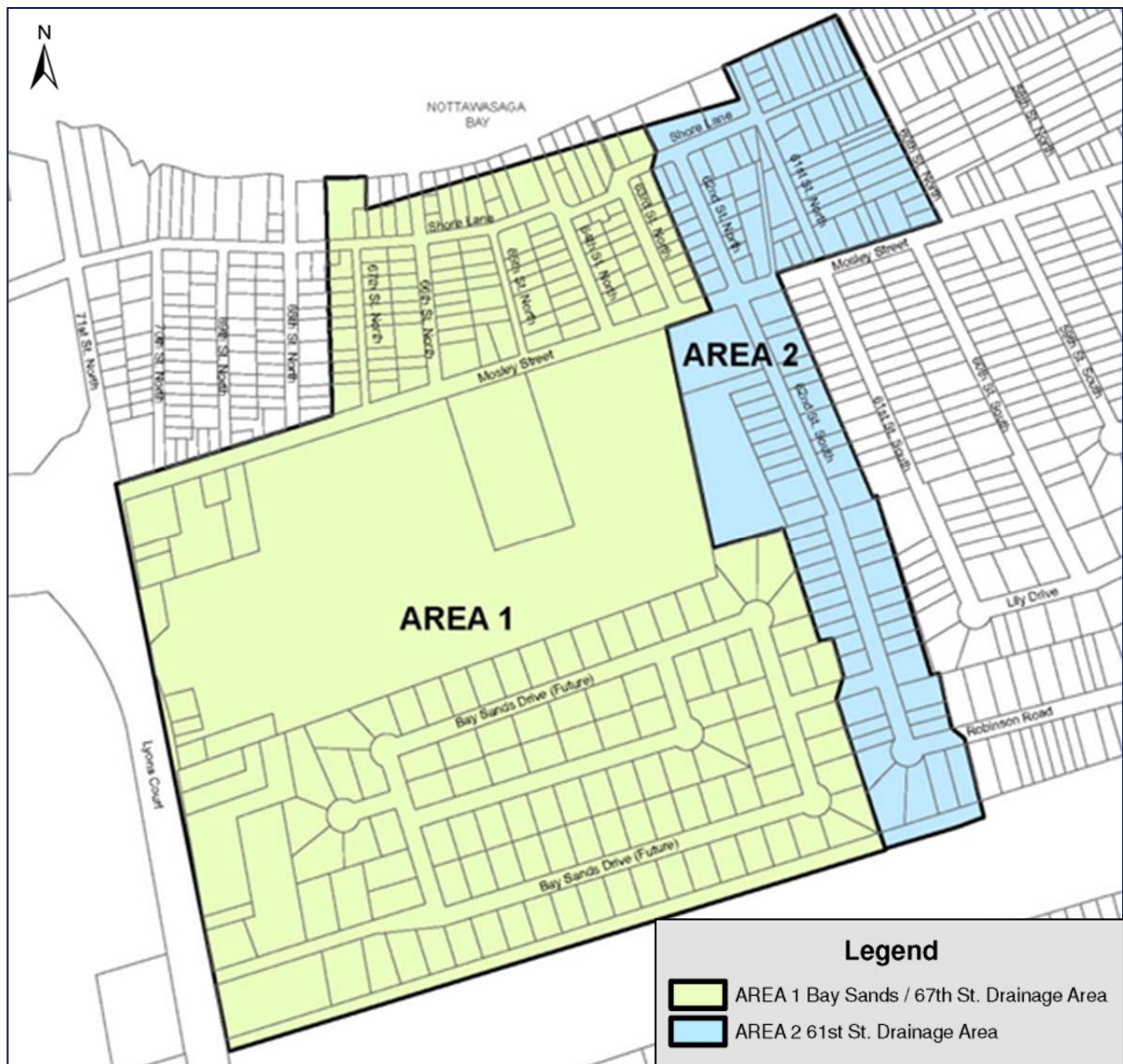


67th Street has insufficient capacity and therefore two outlets are required to address the drainage deficiencies affecting the project study area. As illustrated in Figure 26, the study area was divided into two drainage areas as follows:

- AREA 1 67th Street Drainage Area and the Bay Sands Development Drainage Area
- AREA 2 61st Street Drainage Area

This approach maximizes the amount of stormwater conveyed to the existing 67th Street outlet to mitigate the insufficient capacity at the existing channel outlet, east of 61st Street.







**Figure 26: Revised Drainage Catchment Areas Following PIC No. 1**



## 5.5 Selection of the Preferred Solution(s)

Following PIC No. 1 and a review of comments received it was determined that Alternatives 2A, 2B, and 3 were viable options as illustrated in Table 6. Alternative 1 was not carried forward since it does not address key issues and Alternative 2C was not carried forward because preliminary discussions with Ontario Parks determined that municipal infrastructure, including an outlet, would not be permitted on the subject property. Alternative 4 was also removed from further consideration due to significant design constraints.

**Table 6: Selection of Preferred Solution**

Alternative Solution	MOVING FORWARD	
<b>Alternative 1</b> 'Do Nothing'		<ul style="list-style-type: none"> <li>▪ Removed from further consideration since it does not address key issues.</li> <li>▪ It does not accommodate the Bay Sands Development area, alleviate flooding or address stormwater capacity issues.</li> </ul>
<b>Alternative 2A</b> Utilize Existing Channel Outlet & Urbanization		<ul style="list-style-type: none"> <li>▪ Utilizes an existing outlet.</li> <li>▪ While utilizing only this channel would require extensive channel improvements and result in increased impacts, it could continue to be utilized and continue to accommodate some flow.</li> </ul>
<b>Alternative 2B</b> Relocate Outlet to 61 <sup>st</sup> Street & Urbanization		<ul style="list-style-type: none"> <li>▪ Municipal infrastructure can be contained within an existing municipal road allowance.</li> <li>▪ Minimal potential to impact natural heritage features since work contained within existing road allowance.</li> </ul>
<b>Alternative 2C</b> Relocate Outlet to 62nd Street & Urbanization		<ul style="list-style-type: none"> <li>▪ Requires a new location for an outlet.</li> <li>▪ Requires purchase or easement across Ontario Parks Property.</li> <li>▪ Preliminary discussions with Ontario Parks determined that municipal infrastructure will not be permitted on the affected property.</li> </ul>
<b>Alternative 3</b> Utilize Existing 67th Street Outlet & Urbanization		<ul style="list-style-type: none"> <li>▪ Utilizes an existing, established outlet that is sized to accommodate the Bay Sands Development Area.</li> <li>▪ Majority of construction would take place on vacant property and would therefore minimize impacts to area residents during construction.</li> <li>▪ Preliminary discussions with property owner indicate that an easement across private property will be permitted.</li> <li>▪ While there is the potential to impact natural heritage features, mitigation and routing can assist in reducing impacts.</li> </ul>
<b>Alternative 4</b> Utilize Existing 67th Street Outlet & Urbanization		<ul style="list-style-type: none"> <li>▪ A preliminary review of this option revealed that the resulting storm sewer grades will be approximately 0.06% and therefore unacceptable. This option also has existing capacity issues along the route that would need to be addressed. This alternative is therefore considered to be unacceptable.</li> </ul>

Given that additional analysis confirmed that it was not possible to combine the Bay Sands Development Area with the 61st Street catchment area two outlets are required to address the drainage deficiencies affecting the project study area. As such, Alternative 3 was selected as

the Preferred Solution for Area 1 and a combination of Alternatives 2A and 2B were selected as the Preferred Solution(s) for Area 2.

## **6.0 PHASE 3 DESIGN OPTIONS**

### **6.1 Description of Design Options**

As part of Phase 3 of the Class EA process various design options are developed to implement the Preferred Solution(s) selected at the close of Phase 2. The sub-sections that follow identify the design options considered for Area 1 and Area 2 which were presented to the public at PIC No. 2 on June 8, 2017.

#### **6.1.1 Area 1 Design Options**

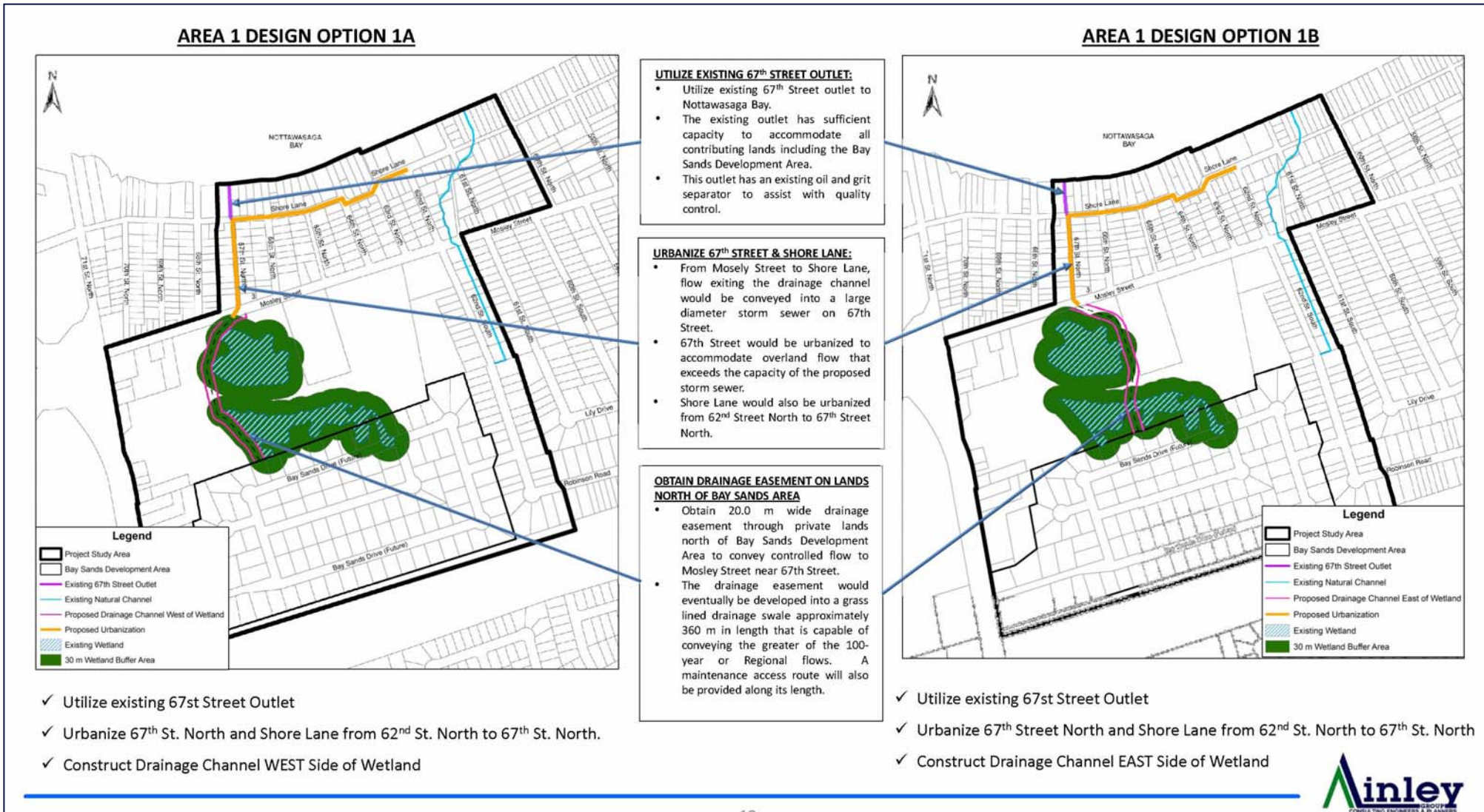
As illustrated in Figure 27 two design options were presented to implement the Preferred Solution for Area 1 (i.e. Alternative 3). Both options proposed the use of the existing 67th Street outlet, the urbanization of 67th Street and a segment of Shore Lane, and the construction of a drainage channel on lands north of the Bay Sands Development Area to convey flow from the subdivision north to Mosely Street. From Mosely Street to Shore Lane flow would be conveyed via a large diameter storm sewer on 67th Street. With both alternatives, 67th Street would also be urbanized and large storm event flows accommodated in a combination of storm sewer and overland flow contained within the road curb lines.

The key difference between these two options is the routing of the drainage channel across the private property located to the north of the Bay Sands Development Area. This crossing will connect the Bay Sands development to the existing infrastructure at Mosely Street and 67th Street for conveyance of flow to the 67th Street outlet. Design Option 1A proposes construction on the west side of the wetland area. Design Option 1B proposes construction on the east side of the wetland. Updated analysis has determined that a 20.0 m wide drainage easement would be required to accommodate the drainage channel and convey controlled flow to Mosely Street at 67th Street. Following discussions with the NVCA, the drainage channel would eventually be developed into a grass lined drainage swale approximately 360 m in length that is capable of conveying the greater of the 100 year or Regional flows. A maintenance access route will also

be provided along its length. At this time additional details cannot be provided since key design features will be dependent upon development planned for the affected private property. Should a land use application be submitted for the private property then the details of the easement will be developed through additional discussions with the Town and the NVCA at that time.



Figure 27: Area 1 Design Option 1A and 1B



### 6.1.2 Area 2 Design Options

For Area 2, two design options were presented at PIC No. 2 to implement the Preferred Solution.

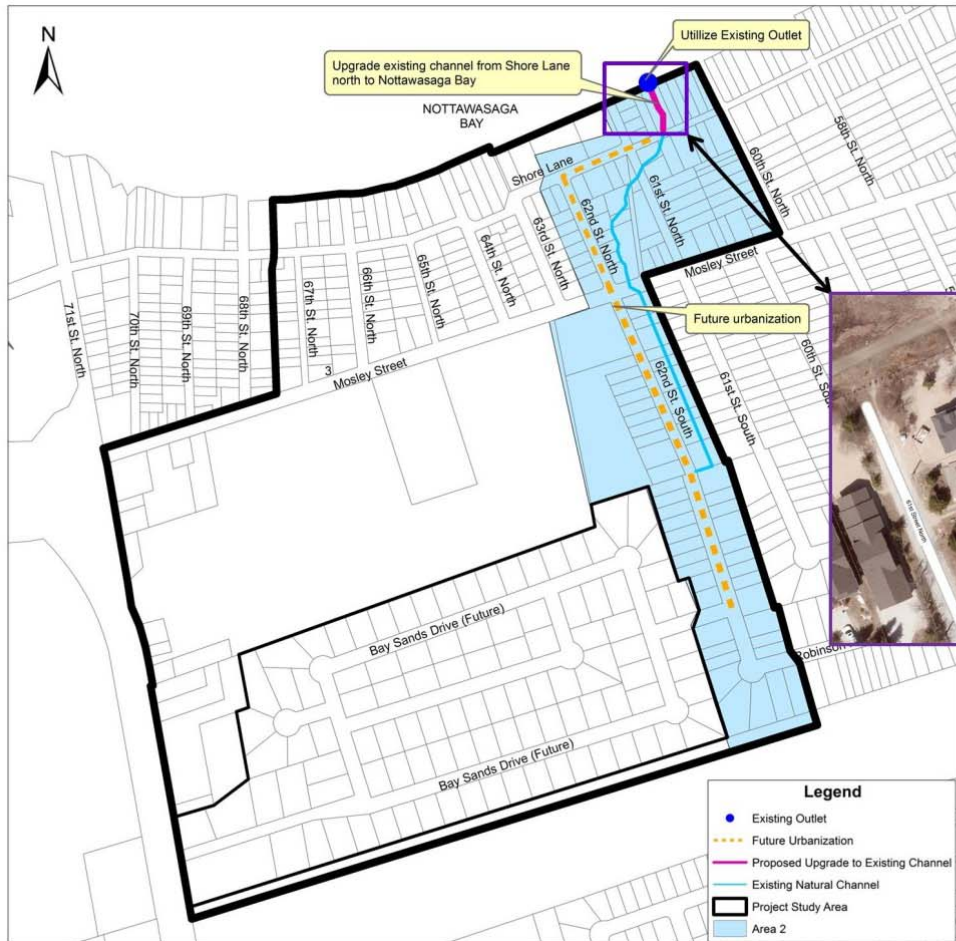
#### a) Area 2 Design Option 2A

This option proposes that the existing channel outlet be improved in order to sufficiently accommodate flows in the area and to alleviate flooding issues. As detailed in Figure 28, the existing channel is 2.0 m wide at the bottom and 4.0 m at the top with 1:1 side slopes. The proposed channel would continue to be 2.0 m in width at the bottom, but the top width would be increased from 4.0 m to 9.2 m and it would be constructed with 3:1 side slopes.

#### b) Area 2 Design Option 2B

This option proposes that the outlet for the area be relocated from the existing channel to the 61st Street right-of-way. However, the existing channel outlet east of 61st Street would remain and be utilized as an emergency overflow outlet in the event that the 61st Street outlet becomes blocked. Storm sewer infrastructure would be constructed in the 61st Street right-of-way and connected to the existing channel south of Shore Lane. 62nd Street South and Shore Lane from 61st Street North to 62nd Street North would be urbanized.

Figure 28: Area 2 Design Option 2A (Utilize Existing Channel Outlet)



**Design Option 2A for Area 2 Proposes the Following:**

- Utilize the existing channel outlet to Nottawasaga Bay
- Upgrade the existing channel from Shore Lane north to the existing outlet.
- Future urbanization of 62nd Street South and North and Shore Lane from 61st Street North to 62nd Street North.

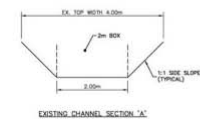


**Channel Upgrades:**

Upgrades to the existing channel will involve significant widening of the channel and will result in adverse impacts to property at 1760 Shore Lane.

**Existing Channel**

The existing channel is 2.0 m wide at the bottom and 4.0 m at the top with 1:1 side slopes as illustrated below:



**Proposed Channel**

The proposed channel will be 2.0 m wide at the bottom and 9.2 m wide at the top with 3:1 sides slopes.

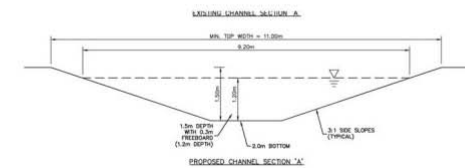
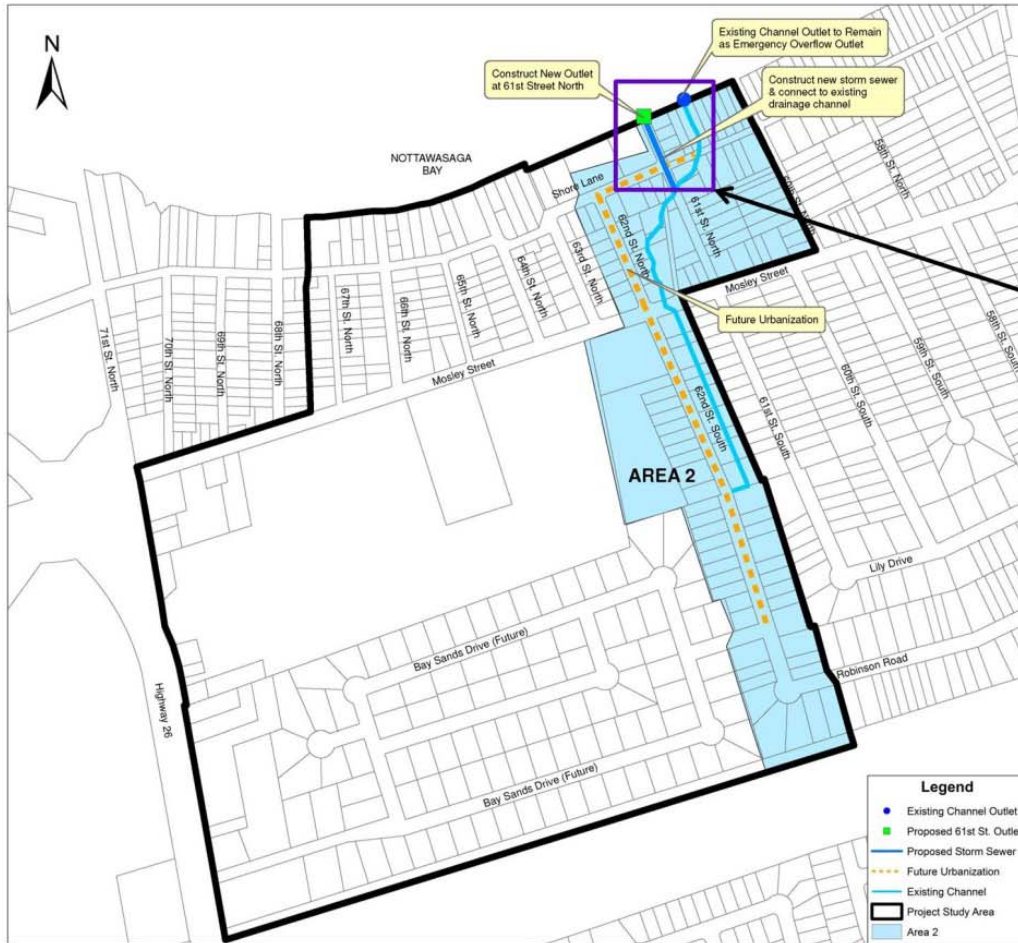




Figure 29: Area 2 Design Option 2B (61<sup>st</sup> St. Outlet)



**Design Option 2B for Area 2 Proposes the Following:**

- Construct new outlet at 61<sup>st</sup> Street North right-of-way
- Retain existing channel outlet east of 61<sup>st</sup> Street as an emergency overflow outlet
- Construct new storm sewer in 61<sup>st</sup> Street right-of-way and connect to the existing channel south of Shore Lane
- - - Future urbanization of 62<sup>nd</sup> Street South and North and Shore Lane from 61<sup>st</sup> Street North to 62<sup>nd</sup> Street North.





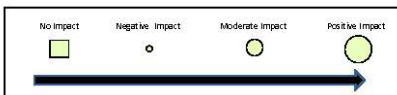
## **6.2 Public Information Centre No. 2 Evaluation of Design Options**

As part of Phase 3 of the Class EA process the aforementioned design options were evaluated to assess their potential to impact the area environment (physical, natural, social, cultural and economic). An evaluation matrix was developed to compare each alternative using criteria considered relevant to the project. The criteria were updated slightly from that used in the Phase 2 evaluation to reflect updated information.

As illustrated in Table 7 a visual comparison was used to illustrate the positive and negative impacts associated with each alternative. A small circle indicates that an alternative will create a negative impact and is therefore a least preferred option. Conversely, a large circle indicates a positive effect and is therefore a more preferred option. A square was used to demonstrate that there would be no impact from an alternative. An alternative with an increased number of large circles indicates a more preferable alternative that addresses deficiencies, but minimizes negative impacts to the area environment. A separate evaluation matrix was prepared for both Area 1 and Area 2.

### **6.2.1 AREA 1 Design Alternatives**

Table 7 illustrates the Evaluation Matrix prepared to assess the options under consideration for Area 1. As illustrated both options have similar impacts and it was determined that either option is viable. Both options will equally accommodate stormwater capacity requirements and will be able to sufficiently convey existing and proposed flow to Nottawasaga Bay. In terms of constructability (i.e. ease of construction) Option 1B is less preferable in this regard since the location for the proposed channel is somewhat constrained by the wetland to the west and the adjacent property to the east. In terms of outlet requirements, both options propose use of an existing outlet that was previously sized and constructed to accommodate the Bay Sands Development Area and as such, no improvements will be required to the existing structure. Both options were assigned a 'moderate impact' as it relates to utilities to reflect that both options propose urbanization; however, it is expected that construction can be contained within the existing road allowance so impacts will not be significant. Likewise, both options will equally impact water services to properties on the east side of 67th Street North.



**Table 7: PIC 2 AREA 1 Evaluation Matrix**

EVALUATION CRITERIA	OPT. 1A	OPT. 1B	DESCRIPTION OF EFFECTS
<b>PHYSICAL ENVIRONMENT</b>			
Stormwater System Capacity	●	●	Both options will equally address the stormwater system capacity.
Constructability	●	○	The route selection for Option 1B is constrained by the wetland and the neighboring property. Option 1A has less constraints for channel alignment and has a more favourable centreline grade.
Outlet Requirements	●	●	Both alternatives propose use of an existing outlet that was previously sized and constructed to accommodate the Bay Sands Development Area and as such, no improvements will be required to the existing structure.
Utilities and Servicing	●	●	Both options propose the urbanization of 67 <sup>th</sup> Street North, but it is expected that construction will be contained within the existing right-of-way with minimal impacts to existing utilities. Both options will equally impact water services to properties on the east side of 67 <sup>th</sup> Street North.
<b>NATURAL ENVIRONMENT</b>			
Terrestrial Vegetation/Wildlife/Species at Risk	○	●	As both options propose construction within a previously undeveloped landscape there is increased potential to impact area vegetation and wildlife. Impacts are expected to be low since habitat will continue to remain for these species post construction. Design Option 1A will impact an existing Butternut Tree (SAR). However, mitigation measures can be implemented to assist in reducing the potential for impact.
Aquatic Vegetation & Wildlife	●	●	As both options propose construction within a previously undeveloped landscape and in proximity to several wetland areas there is increased potential to impact aquatic vegetation and wildlife. However, the drainage channel has been sited outside of the existing wetland area and in accordance with NVCA requirements so as to create the least amount of impact.
Wetlands	●	●	The location of the drainage channel for both options is situated outside of the existing wetland area and in accordance with NVCA requirements so as to create the least amount of impact. The application of mitigation measures during construction will assist in reducing the potential for impact during construction. In addition, Option 1A provides increased opportunity to make the channel a beneficial extension of the wetland.
Surface Runoff Quality	●	●	Both options propose the construction of a stormwater management facility which will equally address water quality. Detailed Design for both options may give consideration to use of a "treatment train" approach to minimize impacts to water quality.
Surface Water Quantity/Flooding	●	●	Both options propose the construction of a stormwater management facility which will address water quantity/flooding concerns.
<b>SOCIAL ENVIRONMENT</b>			
Town of Wasaga Beach Land Use Planning Objectives	●	●	Both options will address the drainage requirements for the Bay Sands Development Area which will assist in addressing the servicing needs and move it closer to development which is in accordance with the Town's land use planning objectives.
Adjacent Property Impacts	●	●	Both options propose construction within the vacant lands to the north of the Bay Sands Development Area; however, the location of the drainage channel has been sited within the buffer area of the wetland, an area already restricted to development. This will reduce the potential to impact the future development potential of this property.
Noise	●	●	Both options will result in an increase in noise impacts during the construction period; however, it will be temporary in nature and can be reduced through the use of standard best management practices.
Traffic Impacts	●	●	Both options propose the urbanization of 67 <sup>th</sup> Street North which has an increased potential to impact area traffic during construction. However, the use of construction staging and traffic management measures will assist in reducing impacts.
Property Access	●	●	Both options propose the urbanization of 67 <sup>th</sup> Street North which has an increased potential to impact property access during construction. However, impacts can be reduced through standard construction practices such as providing advance notification to affected property owners where an access is to be closed temporarily.
<b>CULTURAL ENVIRONMENT</b>			
Archaeological	□	□	The subject area was cleared of archaeological concerns.
Built Heritage	□	□	There are no built heritage structures within the project study area and as such, there will be no impacts in this regard.
<b>ECONOMIC ENVIRONMENT</b>			
Property Acquisition Costs	●	●	Both options will have similar property acquisition requirements/costs associated with the drainage channel across the private lands to the north of the Bay Sands Development Area.
Construction Costs	●	●	Construction costs are expected to be very similar.
Operating/Maintenance Costs	●	●	Operating/Maintenance costs are expected to be very similar.

**RESULTS: Either option is equally viable.**

Note: Design Options 1A and 1B illustrated in Figure 27.

As both options propose construction within a previously undeveloped landscape there is increased potential to impact area vegetation and wildlife. While several Species at Risk have the potential to be in the area, impacts are expected to be low since habitat will remain post construction and impacts can be minimized through mitigation. As noted, the vegetation assessment identified a single Butternut Tree (Endangered) on lands to the north of the Bay Sands Development Area, but found no other plant species of federal or provincial rarity in the project study area. Design Option 1A has an increased potential to impact this SAR tree as compared to Design Option 1B and this was reflected in the table. Option 1B was assigned a moderate impact to reflect a temporary disturbance during construction. The potential to impact the Butternut Tree was discussed with the NVCA who acknowledged that route selection may result in removal. The NVCA advised when the exact route is confirmed during the detailed design stage, a compensation plan in accordance with the requirements of legislation may be required.

As there is a wetland on the vacant lands north of the Bay Sands Development, both options are considered to have a moderate potential to impact aquatic vegetation/wildlife associated with the wetland area. The location of the drainage channel for both options is situated outside of the existing wetland area and in accordance with NVCA requirements so as to create the least amount of impact. The application of mitigation measures during construction will assist in reducing the potential for impact during construction. In addition, Option 1A provides increased opportunity to make the channel a beneficial extension of the wetland. Likewise both options are considered to have the same moderate impact to the area wetlands since the routing proposed has been developed to avoid the wetland in accordance with NVCA direction.

Two key considerations for these options that were of great interest to area residents was the potential to impact water quality and water quantity. Both options propose the construction of a stormwater management facility which will equally address water quality. Detailed design for both options will give consideration to implementing Low Impact Development measures including the use of a “treatment train” approach to minimize impacts to water quality. The existing 67th Street Outlet has an oil and grit separator which will also provide improvements to water quality. As such, both options were assigned a moderate potential for impact in relation to water quality. With regard to surface water quantity/flooding both options propose the construction of a stormwater management facility which will address water quantity and flooding concerns.



Either option will establish a drainage strategy for the Bay Sands Development Area which will assist in addressing the servicing needs and move it closer to development which is in accordance with the Town’s land use planning objectives. The potential to impact area land use north of the Bay Sands Development Area is similar with either option because the alignment of the channel has to be sited near the wetland area, an area already restricted to development, so as to minimize impacts to the future development potential of that property. While there will be the potential for increased noise during the construction period, it will be temporary in nature and can be reduced through the use of standard best management practices. The proposed urbanization of 67th Street North, required with either option, will also have the potential to temporarily impact area traffic and property access during construction; however, the use of construction staging and traffic management measures will assist in reducing impacts.

Both options will have similar property acquisition requirements (i.e. purchase or easement) and costs associated with the drainage channel across the private lands to the north of the Bay Sands Development Area. Likewise construction costs and operating/maintenance costs are expected to be very similar.

**6.3 Selection of Area 1 Preferred Design**

As both options will have similar impacts both options are equally viable as illustrated in Table 8. As such, Design Option 1A or 1B is selected as the Recommended Plan for AREA 1.

**Table 8: Selection of Area 1 Preferred Design**

DESIGN OPTIONS	MOVING FORWARD	
<p><b>Design Option 1A</b> Utilize Existing 67<sup>th</sup> Street Outlet &amp; Construct Channel to West of wetland</p>		<ul style="list-style-type: none"> <li>▪ Utilizes an existing outlet that was previously sized and constructed to accommodate the Bay Sands Development Area.</li> <li>▪ Accommodates stormwater capacity requirements and will be able to sufficiently convey existing and proposed flow to Nottawasaga Bay.</li> <li>▪ Potential impacts can be mitigated through route selection (for drainage channel) and best management practices.</li> <li>▪ Minimal potential to impact area residents.</li> <li>▪ Easement can be obtained to accommodate drainage channel.</li> </ul>
<p><b>Alternative 1B</b> Utilize Existing 67<sup>th</sup> Street Outlet &amp; Construct Channel to East of wetland</p>		<ul style="list-style-type: none"> <li>▪ Utilizes an existing outlet that was previously sized and constructed to accommodate the Bay Sands Development Area.</li> <li>▪ Accommodates stormwater capacity requirements and will be able to sufficiently convey existing and proposed flow to Nottawasaga Bay.</li> <li>▪ Potential impacts can be mitigated through route selection (for drainage channel) and best management practices.</li> <li>▪ Minimal potential to impact area residents.</li> <li>▪ Easement can be obtained to accommodate drainage channel.</li> </ul>



### 6.3.1 AREA 2 Design Options

As shown in Table 9, both Design Option 2A and 2B will equally address the stormwater capacity requirements. Option 2A was assigned a positive impact in terms of outlet requirements since it proposes use of an existing, established outlet. Conversely Option 2B proposes a new location for the outlet and was therefore assigned a negative impact. Both options were assigned a moderate potential to impact area utilities and servicing to reflect that there may be some disturbance during construction.

Option 2A involves construction on an existing residential lot and Option 2B requires work within an existing right-of-way. Both locations do not have significant vegetation or terrestrial wildlife. The potential to impact terrestrial vegetation and wildlife is expected to be low in either area and mitigation will assist in reducing the potential for impact. As such, both options were assigned a moderate impact in this regard to reflect temporary disturbance during construction. With regard to aquatic vegetation and wildlife, Option 2A proposes improvements to the existing channel from Shore Lane to the beach and there is an increased potential to impact aquatic vegetation and wildlife in comparison to Alternative 2B. Option 2A has an increased potential to impact water quality during construction as work is proposed within an existing channel; however, impacts can be reduced through application of best management practices for working in and around water. Over the long term Alternative 2B will improve water quality since an oil and grit separator is proposed. The current channel outlet does not have this feature and one is not proposed for Alternative 2A. Both options will equally address surface water quantity concerns and reduce flooding potential.

Both options will address the drainage requirements along the 62nd Street corridor which will assist in addressing the servicing needs for the area. With regard to adjacent property impacts, Option 2A is the least preferred as it involves channel improvements which will significantly impact one residential property. Both options will result in an increase in noise during construction; however, impacts are expected to temporary and limited to the period of construction. With regard to traffic impacts both alternatives require construction within the existing right-of-way which could potentially impact traffic; however, it will be temporary. With regard to property access, both options require reconstruction within the existing right-of-way which has an increased potential to impact property access during construction. However,

impacts can be reduced through standard construction practices such as providing advance notification to affected property owners where an access is to be closed temporarily.

