Environmental Assessment Screening Report

Prepared pursuant to the *Canadian Environmental Assessment Act*

by Transport Canada and the Windsor Port Authority

for the

AMBASSADOR BRIDGE ENHANCEMENT PROJECT

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Executive Summary

The Canadian Transit Company, referred to throughout this document as the Proponent, is proposing to expand and build new bridge-related infrastructure along the existing Ambassador Bridge corridor by: constructing a new bridge adjacent to the existing; expanding the existing plaza facility; and, taking the existing Ambassador Bridge out of service to be rehabilitated, maintained and used as a redundant resource for operational vehicles, emergency traffic and approved public events.

In 2004 and subsequently in 2006, the Proponent approached the Government of Canada with a project description describing its proposed Project, referred to throughout this document as the Ambassador Bridge Enhancement Project.

In order to enable the Project to proceed, in whole or in part, Transport Canada approval under the *Navigable Waters Protection Act* and the *International Bridges and Tunnels Act* is required. In addition, the Windsor Port Authority may provide a lease for the use of federal water lots and issue a permit, necessary for the Project to proceed.

Under the *Canadian Environmental Assessment Act*, a screening-level environmental assessment of the Project is required before the federal approvals and lease can be contemplated. As such, Transport Canada and the Windsor Port Authority prepared this screening report following a technical review of the Proponent's final Environmental Impact Statement, submitted in March 2013. Environment Canada, Health Canada, Fisheries and Oceans Canada, the Canada Border Services Agency, and Parks Canada provided advice during this assessment process related to their fields of expertise.

During this assessment process, the potential effects of the Project were considered on various environmental components, including: air quality, vegetation, wildlife and wildlife habitat, water quality and aquatic habitat; noise and vibration; human health; archaeological resources; and current use of lands and resources for traditional purposes by Aboriginal peoples. The evaluation of the potential effects on these components was based on the information provided by the Proponent, advice provided by federal experts, and comments provided by the public.

Mitigation measures were identified to reduce or eliminate the Project's potential environmental effects and that are to be incorporated into the planning, construction and operational phases of the Project. In addition to monitoring, a follow-up program has been developed to verify the accuracy of the environmental assessment, to determine the effectiveness of the mitigation measures, and to identify adaptive management measures.

Taking into account the implementation of the mitigation, and monitoring measures, the follow-up measures, and the adherence to any future federal permits, authorizations and approvals, Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant adverse environmental effect.

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1.0 Introduction

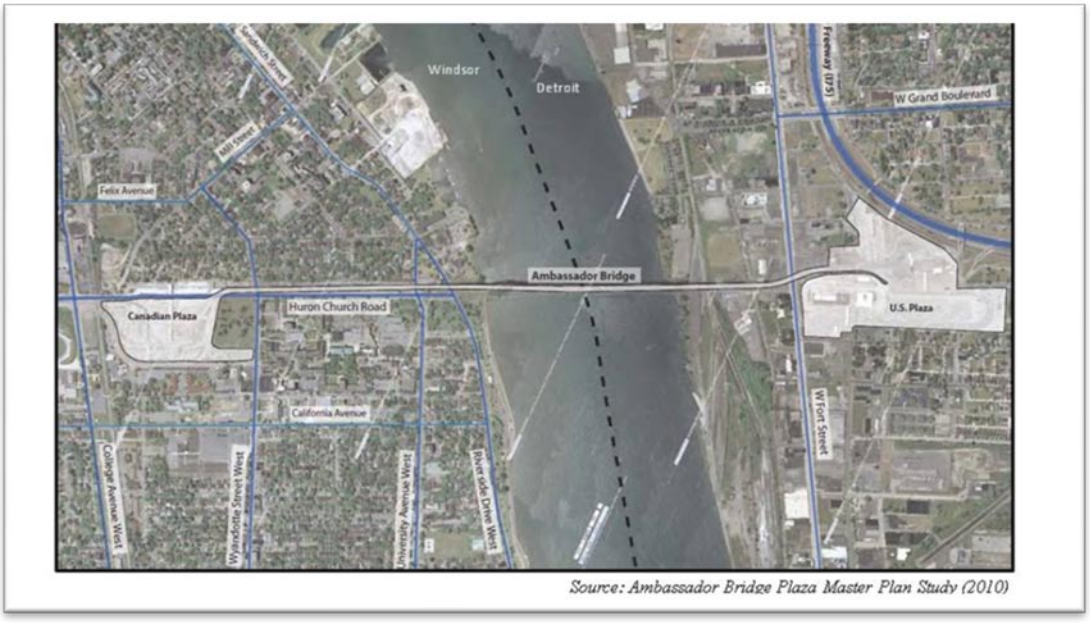
1.1 Overview of the Ambassador Bridge Enhancement Project

The Canadian Transit Company (the Proponent) has proposed to enhance its existing border crossing infrastructure by expanding the plaza facility and constructing a new six-lane cable-stayed bridge adjacent to, and replacing, the existing four-lane Ambassador Bridge. Once the replacement bridge is constructed and operational, the Proponent has stated that the existing Ambassador Bridge will be taken out of service, rehabilitated, maintained, and used as a redundant resource for operational vehicles, emergency traffic and approved public events.

