



Sarnia Expanded Dock Facility Class Environmental Assessment Project File Report



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Table of Contents

1.	Introduction	5
2.	Municipal Class Environmental Assessment Process	8
2.1	Overview	8
2.2	Sarnia Expanded Dock Facility Class EA Project Classification	12
3.	Phase 1: Problem/ Opportunity	14
3.1	Description of the Oversized Load Corridor	14
3.2	Description of the Existing Dock Facilities in the Port Sarnia	15
3.3	Problem/ Opportunity Statement	18
4.	Phase 2: Alternative Solutions	19
4.1	Identification and Description of the Alternative Solutions	19
4.1.1	Alternative No. 1 - Do Nothing	19
4.1.2	Alternative No. 2 - Expand Dock Facility	19
4.1.3	Alternative No. 3 - Construct New Dock Facility	21
4.2	Description of the Environment Potentially Affected	21
4.2.1	Natural Environment	22
4.2.1.1	Aquatic Resources	22
4.2.1.2	Terrestrial Resources	24
4.2.2	Built Environment	26
4.2.3	Social Environment	28
4.2.4	Economic Environment	28
4.2.5	Cultural Environment	31
4.3	Assessment of the Alternative Solutions	32
4.3.1	Development of the Evaluation Criteria and Indicators	32
4.3.2	Application of Net Effects Analysis	34
4.4	Comparative Evaluation of the Alternative Solutions	36
4.4.1	Recommended Solution	39
4.5	Confirmation of the Preferred Solution	39
5.	Description and Implementation of the Preferred Solution	40



5.1	Detailed Description of the Preferred Solution	40
5.1.1	Proposed Construction	40
5.2	Estimated Construction Cost for the Preferred Solution	43
5.3	Confirmation of Net Effects and Proposed Monitoring for the Preferred Solution	43
5.4	Commitments for the Preferred Solution	46
5.5	Approval Required for the Preferred Solution	47
5.6	Implementation of the Preferred Solution	48
5.6.1	Notice of Completion	48
5.6.1.1	30 Day Comment Period	48
5.6.2	Municipal Class Environmental Assessment Phase 5	49
5.6.2.1	Anticipated Construction Timeline	50
6.	Overview of the Consultation Process Carried Out	51
6.1	Points of Contact When Consultation Occurred	51
6.2	Interested Participants and How Input Was Obtained	52
6.2.1	Review Agencies	52
6.2.2	Indigenous Communities	53
6.2.3	The Public	54
6.3	Consultation Activities Carried Out	55
6.3.1	Review Agencies	55
6.3.2	Indigenous Communities	56
6.3.3	The Public	56
6.4	Consideration of Comments Received and Issues Raised	56
6.4.1	Review Agencies	56
6.4.1	Indigenous Communities	62
6.4.2	Public	63
7.	Summary	64

Figure Index

Figure 1-1	Site Location	7
Figure 2-1 Overview of the Municipal Class Environmental Assessment Process	11
Figure 2-2	Sarnia Expanded Dock Facility Class EA Schedule B Process	13



Figure 3-1 The Oversized Load Corridor Route.....	15
Figure 3-2 Layout of Existing Dock Facilities.....	17
Figure 4-1 Alternative No. 2 - Expand Dock Facility.....	20
Figure 4-2 Existing Terrestrial Resources in Relation to Port Sarnia	25
Figure 4-3 Built Environment	27
Figure 4-4 Land Use Map	30
Figure 4-5 Zoning Map	31
Figure 4-6 Comparative Evaluation Methodology (Reasoned Argument Approach)	36
Figure 5-1 Expansion of Mini Dock 'A'.....	42

Table Index

Table 2-1 Municipal Class Environmental Assessment Project Schedules .9	
Table 4-1 List of Investigations and Studies Completed for Describing the Environment.....	21
Table 4-2 Evaluation Criteria.....	33
Table 4-3 Summary of the Net Effect Analysis and Comparative Evaluation of Alternative Solutions for the Sarnia Dock Expansion.....	37
Table 5-1 Cost Estimate	43
Table 5-2 Summary of the Net Effects and Proposed Monitoring Programs for the Confirmed Expansion of Mini Dock 'A'	44
Table 5-3 Class EA Commitments and Compliance Monitoring	46
Table 6-1 Review Agencies	53
Table 6-2 Indigenous Communities	54
Table 6-3 Public participants	54
Table 6-4 Agency Meetings	55
Table 6-5 Summary of Review Agency Comments and How They Were Considered	57
Table 6-6 Summary of Indigenous Community Comments and How They Were Considered.....	62



Appendix Index

Appendix A	Screening Criteria for Evaluating Archaeological Potential
Appendix B	Screening Criteria for Evaluating Built Heritage Resources and Cultural Heritage Landscapes
Appendix C	Net Effects and Comparative Evaluation of Alternatives
Appendix D	Preliminary Findings Information Package
Appendix E	Consultation Records



1. Introduction

This report documents Phases 1 and 2 of the Municipal Class Environmental Assessment (MCEA) process for expanding the existing dock facility in the Port of Sarnia (Project). The Corporation of the City of Sarnia (City) is proposing to expand their existing dock facility (Mini Dock A) located at the western limit of Exmouth Street to support the Sarnia-Lambton Oversized Load Corridor (OLC) and provide access to the St. Clair River via the Port of Sarnia (**Figure 1-1**).

As part of initiating the Project, the City confirmed its classification as a Schedule B activity with the Ministry of the Environment, Conservation and Parks (MECP) and determined that it is not subject to the Federal *Impact Assessment Act* with the Impact Assessment Agency of Canada (**Section 2**). With confirmation of the Project's environmental assessment requirements, the problem/opportunity statement was defined in accordance with Phase 1 of the MCEA (**Section 3**). As mentioned, the City is carrying out the Project in support of the OLC, which is a designated protected route on existing roadways connecting fabricators to the Port of Sarnia for the unimpeded import/export and transshipment of oversized product to and from fabricators' locations and Sarnia-Lambton's industrial base.

Next with the problem/opportunity statement defined, Phase 2 of the MCEA was carried out beginning with the identification and description of the alternative solutions (**Section 4**). Specifically, three alternative solutions were identified including do nothing, expand the existing dock facility, and construct a new dock facility. With these three alternatives in mind, the associated environment was described based on existing available information sources and field investigations. The Project is within the industrial area of Port Sarnia with no residences in the vicinity. The Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNR) has identified Port Sarnia (harbour) as non-sensitive for fish and fish habitat, and the majority of the on-shore area is disturbed with limited terrestrial habitat.

The three alternative solutions were comparatively evaluated based on a number of technical, environmental, and cost criteria and expanding the existing dock facility was selected as the recommended solution. This recommendation was consulted on with review agencies, Indigenous communities, and area property owners prior to confirming it as the preferred solution for the Project.



With confirmation of the preferred solution, the Project was further detailed as documented in **Section 5**. The Project will include mooring facilities, a storage area, and laydown areas suitable for ship to shore loading/offloading and roll on/roll off barge loading, as well as a living shoreline aspect located in the Sarnia Harbour to offset fish habitat loss. All of the proposed works will be situated within the City's existing property limits. The dock will attain an additional 112 meter (m) of dock face, offering approximately 1,400 square metres (m²) of additional shipping and storage area based on the proposed expansion. As a result, the expanded dock will be able to birth ships up to 35,000 Dry Weight Tonnage (DWT) and will offer a significant increase to the Port of Sarnia's potential client base.

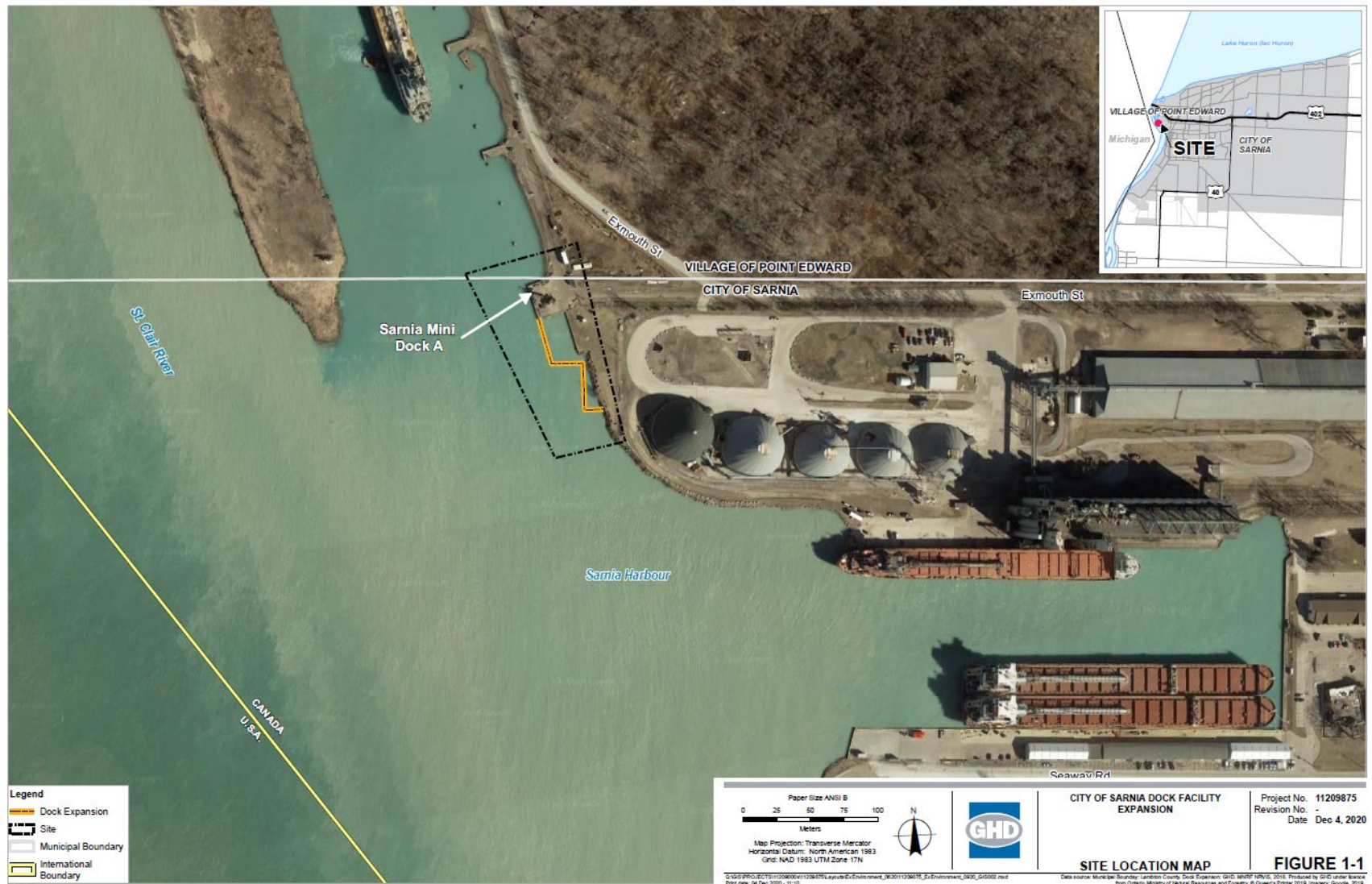


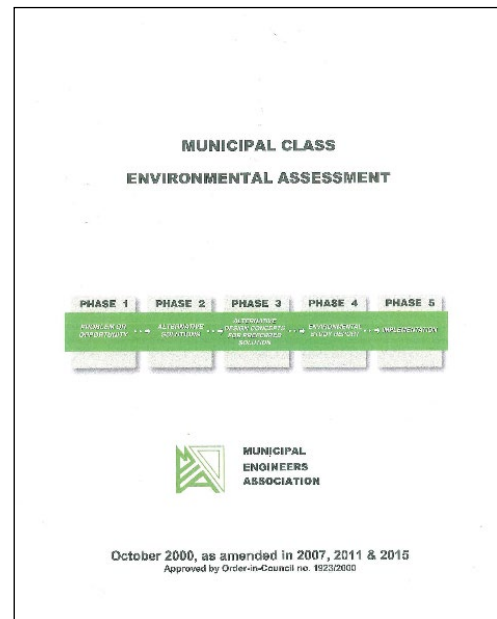
Figure 1-1 Site Location

2. Municipal Class Environmental Assessment Process

2.1 Overview

The Sarnia Expanded Dock Facility Class Environmental Assessment (Project) was carried out by the City of Sarnia (City) in accordance with the requirements of the Municipal Class Environmental Assessment (MCEA)¹. In Ontario, there are two types of environmental assessment (EA) and approval processes for municipal projects to follow prior to being implemented to meet the requirements of the *Environmental Assessment Act (EA Act)*:

- Individual EAs (Part II of the *EA Act*) – those projects for which a Terms of Reference and an individual EA are carried out and submitted to the Minister of the Environment, Conservation and Parks (Minister) for review and approval
- Class EAs (Part II.1 of the *EA Act*) – those projects that are approved subject to compliance with an approved Class EA process with respect to a class of undertakings. Providing the approved process is followed, a proponent has complied with the *EA Act*.



Thus, the MCEA provides an approved process whereby specified municipal infrastructure projects can be planned, designed, constructed, operated, maintained, rehabilitated, and retired without having to obtain project-specific approval under the *EA Act*.