**Table 9: PIC 2 Area 2 Evaluation Matrix**

EVALUATION CRITERIA	OPT. 2A	OPT. 2B	DESCRIPTION OF EFFECTS
<b>PHYSICAL ENVIRONMENT</b>			
Stormwater System Capacity	●	●	Both options will equally address the stormwater system capacity issues between Shore Lane and Nottawasaga Bay.
Outlet Requirements	●	○	Option 2B requires construction of a new outlet at 61 <sup>st</sup> Street North.
Impacts to Existing Utilities and Services	●	●	Both options include urbanization, but it is expected that construction will be contained within the existing right-of-way with minimal impacts to existing utilities.
<b>NATURAL ENVIRONMENT</b>			
Terrestrial Vegetation/Wildlife/Species at Risk	●	●	Option 2A involves construction on an existing residential lot and Option 2B requires work within an existing right-of-way. The potential to impact terrestrial vegetation and wildlife is expected to be low in either area.
Aquatic Vegetation & Wildlife	○	●	Option 2A proposes improvements to the existing channel from Shore Lane to the beach and there is an increased potential to impact aquatic vegetation and wildlife in comparison to Alt. 2B.
Surface Runoff Quality	○	●	Option 2A has an increased potential to impact water quality during construction as work is proposed within an existing channel; however, impacts can be reduced through application of best management practices for working in and around water.
Surface Water Quantity/Flooding	●	●	Both options will equally address surface water quantity concerns and reduce flooding potential.
<b>SOCIAL ENVIRONMENT</b>			
Town of Wasaga Beach Land Use Planning Objectives	●	●	Both options will address the drainage requirements along the 62 <sup>nd</sup> Street corridor which will assist in addressing the servicing needs for the area.
Adjacent Property Impacts	○	●	Option 2A is the least preferred as it involves channel improvements which will significantly impact one residential property.
Noise	●	●	Both options will result in an increase in noise impacts during construction; however, these are expected to be temporary and limited to the period of construction.
Traffic Impacts	●	●	Both alternatives require construction within the existing right-of-way which could potentially impact traffic.
Property Access	●	●	Both options require reconstruction within the existing right-of-way which has an increased potential to impact property access during construction. However, impacts can be reduced through standard construction practices such as providing advance notification to affected property owners where an access is to be closed temporarily.
<b>CULTURAL ENVIRONMENT</b>			
Archaeological	○	○	During the detailed design process, both options will require additional study to confirm that the subject areas are free of archaeological potential.
Built Heritage	●	●	There are no built heritage structures within the project study area and as such, there will be no impacts in this regard.
<b>ECONOMIC ENVIRONMENT</b>			
Property Acquisition Costs	○	●	Option 2A will be more costly as it requires property acquisition.
Construction Costs	●	●	There is no significant difference in costs between the two options.
Operating/Maintenance Costs	○	●	Alt. 2A has marginally increased operation and maintenance costs due to longer pipe length and manholes.

↑ RESULTS: AREA 2 - Design Option 2B is preferred.

(Note: Design Options 2A and 2B illustrated in Figures 28 & 29 respectively).

In terms of costs, Option 2A will be more costly as it requires property acquisition. There is no significant difference in construction costs between the two alternatives. Option 2A has marginally increased operation and maintenance costs due to a longer pipe length and manholes.

During the detailed design process both options will require additional study to confirm that the subject areas are free of archaeological potential.

### **6.3.2 Phase 3 Public Information Centre No. 2 Input Received**

This section provides a brief summary of comments received following PIC No. 2 as it pertains to the evaluation of the alternatives and in selection of the Preferred Design. For a more complete summary of the consultation program completed for this project and additional details pertaining to comments received, please refer to Section 8.0.

At PIC No. 2 the evaluation matrix for Area 1 identified that either Design Option 1A or 1B was considered viable. For Area 2, Design Option 2B (61st Street Outlet) was identified as the preliminary Preferred Design.

Following PIC No. 2 a large number of comments were submitted for the project. Comments received focused on the following key areas of concern:

- Urbanization of Shore Lane should be expedited to alleviate flooding;
- Lots on south side of Shore Lane (i.e. 1831 & 1835) are not very deep and could be impacted by urbanization if property acquisition is required;
- Assistance needed from municipality to organize a Bay Sands Development Property Owner Group;
- Flooding issues at the corner of 63rd Street and Shore Lane;
- Increased flows to the beach;
- Low Impact Development – this should be implemented as part of this project;
- Multiple Outlets in a short distance is a concern;
- Impacts to wildlife at existing channel outlet east of 61st Street;
- Water quality and monitoring concerns;

- Prefer an outlet at 62nd Street;
- Alternative 2A – Has NVCA provided any input regarding the work proposed;
- Support for the development of Bay Sands;
- Concerns with the existing overgrowth of invasive vegetation (i.e. Phragmites) on the beach area and whether this undertaking will make conditions worse;
- Lack of transparency - confirm the purpose and timing of this project;
- Alternative 2B 61st Street Outlet specific comments:
  - Beach Access
  - Impacts to Structural Integrity of Adjacent Residences on 61st Street
  - Outlet Structure Safety Concerns
  - Impacts from 61st Street outlet on snow plowing of that street
  - Wave action and future erosion potential at 61st Street.
  - 61st Street outlet will trap effluent at the shoreline and make water unsafe for swimming
  - Negative impacts to property values associated with new outlet on 61st Street.
  - Impacts on swimming from outlet at 61st Street.
  - Urbanization will increase the quantity of storm water flowing to the Bay.
  - Impacts to driveway access.
  - Grading concerns associated with a 61st Street outlet
  - Overland flow concerns down 61st Street
  - Protection of dwellings during a storm event

The comments received were reviewed in detail and an individual response was provided to address each comment. There were no comments received that changed the selection of the preliminary Preferred Design for Area 1. However, for Area 2 there were a number of very detailed comments in opposition to a 61<sup>st</sup> Street outlet that warranted additional review of the preliminary Preferred Design identified for that area.

From discussions at PIC No. 2 and the receipt of input, the general feeling was that Area 2 Design Option 2A would result in impacts that are too extensive. With regard to Design Option 2B a number of comments were submitted regarding this option primarily from residents living in proximity to the location of the proposed 61st Street outlet. Many were disappointed that a 62nd Street outlet was not being considered further. While residents were informed that initial



discussions with Ontario Parks determined that municipal infrastructure would not be permitted on that site, several were adamant that it be revisited.

Given the lack of public support for the 61st Street option following PIC No. 2, the municipality re-opened discussions with Ontario Parks emphasizing the urgent need for an outlet to address flooding issues in the affected area. Following discussions with Ontario Parks (division of MNRF) they indicated that while they are not in favour of any new outlets to Nottawasaga Bay they understood the challenges that the Town is facing with regards to drainage and flood control in the study area. The agency confirmed that they would be willing to consider a 62nd Street outlet option and work with the Town towards this solution, if it is deemed to be the preferred location through an evaluation process.

For Area 2, given that Ontario Parks was willing to reconsider an outlet on Crown property, a third Public Information Centre was deemed necessary in order to revisit and evaluate a 62nd Street outlet design option.

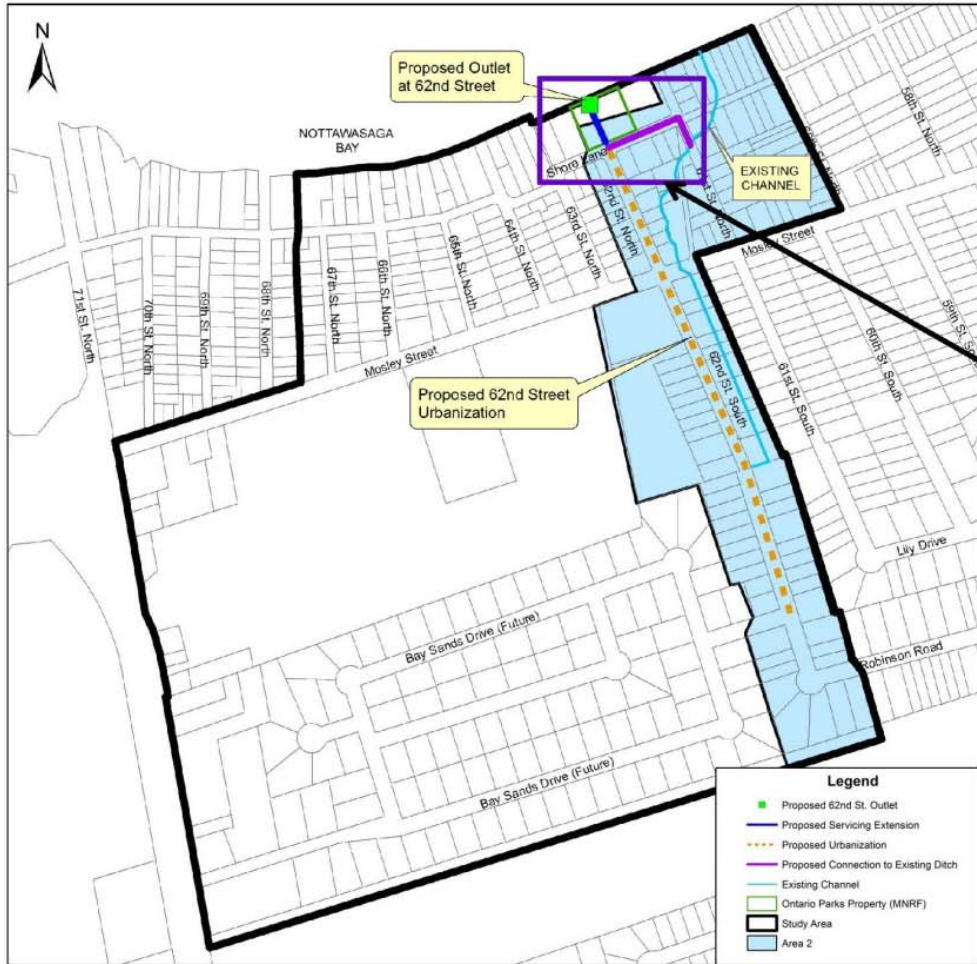
#### **6.4 Phase 3 Public Information Centre No. 3**

The municipality hosted a third PIC to re-visit the design options for Area 2. *Design Option 2A: Existing Channel Outlet* (see Figure 28) and *Design Option 2B: Proposed 61st Street Outlet* (see Figure 29) as presented at PIC No. 1 were again presented at PIC No. 3 along with a third option identified as *Design Option 2C: Proposed 62nd Street Outlet* as illustrated in Figure 30. The PIC 3 material also identified the final Preferred Design selected for Area 1 and indicated that both Design Options 1A or 1B would be equally viable for that area. The focus of the meeting; however, was primarily to present the design options under consideration for Area 2.

##### **6.4.1 Evaluation of Design Options**

Table 10 illustrates the evaluation of the Design Options for Area 2 presented at PIC No. 3. Some comments in the PIC 3 Evaluation Matrix were updated to reflect new information and more recent studies. While all three alternatives will address stormwater system capacity requirements Design Option 2C scored slightly higher to reflect that Design Options 2A and 2B do not have an overland flow route. In terms of outlet requirements, both Options 2B and 2C require a new outlet; however, Option 2B will have spatial challenges in comparison to Option 2C.

Figure 30: PIC 3 Area 2 Design Option 2C (62<sup>nd</sup> St. Outlet)



**Design Option 2C for Area 2 Proposes the Following:**

- Construct new outlet on Ontario Parks (i.e. Ministry of Natural Resources and Forestry) property north of Shore Lane opposite 62<sup>nd</sup> Street.
- Servicing infrastructure extension from 62<sup>nd</sup> Street to outlet on Ontario Parks (MNRF) property.
- Urbanize 62<sup>nd</sup> Street.
- Connect to existing drainage ditch on 61<sup>st</sup> Street.



With regard to agency approvals, Options 2A and 2C may require increased agency involvement beyond the standard approvals necessary for the three options. Option 2A may require DFO involvement (given the observance of fish during the additional field analysis completed for 62nd Street). Option 2C may require negotiation with Ontario Parks (MNR)/Infrastructure Ontario and the completion of an additional environmental assessment process. The additional approvals have the potential to be more extensive and delay construction start in comparison to Option 2B.

In terms of impacts to existing utilities and services, Option 2B requires repositioning of the existing sanitary sewer and water service connections to existing homes. Option 2A and 2C will require a certain amount of construction within the right-of-way, but Option 2C will have less of an impact in this regard since a portion of construction will be on vacant land with no utility impacts.

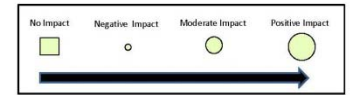
With regard to terrestrial impacts, Option 2C will have an increased potential for impact since construction is proposed through a vacant, wooded area. Option 2A involves construction on an existing residential lot and Option 2B requires work within an existing right-of-way. The potential to impact terrestrial vegetation and wildlife is expected to be moderate with Option 2A or Option 2B, given the species present and the scope of work proposed. In terms of impacts to aquatic vegetation and wildlife, Option 2A proposes improvements to the existing channel from Shore Lane to the beach and there is an increased potential to impact aquatic vegetation and wildlife in comparison to Options 2B and 2C. Options 2B & 2C require a connection to the existing watercourse south of Shore Lane within the existing 61st Street right-of-way and will have a more moderate potential for impact.

Options 2B and 2C each will be constructed with an oil and grit separator which will improve water quality; however, Option 2A proposes a reconstruction of the existing channel with no improvements to water quality. All three options will equally address water quantity concerns and reduce flooding potential, but Option 2C provides better hydraulics.

All three options will address the drainage requirements along the 62nd Street corridor which will assist in addressing the servicing needs for the area and is in accordance with land use planning objectives.



Table 10: PIC 3 Area 2 Evaluation Matrix



EVALUATION CRITERIA	OPT. 2A Existing Channel	OPT. 2B 61 <sup>st</sup> Street ROW	OPT. 2C 62 <sup>nd</sup> Street ROW	DESCRIPTION OF EFFECTS
<b>PHYSICAL ENVIRONMENT</b>				
<b>Stormwater System Capacity</b> Will the alternative address capacity requirements	○	○	●	Improvements associated with Option 2A will fully address capacity requirements. Option 2B does not have an overland flow route for 61 <sup>st</sup> Street, but 62 <sup>nd</sup> Street (Option 2C) can accommodate overland flow.
<b>Outlet Requirements</b>	●	○	○	Both Options 2B and 2C require a new outlet; however, Option 2B will have spatial challenges in comparison to Option 2C.
<b>Approvals</b> Impacts associated with agency approvals	○	○	○	Options 2A and 2C may require increased agency involvement, beyond the standard approvals necessary for the three options. Option 2A may require DFO involvement. Option 2C may require negotiation with Infrastructure Ontario and the completion of the Ontario Parks Class EA process. The additional approvals have the potential to be more extensive and delay construction start in comparison to Option 2B.
<b>Impacts to Existing Utilities and Services</b> Will construction impact utilities and existing municipal services	○	○	●	Option 2B requires repositioning of the existing sanitary sewer and water service connections to existing homes. Option 2A and 2C will require a certain amount of construction within the right-of-way, but Option 2C will have less of an impact in this regard since a portion of construction will be on vacant land with no utility impacts.
<b>NATURAL ENVIRONMENT</b>				
<b>Terrestrial Vegetation/Wildlife/Species at Risk</b> Potential to impact area vegetation, wildlife and SAR	○	○	○	Option 2C will have an increased potential for impact since construction is proposed through a vacant, wooded area. Option 2A involves construction on an existing residential lot and Option 2B requires work within an existing right-of-way. The potential to impact terrestrial vegetation and wildlife is expected to be low in either area.
<b>Aquatic Vegetation &amp; Wildlife</b> Potential to impact fish habitat and aquatic features	○	○	○	Option 2A proposes improvements to the existing channel from Shore Lane to the beach and there is an increased potential to impact aquatic vegetation and wildlife in comparison to Options 2B and 2C. Options 2B & 2C require a connection to the existing watercourse south of Shore Lane within the existing 61 <sup>st</sup> Street right-of-way.
<b>Surface Runoff Quality</b> Potential to impact water quality	○	●	●	Options 2B and 2C each will be constructed with an oil and grit separator which will improve water quality. Option 2A proposes a reconstruction of the existing channel, but no improvements to water quality.
<b>Surface Water Quantity/Flooding</b> Potential to address area drainage and flooding concerns	○	○	○	All three options will equally address surface water quantity concerns and reduce flooding potential, but Option 2C provides better hydraulics.
<b>SOCIAL ENVIRONMENT</b>				
<b>Land Use Planning Objectives</b> Is alternative in accordance with planning objectives	●	●	●	All three options will address the drainage requirements along the 62 <sup>nd</sup> Street corridor which will assist in addressing the servicing needs for the area.
<b>Adjacent Property Impacts</b> Need for property acquisition/easement & other	○	○	○	Option 2A will require property acquisition and Option 2C will require an easement. Option 2B can be constructed within the existing municipal right-of-way and requires no property acquisition, but location will impact adjacent properties.
<b>Residential</b> Potential impacts to residential access	○	○	○	Option 2A will significantly impact one residential lot. Option 2B proposes construction within an existing right-of-way, but has the potential to impact access to several homes during construction. Of the three alternatives, Option 2C will have the least amount of impact to area residences.
<b>Noise</b> Will the alternative impact noise levels during construction and the long term	○	○	○	All three options will result in an increase in noise during construction; however, impacts are expected to be temporary and limited to the period of construction with no significant long term noise impacts. It is expected that there would be less of an impact with Option 2C since it crosses vacant lands and will have an increased separation distance to the nearest dwelling as compared to the other alternatives.
<b>Traffic Impacts</b> Potential to impact area traffic	○	○	○	All three options will require some construction within the existing right-of-way which has the potential to temporarily impact traffic during construction; however, for Option 2C the outlet structure and associated infrastructure will be constructed on vacant lands and will have a reduced potential for impact in this regard of the alternatives.
<b>Aesthetics</b> Potential to impact the area visually	○	○	○	Option 2A requires the reconstruction of the existing channel and demolition of the existing residence and vegetation on the affected property. Option 2C is expected to create the least amount of impact in this regard because the outlet will be situated within a vacant property with an increased separation distance from area residences.
<b>CULTURAL ENVIRONMENT</b>				
<b>Archaeological</b> Will the alternative impact area archaeological resources	○	○	○	During the detailed design process all three options will require additional study to confirm that the subject areas are free of archaeological potential.
<b>Built Heritage</b> Potential to impact area built heritage resources and Cultural Heritage Landscapes	□	□	□	There are no built heritage structures within the project study area and as such, there will be no impacts in this regard.
<b>ECONOMIC ENVIRONMENT</b>				
<b>Property Acquisition Costs</b>	○	○	○	Option 2A will be the most costly as it requires property acquisition. Option 2C will require an easement across Ontario Parks property. Of the three options Option 2B will be the least costly.
<b>Construction Costs</b>	○	○	○	No significant difference in cost for Options 2A and 2B, but Option 2C would require less pipe length and open area construction would be the least costly.
<b>Operating/Maintenance Costs</b>	○	○	○	With Option 2A the channel will be improved, but no municipal infrastructure will be constructed so this option will have less operating and maintenance costs of the three options. Option 2B has marginally increased operation and maintenance costs due to longer pipe length and manholes.

Preferred Design: Of the three alternatives, Option 2C will address the deficiencies & create the least amount of negative impact on the area environment.



Option 2A will require property acquisition and Option 2C will require an easement and both were assigned a negative impact in this regard. Option 2B can be constructed within the existing municipal right-of-way and requires no property acquisition, but it was assigned a moderate impact given that the location has increased potential to impact adjacent properties. Option 2A will significantly impact one residential lot. Option 2B proposes construction within an existing right-of-way, but has the potential to impact access to several homes during construction. Of the three alternatives, Option 2C will have the least amount of impact to area residences.

All three options will result in an increase in noise during construction; however, impacts are expected to be temporary and limited to the period of construction with no significant long term noise impacts. It is expected that there would be less of an impact with Option 2C since it crosses vacant lands and will have an increased separation distance to the nearest dwelling as compared to the other alternatives.

All three options will require some construction within the existing right-of-way which has the potential to temporarily impact traffic and property access during construction; however, for Option 2C the outlet structure and associated infrastructure will be constructed on vacant lands and will have a reduced potential for impact in this regard.

In terms of aesthetics, Option 2A requires the reconstruction of the existing channel and demolition of the existing residence and vegetation on the affected property and is therefore considered to have the greatest potential for impact. Option 2C is expected to create the least amount of impact in this regard because the outlet will be situated within a vacant property with an increased separation distance from area residences.

During the detailed design process both options will require additional study to confirm that the subject areas are free of archaeological potential. With any of the options there is a low potential to impact built heritage resources and cultural heritage landscapes.

With regard to property acquisition costs, Option 2A is expected to be the most costly of the alternatives. Option 2C will only require an easement across Ontario Parks' property. Of the three options Option 2B will be the least costly. In terms of construction costs, there is no significant difference in cost between Options 2A and 2B. As Option 2C will require less pipe

length and involve construction in an open area it is expected to be the least costly. With Option 2A the channel will be improved, but no municipal infrastructure will be constructed so this option will have less operating and maintenance costs of the three options. Option 2B has marginally increased operation and maintenance costs due to longer pipe length and manholes.

#### **6.4.2 Phase 3 Public Information Centre No. 3 Input Received**

This section provides a brief summary of comments received following PIC No. 3 as it pertains to the evaluation of the alternatives and in selection of the Preferred Design. For a more complete summary of the consultation program completed for this project and additional details pertaining to comments received, please refer to Section 8.0.

While some comments received were supportive of Design Option 2C with an outlet constructed on the Ontario Parks' property opposite 62nd Street and Shore Lane, there were several comments received from residents living in proximity to that location that were not supportive and they outlined their reasoning why it should be constructed on 61st Street. Below are some of the key concerns identified following the PIC No. 3 presentation:

- Proposal is a result of development project and shifts water drainage management from the developer of Bay Sands to local residents;
- Objections to runoff from the Bay Sands development draining to the 67th Street Outlet;
- Impacts to water quality;
- Comments Specific to Design Option 2C (62<sup>nd</sup> Street Outlet)
  - Questioning why Ontario Parks is now permitting an outlet on the 62<sup>nd</sup> Street property;
  - Ontario Parks and MNR Mandates - why would a governmental body chose to support the destruction of natural park lands when a viable option (Design Option 2B) within a municipal right-of-way is available only 96 meters away;
  - Concerns with impacts to wildlife habitat, vegetation and forested areas,
  - 62nd Street Property Should Not be labelled "vacant" so as to imply that it is buildable;
  - Concerns with PIC No. 3 Evaluation Matrix relating to adjacent property impacts;
  - 62nd Street will incur additional costs associated with need for an easement, agency permits, increased agency approvals;
  - 62nd Street will create a negative precedent in granting a new easement through Ontario Parks land;
  - An outlet at 61st Street is more logical; and




- Properties adjacent a 62nd Street outlet will be devalued.

The comments received were reviewed and an individual response was provided to each respondent to address their individual concerns. Additionally, representatives from the municipality, the Ainley Group and Azimuth Environmental met on-site with one key property owner on Thursday, March 22, 2018 to review the design elements associated with Design Option 2C in greater detail and to discuss potential mitigation measures. A copy of the minutes from that meeting is included in Appendix 'H.'

### 6.5 Selection of Phase 3 Area 2 Preferred Design

As illustrated in Table 11, Design Option 2A was not carried forward since it requires extensive channel improvements and will result in increased property impacts and property acquisition. It was determined that Design Option 2C was more preferable over Design Option 2B because it is the shortest, most direct route and the vacant nature of the lands where the outlet is to be located will minimize impacts to area residents and create less of a visual impact. While there will be some impacts, these can be mitigated.

**Table 11: Selection of the Preferred Solution(s)**

ALTERNATIVE SOLUTION	RATIONALE FOR SELECTION	
<b>Design Option 2A</b> Utilize Existing Channel Outlet & Urbanization		<ul style="list-style-type: none"> <li>▪ Requires property acquisition and will result in extensive property impacts.</li> </ul>
<b>Design Option 2B</b> Relocate Outlet to 61st Street & Urbanization		<ul style="list-style-type: none"> <li>▪ Requires additional repositioning of existing sanitary and water service connections to homes on 61st Street north of Shore Lane.</li> <li>▪ Construction will significantly impact the existing servicing and access of several homes in the affected area.</li> <li>▪ Based on existing topography and proximity of the existing homes, the 61st Street right-of-way cannot be regraded to provide positive overland / surface drainage to the Nottawasaga Bay.</li> </ul>
<b>Design Option 2C</b> Relocate Outlet to 62nd Street & Urbanization		<ul style="list-style-type: none"> <li>▪ Shortest, most direct route.</li> <li>▪ Property can be re-graded to provide positive overland / surface drainage to Nottawasaga Bay.</li> <li>▪ Construction of the outlet on vacant property can be screened by existing and proposed vegetation making it less visible.</li> <li>▪ There is a low potential for negative impact given the existing features present and the scope of work proposed. Mitigation will also assist in reducing the potential for impact.</li> <li>▪ Landscaping and restoration of the impacted areas post construction will assist in minimizing impacts.</li> </ul>

Following PIC No. 3 and the receipt of agency, public, and Indigenous community input, the Project Team selected Design Option 2C (62nd Street Outlet & Urbanization) as the Recommended Plan for Area 2.

## 7.0 DESCRIPTION OF THE RECOMMENDED PLANS

This section provides design details for the final Recommended Plans for Area 1 and 2.

### 7.1 Area 1 Recommended Plan

As illustrated in the preliminary drawings included in Appendix 'J' the Recommended Plan for Area 1 proposes to convey flow from the Bay Sands Development Area north across private property via a grass lined drainage channel to Mosely Street. Flow will then be conveyed north via 67<sup>th</sup> Street to the existing 67<sup>th</sup> Street outlet. The following sub-sections provide additional details pertaining to the work associated with the Recommended Plan for Area 1.

#### 7.1.1 Road Cross-section

Approximately 200 m of 67th Street will be reconstructed from a semi-urban cross-section to a full urban cross-section with curb, gutter and storm sewer.

#### 7.1.2 Stormwater Conveyance

A drainage channel will be constructed north of the Bay Sands Development Area across private lands north to Mosely Street, near 67th Street, to convey flow from the subdivision to Mosely Street. The exact alignment of the drainage channel will be determined during the detailed design phase. The 67th Street corridor from Mosely Street north to the Shore Lane will be urbanized to accommodate overland flow that exceeds the capacity of the storm sewer. A large diameter storm sewer will be installed on 67th Street for this segment that will connect to the existing 1800 mm x 900 mm box culvert at Shore Lane that discharges downstream through the existing 67th Street outlet to Nottawasaga Bay.

#### 7.1.3 Low Impact Development Measures

The traditional strategy of managing stormwater is to collect and convey runoff via storm sewer infrastructure to a centralized facility (i.e. pond) where it is stored and treated before discharging



to a waterbody. The implementation of Low Impact Development (LID) features is a more modern approach to stormwater management that attempts to manage runoff at the source instead of conveying it to an alternate location as is traditionally done. It employs various methods of design to minimize the amount of runoff and to simulate natural hydrologic processes to allow runoff to infiltrate, filter, store, evaporate, and be detained at the lot level. It assists in removing contaminants from the runoff and also in reducing the volume and intensity of flows from runoff.

This Class EA recommends that the implementation of LID features be considered in the development of the stormwater servicing strategy to specifically be prepared for the Bay Sands Development Area as well as for any urbanization of streets proposed as part of this Class EA, where possible.

The future design for the Bay Sands Development Area may incorporate a “treatment train” approach to reduce the impacts from the urbanization of the Bay Sands Development Area on the receiving waterbody (i.e. Nottawasaga Bay). This approach involves a sequence of practices (i.e. lot level, conveyance and end-of-pipe controls) designed to meet stormwater management objectives and may include the following, some of which are LID measures:

- Zoning Restrictions for the Bay Sands Development Area – establishing limits on the size of a home and the percentage of lot coverage.
- Individual On-Site Infiltration Galleries: Taking runoff from roof areas for average small rainfall events and discharging via eaves troughs to infiltration galleries on each lot with the aim of matching the annual average ground water recharge of the site in its undeveloped condition. These are a well proven method of reducing total runoff volume where sandy soils and suitable separation from water table are available.
- Other – rear yard soak away pits, grassed swales along roadway boulevards for conveyance control, oil and grit separators (pre-treatment), and filters (water quality control).

It is important to note that the stormwater management design for the Bay Sands Development Area is only one component of the servicing strategy needed in order for the development to move forward and it is unlikely to advance to construction for several years. When the Bay Sands Development Area proceeds to detailed design it will be subject to the latest standards of the day. Low Impact Development (LID) features and strategies as well as the standards and

policies governing their implementation will evolve and improve over time. The actual LID measures therefore that can be implemented for the Bay Sands Development Area will need to be determined through discussion with the MOECC and the NVCA at that time.

It is easier to implement LID features in a development like the Bay Sands subdivision because it can be incorporated into the original design; however, the existing corridors are currently developed which limits the opportunity to incorporate significant stormwater management features. The application of LID measures to areas outside of Bay Sands should be considered; however, these are existing corridors and there will be constraints to reconstruction. It will not be possible to implement LID features at all locations unless property can be acquired from neighboring lands to accommodate these measures.

#### **7.1.4 Water Quality**

There is an existing oil and grit separator situated at the intersection of Shore Lane and 67th Street that assists in treating flow prior to discharging at the existing outlet structure on 67th Street. As part of the urbanization of 67th Street catch basin filters will be included. These will also assist in treating runoff prior to discharge to Nottawasga Bay. As indicated, the implementation of LID features will be considered in the eventual stormwater water design for the Bay Sands Development Area which will also provide improvements to water quality as will the future drainage channel in the form of a vegetated swale leading from the Bay Sands Development Area to Mosely Street. Additional discussions will be required with the NVCA during the detailed design of the channel to potentially expand and complement the existing wetland feature. Additionally, detailed design for the Bay Sands Development Area will involve quantifying the limits on lot coverage and infiltration and also be designed to address the requirements of the Ministry of Environment and Climate Change (MOECC) and the Nottawasaga Valley Conservation Authority (NVCA). Detailed design will provide an enhanced level of water quality control in accordance with MOECC guidelines.

#### **7.1.5 Water Quantity**

The goal will be to maintain post development flows to the pre-development condition. This will be achieved in part through the use of extensive LID features within the Bay Sands Development Area as well as stormwater management ponds with flow attenuation and controlled outlet. Storm sewer will be sized to accommodate upstream lands including the future Bay Sands Development Area in its pre-development run-off condition. Control of runoff

flows from post to pre-development will be attained by control features within Bay Sands Development Area whether through enhanced LID features, stormwater management ponds, or variations of the two. Detailed design will provide an enhanced level of water quantity control in accordance with MOECC guidelines.

#### **7.1.6 Outlet Structure**

The existing 67<sup>th</sup> Street outlet is designed to accommodate the existing developed area (i.e. 67th Street, 66th Street, portions of Mosely Street) at their existing runoff rate and undeveloped areas south of Mosely Street (i.e. Bay Sands and vacant property to the north of the development). No improvements are required to the existing 67<sup>th</sup> Street outlet.

#### **7.1.7 Utilities and Servicing**

The proposed reconstruction of 67th Street from Mosely Street to Shore Lane will impact existing utilities and municipal servicing. The hydro line will need to be re-positioned and the water services to the houses along 67th Street will need to be replaced.

#### **7.1.8 Property Acquisition / Easements**

An agreement has been obtained with the property owner that owns the lands located between the Bay Sands Development Area and Mosely Street to provide a legal outlet for the Bay Sands Development Area runoff. The reconstruction of the 67th Street corridor will be contained within the existing right-of-way and no property acquisition will be required.

#### **7.1.9 Preliminary Construction Cost Estimate**

As illustrated in Table 12, the preliminary cost estimate for construction associated with the Area 1 Recommended Plan is estimated to be approximately \$1,076,000.00.

**Table 12: Area 1 Preliminary Construction Cost Estimate**

<b>Area 1 Recommended Plan (67th Street Outlet)</b>	
<b>Construction Component</b>	<b>Cost Estimate</b>
GENERAL	\$120,000.00
ROADWORKS	\$220,000.00
STORMWATER	\$120,000.00
WATERMAIN	\$55,000.00
PROVISIONAL	\$100,000.00
PROPERTY / EASEMENT	\$250,000.00
<b>SUBTOTAL</b>	<b>\$865,000.00</b>
<b>10% Contingency</b>	<b>\$87,000.00</b>
<b>H.S.T. (13%):</b>	<b>\$124,000</b>
<b>TOTAL</b>	<b>\$1,076,000.00</b>

## **7.2 Area 2 Recommended Plan**

As illustrated in the preliminary drawings included in Appendix 'K', the Recommended Plan for Area 2 proposes the construction of new outlet on Ontario Parks' property north of Shore Lane following the general alignment of 62<sup>nd</sup> Street.

### **7.2.1 Road Cross-section**

Approximately 700 m of the 62nd Street corridor will be reconstructed extending from Shore Lane to approximately 500 m south of Mosely Street. The corridor will be urbanized meaning that the existing ditch drainage will be replaced with curb, gutter, and storm sewer. The corridor will continue to provide one through lane in each direction and will provide a 1.5 m sidewalk.

### **7.2.2 Low Impact Development Measures**

Given that the 62nd Street corridor is already developed the introduction of LID features is limited, but this will be considered further in detailed design.

### **7.2.3 Stormwater Conveyance**

A 900 mm diameter storm sewer is proposed along the 62nd Street corridor to Shore Lane. The segment that extends north across the Ontario Parks property to the beach will consist of a



1200 mm diameter storm sewer. The construction footprint for the 62nd Street outlet and associated infrastructure is anticipated to be a maximum of 20.0 m in width, but will be not greater than 10.0 m for most of its length. It will generally follow the extension of 62nd Street northwards, but the exact location will be determined in detailed design.

A segment of storm sewer will also be constructed from the 62nd Street and Shore Lane intersection east to 61st Street as a linkage to intercept the existing drainage channel located in the unopened 61st Street road allowance south of Shore Lane and bring some of its flow back to the new 62<sup>nd</sup> street outlets.

#### **7.2.4 Water Quality**

Improvements to water quality will be provided through the installation of an oil and grit separator online of the storm sewer, south of Shore Lane. Catch basin filters will also be included in the urbanization of 62nd Street. LID features will also be considered further during detailed design for the 67th Street corridor, where feasible, to assist in improving water quality.

#### **7.2.5 Water Quantity**

The design provides for the safe conveyance of the 100 year storm at the existing runoff rates for the currently developed area. The general strategy to reduce the flows to the existing channel outlet east of 61st Street and to eliminate flooding during the one hundred year storm in that area is to take approximately 2 m<sup>3</sup>/s of flow via the new storm sewer on 62nd Street and 1 m<sup>3</sup>/s of flow as overland flow across the Ontario Parks property (i.e. new 62nd Street outlet) resulting in approximately 1 m<sup>3</sup>/s continuing to flow through the old outlet (existing channel outlet east of 61st Street) which is within its capacity.

A storm sewer linkage intercepting the existing drainage channel located in the unopened 61st Street road allowance south of Shore Lane, will convey the majority of those flows westwards to 62nd Street and the new outlet.

#### **7.2.6 Outlet Structure**

A new outlet structure will be constructed near the north limits of the Ontario Parks' property. It is recommended that a Landscaping Plan will be prepared during detailed design for the re-naturalization of the storm sewer installation and overflow channel across the Ontario Parks

property. The purpose of the plan is to screen the outlet headwall when viewed from the beach and adjacent properties and to also assist in re-stabilizing the area post construction to prevent erosion.