The Ambassador Bridge Enhancement Project is distinct from the project to build a new international crossing between Windsor and Detroit, referred to in Canada as the Detroit River International Crossing (DRIC) project. The DRIC project is being carried out at a different location. In 2005, the proponents of the DRIC ruled out the alternative of a twinned Ambassador Bridge with a new plaza and highway connection as it did not meet the criteria established for the federally and provincially harmonized environmental assessment process. Specifically, the DRIC study concluded that the Ambassador Bridge corridor did not meet the established need for system connectivity, redundancy, capacity, or economic security needs.

By contrast, the proponent-stated purpose of the proposed Ambassador Bridge Enhancement Project is not to increase capacity; it is to improve the efficiency of the existing crossing. The proposed Ambassador Bridge Enhancement Project will only see an increase of two lanes of traffic, for FAST/NEXUS, as the existing bridge will be taken out of service.

Figure 1: Existing Ambassador Bridge Location



1.2 Federal Environmental Assessment Process

The *Canadian Environmental Assessment Act*[1] (the Act) applies to federal regulatory authorities when they contemplate certain actions or decisions that would enable a project to proceed in whole or in part.

Following a federal review of the project description submitted to the Canadian Environmental Assessment Agency in March 2006, it was determined that Transport Canada and the Windsor Port Authority required an environmental assessment under the Act prior to contemplating future approvals. Specifically:

- Transport Canada determined that it is a responsible authority pursuant to paragraph 5(1)(d) of the Act, as it may issue an approval under section 5 of the *Navigable Waters Protection Act* for the Project.
- Pursuant to section 9 and paragraph 5(1)(c) of the Act, the Windsor Port Authority determined that it is a prescribed authority under the Canada Port Authority Regulations, in relation to a lease of federal water lots on the Detroit River it may grant.

In order for the Project to proceed, it will also require approval under the *International Bridges and Tunnels Act*. Although there is no formal trigger under the *Canadian Environmental Assessment Act* requiring an environmental assessment before issuing this approval, Transport Canada will ensure that matters in the public interest including environmental mitigation and follow-up in this environmental assessment are considered to the extent possible.

Federal authorities also contributed specialist or expert advice necessary to conduct the assessment including: Environment Canada (air quality, species at risk and migratory birds); Health Canada (human health); Fisheries and Oceans Canada (aquatic systems including fish and fish habitat); Canada Border Services Agency (border services); and Parks Canada (archaeology). The Canadian Environmental Assessment Agency was the federal environmental assessment coordinator for the Project. Together, the responsible, prescribed and federal authorities, and the federal environmental assessment coordinator comprised the federal review team for the conduct of this environmental assessment.

The Project is not described in the Comprehensive Study List Regulations, therefore a screening-level environmental assessment process has been followed in accordance with subsection 18(1) of the Act.

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[1] The *Canadian Environmental Assessment Act, 2012* (CEAA 2012) came into force on July 6, 2012, replacing the *Canadian Environmental Assessment Act* S.C. 1992, c. 37. Section 124 of CEAA 2012 sets out transition measures including timelines for environmental assessments, such as the Ambassador Bridge Enhancement Project, which commenced under the former Act. For this project, all references to federal environmental assessment legislation reflect the requirements and regulations of the *Canadian Environmental Assessment Act* S.C. 1992, c. 37.