Five Phase Municipal Class EA Process

The approved MCEA process consists of five planning and design phases. The five phases are briefly summarized as follows:

Phase 1 - Identify the problem and/or opportunity

Phase 2 - Identify alternative solutions to address the problem or opportunity and establish the preferred solution taking into account the

¹ Municipal Engineers Association, Municipal Class Environmental Assessment, October 2000 (as amended in 2007, 2011 and 2015).



existing environment and review agency, Indigenous community, and public input

Phase 3 - examine alternative methods for implementing the preferred solution and determine the preferred implementation method taking into account the existing environment and additional review agency, Indigenous community, and public input

Phase 4 - document the preceding phases in an Environmental Study Report (ESR) and make it available for comment by review agencies, Indigenous communities, and the public

Phase 5 - complete contract drawings and documents and proceed to construct the preferred method for implementing the preferred solution

Four Project Classifications

Since projects vary in their potential for adverse environmental effects, they are classified in the MCEA in terms of schedules. The schedules are briefly summarized in **Table 2-1**

Table 2-1 Municipal Class Environmental Assessment Project Schedules

Municipal Class EA Schedule	Project Description	Municipal Class EA Requirements
Schedule A projects	<ul style="list-style-type: none">• Limited in scale• Minimal adverse environmental effects• Primarily municipal maintenance and operational activities	<ul style="list-style-type: none">• Exempt from the <i>Environmental Assessment Act</i>
Schedule A+ projects	<ul style="list-style-type: none">• Similar to Schedule A projects	<ul style="list-style-type: none">• Same as Schedule A projects, but the public must be notified prior to construction
Schedule B projects	<ul style="list-style-type: none">• Potential for some adverse environmental effects• Primarily improvements and minor expansions to existing facilities	<ul style="list-style-type: none">• Phases 1 and 2• Consult with review agencies and the public• Project File
Schedule C projects	<ul style="list-style-type: none">• Potential for significant adverse environmental effects• Construction of new facilities and major	<ul style="list-style-type: none">• Phases 1 to 4• Consult with review agencies and the public

Municipal Class EA Schedule	Project Description	Municipal Class EA Requirements
	expansions to existing facilities	<ul style="list-style-type: none"> • Environmental Study Report

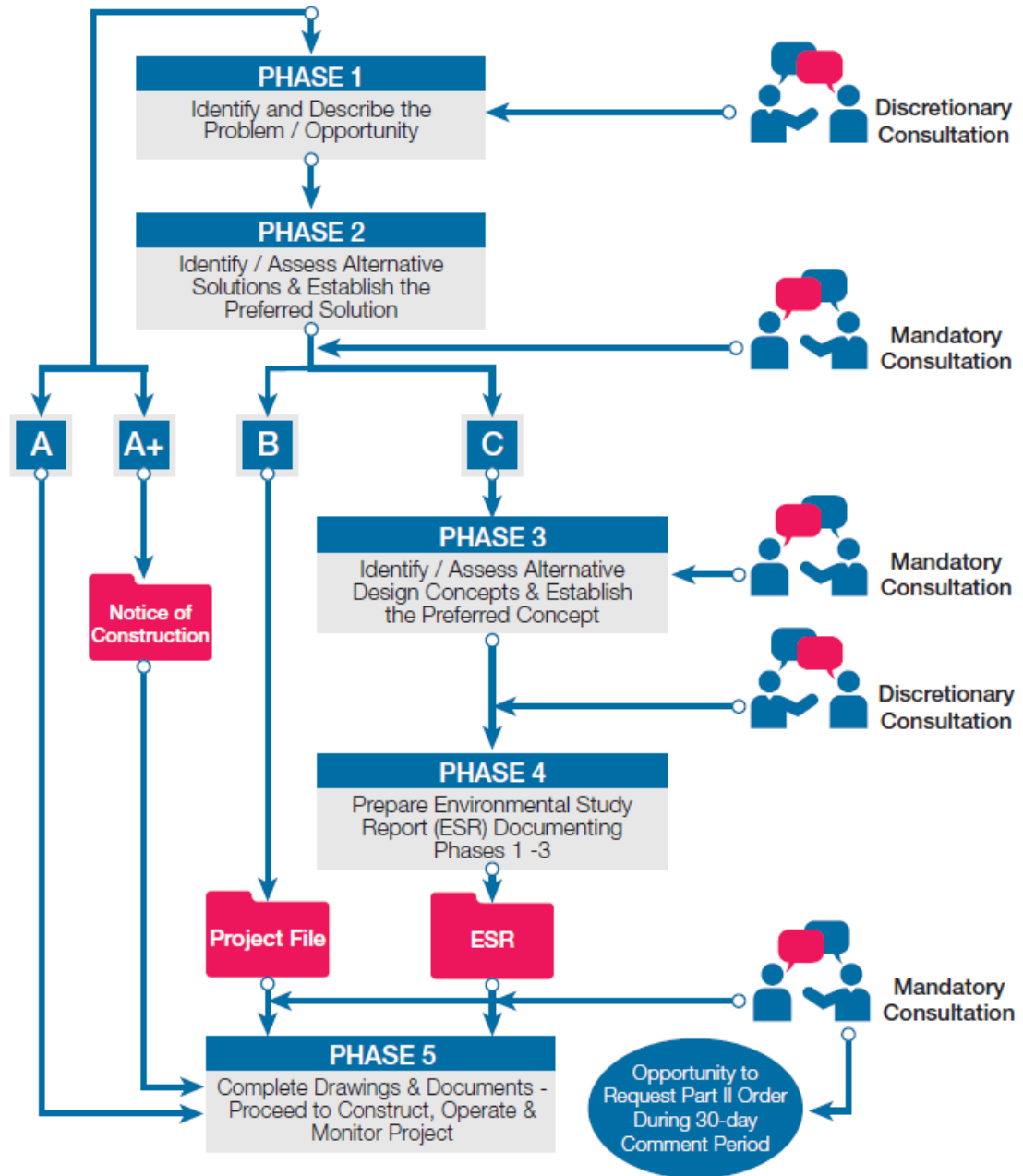
Figure 2-1 illustrates the five phases of the MCEA planning and design process within the context of the preceding four project classifications or schedules.

Project Implementation – Schedule Specific

A person or party involved in either a Schedule B or C project may request that the Minister make an order for a project to comply with Part II of the *EA Act* if they feel that there are outstanding concerns that the project may adversely impact constitutionally protected Aboriginal and treaty rights, which cannot be resolved in discussion with the proponent. This is referred to as a Part II Order, which addresses Individual Environmental Assessments. The person or party can make this request if they feel that their concerns raised cannot be resolved in discussion with the proponent by the end of the mandatory 30 calendar day comment period.

In addition, the Minister may issue an order on his or her own initiative within the 30 calendar days after the conclusion of the mandatory 30 calendar day comment period. Therefore, a proponent can only implement Schedule B and C projects if there are no outstanding “Part II Order” requests.

Overview of the Municipal Class Environmental Assessment Process



Note: Consultation includes Review Agencies, Aboriginal Communities, and the Public.

Figure 2-1 Overview of the Municipal Class Environmental Assessment Process



2.2 Sarnia Expanded Dock Facility Class EA Project Classification

The Project fulfilled the MCEA Schedule B process requirements. The MCEA is a self-assessment process. As such, it is the proponent's responsibility to identify the correct project schedule and meet the associated MCEA requirements. Failure to do so places the proponent in contravention of the *EA Act*, which is an offence subject to penalties.

With this in mind, as part of initiating the Project, the City confirmed its classification as a Schedule B activity with the Ministry of the Environment, Conservation and Parks (MECP) based on correspondence submitted to them on March 18, 2020. MECP responded on March 30, 2020 that the Project should be proceeding in accordance with the MCEA process determined for a Schedule B activity. In addition, MECP stated that depending upon direction received from federal agencies it can be determined whether an integrated approach should be carried out. However, the Impact Assessment Agency of Canada confirmed in their May 27, 2020 correspondence to the City that the Project is not subject to the Federal *Impact Assessment Act*.

With confirmation of the Project's environmental assessment requirements, the following MCEA planning phases were undertaken as illustrated in **Figure 2-2**:

Phase 1: Problem or Opportunity (Section 3)

- Step 1: Identify the problem and/or opportunity

Phase 2: Alternative Solutions (Section 4)

- Step 1: Identify alternative solutions to the problem and/or opportunity
- Step 2: Carry out an inventory of the environment
- Step 3: Identify the potential impacts of the alternative solutions on the environment and any measures needed to mitigate those impacts
- Step 4: Carry out a comparative evaluation of the alternative solutions and identify a recommended solution
- Step 5: Notify and consult with review agencies and the public by carrying out mandatory consultation
- Step 6: Determine the preferred solution based on the comparative evaluation and feedback received

Once Phase 2 is completed, a proponent is required to document the preceding steps in a report and make it available for the mandatory 30 calendar day comment period. In order to initiate the comment period, a proponent needs to issue a Notice of Study Completion to those consulted as part of the Project.

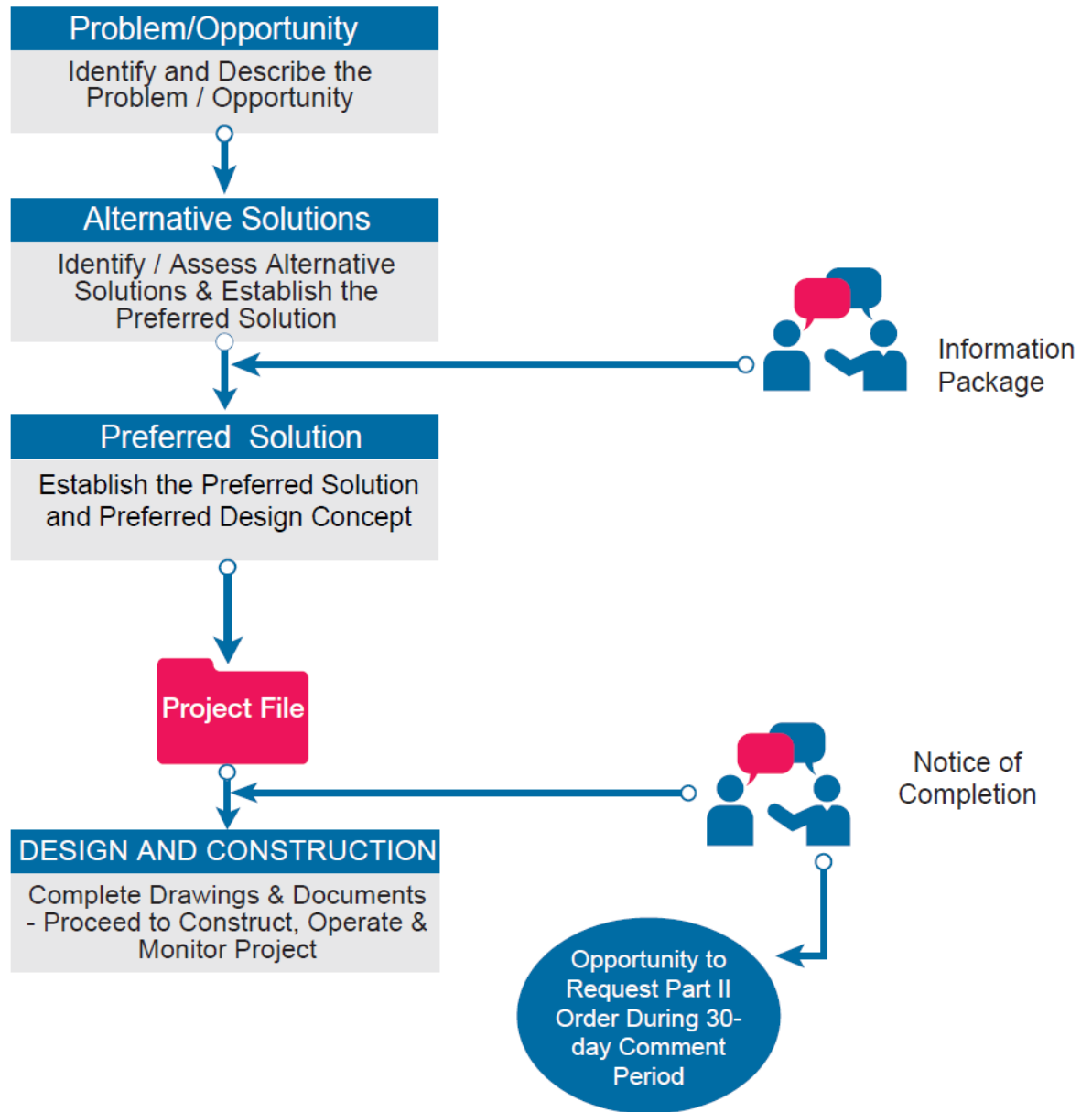


Figure 2-2 Sarnia Expanded Dock Facility Class EA Schedule B Process



3.

Phase 1: Problem/ Opportunity

3.1 Description of the Oversized Load Corridor

The Oversized Load Corridor (OLC) (**Figure 3-1**) is a designated 27 km protected route on existing roadways connecting fabricators to the Port of Sarnia. The OLC was established to allow for the unimpeded import/export and transshipment of oversized product to and from fabricators' locations and Sarnia-Lambton's industrial base. The OLC Project is jointly funded by The City of Sarnia, County of Lambton, Sarnia Lambton Industrial Alliance (SLIA), The Federal Government under The National Trade Corridor Fund (NTCF) and the Provincial Government under the South-West Ontario Development Fund (SWODF).

One of the City's primary mandates is to ensure that infrastructure, including roads and ports, are suitable for existing and future industry to grow and prosper. The OLC will improve the competitiveness of local fabricators and large industry by reducing shipping costs, creating new jobs, and increase the potential for the export of valuable locally manufactured vessels, reactors, and modules. This in turn will enable economic growth.

As part of the implementation of the OLC it was identified that utility upgrades, road and infrastructure improvements along a 27 km route and the expansion of the Sarnia dock facility would be required.

The expansion of the existing dock is the largest component of the OLC. The existing dock facilities were not designed or constructed to accommodate the loading and unloading of large equipment. This requires temporary accommodations and limits the type and number of pieces that can currently be handled in each load. The expansion of the existing dock will provide direct and cost-effective access to the waterways of the Great Lakes and St. Lawrence Seaway system providing fabricators and constructors cost competitive transport to National and International markets directly supporting the "Making Ontario Open for Business " campaign.