**7.2.7 Utilities**

The proposed reconstruction of 62nd Street from Shore Lane to Robinson Road will impact existing utilities and municipal servicing. The hydro line will need to be re-positioned and all water services to the houses along 62nd Street will need to be replaced.

**7.2.8 Property Acquisition / Easements**

The municipality is working with Ontario Parks to obtain a servicing easement to accommodate the new outlet. The reconstruction of 62nd Street and the short segment on Shore Lane will be completed within the existing right-of-way with no property acquisition required.

**7.2.9 Preliminary Construction Cost Estimate**

As illustrated in Table 13, the preliminary cost estimate for construction associated with Area 1 is estimated to be approximately \$3,820,000.00.

**Table 13: Area 2 Preliminary Cost Estimate**

<b>Area 2 Recommended Plan (62<sup>nd</sup> Street Outlet)</b>	
<b>Construction Component</b>	<b>Cost Estimate</b>
GENERAL	\$140,000.00
ROADWORKS	\$2,200,000.00
STORMWATER	\$460,000.00
WATERMAIN	\$200,000.00
PROVISIONAL	\$30,000.00
PROPERTY	\$50,000.00
<b>SUBTOTAL</b>	<b>\$3,080,000.00</b>
<b>10% Contingency</b>	<b>\$300,000.00</b>
<b>H.S.T. (13%):</b>	<b>\$440,000.00</b>
<b>TOTAL</b>	<b>\$3,820,000.00</b>

## 8.0 CONSULTATION

### 8.1 Points of Contact

As per Section A.3.5.3 of the Municipal Class EA, a minimum of three points of contact are required for a Schedule 'C' project. For this undertaking five points of contact were completed as follows:

- Contact Point No. 1 - Notice of Commencement
- Contact Point No. 2 - Notice of Public Information Centre No. 1
- Contact Point No. 3 - Notice of Public Information Centre No. 2
- Contact Point No. 4 – Notice of Public Information Centre No. 3
- Contact Point No. 5 - Notice of Completion

During each point of contact notification was provided to the public, relevant agencies and Indigenous communities as summarized in Table 14. In addition to the above individual meetings were scheduled, as required, with property owners and agencies.

**Table 14: Key Consultation Contact Points**

Contact Point	Notification Issued
<b>Notice of Commencement</b>	<ul style="list-style-type: none"> <li>▪ The purpose of this notice was to provide background information on the project, summarize the drainage issues affecting the Bay Sands Development and define the project study area.</li> <li>▪ Published in the local newspaper The Wasaga Beach Sun</li> <li>▪ Posted on the Town of Wasaga Beach website.</li> <li>▪ Letter with copy of notice issued to residents within the project study area on June 16, 2014.</li> <li>▪ A letter and copy of the notice was issued June 16, 2014 to area residents, relevant external agencies and Indigenous communities.</li> <li>▪ <b>A copy of all correspondence is included in Appendix 'E' of this report.</b></li> </ul>
<b>Notice of Public Information Centre No. 1</b>	<ul style="list-style-type: none"> <li>▪ The purpose of this notice was to advise of the scheduling of a public meeting during Phase 2 of the Class EA process to introduce the project, identify the deficiencies and to present the alternative solutions under consideration to address the deficiencies.</li> <li>▪ Public Information Centre No. 1 was scheduled for November 6, 2014 at the Wasaga Beach RecPlex from 7:00 p.m. to 9:00 p.m</li> <li>▪ Notice published in the local newspaper The Wasaga Beach Sun on October 23, 2014 and October 30, 2014.</li> <li>▪ Notice posted on the Town of Wasaga Beach website.</li> <li>▪ A letter and copy of the notice was issued October 22, 2014 to area residents, relevant external agencies and Indigenous communities.</li> <li>▪ <b>A copy of all correspondence is included in Appendix 'F' of this report.</b></li> </ul>

Contact Point	Notification Issued
<b>Notice of Public Information Centre No. 2</b>	<ul style="list-style-type: none"> <li>▪ The purpose of this notice was to advise that a second Public Information Centre was scheduled to identify the Preferred Solution that was selected following PIC No. 1 and to present the alternative design concepts under consideration to implement the Preferred Solution.</li> <li>▪ Public Information Centre No. 2 was held June 22, 2017 at the Wasaga Beach RecPlex from 7:00 p.m. to 9:00 p.m</li> <li>▪ Notice published in the local newspaper The Wasaga Beach Sun on June 8, 2017 and June 15, 2017.</li> <li>▪ Notice posted on the Town of Wasaga Beach website.</li> <li>▪ A letter and copy of the notice was issued June 5, 2017 to area residents, relevant external agencies and Indigenous communities.</li> <li>▪ <b>A copy of all correspondence is included in Appendix 'G' of this report.</b></li> </ul>
<b>Notice of Public Information Centre No. 3</b>	<ul style="list-style-type: none"> <li>▪ The purpose of this notice was to indicate that a third PIC was scheduled in response to input received following PIC No. 2 to re-visit the design alternatives.</li> <li>▪ Public Information Centre No. 3 was held November 16, 2017 at the Wasaga Beach RecPlex from 6:00 p.m. to 8:00 p.m</li> <li>▪ Notice published in the local newspaper The Wasaga Beach Sun on November 2, 2017 and November 9, 2017.</li> <li>▪ Notice posted on the Town of Wasaga Beach website.</li> <li>▪ A letter and copy of the notice was issued October 31, 2017 to area residents, relevant external agencies and Indigenous communities.</li> <li>▪ <b>A copy of all correspondence is included in Appendix 'H' of this report.</b></li> </ul>
<b>Notice of Completion</b>	<ul style="list-style-type: none"> <li>▪ This notice announced the completion of the Class EA process and the preparation of an Environmental Study Report available for a 30 day public review period. The notice also provided direction for the submission of a Part II Order request and identified viewing locations.</li> <li>▪ Notice published in the local newspaper The Wasaga Beach Sun on June 7, 2018 and June 14, 2018.</li> <li>▪ Notice posted on the Town of Wasaga Beach website.</li> <li>▪ A letter and copy of the notice was issued June 4, 2018 to area residents, relevant external agencies and Indigenous communities.</li> <li>▪ <b>A copy of all correspondence is included in Appendix 'I' of this report.</b></li> </ul>

## **8.2 Consultation with Indigenous Communities**

At the project start a search was made of the Aboriginal and Treaty Rights Information System (ATRIS) as provided by Aboriginal Affairs and Northern Development Canada (AANDC) to determine which Indigenous communities may have an interest in the project. The Ministry of Aboriginal Affairs (MAA) was also consulted for input.

Table 15 identifies the Indigenous agencies and communities contacted as part of this project. As detailed in the paragraphs that follow the list was updated to reflect comments received throughout the process. All notification issued to Indigenous communities was sent by registered mail so as to confirm receipt.



**Table 15: Class EA Indigenous Community and Agency Contacts**

Indigenous Agencies	Indigenous Communities	
<ul style="list-style-type: none"> <li>▪ Ministry of Indigenous Relations &amp; Reconciliation (MIRR) (formerly Ministry of Aboriginal Affairs)</li> <li>▪ The Metis Nation of Ontario</li> <li>▪ Metis National Council</li> <li>▪ Georgian Bay Metis Council</li> </ul> <p>Note: Indigenous &amp; Northern Affairs Canada Consultation Unit (formerly Aboriginal Affairs &amp; Northern Development Canada) was not contacted since project was not taking place on Indigenous lands.</p>	<ul style="list-style-type: none"> <li>▪ Aamjiwnaang First Nation</li> <li>▪ Alderville First Nation</li> <li>▪ Alderville First Nation</li> <li>▪ Aundeck-Omni-Kaning First Nation</li> <li>▪ Beausoleil First Nation</li> <li>▪ Chippewas of Georgina Island First Nation</li> <li>▪ Chippewas of Kettle and Stony Point First Nation</li> <li>▪ Chippewas of Nawash First Nation</li> <li>▪ Chippewas of Rama First Nation</li> <li>▪ Chippewas of the Thames First Nation</li> <li>▪ Curve Lake First Nation</li> <li>▪ Hiawatha First Nation</li> <li>▪ M'Chigeeng First Nation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mississauga's of Scugog Island First Nation</li> <li>▪ Mississauga's of the Credit</li> <li>▪ Mississaugas of the Credit</li> <li>▪ Mohawks of Akwesasne First Nation</li> <li>▪ Mohawks of the Bay of Quinte First Nation</li> <li>▪ Moose Deer Point First Nation</li> <li>▪ Saugeen First Nation</li> <li>▪ Sheguiandah First Nation</li> <li>▪ Six Nations of the Grand River First Nation</li> <li>▪ Wahta Mohawk First Nation</li> <li>▪ Walpole Island First Nation</li> <li>▪ Wasauksing First Nation</li> <li>▪ Zhiibaahaasing First Nation</li> </ul>

During the course of this Class EA a response was received from the Ministry of Aboriginal Affairs (MAA) and five First Nation communities that included Alderville, Chippewas of the Thames, Chippewas of Rama, Curve Lake and Wasauksing. Table 16 identifies the comments received from Indigenous Communities and agencies and summarizes how each comment was addressed during the course of this Class EA. At the present time, there remain no outstanding Indigenous issues or concerns relating to this project. All items are considered to be addressed.

**Table 16: Indigenous Agency and Community Comment Summary**

RESPONDENT INFORMATION	COMMENTS RECEIVED	RESPONSE / ACTION
<b>ABORIGINAL COMMUNITIES</b>		
<p>1. <b>Alderville First Nation</b></p> <p>11696 Second Line                      P.O. Box 46                      Roseneath, ON K0K 2X0</p> <p>Dave Simpson                      Lands &amp; Resources Communications Officer</p> <p>Tel: 905-352-2011</p> <p>Email:  <a href="mailto:dsimpson@aldervillefirstnation.ca">dsimpson@aldervillefirstnation.ca</a></p> <p><b>Note: Dave Simpson replaced by Skye Anderson</b></p> <p><a href="mailto:sanderson@alderville.ca">sanderson@alderville.ca</a></p>	<p><u><b>Letter Submitted June 26, 2014</b></u></p> <p>“Thank you for your consultation request to Alderville First Nation regarding the above noted project which is being proposed within our Traditional and Treaty Territory. We appreciate the fact that Ainley &amp; Associates Limited recognizes the importance of First Nations Consultation and that your office is conforming to the requirements within the Duty to Consult Process. As per the Alderville First Nation Consultation Protocol, your proposed project is deemed a level 3, having minimal potential to impact our First Nations’ rights, therefore, please keep Alderville apprised of any archaeological findings, burial sites or any environmental impacts, should any occur. I can be contacted at the mailing address above or electronically via email, at the email address below.”</p>	<ul style="list-style-type: none"> <li>• Comment Noted. Project Contact List updated to include Dave Simpson.</li> <li>• Class EA correspondence continued to be issued to Alderville FN during the course of the project and sent via registered mail to confirm receipt.</li> <li>• <u><b>A final follow up email was issued January 4, 2015 to determine if they have any final concerns as follows:</b></u></li> </ul> <p>The purpose of this email is to provide you with an update regarding the above noted project and to follow up with you to determine if you have any further concerns or interest in this project. In your earlier correspondence you noted that the project is deemed a level 3, having minimal potential to impact your First Nations’ rights; however, you requested that you be kept informed regarding any archaeological findings, burial sites or any environmental impacts, should any occur.</p> <p>As per our most recent correspondence issued to you October 31, 2017, the municipality hosted Public Information Centre No. 3 for this project (see attached notice). Please note that this material is available for download from the Town’s website at <a href="http://www.wasagabeach.com/construction-notices">www.wasagabeach.com/construction-notices</a></p> <p>Please note that a Stage 1 archaeological assessment was completed for the project. It did not identify anything of significance, but did recommend that a Stage 2 analysis be completed in localized areas. A Stage 2 assessment will be completed during detailed design when the construction footprint has been confirmed.</p>

RESPONDENT INFORMATION	COMMENTS RECEIVED	RESPONSE / ACTION
		<p><b><u>Jodi Moore (Ainley Group) issued email 1 April 10, 2018 to wrap up project:</u></b></p> <p>As per our phone conversation on April 10th, 2018, I indicated that the Town of Wasaga Beach would like to issue their Notice of Completion for the Bay Sands Project. The purpose of this call was to identify if Alderville First Nation had any additional comments on the Bay Sands Project. You had mentioned as long as all comments and questions received from the Chippewas of Rama First Nations have been addressed then there are no further comments from Alderville First Nations. We would appreciate you taking the time to have a call and respond to this email.</p> <p><b><u>Jodi Moore (Ainley Group) issued email 2 April 10, 2018 to wrap up project:</u></b></p> <p>Further to the email below, please be aware that the Chippewas of Rama First Nations comment was to send all consultation information to Karry Sandy-McKenzie. Ms. Sandy-McKenzie was added to the Contact list as per the comment. Ms. Sandy-McKenzie and the Chippewas of Rama First Nation have both been sent all communication regarding the Bay Sands Project.</p>
<p>Skye Anderson                  Lands and Resources Communications Officer                  11696 Second Line                  Roseneath, ON                  K0k 2X0  <a href="mailto:sanderson@alderville.ca">sanderson@alderville.ca</a></p>	<p><b><u>Email received April 13, 2018 in response to follow up email issued by Jodi Moore, Ainley Group (April 10, 2017).</u></b></p> <p>Thanks again for the information. Yes, that is correct in that Alderville will support any information Chippewas of Rama First Nation has established in their comments.</p>	<ul style="list-style-type: none"> <li>Concerns considered Addressed.</li> </ul>

	<b>RESPONDENT INFORMATION</b>	<b>COMMENTS RECEIVED</b>	<b>RESPONSE / ACTION</b>
2.	<p><b>Chippewa of the Thames</b> 320 Chippewa Road Muncey, ON N0L 1Y0</p> <p>Fallon Burch Consultation Coordinator Tel: 519-289-2662 ext. 213 Email: <a href="mailto:fburch@cottfn.com">fburch@cottfn.com</a></p>	<p><u><b>Letter Submitted June 30, 2014</b></u></p> <p>“In our screening of your correspondence we have identified no concerns with your project or the information that you have presented to us at this time. We feel we no longer need to receive regular project updates or completed studies. However, we ask that if there are any changes to your project that are of a substantive nature that you keep us informed.”</p>	<ul style="list-style-type: none"> <li>• Comment Noted.</li> <li>• Respondent removed from Project Contact List as requested.</li> </ul>
3.	<p><b>Chippewas of Rama First Nation</b> 5884 Rama Road, Suite 200 Rama, ON L3V 6H6</p> <p>Chief Sharon Stinson Henry Tel: 705-325-3611</p>	<p><u><b>Letter Submitted July 14, 2014</b></u></p> <p>“As a member of the Williams Treaties First Nations, Rama First Nation acknowledges receipt of your letter of June 16, 2014, which was received on June 19, 2014. A copy of your letter has been forwarded to Karry Sandy-McKenzie, Barrister and Solicitor, Coordinator for Williams Treaties First Nations for further review and response directly to you. Please direct all future correspondence and inquiries, with a copy to Rama First Nation, to Ms. Sandy –McKenzie at 8 Creswick Court, Barrie, ON L4M 2J7 or her email address at <a href="mailto:k.a.sandy-mdkenzie@rogers.com">k.a.sandy-mdkenzie@rogers.com</a> Her telephone number is 705-792-5087.”</p>	<ul style="list-style-type: none"> <li>• Comment Noted.</li> <li>• Project Contact List updated to include additional contact.</li> </ul>
4.	<p><b>Curve Lake First Nation</b> Curve Lake, ON K0L 1R0</p> <p>Chief Phyllis</p>	<p><u><b>Letter Submitted September 3, 2014</b></u></p> <p>“We would like to acknowledge receipt of your correspondence, which we received on 6/ 19/2014 regarding the above noted project. As you may be aware, the area in which your project is proposed is situated within the Traditional Territory of Curve Lake First Nation. Our First Nation’s Territory is incorporated within the Williams Treaty Territory and is the</p>	<ul style="list-style-type: none"> <li>• Comment Noted.</li> <li>• Karry Sandy-McKenzie was added to the project contact list and notified multiple times regarding the project.</li> <li>• All subsequent notifications to Curve Lake FN were sent via registered mail to confirm receipt.</li> <li>• A final follow up email was issued January 4, 2015 to determine if they have any final concerns as follows:</li> </ul>



RESPONDENT INFORMATION	COMMENTS RECEIVED	RESPONSE / ACTION
<p>Williams Tel: 705-657-8045</p>	<p>subject of a claim under Canada's Specific Claims Policy. We strongly suggest that you provide Karry Sandy-Mackenzie, Williams Treaty First Nation Claims Coordinator, 8 Creswick Court, Barrie, ON L4M 2S7, with a copy of your proposal as your obligation to consult to also extend to the other First Nations Of the Williams Treaty.</p> <p>Although we have not conducted exhaustive research nor have we the resources to do so, Curve Lake First Nation Council is not currently aware of any issues that would cause concern with respect to our Traditional, Aboriginal and Treaty rights.</p> <p>Please note that we have particular concern for the remains of our ancestors. Should excavation unearth bones, remains or other such evidence of a native burial site or any Archaeological findings, we must be notified without delay. In the case of a burial site, Council reminds you of your obligations under the Cemeteries Act to notify the nearest First Nation Government or other community of Aboriginal people which is willing to act as a representative and whose members have a close cultural affinity to the interred person. As I am sure you are aware, the regulations further state that the representative is needed before the remains and associated artifacts can be removed. Should such a find occur, we request that you contact our First Nation immediately. Curve Lake First Nation also has available, trained Archaeological Liaisons who are able to actively participate in the archaeological assessment process as a member of a field crew, the cost of which will be borne by the proponent.</p> <p>If any new, undisclosed or unforeseen issues should arise, that has potential for anticipated negative environmental impacts or anticipated impacts on our Treaty and Aboriginal rights we require that we be notified regarding these as well. Thank you for recognizing the importance of consultation and respecting your duty to consult obligations as determined by the Supreme Court of Canada. Should you have further questions or if you wish to hire a liaison for a project, please feel free to contact Lois Taylor, A/Lands and Resources Consultation Liaison, at 705-657-8045 x 222 or LoisT@curvelake.ca"</p>	<p>The purpose of this email is to provide you with an update regarding the above noted project and to follow up with you to determine if you have any further concerns or interest in this project.</p> <p>In your earlier correspondence you noted that the subject project was within the Traditional Territory of Curve Lake First Nation and you suggested that we contact Ms. Karry Sandy-Mackenzie. Please note that Ms. McKenzie is currently on the contact list and continues to receive all notification regarding the project.</p> <p>At the time of the letter you noted that you were not aware of any issues that may impact your FN rights, but you did note that archaeological findings of an Aboriginal nature would be of interest to your community. Please note that a Stage 1 archaeological assessment was completed for the project. It did not identify anything of significance, but did recommend that a Stage 2 analysis be completed in localized areas. A Stage 2 assessment will be completed during detailed design when the construction footprint has been confirmed.</p> <p>As per our most recent correspondence issued to you October 31, 2017, the municipality hosted Public Information Centre No. 3 for this project (see attached notice). Please note that this material is available for download from the Town's website at <a href="http://www.wasagabeach.com/construction-notices">www.wasagabeach.com/construction-notices</a> Should you have any further questions or concerns regarding this project, please feel free to give me a call.</p>
	<p><b><u>Email Received January 4, 2018 From Chief Phyllis Williams</u></b></p>	<ul style="list-style-type: none"> <li>A follow up email was issued February 23<sup>rd</sup>, 2018 to send</li> </ul>

	RESPONDENT INFORMATION	COMMENTS RECEIVED	RESPONSE / ACTION
		<p>“Txs for your correspondence. I will have our staff in the consultation department review and respond.”</p> <p><b><u>Email Received February 20, 2018 From Kaitlin Hill</u></b></p> <p>“Sorry for the late response. Can you please provide me the archaeological assessment done for the Bay Sands Development area? Also, please keep me updated on any unforeseen Archaeological or Environmental impacts this project may have.”</p>	<p>along the Archaeological Assessment:</p> <p>Please find attached the requested archaeological report and the MTCS letter. Any required Stage 2 analysis will be completed during detailed design when the construction footprint has been confirmed. Please note that the municipality would like to issue the Notice of Completion for this project. It would be greatly appreciated if you could please let us know as soon as possible if you have any further comments.</p> <ul style="list-style-type: none"> <li>Jodi Moore (Ainley Group) follow up on the above email to determine if there was any questions on the report. Called Kaitlin Hill on April 5 2018 at 11:30 and left a voicemail.</li> </ul>
	<p>Kaitlin Hill <a href="mailto:KaitlinH@curvelake.ca">KaitlinH@curvelake.ca</a></p> <p>And</p> <p>Julie Kapyrka</p>	<p><b><u>Email Received April 13, 2018 in Response to Follow-up Email Issued by Jodi Moore (April 10, 2018)</u></b></p> <ul style="list-style-type: none"> <li>Julie Kapyrka copied on email as she is usually the lead on the Archaeological side of things and will most likely be the contact for you in the future.</li> <li>Curve Lake would like to have a monitor onsite for the Stage 2 work as it states in our Archaeological Protocol located at <a href="https://www.curvelakefirstnation.ca/services-departments/lands-rights-resources/consultation/">https://www.curvelakefirstnation.ca/services-departments/lands-rights-resources/consultation/</a></li> <li>Curve Lake would like to have a chance to review the assessment once it is completed.</li> </ul>	<ul style="list-style-type: none"> <li>Curve Lake requests that a monitor be on-site for the Stage 2 work.</li> <li>Request incorporated into mitigation section of ESR.</li> <li>A copy of ESR to be forwarded when finalized.</li> </ul>
5.	<p><b>Wasauksing First Nation</b></p> <p>P.O. Box 250 Parry Sound, Ontario P2A 2X4</p>	<p><b><u>Email Submitted June 16, 2017</u></b></p> <p>“Thank you for your correspondence dated June 5, 2017 regarding to the above. Wasauksing First Nation does not have any concerns/comments to submit in response to the Bay Sands development area storm drainage and outlet improvements and we do not wish to continue to receive information.</p>	<ul style="list-style-type: none"> <li>Comment Noted.</li> <li>Respondent removed from Project Contact List as requested.</li> </ul>

	RESPONDENT INFORMATION	COMMENTS RECEIVED	RESPONSE / ACTION
	Daniella Baker Community Consultation Coordinator 705-746-2531 ext. 2248 <a href="mailto:ccc@wasauksing.ca">ccc@wasauksing.ca</a>	Should there be any negative residual effects or any impacts to our Aboriginal and/or Treaty Rights and lands or resources within our Wasauksing-Anishinaabe Territory, Wasauksing First Nation reserves the right to seek accommodation and mitigation measures from Town of Wasaga Beach.  If you have any questions or require any further information, please do not hesitate to contact me via email <a href="mailto:ccc@wasauksing.ca">ccc@wasauksing.ca</a> or telephone (705) 746-2531 ext. 2248."	
<b>ABORIGINAL AGENCIES</b>			
6.	<b>Ministry of Aboriginal Affairs</b> 160 Bloor St. East 9 <sup>th</sup> Floor Toronto, ON M7A 2E6 Tel: (416) 326-4740	<p><b><u>Letter Received November 14, 2014</u></b></p> <p>With respect to your project, and based on the brief materials you have provided, we can advise that the project appears to be located in an area where First Nations may have existing or asserted rights or claims in Ontario's land claims process or litigation, that could be impacted by your project. Contact information is below:</p> <p><u>First Nation Communities:</u></p> <ul style="list-style-type: none"> <li>• Chippewas of Georgina Island – Chief Donna Big Canoe</li> <li>• Beausoleil First Nation – Chief Roland Monague</li> <li>• Chippewas of Rama – Chief Rodney Nogonash</li> </ul> <p><u>Metis communities:</u></p> <ul style="list-style-type: none"> <li>• Georgian Bay Metis Council – Michael Duquette</li> <li>• Metis Nation of Ontario Head Office</li> </ul> <p>(For additional details, please refer to letter)</p>	<ul style="list-style-type: none"> <li>• All communities and agencies identified by MAA were confirmed to be on the Project Contact List. No response required.</li> </ul>

### 8.3 Consultation with External Agencies

As identified in Table 17, a number of agencies were contacted regarding this project. Key agencies included the Nottawasaga Valley Conservation Authority and Ontario Parks. Individual meetings and discussions were held regularly throughout this process.

Their comments are summarized in Table 18 along with the action taken to address their concerns. At the present time, there remain no outstanding agency issues or concerns relating to this project. All items are considered to be addressed.

**Table 17: External Agency List of Contacts**

Provincial & Federal Agencies	Local Government and Other Agencies	Utilities
<ul style="list-style-type: none"> <li>▪ Canadian Environmental Assessment Agency</li> <li>▪ Environment Canada</li> <li>▪ Ministry of Environment and Climate Change</li> <li>▪ Ministry of Environment Barrie District Office</li> <li>▪ Ministry of Tourism, Culture &amp; Sport</li> <li>▪ Ministry of Natural Resources Midhurst District Office</li> <li>▪ Ontario Ministry of Agriculture, Food and Rural Affairs</li> <li>▪ Ministry of Transportation</li> <li>▪ Ministry of Municipal Affairs and Housing</li> <li>▪ Ontario Parks</li> <li>▪ Ministry of Natural Resources and Forestry"</li> <li>▪ Wasaga Beach Provincial Park</li> </ul>	<ul style="list-style-type: none"> <li>▪ Nottawasaga Valley Conservation Authority</li> <li>▪ County of Simcoe</li> <li>▪ Simcoe Muskoka Catholic District School Board</li> <li>▪ Simcoe County District School Board</li> <li>▪ Simcoe County Student Transportation Consortium</li> <li>▪ County of Simcoe Paramedic Services</li> <li>▪ Huronia West Ontario Provincial Police</li> <li>▪ Simcoe County Historical Association</li> <li>▪ Wasaga West Beach Association</li> <li>▪ Wasaga Beach Historical Advisory Committee</li> </ul>	<ul style="list-style-type: none"> <li>▪ Rogers Communications Inc.</li> <li>▪ Powerstream Inc.</li> <li>▪ Powerstream Inc.</li> <li>▪ Wasaga Distribution Inc.</li> <li>▪ Bell Canada</li> <li>▪ Hydro One</li> <li>▪ Enbridge Gas</li> <li>▪ Enbridge Gas</li> <li>▪ Enbridge Gas</li> </ul>



**Table 18: External Agency Comment Summary**

KEY AGENCY COMMENTS	HOW ADDRESSED
<b>MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE (MOECC)</b>	
<ul style="list-style-type: none"> <li>• MOECC identified the following areas of interest relating to the project:                             <ul style="list-style-type: none"> <li>○ Ecosystem Protection and Restoration • Contaminated Soils</li> <li>○ Planning and Policy • Mitigation and Monitoring</li> <li>○ Surface Water and Groundwater • Class EA Process</li> <li>○ Air Quality, Dust and Noise • Aboriginal Consultation</li> <li>○ Servicing and Facilities</li> </ul> </li> <li>• MOECC requests a hard copy of the ESR when the Notice of Completion is issued.</li> </ul>	<ul style="list-style-type: none"> <li>• The items identified by MOECC were addressed in the ESR prepared for this project.</li> <li>• A digital copy of the ESR will be circulated to the MOECC with the Notice of Completion.</li> </ul>
<b>FISHERIES AND OCEANS CANADA (DFO)</b>	
<ul style="list-style-type: none"> <li>• DFO noted that the Fisheries Act requires that projects avoid causing serious harm to fish unless authorized by the Minister of Fisheries and Oceans Canada and that this applies to work being conducted in or near waterbodies that support fish that are part of or that support a commercial, recreational or Aboriginal fishery.</li> <li>• Requested that their website at <a href="http://www.dfo-mpo.gc.ca/habitat">www.dfo-mpo.gc.ca/habitat</a> be visited and that a Self-Assessment be undertaken to determine if a DFO review is needed.</li> </ul>	<ul style="list-style-type: none"> <li>• As part of the Class EA process Azimuth Environmental was retained to complete a natural heritage review for the project which included characterization of existing conditions, an assessment of impacts and recommendations for mitigation to address impacts. The assessment included a terrestrial and aquatic review (including fish and fish habitat). Azimuth provided direction relating to the need for DFO involvement in the project.</li> <li>• Since the final Recommended Plans propose no in-water work a DFO review is not required for this project.</li> </ul>
<b>MINISTRY OF TRANSPORTATION ONTARIO (MTO)</b>	
<ul style="list-style-type: none"> <li>• MTO identified that their permit control area is 45 m from any limit of the old Hwy 26 ROW and a 395m radius measured from the intersection of old Hwy 26 / Bay Sands Dr.</li> <li>• MTO noted that a considerable portion of the development and study areas fall within MTO's permit control area in relation to old Highway 26 (Lyons Ct.), which remains under MTO jurisdiction.</li> <li>• Any associated works within MTO permit control area will require MTO approvals.</li> <li>• Requested a copy of the drainage report.</li> </ul>	<ul style="list-style-type: none"> <li>• Notification regarding the project was circulated to MTO throughout the process.</li> <li>• The drainage report was forwarded to MTO and they responded via email June 29, 2015 that they completed a review of the drainage report and have no further concerns with the report.</li> <li>• During PIC 1 an option under consideration (Alt. 4 - 71st St. Outlet – see attached) proposed that flow be conveyed via a new storm sewer within the Highway 26 right-of-way to an existing outlet at 71st outlet. However, at PIC No. 2 this was identified as being removed from further consideration due capacity issues and an unacceptable sewer grade of 0.06% on the route to the 71st Street outlet.</li> <li>• During the course of the Class EA process it was also determined that the preferred solution for the area within the Permit to Control Area (i.e. Area 1) would be to utilize the existing 67th Street outlet and the Area 2 options are outside of the MTO Permit Control Area. As such, the Town is not proposing to send any surface water runoff to the MTO right-of-way.</li> <li>• Given the above, the MTO confirmed via email November 10, 2017 that if</li> </ul>

	<p>the proposed works are all beyond MTO permit control area (395m radius of highway intersection or 45m from highway property limit) then they have no further interest in the project.</p>
<p><b>MINISTRY OF TOURISM CULTURE AND SPORT (MTCS)</b></p>	
<ul style="list-style-type: none"> <li>• MTCS's interest in the project related to the following:                     <ul style="list-style-type: none"> <li>○ Archaeological resources, including land-based and marine;</li> <li>○ Built heritage resources, including bridges and monuments; and,</li> <li>○ Cultural heritage landscapes.</li> </ul> </li> <li>• The proponent is required to determine a project's potential impact on cultural heritage resources. MTCS recommended that the project be screened using the following MTCS checklists to determine if the project has the potential to impact cultural heritage resources:                     <ul style="list-style-type: none"> <li>○ MTCS Criteria for Evaluating Archaeological Potential</li> <li>○ MTCS Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes</li> </ul> </li> <li>• MTCS directed that all technical heritage studies and their recommendations are to be addressed and incorporated into EA projects.</li> <li>• Any technical heritage studies completed for the project are to be provided to MTCS before issuing a Notice of Completion.</li> <li>• If the screening does not identify any known or potential cultural heritage resources, or no impacts to these resources, the completed checklists and supporting documentation are to be included in the EA report or file.</li> </ul>	<p><u>Archaeology</u></p> <ul style="list-style-type: none"> <li>• Stage 1 Archaeological Assessment was completed for project by Archaeological Assessments Ltd. dated May 26, 2014 and included in appendix of ESR.</li> <li>• Stage 1 report was forwarded to the MTCS for review and MTCS provided a letter dated March 31, 2015 indicating acceptance of the report and noting that it was entered into the Ontario Public Register of Archaeological Reports.</li> <li>• A Stage 2 level of assessment was recommended for certain locations within the study area. A Stage 2 assessment will be completed during the detailed design process when the construction footprint has been confirmed.</li> </ul> <p><u>Built Heritage and Cultural Heritage Landscapes</u></p> <ul style="list-style-type: none"> <li>• The Town's Heritage Representative was consulted which confirmed that there were no designated heritage resources within the area of study. The MTCS checklist was also completed and included in the ESR. No further assessment is necessary.</li> </ul>
<p><b>NOTTAWASAGA VALLEY CONSERVATION AUTHORITY</b></p>	
<ul style="list-style-type: none"> <li>• NVCA was contacted at the project start to obtain NVCA input into the scope of work required for the Environmental Impact Study to be completed for the project.</li> </ul>	<ul style="list-style-type: none"> <li>• The scope of the Environmental Impact Study (undertaken by Azimuth Environmental) was developed in accordance with NVCA direction.</li> </ul>
<p><u>General Comments on Draft EIS Pertaining to Lands affected by drainage easement associated with Area 1 Preferred Solution:</u></p> <ol style="list-style-type: none"> <li>1. Standard breeding bird surveys are incomplete and given openings within forest whip-poor-will surveys should be undertaken as part of Species at Risk due diligence.</li> <li>2. Late May surveys for ram's head orchid should be completed as well as appropriate timing for surveys as referenced in NVCA's past discussions with Azimuth.</li> <li>3. The vegetation listing should be expanded as a number of species seen by NVCA were not identified in list including little bluestem, switchgrass, Ohio goldenrod, New Jersey tea, small fringed gentia. All of these species can be associated with rare vegetation communities and are worthy of discussion in the</li> </ol>	<p><u>General Comments on EIS Pertaining to Lands affected by drainage easement associated with Area 1 Preferred Solution:</u></p> <ul style="list-style-type: none"> <li>• These comments primarily pertain to lands associated with the drainage easement proposed for Area 1. The drainage easement will not be designed until the Bay Sands Development Area proceeds to construction. As there are other items to address before the Bay Sands Development can proceed it is not expected that the detailed design of the drainage infrastructure will occur in the immediate future. Additionally, since changes to policy and / or the natural environment can result in the removal or addition of species to and from the current SAR list the additional field surveys identified by NVCA will be deferred to the detailed design stage. NVCA recommendations have been incorporated</li> </ul>