1.3 Environmental Assessment Timelines

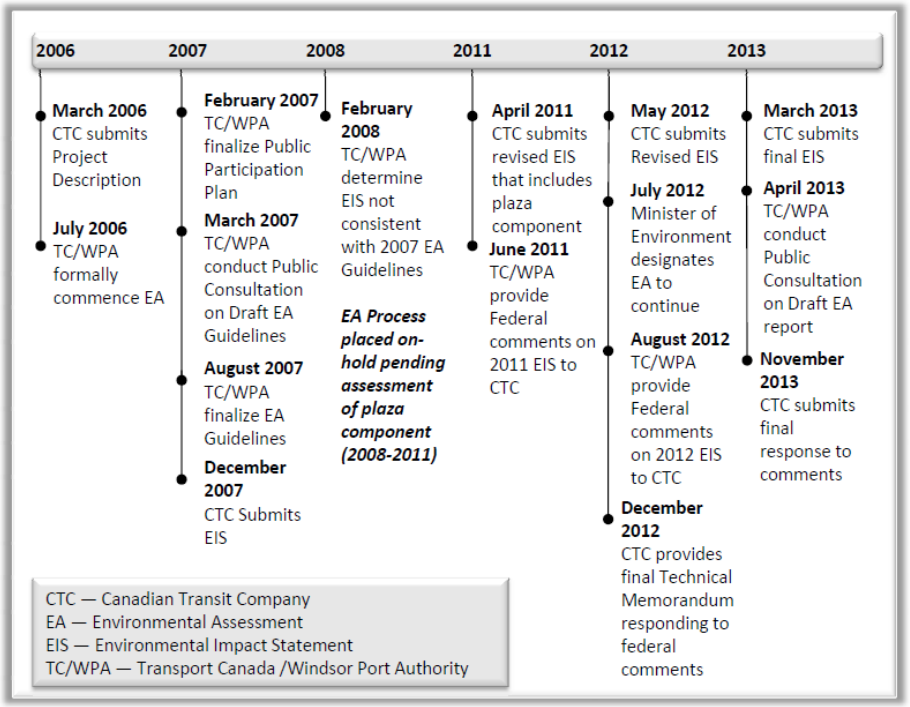
The Proponent submitted a preliminary Environmental Impact Statement to Transport Canada and the Windsor Port Authority in December 2007. Based on a preliminary review, it was noted that the report did not include analysis concerning the potential environmental effects associated with modifications and/or expansion of the border inspection facilities, as required by the 2007 federal environmental assessment guidelines.

As a result, the environmental assessment process was placed in abeyance between February 2008 and April 2011, while the Proponent worked with the Canada Border Services Agency to develop a master plan for the inspections plaza[2] and revised the environmental effects analysis in the Environmental Impact Statement.

In April 2011, responsible and federal authorities received the revised Environmental Impact Statement and began a detailed review resulting in several revisions to the report. In response to comments from federal authorities, the Environmental Impact Statement was finalized by the Proponent in March 2013.

Public participation on the draft screening report was conducted in April 2013 and the Proponent provided final responses in November 2013. After considering public comments and responses from the Proponent, Transport Canada and the Windsor Port Authority prepared this screening report. Figure 2 provides a summary of environmental assessment milestones.

Figure 2: Overview of Environmental Assessment Milestones



[2] *Canada Border Services Agency funded the development of the Border Services Master Plan (July 2010)*

1.4 Canadian Approvals and Land Acquisition

Prior to Transport Canada or the Windsor Port Authority contemplating any action or approval in relation to the Project as proposed, the environmental assessment decision under the *Canadian Environmental Assessment Act* is required.

Subsequent to the completion of the environmental assessment process, Transport Canada and the Windsor Port Authority will determine specific requirements for approvals under the *Navigable Waters Protection Act*, the *International Bridges and Tunnels Act*, *The Port Authority Operations Regulations* and completion of water lot lease agreements. These approval processes had not been initiated by the Proponent at the time this screening report was prepared.

In order to accommodate the expansion of the plaza facility, it may be necessary for the Proponent to acquire City of Windsor, provincial and/or federal approvals for the relocation and/or closure of portions of several local roadways, modifications to the Essex Terminal Railway and the demolition of existing housing. The Proponent has stated that approvals from the City of Windsor regarding the road alignment and zoning requirements have not been initiated and will be completed, where required, during the design phase of the Project.

1.5 Coordination with Other Environmental Assessment Jurisdictions

Throughout the environmental assessment process, the Canadian Environmental Assessment Agency and the responsible and prescribed authorities corresponded with the Province of Ontario and American authorities to determine whether there was an opportunity to coordinate with other environmental assessment requirements.

The Ontario Ministry of Environment confirmed in August 2013 that a provincial environmental assessment would not be required for this undertaking under the Ontario *Environmental Assessment Act*. However, additional requirements may be determined at a future date in relation to required municipal roadwork and may include a municipal class environmental assessment process, as required by the City of Windsor.

In the U.S., the U.S. Coast Guard is the lead agency for the environmental assessment of the American portion of the Project under the *National Environmental Policy Act*. Throughout the Canadian environmental assessment process, Transport Canada and the U.S. Coast Guard sought opportunities to coordinate information requirements.

Transport Canada was committed to sharing information with the U.S. Coast Guard, U.S. Environmental Protection Agency, the Ontario Ministry of Environment and the City of Windsor during key stages in the federal environmental assessment process.