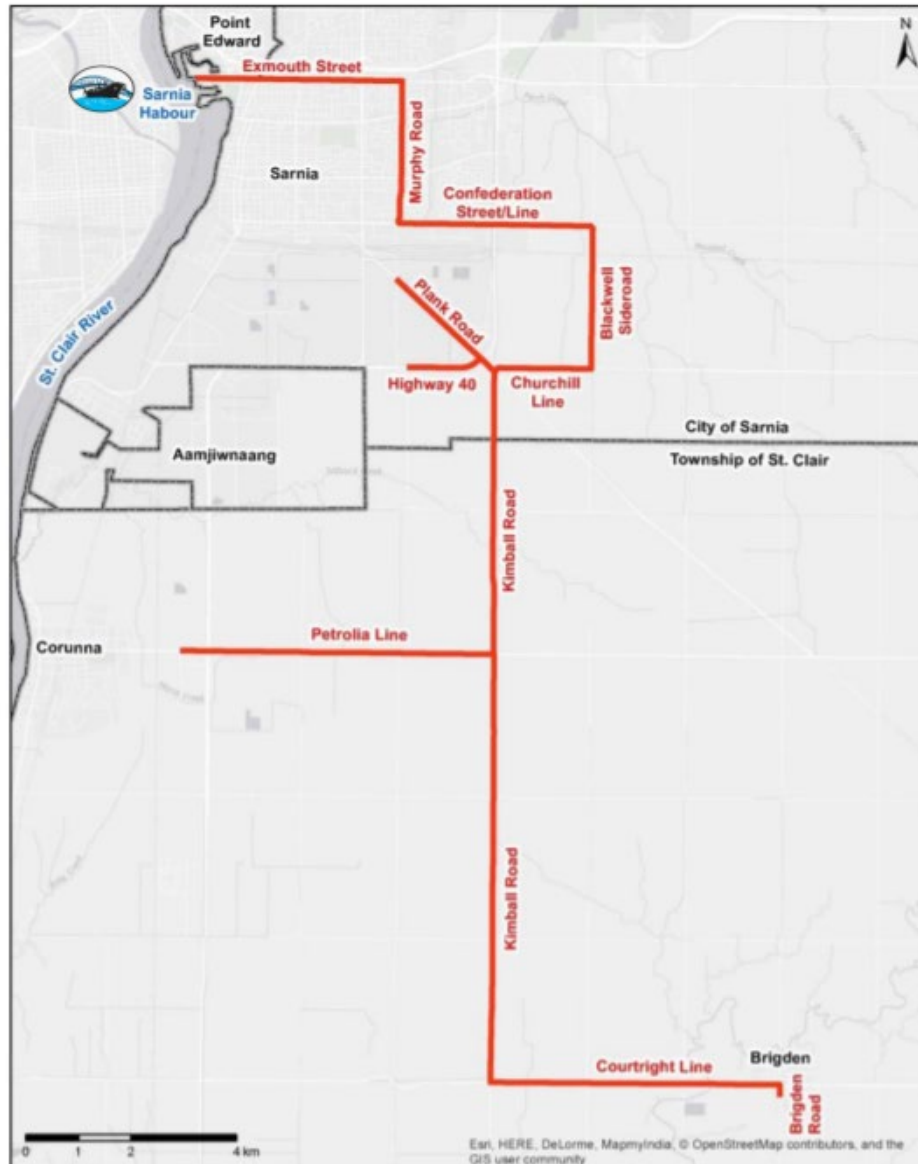


Figure 3-1 The Oversized Load Corridor Route

3.2 Description of the Existing Dock Facilities in the Port Sarnia

The Sarnia Port has a number of existing mini dock facilities, which are structurally sound and could be expanded. The Sarnia Port includes the Sydney Smith Warf (includes 2 docking facilities), Government Dock (includes 3 docking facilities), East Dock (includes 4 smaller docking facilities), North Slip (includes two mini docks and four piers/finger docks) and Cargill Limited Dock (includes 4 docking facilities) (**Figure 3-2**). The expansion of any existing mini docks would provide a cost effect solution which is technically feasible to implement and would result in a shorter construction timeline compared to constructing a new dock facility.



Mini Dock 'A' is located within the North Slip (also known as the Winter Basin) (**Figure 3-2**) and currently consists of a rectangular (27.0 m by 12.8 m) steel sheet pile "mini dock" structure along the east (inshore) end of the Winter Basin. It was constructed in 1984 with steel pipe guardrails along the north, south, and west edges. The current driving surface is gravel, and it is lined with tractor tire fenders secured with chains. Five king piles were installed midway along the south face as a retrofit to provide additional lateral support. Recent structural assessment (2020, GHD) revealed mechanical damage to rails, ladders, and sheetpile, pitting at the waterline of the sheetpile, corrosion of the ladders, restraint chains, and some to the tie-rods, spalling along the concrete. As such, the performance of the dock is no longer estimated to perform at its intended 20 kPa.

Mini Dock 'A' was identified as the potential dock to expand for several reasons including its current requirement for renovation. In addition, the North Slip is located at the western limit of Exmouth Street and north of the other docks/wharf. Exmouth Street leads straight to Mini Dock 'A'. The other mini dock locations would require the extension of Exmouth Street resulting in additional Project costs. In addition, the extension of Exmouth Street to the other mini dock locations, within the North Slip would require a 90 degree turn to be made, which is not ideal for oversized vehicles. Furthermore, Mini Dock 'A' is the closest dock to the shipping channel; and therefore, will require the least amount of maintenance dredging.

Considering the preceding reasons, Mini Dock 'A' was selected as the most appropriate dock location/facility to be expanded.

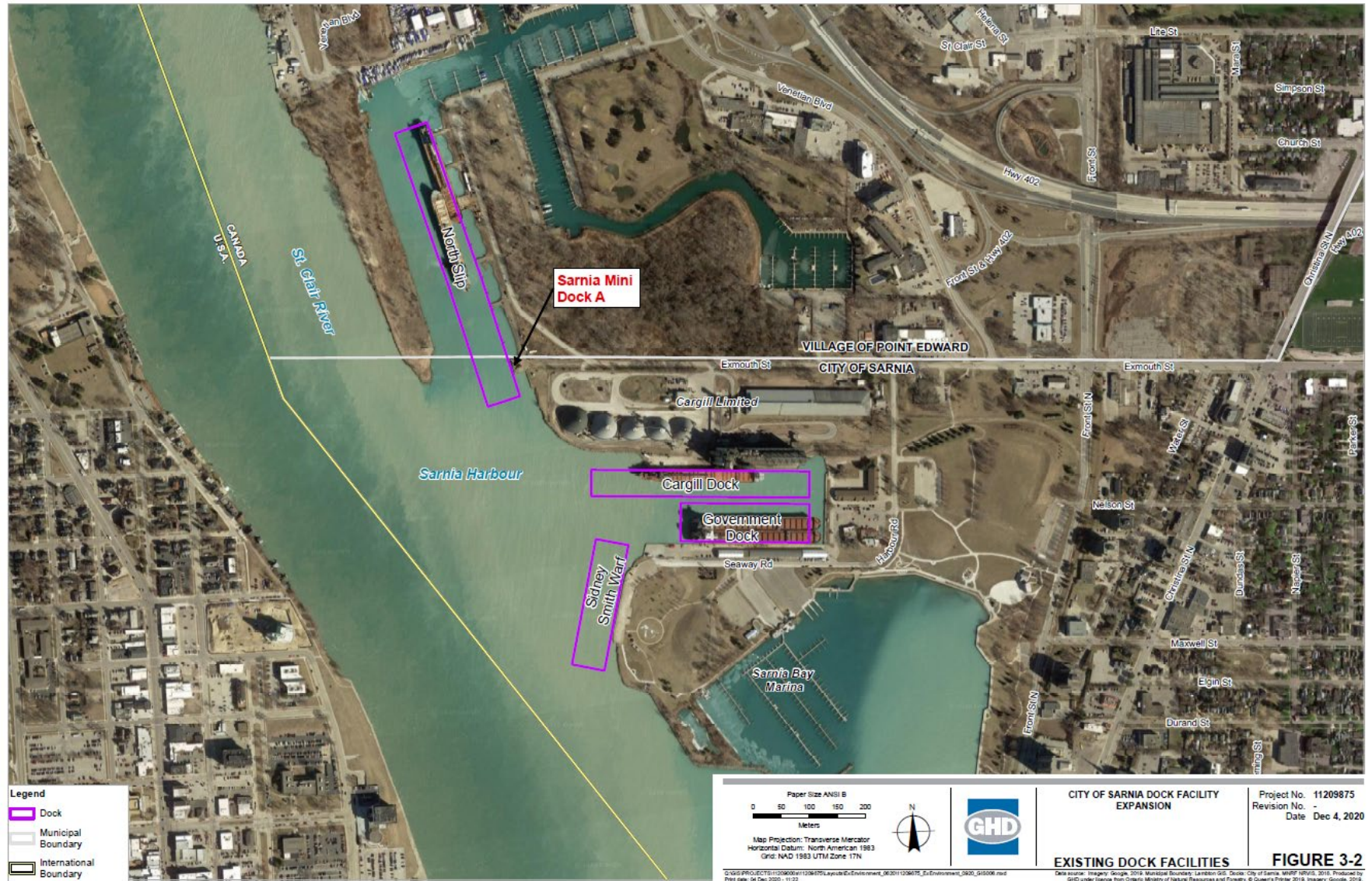


Figure 3-2 Layout of Existing Dock Facilities



3.3 Problem/ Opportunity Statement

The OLC has been established to improve the competitiveness of local fabricators and large industry by reducing shipping costs, create new jobs, and increase the potential for the export of valuable locally manufactured vessels, reactors, and modules. The OLC ends at Exmouth Street in the Port of Sarnia just to the east of existing Mini Dock 'A'. However, the existing dock was not designed or constructed to accommodate the loading and unloading of large equipment. This requires temporary accommodations and limits the type and number of pieces that can currently be handled in each load.

Mini Dock 'A' at the end of Exmouth Street would need to be extended and improved to add capacity for both crane (shipboard or on shore) as well as "roll-on/roll-off" loading and unloading at this facility. The port is actively maintained to conform to current St. Lawrence Seaway shipping standards and has the capacity to handle large loads.

The expanded dock will be able to birth ships up to 35,000 Dry Weight Tonnage (DWT) and will offer a significant increase to the Port of Sarnia's potential client base. The current dredge regimen of the Harbour will be maintained, in which maintenance dredging to 8.2 m below Chart Datum is undertaken every five years.

Therefore, the purpose of the Project is to support the OLC by providing direct and cost-effective access to the waterways of the Great Lakes and St. Lawrence Seaway system so fabricators and constructors can cost competitively transport to National and International markets directly supporting the "Making Ontario Open for Business" campaign.



4. Phase 2: Alternative Solutions

As summarized in **Section 2**, the six steps associated with Phase 2 of the MCEA were carried out for the Sarnia Expanded Dock Facility Class Environmental Assessment (Project). These six steps are summarized in the following sections.

4.1 Identification and Description of the Alternative Solutions

Three alternative solutions were identified based on the loading/unloading methods that are specific to the oversized loads that will be transported from Sarnia Harbour.

4.1.1 Alternative No. 1 - Do Nothing

In Alternative No. 1, no changes or improvements would be made to any of the existing dock facilities in the Sarnia Port to allow for the unimpeded import/export and transshipment of oversized product to and from fabricators' locations and Sarnia-Lambton's industrial base.

As per MCEA, the "Do Nothing" alternative has been included for consideration because it provides a benchmark against which the benefits/consequences of the other alternatives can be measured.

4.1.2 Alternative No. 2 - Expand Dock Facility

In Alternative No. 2, the existing Mini Dock 'A' facility would be expanded to the south as shown in **Figure 4-1**. The expanded dock facility will include mooring facilities, storage area, and laydown areas suitable for ship to shore loading/offloading and roll on/roll off barge loading. The dock would attain an additional 112 meter (m) of dock face, offering approximately 1,400 square meters (m²) of additional shipping and storage area based on the proposed expansion. It is anticipated that the new dock faces will consist of concrete covered sheet pile walls, and the eroding shoreline south of the proposed dock will be remediated with a riprap style revetment.

The currently sodded grass area will be remediated after construction with a mixed seed wild grass style, favourable to local reptiles and amphibians. The loss of fish habitat will be generously offset by a living shoreline, to be created in Sarnia Harbour as per discussions with the Department of Fisheries and Oceans (DFO) and the City. The expanded dock will be able to birth ships up to 35,000 DWT and will offer a significant increase to Sarnia Port's potential client base. The current dredge regimen of the harbour will be maintained, in which maintenance dredging to 8.2 m below Chart Datum (IGLD 1985) is undertaken every 5 years.

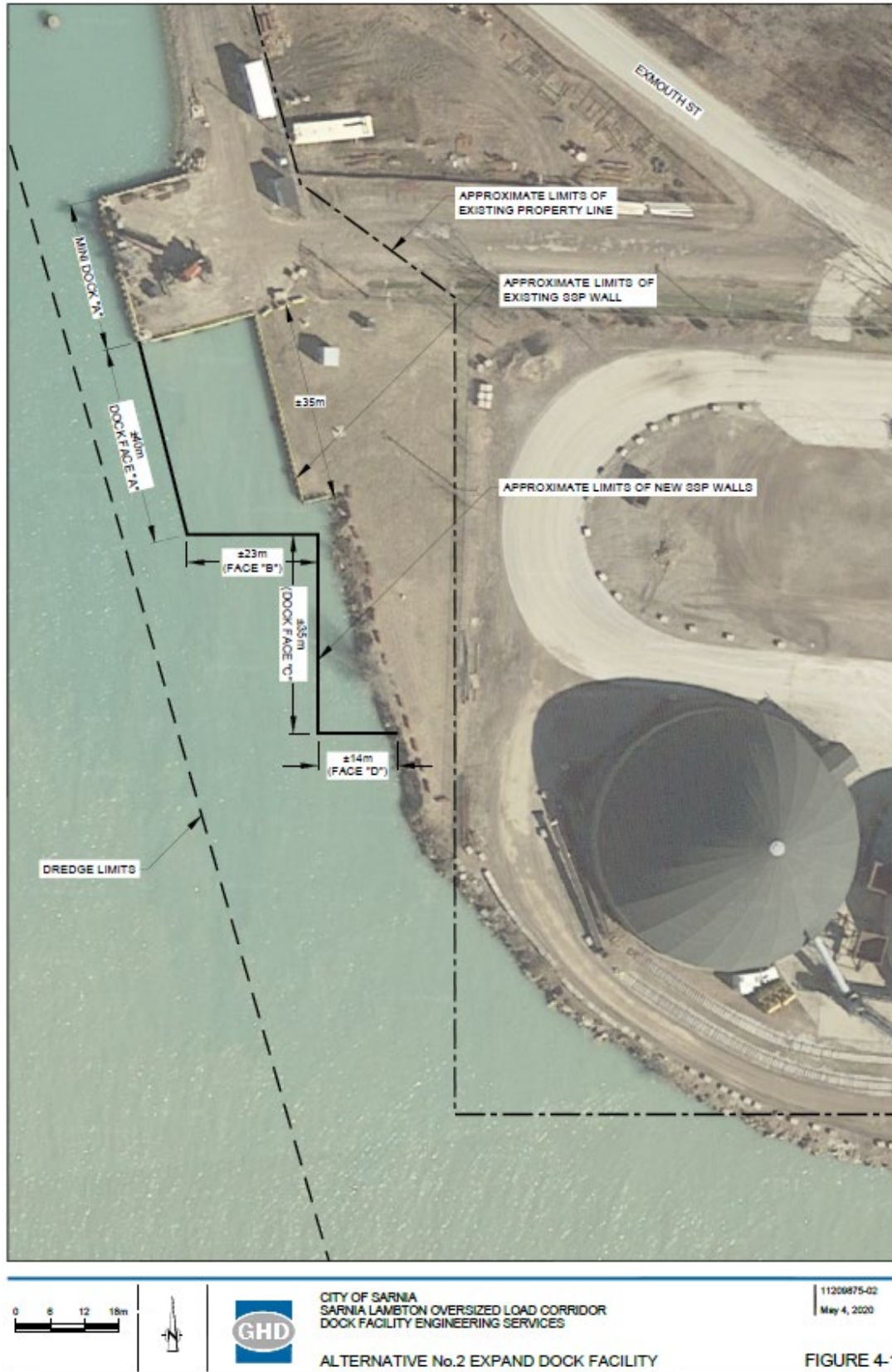


Figure 4-1 Alternative No. 2 - Expand Dock Facility



4.1.3 Alternative No. 3 - Construct New Dock Facility

In Alternative No. 3, a new dock facility would be constructed in the Sarnia Port to accommodate ships of 35 000 DWT. However, there is limited space in the Sarnia Port for an additional dock facility of this size. Consequently, the only feasible way of implementing this alternative would be the removal of Mini Dock 'A', to make room for the construction of the new dock facility. As a result, the alternative would generate demolition waste through the removal of the existing dock facility.