<p>EIS.</p> <p>4. Additional field work should be completed as part of due diligence with respect to the globally/provincially rare ram's head orchid and whip-poor-will (threatened). If ram's head orchid is identified, a salvage and transplant plan should be developed and implemented. If whip-poor-will is identified, the proponent will need to work through MNRF to address this matter.</p> <p>5. Milksnake records provided by NVCA staff to Azimuth should be included in EIS.</p> <p>6. Stratum 2 deer yard on the property should be identified in the EIS and associated discussion including noting significant fragmentation associated with development and infrastructure make medium-long term function of yard tenuous at best.</p>	<p>into the mitigation section of this ESR.</p> <ul style="list-style-type: none"> <li>• Items 5 and 6 – the Azimuth report has been updated to reflect NVCA comments.</li> </ul>
<p><u>Comments Pertaining to Area 1:</u></p> <ul style="list-style-type: none"> <li>• The Bay Sands property and associated drainage should be viewed as part of a broader planning package with the property to the north. This would include maximizing protection and enhancement of area wetlands and key forest features. Suggested that it would be beneficial to understand the Town's future planning objectives on the north property to better guide drainage decisions and that the Town work toward a form of development in the upland portions to east and west while retaining a central wetland and forest block.</li> <li>• The wetlands may be connected rather than isolated and they are connected by seasonal flows from southeast to north/northwest on the property. NVCA staff has observed significant depths/flows through this property during the spring freshet. There are also smaller wetland pockets that have not been mapped in the EIS.</li> <li>• The preferred option should avoid encroachment into wetland areas north of the "checker board" area. In addition, the proposed SWM facilities should be designed to enhance the existing wetland feature and offset any losses that may occur in the "checker board" development.</li> <li>• Various measures at the lot control level, including use of Low Impact Development (LID) strategies, should be considered as part of any development and in this case perhaps an enhanced wetland may also be added to help satisfy water quality concerns.</li> </ul>	<p><u>Comments Pertaining to Area 1:</u></p> <ul style="list-style-type: none"> <li>• Azimuth and Ainley Group met with the NVCA on-site November 16, 2016 to complete a field visit to delineate the limits of the wetland habitat that is located primarily on the vacant lands to the north Bay Sands development and on a segment of the Bay Sands development Area. The limits were identified in the field and surveyed. The project wetland mapping was updated to reflect the actual surveyed limits and to identify the 30 m wetland buffer area.</li> <li>• As presented at PIC No. 2 the Preferred Design to address the Bay Sands Development Area drainage was to direct it north to Mosely Street, via to a drainage easement, for outlet at the existing 67th Street outlet. The routing was done to avoid the wetland and buffer area. Based on discussions with the NVCA this drainage channel will be constructed as a grassed channel and designed to enhance the existing wetland feature. This will allow for continued infiltration and offset that to be lost by the Bay Sands Development.</li> <li>• In addition, a stormwater management facility for the Bay Sands Development Area was proposed and was presented at PIC No. 1. However, following discussions with the NVCA and the property owner for the lands to the north of Bay Sands, it became apparent that siting the exact location of the facility at this time was premature since it would need to be established in conjunction with any development proposal submitted for the private lands located north of the Bay Sands Development Area.</li> <li>• The detailed design for the Bay Sands Development Area will involve quantifying the limits on lot coverage and infiltration and will be designed to address the requirements of the Ministry of Environment and Climate Change (MOECC) and the Nottawasaga Valley Conservation Authority (NVCA).</li> <li>• The future design for the Bay Sands Development Area will give consideration to incorporating Low Impact Development measures</li> </ul>

<p><u>Butternut Tree (Area1)</u></p> <ul style="list-style-type: none"> <li>A Butternut Tree (Endangered Species at Risk) was observed during the NVCA/Azimuth wetland delineation survey (November 16, 2016).</li> </ul>	<p>including a “treatment train” approach to reduce the impacts from the urbanization of the Bay Sands Development Area on the receiving waterbody (i.e. Nottawasaga Bay). This approach may involve a sequence of practices (i.e. lot level, conveyance and end-of-pipe controls) designed to meet stormwater management objectives and may include the following:</p> <ul style="list-style-type: none"> <li>Zoning Restrictions for the Bay Sands Development Area – establishing limits on the size of a home and the percentage of lot coverage.</li> <li>Individual On-Site Infiltration Galleries: Taking runoff from roof areas for average small rainfall events and discharging via eaves troughs to infiltration galleries on each lot with the aim of matching the annual average ground water recharge of the site in its undeveloped condition. These are a well proven method of reducing total runoff volume where sandy soils and suitable separation from water table are available.</li> <li>Other – rear yard soak away pits, grassed swales along roadway boulevards for conveyance control, oil and grit separators (pre-treatment), and filters (water quality control).</li> </ul> <p>NVCA recommendations noted above have been incorporated into the ESR prepared for this project.</p> <p><u>Butternut Tree (Area 1):</u></p> <ul style="list-style-type: none"> <li>Through discussion with the NVCA it was agreed that assessment of the tree at this time was premature since the alignment of the easement and associated construction impacts cannot be confirmed at this time. It was therefore agreed that a Butternut Health Assessment should occur at a future date if the western alignment is selected. Depending on the work proposed and on the health of the tree, a permit from the MNRF may be required in accordance with the Endangered Species Act, 2007. NVCA recommendations noted above have been incorporated into the mitigation section of this ESR.</li> </ul>
<p><u>Comments Pertaining to Area 2 – Ontario Park Property (i.e. Alt. 2C):</u></p> <ul style="list-style-type: none"> <li>NVCA confirmed via email November 27, 2017 that “the NVCA has no regulatory jurisdiction on MNRF owned lands and permits would not be required/issued by the NVCA.”</li> </ul>	<p><u>Comments Pertaining to Area 2 – Ontario Park Property (i.e. Alt. 2C):</u></p> <ul style="list-style-type: none"> <li>An NVCA permit will not be required for work taking place on the MNRF/Ontario Parks property located north of Mosely Street opposite 62<sup>nd</sup> Street as per NVCA direction in November 27, 2017 email.</li> </ul>
<b>ONTARIO PARKS (MINISTRY OF NATURAL RESOURCES AND FORESTRY)</b>	
<p>December 2014 Discussions with Ontario Parks</p>	<p>December 2014 Discussions with Ontario Parks &amp; the Class EA Process</p>



<ul style="list-style-type: none"> <li>• Discussions with Ontario Parks (MNR) in December 2014 determined that the construction of municipal infrastructure would not be permitted on the Crown lands located north of Shore Lane, opposite 62<sup>nd</sup> Street.</li> <li>• Ontario Parks indicated that they were aware of the vegetation growth at the existing 67th Street outlet and that they were looking into the problem.</li> <li>• Prefer one larger outlet over several smaller outlets since it is much easier to control invasive species at one location than several.</li> </ul>	<ul style="list-style-type: none"> <li>• Following PIC No. 2 a number of residents raised objections to the preliminary preferred design identified for Area 2. At PIC No. 1 an option identified as Alternative 2C (62nd Street Outlet) was included that proposed an outlet on the vacant property north of the intersection of 62nd Street / Shore Lane. The subject property is owned by Infrastructure Ontario (IO) and managed by Ontario Parks (division of MNR). Earlier discussions with Ontario Parks (division of MNR) in December 2014 determined that the province would not allow a new outlet at this location and this option was subsequently removed from further consideration. The channel improvement and 61st Street options were therefore carried forward and presented at PIC No. 2, with the 61st Street option identified as the preliminary preferred solution.</li> <li>• Given the lack of public support for the 61st Street option following PIC No. 2, the municipality re-opened discussions with Ontario Parks emphasizing the urgent need for an outlet to address flooding issues in the affected area. Ontario Parks (division of MNR) has since advised that while they are not in favour of any new outlets to Nottawasaga Bay they understand the challenges that the Town is facing with regards to drainage and flood control in the study area. Ontario Parks (MNR) has since confirmed that they are willing to consider a 62nd Street outlet option and work with the Town towards this solution, if it is deemed to be the preferred location through an evaluation process.</li> <li>• Further to the correspondence received following PIC No. 2 and subsequent discussions with Ontario Parks (i.e. Ministry of Natural Resources and Forestry), the Town held PIC No. 3 to revisit the potential to construct an outlet at 62nd Street (presented as Alternative 2C at PIC No. 1).</li> </ul>
<p><u>Comments Pertaining to Alternative 2B (61<sup>st</sup> Street Outlet)</u></p> <ul style="list-style-type: none"> <li>• As work for this project will be completely confined to the Town's road allowance at 61st Street, there is no land occupancy permit or EA requirement from Ontario Parks to establish the relocated outlet.</li> </ul>	<ul style="list-style-type: none"> <li>• Comment noted.</li> </ul>
<p><u>General Comments</u></p> <ul style="list-style-type: none"> <li>• Ontario Parks strongly encourages the Town to reduce the amount, and improve the quality, of storm water flowing to the beach in Wasaga Beach Provincial Park from within the municipality.</li> <li>• The flow of storm water onto the beach from municipal drains results in significant management challenges for Ontario Parks, as well as complaints and concerns from park visitors and adjacent landowners. For example, drainage outflows result in the following impacts to recreational and natural features along the shoreline:             <ul style="list-style-type: none"> <li>○ negative impacts to recreational beach uses and visitor experiences</li> <li>○ wet beach areas, which are conducive to vegetation growth resulting in an increase in maintenance/removal requests</li> <li>○ erosion of beach sand</li> </ul> </li> </ul>	<p><u>Email Response From Mike Pincevero (Town of Wasaga Beach) August 18, 2017</u></p> <ul style="list-style-type: none"> <li>• Stormwater management (SWM) of all new developments, the Town as well as the Conservation Authority (NVCA) require developers to provide "enhanced" quality control (i.e. removal of 80% of total suspended solids – TSS in the runoff) as well as match post-to-pre development volumetric flow rates to control quantity of discharge, all in accordance with Provincial (MOECC) design guidelines. This has historically been achieved via SWM ponds and oil-grit separators (OGS) as well as infiltration methods where possible pending groundwater table elevation etc.</li> <li>• The Town has promoted soakaway pits and infiltration for many years now, but even more so recently, the Town has been encouraging use of</li> </ul>

- decreased/impacted maintenance vehicle and pedestrian access along the shoreline
- public health concerns related to storm water pooled on the beach
- invasive species spread (including phragmites)
- concerns related to nutrient levels
- increased need for ongoing management/cleaning of outflows

- The evaluation of options (evaluation matrix from the PIC 2) indicates positive impacts associated with surface runoff quality, and surface water quantity and flooding. This may be true for areas within the study area; however, it is our opinion that negative impacts to both criteria, as well as negative impacts to adjacent property, will result from the proposed project on provincial park lands, which are not included in the study area. Because of the definition of the study area, the evaluation of options did not adequately consider the impacts to both the recreational and natural values of the beach within the provincial park.
- Ontario Parks strongly recommends that constructed wetlands, biofilters, swales, infiltration galleries, oil grit separators, minimizing hardened surfaces, and other methods of reducing the quantity and improving the quality of storm water that reaches the beach be incorporated into all development proposals within the Town of Wasaga Beach, including the future Bay Sands development.
- We strongly support exploring and implementing options to reduce the amount and improve the quality of storm water that reaches the beach. With this in mind, could you provide us with a proposal outlining your preferred option for us to evaluate?
- In addition, could you also provide an idea of how the Town is looking to address drainage and storm water management from future development that could affect the park, particularly development west of 45th Street? This information will help us understand the context for the current request.
- For example, do existing outlets have sufficient capacity for all currently proposed or approved development projects (refer to the Town's publicly available active development map from 2016 which outlines over 600 proposed units between 45th and 71st streets) or will additional outlets be proposed? Is there anything that can be done retroactively or for future development to reduce the amount and improve the quality of storm water flowing to the beach?
- Ontario Parks would also like to work with the Town to establish an agreement that clearly outlines roles and responsibilities for the maintenance of existing and future outlets; please let me know who within the Town would be the appropriate person to contact on this matter.

infiltration methods using low impact development (LID) techniques to try and further reduce net volume of water being discharged to the receiving water body. Methods such as infiltration galleries, low gradient grassed swales, perforated pipes, etc. will all be considered at the detailed design stage for the Bay Sands Area drainage when that development is proceeding (for surface water runoff that will lead to the existing 67th Street outlet), but we do not have an anticipated timeline for that development yet, as it will depend on the majority of owners within the checkerboard plan of subdivision to petition the Town to undertake the Local Improvement. However, the existing outlet in the 61st Street area currently drains the existing built-up 62nd Street catchment area, and it is deficient / incapable of conveying major storm event flows under today's conditions and as such, the Town needs to address this concern immediately. We are willing to work with the MNRFF to ensure that your concerns noted below will be addressed at this outlet location.

- We can implement some of the above noted LID techniques in the detailed design for the new / relocated 61st / 62nd Street area outlet, but we need to complete the EA to confirm where the outlet will be located such that we can undertake the detailed design. If the MNRFF is agreeable in principal to allow the outlet through the MNRFF owned lands north of 62nd Street North, we need to re-evaluate all factors to confirm if the preferred solution is to align straight through from 62nd Street to the Bay or using the 61st Street right-of-way as was presented at the June 22nd, 2017 public information center (PIC). The location of the outlet makes a big difference to the detailed design and what can be achieved with LID techniques, further quantity and quality control, etc. As such, I hope that you can appreciate that it is critical for us to know if the MNRFF will consider permitting the outlet to go through the MNRFF owned lands north of 62nd Street or not.
- The 62nd Street outlet location would likely work better in terms of hydraulics (because of less bends in the storm sewer system) and would provide better potential for overland flow in major storm events, which might allow us to completely decommission the existing outlet east of 61st Street, in which case, we would not be adding a new outlet, only relocating the existing one. (This can only be confirmed through detailed design however.) The 62nd Street location would also address many of the complaints / concerns received from the residents through PIC #2 with regard to impediment of access to the beach etc. should the outlet be in 61st Street right-of-way.
- In terms of your question below requesting confirmation that existing outlets west of 45th Street are sufficiently sized to accept proposed / upcoming developments, as noted above, we require all new developments to control post-development flow rates to be consistent with pre-development flow rates (from 5-year to 100-year storm events).

	<p>As such, net surface flows leaving all new developments should not be greater than they are today and therefore, no upsizing of downstream outlets would be required.</p> <ul style="list-style-type: none"> <li>In addition to above, all surface flows leading northerly towards Shore Lane between 45th Street and 71st Street are collected within a storm conveyance system for direction / control out to the Bay with the exception of the 62nd Street catchment area, which is being addressed under this current EA. The Municipal “Wheeler Drain” collects and directs surface water to the existing outlets between 45th and 61st Streets. Between 64th Street and 71st Street there is the existing 67th Street storm outlet collection system. As such, there is no need for any new outlets west of 45th Street except for this current 61st / 62nd Street area issue.</li> </ul> <p><u>Email Issued by Mike Pincevero (Town of Wasaga Beach) August 18, 2017</u></p> <ul style="list-style-type: none"> <li>Photos forwarded to Ontario Parks that illustrate frequent, historical flooding in the area and the urgency for local drainage improvements in the 62nd Street area.</li> </ul>
<p><u>Additional Ontario Parks Comments</u></p> <ul style="list-style-type: none"> <li>Ontario Parks (MNRF) is prepared to consider the use of the property at 62nd Street as a possible solution for the area drainage outlet, if it is determined to be the best option available.</li> <li>In the short term, Ontario Parks and the Town could work with Midhurst District and Infrastructure Ontario to issue a temporary agreement to enable design and EA work to begin while a more permanent disposition (easement) is pursued.</li> <li>The municipality would be responsible for costs associated with the project and meeting applicable legal requirements for the disposition of Crown resources.</li> <li>Full costs are currently unknown but could include Infrastructure Ontario service fees, survey costs, environmental assessment or consultation costs, and market value for the easement.</li> </ul>	<ul style="list-style-type: none"> <li>Comments Noted.</li> </ul>

## 8.4 Consultation with the Public

Extensive consultation was completed with the public during this process. The mailing list was provided by the municipality and derived from the Municipal Property Assessment Corporation (MPAC) data extracted from the Municipality’s Geographical Information System database. A total of three public meetings were held during this process. The following sections detail the comments received at the key contact points and the action taken to address individual concerns regarding the project.

### 8.4.1 Notice of Study Commencement

As indicated this notice was issued early in the process in June of 2014 to introduce the project and to provide background information, identify the drainage issues affecting the study area and to define the project study area. Public input was encouraged and direction provided for the submission of comments. The public comments received focused on three main aspects that included the Bay Sands Development and when it would proceed, flooding within the study area and water quality. Table 19 provides a summary of the public comments received during this period and the associated municipal response identifying how those concerns were addressed.

**Table 19: Notice of Commencement Summary of Comments**

NOTICE OF COMMENCEMENT SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
<b>BAY SANDS DEVELOPMENT</b>
<i>Please keep me informed as I would love to see the Bay Sands development servicing finally come to an end. All my family members are very pleased that you have taken initiative to complete this development after all these years. We are in full support and would like to be involved.</i>
<u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> Ainley is assisting the Town of Wasaga Beach with the Municipal Class Environmental Assessment for possible stormwater drainage improvements to provide the Bay Sands area with a suitable outlet. We expect to hold a public information meeting this fall where we will present the alternatives considered and their relative impacts and benefits. Once we have the PIC scheduled we will notify all that are on our contact list. Please note that resolving the drainage outlet for the Bay Sands Development is just one step of many that need to be completed before development can proceed but as you and others have noted, they are pleased that the Town has taken the initiative to get things started.
<i>Own a lot in Bay Sands. What is the reason behind the study besides the research for a suitable drainage system? Specifically, is it for the purpose of future development or anything else of that nature?"</i>
<u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The Class Environmental Assessment process is in the early stages and we have no detailed information for you at this time. Your name has been included in the project contact list. Our tentative project schedule is to have a Public Information Centre in mid September. Notice of that meeting will be issued to all interested parties. The focus of the study is on the servicing the drainage requirements of the Bay Sands Development Area. The alignment of the various

**NOTICE OF COMMENCEMENT**  
**SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

drainage alternatives considered will pass through developed and undeveloped lands. The impacts on those lands and their existing and future deficiencies will need to be considered in evaluating and rating the various alternatives but the focus is the Bay Sands Development Area.

***Excited to see a study initiated which would lead to the development of the area infrastructure and eventual lot services. For some of us who have owned these properties and continued to pay annual taxes for many years, this is a most exciting development and we are anticipating that progress will continue, leading to our ability to finally build homes on these lots.***

**RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:** The Class Environmental Assessment process is in the early stages and we have no detailed information for you at this time. Your name has been included in the project contact list. Our tentative project schedule is to have a Public Information Centre in mid September. Notice of that meeting will be issued to all interested parties. This study will address stormwater drainage for the Bay Sands Development Area. This is one of several services that will be required for the development. This study was initiated by the Town of Wasaga Beach. It is our understanding that upon the successful completion of this study the Town will proceed with studies of other servicing requirements for this area. Preliminary servicing studies have been carried out by the Town for water supply and sanitary sewer servicing. At this time I am not certain of the structure of the purchase agreements for lots within Bay Sands and the methodology to be applied for financing the eventual servicing. We will suggest to the Town that this information be included as background information in the Environmental Study Report that will be prepared as part of this project.

**FLOODING**

- ***Resident in the area of 61st Street South where there is a serious water problem. Sump pump runs continuously creating an environment that causes mold to grow on surfaces. Will this improvement alleviate the mold and water problem. Can this project be extended to include 61st Street South.***
- ***The lot behind my home and the forested area beyond (much of which is the future Bay Sands development) have a substantial amount of standing water throughout April – June each year. The ‘mini lake’ behind is usually about a foot deep and spans a few hundred meters. The sump pump runs constantly during this time, until the standing water dries up in the warmer summer months. It is understood that the EA is designed to build the storm drains to prevent flooding, but we are concerned that substantial further development in this area will further reduce the flow of groundwater around our home.***

**RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:** The Class Environmental Assessment process is in the early stages and we have no detailed information for you at this time. Your name has been included in the project contact list. Our tentative project schedule is to have a Public Information Centre in mid September. Notice of that meeting will be issued to all interested parties. We will be considering several drainage options, one of which may involve 62nd Street South and perhaps 61st Street North. At this time we are not investigating drainage outlet options that are along 61st Street South. Please note that the study is to review surface water runoff which may have little or no impact on groundwater levels. It is the groundwater level that is frequently activating the sump pump that you mention in your e-mail to us.

***In the area of 67th and Shore Lane there has been flooding two of the past three winters and even now, at the start of July. Sump pump cycles every few minutes with pump replaced every two year. How will the options affect nearby properties.***

The Class Environmental Assessment process is in the early stages and we have no detailed information for you at this time. Your name has been included in the project contact list. Our tentative project schedule is to have a Public Information Centre (PIC) in mid September. Notice of that meeting will be issued to all interested parties. We will be considering several drainage options, one of which may involve 67th Street and portions of Shore Lane. Please note that the study is to review surface water runoff which may have little or no impact on groundwater levels depending on the relative elevations of the proposed storm sewers and groundwater level. It is the groundwater level that is frequently activating the sump pump that you mention in your e-mail to us. The drainage alternatives considered will be presented at the PIC and we encourage you to attend and provide input.

***I would like to make certain that as part of the review that the continual flooding of the bottom of 63rd street whenever there is a storm is addressed in whatever work is done. This has been a problem for several years and has not been addressed by the town. Now that this area is covered under the EA being done, I trust that now is the time to deal with this ongoing problem.***

**RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:** Comment Noted. Respondent added to project contact list.



**NOTICE OF COMMENCEMENT  
 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

**WATER QUALITY**

- *67th Street Outlet: There is a new culvert at the foot of 67th Street to facilitate drainage in the immediate area and a culvert which empties runoff along Highway 26 into the bay at the foot of 70th Street. This larger drainage outlet, during heavy runoff, muddies the swimming area water as the current carries the effluent close to the shore towards the east in the bay through the swimming area extending past 64th Street. This runoff is a milky white plume spreading out. Chemical fertilizer off the fields and residue from Highway 26 asphalt and car use are a concern.*
- *An additional concern with respect to the eventual improvements is that one or both of these exit points may be used first to drain the wet land behind the former Burns Avenue School and later to handle subdivision storm water runoff coming from an ever increasing amount of asphalt road surface. Both these effluent outlet points at the bay are adjacent to a well used swimming area during summer months. As tax-paying residents we trust that the water quality and clarity will be maintained using best storm water management practices that include judicious and limited use of drainage outlets near public swimming areas.*
- *Concerns about any more run off going into the Bay and causing pollution or further flooding the way it did running down 58th street several years ago.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Comment Noted. Respondent added to project contact list.

**8.4.2 Public Information Centre No. 1**

During Phase 2 of the Class EA process, an informal drop-in style Public Information Centre (PIC) was held November 6, 2014 at the Wasaga Beach RecPlex from 7:00 p.m. to 9:00 p.m. to provide details regarding the project. A total of eighteen exhibits were presented that included information pertaining to the deficiencies affecting the study area, the Municipal Class EA process, existing conditions, the alternative solutions under consideration to address the deficiencies, and the evaluation of these alternatives. Plan and profile drawings of the proposed alternatives were also available for review. Members of the Project Team were in attendance to answer any questions.

The meeting was well attended. While only forty-four individuals signed-in, the actual attendance was estimated to be closer to seventy. Those in attendance included homeowners from 61st Street, 62nd Street, and Shore Lane as well as property owners from the Bay Sands Development Area and residents who use their Wasaga Beach property on a more seasonal basis. Following the PIC, a total of twenty-five comments were submitted. The comments primarily focused on the Bay Sands Development Area, water quality, the PIC material, aspects of urbanization, flooding, the Provincial Park and increased flows. Table 20 provides a summary of the public comments received during this period and the associated municipal response identifying how those concerns were addressed. A copy of the PIC exhibits, the public comments submitted during this period and the municipal responses are included in

Appendix 'F' of this report.

**Table 20: Public Information Centre No. 1 Summary of Comments**

PUBLIC INFORMATION CENTRE NO. 1 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
<b>BAY SANDS DEVELOPMENT</b>
<p><b><i>What services are being proposed for the development at this time? I assume the 104 property owners own landlocked, un-serviced property.</i></b></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> There have been no preliminary designs for the development but considering the size of the lots it appears that municipal water supply and private septic systems would have been proposed as similar to other development in the area for that period. At this time an urban road cross-section with municipal water and sanitary sewer (full municipal servicing) is contemplated but there has been no preliminary design other than general grading reviews to identify gravity sanitary sewer and storm sewer constraints / alternatives. Town policies stipulate that new development is to be connected to municipal sewer and water.</p>
<p><b><i>What has brought the development to the forefront after 40 years or have there been ongoing discussions regarding the lands.</i></b></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> There are plans for road improvements in the coming years along the 62nd Street corridor and portions of Shore Lane. The detailed design of the Shore Lane urbanization is dependent on the outcome of the Bay Sands Drainage Class EA. The basic servicing requirements for Bay Sands Development are being reviewed to identify what accommodation needs to be considered.</p>
<p><b><i>What responsibility does the Town have? What responsibility do the property owners have?</i></b></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The Town has, from time to time, received inquiries from property owners within the Bay Sands Development Area regarding the status of the development. The Bay Sands Development Area is designated as Residential in the Town's Official Plan. The individual property owners within the Bay Sands Development Area are taxpayers and the Town of Wasaga Beach is trying to assist the owners in advancing the possibility of building on their lots; however, the costs associated with the design and development of the each property will ultimately be borne by the individual lot owners. The Town does not have a responsibility to the area until a petition for a local improvement is received. The Class Environmental Assessment planning process currently being completed to address storm drainage will address one of the deficiencies affecting the Bay Sands Development Area and will assist the municipality in being one step closer to developing these lands in accord with the Town's Official Plan. However, following completion of the current Class EA process there remain other servicing issues that will need to be addressed.</p>
<p><b><i>A definition of "checkerboard type development" and a little history of the Bay Sands Development and how it applies to the current situation.</i></b></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The Bay Sands Development Area of Wasaga Beach was established circa 1970 using a "checkerboard" pattern of land ownership and occurred prior to the establishment of a standard land use planning process. Today, the Planning Act outlines the planning process to be completed for subdividing property which ensures that a development can be properly serviced prior to issue of draft plan approval. This was not the case for the Bay Sands Development Area. As such, the lots are individually owned and property owners are collectively responsible for the development of the subdivision including the design and construction of municipal services. The individual lot owners are responsible to organize themselves, raise the funds and contract the work. However, one way that this can be accomplished is for a sufficient percentage of the owners to apply to the Municipality to have the works completed as "Local Improvements" and to reimburse the Town for costs incurred. Depending upon the completion of a detailed design and the property owners organizing themselves to apply for the works to be completed as a "Local Improvement" the subdivision grading, road, drainage, SWM Pond and other services could be constructed as one project or contract which would allow for the eventual development of the individual lots.</p>

PUBLIC INFORMATION CENTRE NO. 1 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
<b>WATER QUALITY</b>
<i>Should not be increasing the number of outlets to the Bay. Should use existing outlets.</i>
<p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> Some of the alternatives utilize existing outlets and some propose a new entrance. In general the preference would be to use an existing outlet but other factors such impact on adjacent environment and lands, property acquisition and cost must be considered as well. The EA process provides an opportunity to consider and evaluate a variety of solutions.</p>
<p><i>There is already a large channel for runoff which enters our swimming area a mere four streets to the west of the new culvert (beside 71st Street, the campground road). The current carries heavy runoff from this channel, once it clears the Point, back into our swimming area (photos attached) where large areas of white inflow are visibly carried eastward and inward by the current. Agricultural fertilizers, vehicle residue and PCB's which leach out of the asphalt in small quantities with every rain already end up in the water where we swim. It would be unhealthy to create another large-capacity runoff outlet at 67 Street so close to the Stayner road outlet at 71st Street.</i></p>
<p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> We note that the Bay Sands development area is within the 67th Street catchment area and the existing outlet at that location was sized to accommodate this upstream area. The photographs provided and the images from Google Earth show the plume of silt laden water entering the Bay at 71st Street but we note that it drains a larger area and we are not aware of any quality control features applied to that catchment area. Quality control features will be included in the Bay Sands development The design of the storm sewer drainage and Storm Water Management Pond for the Bay sands development will include water quality control features and will attenuate peak flows to predevelopment rates. The combination of zoning, individual lot infiltration measures, stormwater management pond and oil grit separators develops a layered solution to the control of runoff volume and quality.</p>
<i>Is the water quality of the effluent an integral part of the EA?</i>
<p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> In so far as it identifies the agencies and standards that will have to be met and the strategy to be applied to achieve those results. All the alternatives provide a stormwater management pond for the Bay Sands development and all but 2A also have an oil grit separator prior to discharge to Nottawasaga Bay.</p>
<i>What testing exists for quality of water? What does it test for and which contaminants can be monitored?</i>
<p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> Typically the stormwater management pond quality control is tested by sediment load and turbidity test. When the sediment bay is cleaned out the sediment is generally tested for road salts, heavy metals, biological oxygen demand (BOD) and petroleum products to define the proper disposal requirements for the sediment.</p>
<i>I learned at the Nov. 6th meeting that when sediment is dredged from a storm pond, it must be taken away for special treatment before being discarded. If such precautions must be taken, why is it alright to load up this small elbow of the Bay which has less capacity to clear and dilute sediment than a coastline exposed to strong wave action and current such as is found at the 62nd Street alternative?</i>
<p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The sediment pond sections of stormwater management ponds prevent the sediment from proceeding further downstream. Many of the typical pollutants attach to the sediment particles and are retained by the sediment as it settles out of the water column. Testing is carried out to determine the extent and type of pollutants contained in the sediment for proper disposal.</p>
<b>PIC MATERIAL</b>
<i>Alternative 4 was dismissed as a preferred option but this seems to contradict the 10 year Capital Works forecast for storm drain projects slated for 2018. Perhaps this alternative should be pursued further.</i>
<p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The removal of Alternative 4 from further consideration as a Bay Sands drainage outlet does not adversely affect the 10 Year Capital Works forecast. The route for Alternative 4 was selected so that the</p>

**PUBLIC INFORMATION CENTRE NO. 1**  
**SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

route could be constructed on municipal right-of-way. The use of grade would be slightly more efficient if the route went straight north to Mosley Street and then westwards. If the Mosley Street route to 71st Street was taken the overland flow route for large storm events would still need to be addressed and that route would be along 67th Street

*PIC information does not recommend a preliminary preferred solution, however the comment sheet provided suggests that both alternatives 3 and 2B are preliminary preferred solutions. Minimal justification is provided for choosing these alternatives.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The comparison of the impacts and benefits of the various alternatives are presented on Public Information Centre (PIC) boards 15 and 16. At the PIC it was noted that Alternatives 3 and 2B are the preliminary preferred solutions as rated by the project team. The PIC provides us with the opportunity to hear the opinion of other people and agencies about what they consider important aspects. The selection of a preferred alternative needs to take those comments into consideration and may change the rating of the alternatives.

**Alternative 3:**

- *The evaluation matrix provides a comparison of alternatives, which appears to suggest that Alternative 3 would be the best alternative from a physical, social and economic perspective. Alternative 3 scores poorly under natural environment, however, the whole area west of 62nd Street and south of Mosley St. is designated for residential development in the Official Plan. The majority of this area including the Bay Sands area is regulated by the NVCA. The area affected by the proposed drainage channel is insignificant relative to the area proposed for future development and will be disturbed in any event as development proceeds. As such, the apparent disadvantage of Alternative 3 relative to Alternative 2B and 2C is exaggerated in the matrix and should be modified.*
- *Alternative 3 also provides significant benefit to the vacant lands south of Mosley Street by providing stormwater collection and treatment capacity that will be required for future development. This benefit does not appear to be reflected in the matrix.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Although the Bay Sands property is zoned residential the land between it and Mosley Street is not. The comparison of natural environmental impact is based on area affected and the quality of that area. Your point that a portion of it is open, in theory, to development is well taken but is not supposed to influence the comparison of that particular aspect.

*Alternative 2B: Based on the comment sheet this alternative appears to be favoured over Alternative 2C, although it has several technical, economic and social disadvantages. Alternative 2B would appear to be the most expensive alternative. It requires the construction of an additional 100 metres of large diameter storm sewer and appurtenances along Shore Lane, with associated disruption to existing services and utilities. The construction of 70 m of large sewer from Shore Lane to the beach and will be considerably more difficult, expensive and disruptive along 61st Street than 2C alternative through the vacant lands north of 62nd Street.*

*Alternative 2B: Directing overland flows from 62nd Street along Shore Lane to 61st Street is an unacceptable risk to the properties in this area. 61st Street does not provide a positive overland outlet to the Bay. A dune running parallel with the shoreline causes 61st Street to rise approximately 750 mm at the north end of the street. This effectively prevents overland flow to the Bay. The provision of a large inlet structure at the intersection of Shore Lane and 61st Street would require a much larger sewer to the outlet and would be subject to blockage. A more effective and less risky approach would be to grade the vacant land north of 62nd Street in conjunction with Alternative 2C to allow overland flows to continue north to the Bay unimpeded. This would be similar to the approach used at 57th, 58th, and other outlets along Shore Lane.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: One of the key advantages of Alternative 2B is that it is all within a municipal right of way. Alternatives 3 and 2A require crossing private property and Alternative 2C requires the MNRF property. If the landowners do not want to participate in the project then it becomes the most viable solution.

**URBANIZATION**

*Presumably the internal Bay Sands is designed to exit the east end of the development and the alignment of the proposed storm sewer is north on 62nd Street to Shore Lane.*

**PUBLIC INFORMATION CENTRE NO. 1  
 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: A preliminary analysis of various grading and servicing strategies has been completed. For the alternatives that use 62nd Street as a drainage outlet the Bay Sands drainage would be directed out the east side along the proposed road connection to 62nd Street.

***There is no mention of a change in the alignment of the sewer between 62nd and 61st Street.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The alignment of the proposed storm sewer along Shore Lane between 62nd and 61st Street is shown on the plan and profile drawing for Alternative 2B

***There is no mention if 62nd Street, north and south, is to be reconstructed to urban standards as proposed in Alternates 2(a) and 2(b).***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: 62nd Street north and south of Mosley would be reconstructed to an urban standard for Alternatives 2A, B and C. The plan and profile drawings and typical cross-sections show the addition of storm sewers and curb.

***If the intent is to construct an urban standard, will this work be performed under a Local Improvement program.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: At this time there is no costing formula for the project but in general a portion for the urbanization would be through the road improvements budget and possibly Provincial / Federal grants.

***Have discussions been held with the current owners of the private lands located between Mosley Street and the Subdivision regarding the feasibility of the proposed sewer crossing their property? Who would own this sewer? Who would be responsible for the cost of installing and maintaining the same?***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Alternative 3 proposes an outlet to the south of the Bay Sands development generally along the alignment of 67th Street. Some modification will likely be necessary to accommodate the needs or expectations of that landowner. A preliminary meeting has been held with the landowner’s representative and no agreement has been made on property purchase or easements. If the sewer and Stormwater Management Pond were installed as shown for Alternative 3 they would need to be on a municipal right-of-way or easement and the cost of installation and property purchase would be borne by the Bay Sands lot owners. Maintenance of the sewer and Stormwater Management Pond would eventually rest with the Municipality after assumption of the Bay Sands development.