2.0 Project Description

2.1 Scope of the Project

The scope of the Project for the purposes of the environmental assessment was identified by the responsible and prescribed authorities to include all physical works and activities associated with the construction, operation, modification, and decommissioning of the Canadian portion of the Project. This includes the replacement bridge, expansion of the plaza facility, and adjacent green space areas. With respect to the existing Ambassador Bridge, the scope of the Project includes taking the existing Ambassador Bridge out of service; and rehabilitating and maintaining it for use as a redundant resource for operational vehicles, emergency traffic and approved public events. The decommissioning of the existing Ambassador Bridge was not assessed as part of this environmental assessment, because the *Canadian Environmental Assessment Act* requires the environmental assessment of the project as proposed by the Proponent and the Proponent has stated that the demolition of the existing four-lane Ambassador Bridge is not a component of the Project it has proposed.

2.2 Project Components

The Proponent has indicated that construction of the Project will be undertaken in phases as components are approved by the appropriate authorities. Operation will be phased in throughout construction as allowed by staging and completion of the primary components. Based on information provided by the Proponent[3], the Project phases are described as follows:

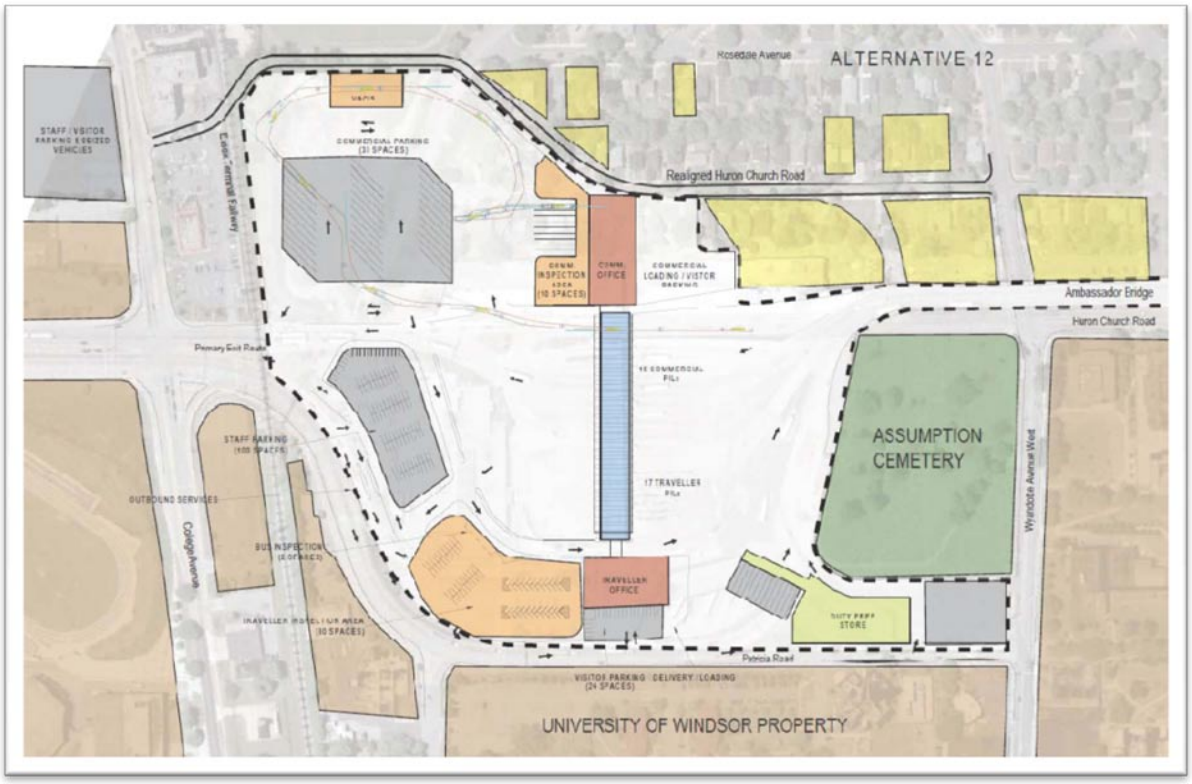
Phase 1 - Site Clearing: The first phase of the Project will include the demolition of up to 100 homes and two apartments owned by the Proponent to accommodate the Project. Construction activities will also include delivery of materials, the movement of supplies and people on site, removal of vegetative ground cover, brush cutting, removal of selected trees, and placement of fill material in order to prepare the site for the construction of Project components.