4.2 Description of the Environment Potentially Affected

With the preceding alternative solutions in mind, the environment in the vicinity of Mini Dock 'A' was described based on existing available information sources reviewed and field investigations carried out (**Table 4.1**). The description is based on addressing all aspects of the "environment" as defined by the *Environmental Assessment Act* (EA Act): natural, built, economic, social, and cultural.

Table 4-1 List of Investigations and Studies Completed for Describing the Environment

Environment as Defined in the EA Act	Investigation/Study
Natural Environment: includes land, water, plant and animal life	<ul style="list-style-type: none">• Aquatic Environmental Investigation• Terrestrial Environmental Investigation• Bathymetric and Topographic Study
Built Environment: includes any building or structure or thing made by humans	<ul style="list-style-type: none">• Geotechnical Investigation Report• Structural Investigation Report• Land use review
Social Environment: encompasses the social conditions that influence the life of humans or a community	<ul style="list-style-type: none">• Land use review
Economic Environment: includes the economic conditions that influence the life of humans or a community	<ul style="list-style-type: none">• Planning Policy review
Cultural Environment: encompasses the cultural conditions that influence the life of humans or a community	<ul style="list-style-type: none">• Desktop analysis of Archaeological Potential• Desktop Analysis of Built Heritage Resources and Cultural Heritage Landscapes



Environment as Defined in the EA Act

Investigation/Study

*All Technical Investigations and Reports are on file with the City

4.2.1 Natural Environment

The Mini Dock 'A' Facility is located within the Port of Sarnia (harbour), which is identified by MNDMNR Aquatic Resource Area Data as non-sensitive for fish and fish habitat and aquatic plants. The majority of the on-shore area is disturbed with limited terrestrial habitat.

4.2.1.1 Aquatic Resources

It is expected that approximately 1,400 m² of aquatic habitat will be impacted by the dock facility expansion. However, this impacted area is within the footprint of the existing maintenance dredging area, which is disturbed every 5 years. As such, potential effects to aquatic plants are anticipated to be limited.

Potential effects to fish and fish habitat are also anticipated to be limited, communication with MNDMNR confirmed that they did not have any record of known spawning/rearing/refuge/feeding habitats within the harbour. In addition, MNDMNR provided a fish community summary consisting of the following for the general Project vicinity: bluegill, bluntnose minnow, brook silverside, chinook salmon, common carp, common shiner, emerald shiner, freshwater drum, gizzard shad, golden shiner, largemouth bass, logperch, *Moxostoma sp.*, Northern pike, rainbow trout, rock bass, round goby, smallmouth bass, spottail shiner, spotted sucker, tubenose goby, white perch, white sucker, and yellow perch.

This section of the St. Clair River is within a warm water thermal regime with a Restricted In-Water Work Timing Window of March 15 to July 15. As noted previously, the harbour is dredged every five years to the maintained dredge depth of 8.2 meters below Char Datum (IGLD 1985). The Site was visited by a GHD ecologist on May 27, 2020. Site observations found that habitat diversity within the Project footprint was minimal because of the regular disturbance. It was also found that the adjacent shoreline is eroding, as illustrated in the following site photographs of existing conditions.



Photo 1: View of existing gravel access road, boat launch area and dock, facing south



Photo 2: View of proposed dock expansion area, facing south from existing dock



Photo 3: View of existing eroding shoreline within proposed dock expansion footprint, facing south.



Photo 4: View of existing eroding shoreline within proposed expansion footprint, facing north

Federal aquatic Species at Risk (SAR) listed as potentially within the broader Lake Huron/St. Clair River area, which includes the Port of Sarnia consist of the following: silver lamprey (Special Concern), spotted sucker (Special Concern), Northern madtom (Endangered) and channel darter (Endangered). However, communication with Department of Fisheries and Oceans, Canada (DFO) has confirmed that there is no "critical habitat" present within the broader area of the harbour including within the immediate vicinity of the existing Mini Dock 'A' facility.

In addition, there are Provincial aquatic SAR records within the Natural Heritage Information Centre grid block (1 km²) that encompasses the existing Mini Dock 'A' facility. These include the Northern madtom (Endangered), spotted sucker (Special Concern) and wavy-rayed lampmussel (Threatened). An Information Gathering Form (IGF) was submitted to the Ministry of Environment, Conservation and Parks (MECP) regarding the existing habitat conditions and proposed works. MECP has indicated that they do not have any concerns related to aquatic SAR.



4.2.1.2 Terrestrial Resources

The level of potential adverse effects to the terrestrial environment (i.e., natural areas and species) are anticipated to be relatively low due to the existing developed and disturbed nature of the landside portion of the existing Mini Dock 'A' facility. However, some records exist in the vicinity of the site for terrestrial SAR.

MECP requested the submission of an IGF in relation to five-lined skink (Endangered), Butler's gartersnake (Threatened), Blanding's turtle (Threatened), chimney swift (Threatened), bank swallow (Threatened), and barn swallow (Threatened). MECP has since indicated that only Butler's gartersnake and five-lined skink will require further discussion via the submission of an Avoidance Alternatives Form (AAF) and a C Permit Application Form (CPAF). There are no provincially significant wetlands (PSWs) or areas of natural scientific interest (ANSI) within 120 m of Port Sarnia (**Figure 4-2**).

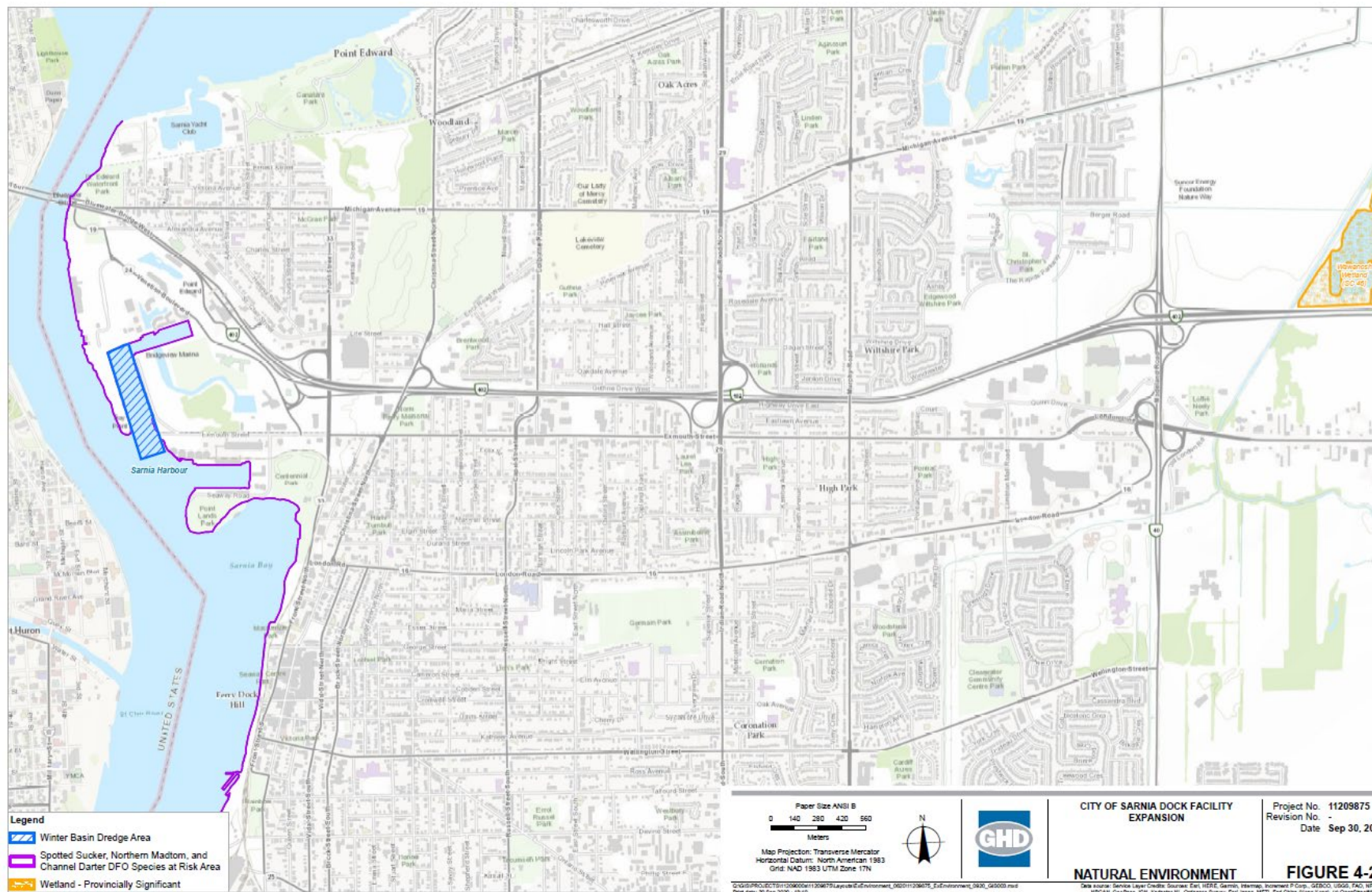


Figure 4-2 Existing Terrestrial Resources in Relation to Port Sarnia



4.2.2 Built Environment

The Mini Dock 'A' facility is situated within the industrial area of the Port of Sarnia (**Figure 4-3**). The existing facilities within Sarnia's Winter Basin consist of two mini docks and four piers. Exmouth Street begins at the Bridgeview Marina to the north and follows the facility south along the shore. At Mini Dock A the street turns east. Exmouth Street is the end of the OLC. East of the Mini Dock 'A' and Exmouth Street is a nature reserve that expands over approximately 8.7 ha. Directly adjacent to the south-east of Mini Dock 'A' is the Cargill Sarnia Grain Terminal which largely focuses on the transfer of grain, the site is highly industrialized. Along Exmouth Street, moving away from the Mini Dock 'A' facility, there are several local businesses, restaurants and hotels/Inns (**Figure 4-3**).

Servicing and Utilities

Bluewater Power, a power distribution corporation, has high voltage distribution equipment located at the Sarnia Dock Facility. The City has no other electrical infrastructure located at this location.

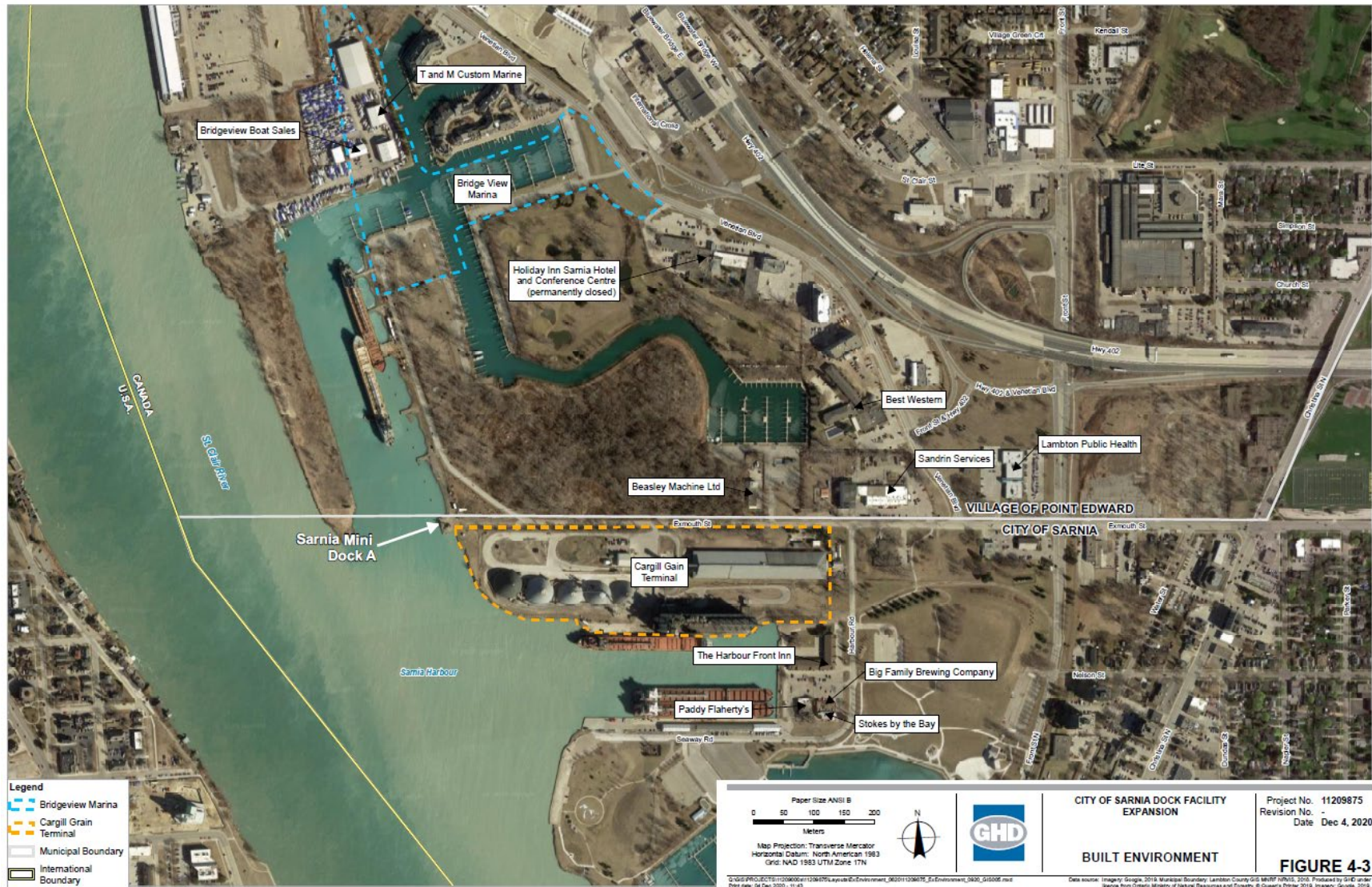


Figure 4-3 Built Environment

4.2.3 Social Environment

There are no residences in the general vicinity of the Mini Dock 'A' facility. In fact, the nearest residences are situated approximately 1 km to the northeast, which is on the other side of Highway 402. The Lambton Public Health office is located on Exmouth Street approximately 915 m from Mini Dock 'A'. There are two hotels located within 1 km of the Mini Dock 'A' including the Harbourfront Inn located adjacent to the Government Docks, approximately 630 m south-east of Mini Dock 'A' and the Holiday Inn Sarnia Hotel and Conference Centre located approximately 600 m north-east of Mini Dock 'A', which recently closed (**Figure 4-3**).