***Wasaga Beach’s published 10 year forecast for storm sewer construction includes for a storm sewer on 62nd Street complete with minor curb/storm sewer work on the last remaining section of Shore Lane where curbs have not been installed. Would this work on Shore Lane be included in Alternate 3?***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Reconstruction of a segment of Shore Lane is not contemplated as part of Alternative 3 but a portion is included under Alternatives 2A and 2B.

***Any “Retention Pond” or drainage infrastructure built on the Ministry land at 62nd Street North, following Alternative 2C, would have a major impact on the valuation of adjacent properties. The locating of “Retention Ponds” well away from the beach should be an imperative for all of us with a long history of care and respect for the safety, prosperity, and visual appeal of Wasaga Beach.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Based on further discussions with the Ministry of Environment and Climate Change (MOECC) and Ontario Parks the proposed quality control plan (Retention Pond) is no longer being contemplated. If this route was selected as an outlet it would simply have an oil grit separator as currently exists on the 67th Street outlet. The other alternatives have retention ponds to the south of Mosley Street.

***Concerned about any proposal that involves construction of infrastructure on either the north or south side of Shore Lane.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Alternative 2C included a Stormwater Management (SWM) Quality Pond on the north side of Shore Lane before the storm water is discharged to the Bay. At the time we wanted to show an alternative that provided additional quality control above that provided by an oil grit separator. The Bay Sands development will have a quality control aspect designed into the SWM Pond either within the Bay Sands development or just north of it. The



**PUBLIC INFORMATION CENTRE NO. 1  
SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

existing runoff along the 62nd Street corridor does not have that feature and we saw it as an opportunity to provide improved quality prior to discharge to the Bay. Discussions with the Ministry of Environment and Climate Change (MOECC) and Ontario Parks following the Public Information Centre (PIC) indicate that the lands will not be made available for the additional quality control feature but there may be a corridor that can be used as a storm sewer outlet with oil grit separator as proposed on the other outlets and as exists on the 67th Street outlet.

***Is it possible to pipe storm water to the nearby Lamont Creek which would then carry the water to the Nottawasaga River? Understood that Nottawasaga has suffered from low flow in recent years.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: This would be a transfer of drainage to another catchment area which is not recommended.

***Was a storm water pipe laid down when Mosley Street was widened from Main End to 45th Street? If so, could this be extended to 62nd Street?***

A storm sewer was not part of the Mosley Street works.

***Suggested at information session that significant grading of the street would be required to implement the 61st Street option. This is going to be a major issue because the grading rises substantially from Shore Lane, peaking at the end of the road before descending toward the Bay. This will cause a grading issue for the driveways of 61st Street north (3 houses) plus the property to the west which will have a further steep embankment along the property line. This will also alter the character of the street which is a major through fare for pedestrians to use to access the beach as well as for the numerous children who use the street to play.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The impacts of Alternative 2B (61st Street Alternative) and comparison with other alternatives is presented in the Public Information Centre display material on boards 15 and 16.

**FLOODING**

***There is currently water ponding that occurs each spring on the north side of Bay Sands proposed development up to the south side of Mosley. We are concerned that without adding drainage through 67th Street, the flooding in this area would increase when the Bay Sands homes further reduce the opportunity for groundwater to flow/absorb naturally.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Alternative 3 provides for a storm sewer outlet (controlled to predevelopment rates) along 67th Street to Shore Lane where it would be connected to the existing storm sewer outlet that currently crosses Shore Lane and leads to the Bay. Alternatives 2A, B and C would route their drainage to 62nd Street therefore the flooding on the south side of Mosley Street would not be increased.

***Alt. 2b would not address the existing water ponding that occurs north of the proposed Bay Sands Development.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: It would provide some relief because a portion of the Bay Sands area which currently drains to those lands would be directed to 62nd Street controlled to pre-development rates.

***Will the increase of water flow make the beach worse than it is? It is wet, and has become impassable due to plant life and standing water. This is a huge change over the last 30 years.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The runoff from the new development will be controlled to the predevelopment rate and the stormwater management pond will also provide quality control. We do note that there are ponding areas or backwater areas along the beach. Additional attention may be required in the detailed design of any outlet to ensure that the discharge to the Bay is not trapped behind a portion of undulating beach grade.

PUBLIC INFORMATION CENTRE NO. 1 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
<b>PROVINCIAL PARK</b>
<p><i>What discussions have taken place with MNRF? This will be a huge impact on the provincial park.</i></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The Ministry of Natural Resources, Ministry of Environment and Ontario Parks have all been contacted regarding the project. Discussions with these agencies will continue throughout this process. Recent discussions with the MOECC and Ontario Parks have led to the deletion of the quality control pond on the north side of Shore Lane from Alternative 2C.</p>
<b>PUBLIC CONSULTATION</b>
<p><i>How was the comment sheet made available to all property owners within the areas of proposed drainage routes? Were copies mailed to property owners?</i></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> All affected property owners were issued a notice prior to the Public Information Centre inviting them to attend and to provide input regarding the project. Comment sheets were made available at the Public Information Centre. The mailing list for the project was developed from the municipality's Geographical Information System (GIS) database. All property owners within the project study area as delineated in the notices issued for the project were contacted as part of this process. In addition, a copy of the comment sheet as well as other PIC material was placed on the Town's website following completion of the PIC.</p>
<b>INCREASED FLOWS</b>
<p><b>Redevelopment of the Bay Sands area will dramatically change the volumes of storm water which will now flow through our community. The beach area is clearly under some stress. The MNRF continues to protect the vegetation and particularly the invasive phragmites that have overtaken this stretch of beach. The vegetation impedes evaporation and absorption and the areas in front of some of our homes resemble wetlands. The volume of water that will flow to the Bay will, by very definition of this project, increase and add to the standing water problem that currently exists.</b></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The design of the storm sewer drainage and Storm Water Management Pond will attenuate peak flows to predevelopment rates. But as you noted this does not fully control overall volume. The volume of runoff can be addressed only in part by the SWM Pond. Other features such as on site infiltration galleries on the individual lots will also be implemented to help maintain the ground water balance. Infiltration galleries are a well proven method of reducing total runoff volume where sandy soils and suitable separation from water table are available. Their key function is to take the runoff from roof areas for the average small rainfall events and discharge them via the eaves trough to infiltration galleries on each lot in the Bay Sands development. The aim is to match the annual average ground water recharge of the site in its undeveloped condition. However during large storm events we acknowledge that there may be an increase in volume for that event, though the flow rate is maintained to predevelopment rates. Through zoning restrictions for the Bay Sands development, limits can be set on the size of a home and percentage of lot coverage. The combination of zoning, individual lot infiltration measures and SWM Pond develops a layered solution to the control of runoff volume. At this time design of the subdivision has been limited to general servicing strategies. Eventually the design will include quantifying the limits on lot coverage and infiltration and these measures will be designed specifically to address the requirements of the Ministry of Environment (MOE) and the Nottawasaga Valley Conservation Authority (NVCA) regarding maintaining the existing ground water balance.</p>

### 8.4.3 Public Information Centre No. 2

The municipality hosted a second Public Information Centre on June 22, 2017 using the same informal, drop-in style format as the first PIC. A total of 25 exhibits were displayed that provided similar background information as presented at PIC No. 1 (i.e. the Class EA process and the problem / opportunity), but the meeting identified selection of the Preferred Solution (during Phase 2 of the Class EA process) and presented the design options developed to implement the Preferred Solution and the evaluation completed.

It is important to note that PIC No. 2 also highlighted that initial attempts to combine the Bay Sands Development Area with the 61st Street catchment area was not feasible since the existing outlet has insufficient capacity, so two outlets would be required. The PIC material identified that the study area was divided into two drainage areas as follows:

- AREA 1 67th Street drainage area and the Bay Sands Development drainage area.
- AREA 2 61st Street Drainage Area.

PIC 2 therefore identified two Preferred Solutions, one for Area 1 and a second for Area 2. Two design options were subsequently presented for Area 1 and Area 2.

A total of 29 people signed in. While the meeting was scheduled to start at 7:00 p.m. individuals began arriving at 6:30 p.m. Attendees were primarily land owners within the project study area including Bay Sands Development Area property owners and residents affected by flooding in the area of Shore Lane and 63rd Street. There were no representatives from agencies or from Indigenous communities in attendance at the meeting.

A total of 22 comments were received following PIC No. 2. Key concerns included the following:

- Existing flooding issues on 63<sup>rd</sup> Street;
- Potential impacts to area wildlife at the existing channel (i.e. 1760 Shore Lane);
- Too many outlets so close to each other;
- The need for Bay Sands Development Area landowners to organize themselves as a group;
- Potential water quality impacts to Nottawasaga Bay;

- Increased quantity of water drainage to Nottawasaga Bay;
- The use of Low Impact Development measures;
- Potential impacts associated with an outlet at 61st Street (i.e. work proposed, beach access, safety concerns, beach aesthetics, restoration post construction, wave action and erosion potential, impacts on swimming, impacts to adjacent properties, driveway access, grading, overland flow, noise impacts, and stagnant water and invasive vegetation overgrowth associated with a new 61<sup>st</sup> Street outlet);
- Why is a 62<sup>nd</sup> Street outlet no longer under consideration; and
- The urbanization of 63rd Street and 61<sup>st</sup> Street and potential property requirements.

Based on the comments received following this public meeting it became clear that there were six main groups of respondents as identified below:

- Residents in proximity to the proposed 61<sup>st</sup> Street outlet location;
- Residents in proximity to the proposed 62<sup>nd</sup> Street outlet;
- Residents in proximity to the proposed 67<sup>th</sup> Street outlet;
- Those not in favour of an additional outlet at any location;
- Bay Sands Development property owners; and
- Residents affected by flooding.

At PIC No. 2 the solution for Area 1 included a proposed outlet at 61<sup>st</sup> Street within the existing municipal right-of-way. As such, the majority of comments received were from residents living in proximity to 61<sup>st</sup> Street. A petition was started by area residents opposed to an outlet at this location. Bay Sands Development property owners, who have been paying taxes for years, were supportive of the Preferred Solution. Those affected by ongoing flooding summarized the issues that they have had to deal with for many years relating to flooding and outlined their support for the Class EA to be finally be completed. Some area residents expressed their concerns with water quality and advised that they were not in favour of any new outlets being constructed in the Town of Wasaga Beach.

Given the lack of public support for the 61st Street option following PIC No. 2, the municipality re-opened discussions with Ontario Parks regarding a potential outlet on their property located north of the intersection of Shore Lane and 62<sup>nd</sup> Street. The municipality emphasized the urgent

need for an outlet to address flooding issues in the affected area. Ontario Parks (division of MNRF) indicated that while they were not in favour of any new outlets to Nottawasaga Bay they understood the challenges that the Town was facing with regards to drainage and flood control in the study area. Ontario Parks (MNRF) confirmed that they would be willing to consider a 62nd Street outlet option and work with the Town towards this solution, if it is deemed to be the preferred location through an evaluation process.

Following discussions with Ontario Parks, the municipality decided to host a third Public Meeting to inform the public that a design option for a 62<sup>nd</sup> Street outlet was being considered and to provide an update regarding discussions with Ontario Parks. A response to comments received following PIC No. 2 was put on hold until PIC No. 3 was completed and the comment period following that meeting concluded. As such, please refer to Table 21 for a summary of the comments received during PIC No. 2 and 3 and the associated municipal response identifying how those concerns were addressed. A copy of the PIC No. 2 material is included in Appendix 'G' of this report; however, the comments and associated municipal response are included with the PIC No. 3 material in Appendix 'H'.

#### **8.4.4 Public Information Centre No. 3**

Public Information Centre No. 3 was held on November 16, 2017. A total of 17 exhibits were displayed that included background information as presented at PIC No. 2 as well as final selection of the Preferred Design for Area 1 and the three options under consideration for Area 2. The material included an update following PIC No. 2 and an explanation why a third PIC was needed for this project. Comment sheets were provided and the public was advised that the PIC material was available for download from the Town's website the day following the PIC.

A total of 31 people signed in. While the meeting was scheduled to start at 6:00 p.m. individuals began arriving at 5:30 p.m. Attendees were primarily land owners in proximity to the proposed 61<sup>st</sup> Street and 62<sup>nd</sup> Street outlet, Bay Sands Development Area property owners and residents affected by flooding in the project area. There were no agency or Indigenous community representatives in attendance at the meeting.

As with the previous meeting, Bay Sands Development Area property owners and those enduring flooding were supportive of the design options and were eager for the process to be



completed. While 61st Street residents were happy to see an alternative location for the outlet, some of those living in proximity to the 62nd Street outlet were not in favour of the new outlet location.

A total of 15, very lengthy comments were submitted following PIC No. 3 that focused on the following key concerns:

- Water quality;
- Water quality monitoring;
- The use of Low Impact Development measures;
- Flooding;
- Beach erosion;
- Prefer no new outlets;
- Reasons why a 62<sup>nd</sup> Street outlet is not a favourable outlet location (i.e. Ontario Parks / MNRF mandates, natural heritage features, loss of vegetation, beach landscape and aesthetics, the need for an easement, costs, negative precedent, property values);
- Reasons why a 67<sup>th</sup> Street outlet is not an ideal location for an outlet;
- Support for a 62<sup>nd</sup> Street outlet; and
- Support for a 61<sup>st</sup> Street outlet.

Table 21 provides a summary of all comments received following PIC No. 2 and 3 and the municipal response which demonstrates how the concern was addressed during the Class EA process. Given the large volume and very detailed comments received following both PICs, the comments have been summarized and categorized based on topic.

**Table 21: Public Information Centres No. 2 and 3 Summary of Comments**

PUBLIC INFORMATION CENTRES 2 & 3 SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS
BAY SANDS DEVELOPMENT AREA
<ul style="list-style-type: none"> <li>• <i>Could the Town provide assistance in organizing a Bay Sands Development Area landowners group?</i></li> <li>• <i>Would like to see this move forward. Would it be possible to create a sign-up sheet where owners can connect themselves? Maybe through City website?</i></li> <li>• <i>Thanks for helping Bay Sands with the watershed problem. It's a long time issue. We have long awaited the potential to petition for development.</i></li> <li>• <i>I am extremely in favour of this EA being approved using the preferred route proposed. Furthermore, I propose that the Town facilitates organizing a landowner group. You can do this via sending out letters or emails and creating a website registry. I am more than willing to run and lead the group. If you want I can set up a meeting with Township to help organize and facilitate this process.</i></li> </ul> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> A number of residents that attended the Public Information Centres for this project expressed a desire to organize themselves as a group recognizing that a minimum of 66.7% of the property owners would need to petition the Town in order to proceed under the Local Improvements Act. Many expressed difficulty in completing this task as they do not have access to property owner contact information. The Town is willing to issue a letter to all Bay Sands Development Area property owners to advise that a Bay Sands Development Area Landowners Group is being formed and to provide contact information for those who are interested in being part of the group and assisting in moving the development forward. The Town will give further consideration to issue of the aforementioned letter once the Class EA process is complete.</p> <p><b><i>Objections to runoff from the Bay Sands development draining to the 67th Street Outlet.</i></b></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> A drainage strategy needs to be established before the Bay Sands development can proceed and drainage will need to be directed to Nottawasaga Bay which is the current destination of that runoff. While we recognize resident concerns associated with the recreational use of the beach and water quality we also have a responsibility to address the safety concerns of residents and to address an ongoing flooding problem. Through the Class EA process we have attempted to find a solution that will address the problem(s) but also result in the least amount of impact to the area environment (physical, natural, socio-economic and cultural). We also have to consider Bay Sands property owners who have had a Plan of Subdivision in place since the seventies.</p> <p><b><i>If it is a Bay Sands project then an outlet at 62nd Street is not wanted. There are too many outlets already.</i></b></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> This is not specifically a Bay Sands project. This Class EA was initiated to address drainage deficiencies affecting the project study area. At the beginning of the study one alternative under consideration was to combine the Bay Sands Development Area with the 62nd Street corridor and correct two deficiencies with one plan, but with further study this was found to be unworkable. As it is a stormwater project, a solution cannot be determined by simply focusing on only the Bay Sands Development Area. It is necessary to look at the overall drainage area and the other problems that need to be addressed so that it can be dealt with in a comprehensive manner. As presented at PIC No. 2 and 3, drainage for the Bay Sands Development Area (i.e. Area 1) is going to be directed to the existing 67th Street outlet. Area 2 is going to be directed to the 62nd Street outlet which does not include the Bay Sands Development Area. The proposed 62nd Street outlet will assist in alleviating the ongoing flooding that occurs in that area.</p> <p><b><i>The needs of new development and solutions to drainage issues must not take precedence over the character of the Beach as it is. This new outlet will assuredly accommodate even more development in the future, capturing the urban runoff from an increasing number of homes to be developed as the Town continues to grow. Destroying what little natural, virgin Provincial Park space remains is not the answer to this drainage problem. This proposal appears to be a result of a development project and seems to shift the cost and headache of water drainage management from the developer of Bay Sands to local residents.</i></b></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The Bay Sands development is not a new development. The Bay Sands Development Area was established circa 1970 and was approved at a time when today's standards of land use planning did not apply. Outlets are governed by a catchment area and are designed to accommodate a specific capacity. The 67th Street outlet was designed with the capacity to accommodate the Bay Sands Development Area. The drainage from Area 1 as presented at both PIC No. 2 and 3 will flow to the existing 67th Street outlet.</p>

**PUBLIC INFORMATION CENTRES 2 & 3**  
**SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

*What part of the profit from the developer of the new subdivision and from the new property taxes for the town generated by that development will be dedicated to restoring the trees, gardens and fences that will be destroyed during this "improvement"?*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Bay Sands Development Area was approved at a time when today's standards of land use planning did not apply. This development was established circa 1970 using a "checkerboard" pattern of land ownership with each of the 104 lots owned by a separate individual so there is no one 'developer'. The affected property owners have also been paying taxes in the municipality since the seventies. As identified in Exhibit 22 of PIC No. 2 material, the cost of the outlet improvements for the Bay Sands Development Area will be covered 90% by Development Charges and 10% by taxation. Costs associated with improvements to the 62nd Street outlet will be assigned to the Town's capital project budget.

**BEACH AESTHETICS**

*Outlets are an eyesore to the beach and destroy the natural setting.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Landscaping can be utilized to soften the visual impact of the outlet structure. This Class EA will recommend that this be further investigated during the detailed design of the outlet structure.

*Storm sewer outlets are ugly. The shoreline at the west end of Wasaga Beach has been scarred by outlets at 57th Street at 71st Street. Would Town council approve three sewers within a 10 block span at beach areas 1, 2 or 3? Please explain why different aesthetic standards are being applied to the west end.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The east end of Town including beach Areas 1 to 4 all have streets located directly between the Bay and the Nottawasaga River. Road drainage collection in the east end is sent to the river rather than directly to the Bay. The west end of Town does not have this luxury of sending surface runoff to the river and as such, stormwater must outlet where it is ultimately going - to the Bay. Please keep in mind that landscaping can be utilized to soften the visual impact of the outlet structure. This Class EA will recommend that this be further investigated during the detailed design of the outlet structure.

**BEACH EROSION**

*The MNRF / Ontario Parks property located opposite 62nd Street, north of Shore Lane has a large amount of vegetation currently established. With water levels being high this outcropping of vegetation is currently keeping the water back and allowing the area to dry out some. With a new outlet placed on the MNRF / Ontario Parks lot this would open up the outcropping and no doubt have a reverse effect and allow the lake to fill in the outlet. Sufficient erosion of the beach will likely happen. With the high winds and high water we are already seeing the shoreline reach the dunes. The beach elevation is at least 2 feet lower at 60th street vs 61st street. The erosion is quite alarming. The 57th street outlet has also suffered a great deal of erosion around it's concrete edges in the last month. Another outlet closer to Park 6 is almost completely dammed up. This causes us concern that the Town is not able to properly manage these outlets as it is not on your land. We would like assurances that if another outlet is created that erosion issues can be dealt with. Under current policy the MNR does not allow sand to be redistributed manually along the beach and new sand is not allowed to be brought in. What is the Town's plan for repair should beach erosion happen as a result of these outlets?*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The installation of a storm sewer outlet across the park property will involve the disturbance of a strip approximately 20 m wide and does not involve the entire block. A re-vegetation plan will be included as part of detailed design.

*Page 3 of the PIC No.2 materials notes that the Bay Sands Development Area of Wasaga Beach received approval in the seventies before the development of current standards. My understanding is that Low Impact Development guidelines should be applied to all developments, even if the subdivision was approved in the seventies. Please confirm.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The initial subdividing of land that led to the establishment of the Bay Sands Development Area was done at a time when standards were different. By making that statement we were not insinuating that development could proceed under the former standards. Development of the Bay Sands Area will not proceed until a suitable servicing (water, sanitary, and storm) strategy has been established that is in accordance with current standards.

**PUBLIC INFORMATION CENTRES 2 & 3  
SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

**FLOODING**

- *Twice when the bay has been high, it has filled the existing creek east of 61st Street completely with sand, once we cleaned it out, last time mother nature cleaned it out. We have been flooded twice from the roadside by storm waters running down 58th Street from Ramblewood and beyond the creek stopped the flood. Since the storm sewer and curb drains were put in the creek jumps 1 foot to 1.5 feet when they add their water to the creek.*
- *Existing Flooding at 1760 Shore Lane Due to Water Coming from 58th Street. Will this be addressed?*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Part of the reason for undertaking this Class EA was to address flooding issues within the project study area. The existing channel has insufficient capacity to accommodate existing flows. The proposed 62nd Street outlet will provide the additional capacity required to accommodate the 1 in 100 year storm without flooding.

- *Will the existing flooding issues near 63rd Street and Shore Lane be addressed? After most rain events, water collects and stands across the road and up onto adjacent properties. Garden boxes and steps have had to be replaced due to rotting from the water damage incurred over the years. People continually ask permission to walk across private property to avoid walking through the large pond that exists following a rainfall. The pooling water at the base of 63rd Street has been a significant and long-standing problem.*
- *Some years ago Shore Lane in the area of 61st Street was repaved with gutters leading to catch basins. Since that time the area seems to be subject to flooding. If an existing catch basin is connected with the new storm drainage infrastructure could this create flooding? Are the low points in that area being given consideration so as to prevent future flooding, especially from a catch basin that is currently ineffective in draining away the volume of water that is already flowing into the area?*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Part of the reason for undertaking this Class EA was to address flooding issues within the project study area. The existing channel outlet at 1760 Shore Lane has insufficient capacity to accommodate existing flows. The options under consideration, including the urbanization of 62nd Street, will assist in alleviating flooding issues in the study area. The proposed 62nd Street outlet will provide the additional capacity required to accommodate the 1 in 100 year storm without flooding and would therefore handle the majority of flow with the existing channel remaining for local surface drainage and to provide for emergency spills / overflow conveyance if the new outlet at 62nd Street becomes blocked. The proposed drainage outlet at 62nd Street will provide sufficient capacity to properly accommodate the catchment area. This will form the basis to which other drainage improvements will be connected. Until an adequate outlet is provided no effective drainage improvements along Shore Lane are feasible.

- *Would like to see the process of Shore Lane urbanization expedited. If the 67th Street outlet exists and is sized to currently meet the requirements/volume of water from Shore Lane then it should be implemented to alleviate flooding.*
- *The residents of 63rd Street have been patiently waiting for accessibility issues to be addressed. The presence of standing water after any significant rain event precludes property access. The residents of 63rd Street have been enduring a "lake" forming at the foot of the street for more than 18 years now—in a low spot left by the road grading after the water and sewer services were connected to 1817 Shore Lane, and then extended up 63rd Street.*
- *Concerned about flooding at the corner of 63rd Street and Shore Lane. After most rain events, water collects and stands across the road and up onto adjacent properties right up to the buildings. Deck garden boxes and steps have had to be rebuilt due to rotting from the water damage incurred over the years. Neighbours continually ask permission to walk across private property to avoid walking through the large pond a rainfall creates. A gravel dry well was installed to help the situation, but the high ground-water table there makes drainage ineffective.*
- *We are extremely pleased to hear that a plan has been proposed to drain the area of storm water through the Bay Sands Development Area plan recently presented at the June 22nd '17 town meeting. Property has been subject to constant flooding over the last 18 years or so. We eagerly welcome a solution that will alleviate this. The pooling water at the base of 63rd Street has been a significant and long-standing problem, one that we should not have needed to deal with this long, but one that we understood would be addressed as part of a larger plan for storm/ground water in the area. We trust that our concerns will also be given your due consideration.*

Comments in response to public comments against an outlet at 61st Street:

- *According to the newspaper account, the main complaints regarding a 61st Street outlet surround issues of accessibility to the beach for residents with mobility issues, and the possibility of contaminants spilling into the lake water. To illustrate their points, posters of pristine beach front and stagnant ground water outlets have popped up along 61st Street and at the crossroads of Shore Lane. Slogans like "Stop the Sewers" and "Save Our Beach"*

PUBLIC INFORMATION CENTRES 2 & 3

SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS

- accompany these photos. The newspaper account reported that approximately 55 individuals had signed the online petition. However, it only takes a cursory look at the beach front of 61st Street to see that the pristine beach of the posters certainly doesn't exist there—rather weeds, grasses and standing water fill the area from road's end to beach front at both 61st and 62nd Streets, making access to this waterfront virtually impossible for the agile, much less anyone with mobility challenges. There is a lovely pristine beach much like the photos on these posters—but it's located at 57th Street also the location of a maligned ground water outlet (or "sewer" as the poster labels it), which looked nothing like the poster photographs when visited the morning of August 10th, 2017.*
- *What is being missed in this account is the other side to the story—one that lives just two streets west of 61st Street. The residents of 63rd Street have been patiently waiting for accessibility issues to be addressed too – accessibility to the street when it rains, and to cottages when the presence of standing water after any significant rain precludes access to driveways and decks. The residents of 63rd Street have been enduring a "lake" forming at the foot of the street for more than 18 years now—in a low spot left by the road grading after the water and sewer services were connected. This water collects at the foot of the street on a regular basis.*
  - *A morning of rain significantly floods the street; a day or two extends the water far into the yards of the properties at the base of this street. For many, many years, our requests for a solution to the flooding issues have been met with the same answer – the segment of Shore Lane between 60th and 67th Streets would be the final stretch to be urbanized (between 45th and 71st Streets). The affected segment of Shore Lane, though clearly problematic, needed to wait, since it would be part of a larger solution that would also account for the ground water drainage needs of the proposed Bay Sands area, immediately to the south. And so we have waited, and waited, and waited—and replaced rotted deck boards, deck steps, planter boxes and paving stones, and had our driveways compromised, and saw our street patched over and over again—all because of the water that covers this area during a rain storm—not just the water that falls from the sky, but the water that flows to us—the low spot—from the surrounding streets.*
  - *We deal with an accessibility issue on 63rd Street every time we have a rain event. The road becomes impassable. Pedestrians stop, and wonder how to cross through. Some take off their shoes and wade through. Others turn back and head up onto Mosely Street to come down one of our adjacent streets. Some attempt to skirt the standing water with their wagons, bikes or strollers, only to realize that it's often far up into the yards of the two cottages at the bottom of the street. Over the years, there have been many times where we have arrived only to find that it's too flooded to walk from our car to the deck, without taking off our shoes and rolling up our pants, and wading through several inches of water.*
  - *Relatives who suffer from a disability have been unable to navigate through the standing water with a wheel chair or walker. These are truly accessibility issues that no one should need to endure, especially since they did not appear until after the water and sewer services came to our neighbourhood. To this point, only a temporary solution has been implemented—a "dry well" consisting of a grate over two well tiles dug into our side yard at the street's edge. Because of the shallow water table, this receptacle is filled within an hour or two of a steady rain.*
  - *Because it can't drain anywhere, it also becomes a source of standing water on our property. In times where we are admonished to be careful of the small amount of standing water in bird baths due to West Nile concerns, we are subjected to this receptacle on our street—standing water that doesn't accomplish anything to address the constant street flooding. Of course, our flooded street becomes extremely attractive to motorists who want to create a great wake by speeding through the water, and so we also endure speeding vehicles and the erosion of our road and our property edges, including our driveways. As scientists tell us, more extreme weather will increasingly become the norm, and we will be subjected to more rain events. And this is not only a summer accessibility issue. The winter thaws and freezes bring their own concerns—with standing water after snow thaws that has no means of draining away, and so refreezes into a large ice patch—making the simple task of walking to the mail boxes on Shore Lane a treacherous activity for our year-round residents. When we were year-round residents on this corner, we often saw other permanent residents cut across our yard to avoid the ice. Now, coming to check on our cottage in the winter months, we continue to see footprints—evidence of those who are walking through the deep snow on our property to avoid the icy road.*
  - *We do not wish to see this beach access (61<sup>st</sup> St.) adversely affected. Rather, we would love to see this area raked and restored to the pristine beach that the posters falsely suggest is there already. The beach access at the end of*



**PUBLIC INFORMATION CENTRES 2 & 3**

**SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

*62nd Street does offer a pathway to the water, but with cautionary signage warning of poison ivy—signage that doesn't appear beside any other beach access points along this segment of Shore Lane. We enter the beach via either 64th or 61st Street accesses. We, too, have a vested interest in this area of the beach. However, the possible effects of an outlet at 61st Street on the accessibility of this area and the quality of the run-off ground water have been greatly exaggerated. The pristine beach of the poster campaign doesn't exist here. The presence of the outlet at 57th Street has not altered the condition of that part of the beach. The surrounding sand was beautiful on the morning of August 10th, 2017 when I took these photographs, and the exiting water was clear—this during one of the rainiest summers on record. A family was enjoying the beach directly beside the water outlet.*

- *The “open channel” that enters the bay just east of 61st Street seems less of a concern to these residents. However, while part of a natural “stream,” it also is a purposeful receptacle for Shore Lane ground water, as evidenced by the two “troughs” placed at the edge of both sides of Shore Lane that channel the street water into the stream—the very same type of ground water that would find its way through an additional outlet into the bay. Without an additional outlet at 61st Street, we do not have a way to treat storm water “locally” as our water will not run “uphill” to link into one of the existing outlets. Please do consider the other side of the story.*
- ***Flooding occurs 3 or 4 times a year and not just with downpours but even just moderate rainfall. This has been ongoing for at least the 10 years we have owned the property.***
- ***The flooding happens as there are no storm drains, ditches, or gutters. The water travels down the streets heading north to Shore Lane. Since there is no where for the water to go, it pools and then travels into basements and garages. Ongoing flooding is negatively impacting area property values.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Town of Wasaga Beach has initiated this Schedule ‘C’, Municipal Class Environmental Assessment (Class EA) to review the drainage options available with the goal of selecting a preferred solution to address the stormwater management needs for the project study area which includes the Bay Sands Development Area and the flooding issues in the area of your home. The municipality has selected AREA 2 Design Option 2C (62nd Street Outlet) as the Preferred Design and as such, an outlet will be constructed at 62nd Street.

The existing channel outlet at 1760 Shore Lane has insufficient capacity to accommodate existing flows. The proposed 62nd Street outlet will provide the additional capacity required to accommodate the 1 in 100 year storm without flooding and would therefore handle the majority of flow with the existing channel remaining for local surface drainage and to provide for emergency spills / overflow conveyance if the new outlet at 62nd Street becomes blocked. The proposed drainage outlet at 62nd Street will provide sufficient capacity to properly accommodate the catchment area. This will form the basis to which other drainage improvements will be connected.

The Town recognizes that parts of the project study area are subject to frequent flooding and that this needs to be addressed as soon as possible. As this is a stormwater project, it is necessary to look at the overall drainage area and the other problems that need to be addressed so that it can be dealt with in a comprehensive manner.

Please note that once the Class EA is complete, it is the Town’s intent to move forward with the detailed design and construction of the outlet as soon as possible to address flooding concerns.

**LACK OF TRANSPARENCY**

- ***Please confirm the purpose and timing of this project. I am concerned about the lack of transparency regarding these plans and note that on page 8 of the PIC No.2 material, there is a notation that “the Bay Sands Development Area is not expected to be developed in the near future.” If this is the case, why is the Town of Wasaga Beach rushing the construction of sewer at 61st Street North?***
- ***There is a lack of transparency relating to when the Bay Sands Development will proceed and the timing of construction.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: As identified on Exhibit 3 of the PIC No. 2 material, bullet no. 6, “The Town of Wasaga Beach has initiated this Schedule ‘C’, Municipal Class Environmental Assessment (Class EA) to review the drainage options available with the goal of selecting a Preferred Solution to address the stormwater management needs for the Project Study

**PUBLIC INFORMATION CENTRES 2 & 3**  
**SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

Area which includes the Bay Sands Development Area.” Parts of the project study area are subject to frequent flooding and this needs to be addressed as soon as possible. In addition, the Bay Sands Development Area needs an established drainage strategy before it can proceed to development. As it is a stormwater project, a solution cannot be determined by simply focusing on only the Bay Sands Development Area. It is necessary to look at the overall drainage area and the other problems that need to be addressed so that it can be dealt with in a comprehensive manner. This includes establishing a drainage outlet for the development and involves a drainage analysis to make sure that the proposed outlet has sufficient capacity to accommodate planned improvements.

The stormwater component is only one servicing aspect that needs to be established before the Bay Sands Development Area can proceed. It also requires a water and sanitary servicing strategy and as presented in Exhibit 23 of the PIC No. 2 material, it requires organization on the part of the Bay Sands property owners so it is difficult to determine exactly when the development will proceed. However, flooding concerns have to be addressed now. The existing channel outlet east of 61st Street does not have sufficient capacity to accommodate existing flows. An established outlet is a first step in addressing these drainage deficiencies. To address flooding concerns the Town intends to move forward with the detailed design and construction of the outlet as soon as possible; however, the development of Bay Sands will progress to construction at a later date in the future.