Phase 2 - Relocation of Huron Church Road: To implement improvements to the plaza facility as described in the *Canada Border Services Agency Ambassador Bridge Plaza Master Plan Study Report (July 2010),* the next phase of the Project is expected to include the relocation of a section of Huron Church Road and modifications to Indian Road including new signalized intersections. Construction activities will also include municipal and private utility relocations, and road construction activities including the placement of asphalt, curbs, sidewalks, lighting and line painting.

[3] Additional information and a detailed project description can be found in the *Ambassador Bridge Enhancement Project Environmental Impact Statement (Section 1.1 and Appendix B)* and *Technical Memorandum: Ambassador Bridge Enhancement Project Environmental Impact Statement Clarification (2013).*

Phase 3 – Plaza Facility Expansion: Construction of a 77 293 m^2 expanded plaza facility to accommodate existing offsite secondary inspections. With the exception of municipal roads that will be decommissioned, the proposed plaza facility footprint is located within properties owned by the Proponent, bordered by Mill Street to the north, College Avenue to the south, Felix Avenue to the west, and Huron Church Road to the east. Construction activities will include: the decommissioning of local roads; construction of a storm water management facility to treat runoff; and, construction and paving of roads, processing and parking areas, construction of new Canada Border Services Agency facilities, and installation of lighting and fencing.

Figure 3: Configuration of the Proposed Plaza Facility



Phase 4 – Rehabilitation/Construction of Approach: To rehabilitate the approach to the existing Ambassador Bridge, a new approach will be constructed to tie into the existing bridge. This will allow traffic to continue its unimpeded flow through the facility during rehabilitation work. The new approach ramp will be permanent and is expected to connect to the replacement bridge once it is constructed. Construction activities will include excavation, pouring concrete shafts for support piers, and footing construction. Fourteen concrete piers on the Canadian side will be constructed, spaced at approximately 43 metre intervals.

Phase 5 - Buffer and Green Space: Approximately 21 257 m^2 of green space will be developed between the plaza facility and the adjacent community of Sandwich on the east side

of Indian Road between Wyandotte Street and Mill Street. This area will be re-planted using native grasses and tree/shrub species.

Phase 6 - Main Span Construction: A new six-lane cable-stayed bridge span will be constructed approximately 30.5 metres west of the centre line of the existing Ambassador Bridge span. The new bridge will be approximately 2 130 metres in length with approximately 670 metres traversing the Detroit River from tower to tower. The total width of the new replacement bridge will be approximately 31 metres and be a minimum of 46 metres in height above the Detroit River, with the same minimal clearance of the existing Ambassador Bridge. The Canadian tower will be approximately 178 metres above existing ground level and approximately 30.5 metres south of the Detroit River. Construction of the replacement span will include excavation down to the bedrock for the main tower construction. The Canadian main tower and a concrete deck will be suspended cables. Prior to the commencement of the operation phase, a final cleanup of construction activities and areas will be undertaken.

Phase 7 - Operation and Maintenance: Operations are anticipated to commence in 2015 and are expected to operate indefinitely. Once the new bridge is in operation, the Proponent has stated that the existing bridge will be taken out of service and maintained for use as a redundant resource for operational vehicles, emergency traffic and approved public events. Operation of the plaza facility will include border inspections and vehicle processing (using equipment such as VACIS). Maintenance activities during operations will include de-icing in winter months as required, management of storm water, bridge and infrastructure repair as required, and maintenance of security and perimeter controls.

Daily operations of the Project will be dominated by the flow of international traffic. For the purposes of this environmental assessment, traffic forecasts developed for the DRIC project were used by the Proponent to generate a reasonable future traffic demand scenario. As part of the environmental assessment process for the DRIC project, traffic forecasts and analysis were undertaken on the Ambassador Bridge traffic corridor as part of an overall regional and cross border future traffic scenario until 2035. It is these traffic forecasts and analyses that the Proponent chose to use for the purpose of this environmental assessment.

An anticipated worst case scenario for traffic volumes in the Ambassador Bridge corridor (year 2030) was established by the proponent by combining the predicted volume (16 205 000 vehicles) of traffic at the Ambassador Bridge using the DRIC no-build scenario[4], with the number of vehicles from other crossings that the new six-lane DRIC crossing was predicted to attract (266 000 vehicles). As a result, a total of 16 471 000 vehicles are anticipated to use the

[4] The DRIC no-build scenario is considered in the "Detroit River International Crossing Study Travel Demand Forecasts" (September 2005) and was completed as part of the DRIC harmonized environmental assessment. This document established the year 2030 total cross border unconstrained travel demand and the profile of that total volume distributed among the existing crossings in the regions, which included the Ambassador Bridge corridor.