4.2.4 Economic Environment

Mini Dock 'A' is located within land designated "Heavy Industrial" and "Natural Hazard" under the City of Sarnia Official Plan² (**Figure 4-4**). The Official Plan permits the development of industrial facilities within the Heavy Industrial designated areas. The Official Plan identifies specific requirements for developments located within "Natural Hazard" areas adjacent to the St. Clair River (Section 3.2 of the Official Plan). However, since the Project is not proposing the development of any buildings along the shoreline, these requirements are not applicable.

Under the City of Sarnia Zoning By-Law³, Mini Dock 'A' is zoned "Water Front 1" whilst the areas just west of the Dock area, are zoned "Environmental Protection Area 1-1" (**Figure 4-5**). The "Water Front 1" zoned area permits the use for commercial establishments, marinas, winter berthing of ships and water transportation terminal. Areas zoned "Protected Area 1-1" permit the use for industrial docks. The additional dock and four piers north of Mini Dock 'A' fall within the Village of Point Edward regulated areas.

Under the Village of Point Edward Official Plan⁴ land uses adjacent to Mini Dock 'A' are designated "Natural Heritage" (**Figure 4-4**). With reference to Section 18 of the Official Plan, development within designated "Natural Areas" allows the development of marine facilities where appropriate. With reference to the Village of Point Edward Zoning By-Law Schedule A⁵ the "Natural Heritage" designated Areas relative to

² City of Sarnia Official Plan, <https://www.sarnia.ca/official-plan-document/>. Last Accessed: 2 December, 2020.

³ City of Sarnia By-Law Document, <https://www.sarnia.ca/planning-zoning-by-law-document/>. Last Accessed: 2 December, 2020.

⁴ Village of Point Edward Official Plan, <https://www.villageofpointedward.com/wp-content/uploads/2020/07/Official-Plan-2009.pdf>. Last Accessed: 2 December, 2020.

⁵ Village of Point Edward Zoning By-Law Map, <https://www.villageofpointedward.com/wp-content/uploads/2017/09/Zoning-By-Law-Schedule-A-MAP.pdf>. Last Accessed: 2 December, 2020.



the Project are zoned “Environmental Protection 1” (**Figure 4-5**), which permits the development of a marina or marine facilities⁶.

As noted previously, facility expansion is an integral part of the OLC and has the opportunity to improve the economic revenue of Sarnia-Lambton fabricators by an estimated \$9.5 million and provide an estimated 2,613 new jobs.

⁶ Village of Point Edward Zoning By-Law, <https://www.villageofpointedward.com/wp-content/uploads/2020/01/Point-Edward-Zoning-By-Law-Sept.-2012.pdf>. Last Accessed: 2 December, 2020.

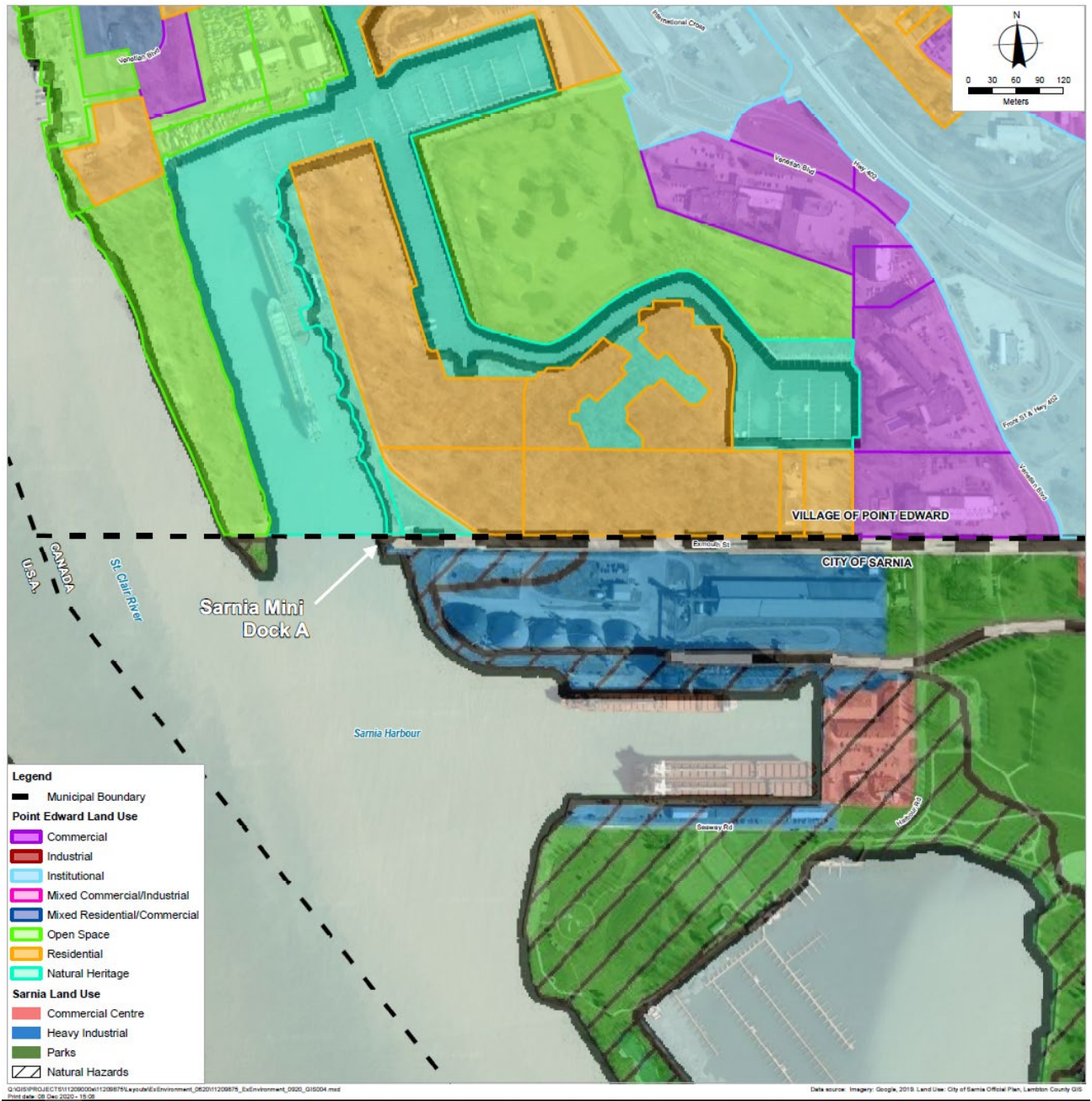


Figure 4-4 Land Use Map

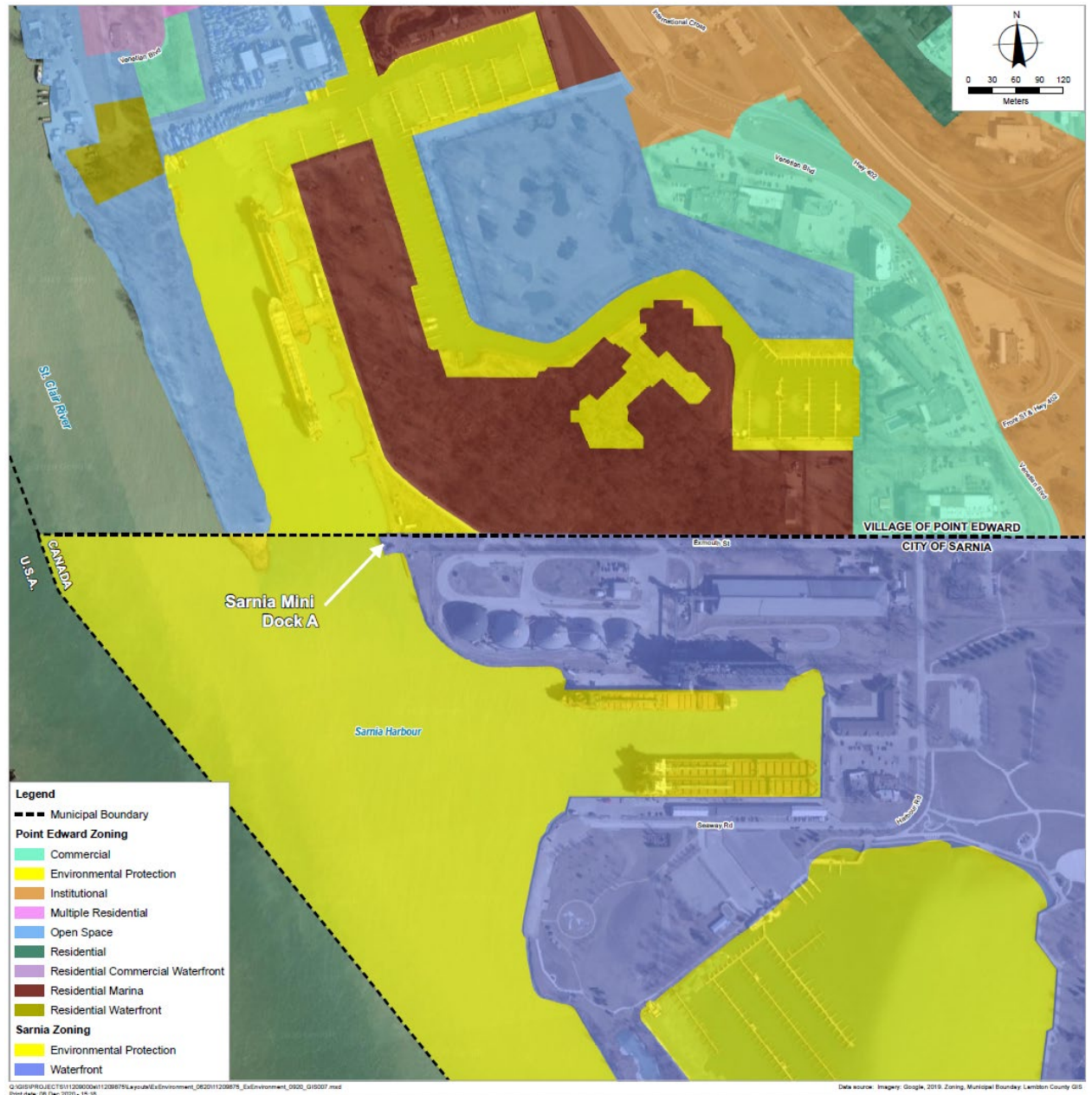


Figure 4-5 Zoning Map

4.2.5 Cultural Environment

Cultural Heritage Resources

There is no potential or known heritage resources existing within the Project area. The Project has been screened using the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage



Landscapes (**Appendix A**). As a result, no Heritage Impact Assessment (HIA) is required based on the completed screening.

Archaeology

Considering that maintenance dredging takes place approximately every five years at the Harbour, it is not anticipated that any archaeological findings would be discovered from any dock construction activities. Similarly, it is unlikely that archeological findings of relevance would be buried within the reaches of the dock footprint and dredging depth, as the sediment down to the desired depth has been transported downstream from the river and as such is relatively young sediment.

In light of this, the Project has been screened using the MHSTCI Criteria for Evaluating Archaeological Potential (**Appendix B**). No archaeological assessment is required based on the completed screening because the Project area has been subject to recent, extensive, and intensive disturbance. As part of completing the screening, it was confirmed that there are no known archaeological sites recorded within the Project area.

4.3 Assessment of the Alternative Solutions

The three alternative solutions were assessed based on a net effects analysis. A net effects analysis is composed of the following activities reflecting the process specified in the MCEA⁷:

- Identify potential effects on the environment (both positive and negative).
- Develop appropriate impact management measures.
- Apply the impact management measures to the identified potential environmental effects to identify net effects on the environment (both positive and negative).

4.3.1 Development of the Evaluation Criteria and Indicators

In order to identify and consider the potential effects of each alternative solution on the environment in a traceable, logical, understandable, and reproducible manner, evaluation criteria were developed as a first step. The evaluation criteria were developed as “preliminary” based on the alternatives being considered, existing environmental conditions, the type and scale of potential environmental effects anticipated from the alternatives and their relative significance, and comments received from stakeholders.

⁷ Municipal Engineers Association, Municipal Class Environmental Assessment, October 2000 (as amended in 2007, 2011, and 2015), page A-29



Each evaluation criterion was connected to a particular aspect of the environment (e.g., natural) as defined in the *EA Act*. In addition, criteria were included for assessing the technical and financial aspects of the alternatives.

The preliminary evaluation criteria were presented in an Information Package (**Appendix D**) that was provided to stakeholders and published on the City's website for input. No specific comments were received from stakeholders or public. Notwithstanding this, some of the evaluation criteria were revised to make them more relevant to the alternatives being considered or combined with others because of overlapping similarities, based on closer examination as part of finalizing them. One or more indicators were developed for each evaluation criterion to identify how the potential environmental effects were to be measured for each criterion. **Table 4-2** lists the final evaluation criteria and indicators by category.

Table 4-2 Evaluation Criteria

Category	Evaluation Criteria	Indicators
Technical	<ul style="list-style-type: none">• Ability of the alternative to accommodate the shipment of oversized loads.	<ul style="list-style-type: none">• Accommodation of oversized shipment loads
	<ul style="list-style-type: none">• Length of time for constructing the alternative	<ul style="list-style-type: none">• Duration of construction
Natural Environment	<ul style="list-style-type: none">• Effect on aquatic habitat	<ul style="list-style-type: none">• Permanent effects on aquatic species and habitat quality
		<ul style="list-style-type: none">• Temporary effects on aquatic species and habitat quality (e.g., temporary disturbance during construction, sedimentation, etc.)
	<ul style="list-style-type: none">• Effect on terrestrial habitat	<ul style="list-style-type: none">• Permanent effects on terrestrial habitat and species vegetation (e.g., riparian vegetation)• Temporary effects on terrestrial

Category	Evaluation Criteria	Indicators
		habitat quality and species (e.g., temporary disturbance during construction, etc.)
Built Environment	<ul style="list-style-type: none"> Effect on the existing dock facility, shoreline and access road 	<ul style="list-style-type: none"> Type and duration of effects
Social Environment	<ul style="list-style-type: none"> Effect on area users (e.g., business employees, boaters, etc.) 	<ul style="list-style-type: none"> Type and duration of effects
Economic Environment	<ul style="list-style-type: none"> Ability of the alternative to reduce shipping costs for local fabricators and industry 	<ul style="list-style-type: none"> Effect on shipping costs for local fabricators and industry
	<ul style="list-style-type: none"> Ability of the alternative to facilitate increased revenue generation for local fabricators and industry 	<ul style="list-style-type: none"> Effect on revenue generation for local fabricators and industry
	<ul style="list-style-type: none"> Ability of the alternative to facilitate new job creation 	<ul style="list-style-type: none"> Effect on new job creation
Cultural Environment	<ul style="list-style-type: none"> Effects on cultural heritage resources 	<ul style="list-style-type: none"> Loss of and/or disturbance to cultural heritage resources
Financial	<ul style="list-style-type: none"> Capital cost of the alternative 	<ul style="list-style-type: none"> Estimated cost

4.3.2 Application of Net Effects Analysis

Following the development of evaluation criteria, the three activities associated with the net effects analysis were carried out for the alternative solutions.