**MULTIPLE OUTLETS TO THE BAY**

***Would the proposal for 4 outlets within 10 blocks be an acceptable solution for development if the area was situated at the main beach, or a Blue Flag Beach or is this area considered less important than the aforementioned beaches?***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The frequency of outlets is, in part, governed by topography, area development and the need to address flooding concerns. There are already existing outlets east of 61st Street and at 67th Street. The proposed outlet construction at 62nd Street is more of a relocation of the existing channel outlet (east of 61st Street) rather than the introduction of an additional outlet

- ***Do not agree with any option which creates a new drainage outlet into the bay. There are already three major outlets and one minor outlet within the area our association represents. The West end of Wasaga Beach is a populated area with established subdivisions whose proximity provides walkable access to the shoreline. This new subdivision will bring even more residents to the area that will want to use the beach. We should be doing all we can to improve the beach in this location. Another outlet cannot be regarded as a positive improvement. We need to understand that manipulating the environment of the beach to build this community has long term effects. It is our number one resource that needs to be protected. We should not be incorporating infrastructure into our shoreline. Why the Town would agree to further contaminate any new area of the beach defies all known logic and reasoning. Decisions of this magnitude are often based on resources, budget and path of least resistance. In this particular case we believe the Town must look to alternatives which will serve the long term interests of all beach users with a more positive result.***
- ***Concerned about additional outlets***
- ***Multiple Outlets in a short distance is not good***
- ***Preferred Option is to not have a new outlet at the beach.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The existing channel outlet east of 62nd Street that passes through 1760 Shore Lane has insufficient capacity to accommodate existing flows. The proposed 62nd Street outlet will provide the additional capacity required to accommodate the 1 in 100 year storm without flooding. The proposed 62nd Street outlet would therefore handle the majority of flow with the existing channel remaining for local surface drainage and to provide for emergency spills / overflow conveyance if the new outlet at 62nd Street North becomes blocked. As such, the outlet proposed at 62nd Street can be considered a relocation of the existing channel outlet.

We recognize resident concerns associated with the recreational use of the beach and water quality; however, we also have a responsibility to address the safety concerns of residents and to address an ongoing flooding problem. Through the Class EA process we have attempted to find a solution that will address the problem(s) but also result in the least amount of impact to the area environment (physical, natural, socio-economic and cultural).

**PUBLIC INFORMATION CENTRES 2 & 3  
SUMMARY OF COMMENTS AND HOW ADDRESSED DURING CLASS EA PROCESS**

**PROJECT STUDY AREA**

***Why did the study drainage area exclude 60th Street South and 61st Street South? Can it be expanded to include these areas?***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Shore Lane has concrete curb and gutter as well as storm sewers for collection and conveyance of surface water from the east side of 61st Street (i.e. including 60th Street). Shore Lane also has curb and gutter from 67th Street to 71st Street. The study area encompassed the limits of Shore Lane that have not yet had storm sewers installed. This area of 61st Street to 67st Street is also the limits of the possible outlet for the Bay Sands Development Area to drain to, including the existing outlet east of 61st Street North. The area to the south of Mosely Street was also defined by the potential limits to consider conveyance of storm water from the Bay Sands Development Area, which did not include 61st Street or 60th Street South. These two streets will not be added to the current study. Any drainage improvements to these roads would be considered local and would not require a comprehensive Class EA.

**SAFETY CONCERNS**

***There was a sign with the words “NOTICE DANGEROUS WATER CONDITIONS STAY CLEAR” indicating the water coming from the outlet is not safe for swimming in or near.***

***Outlets are dangerous to area children and a person could topple over the structure. “Danger Keep Out” is inscribed on the structure at 57th and 67th Street structures. There is also the danger of a person toppling over the structure.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: These are standard signs that are installed by Ontario Parks for safety purposes to advise of potential dangers associated with flowing water. The outlet will include a typical safety grate and hand rails in accordance with the building code.

**STAGANT WATER AND INVASIVE VEGETATION OVERGROWTH**

***At any time throughout the summer months you can observe stagnant water at any of the major outlets which is unfit for use by humans. The Ministry has posted signage in the past to indicate this fact. The water flow continues to erode the beach around it and requires constant maintenance from the MNR to keep the outlets clear of vegetation. Since these outlets are on Provincial property, what assurance can the Town give us that these outlets will be maintained?***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Town is aware of the overgrowth of vegetation that exists in the beach area near certain outlets and the resulting overgrowth of an invasive species. This comment was made during the first PIC for this project specifically for the existing 67th Street outlet. Since that time the Town has discussed this problem with Ontario Parks to determine what can be done to address this problem. The existing rip rap at the 67th Street outlet was subsequently removed to make it easier for Ontario Parks to rake the beach. Consistently raking the beach has proven effective in deterring the growth of phragmites. The potential to develop a suitable strategy for beach maintenance will be considered as part of the ongoing beach management plan between Ontario Parks and the Town.

***On page 22 of the PIC No.2 materials, the consultants note that the increased volume of water entering the beach area “will make it continuously wet and contribute to the overgrowth of vegetation (i.e. Phragmites)” It also states that the Town has discussed these problems with Ontario Parks. Please disclose the details of this consultation between the Town and Ontario Parks so that Town Council as well as residents can assess whether the beach maintenance strategy is in fact suitable and sufficient.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Exhibit 22 of the PIC material that you reference re-iterates a question submitted at PIC No. 1 where a resident asked “Will the drainage solution for the Bay Sands Development Area result an increased volume of water entering the beach area that will make it continuously wet and contribute to the overgrowth of vegetation (i.e. phragmites)?” The response was that “the Town is aware of the overgrowth of vegetation that exists in the beach area near the 67th Street outlet and the resulting overgrowth of an invasive species. The Town has discussed this problem with Ontario Parks. The potential to develop a suitable strategy for beach maintenance will be considered as part of the ongoing beach management plan between the Province and the Town.”

Following the first PIC the Town further discussed this problem with Ontario Parks. The existing rip rap at the 67th Street outlet was subsequently removed to make it easier for Ontario Parks to rake the beach. Consistently raking the beach has proven effective in deterring the growth of phragmites. However, as noted above a suitable strategy for beach maintenance will be considered as part of the ongoing beach management plan between Ontario Parks and the Town.

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**URBANIZATION AND PROPERTY ACQUISITION**

*Concerns relating to the proposed urbanization of Shore Lane between 63rd Street and 64th Street as any property acquisition necessary to accommodate the improvements may significantly impact properties on the south side of Shore Lane.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Town recognizes that a widening of Shore Lane at the subject location has the potential to significantly impact the lots on the south side. The Town normally strives to complete improvements within an existing right-of-way; however, in certain situations improvements cannot be completed in this manner. The current preliminary design has the full reconstructed road located within the municipal right-of-way. Regardless, this Class EA will include a recommendation that property impacts be considered in the development of the detailed design for that street.

**ONTARIO PARKS (MINISTRY OF NATURAL RESOURCES AND FORESTRY)**

- *....Environmental concerns, especially in regards to preserving lake water quality must take precedence over accommodating development. Is it apparent, that now Ontario Parks (MNR) have reversed their decision on allowing additional outlets into the lake, I would like to know the name of the person responsible, therefore accountable for this reversal and why they now feel that it is an acceptable option.*
- *What is the Ontario Parks rationale for now permitting municipal infrastructure on their property?*
- *Why would MNR allow a municipal infrastructure on the Ontario Parks Property opposite 62nd Street when 61st Street was initially one of the favoured options.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Preliminary discussions with Ontario Parks (division of MNRF) at the time of PIC No. 1 determined that municipal infrastructure would not be permitted on this property and this option was subsequently removed from further consideration. The channel improvement and 61st Street options were therefore carried forward and presented at PIC No. 2, with the 61st Street option identified as the preliminary preferred solution.

Given the lack of public support for the 61st Street option following PIC No. 2, the municipality re-opened discussions with Ontario Parks emphasizing the urgent need for an outlet to address flooding issues in the affected area. Ontario Parks (division of MNRF) advised that while they are not in favour of any new outlets to Nottawasaga Bay they understand the challenges that the Town is facing with regards to drainage and flood control in the study area. Ontario Parks (MNRF) confirmed that they would be willing to consider a 62nd Street outlet option and work with the Town towards this solution, if it is deemed to be the preferred location through an evaluation process.

Keep in mind that, as a minimum, two Public Information Centres are held for a Schedule 'C' Class EA. The municipality hosted a third Public Information Centre and presented a potential outlet at 62nd Street for public review and evaluated it in comparison to the other two options as presented at PIC No. 2.

**WATER QUALITY AND LOW IMPACT DEVELOPMENT (LID) MEASURES**

- *The joint responsibility of the Town and MNRF is to manage this resource in a sustainable manner that enhances the quality of the beach and the water for the benefit of Town residents and visitors. The proposed drainage solutions will in fact degrade the quality of the beach and the water. The proposed urbanization and construction of storm sewers will significantly increase the quantity of storm water and pollutants reaching the Bay. It is now recognized that the traditional approach to stormwater management does not provide adequate quality control.*
- *The province has recently released a Draft Low Impact Development Stormwater Management Guidance Manual to address some of the weaknesses of the traditional approach. LID concepts are intended to address both proposed and existing development. The traditional and proposed (LID) stormwater management guidelines establish the minimum requirements for stormwater treatment. The PIC materials suggest that all government mandated minimum requirements will be met. The Town's sandy soils present a unique opportunity to demonstrate leadership in sustainable development and environmental stewardship. We submit that the Town and the MNRF should exceed minimum requirements for all potential discharges to the Bay, in order to enhance the quality of the beach and the water. The Town should eliminate or minimize all new discharges to the Bay. Any discharges that cannot be eliminated should receive the maximum quality treatment possible. This approach would achieve the goals of the LID Guidelines for existing and proposed development and lead to improved beach and water quality for all users.*
- *The proposed solution is to construct a new storm sewer on 61st Street from the existing natural watercourse to the Bay utilizing oil grit separators for quality control with no quantity control. This is a "band-aid" solution that does not address the real problem, which is uncontrolled stormwater discharge from the area south of Mosley Street. A "future" new storm sewer*

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*is proposed on 62nd Street together with urbanization of 62nd Street. This traditional approach contradicts the principles identified in the LID Guide and will increase the quantity of stormwater discharging to the Bay with minimal quality control. This "solution" will not enhance the quality of the beach or the water and should be rejected on this basis alone.*

- *The EA has not adequately addressed the problem of stormwater quantity and quality control for Area 2. The proposed solution will further degrade the quality of the beach and the Bay. The Town should implement policies to exceed minimum stormwater control guidelines in order to minimize flows and outlets to Georgian Bay and provide maximum water quality. The Town should revisit the alternative solutions to maximize stormwater controls at source as outlined in the LID Guide. The Town should incorporate LID concepts for both the Bay Sands drainage area (Area 1) and the 62nd Street drainage area (Area 2).*
- *The area of 62nd Street south of Mosley Street is currently drained by roadside and rear yard ditches. The developed area has more than doubled since 2002 with a corresponding increase in runoff. Integrating LID techniques with the existing ditches would improve water quality and reduce the quantity of surface water flowing north. Further quantity reduction and quality enhancement could be achieved with the addition of a stormwater management pond on vacant land immediately south of Mosley Street. A pond at this location could also provide treatment for some of the stormwater that will be generated by the proposed improvements to Mosley Street. Further reduction in flow to the natural channel may be possible if flow from 62nd Street South can be diverted westerly toward the 67th Street outlet. These measures would potentially eliminate the need for a new outlet on 61st Street or 62nd Street to the Bay. This approach does not appear to have been considered in the current EA.*
- *We would like to add our support to the position taken by the WWBA (Wasaga West Beach Association) as set out in the letter in opposition to the recommended drain solution. As noted in the WWBA submission our beach is currently under significant stress and adding this significant drainage outflow in the location and manner suggested creates impacts which we believe are unacceptable.*
- *The WWBA (Wasaga West Beach Association) represents over a thousand beach users as evidenced by our petitioning whereby we have collected signatures, phone numbers and e-mail addresses of the stakeholders who are concerned for the future of our beach. These individuals include regular visitors to the beach, local residents and property owners. As an Association we represent the beach geography from approximately 50th Street to 67th Street. (The western edge of beach 6 west to 67th Street). Our concern is for water quality and minimizing the overall impact to our shorelines.*
- *Environmental issues are a concern. Water that enters the lake several blocks to the east, through a similar drainage system, does not appear to be clean. It foams, looks slimy and often has a filmy residue. I understand that the water coming through this system will be filtered to some degree. I feel it should be clean enough to drink. Will that be the case?*
- *The beach is under significant stress and adding this significant drainage outflow in the location and manner suggested creates unacceptable impacts.*
- *It is imperative that the Town maintain the water in pristine condition to retain the claim that we have the world's longest fresh water beach. The recent addition of outlets into the Bay is a step backwards to keeping the water clean for generations to come. Wasaga Beach must be at the forefront in proceeding with development in an environmentally friendly way, while protecting the beach, which is our most valuable asset.*
- *Estimate of pollutants being released into the Bay as the area being drained increases and the volume of water increases?*
- *Proposed drainage solutions will degrade the quality of the beach and the water.*
- *The Town and the MNR should exceed minimum requirements for all potential discharges to the Bay, in order to enhance the quality of the beach and the water. The Town should eliminate or minimize all new discharges to the Bay. Any discharges that cannot be eliminated should receive the maximum quality treatment possible. This approach would achieve the goals of the LID Guidelines for existing and proposed development and lead to improved beach and water quality for all users.*
- *Concerned about water quality and minimizing the overall impact to our shorelines.*
- *The development of Bay Sands and the option to construct a new outlet do not provide adequate protection for the water in the Bay and do not address concerns of residents and visitors to the beach. The impact would be cumulative and profound as more effluent is released into the Bay and more outlets are constructed. Development should be done in a way to preserve and protect the water quality, wildlife and the natural beauty of the Bay.*
- *Low Impact Development should be a top priority instead of putting more sewer water into the Bay. Build a stormwater pond on 62nd Street South to reduce and treat flows from 62nd Street and a newly constructed, widened Mosley Street.*
- *The area of 62nd Street south of Mosley Street is currently drained by roadside and rear yard ditches. Integrating LID techniques with the existing ditches would improve water quality and reduce the quantity of surface water flowing north. Further quantity reduction and quality enhancement could be achieved with the addition of a stormwater management pond*



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*on vacant land immediately south of Mosley Street. A pond at this location could also provide treatment for some of the stormwater that will be generated by the proposed improvements to Mosley Street. Further reduction in flow to the natural channel may be possible if flow from 62nd Street South can be diverted westerly toward the 67th Street outlet. These measures would potentially eliminate the need for a new outlet on 61st Street or 62nd Street to the Bay. This approach does not appear to have been considered in the current EA.*

- *The EA has not adequately addressed the problem of stormwater quantity and quality control for Area 2. The Town should incorporate LID concepts for both the Bay Sands drainage area (Area 1) and the 62nd Street drainage area (Area 2).*
- *Why isn't LID guidelines being employed for the Bay Sands development?*
- *The Town is urged to incorporate LID and Green Infrastructure to reduce or even eliminate the need for downstream infrastructure such as the new outlet to Nottawasaga Bay. LID measures should be incorporated into the planning process, not treated as an afterthought. At PIC No. 3, Board 15 noted that this Class EA will recommend that detailed design give consideration to implementing LID measure. What are these measures?*
- *Best Management Practices utilized in low impact development focus first on minimizing both the quantitative and qualitative changes to the site through LID measures and then provide treatment as necessary through a network of structural facilities. I have not seen any steps in the proposal that will either minimize the flow or treat it onsite before it flows out to the Bay. On the contrary, it appears that the flow will be increased, both from the urbanization of 62nd Street South and Shore Lane but most concerning, the expansion of Mosley Street along with the accompanying replacement of the ditches/swales on Mosley with curbs and gutters. The oil and grit separator addresses quality control but not quantity. Why isn't a stormwater management pond proposed for Area 2? This measure would have both quality and quantity control benefits. Could a stormwater management pond be constructed at the base of 62nd street on the vacant MNR land instead of an outlet? Another alternative would be to construct a stormwater management pond at 62nd and Mosley.*
- *LID measures should be fully utilized before conventional measures, like the construction of sewer outlets, are considered. Has the Town done everything possible to minimize runoff and treat storm water locally before pumping it through a new outlet on 62nd Street into Nottawasaga Bay?*
- *Neither the 61st Street outlet nor the 67th Street outlet are the best long-term answer for the Beach. As the Town grows, so does the need to treat storm water run-off intensively in much the same way as one treats sewage. There is a strong chance build-up of organic and chemical materials will eventually spoil the quality of water in the local area.*
- *PIC No. 2 material makes only a passing reference to Low Impact Development (LID) principles and rely instead on outdated land use and infrastructure planning approaches. There has been an evolution in stormwater management and the Ontario Ministry of the Environment and Climate Change (MOECC) expects municipalities to use LID. In its Interpretation Bulletin: MOECC Expectations Re: Stormwater Management, the MOECC noted that Environmental Compliance Approval (ECA) applications being submitted for ministry review do not adequately incorporate LID principles. I understand that a Low Impact Development Stormwater Management Guidance Manual is currently under review and will be released shortly. I urge the Town of Wasaga Beach to instruct its consultants to incorporate LID approaches into the project design, and not as an afterthought. Successfully applied, LID techniques can reduce or even eliminate the need for downstream infrastructure and can be cheaper than grey infrastructure such as subsurface pipes.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The proposal includes water quality improvement features not currently provided in the catchment area. The quality of runoff will be improved over existing conditions through the addition of an oil and grit separator at the proposed 62nd Street outlet and through that currently in place at the 67th Street outlet. The existing channel outlet east of 61st Street does not have an oil and grit separator. Portions of the study area are subject to frequent flooding which can also lead to contaminants entering area watercourses during extreme events. The proposed improvements will assist in alleviating flooding issues. Proposed road improvements (i.e. urbanization) that include the installation of catch basin shields and where feasible, Low Impact Development (LID) features will also improve water quality. A stormwater management facility is proposed for the Bay Sands Development Area which will also provide improvements in this regard.

The Town and MNR take the quality and condition of our beach very seriously. All environmental factors are considered through the Municipal Class EA process to establish the preferred overall solution. With drainage, for obvious reasons, surface water runoff eventually goes to the Bay. It is simply a matter of how and where. The province and Town always try to use existing storm outlets, as has been done with the Bay Sands Development Area. However, it was determined that the existing channel outlet (east of 61st Street) cannot convey existing flows and properties are prone to flooding in that area. The Town has a responsibility to protect properties from flooding and as such, a preferred alternative to fix the existing problem has to be established.

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As noted, Low Impact Development measures are being considered for this project. Exhibit 21 of the PIC No. 2 material discussed the potential for the Bay Sands Development Area to impact water quality. The third and fourth bullet under the heading “Is there an increased potential for the Bay Sands Development Area drainage to negatively impact Nottawasaga Bay water quality?” noted the following:

- “Detailed design for the Bay Sands Development Area will involve quantifying the limits on lot coverage and infiltration and will be designed to address the requirements of the Ministry of Environment and Climate Change (MOECC) and the Nottawasaga Valley Conservation Authority (NVCA).
- The future design for the Bay Sands Development Area may incorporate a “treatment train” approach to reduce the impacts from the urbanization of the Bay Sands Development Area on the receiving waterbody (i.e. Nottawasaga Bay). This approach involves a sequence of practices (i.e. lot level, conveyance and end-of-pipe controls) designed to meet stormwater management objectives and may include the following:
  - Zoning Restrictions for the Bay Sands Development Area – establishing limits on the size of a home and the percentage of lot coverage.
  - Individual On-Site Infiltration Galleries: Taking runoff from roof areas for average small rainfall events and discharging via eaves troughs to infiltration galleries on each lot with the aim of matching the annual average ground water recharge of the site in its undeveloped condition. These are a well proven method of reducing total runoff volume where sandy soils and suitable separation from water table are available.
  - Other – rear yard soak away pits, grassed swales along roadway boulevards for conveyance control, oil and grit separators (pre-treatment), and filters (water quality control).

Many of the above noted items are Low Impact Development measures and this Class EA will recommend that the implementation of LID features be considered in the development of the stormwater servicing strategy to specifically be prepared for the Bay Sands development as well as for any urbanization of streets proposed as part of this Class EA.

The stormwater management design for the Bay Sands Development Area is only one component of the servicing strategy needed in order for the development to move forward and it is unlikely to advance to construction for many years. However, this Class EA needs to identify a suitable outlet for the development and other drainage measures to address flooding concerns in the overall study area. When the Bay Sands Development Area proceeds to detailed design it will be subject to the latest standards of the day. Low Impact Development (LID) features and strategies as well as the standards and policies governing their implementation will evolve and improve over time. As noted, one of the recommendations from this Class EA will be that the implementation of LID features be considered in the development of the stormwater servicing strategy to specifically be prepared for the Bay Sands Development during the detailed design phase as well as for any urbanization of streets proposed as part of this Class EA. These measures will be determined through discussion with the MOECC and the NVCA at that time. We want to make it clear that the catchment area remains unchanged and there is no increase in nutrients in comparison to the current situation. Additionally, the proposed oil and grit separator and inclusion of catch basin shields will provide improvements to water quality something not currently available in the present situation.

The option of directing runoff from the Area 2 (62nd Street) catchment area was reviewed and found to be not possible due to the flat topography along Shore Lane. It is not possible to divert all the area flow to 67th Street.

We have recommended that LID measures be a key feature in any development of the Bay Sands Area. This is easier to implement in that area because it will be incorporated into the original design. The 62nd Street corridor is currently developed which limits the opportunity to incorporate significant stormwater management facilities. Although it appears that there may be opportunity to provide a stormwater management pond on the west side of 62nd Street south of Mosely Street, the portion of the catchment area draining to that point is very limited and the stormwater management pond would not be effective.

The application of LID measures to areas outside of Bay Sands will also be considered; however, these are existing corridors and there will be constraints to reconstruction. It will not be possible to implement LID features at all locations unless property can be acquired from neighbouring properties to accommodate these measures.

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*Page 3 of the PIC No.2 materials notes that the Bay Sands Development Area of Wasaga Beach received approval in the seventies before the development of current standards. My understanding is that Low Impact Development guidelines should be applied to all developments, even if the subdivision was approved in the seventies. Please confirm.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The initial subdividing of land that led to the establishment of the Bay Sands Development Area was done at a time when standards were different. By making that statement we were not insinuating that development could proceed under the former standards. Development of the Bay Sands Area will not proceed until a suitable servicing (water, sanitary, and storm) strategy has been established that is in accordance with current standards.

*All parties should... put the quality of the lake water, ahead of the need for development, in the matter of preserving a wonderful natural resource. Bay Sands subdivision will not be the only area of new development, future urbanization of the region will continue strong stewardship and long range planning is needed to protect the Provincial Park and its waters.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Bay Sands development is not a new development. The Bay Sands Development Area was established circa 1970 and was approved at a time when today's standards of land use planning did not apply. The current project is not accommodating new development. Outlets are governed by a catchment area and are designed to accommodate a specific capacity. The 67th Street outlet was designed with the capacity to accommodate the Bay Sands Development Area. The drainage from Area 1 as presented at both PIC No. 2 and 3 will flow to this outlet.

This proposal includes water quality improvement features not currently provided in the catchment area. The quality of runoff will be improved over existing conditions through the addition of an oil and grit separator at the proposed 62nd Street outlet and through that currently in place at the 67th Street outlet. The existing channel outlet east of 61st Street does not have an oil and grit separator. Portions of the study area are subject to frequent flooding which can also lead to contaminants entering area watercourses during extreme events. The proposed improvements will assist in alleviating flooding issues. Proposed road improvements (i.e. urbanization) that include the installation of catch basin shields and where feasible, Low Impact Development (LID) features will also improve water quality. A stormwater management facility is proposed for the Bay Sands Development Area which will also provide improvements in this regard.

The Town and Ministry of Natural Resources and Forestry (MNRF) take the quality and condition of our beach very seriously. All environmental factors are considered through the Municipal Class EA process to establish the preferred overall solution. With drainage, for obvious reasons, surface water runoff eventually goes to the Bay. It is simply a matter of how and where. The province and Town always try to use existing storm outlets, as has been done with the Bay Sands Development Area. However, it was determined that the existing channel outlet (east of 61st Street) cannot convey existing flows and properties are prone to flooding in that area. The Town has a responsibility to protect properties from flooding and as such, a preferred alternative to fix the existing problem has to be established.

**WATER QUALITY MONITORING**

- *Has monitoring of existing outlets for pollutants been completed to see what pollutants are being released & their effect on humans, fish & wildlife? If monitoring has occurred is it done daily, weekly or monthly? What are the results?*
- *Will the areas near the outlets between 57th and 67th streets be monitored for pollutants and will this area become unsafe for swimming? What evidence is there that the quality of the water will remain safe for recreational use?*
- *Will testing be done over a period of years to ensure that pollutants are at "acceptable" levels before another outlet is constructed?*
- *It is claimed that only 20% of the pollutants reach the water. What are the parameters for the testing of pollutants and what is the cumulative effect of these pollutants on human, plant and wildlife?*
- *Water quality should be more important than development.*
- *How many contaminants are currently being released into the Bay? Not enough time has been given to study the effects of the outlet effluent on the Bay. There seems to be a rush to complete the project within the next 2 years.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The Town does not perform this type of monitoring. Monitoring and inspections are undertaken in accordance with provincial Environmental Compliance Approvals (ECA) for the respective oil and grit separator unit and storm sewer systems. Monitoring of new stormwater quality controls including oil and grit separator unit and

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<p>stormwater management ponds/facilities will include annual inspections and cleanouts as deemed necessary in accordance with the respective ECAs and operations and maintenance manuals/policies of the Town and MOECC.</p>
<p><b>OUTLET AT EXISTING CHANNEL (EAST OF 61<sup>ST</sup> STREET)</b></p>
<ul style="list-style-type: none"> <li>• <i>The existing channel outlet east of 61st Street is a unique and living thing providing water, shelter, food to a multitude of birds, water creatures, mammals, reptiles and should not cease to flow. A certain amount of flow would be required to keep the mount open.</i></li> <li>• <i>Concerned about potential impacts to area wildlife at the existing channel east of 61st Street.</i></li> </ul> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> With the proposed 62nd Street outlet (i.e. AREA 2 Design Option 2C), the majority of flow will be re-directed to 62nd Street; however, some flow will remain in the channel. Since no improvements are now proposed to the existing channel located east of 61st Street (i.e. 1760 Shore Lane) there is no potential to impact the existing natural heritage features at that location.</p>
<p><b>LACK OF CAPACITY</b></p>
<p><i>The primary deficiency identified is a lack of capacity in the existing drainage channel between Mosley Street and the Bay. This lack of capacity appears to be the result of development proceeding on 62nd Street south of Mosley Street with no stormwater controls.</i></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The development on 62nd Street may have been a contributing factor as development in times past was done to the standards of the day. However, this project is attempting to solve the problem.</p>
<p><b>OUTLET AT 62<sup>ND</sup> STREET</b></p>
<p><i>If the outlet at 61st Street does not currently have the capacity to handle runoff volume, couldn't the proposed 61st or 62nd Street outlet be made large enough to handle all of the required volume, instead of utilizing the 67th Street outlet?</i></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> As noted at PIC No. 2, Exhibit 9, the potential to accommodate the combined flows of Bay Sands and the natural catchment area of 62nd Street was not feasible so the catchment areas have been kept separate. Bay Sands utilizes the existing 67th Street outlet which was sized originally to include that area and we are now proposing 62nd street as an improved outlet to eliminate the capacity constraints on the existing channel outlet (east of 61st Street at 1760 Shore Lane). However, the 1760 Shore Lane outlet will continue to take minor flows within its capacity.</p> <p><i>A 62nd Street outlet will deface and destroy even more of the historical natural landscape of this beach.</i></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The proposed outlet on the vacant property opposite 62nd Street, north of Shore Lane, will have a minor construction footprint in comparison to the overall existing beach landscape. Landscaping and replanting of vegetation can be utilized to soften the appearance of the outlet structure. We recognize the concerns associated with the natural landscape of the existing beach; however, we also have a responsibility to address the safety concerns of residents and to address an ongoing flooding problem. Through the Class EA process we have attempted to find a solution that will address the problem(s) but also result in the least amount of impact to the area environment (physical, natural, socio-economic and cultural).</p> <p><i>A 62nd Street outlet will negatively impact adjacent property values.</i></p> <p><u>RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:</u> The construction footprint for the 62nd Street outlet and associated infrastructure is anticipated to be approximately 20.0 m in width following the centreline of 62nd Street, north to the beach. The piping infrastructure will be placed underground and the only structure that will be above ground is the outlet itself at the north end of the site. Measures to soften the appearance of the structure can be implemented. The site will be restored post construction through landscaping and the planting of trees and other vegetation which will assist in screening the structure from adjacent residences.</p>

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*The PIC No. 3 material repeatedly referred to the MNRF / Ontario Parks property opposite 62nd Street, north of Shore Lane, as "vacant". This implies that the 62nd Street forest is buildable property that has simply been abandoned or unused. As a result of this definition, the MNRF property has been considered flexible because there are no houses yet built on it, but it must be seen as it is, namely a different kind of property. This biased definition has resulted in the evaluation matrix favoring option 2C, contrary to the initial rejection of this plan as early as 2014 by Infrastructure Ontario. These environmental issues must surely be considered inviolable, and the forest cannot be seen simply as "blank space", or "vacant" property when Ontario Parks and the MNRF are aware of the wildlife habitat and community use this Park land provides.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The property located opposite 62nd Street, north of Shore Lane is a potentially buildable property, but at the present time there are no structures or buildings on it, it is vacant. As noted earlier in this section, the subject property does not provide Significant Wildlife Habitat and existing species present are considered to be common. Referring to this property as 'vacant' has not resulted in it being a favoured location for the construction of an outlet. The evaluation matrix as presented at PIC No. 3 provided a comparison of the potential for each alternative to impact the physical, natural, socio-economic, and cultural environments. As such, there are many factors considered in the selection of a preferred solution. Both Ontario Parks and MNRF have been actively consulted during the course of this project.

*The Town will require Ontario Parks granting an easement, permits from the Nottawasaga Valley Conservation Authority, increased agency involvement and negotiations beyond standard approvals. Each of these steps costs taxpayers money for no reason when the Town already has an easement over the 61st Street road allowance. This is unnecessary spending.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: While this was one of the disadvantages of Design Option 2C (62nd Street outlet), this option has more significant advantages. An outlet at 62nd Street will eliminate impacts to existing municipal water and sanitary connections to homes on 61st Street, north of Shore Lane. The 62nd Street outlet will also require a shorter length of large diameter storm sewer which means that, from a construction perspective, it is less costly to construct the outlet at 62nd Street.

*The first consequence of this proposed option 2C concerns creating a negative precedent in granting a new easement through Ontario Parks land. It raises the question of how the local government could possibly be able to say no to similar proposals in the future. Will all the natural, remaining Parks properties along the beach now be at risk for the future profit of development?*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Any development proposed on Ontario Parks property is and will continue to be subject to scrutiny in accordance with Ontario Parks' policies and guidelines. Ontario Parks is simply allowing an easement across this property to accommodate municipal infrastructure so as to assist in addressing existing drainage deficiencies in the area. Approval for these much needed infrastructure improvements will not create a negative precedent.

*Design Option 2B (61st Street Outlet) seems more logical given that municipal infrastructure will be placed within an existing municipal right-of-way and will therefore minimize impacts to the natural environment.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: While the placement of municipal infrastructure within a municipal road allowance is a key advantage of Design Option 2B (61st Street Outlet) as presented at PIC No. 2 and 3, there are other more significant disadvantages. An outlet at 61st Street does not provide an overland flow route, but 62nd Street (Design Option 2C) can accommodate overland flow. An outlet at 62nd Street will eliminate impacts to existing municipal water and sanitary connections to homes on 61st Street, north of Shore Lane. The 62nd Street outlet will also require a shorter length of large diameter storm sewer which makes it more cost effective. We have assessed the natural heritage features of the lands affected by the 62nd Street outlet. The potential to impact the natural environment of the subject property is expected to be low and mitigation can be utilized to mitigate these impacts.

*At PIC No. 3 one of the reasons for favoring Design Option 2C (62nd Street Outlet) was that creating a drainage system under 61st Street would have adverse effects to the 1760 Shore Lane property, but this is not the case, since the channel running through that property will not be modified and remain only as an emergency overflow.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Design Option 2C (62nd Street outlet) was not favoured over Design Option 2B (61st Street outlet) because it would not impact the existing channel at 1760 Shore Lane. Neither option will have significant impact on the existing channel other than reducing the volume of surface water flow to this outlet. The potential to significantly impact the existing channel at 1760 Shore Lane was associated with Design Option 2A (Existing Channel Improvements).



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- **Mandate of MNRF:** *It is expected that the actions of the Ministry of Natural Resources and Forestry ("MNRF") in deciding whether or not to grant an easement to the Town of Wasaga Beach follows the objectives the Provincial government has set out to accomplish such as working with forestry companies, environmental organizations, First Nations and community representatives to ensure that Crown forest resources are put to their best use and in an economically, socially and environmentally sustainable fashion working with municipalities and other partners to promote urban forestry. The MNRF should ensure that Crown forest resources are put to their best use and in an economically, socially and environmentally sustainable fashion working with municipalities and other partners to promote urban forestry. The MNRF should support the Climate Change Action Plan by.....protecting and promoting sustainable use of Ontario's environment, ecosystems and resources. Why would a governmental body with a mandate to support climate change initiatives chose to support the destruction of natural park lands when the choice to destroy a road 96 meters away is a viable alternative option?*
- **Objectives of Ontario Parks:** *To permanently protect representative ecosystems, biodiversity and provincially significant elements of Ontario's natural and cultural heritage and to manage these areas to ensure that ecological integrity is maintained. To provide opportunities for ecologically sustainable outdoor recreation opportunities and encourage associated economic benefits. To provide opportunities for ecologically sustainable outdoor recreation opportunities and encourage associated economic benefits. To provide opportunities for residents of Ontario and visitors to increase their knowledge and appreciation of Ontario's natural and cultural heritage. The MNRF and Ontario Parks should "uphold their mandates and respect the few remaining micro-habitats of our region. The proposed development project (AREA 2 Design Alternative 2C) contradicts these values by actively destroying a niche habitat that represents one of the few remaining old growth natural facets of the Wasaga beach environment. This centuries-old habitat is rich in wildlife, and we've seen deer, foxes, and a wealth of avian life in our time as neighbors to the forest. Following the proposed development plan 2C, this dynamic forest will be severely negatively affected by the construction of a drainage pipeline. This is more unbelievable considering that instead of tearing down this old growth forest habitat in the construction process, the Town of Wasaga Beach could tear open the road allowance at 61st street only 96 meters away.*
- *The Ontario Parks property opposite 62<sup>nd</sup> St. and Shore Lane has served as a sanctuary of natural peace and habitat for many creatures and wildlife.*

**RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS:** As part of this Class EA the subject property was assessed in accordance with Provincial Policy and guidelines to establish an inventory of the natural heritage features present within the affected property and the study area in general. The area was reviewed for the presence of wildlife (i.e. birds, mammals, reptiles, and amphibians) and their habitat and included a Species at Risk (SAR) screening for both terrestrial and aquatic species. Area vegetation was also reviewed for Species at Risk (i.e. Butternut Tree) and to determine if the site functions as Significant Wildlife Habitat and / or if it can be considered Significant Woodlands.