Ambassador Bridge corridor in the year 2030. Although total capacity at the Ambassador Bridge crossing could be much higher, potentially reaching 40 million vehicles in six-lanes of traffic annually[5], the volume of 16 471 000 is reasonably considered to be the upper bound for cross border traffic demand.

3.0 Scope of the Environmental Assessment

3.1 Factors to be Considered

Pursuant to subsection 16(1) of the Act, the following factors must be considered as part of a screening:

a) The environmental effects of the Project, including the environmental effects of malfunctions or accidents that may occur in connection with the Project, and any cumulative environmental effects that are likely to result from the Project in combination with other projects or activities that have been or will be carried out;
b) The significance of the effects;
c) Comments from the public that are received in accordance with the Act and the regulations;
d) Measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the Project; and,
e) Any other matter relevant to the screening, such as need for the Project and alternatives to the Project that the responsible authority may require to be considered.

In accordance with paragraph 16(1)(e) of the Act, Transport Canada and the Windsor Port Authority determined that the assessment would also include: consideration of the purpose, need and benefits of the Project; a description of alternatives to the Project and an analysis of alternative means of carrying out the Project; and, information concerning potential socio-economic effects[6].

[5] As described in Sam Schwartz Engineering Peer Review prepared on behalf of the City of Windsor.

[6] As described in Table 1 of the Revised Federal Environmental Assessment Guidelines.

Figure 4: Project Area and Components

Source: Ambassador Bridge Environmental Impact Statement

3.2 Scope of the Assessment

The responsible and prescribed authorities, in consultation with the federal review team, established the scope of the environmental assessment to include the potential environmental effects, including cumulative effects, on the following components:

- Air quality and climate including potential transboundary effects
- Surface water and groundwater, including water levels and flows in the Detroit River, in relation to any construction activities that may take place from the water
- Surface and subsurface geology and soils
- Vegetation, vegetation communities and wetlands
- Fish and fish habitat
- Wildlife and wildlife habitat, including migratory birds
- Species at risk, including those species listed under the *Species at Risk Act*
- Noise and vibration
- Contaminated sites and waste management
- The effects of any change that the Project may cause within the natural environment, including: human health and socio-economic factors; physical and cultural heritage; current use of lands and resources for traditional purposes by Aboriginal peoples; and things of historical, archaeological, paleontological or architectural significance

The environmental effects of the Project on navigation are taken into consideration as part of the environmental assessment only when the effects are indirect, that is, resulting from a change in the environment affecting navigation. No such indirect environmental effects on navigation were identified during this assessment, Any measures necessary to mitigate direct effects will be included as conditions of a *Navigable Waters Protection Act* approval and a permit issued by the Windsor Port Authority pursuant to the *Port Authorities Operations Regulations* prior to construction of the new replacement bridge span.

3.3 Temporal and Spatial Boundaries

Temporal and spatial boundaries used in this environmental assessment were established for environmental and cumulative effects in relation to the construction and operation phases of the Project.

The environmental effects analysis for construction assumed Project construction phases 1 through 6 would be undertaken within the same twenty-four to thirty-six month timeframe to reflect a construction scenario with the highest amount of impacts. It is anticipated that construction will be complete in 2015.

Operation of the replacement bridge and expanded plaza facility are considered to operate indefinitely commencing in 2015. For the purpose of the environmental effects analysis, a

temporal boundary of 2025 was selected to reflect ongoing Project operations. Decommissioning was not proposed by the Proponent.

The spatial boundaries established for each environmental component encompass the geographic extent over which the Projects effects are expected to be measurable. These included the site study area (project footprint), local study area (areas adjacent to the project), and regional study area (Windsor-Essex region). Spatial boundaries were defined taking into account ecological, technical and social considerations.

The total project footprint, including existing infrastructure, is approximately 243 980 m^2 in size. The footprint of the new bridge is approximately 25 081 m^2 in size. The footprint of the expanded portion the plaza facility, excluding footprint of the existing plaza facility, is approximately 77 293 m^2 in size. The proposed green area along Indian Road is approximately 21 257 m^2 in size. The entire Project will create approximately 48 173 m^2 of impervious area and 21 257 m^2 of green area.

4.0 Other Considerations

Paragraph 16(1)(e) of the Act allows the responsible and prescribed authorities to include consideration of "any other matter relevant to the screening … that the Responsibility Authority may require to be considered." Pursuant to paragraph 16(1)(e) of the Act, the responsible and prescribed authorities requested the Proponent consider[7]:

- the purpose of the Project, the need for the Project and the benefits of the Project;
- a description of alternatives to the Project, as well as an analysis of alternative means of carrying out the Project; and,
- in response to public comments received on the Federal Environmental Assessment Guidelines (August 2007), a consideration of 'direct' socio-economic effects.