Task No. 1 - Identify Potential Effects on the Environment

The potential effects on the environment were identified for the alternatives by applying the final evaluation criteria via their associated indicator(s) to each alternative. The application was done within the context of each specific alternative and the associated environment. The identified potential effects were then documented in the “Potential Effects” row of the net effects analysis tables for each alternative.



Task No. 2 - Develop and Apply Impact Management Measures

Next, impact management measures were developed, where possible and as required, and applied to avoid, mitigate, or compensate for potential negative environmental effects for each alternative. More specifically, the intent of the impact management measures is as follows:

- **Avoidance:** The first priority is to prevent the occurrence of negative (adverse) environmental effects associated with implementing an alternative. Avoidance-by-design.
- **Mitigation:** Where negative environmental effects cannot be avoided, appropriate measures to remove or alleviate, to some degree, the negative effects associated with implementing an alternative should be sought.
- **Compensation:** In situations where appropriate mitigation measures are not available, or significant net negative effects will remain following their application, compensation measures may be required to counterbalance these negative effects through replacement in kind, substitution, reimbursement or other agreed compensation.

The impact management measures were developed based on professional expertise of the Project Team reflecting current procedures, historical performance and existing environmental conditions. These measures were documented in the “Impact Management Measures” row of the net effects analysis tables for each alternative.

Task No. 3 - Determine Net Effects on the Environment

Once the appropriate impact management measures were developed and applied to the potential environmental effects of each alternative, the remaining net effect(s) were determined and documented in the “Net Effects” row of the net effects analysis tables for each alternative. In cases where the net effect could not be improved through the application of impact management measures, the potential effect remained unchanged. Therefore, it was still identified as the “net effect.”

With the preceding three activities in mind, a summary of the net effects analysis for the alternative solutions is provided in **Table 4-3. Appendix C** includes the full net effects analysis.

4.4 Comparative Evaluation of the Alternative Solutions

Next, the three alternative solutions were comparatively evaluated using the Reasoned Argument or "Trade-off" approach based on the results of the net effects analysis. **Figure 4-6** illustrates the associated tasks:

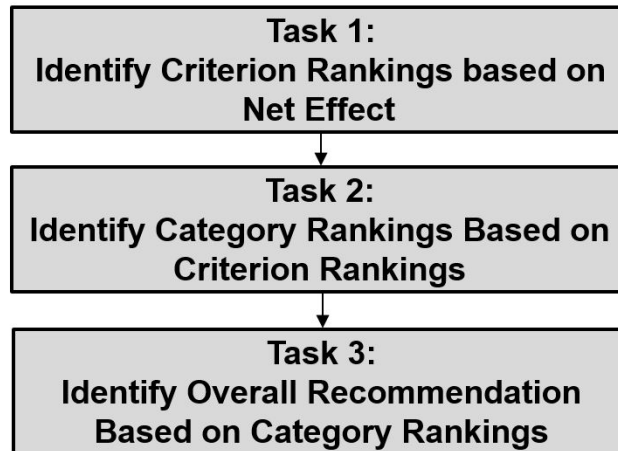


Figure 4-6 Comparative Evaluation Methodology (Reasoned Argument Approach)

Task 1: Identify Criterion Rankings Based on Net Effects

First, the net effects identified for each alternative by criterion were compared to one another to identify a criterion ranking by alternative (i.e., More Preferred, Moderately Preferred or Less Preferred (includes Ties))). If the corresponding net effects of a criterion were the same for two or more alternatives, then they were ranked equally and the word "tied" was added to the criterion ranking (i.e., Tied for Most Preferred).

Task 2: Identify Category Rankings Based on Criterion Rankings

In Task 2, the criterion rankings identified through the preceding task were considered collectively to assign an alternative ranking (i.e., More Preferred, Moderately Preferred or Less Preferred (includes Ties)) by individual category (i.e., Technical, Natural Environment, and Financial).

In the situations where a category has more than one evaluation criterion, then all of the evaluation criterion rankings were considered collectively to identify an alternative ranking for the category. For example, in the case of the Economic Category, rankings assigned for all three Economic evaluation criteria were considered collectively in determining the alternative rankings for the Economic Category.

Task 3: Identify Overall Recommendation Based on Category Rankings

Following the identification of category rankings, an overall recommendation was assigned to the alternative with the greatest number of top placed category rankings (e.g., more "More Preferred"



rankings) among all the alternative solutions considered, thus providing the highest number of advantages and the least number of disadvantages overall.

The preceding comparative evaluation approach for the Sarnia Dock Expansion are documented in **Appendix C** and summarized by three separate colours in **Table 4-3**.

Table 4-3 Summary of the Net Effect Analysis and Comparative Evaluation of Alternative Solutions for the Sarnia Dock Expansion

Category	Alternative No. 1 Do Nothing	Alternative No. 2 Expand Existing Dock Facility	Alternative No. 3 Construct New Dock Facility
Technical	<ul style="list-style-type: none"> - Does not accommodate the shipment of oversized loads - No construction period 	<ul style="list-style-type: none"> - Accommodates the shipment of oversized loads - Shorter construction period 	<ul style="list-style-type: none"> - Accommodates the shipment of oversized loads - Longer construction period
Natural Environment	<ul style="list-style-type: none"> - No potential adverse effects - No remediation of existing conditions 	<ul style="list-style-type: none"> - Temporary effects to aquatic environment and terrestrial environment - Remediation of eroded shoreline - Establishment of living shoreline nearby 	<ul style="list-style-type: none"> - Temporary effects to aquatic environment and terrestrial environment (for a longer duration) - Remediation of eroded shoreline - Establishment of living shoreline
Built Environment	<ul style="list-style-type: none"> - No potential adverse effects 	<ul style="list-style-type: none"> - Existing dock facility maintained, some short-term effects due 	<ul style="list-style-type: none"> - Demolition of existing dock facility, Reconstruction



Category	Alternative No. 1 Do Nothing	Alternative No. 2 Expand Existing Dock Facility	Alternative No. 3 Construct New Dock Facility
		to construction activities	of new dock facility - Temporary effects for both demolition and construction activities
Social Environment	- No potential adverse effects	- No potential adverse effects	- No potential adverse effects
Economic Environment	- Does not reduce shipping costs - Does not generate new revenue - Does not create new jobs	- Reduces shipping costs - Generates revenue of approximately \$9.5 million - Creates and estimated 2,613 new jobs	- Reduces shipping costs - Generates revenue of approximately \$9.5 million Creates and estimated 2,613 new jobs
Cultural Environment	- No potential adverse effects	- No potential adverse effects	- No potential adverse effects
Financial	- No capital costs	- Approximately \$6 million in capital costs	- Approximately \$9 million in capital costs
Overall Recommendation	- Not Recommended	- Recommended Solution	- Not Recommended
	Less Preferred		
	Moderately Preferred		
	More Preferred		



4.4.1 Recommended Solution

Alternative No. 2: Expand Existing Dock Facility was selected as the **Recommended Solution** because it is the only alternative to rank either Most Preferred or Moderately Preferred in every evaluation category. Expanding the Existing Dock Facility would accommodate the shipment of oversized loads to support the OLC unlike the 'Do Nothing' alternative and would have a shorter construction timeline than constructing a new dock facility.

Alternative No. 2 would have limited adverse effects on the Natural Environment due to the continuous disturbance of Sarnia Port's Winter Basin (including maintenance dredging activities). The existing dock facility would be maintained with Alternative No. 2 unlike Alternative No. 3, which would require its demolition.

The economic benefits of the Project, including the generation of an estimated \$9.5 million in revenues and the creation of approximately 2,613 new jobs would be realized with Alternative No. 2 because it is able to accommodate the shipment of oversized loads unlike the Do Nothing alternative. Finally, expanding the existing dock facility would have lower capital costs compared to constructing a new dock facility.

4.5 Confirmation of the Preferred Solution

The recommended solution of Expanding the Mini Dock 'A' facility was confirmed as the preferred solution for the Project having consideration for the comments received as part of the consultation carried out. As mentioned, an Information Package (**Appendix D**) was issued to stakeholders including regulatory agencies and posted on the City's website for the public to review and provide comments.

Comments were received on the Information Package from the following agencies: DFO, MECP, MNMNR, St. Claire Region Conservation Authority, Transport Canada, Bluewater Power and MHSTCI. None of the comments objected to the recommended expansion of the Mini Dock 'A' facility. Instead, most of the comments received were seeking additional information or clarifications on the Project. **Section 6** provides further information on the consultation carried out as part of the Project including the comments received and their consideration.



5. Description and Implementation of the Preferred Solution

5.1 Detailed Description of the Preferred Solution

The expanded dock facility will include mooring facilities, storage area, and laydown areas suitable for ship to shore loading/offloading and roll on/roll off barge loading. The dock would attain an additional 112 meter (m) of dock face, offering approximately 1,400 m² of additional shipping and storage area based on the proposed expansion (**Figure 5-1**). It is anticipated that the new dock faces will consist of sheet pile walls and a riprap style revetment along the southern shoreline, which is currently eroding. A separate living shoreline will be created in Sarnia Harbour to offer habitat opportunities for local flora and fauna and offset the loss of fish habitat.

The expanded dock will be able to birth ships up to 35,000 DWT and will offer a significant increase to Sarnia Port's potential client base. The current dredge regimen of the harbour will be maintained, in which maintenance dredging to 8.2 m below Chart Datum (IGLD 1985) is undertaken every five years.

5.1.1 Proposed Construction

In order to construct the expanded dock facility, the following equipment will be required:

- A crane with a vibro hammer or an impact hammer (selection will be based on soil properties), but most likely the Project location will only require a vibro hammer.
- An excavator to salvage stones and boulders for reuse, spreading and placing backfill materials.

Where materials can be salvaged, they will be placed on the dock, which will be fitted with either a geomembrane, berm, hay bales or silt fence to avoid erosion.

The proposed construction sequencing is described in the following steps:

1. Mobilize the contractor to the Project location to install a turbidity curtain and wildlife fencing around the work area, and silt soxx when required as per Figure 5-1.
2. Install steel sheet piling using a template as a guide to help keep the alignment of the wall. The piles will be installed in pairs.
3. Install wale and anchor system (tie rods and precast concrete anchor blocks).



4. Backfill with stones to waterline or to specified elevations. Backfill around anchorage system.
5. Place reinforcing steel and pour concrete parapet via a pump truck)
6. Grade the site to specified grades/elevations.
7. Seed the surrounding areas to provide reptile and amphibian friendly environment. Plant bushes and shrubs along the shoreline.

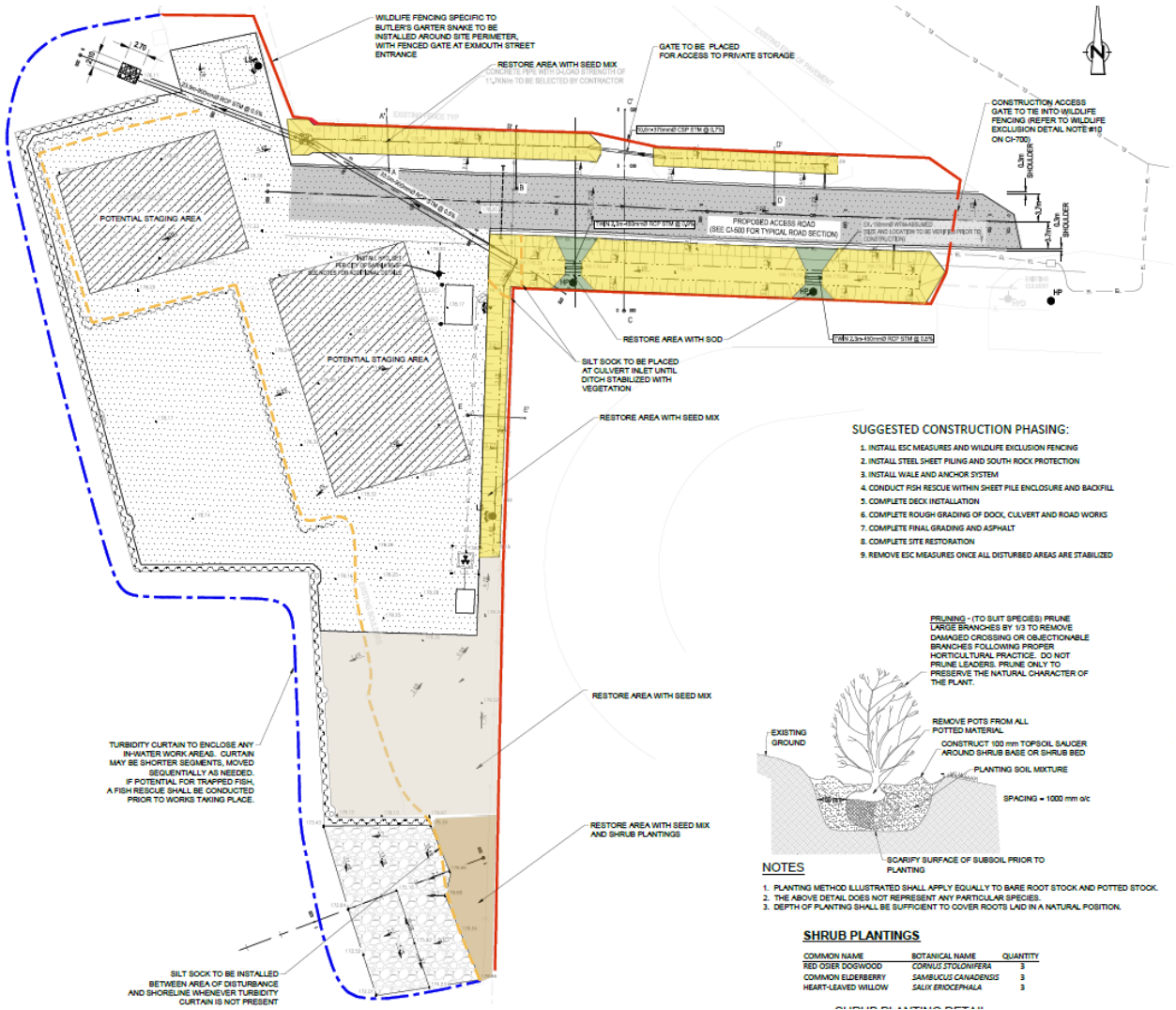


Figure 5-1 Expansion of Mini Dock 'A'



5.2 Estimated Construction Cost for the Preferred Solution

Table 5-1 provides an order of magnitude cost estimate for the Preferred Solution.