During the field survey habitat types were compared with the habitat of Species at Risk reported to be present within the area. No SAR plants or animals were observed during site surveys. Furthermore, analysis has determined that if the potential presence of location-appropriate SAR is assumed, it is likely that adequate habitat would be retained on-site and nearby to support these species until post-project regeneration is able to take place. This assessment included consideration for habitat of SAR bat species, however, a further field survey confirmed that there was only one tree present that may provide bat habitat.

Area wildlife in general was considered to be common, and the property provides limited habitat for such wildlife in its modern form. The 0.46 hectare fragment contains less than 0.25 hectares of remnant treed dune and less than 0.25 hectares of remnant dune habitat, a size which limits its utility substantially for species such as deer, fox, coyote, or other large mammals. While valuable as a movement corridor and for foraging (a function that will be retained post-construction), the site is generally too small and far too heavily impacted by constant foot traffic, adjacent car traffic, neighbouring properties and edge effects to act as core habitat for many of these larger species. Animals too small to be deterred by the constant human presence and ongoing edge effects (such as small mammals, birds, insects and others) are very likely to persist after construction, as the works will retain a component of all represented habitat types and the site will be allowed to re-naturalize post-construction. The extremely fragmented nature of the treed dune area suggests that any bird species that currently utilize the property for nesting are unlikely to be dependent on large forest size or forest interior, and thus adequate fragmented habitat for these will either be retained on-site or will be available throughout the nearby community until the site re-naturalizes.

The assessment determined that there was no vegetation on the property that would be considered unique or rare. While the

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habitat represents a remnant of a much older dune system, it is debatable whether or not to consider the ecosystem old-growth in its current state. Old growth systems are often characterized by their lack of recent human disturbance, age of woody vegetation, and evidence of long-term self-perpetuating ecological patterns. Substantial and damaging impacts to the property from encroachment, invasive plant species such as Periwinkle (*Vinca minor*) and Scots Pine (*Pinus sylvestris*), historic tree removal, and especially constant foot traffic, have severely damaged and altered the natural state of the site. Woody vegetation, where present, consists almost exclusively of young to mid-aged trees, including species typical of early- to mid-successional systems, rather than trees consistent with old growth stands. These treed areas contain very little evidence of the woody litter accumulation and pit-and-mound topography consistent with old-growth treed ecosystems. The open dune area has experienced unnatural soil compaction and the introduction of weedy non-native plants, both of which have changed the pristine vegetative character and soil dynamics. Human interference has already caused significant changes to these ecosystems. Given the reduced quality of these area, the lack of unique plant species, and assuming appropriate remediation measures are adhered to, the disturbance zone is likely to regenerate into a similar plant community from adjacent seed sources on the property itself. It was determined that the site does not provide Significant Wildlife Habitat nor is the existing vegetation considered to be Significant Woodlands. There were no watercourses on the site and no aquatic concerns, other than the need for sediment and erosion control during construction. There are no environmentally sensitive designations that apply to the site (i.e. Provincially Significant Wetland, Area of Natural and Scientific Interest etc.)

The construction proposed for the vacant property opposite 62nd Street, north of Shore Lane will involve the installation of storm sewer infrastructure underground in an approximately 20.0 m wide easement with the outlet constructed at the north end of the site. The majority of infrastructure will be buried underground, with the outlet being the only visible structure. The entire site will not need to be cleared of vegetation. Mitigation and Best Management Practices will be utilized to minimize impacts to area vegetation and wildlife. This includes the adherence to the breeding bird timing window, minimizing the removal of existing vegetation, the application of standard sediment and erosion control measures, and others.

Overall the potential to impact natural heritage features is expected to be low given the existing conditions, the species present and the scope of work proposed. Both Ontario Parks and MNRF have been actively consulted during the course of this project.

***If 62nd Street location is under review, would like to know what the alternative plan and outlet site would be. Provide details of all arguments and information put forward that resulted in the reconsideration of the 62nd street site.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The PIC No. 2 and 3 material are available on the Town’s website at [www.wasagabeach.com/construction-notice](http://www.wasagabeach.com/construction-notice). The process leading up to the inclusion of a 62nd Street outlet location (i.e. AREA 2 Design Option 2C) is presented in this material. If, after reviewing this material, you still have questions, please feel free to contact the undersigned or Mr. Mike Latimer, C.E.T., Project Coordinator, Town of Wasaga Beach at 705-429-2540 or via email at [m.latimer@wasagabeach.com](mailto:m.latimer@wasagabeach.com). In general, the 62nd Street outlet option will result in a reduced impact on the services to existing homes on 61st Street between Shore Lane and the beach and it is a more direct route resulting in lower construction costs.

***PIC No. 3 presentation material indicated that an outlet at 61st Street (i.e. 2B) has an increased potential to impact adjacent residents and an increased potential to impact the area visually in comparison to Options 2A (existing channel outlet improvements) and 2C (62nd Street Outlet). Do these same disadvantages not also apply to Design Option 2C (62nd Street outlet). If the same disadvantages apply to plan 2B and 2C, surely the added environmental disadvantages of plan 2C change the balance of the scale toward carrying out plan 2B.***

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: There are advantages and disadvantages associated with each option. The above noted two disadvantages mentioned in your comment were not the main reason for selecting an outlet at 62nd Street as opposed to 61st Street. As presented at PIC No. 3 a number of criteria was considered in the selection process. One key disadvantage of a 61st Street option is that construction will significantly impact the existing servicing and access of several homes in the affected area. Also, based on existing topography and proximity of the existing homes, the 61st Street right-of-way cannot be regraded to provide positive overland / surface drainage to the Nottawasaga Bay, whereas the 62nd Street location can allow such regrading. Additionally, construction of the outlet on vacant property that can be screened by existing and proposed vegetation making it less visible is an advantage of the 62nd Street option. As mentioned, there is a low potential for negative impact given the existing features present and the scope of work proposed. Mitigation will also assist in reducing the potential for impact.

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*Pleased to see 62nd Street as the preferred outlet. The outlet would be similar to the outlet at 67th Street, which is visually more appealing and not as conspicuous as an outlet would be at the end of 61st Street. Homes on 61st would also not be negatively impacted by construction of a sewer outlet.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Comment Noted.

*At PIC No. 1, one of the alternative solutions presented was the construction of a new outlet at 62nd Street North. While this proposal still fails to protect the environment, it would minimize social impact that the construction of an outlet at 61st Street would have. The PIC No. 2 material do not provide an explanation of why this alternative solution was removed. In response to my question, I was advised at the public meeting held on June 22, 2017, that the Ministry of Natural resources opposed the construction of an outlet at the base of 62nd Street North. If the MNR's concerns were environmental, please explain why these concerns would not equally apply to the construction of a sewer at 61st Street North.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: As was discussed at the PIC, the reason why a 62nd Street outlet was removed from further consideration was because 62nd Street terminates at Shore Lane and that option requires either property acquisition or an easement across the affected property that is owned by Ontario Parks (i.e. Ministry of Natural Resources and Forestry (MNRF)) to reach the beach and ultimately Nottawasaga Bay. Earlier discussions with Ontario Parks determined that municipal infrastructure would not be permitted within the subject property and they were not interested in selling the property to the municipality.

As you are aware, the municipality held Public Information Centre (PIC) No. 2 for this project on Thursday, June 22, 2017. Following that meeting and a review of comments received the municipality re-opened discussions with Ontario Parks regarding usage of vacant property opposite 62nd Street, north of Shore Lane. The Town re-emphasized the urgent need for an outlet to address flooding issues affecting portions of the project study area. Ontario Parks (division of MNRF) advised that while they are not in favour of any new outlets to Nottawasaga Bay they understand the challenges that the Town is facing with regards to drainage and flood control in the study area. Ontario Parks (MNRF) confirmed that they would be willing to consider a 62nd Street outlet option and work with the Town towards this solution, if it is deemed to be the preferred location through an evaluation process.

*An outlet should be constructed at 62<sup>nd</sup> Street because there are many advantages. If a storm sewer is constructed on 62nd Street, it makes sense to have that sewer continue straight along 62nd Street to an outlet on that street instead of diverting the sewer along Lane and then turning again on 61st Street North. The resulting sewer would be shorter and the construction costs lower. The Town would avoid the additional expense of moving the existing gas lines, powerlines and watermain on 61st Street, and would also avoid the expense of repaving the street. The construction of a sewer at 62nd Street North instead of 61st Street North will minimize the social impact on area residents. It will interfere less with area residents who use 61st Street as their primary beach access. (More people use 61st Street because it is paved and easier to manage for families with wagons. Also, less people use the path along 62nd Street because there are poison ivy warnings and it is further walk to the swimmable part of the beach.) Since fewer families use 62nd Street to access the beach, the likelihood of injury due to a child falling in is decreased. There are no resident property owners on 62nd Street so there will not be anyone who will be disrupted by construction at that location. There is not much room for a concrete sewer and bridge at the base of 61st Street North. As a result, people walking along the beach will have to walk up to the new bridge and around and in the winter the snowmobiles will have to do the same. There is more space at 62nd street North to accommodate the space required for a sewer outlet.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: As noted in the attached letter the municipality has selected AREA 2 Design Option 2C (62nd Street Outlet) as the Preferred Design and as such, the outlet will be constructed at 62nd Street. The above comments are considered addressed since an outlet is no longer being considered at 61st Street.

*The direction of flow north on 62nd Street, if needed, should be continued northerly through the MNRF lands at the end of 62nd Street. This would be similar to the current installation on MNRF lands at 67th Street. The social, cultural, technical and financial impacts are all lower than the 61st Street proposal. We are not aware that the MNRF has presented satisfactory justification for denying access to the Town.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Comment noted.

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**OUTLET AT 67<sup>TH</sup> STREET**

- *67th Street outlet is not an ideal choice for drainage dispersal. Water currents can change the quality of the beach overnight. The outlet located at the base of 67th Street is particularly unsuited to its function because of weak current issues. There is a strong chance that a build-up of organic and chemical materials will eventually spoil the quality of water in the local area. One has only to look at the wetland that has developed over the years at the base of the 71st Street channel to realize that a lack of current there has allowed organics, fertilizers and other debris to build up into a delta. The point of land which extends from the base of 71st Street out into the bay, interrupts the prevailing west to east current which runs along the shoreline. The sandy beach to the west of the point is due to the point's intrusion into the natural path of the current. The current is blocked and its load of sand builds up there on the beach and on the water bottom. A comparison of this sandy bottom on the west side of the point with the rocky bottom on the east side suggests strongly that the current is not present in the shadow of the point on the east side. The 67th Street outlet is on the edge of that shadow. The bottom of the bay at 67th street is still rocky and sand does not begin to cover the rocks until closer to 66th street where the current one again reaches the shoreline after making its way around the point. My concern is that the weak current at 67th Street will have a similar effect locally as that at the mouth of the 71st Street channel. Organics, fertilizer, and chemicals associated with urban development will tend to settle and built up at the mouth of the outlet and gradually spread along the shoreline into the swimming area less than a block away.*
- *62nd Street Outlet is Preferred Over 67th Street since the area of the lake from 71st Street to the 67th Street right-of-way will not effectively clear the effluent and sediment away from the shore since the current in this area is greatly reduced.*
- *What studies have been conducted to investigate the impact of the point of land to the west of 67th Street, has on the flow of waters in the adjacent area to the east. My concern would be that the run off waters would flow closer to the shoreline/swimming areas, because of the contour of the shoreline near the 67th Street outlet, than, if it exited in the 62nd Street area.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: Please note that the 71st Street location drains a much larger area than that proposed to exit at the 67th Street outlet. Additional attention may be required in the detailed design of any outlet to ensure that the discharge is to the Bay and not trapped behind a portion of undulating beach grade. The flows from Bay Sands will be maintained at the pre-development rate. The 67th Street outlet has been sized for the catchment area to the south of it including the Bay Sands Development Area.

**COMMENTS SPECIFIC TO AN OUTLET AT 61<sup>ST</sup> STREET**

- *Will proposed drainage ditches overflow onto 61st North? Will the road of 61st North be opened and where will the drainage ditch be located?*
- *Will the drainage from the 61st Street outlet to Nottawasaga Bay be in an open ditch or a concrete culvert?*
- *In the winter snow is plowed and accumulates at the end of 61st Street which is a dead-end street. Snow melting at this location in proximity to an outlet at 67st Street will allow for contaminated snow melt to drain directly into the lake.*
- *New outlet at 61st Street will impede access to the beach and make it difficult for those bringing wagons, kayaks, canoes and other beach paraphernalia to the beach and difficulty for those who are disabled or need assistive devices.*
- *Concerned about wave action and future erosion potential at 61st Street.*
- *61st Street outlet will trap effluent at the shoreline and make water unsafe for swimming.*
- *Concerned about structural damage of adjacent homes on 61st Street. Structural damage could occur during construction from dewatering, vibration and construction in general. The damage may be immediate or occur at a later date and would involve costly and upsetting legal procedures.*
- *Homes on 61st Street may be devalued due to new outlet (more pollutants, unsightliness of structure and constant reminder of dumping into Bay).*
- *Concerned about impacts to beach aesthetics and increased erosion with an outlet at 61st Street.*
- *How will Option 2B impact the culture, access and safety of 61st Street and the environment? Were any alternatives considered or pursued with the pending/updated MOECC guidelines with new development and with the MNRF?*
- *An outlet at 61st Street would impede access and would require significant grading considerations. Any storm drainage outlet is going to have to consider the impact of waves which have a tendency to fall back to the outlet itself. Given how high the grading is on 61st street relative to any other streets that have received a sewer outlet, this represents a grave*

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*concern and risk issue to accessing the beach.*

- *What is the plan to accommodate the public to accessing the beach in that area? How will 61st Street accommodate those with a physical walking disability? Or the rest of the neighbours and public for that matter? There is little room for this, especially given that there are 3 driveways on our street, which isn't the case for example on 57th street.*
- *Overland flow down 61st street is virtually impossible given that the grade to the adjacent driveways from Shore Lane must be 3 to 4 feet higher. This is contrary to 57th street which can accommodate both a sewer and overland flow.*
- *There is going to be more water on the beach as result of the outlet. It is already generally swampy and not a well maintained section of the public beach.*
- *Why is the Town no longer considering placing an outlet at 62nd Street. The area of the beach opposite 62nd Street is already significantly swampy and few people traverse this area due to the significant poison ivy and vegetation growth on the beach. This has less social impact to the surrounding neighbours and public.*
- *The existing creek crossing east of 61st Street is considered to be a coldwater stream subject to NVCA jurisdiction. Have they approved any potential plan should you wish to connect from the Creek to the Bay rather than performing all of the 62nd street work?*
- *Concerns related to the protection of dwellings on 61st Street near the outlet during storm events.*
- *What will the impact be in a storm if 61st can't take the water flowing over the road due to the fact that it is uphill. How will you now protect cottages and homes?*
- *Page 4 of the PIC No.2 materials states that the Municipal Class Environmental Assessment Process is designed to protect the environment (physical, natural, social and economic). The report, in its current form, fails to demonstrate how design option 2B meets that objective. Can you fill in the gap and explain show design option 2B satisfies these objectives? I would respectfully submit that the identified preferred solution will have a destructive impact to the natural shore of Wasaga Beach at the base of 61st Street North as well as a negative impact to the area residents who use this beach access point.*
- *The proposed outlet at 61st Street North will have a negative impact on the water quality in the area. Scum and stagnant water can often be seen at the outlet at 57th Street North and will be seen at 61st Street North as well if an outlet is constructed there. The proposal to include an oil and grit separator is simply not sufficient to maintain the water quality in this section of the world's longest freshwater beach.*
- *Safety - There is a risk that small children will fall into the outlet at 61st Street when the flow is high.*
- *The addition of an outlet will ruin the existing path for people walking along the beach. It will also force snowmobiles to ride up onto 61st Street North in the winter.*
- *In addition to construction noise, the residents of the existing homes and cottages on 61st Street North would be subject to the increase in ongoing noise levels. For example, kids can't resist throwing rocks into the outlet and banging the steel parts of the bridge. (This occurs at 57th Street, but at least the existing cottages are set much further back from the outlet.)*
- *Has the NVCA been consulted about the proposal to build another sewer outlet at 61st Street North? How does construction of this sewer outlet align with the objective of 'innovative watershed management supporting a healthy environment, communities and lifestyles?'*
- *Concerned with impacts to structural integrity of existing residences resulting from construction associated with the 61st Street outlet.*
- *Frogs, ducks, an Egret, minnows and many other birds and water fowl may be affected by the addition of another outlet. Recently a large snapping turtle was observed on the beach not far from the natural outlet.*
- *The beach is extremely narrow on the east side of 61st Street. Water from existing outlets meanders and may cause further erosion at this section of the beach. As water levels are rising there is concern that there will be no protection for the properties in this area in the event of a storm.*
- *Due to the shape of the shoreline and prevailing direction of the waves coming in to the shore, there is a good possibility that an outlet at this location would trap effluent at the shoreline making the water unsafe for swimming.*
- *Homes on 61st are built on sand. Dewatering, vibration and construction will disturb the ground and could cause structural damage to new and existing homes. The damage may be immediate or occur at a later date and would involve costly and upsetting legal procedures*
- *The logical alternative is the 62nd Street option, using existing MNR land to create an outlet and allow for proper overland flow, something which can't be accomplished on 61st Street due to the grade.*
- *Health issues affect ability to walk without the use of an aid. Our beach access has been deteriorating year after year and is not well attended to making it very difficult for me to access the beach independently. Currently with the tall beach grasses and tree roots along with high water levels it is becoming more and more of an issue for me. The addition of a large drainage outlet will only make things worse, with the constant flow of water the grounds will be less stable and more dangerous for the public to navigate.*
- *What will the impact be in a storm if 61st can't take the water flowing over the road due to the fact that it is uphill how will*



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*you now protect our cottages and homes? Please consider more viable options for this drainage issue.*

- *...61st is a major thoroughfare for pedestrians and wave action will create a major issue for any outlet at the end of the road and not allowing pedestrians to access the beach. The corner of our property would need a massive retaining wall built by the Town to protect against erosion by the outlet.*
- *Concerned about the loss of trees to accommodate construction. Loss of privacy is a big concern.*
- *How will beach access be encumbered by the storm drainage as it enters the lake at the north end? Will there be stairs, a ramp, railings? I strongly protest any construction that restricts the access that has been historically available.*
- *Concerned about impacts to the structural integrity of homes in proximity to proposed construction. Heavy earth moving equipment could create tremors in earth, which is sand, thereby creating a possible risk to area dwellings. The Town should assess this possibility and take whatever actions are necessary to prevent damage.*
- *The proposed design for the 61st Street outlet shown on slide 15 indicates that the outlet structure will be placed several metres short of the beach resulting in an excessively deep trench and retaining wall to allow discharge to the beach. This will have a significant aesthetic impact on the adjacent properties, will be subject to severe erosion from wave action and will limit access to the beach. Regardless of the final location (61st or 62nd), if a new outlet is needed, the structure must be extended far enough to limit the height of embankments and facilitate access to and along the beach.*
- *We require the space to turn out of the driveway, any impediment there would be unacceptable.*

RESPONSE/HOW ADDRESSED DURING CLASS EA PROCESS: The municipality has selected AREA 2 Design Option 2C (62nd Street Outlet) as the Preferred Design and as such, the outlet will be constructed at 62nd Street. The above comments are considered addressed since an outlet is no longer being considered at 61st Street

## 9.0 MITIGATION

This section summarizes the potential for the Recommended Plans to generate negative effects and identifies the mitigation measures recommended to minimize these impacts. These measures are preliminary and may be refined or modified during the detailed design phase to reflect design changes made at that time.

### 9.1 Natural Environment

#### 9.1.1 Fish and Fish Habitat

As indicated fish habitat within the project study area is associated with Nottawasaga Bay and the drainage channel near 61st Street. The Recommended Plan for Area 1 does not propose any in-water work. All work is expected to occur above the high water mark of Nottawasaga Bay. As such, the works proposed are not expected to negatively impact fish or fish habitat in Nottawasaga Bay provided that no work takes place below the high water mark and water quality and quantity criteria meet agency requirements. The Recommended Plan for Area 2 does require minor construction in the area of the channel crossing south of Shore Lane in the 61<sup>st</sup> Street closed road allowance. The following mitigation will assist in keeping impacts to a minimum during the construction period:

- Construction should be completed using standard Best Management Practices for working around water, with attention to common construction related impacts associated with site clearing and containment of exposed soils;
- Work areas should be minimized to the extent possible, and will require isolating prior to site disturbance;
- Silt controls are to be installed and monitored to ensure that exposed soils are not susceptible to erosion following precipitation events considering the proximity to the lake and beach environment.
- Equipment refueling and maintenance are to be completed in accordance with OPSS 182 and at a location that will prevent leakage into surface water;
- Silt fencing or equivalent should be installed at the limit of the work area to prevent the accidental intrusion of machinery operations into adjacent undisturbed natural areas;

- All areas disturbed during the construction process, both in-water and out, shall be restored;
- Removal of riparian vegetation should be kept to a minimum in order to limit erosion as per OPSS 804; and,
- Stockpiled material should be stored a minimum of 30 m from the waterbody with adequate sediment and erosion controls to prevent excess material from entering nearby waterbodies; and

Additional Mitigation for Area 2:

- During detailed design the works proposed should be reviewed by a Fisheries Biologist to confirm the potential for impact, identify appropriate mitigation and determine the need for a DFO review.
- Sediment and erosion controls will be required at the outfall to capture fines prior to discharge to Nottawasaga Bay, and the flow pathway of discharged water to the lake should be identified prior to construction to ensure that sufficient mitigation measures are incorporated into the design. The Erosion and Sediment Control Guideline for Urban Construction (Greater Golden Horseshoe Area Conservation Authority, 2006) can be used a reference to develop and effective sediment and erosion control plan.
- All in-water work and near water work shall be completed in accordance with OPSS 182.
- All work is to occur above the high water mark of Nottawasaga Bay and the drainage channel east of 61st Street.
- Sediment and Erosion Controls – As per OPSS 182 and OPSS 805, diligent application of sediment and erosion controls will be required for all construction activities occurring in proximity to Nottawasaga Bay or area drainage channels to alleviate the risk of sediment entering the waterbody. Erosion and sediment control measures must be maintained throughout construction and until vegetation is reestablished post construction.

### 9.1.2 Vegetation

For Area 1, the construction of the proposed drainage channel across the vacant lands to the north of the Bay Sands Development Area will result in the loss of some woodland habitat and temporary fragmentation of the woodland feature. However, the potential for impact can be minimized through re-naturalization of the alignment post construction and application of

mitigation measures. Likewise the Recommended Plan for Area 2 will also require some vegetation removal; however, it is not expected to be significant and impacts can be mitigated. The following measures will assist in minimizing impacts to area vegetation during construction:

- All areas disturbed during construction should be restored as soon as possible following the completion of earthworks. Re-stabilize and re-vegetate exposed surfaces as soon as possible following construction.
- The limits of construction should be defined with fencing to minimize intrusion into unnecessary areas.

Additional Mitigation for Area 1:

- Butternut Tree: The routing of the proposed drainage channel connecting the Bay Sands Development Area to Mosely Street will need to be confirmed through discussions with the affected property owner and the NVCA during detailed design. A Butternut Health Assessment of the tree identified in November 2016 should be completed if detailed design proceeds with Design Option 1A and the alignment is situated to the west of the wetland. Depending on the results of the assessment an ESA permit and associated mitigation plan may be required at that time through discussion with the Ministry of Natural Resources and Forestry and the Nottawasaga Valley Conservation Authority.
- A spring vegetation survey should occur within the footprint of the preferred alignment, six to twelve months prior to construction, to ensure that sensitive and/or rare plant populations are not present.
- Snow fencing or equivalent should be installed at the limit of the work area to prevent the accidental intrusion of machinery operations into adjacent undisturbed natural areas;
- Tree protection measures should be implemented adjacent to the retained woodland prior to site alteration. All proposed tree removals should be overseen by a certified arborist to ensure that removals do not impact retained trees.
- Native topsoil should be stored on site and reused during site grading, in an effort to preserve the local, native seed bank and promote quick re-establishment of vegetation.
- Vegetation reestablishment is to occur as soon as possible following construction and grading activities. The alignment should be re-naturalized with native herbaceous and woody plants, to the maximum extent possible, in order to reduce the canopy opening created by construction and minimize habitat fragmentation.

Additional Mitigation for Area 2:

Site restoration of the Ontario Parks' property post construction is recommended and should include special consideration for the ecological value of a remnant of a provincially rare SBOD1-1 community as well as that of a remnant SBTD1 community. It is recommended that once the site works are completed, the following practices be implemented:

- Return existing sandy topsoil to same location after the underground infrastructure is buried, with particular emphasis on returning the upper 30cm of soil to the same upper 30cm of the soil column, rather than mixing this deep in the soil column;
- As much as feasible, do not pack upper 30cm of the soil column down (soil de-compaction is desirable);
- Fully remove invasive shrubs and invasive trees during excavation;
- Seed the disturbance area with an annual non-invasive nurse crop combined with an appropriate native seed mix; and,
- Formalize the “path” through the property with a boardwalk, ideally placed on the western extent of the area of disturbance.
- Given the sensitivity of the dune communities this work should be done in consultation with ecologist with some knowledge of the Wasaga Beach area and the vegetation associated with those communities.
- Tree cover where lost should be allowed to re-establish from adjacent seed sources.

**9.1.3 Wetlands**

Siting of the alignment of the drainage channel and associated construction has the potential to impact the wetland; however, through discussions with the NVCA, the alignment as currently shown with the Area 1 Recommended Plan is sited to avoid directly impacting the wetland and to provide an opportunity to augment or increase the existing wetland function. While there will be disturbance during the construction period, this will be temporary and it is expected that the affected area will return to a wetland community. As such, significant long term impacts are not expected. For the Coastal Wetland associated with Area 2, the works proposed are not expected to result in direct impacts to this community as long as mitigation measures are employed during construction. The impacts of stormwater outflow should be reviewed during detailed design and may require additional mitigation.



The following measures will assist in reducing the potential for impact from the project in general:

- All areas disturbed during construction should be restored as soon as possible following the completion of earthworks. The contractor will be required to complete the task in accordance with approved guidelines through re-vegetation of all excavated and erodible soils using a layer of topsoil and type of soil guard (i.e. geotextile) to minimize the potential for erosion and sediment to enter adjacent waterbodies.
- Fencing should be utilized to delineate the work area and to prevent intrusion into wetland areas;
- Application of standard best management practices for working in and around water (i.e. sediment & erosion control; site restoration following construction; equipment refueling and maintenance restrictions etc.).
- Additional Mitigation for Area 1 Recommended Plan:
  - The current limits of the wetland was delineated and surveyed with the NVCA. The Class EA preliminary design has subsequently sited the route to be in the buffer area of the wetland so as to minimize impacts. However, the final routing of the proposed drainage channel for the Area 1 Recommended Plan connecting the Bay Sands Development Area to Mosely Street will need to be confirmed through discussions with the affected property owner and the NVCA during detailed design.
  - As per NVCA recommendations the detailed design should maximize protection and enhancement of area wetlands and key forest features and the proposed stormwater management facility be designed to enhance the existing wetland feature and offset any losses that may occur in the Bay Sands Development Area.
  - Construction of the preferred alignment must occur such that there is no impact to the local hydrology and hydroperiod of the wetland. This will ensure that that wetland function and wetland dependant flora and fauna persist post construction.

#### 9.1.4 Wildlife and Species at Risk (SAR)

As indicated, the main locations of habitat within the study area are associated with the Ontario Parks' property (i.e. Area 2 - 62<sup>nd</sup> Street outlet) and the Bay Sands Development Area and vacant lands to the north between Bay Sands Development Area and Mosely Street (i.e. Area 1 - 67<sup>th</sup> Street outlet). Below is a list of the key SAR concerns associated with each area and the potential for impact resulting from the Recommended Plans.

Area 1 Recommended Plan:

- Eastern Wood-pee-wee (Special Concern): This species is not area sensitive. Suitable habitat for the Eastern Wood-pee-wee will remain post-development. There is a low potential to impact this species.
- Eastern Hog-nosed Snake (Threatened): Suitable habitat for this species will remain post-development and mitigation will assist in minimizing impacts during construction. There is a low potential to impact this species.
- Milksnake (Special Concern): The work proposed is not expected to result in a loss of habitat features that are necessary or that are needed to maintain a Milksnake population. Sufficient habitat will remain outside the construction footprint of the works proposed. There is a low potential to impact this species.
- Western Chorus Frog: Potential habitat for this species will remain post construction and therefore the impacts from the work proposed are expected to have a low potential for impact.
- Butternut Trees (Endangered): Impacts can be avoided or minimized through mitigation.
- Hill's Thistle (Threatened): There is potential suitable habitat for this species in the gaps of woodland areas found within the Bay Sands Development Area and the vacant lands to the north; however, it was not observed during the field surveys. There is a low potential for impact provided the mitigation as identified is implemented.
- Bat Species (Endangered): There is potential SAR bat habitat within the forested areas of the lands to the north of the Bay Sands Development Area. Additional studies will be required during the detailed design phase to confirm impacts.

Area 2 Recommended Plan:

- Piping Plover (Endangered): The potential to impact this species is expected to be low since this species is not known to occur within the beach areas to be impacted by the project and there is currently no existing habitat for this species in the affected areas.
- Red-headed Woodpecker (Special Concern): Habitat will remain post construction and impacts will be temporary and limited to the period of construction. Low potential for impact.
- Monarch Butterfly (Special Concern): It was determined that the subject property is unlikely to provide breeding or foraging habitat for this species and this species was not

observed during the field assessment. The potential for impact is therefore expected to be low.

- Lake Sturgeon (Threatened): No in-water works is proposed so the potential for impact is expected to be low.
- Bat Species (Endangered): The survey confirmed that only one snag tree was present within the SBTD1 vegetation community and it is unlikely to provide maternity roost habitat. The loss of one tree to accommodate the 62nd Street outlet (i.e. Area 2) will not result in a contravention of Section 10 of the Endangered Species Act (ESA) since potential maternity roost and foraging habitat is available on neighboring properties.

The following mitigation measures will assist in the protection of area wildlife and SAR during construction:

- To avoid impacts to SAR and non-SAR birds (including potential migratory breeding birds), the removal of vegetation (including clearing and grubbing) should be avoided between April 1st and August 30th. If works are required within this timing window, then the area should be cleared of nests by a qualified avian biologist prior to the activity being undertaken. The Contractor shall avoid destroying nests of migratory birds.
- Worker Training: Care should be taken to ensure that employees receive training on SAR to ensure no contraventions of the ESA during construction.
- Individuals working on site shall ensure that SAR are not harmed during construction or killed by heavy machinery, vehicles, or other equipment.
- If a SAR is encountered during construction, all works in the immediate area must cease and the Contract Administrator and the SAR Biologist at the Ministry of Natural Resources and Forestry Midhurst District office should be contacted immediately. Harassment to SAR should not occur during construction activities.

Additional Mitigation for Area 1 Recommended Plan:

- It is recommended that the municipality complete an updated SAR screening during the detailed design of the Area 1 Recommended Plan to reflect any changes in SAR policy, the natural environment or changes to the current SAR list.
- A Bat Snag Density will need to be completed during detailed design to confirm the existence of bat habitat (i.e. suitable bat maternity roosting cavity trees). If bat habitat is confirmed to be present, the alignment will need to be refined to avoid the habitat and /

or appropriate permits will be required from the MNR to accommodate any impacts in accordance with the Endangered Species Act).

- Site grading works should not occur during the amphibian breeding period. For this location site grading should not occur between winter thaw and June of any given year.

Additional Mitigation for Area 2 Recommended Plan:

- To avoid impacts to SAR bats, it is recommended that tree removals be undertaken between October 16th and April 30th. Any works undertaken between May 1st and October 15th may require additional bat surveys to ensure that no Endangered bat species are utilizing potential maternity roost habitat on-site.

### 9.1.5 Surface Water

Overall, the proposed undertaking will provide improvements to area drainage and alleviate flooding. It will also provide additional water quality treatment in comparison to that provided under current conditions. However, during construction there is the potential to impact surface water through the accidental spillage of harmful substances from refueling and/or equipment maintenance. Erosion can also occur and result in sediment entering area watercourses or drainage channels. Overall, it is anticipated that impacts to surface water during construction will be minimal provided the standard measures for working in and around water are followed. The following mitigation measures will assist in minimizing impacts:

- Obtain necessary approval from the Nottawasaga Valley Conservation Authority for working within a regulated area.
- Application of standard best management practices for working in and around water (i.e. sediment & erosion control; site restoration following construction; equipment refueling and maintenance restrictions etc.).
- Complete water taking (consumptive use, surface water diversions etc.) in accordance with the requirements of the Ontario Water Resources Act and the Environmental Protection Act.
- It is recommended that detailed design give consideration to implementing Low Impact Development measures, where possible, to assist in improving water quality.
- OPSS 518 – Control of Water from Dewatering Operations
- OPSS 805 – Construction Specification for Temporary Erosion and Sediment Control Measures

- OPSS 804 – Construction Specification for Seed and Cover
- OPSS 180 – General Specification for the Management of Excess Materials

#### 9.1.6 Groundwater

The majority of the study area utilizes the municipal water system. It was confirmed that the study area overall is not within a Wellhead Protection Area, Intake Protection Zone, Significant Groundwater Recharge Area or Highly Vulnerable Aquifer Area. It is not expected that construction proposed will negatively impact groundwater. The following measures will assist in minimizing impacts to area groundwater during construction:

- Complete water taking (groundwater) in accordance with the requirements of the Ontario Water Resources Act and the Environmental Protection Act.
- It is recommended that detailed design give consideration to implementing Low Impact Development measures, where possible, including the directing of clean roof runoff to infiltration galleries to assist in maintaining the groundwater balance.
- OPSS 518 – Control of Water from Dewatering Operations
- OPSS 180 – General Specification for the Management of Excess Materials

#### 9.1.7 Air Quality

As this project proposes improvements to stormwater management it is unlikely that the works proposed will negatively impact air quality. During the construction period there may be temporary impacts. The following standard mitigation measures will assist in reducing impacts in this regard:

- The Contractor should utilize best management practices during construction to maintain air quality through construction and include no unnecessary idling of vehicles during construction.
- Stockpiles of soil, sand and aggregate should be covered.
- Construction sites and access road shall be regularly cleaned to remove debris and dust caused by construction.
- Dust suppressants shall be applied to control dust generated by construction activities.



## 9.2 Socio-Economic Environment

### 9.2.1 Land Use & Property Impacts

While successful completion of this Class EA will provide a drainage strategy for the Bay Sands Development Area the provision of municipal water and sanitary servicing still needs to be established and as such, it may take several years before development of that subdivision can proceed. While the Town may move forward with implementation of the Area 2 Recommended Plan following the completion of this Class EA, the implementation of the Area 1 Recommended Plan will be delayed until the remaining servicing aspects are addressed.