In requesting this information from the Proponent, Transport Canada and the Windsor Port Authority referred to the Operational Policy Statement issued by the Canadian Environmental Assessment Agency. This document states that the 'need for' and 'purpose of' the Project should be established from the perspective of the Proponent and provide the context for the consideration of alternatives. It further states that 'alternatives to' should be established in relation to the Project need and purpose, and again, from the perspective of the Proponent. Analysis of the 'alternatives to' should serve to validate that the preferred alternative is a reasonable approach to meeting the need and purpose and is consistent with the aims of the Act.

[7] The request to consider these factors in the assessment was included in order to help to establish the conditions under which certain effects may or may not be justified under the circumstances, should such a determination subsequently be required.

4.1 Purpose, Benefit, and Need

The Proponent has stated that the purpose and intended benefit of its Project is: to preserve and improve the Ambassador Bridge structure; to facilitate the movement of vehicles and ensure the continued free flow of goods between Canada and United States; to upgrade efficiency through the provisions of FAST/NEXUS lanes; and, to meet current highway standards.

The Proponent has identified that the need for the Project is based on the importance of the continued operation of the Ambassador Bridge corridor and flow of international trade between Canada and the United States. The new replacement bridge will allow the Ambassador Bridge corridor to retain, and more efficiently and safely service, the vehicles crossing the Ambassador Bridge.

Additional information about purpose, need and benefits can be found in the *Environmental Impact Statement* (Section 1.2).

4.2 Alternatives To and Alternative Means

A total of four alternatives to the Project were considered by the Proponent. These were examined in terms of their capacity to satisfy travel and freight transport demands and improve safety.

1. A “do nothing” scenario
2. Other corridor alternatives
3. A tunnel alternative
4. Alternative modes of transportation

However, these alternatives were deemed by the Canadian Transit Company to be less preferable than the proposed Project as they did not fully achieve the purpose and need of the Project. From the perspective of the Proponent, the construction of a replacement bridge provides all of the advantages of structural redundancy and improves efficiency while enhancing motorist safety.

Alternative means of carrying out the Project were also considered by the Proponent, including alternatives to the preferred alignment of the bridge and plaza facility configuration. Alignment alternatives included construction on the same centreline as the existing alignment, east of the existing alignment, and west of the existing alignment. The six-lane cable stayed replacement bridge on the western alignment was selected by the Proponent as the preferable alternative as it was found to provide the most benefits while having the least impact. In addition, the Proponent concluded that the westerly alignment moves traffic flow away from the University of Windsor and Assumption Church and results in a reduction of impacts on these areas as compared to the other alignments considered.

Additional information about the consideration of alternatives to and alternative means can be found in the *Environmental Impact Statement (*Section 1.2).

4.3 Direct Socio-economic Considerations

The *Canadian Environmental Assessment Act* defines 'environmental effect' to include, with respect to a project, any effect of any change that the project may cause in the environment on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes by Aboriginal persons, or any structure, site or thing that is of historical, archaeological, paleontological or architectural significance. Consideration of these effects has been included in the environmental effects analysis in section 6.0 of this report.

In response to public comments received on the Federal Environmental Assessment Guidelines, including those received on behalf of the City of Windsor, the responsible and prescribed authorities also required the Proponent to consider direct socio-economic effects. The *Environmental Impact Statement* (Section 7.6) provides a description of anticipated effects on residential, commercial, industrial, and recreational land uses as a result of the construction and operation of the proposed Project and includes: changes to traffic patterns and increased traffic on Indian Road; changes to pedestrian access; changes to land uses and zoning; and, temporary interruptions to recreational fishing during construction of the replacement bridge over the Detroit River.

In addition, the following potential direct socio-economic effects were raised during the public participation period on the draft screening report:

- Economic changes for residential and business properties within the community of Sandwich;
- Additional changes to regional (international trade) and local traffic patterns;
- Land use planning changes in the community of Sandwich;
- Changes in the character and cohesion of adjacent communities;
- Changes in the historic value of the designated historical district of Old Sandwich Towne; and,
- Changes to municipal infrastructure including maintenance and capacity requirements.

In response to the comments received during the public participation period, the Proponent has committed to carrying out the following consultation activities during project planning and construction:

- Engage with the City of Windsor regarding local infrastructure and land use planning requirements, including development within the Historical District of Sandwich Towne, as required.
- Implement a Community Consultation Plan including a community advisory committee to improve the aesthetic nature of the Project and ensure maintenance of existing connectivity, particularly for pedestrians, between the community of Sandwich and the University of Windsor.