Table 5-1 Cost Estimate

Item	Order of Magnitude Cost Estimate
Construction Inspection/ Contract Admin	\$200,000
Mobilization/Access Road/Layout/Bond	\$500,000
Material, Construction, and Geotechnical Testing	\$4,800,000
DFO offsets	\$400,000
Post Construction Monitoring	\$100,000
Total	\$6,000,000

5.3 Confirmation of Net Effects and Proposed Monitoring for the Preferred Solution

The potential adverse environmental effects are expected to be relatively minor and standard construction type mitigation measures are planned to further minimize or avoid the anticipated effects. **Table 5-2** summarizes the potential environmental effects and impact management measures along with proposed monitoring.

Table 5-2 Summary of the Net Effects and Proposed Monitoring Programs for the Confirmed Expansion of Mini Dock 'A'

Category	Potential Effects	Impact Management Measures	Net Effects	Proposed Monitoring Program
Natural Environment	Permanent loss of fish during construction.	<ul style="list-style-type: none"> Plan in water work to respect timing windows to protect fish so as to prevent the death of fish. In-water work will be limited to between July 16 and March 14 of any given year. Conduct a fish rescue within any fully enclosed work area prior to in-water works/filling/dewatering. Captured fish will be relocated outside of the isolated area. Install turbidity curtains by sweeping the curtains outwards from shore, thus pushing fish out from the work area and not trapping them within the enclosure. 	The potential for permanent loss of fish during construction will be reduced by respecting the timing windows for in water works and implementing best management practices that remove fish from the work area	No specific monitoring is proposed at this time.
	Temporary construction effects to aquatic SAR species and habitat identified within the harbour including: <ul style="list-style-type: none"> Silver lamprey (Special Concern) Spotted sucker (Special Concern) Northern madtom (Endangered) Channel darter (Endangered). 	<ul style="list-style-type: none"> Undertake in water work in specific timing windows to protect aquatic species. In water works will be limited to between July 16 and March 14 of any given year. Implement a habitat offsetting project within Sarnia Bay as part of the associated DFO Authorization for the dock expansion works. The proposed design will enhance aquatic habitat for several fish species. 	<p>Temporary construction related effects to aquatic SAR species will be limited by undertaking in-water works during appropriate timing windows.</p> <p>The temporary construction related effects on aquatic species and habitat quality will be offset by the installation of a habitat offsetting project within Sarnia Bay, near the Project location.</p>	<p>Turbidity will be visually monitored during construction works and mitigation measures (e.g., turbidity curtains) will be adjusted as necessary.</p> <p>Post-construction monitoring of the habitat offsetting project will be a requirement under the DFO Authorization and will involve 5-year monitoring of habitat feature stability, aquatic vegetation, and fish community.</p>
	Temporary effect on terrestrial SAR species and habitat identified in the vicinity of the harbour	<ul style="list-style-type: none"> Undertake vegetation clearing in specific timing windows to protect terrestrial species. Use wildlife exclusion fencing to prevent entry of terrestrial species into the work area. Restore the Project location with appropriate native vegetation following completion of construction. 	Temporary construction related effects to terrestrial SAR species will be limited by undertaking vegetation clearing within appropriate timing windows and restoring vegetation where appropriate following construction.	Monitoring of exclusion fencing will be incorporated into the construction plan.
	Permanent loss of riparian vegetation.	<ul style="list-style-type: none"> Incorporate post construction riparian vegetation along the shoreline to improve 	The removal of a minor amount of riparian vegetation will be	No specific monitoring proposed at this time.

		the quality of riparian vegetation. Efforts will be concentrated to the south end of the Project location where the shoreline is already experiencing the effects of erosion.	mitigated through the replacement of the vegetation.	
	Impacts to areas located below the high-water mark and increased erosion	<ul style="list-style-type: none"> Stabilize the eroding shoreline Placement of fill or permanent structures below the high-water mark cannot be avoided for this Project; however, the works will be planned and staged so that in-water works are minimized. Develop a comprehensive Erosion and Sediment Control Plan as part of the Detailed Design and implement during construction. 	The areas within the high-water mark that are already experiencing erosion effects will be stabilized.	An Erosion and Sediment Control Plan will be developed that will include monitoring requirements.
	Deleterious substances entering the water	<ul style="list-style-type: none"> Incorporate measures prior to construction activities to ensure deleterious substances are prevented from entering the water, such as requirements for refueling locations, storage, and emergency spill response protocols. 	The potential for deleterious substances to enter the water will be reduced by establishing refueling locations and storage in appropriate areas. Emergency spill response protocols will also be in place.	No monitoring proposed at this time.
Built Environment	Temporary disruption during construction and/or inconveniences to adjacent properties	Schedule the construction activities to limit disruption to adjacent properties. Adjacent businesses will be notified of construction scheduling prior to commencement.	The temporary disruption to adjacent properties will be minimized through appropriate scheduling and notifying area businesses in advance.	No monitoring proposed at this time.
	Exhaust emissions from construction operations	Limit equipment idling to the minimum necessary to perform the specific work.	Exhaust emissions from construction operations will be minimized by limiting the idling of equipment	No monitoring proposed at this time.

5.4 Commitments for the Preferred Solution

The City has made a number of commitments regarding the proposed impact management measures, monitoring requirements and in response to consultation activities carried out during the Project. **Table 5-3** summarizes the commitments made for the Project under the following headings:

- Commitment description
- Commitment timing (when the commitment will be implemented)

The commitments are further grouped into either one of the following three categories:

- General (not specific to a particular environmental category or the result of consultation)
- Environment (i.e., Natural, Built)
- Consultation

The City (as the ultimate owner) is committed to ensuring that the Project is constructed and maintained in accordance with the MCEA.

Table 5-3 Class EA Commitments and Compliance Monitoring

Category	ID	Commitment Description	Commitment Timing
General	1	The net effects, impact management measures, and proposed monitoring associated with the confirmed expansion of Mini Dock 'A' (Table 5-2) will be re-confirmed as part of detailed design.	Pre-construction
	2	The confirmed impact management measures and monitoring associated with the Project will be implemented unless they are determined to be no longer applicable or required.	Pre-construction, Construction
	3	All required permits and approvals will be obtained for the Project.	Pre-construction, Construction
	4	Any unforeseen change to the Project identified during implementation will be reviewed by the City to determine if it should follow the MCEA addendum process. A change is defined as a significant modification to the project or change in the environmental setting for the project, which occurs after the filing of the Project File Report.	Pre-construction, Construction



Category	ID	Commitment Description	Commitment Timing
Natural Environment	5	An Erosion and Sediment Control Plan will be developed and implemented.	Pre-construction, Construction
	6	The City will improve approximately 1400 m ² of aquatic habitat in Sarnia Bay as a habitat offsetting measure.	Construction
	7	Terrestrial SAR habitat compensation will be determined through ongoing negotiations with MECP.	Pre-construction
Built Environment	8	Bluewater Power will be consulted during the construction phase to determine the new location for the transformer and distribution building once the dock layout and construction plan have been finalized.	Pre-construction

5.5 Approval Required for the Preferred Solution

In addition to requiring *EA Act* approval, there are several additional approvals anticipated to be required to implement the Project including the following:

Approval Authority	Anticipated Permit and Approval Required	Legislation of By-Law Reference
Federal Approvals		
Transport Canada	The Project falls under the <i>Minor Works Order</i> of the <i>Canadian Navigable Waters Act</i> , and a voluntary Notification Of A Minor Work will be submitted to Transport Canada.	<i>Canadian Navigable Waters Act</i>
Fisheries and Oceans Canada	Fisheries Act authorization with SARA conditions.	<i>Fisheries Act</i> , <i>Species at Risk Act (SARA)</i>
Provincial		
Ministry of Environment,	An Overall Benefit Permit under clause 17(2)(c) of the	<i>Endangered Species Act, 2007</i>

Approval Authority	Anticipated Permit and Approval Required	Legislation of By-Law Reference
Conservation and Parks	<i>Endangered Species Act</i> will be required for Butler's gartersnake and five-lined skink	
St. Clair Region Conservation Authority	Regulation of development, interfering with wetlands and alterations to shorelines and watercourses	Ontario Regulation 171/06 under the Conservation Authorities Act

5.6 Implementation of the Preferred Solution

As stated in **Section 2**, since the Preferred Solution is classified as a Schedule 'B' activity, the City, as the proponent, is required to prepare a Project File Report documenting the first two phases of the MCEA process followed and conclusions reached and make it available for a 30 calendar day comment period.

5.6.1 Notice of Completion

As part of the process of making the Project File Report available for review, the City issued a formal 'Notice of Completion' (**Appendix F**) for the Sarnia Expanded Dock Facility Class EA through the following activities:

- Issuing a letter with the Notice via email and/or direct mailing to review agencies, Indigenous communities, and interested public members
- Publishing the Notice in two editions of the 'Sarnia Observer'
- Posted the Notice on the City's website:
<https://www.sarnia.ca/sarnia-harbour-expanded-dock-facilities-class-ea-information-package/>

5.6.1.1 30 Day Comment Period

The City established the 30-calendar day comment period starting on **January 29, 2022**, and ending on **February 27, 2022**, whereby any interested person can inspect the Project File Report and provide comments. The comments, including any issues or concerns, should be sent first to GHD, on behalf of the City, for potential resolution.



If there are outstanding concerns that the Project may adversely impact constitutionally protected Aboriginal and treaty rights, which cannot be resolved in discussion with the City, then a person or party may request that the Minister make an order for the Project to comply with Part II of the *Environmental Assessment Act*. This is referred to as a Part II Order, which addresses Individual Environmental Assessments.

In addition, the Minister may issue an order on his or her own initiative. In this situation, the Director of the Environmental Approvals Branch, MECP (Director), would issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent.

Once the requested information has been received, the Minister would have 30 days within which to make a decision or impose conditions on the project.

This means the proponent cannot proceed with the project until at least 30 days after the end of the comment period provided for in the Notice of Completion.

5.6.2 Municipal Class Environmental Assessment Phase 5

A proponent is able to proceed to Phase 5 of the MCEA and implement the preferred solution according to their schedule as follows:

- If no Part II Order requests are received during the 30-calendar day comment period or those that are received are satisfactorily resolved
- The Minister does not issue an order or impose conditions on the project.

Specifically, Phase 5 of the MCEA for this Project entails three steps:

- Complete detailed design of the expanded dock facility and associated pre-construction environmental provisions and commitments as specified in the Project File Report, including acquiring all necessary post-EA permits and approvals.
- Proceed to construct the expanded dock facility, monitoring to ensure fulfilment of construction-related environmental provisions and commitments as specified in the Project File Report.
- Undertake monitoring to ensure fulfilment of infrastructure operations-related environmental provisions and commitments, if required, by post -EA permits and approvals.



5.6.2.1 Anticipated Construction Timeline

Construction is currently planned to commence in mid July 2022. It is anticipated that the duration of construction will be approximately 5 months, pending weather conditions and port scheduling. Construction during spring months will be avoided to prevent disturbance to breeding periods of local fauna.



6. Overview of the Consultation Process Carried Out

Consultation with review agencies, Indigenous communities, and the public was carried out as part of the Sarnia Expanded Dock Facility Class EA (Project). Consultation undertaken as part of the Project was carried out in accordance with the Municipal Class Environmental Assessment (MCEA). Specifically, consultation was carried out early in and throughout the Project satisfying the following:

- The need for a minimum of two mandatory points of contact as specified in the MCEA for Schedule B activities (**Section 6.1**)
- The need to contact all main stakeholders or participants identified in the MCEA: review agencies including municipalities, Indigenous communities, and the public (**Section 6.2**)
- The need to provide a variety of methods for involving the public as stated in the MCEA (**Section 6.3**)
- The need to integrate input received into the Project and decision-making process as outlined in the MCEA (**Section 6.4**)

Each of the preceding requirements are further elaborated upon in the following subsections.

6.1 Points of Contact When Consultation Occurred

As noted in **Section 2**, two points of contact are required for Schedule B activities to provide the opportunities for review agencies, Indigenous communities, and the public to be involved. The two points of contact include the following:

- Confirmation of the preferred solution (i.e., Expanding the Mini Dock 'A') as part of Phase 2 of the MCEA
- Filing of the Final PFR for comment after completion of Phase 2 of the MCEA

As a result, input was sought and obtained from the involved participants at the key decision-making points in the MCEA (e.g., Phase 2) before moving forward with those decisions in the Project.

The first mandatory point of contact the City made with the stakeholders included an Preliminary Findings Information Package (Information Package) detailing the problem/opportunity, environmental description, alternative solutions and preliminary determination of a recommended solution (**Appendix D**). In terms of what constitutes the 'public', the MEA MCEA specifies that in all cases property owners adjacent to the project site and potentially affected members of the public should be contacted. With this in mind, the public was defined as adjacent/area property owners (composed of government or industry ownership) based on the following for this Project:



- Expansion of an existing dock facility in the Port of Sarnia (surrounded by industrial/open space uses)
- Types of and range of potential adverse environmental effects (limited to short-term construction related effects in the immediate vicinity of the existing dock facility)
- Nearest residences are situated approximately 1 km to the northeast, which is on the other side of Highway 402 (well outside of the area of potential adverse environmental effects)

The Information Package was issued directly to all review agencies and the 'public' (adjacent/area property owners) and placed on the City of Sarnia's municipal website vs publishing a notice in the local papers based on what constituted the 'public' for this Project and in accordance with the guidance provided to proponents in the *MEA Companion Guide for the MCEA Manual* (2018).

MECP provided the City with a list of Indigenous communities to consult with. The City provided, via registered mail and email (where available), the Information Package for review and comment offering each Indigenous community the opportunity to meet with the Project team in accordance with the guidance provided to proponents in the *MEA Companion Guide for the MCEA Manual* (2018) (Page 46).

The City will commence with the second mandatory point of contact with public upon completion of the Project File Report to allow comment and input on the Project File for a period of 30 calendar days as communicated through a Notice of Completion issued.

6.2 Interested Participants and How Input Was Obtained

At the Project onset, potentially interested participants were grouped together into review agencies, Indigenous communities (First Nations and Métis organizations), and the public for consultation purposes. A comprehensive contact list comprised of these three participant groups was then established based on the following (**Appendix J**):

- MCEA
- Other projects recently completed and ongoing within and in the vicinity of the Sarnia Dock Facility
- The Project Team's consultation experience

Each participant group and how they were consulted is described in further detail in the following subsections.