During construction there is the potential to impact property access and traffic flow. The following measures will assist in minimizing these impacts:

- Should detailed design determine that property may be required to accommodate the urbanization of Shore Lane between 63rd Street and 64th Street, consideration should be given to the shallow nature of the lots on the south side of the corridor at that location.
- Employ grading techniques to minimize potential for impact to adjacent properties.
- Use of traffic management measures (i.e. construction staging, detours etc.) to minimize impacts to local traffic and to maintain access during construction.
- Provide advance notice to property owners regarding temporary access closures during construction.
- Operational Constraint Private and Commercial Entrances should be included in the contract documents indicating that the contractor will be required to maintain access during construction to all entrances. The contractor will also be required to provide notification to affected property owners of a scheduled temporary entrance closure, in writing, 48 hours in advance of the closure. Entrances will also be restored prior to shutting down at the end of the day.
- Construction staging should be utilized to ensure that traffic movement is maintained and consist of single lane closures controlled by Traffic Control Persons as Per OTM Book 7.
- SP100F08 should be included in the contract documents to address the use of public roadways and the disruption of traffic over the duration of construction.

- Additional Mitigation for Area 1 Recommended Plan: The routing of the proposed drainage channel connecting the Bay Sands Development Area to Mosely Street will need to be confirmed through discussions with the affected property owner and the NVCA during detailed design. It is recommended that the property owner be contacted early in the detailed design process and kept informed throughout the project.

### 9.2.2 Noise

There is the potential for increased noise during the construction period; however, this will be temporary and be minimized through implementation of the following measures:

- Construction should adhere to the municipality's noise by-law. The contractor should be restricted from working during the weekends or on holidays.
- Equipment should be maintained in an operating condition that prevents unnecessary noise, including but not limited to non-defective muffler systems, properly secured components, and the lubrication of moving parts.
- The idling of equipment should be restricted to the minimum necessary to perform the specified work.

### 9.2.3 Servicing and Utilities

The urbanization associated with both Recommended Plans will impact both municipal services and utilities during construction. During detailed design additional discussions with affected utilities will be required to confirm the location of existing utility infrastructure and to ensure that service can be maintained during the construction period.

### 9.2.4 Contamination and Waste Management

Given that the Recommended Plans for both areas propose the construction of municipal infrastructure on vacant lands not currently owned by the municipality, it is recommended that during the detailed design phase that further consideration be given to the need for a Phase I Environmental Site Assessment (ESA) to review the historical usage of the affected areas (i.e. property north of the Bay Sands Development Area (Area 1) and the Ontario Parks' property (Area 2)) to determine the potential for any contamination and / or underground storage tanks to be present and to establish an agreed course of action in terms of disposal should something be encountered during construction.

The following measures will assist in addressing contamination and waste management during the period of construction:

- The removal and movement of soil should follow the recommendations as outlined in the *Management of Excess Soil – A Guide for Best Management Practices* document prepared by the MOECC.
- If potential contamination is encountered the appropriate tests will need be undertaken to confirm the contaminant present and its levels. If the soils are contaminated, disposal will need to be consistent with Part XV.1 of the Environmental Protection Act (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up.
- Excess material will require proper management (removal, storage and disposal). Materials shall be managed in accordance with OPSS 180 – General Specification for the Management of Excess Materials.
- Where the Contractor manages excess earth as disposable fill, the Contractor shall take into account the possibility of salt impacts and ensure that the material is managed responsibly and in an environmentally appropriate manner. Should any contaminated materials be encountered during the undertaking, caution will be exercised while handling and disposing of contaminated materials in accordance with provincial regulations, and MTO practices (as governed by OPSS 180 or the most current standard at the time of construction).
- If asbestos or lead are identified and determined to require abatement, appropriate handling, health and safety abatement and waste disposal protocols will be followed according to the Ontario Environmental Protection Act. – R.R.O 1990 Regulation 347: General – Waste Management and the Ontario Occupational Health and Safety Act – O. Regulation 278/05: Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations and the Ontario Occupational Health and Safety Act – O. Regulation 490/09: Designated Substance – Lead.

## 9.3 Cultural Environment

### 9.3.1 Archaeological Resources

A Stage 1 archaeological assessment was completed during the Class EA process which concluded the following:

#### Area 1 Recommended Plan:

- The area subject to a proposed drainage easement (i.e. vacant lands north of the Bay Sands Development Area) was determined not to have any archaeological potential due to poor drainage in the area. It is considered to be cleared of archaeological concerns.
- While the 67<sup>th</sup> Street corridor was not included in the original archaeological assessment it has been subject to previous construction and disturbance and construction is expected to be contained within the existing corridor. The need for a Stage 2 assessment for the 67<sup>th</sup> Street corridor subject to urbanization should be reviewed further during detailed design.

#### Area 2 Recommended Plan:

- The 62<sup>nd</sup> Street South corridor, south of Mosley Street was cleared of archaeological concerns due to previous disturbance.
- The 62<sup>nd</sup> Street North corridor (north of Mosley Street) was deemed to require a Stage 2 assessment given that the lands immediately adjacent the corridor contain some lawn areas that are undisturbed.
- The Ontario Parks' property north of the intersection of Shore Lane and 62<sup>nd</sup> Street will also require further archaeological review.

Given the above, a Stage 2 archaeological assessment will be required in localized areas during the detailed design phase. Curve Lake First Nation is to be contacted when initiating this assessment during detailed design to confirm if that community would like a monitor to be present on-site for the Stage 2 work. Section 8.2 of this report provides additional details pertaining to this request, including appropriate contact information.

The following should be incorporated into the Contract Documents to provide direction in the event that deeply buried archaeological material is encountered during construction:

- In the event that previously unknown or unassessed deeply buried archaeological resources are uncovered during construction, the contractor shall immediately notify the Contract Administrator. Work shall remain suspended within the subject area until otherwise directed by the Contract Administrator in writing. The CA will contact the Town of Wasaga Beach representative who will confirm the need to engage a licensed consultant archaeologist to carry out any archaeological fieldwork, in compliance with Section 48 (1) of the Ontario Heritage Act.
- In the event that human remains are encountered during construction, the contractor shall immediately notify the Contract Administrator. Work shall remain suspended within the subject area until otherwise directed by the Contract Administrator in writing. The CA will contact the Municipal representative who will notify the police, coroner and the Registrar of the Bereavement Authority of Ontario.

### **9.3.2 Built Heritage Resources**

- No mitigation is required to address the protection of cultural heritage resources.

## **10.0 CLIMATE CHANGE**

Climate change concerns relate to the increased concentration of greenhouse gases in the atmosphere which can result in a rise in the global mean surface temperature. Increased temperatures worldwide are creating changes in climate that is resulting in extreme weather events. The rise of greenhouse gas emissions is influencing climate patterns, hydrology, ecosystems and ocean chemistry. There are two approaches to address climate change that involve reducing a project's impact on climate change (climate change mitigation) and increasing the project's and local ecosystem's resilience to climate change (climate change adaptation). However, before a mitigation or adaptation strategy can be established, consideration must be given to the potential for a project to impact climate change and the potential impact that climate change may have on a project. This section of the report will discuss the aforementioned aspects in relation to this project utilizing a qualitative approach.



## **10.1 Potential for Project to Impact Climate Change**

As this is a stormwater management project there is a low potential for the works proposed to impact the atmosphere through the emission of greenhouse gases. Carbon sources associated with this project would relate to heavy vehicle emissions during the construction period.

Landscape changes associated with a project can also impact climate change. A carbon sink is described as a land or ocean mass that can take in carbon, in particular carbon dioxide, from the atmosphere. As such, it would be important to maintain these features. Vegetation can assist in removing carbon dioxide from the atmosphere and as such, it will be important to minimize vegetation removals associated with the project. The proposed undertaking will result in minor vegetation removals to accommodate construction and impacts will be offset through site restoration and landscaping post construction.

## **10.2 Potential for Climate Change to Impact this Project**

Portions of the study area are subject to frequent, historic flooding and that is one of the problems that this undertaking is attempting to resolve. Should the drainage in the area continue with no improvements then the flooding would continue and may become worse as a result of climate change. This undertaking will therefore make the area less vulnerable to climate change. It is not expected that the proposed alteration of local drainage patterns will negatively impact the health and resiliency of areas forests or wetlands. The drainage channel proposed north of the Bay Sands Development Area will be constructed to enhance the existing wetland function and the channel will be a grass-lined swale. The project is not expected to result in a disruption to lands or waters associated with Indigenous cultural resources.

## 11.0 PERMITS AND APPROVALS

During detailed design permits and approvals will need to be acquired from the following agencies:

- Nottawasaga Valley Conservation Authority (NVCA): An NVCA permit will be required in accordance with Regulation 172/06 prior to any site alteration and / or development in areas regulated by this agency.
- Ministry of Environment and Climate Change (MOECC): An Environmental Compliance Approval (ECA) will be required for the new outlet and associated infrastructure works. An MOECC Permit to Take Water (PTTW) may be required for any water takings (i.e. surface water and / or groundwater).
- Ministry of Natural Resources and Forestry (MNRF): A permit from the MNRF may be required to address impacts to the Butternut Tree (associated with the Area 1 Recommended Plan) and any potential impacts to SAR Bat habitat (i.e. vegetation removals) associated with the Area 1 and Area 2 Recommended Plans.
- Ontario Parks: For Area 2, additional discussions will be required with Ontario Parks to confirm if the following will be required: Infrastructure Ontario service fees, survey costs, environmental assessment or consultation costs, and market value for the easement.
- Private Land Owner: For Area 1, additional discussions will be required with the private landowner to the north of the Bay Sands Development Area to establish an agreement to permit the drainage channel crossing that will connect the Bay Sands Development Area to the municipal drainage infrastructure in the area of 67<sup>th</sup> Street and Mosely Street.

## 12.0 SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION

Table 22 summarizes the potential for environmental effects associated with this contract. Applicable mitigation measures and commitment to future work are also detailed.

## 13.0 MONITORING

Information pertaining to required mitigation and monitoring will be incorporated into the Construction Documents once the detailed design has been finalized. Monitoring will be

conducted by on-site construction staff to make certain that environmental protection measures are being implemented and are effective. The Contract Administrator will make certain that environmental protection measures and monitoring as identified are implemented during construction and that any repairs to protection measures will be made in a timely fashion. Monitoring following construction will be completed, as required.

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**Table 22: Summary of Environmental Effects, Mitigation and Commitments to Future Work**

I.D. #	Issue/Concern Potential Effects	Mitigation/Protection/Monitoring
1.	<p><b>Fish &amp; Fish Habitat</b></p> <ul style="list-style-type: none"> <li>The majority of existing drainage features within the study area consist of swales or ditches that are man-made, undefined and/or flow intermittently; however, the drainage channel east of 61st Street was found to be ephemeral and provide seasonal fish habitat.</li> <li>The Recommended Plan for Area 1 does not propose any in-water work. All work is expected to occur above the high water mark of Nottawasaga Bay.</li> <li>The Recommended Plan for Area 2 proposes the construction of the ditch inlet adjacent the channel that crosses the unopened road allowance of 61st Street, south of Shore Lane. All remaining work is expected to occur above the high water mark of Nottawasaga Bay.</li> <li>There is the potential for indirect impacts to fish and fish habitat during the construction period.</li> <li>Overall, the potential to impact fish and fish habitat is expected to be low provided the mitigation measures as identified area implemented during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Construction should be completed using standard Best Management Practices for working around water, with attention to common construction related impacts associated with site clearing and containment of exposed soils;</li> <li>Work areas should be minimized to the extent possible, and will require isolating prior to site disturbance;</li> <li>Silt controls are to be installed and monitored to ensure that exposed soils are not susceptible to erosion following precipitation events considering the proximity to the lake and beach environment.</li> <li>Equipment refueling and maintenance are to be completed in accordance with OPSS 182 and at a location that will prevent leakage into surface water;</li> <li>Silt fencing or equivalent should be installed at the limit of the work area to prevent the accidental intrusion of machinery operations into adjacent undisturbed natural areas;</li> <li>All areas disturbed during the construction process, both in-water and out, shall be restored;</li> <li>Removal of riparian vegetation should be kept to a minimum in order to limit erosion as per OPSS 804; and,</li> <li>Stockpiled material should be stored a minimum of 30 m from the waterbody with adequate sediment and erosion controls to prevent excess material from entering nearby waterbodies; and</li> </ul> <p><u>Additional Mitigation for Area 2:</u></p> <ul style="list-style-type: none"> <li>During detailed design the works proposed should be reviewed by a Fisheries Biologist to confirm the potential for impact, identify appropriate mitigation and determine the need for a DFO review.</li> <li>Sediment and erosion controls will be required at the outfall to capture fines prior to discharge to Nottawasaga Bay, and the flow pathway of discharged water to the lake should be identified prior to construction to ensure that sufficient mitigation measures are incorporated into the design. The Erosion and Sediment Control Guideline for Urban Construction (Greater Golden Horseshoe Area Conservation Authority, 2006) can be used a reference to develop and effective sediment and erosion control plan.</li> <li>All in-water work and near water work shall be completed in accordance with</li> </ul>

I.D. #	Issue/Concern Potential Effects	Mitigation/Protection/Monitoring
		<p>OPSS 182.</p> <ul style="list-style-type: none"> <li>All work is to occur above the high water mark of Nottawasaga Bay and the drainage channel east of 61st Street.</li> <li>Sediment and Erosion Controls – As per OPSS 182 and OPSS 805, diligent application of sediment and erosion controls will be required for all construction activities occurring in proximity to Nottawasaga Bay or the drainage channel that to alleviate the risk of sediment entering the waterbody. Erosion and sediment control measures must be maintained throughout construction and until vegetation is re-established post construction;</li> </ul>
2.	<p><b>Vegetation/Vegetation Communities</b></p> <ul style="list-style-type: none"> <li>For Area 1, construction of the proposed drainage channel across the vacant lands to the north of the Bay Sands Development Area will result in the loss of some woodland habitat and temporary fragmentation of the woodland feature. However, the potential for impact can be minimized through re-naturalization of the alignment post construction and application of mitigation measures.</li> <li>Likewise the Recommended Plan for Area 2 will also require some vegetation removal; however, it is not expected to be significant and impacts can be mitigated.</li> </ul>	<ul style="list-style-type: none"> <li>All areas disturbed during construction should be restored as soon as possible following the completion of earthworks. Re-stabilize and re-vegetate exposed surfaces as soon as possible following construction.</li> <li>The limits of construction should be defined with fencing to minimize intrusion into unnecessary areas.</li> </ul> <p><u>Additional Mitigation for Area 1 Recommended Plan:</u></p> <ul style="list-style-type: none"> <li><u>Butternut Tree:</u> The routing of the proposed drainage channel connecting the Bay Sands Development Area to Mosely Street will need to be confirmed through discussions with the affected property owner and the NVCA during detailed design. A Butternut Health Assessment of the tree identified in November 2016 should be completed if detailed design proceeds with Design Option 1A and the alignment is situated to the west of the wetland. Depending on the results of the assessment an ESA permit and associated mitigation plan may be required at that time through discussion with the Ministry of Natural Resources and Forestry and the Nottawasaga Valley Conservation Authority.</li> <li>A spring vegetation survey should occur within the footprint of the preferred alignment, six to twelve months prior to construction, to ensure that sensitive and/or rare plant populations are not present.</li> <li>Snow fencing or equivalent should be installed at the limit of the work area to prevent the accidental intrusion of machinery operations into adjacent undisturbed natural areas;</li> <li>Tree protection measures should be implemented adjacent to the retained woodland prior to site alteration. All proposed tree removals should be overseen by a certified arborist to ensure that removals do not impact retained trees.</li> </ul>



I.D. #	Issue/Concern Potential Effects	Mitigation/Protection/Monitoring
		<ul style="list-style-type: none"> <li>• Native topsoil should be stored on site and reused during site grading, in an effort to preserve the local, native seed bank and promote quick re-establishment of vegetation.</li> <li>• Vegetation reestablishment is to occur as soon as possible following construction and grading activities. The alignment should be re-naturalized with native herbaceous and woody plants, to the maximum extent possible, in order to reduce the canopy opening created by construction and minimize habitat fragmentation.</li> </ul> <p><u>Additional Mitigation for Area 2 Recommended Plan:</u> Site restoration following construction of the proposed development is recommended and should include special consideration for the ecological value of a remnant of a provincially rare SBOD1-1 community as well as that of a remnant SBTD1 community. It is recommended that once the site works are completed, the following practices be implemented:</p> <ul style="list-style-type: none"> <li>• Return existing sandy topsoil to same location after the underground infrastructure is buried, with particular emphasis on returning the upper 30cm of soil to the same upper 30cm of the soil column, rather than mixing this deep in the soil column;</li> <li>• As much as feasible, do not pack upper 30cm of the soil column down (soil de-compaction is desirable);</li> <li>• Fully remove invasive shrubs and invasive trees during excavation;</li> <li>• Seed the disturbance area with an annual non-invasive nurse crop combined with an appropriate native seed mix; and,</li> <li>• Formalize the “path” through the property with a boardwalk, ideally placed on the western extent of the area of disturbance.</li> <li>• Given the sensitivity of the dune communities this work should be done in consultation with ecologist with some knowledge of the Wasaga Beach area and the vegetation associated with those communities.</li> <li>• Tree cover where lost should be allowed to re-establish from adjacent seed sources.</li> </ul>
3.	<p><b>Wetlands</b></p> <ul style="list-style-type: none"> <li>• <u>Area 1:</u> There is potential to impact the unevaluated wetland located on the Bay Sands Development Area and lands to the north associated with the alignment and construction of the</li> </ul>	<ul style="list-style-type: none"> <li>• All areas disturbed during construction should be restored as soon as possible following the completion of earthworks. It will be up to the contractor to complete the task in accordance with approved guidelines through re-vegetation of all excavated and erodible soils using a layer of topsoil and type of soil guard</li> </ul>

I.D. #	Issue/Concern Potential Effects	Mitigation/Protection/Monitoring
	<p>drainage channel.</p> <ul style="list-style-type: none"> <li>• <u>Area 2:</u> A limited-quality remnant coastal wetland was identified in proximity to the Ontario Parks property. The works proposed are not expected to result in direct impacts to this community as long as mitigation measures are employed during construction.</li> </ul>	<p>(i.e. geotextile) to minimize the potential for erosion and sediment to enter adjacent waterbodies.</p> <ul style="list-style-type: none"> <li>• Fencing should be utilized to delineate the work area and to prevent intrusion into wetland areas;</li> <li>• Application of standard best management practices for working in and around water (i.e. sediment &amp; erosion control; site restoration following construction; equipment refueling and maintenance restrictions etc.).</li> </ul> <p><u>Additional Mitigation for Area 1 Recommended Plan:</u></p> <ul style="list-style-type: none"> <li>• The current limits of the wetland was delineated and surveyed with the NVCA. The Class EA preliminary design has subsequently sited the route to be in the buffer area of the wetland so as to minimize impacts. However, the final routing of the proposed drainage channel for the Area 1 Recommended Plan connecting the Bay Sands Development Area to Mosely Street will need to be confirmed through discussions with the affected property owner and the NVCA during detailed design.</li> <li>• As per NVCA recommendations the detailed design should maximize protection and enhancement of area wetlands and key forest features and the proposed stormwater management facility be designed to enhance the existing wetland feature and offset any losses that may occur in the Bay Sands Development Area.</li> <li>• Construction of the preferred alignment must occur such that there is no impact to the local hydrology and hydroperiod of the wetland. This will ensure that that wetland function and wetland dependant flora and fauna persist post construction.</li> </ul>
4.	<p><b>Wildlife and Species at Risk</b></p> <ul style="list-style-type: none"> <li>• Below is a list of the key SAR concerns associated with each area.</li> <li>• There is a low potential to impact SAR since suitable habitat for these species will remain post-construction and mitigation will assist in keeping impacts to a minimum.</li> </ul> <p><u>Area 1 Recommended Plan:</u></p>	<p>The following mitigation measures will assist in the protection of area wildlife and SAR during construction:</p> <ul style="list-style-type: none"> <li>• To avoid impacts to SAR and non-SAR birds (including potential migratory breeding birds), the removal of vegetation (including clearing and grubbing) should be avoided between April 1st and August 30th. If works are required within this timing window, then the area should be cleared of nests by a qualified avian biologist prior to the activity being undertaken. The Contractor shall avoid</li> </ul>

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	<ul style="list-style-type: none"> <li>• <u>Eastern Wood-pee-wee (Special Concern)</u>: This species was observed during the bird surveys and the forested areas provide confirmed habitat for this species.</li> <li>• <u>Eastern Hog-nosed Snake (Threatened)</u>: Potential suitable habitat may be present within the vacant, forested areas.</li> <li>• <u>Milksnake (Special Concern)</u>: The vacant, wooded areas may be used as habitat.</li> <li>• <u>Western Chorus Frog</u>: This species was observed during the field surveys and habitat exists in the wetlands areas of the Bay Sands Development Area and the vacant lands to the north.</li> <li>• <u>Butternut Trees (Endangered)</u>: A single tree was observed on the west side of the wetland unit on the lands north of the Bay Sands Development Area. Impacts can be avoided or minimized through mitigation.</li> <li>• <u>Bat Species (Endangered)</u>: There is potential SAR bat habitat within the forested areas of the lands to the north of the Bay Sands Development Area. Additional studies will be required during the detailed design phase to confirm impacts.</li> <li>• <u>Hill's Thistle (Threatened)</u>: There is potential suitable habitat for this species in the gaps of woodland areas found within the Bay Sands Development Area and the vacant lands to the north; however, it was not observed during the field surveys.</li> </ul> <p><u>Area 2 Recommended Plan:</u></p> <ul style="list-style-type: none"> <li>• <u>Piping Plover (Endangered)</u>: This species is not known to occur within the beach areas to be impacted by the project and there is currently no existing habitat for this species in the affected areas.</li> <li>• <u>Red-headed Woodpecker (Special Concern)</u>: Habitat will remain post construction and impacts will be temporary and limited to the period of construction. Low potential for impact.</li> <li>• <u>Monarch Butterfly (Special Concern)</u>: It was determined that the subject property is unlikely to provide breeding or foraging</li> </ul>	<p>destroying nests of migratory birds.</p> <ul style="list-style-type: none"> <li>• Worker Training: Care should be taken to ensure that employees receive training on SAR to ensure no contraventions of the ESA during construction.</li> <li>• Individuals working on site shall ensure that SAR are not harmed during construction or killed by heavy machinery, vehicles, or other equipment.</li> <li>• If a SAR is encountered during construction, all works in the immediate area must cease and the Contract Administrator and the SAR Biologist at the Ministry of Natural Resources and Forestry Midhurst District office should be contacted immediately. Harassment to SAR should not occur during construction activities.</li> </ul> <p><u>Additional Mitigation for Area 1 Recommended Plan:</u></p> <ul style="list-style-type: none"> <li>• It is recommended that the municipality complete an updated SAR screening during the detailed design of the Area 1 Recommended Plan to reflect any changes in SAR policy, the natural environment or changes to the current SAR list.</li> <li>• A Bat Snag Density will need to be completed during detailed design to confirm the existence of bat habitat (i.e. suitable bat maternity roosting cavity trees). If bat habitat is confirmed to be present, the alignment will need to be refined to avoid the habitat and / or appropriate permits will be required from the MNR of to accommodate any impacts in accordance with the Endangered Species Act).</li> <li>• Site grading works should not occur during the amphibian breeding period. For this location site grading should not occur between winter thaw and June of any given year.</li> </ul> <p><u>Additional Mitigation for Area 2 Recommended Plan:</u> To avoid impacts to SAR bats, it is recommended that tree removals be undertaken between October 16th and April 30th. Any works undertaken between May 1st and October 15th may require additional bat surveys to ensure that no Endangered bat species are utilizing potential maternity roost habitat on-site.</p>

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	<p>habitat for this species and this species was not observed during the field assessment.</p> <ul style="list-style-type: none"> <li>• <u>Lake Sturgeon (Threatened)</u>: Found in Nottawasaga Bay. The potential for impact is expected to be low.</li> <li>• <u>Bat Species (Endangered)</u>: The survey confirmed that only one snag tree was present within the SBTD1 vegetation community and it is unlikely to provide maternity roost habitat. The loss of one tree to accommodate the 62nd Street outlet (i.e. Area 2) will not result in a contravention of Section 10 of the ESA.</li> </ul>	
5.	<p><b>Surface Water</b></p> <p>The works proposed will result in an overall improvement to existing drainage; however, there is the potential for negative impact during construction as noted below:</p> <ul style="list-style-type: none"> <li>• Construction may result in the release of sediment into watercourses.</li> <li>• Accidental spillage from machinery (fuel, lubricants etc.) may occur.</li> </ul>	<ul style="list-style-type: none"> <li>• Obtain necessary approval from the Nottawasaga Valley Conservation Authority for working within a regulated area.</li> <li>• Application of standard best management practices for working in and around water (i.e. sediment &amp; erosion control; site restoration following construction; equipment refueling and maintenance restrictions etc.).</li> <li>• Complete water taking (consumptive use, surface water diversions etc.) in accordance with the requirements of the Ontario Water Resources Act and the Environmental Protection Act.</li> <li>• It is recommended that detailed design give consideration to implementing Low Impact Development measures, where possible, to assist in improving water quality.</li> <li>• OPSS 518 – Control of Water from Dewatering Operations</li> <li>• OPSS 805 – Construction Specification for Temporary Erosion and Sediment Control Measures</li> <li>• OPSS 804 – Construction Specification for Seed and Cover</li> <li>• OPSS 180 – General Specification for the Management of Excess Materials</li> </ul>
6.	<p><b>Groundwater</b></p> <ul style="list-style-type: none"> <li>• The majority of the study area utilizes the municipal water system; with the exception of No. 2 and 6 Byrnes Lane which are not presently connected and rely on private wells.</li> </ul>	<ul style="list-style-type: none"> <li>• Complete water taking (groundwater) in accordance with the requirements of the Ontario Water Resources Act and the Environmental Protection Act.</li> <li>• It is recommended that detailed design give consideration to implementing Low</li> </ul>

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	<ul style="list-style-type: none"> <li>It was confirmed that the study area overall is not within a Wellhead Protection Area, Intake Protection Zone, Significant Groundwater Recharge Area or Highly Vulnerable Aquifer Area.</li> <li>It is not expected that construction proposed will negatively impact groundwater.</li> </ul>	Impact Development measures, where possible, including the directing of clean roof runoff to infiltration galleries to assist in maintaining the groundwater balance. <ul style="list-style-type: none"> <li>OPSS 518 – Control of Water from Dewatering Operations</li> <li>OPSS 180 – General Specification for the Management of Excess Materials</li> </ul>
7.	<b>Air Quality</b> <ul style="list-style-type: none"> <li>Construction activities have the potential to generate dust and fumes which can negatively impact air quality.</li> <li>All impacts will be temporary and limited to the period of construction.</li> </ul>	<ul style="list-style-type: none"> <li>The Contractor should utilize best management practices during construction to maintain air quality through construction and include no unnecessary idling of vehicles during construction.</li> <li>Stockpiles of soil, sand and aggregate should be covered.</li> <li>Construction sites and access road shall be regularly cleaned to remove debris and dust caused by construction.</li> <li>Dust suppressants shall be applied to control dust generated by construction activities.</li> </ul>
8.	<b>Land Use</b> <ul style="list-style-type: none"> <li>While successful completion of this Class EA will provide a drainage strategy for the Bay Sands Development Area the provision of municipal water and sanitary servicing still needs to be established and as such, it may take several years before development of that subdivision can proceed. While the Town may move forward with implementation of the Area 2 Recommended Plan following the completion of this Class EA, the implementation of the Area 1 Recommended Plan will be delayed until the remaining servicing aspects are addressed.</li> <li>During construction there is the potential to impact property access and traffic flow.</li> </ul>	<ul style="list-style-type: none"> <li>Should detailed design determine that property may be required to accommodate the urbanization of Shore Lane between 63rd Street and 64th Street, consideration should be given the shallow nature of the lots on the south side of the corridor at this location.</li> <li>Employ grading techniques to minimize potential for impact to adjacent properties.</li> <li>Use of traffic management measures (i.e. construction staging, detours etc.) to minimize impacts to local traffic and to maintain access during construction.</li> <li>Provide advance notice to property owners regarding temporary access closures during construction.</li> <li>Operational Constraint Private and Commercial Entrances should be included in the contract documents indicating that the contractor will be required to maintain access during construction to all entrances. The contractor will also be required</li> </ul>



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		<p>to provide notification to affected property owners of a scheduled temporary entrance closure, in writing, 48 hours in advance of the closure. Entrances will also be restored prior to shutting down at the end of the day.</p> <ul style="list-style-type: none"> <li>• Construction staging should be utilized to ensure that traffic movement is maintained and consist of single lane closures controlled by Traffic Control Persons as Per OTM Book 7.</li> <li>• SP100F08 should be included in the contract documents to address the use of public roadways and the disruption of traffic over the duration of construction.</li> <li>• <u>Additional Mitigation for Area 1 Recommended Plan:</u> The routing of the proposed drainage channel connecting the Bay Sands Development Area to Mosely Street will need to be confirmed through discussions with the affected property owner and the NVCA during detailed design. It is recommended that the property owner be contacted early in the detailed design process and kept informed throughout the project.</li> </ul>
9.	<p><b>Noise</b></p> <ul style="list-style-type: none"> <li>• The works proposed are taking place within a residential area and as such there is an increased potential for noise impacts during construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Construction should adhere to the municipality's noise by-law. The contractor should be restricted from working during the weekends or on holidays.</li> <li>• Equipment should be maintained in an operating condition that prevents unnecessary noise, including but not limited to non-defective muffler systems, properly secured components, and the lubrication of moving parts.</li> <li>• The idling of equipment should be restricted to the minimum necessary to perform the specified work.</li> </ul>
10.	<p><b>Servicing/Utilities</b></p> <ul style="list-style-type: none"> <li>• Utility servicing within the project study area includes Powerstream, Bell and Rogers using overhead cable.</li> <li>• Street lighting, where provided, is installed on the hydro poles.</li> <li>• A buried gas main is located on the east side of 62nd Street.</li> <li>• The urbanization associated with both Recommended Plans will impact municipal services and utilities during construction.</li> </ul>	<ul style="list-style-type: none"> <li>• During detailed additional discussions with affected utilities will be required to confirm the location of existing utility infrastructure and to ensure that service can be maintained during the construction period.</li> </ul>
11.	<p><b>Contamination/Waste Management</b></p> <ul style="list-style-type: none"> <li>• There is the potential for excess materials (i.e. old pavement,</li> </ul>	<ul style="list-style-type: none"> <li>• Given that the Recommended Plans for both areas propose the construction of</li> </ul>

I.D. #	Issue/Concern Potential Effects	Mitigation/Protection/Monitoring
	<p>concrete, asphalt and earth) to be generated during construction.</p> <ul style="list-style-type: none"> <li>The Recommended Plan for both areas involves the placement of a segment of municipal infrastructure on lands not currently owned by the municipality. As these lands are undeveloped there is the potential to encounter contamination during construction.</li> </ul>	<p>municipal infrastructure on vacant lands not currently owned by the municipality, it is recommended that during the detailed design further consideration be given to the need for a Phase I ESA to review the historical usage of the affected areas (i.e. property north of the Bay Sands Development Area (Area 1) and the Ontario Parks' property (Area 2)) to determine the potential for any contamination and / or underground storage tanks to be present and to establish an agreed course of action in terms of disposal should something be encountered during construction.</p> <ul style="list-style-type: none"> <li>The removal and movement of soil should follow the recommendations as outlined in the <i>Management of Excess Soil – A Guide for Best Management Practices</i> document prepared by the MOECC.</li> <li>If potential contamination is encountered the appropriate tests will need be undertaken to confirm the contaminant present and its levels. If the soils are contaminated, disposal will need to be consistent with Part XV.1 of the Environmental Protection Act (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up.</li> <li>Excess material will require proper management (removal, storage and disposal). Materials shall be managed in accordance with OPSS 180 – General Specification for the Management of Excess Materials.</li> <li>Where the Contractor manages excess earth as disposable fill, the Contractor shall take into account the possibility of salt impacts and ensure that the material is managed responsibly and in an environmentally appropriate manner. Should any contaminated materials be encountered during the undertaking, caution will be exercised while handling and disposing of contaminated materials in accordance with provincial regulations, and MTO practices (as governed by OPSS 180 or the most current standard at the time of construction).</li> <li>If asbestos or lead are identified and determined to require abatement, appropriate handing, health and safety abatement and waste disposal protocols will be followed according to the Ontario Environmental Protection Act. – R.R.O 1990 Regulation 347: General – Waste Management and the Ontario Occupational Health and Safety Act – O. Regulation 278/05: Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations and the Ontario Occupational Health and Safety Act – O. Regulation 490/09: Designated Substance – Lead.</li> </ul>

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12.	<p><b>Archaeological</b></p> <p>A Stage 1 archaeological assessment was completed during the Class EA process which concluded the following:</p> <p><u>Area 1 Recommended Plan:</u></p> <ul style="list-style-type: none"> <li>▪ The area subject to a proposed drainage easement (i.e. vacant lands north of the Bay Sands Development Area) does not have any archaeological potential due to poor drainage in the area. It is considered to be cleared of archaeological concerns.</li> <li>▪ The 67<sup>th</sup> Street corridor was not included in the Stage 1 archaeological assessment; however, it has been subject to previous construction and disturbance and construction is expected to be contained within the existing corridor. The need for a Stage 2 assessment should be reviewed further during detailed design.</li> </ul> <p><u>Area 2 Recommended Plan:</u></p> <ul style="list-style-type: none"> <li>▪ The 62nd Street South corridor, south of Mosley Street was cleared of archaeological concerns due to previous disturbance.</li> <li>▪ The 62nd Street North corridor (north of Mosley Street) was deemed to require a Stage 2 assessment given that the lands immediately adjacent the corridor contains some lawn areas that is undisturbed.</li> <li>▪ The Ontario Parks' property will also require further archaeological review.</li> </ul>	<p>During detailed design a Stage 2 archaeological assessment will be required for the following locations:</p> <ul style="list-style-type: none"> <li>• The 62nd Street North corridor (north of Mosley Street).</li> <li>• The Ontario Parks' property north of the intersection of Shore Lane and 62nd Street.</li> <li>• The 67th Street corridor that will be subject to urbanization.</li> </ul> <p>NOTE: Curve Lake First Nation is to be contacted when initiating the Stage 2 assessment during detailed design to confirm if that community would like a monitor to be present on-site for the Stage 2 work. Section 8.2 of this report provides additional details pertaining to this request, including appropriate contact information.</p>

## 14.0 REFERENCES

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