6.2.1 Review Agencies

Review agencies included federal agencies and departments, provincial ministries and agencies, and local agencies, such as the County of



Lambton, St. Claire Region Conservation Authority, and utilities. In total, 14 review agencies were consulted as part of the Project (**Table 6.1**).

Review agency input on the Project was obtained largely through email correspondence with a few meetings/on-site visits.

Table 6-1 Review Agencies

Review Agency
Federal Agencies
Transport Canada
Fisheries and Oceans Canada
Canadian Coast Guard
Environment and Climate Change Canada
Global Affairs Canada
Provincial Agencies
Ministry of Environment, Conservation and Parks (MECP)
Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI)
Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNR)
Municipality and Local Agencies
County of Lambton
St. Claire Region Conservation Authority
Lambton Emergency Management Services
Utilities
Cogeco
Bell Canada
Bluewater Power

6.2.2 Indigenous Communities

The Indigenous communities who were invited to participate in the Project are presented in **Table 6.2** (those that may potentially be affected by the Project). The list was provided to the City by MECP. The list of participating Indigenous communities was updated, as appropriate, throughout the Project to ensure that all who wished to be involved were provided the opportunity to do so and those requesting to disengage from the Project were no longer contacted.



Indigenous communities were consulted through a separate, but parallel process to the review agencies and the public throughout the Project. Letters were mailed out through registered mail to the Indigenous Communities as well as via email where email details could be retrieved, on September 4, 2020. Indigenous communities who had not responded were contacted via phone on October 9, 2020. Voicemails were left for all Indigenous communities.

At the request of Transport Canada in their October 28, 2020 email, the Aamjiwnaang First Nation was emailed the Information Package a second time. This was sent to the Environment Coordinator instead of the Chief.

Input from Indigenous communities on the Project was obtained through written and email correspondence and phone calls.

Table 6-2 Indigenous Communities

Indigenous Communities
Oneida Nation of the Thames
Aamjiwnaang First Nation
Bkejwanong (Walpole Island First Nation)
Chippewas of the Thames First Nation
Caldwell First Nation
Kettle and Stony Point First Nation

6.2.3 The Public

Similar to review agencies and Indigenous communities, the public was also invited to participate in the Project. Public participants who were directly notified included adjacent property owners. Public participants included adjacent property owners presented in **Table 6-5**.

Table 6-3 Public participants

Public
Adjacent Property Owners
Cargill Limited
Central Machine and Marine
Fraser Marine and Industrial A
ASI Group
Sarnia Shipping Agency
Public Works Canada



Public
CMM Properties
c/o Steeves Rozema

6.3 Consultation Activities Carried Out

The consultation activities carried out during the Project were tailored to each participate group with the intent to inform, efficiently obtain input, and address concerns/issues as much as possible. With this in mind, the following subsections summarizes the consultation activities undertaken with each participate group beginning with review agencies and ending with the public.

6.3.1 Review Agencies

The consultation activities carried out during the Project with review agencies largely involved email correspondence. Meetings including site visits are presented in **Table 6-4**.

Table 6-4 Agency Meetings

Review Agency	Purpose	Meeting Date/ Site Visit
Department of Fisheries and Oceans Canada	Site visit with the ecology team	December 17, 2020
Department of Fisheries and Oceans Canada and St. Clair Region Conservation Authority	Microsoft Teams meetings to discuss aquatic habitat offsetting project	April 30, 2021 and November 19, 2021
Bluewater Power	Site visit to discuss the relocation of high voltage transformer distribution panel	December 10, 2020

Additional Correspondence

In addition to meetings, review agencies were consulted on the Project via email correspondence. For instance, the Information Package was issued on July 20, 2020 to review agencies listed in **Table 7.1**.

All comments received in response to the issued Information Package were responded to through formal written correspondence. In addition, where necessary, emails were made with interested agencies



throughout the Project to directly answer questions, obtain clarifications, and provide a two-way exchange of information.

6.3.2 Indigenous Communities

Similar to review agencies, Indigenous communities were consulted on the Project via written and email correspondence. For instance, the Information Package was sent on July 20, 2020 by email and registered mail to the Indigenous communities listed in **Table 6-2**.

6.3.3 The Public

As described in **Section 6.1**, the public was defined as adjacent/area property owners (composed of government or industry ownership). They were provided the Information Package by mail on July 20, 2020. The Information Package was also posted to the City's website for broader members of the public to view.

6.4 Consideration of Comments Received and Issues Raised

Comments were received from review agencies and Indigenous Communities. No comments were received from the public.

With this in mind, the comments received and issues raised and how they have been considered as part of the Project are summarized in the tables that follow.

6.4.1 Review Agencies

Six of the 14 review agencies notified of the Project responded (**Table 6-5**). Those who responded included the DFO, MHSTCI, MECP, Transport Canada, MNDMNR, and Bluewater Power.



Table 6-5 Summary of Review Agency Comments and How They Were Considered

Review Agency	Summary of Comments Received	Consideration of Comments Received
DFO	DFO noted that they do not generally comment on Environmental Assessments but noted that it should be determined whether DFO needs to review the Project prior to Construction based on the information provided on their website.	<p>The Information was received and it was determined that Project will require review by DFO. Through an initial review of DFO Aquatic Species at Risk online mapping, we have identified records for the following Federal SAR in the vicinity of the Study Area:</p> <ul style="list-style-type: none"> • Silver lamprey (Special Concern) • Spotted sucker (Special Concern) • Northern madtom (Endangered) • Channel darter (Endangered) <p>GHD has officially submitted a Request for Review to DFO on August 11, 2020 and has received confirmation that the Project Information has been sent to the Fish and Fish Habitat Protection Program Regulatory Review.</p> <p>The DFO File number for reference is: 20-HCAA-01638.</p>
	<p>Requested additional information via email, including:</p> <ul style="list-style-type: none"> • confirmation the area extent outlined in the figures provided for review • details of what the City is planning for the "living shoreline" on Face D of the shoreline. • Details of the existing substrates present within the river bottom. 	<p>The information was provided to DFO noting the following:</p> <ul style="list-style-type: none"> • The area extent in the figure was confirmed with DFO to be 1400 m². • The City explained that the living shoreline would be developed during the preliminary and detailed design stages with full details to be provided to DFO. A preliminary design was presented to give DFO an idea of what



Review Agency	Summary of Comments Received	Consideration of Comments Received
		<p>the City was envisaging of the Living Shoreline.</p> <ul style="list-style-type: none"> The river bottom is characterized by Riprap that transitions to sand and gravel at the shorelines and then a clay-mud consistency at deeper depths where it is dredged every 5 years. A geotechnical investigation is currently being completed as part of the design process to further investigate the composition below the riverbed. Results are pending.
	DFO requested that site isolation and fish relocation will likely be required for this Project	<ul style="list-style-type: none"> Committed to incorporating this into the design detail.
	DFO requesting information on whether the geotechnical investigations will include details about the channel profile at the location to understand the depth profile of the nearshore and substrate composition. DFO would like to schedule a site visit with the Ecologist.	The geotechnical report was provided to DFO for review along with the bathymetry figure of the area to provide information on the channel profile. A Site visit was completed with the Ecologist in December 2020.
	DFO notified City of Sarnia that the proposed project will require a Fisheries Act authorization with SARA conditions.	A habitat offsetting project has been designed and an application for an authorization has been submitted to DFO in December 2021, with the authorization approval pending.
MHSTCI	MHSTCI provided comment on the project stating that Indigenous communities should be notified about the Project.	It was noted back to MHSTCI that Indigenous communities were being notified of the Project for their input including knowledge of known or potential cultural heritage resources.
	MHSTCI requested that the Criteria for Evaluating Archaeological Potential and the Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes be completed as part of the	As requested the Project area was screened using the MHSTCI Criteria for Evaluating Archaeological Potential has been completed. No archaeological assessment is required based on the completed screening because the Project area has been subject to recent, extensive and intensive disturbance



Review Agency	Summary of Comments Received	Consideration of Comments Received
	Project to determine if the Project would have an impact on Archaeological Resources of Built Heritage and Cultural Heritage Landscapes	The Project area was also screened using the MHSTCI Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage. No HIA is required based on the completed screening because no potential or known heritage resources exist within the Project area. The completed screenings for both Archaeological Resources and Built Heritage and Cultural Heritage Landscape values are included in Appendix A and B respectively.
MECP	MECP requested additional information regarding the Notice of Commencement approach	A response was formulated explaining how the City was required to undertake two mandatory points of contact for the Project. The two points on contact included: <ol style="list-style-type: none"> 1. The information package to key stakeholders and 2. The notice of completion (which will be issues upon completion of the Project File Report)
	MECP provided a list of Indigenous Communities that the City should engage with regarding the Project. The list included the following Indigenous Communities: <ul style="list-style-type: none"> • Kettle and Stony Point First Nation • Aamjiwnaang First Nation • Bkejwanong (Walpole Island First Nation) • Chippewas of the Thames First Nation • Caldwell First Nation • Oneida Nation of the Thames 	Information packages were mailed out via registered mail and emailed (where emails were retrievable) to the listed Indigenous Communities.
	MECP requested that an IGF be submitted for all Threatened and Endangered species with historic records in the vicinity of the project area be submitted for their consideration.	Subsequent email exchanges have occurred with provision of additional project details. Requested mitigation measures will be incorporated into the detailed design.



Review Agency	Summary of Comments Received	Consideration of Comments Received
	Submission of an AAF and CPAF have subsequently been requested related to Bulter's gartersnake and five-lined skink.	
MNDMNRF	MNDMNRF requested additional information regarding what information was reviewed to determine the natural heritage and engagement species existing environment.	A response was issued to MNDMNRF noting the various available information sources for the Project area, prior to conducting review agency consultations.
	MNDMNRF noted that there may be may be petroleum wells within the proposed project area.	A review of data available on the Ontario Oil, Gas and Salt Resources Library confirmed that there are no existing wells within the Project area. The closest existing well (King's Grist-Mill Well) is located approximately 570 m away from Mini Dock A.
	MNDMNRF requested confirmation of ownership of land, including the bed of the watercourse, for the entire extent of the proposed project	It was noted to MNDMNRF that the bed of Sarina Harbour and the land that Mini Dock 'A' is located on is owned by the Corporation of the City of Sarnia.
Transport Canada	Requesting a brief description of Transport Canada's expected role and requested a self-assessment be undertaken to determine the role Transport Canada would have on this Project.	A self-assessment was undertaken and it was determined that the Project would require approval under the <i>Canadian Navigable Waters Act</i> (CNWA) administered by Transport Canada. As such Transport Canada's role on the Project was identified to be providing approval under CNWA upon receipt of the NPP application.
Bluewater Power	Bluewater Power noted that they have high voltage distribution equipment that will have to be re-located at the proposed site. City of	The City has discussed with Bluewater Power that a new location for the transformer and distribution building will be determined once the



Review Agency	Summary of Comments Received	Consideration of Comments Received
	Sarnia also has electrical infrastructure at this location.	dock layout and construction plan have been finalized.



6.4.1 Indigenous Communities

Four of the six Indigenous Communities notified of the Project responded (**Table 6-5**). Those who responded included the Chippewas of the Thames First Nation, Oneida Nation of the Thames, Aamjiwanaang First Nation and Bkejwanong (Walpole Island First Nation).

Table 6-6 Summary of Indigenous Community Comments and How They Were Considered

Indigenous Community	Summary of Comments Received	Consideration of Comments Received
Chippewas of the Thames First Nation	Noting that after review of the Project Information Package that the Community identified minimal concern associated with the Project. However also noted that they would like to be informed should any substantive changes to the Project occur.	Provided a letter response back to the Indigenous Community notifying them that should any substantive changes to the Project occur that the Project Team would notify the Chippewas of the Thames First Nation.
Oneida Nation of the Thames	Noted over the phone that they had received the mailed copy of the Information Package and if no written correspondence was received from their community that it should be considered as they have no comments.	Comment noted. No further comments received.
Bkejwanong (Walpole Island First Nation).	Phoned to ask if the Information Package could be emailed (and provided email address) Noted over the phone that if no comments are received it should be assumed that the Bkejwanong (Walpole Island First Nation)	The Information Package was emailed. No further comments received.



Indigenous Community	Summary of Comments Received	Consideration of Comments Received
	community has no comments.	
Aamjiwanaang First Nation	Called GHD to return the voicemail that was left of October 9, 2020. Requested a call back.	A call back was returned but reached a voicemail for a second time.
	GHD eventually reached Michael Lascelles at the Aamjiwanaang First Nation who requested a copy of the Information Package.	The Information Package was sent via email to Michael with the note that it had been sent to Shariyln Johnstons as well as per the direction received from Transport Canada. No further comments received.

6.4.2 Public

As stated, no comments from the public including adjacent property owners were received during the Project.



7. Summary

In accordance with the Municipal Class Environmental Assessment (MCEA), this report documents the planning process carried out for the Sarnia Expanded Dock Facility Class EA (Project). The Corporation of the City of Sarnia (City) is proposing to expand their existing dock facility (Mini Dock A) located at the western limit of Exmouth Street to support the Oversized Load Corridor (OLC) and provide access to the St. Clair River via the Port of Sarnia.

As part of initiating the Project, the City confirmed its classification as a MCEA Schedule B activity with the Ministry of the Environment, Conservation and Parks and determined that it is not subject to the Federal *Impact Assessment Act* with the Impact Assessment Agency of Canada. With confirmation of the Project's environmental assessment requirements, the problem/opportunity statement was defined in accordance with Phase 1 of the MCEA.

As mentioned, the City is carrying out the Project in support of the OLC, which is a designated protected route on existing roadways connecting fabricators to the Port of Sarnia for the unimpeded import/export and transshipment of oversized product to and from fabricators' locations and Sarnia-Lambton's industrial base.

Next, three alternative solutions were developed in response to the problem/opportunity statement as part of Phase 2 of the MCEA:

- Alternative No. 1 Do Nothing
- Alternative No. 2 Expand Dock Facility
- Alternative No. 3 Construct a New Dock Facility.

The three alternative solutions for the Project were first assessed and then comparatively evaluated leading to the identification of Expanding the Mini Dock 'A' facility as the preliminary recommended solution. Based on consultation carried out as part of Phase 2 of the MCEA the preliminary recommended solution was confirmed as the preferred solution.

Following this, the preliminary design was prepared for the preferred solution. Using this preliminary design level of information, the potential adverse effects on the environment were confirmed, the proposed impact management measures were specified, and environmental monitoring programs were proposed as appropriate. In addition, post EA approvals and permits required as part of detailed design were noted as future work commitments.



As a result, expansion of the Mini Dock A facility within the Port of Sarnia will be built subject to *EA Act* approval and obtaining all post-EA permits and approvals.

Appendices