5.0 Assessment Approach

The environmental assessment was conducted to determine whether the Project as proposed is likely to cause a significant adverse environmental effect. This included establishing existing environmental conditions, potential environmental interactions, adverse environmental effects, feasible environmental mitigation measures and determining the likelihood and significance of residual adverse environmental effects.

5.1 Overview of Existing Conditions

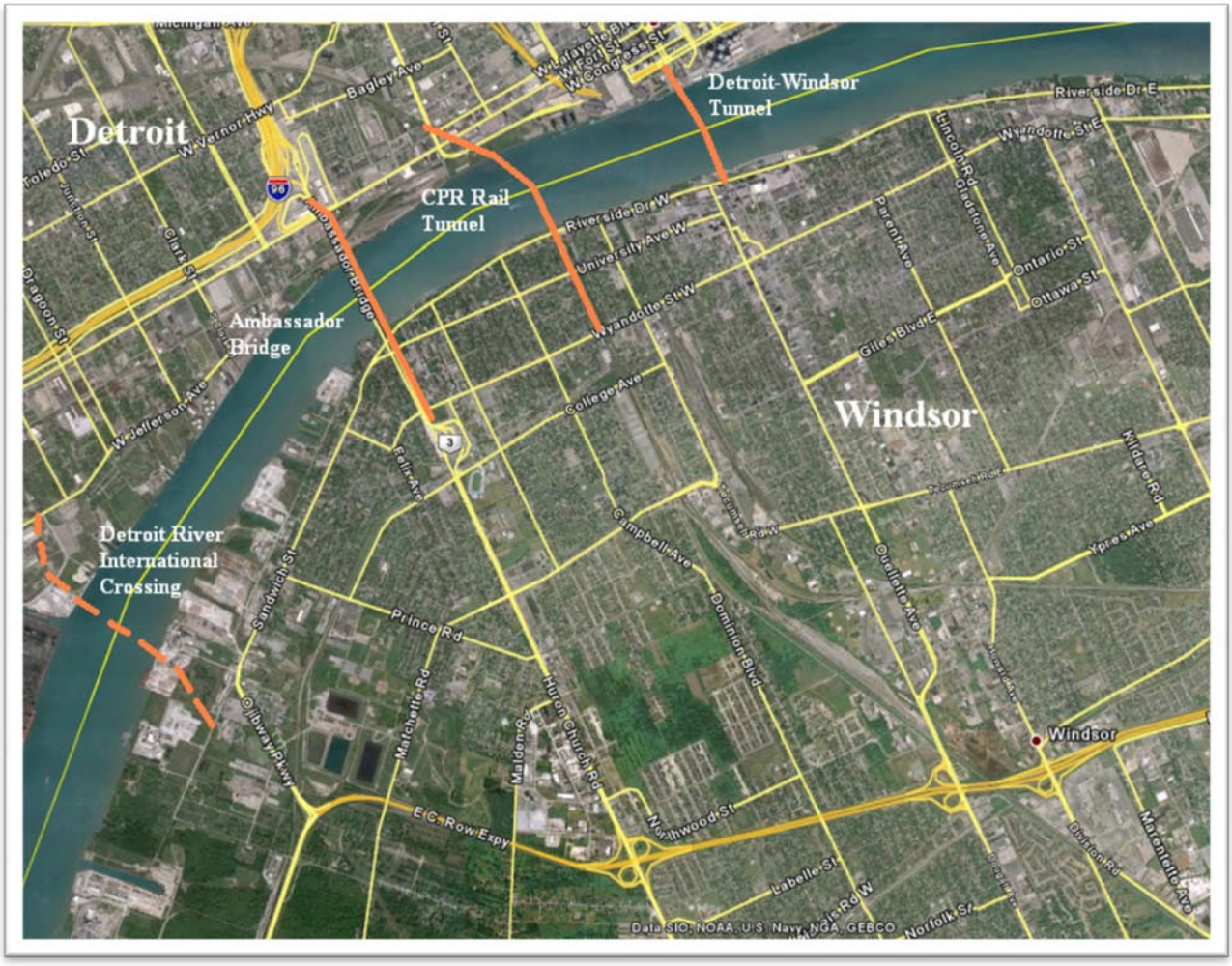
High volumes of traffic, including transport trucks, commonly access the Ambassador Bridge corridor from Ontario Provincial Highway 401, via Huron Church Road. Land adjacent to the existing Ambassador Bridge, plaza facility and along Huron Church Road is developed and used for residential, institutional, commercial and recreational purposes. These adjacent areas include Olde Sandwich Towne, which is one of the oldest settlement locations in Ontario with a cultural and architectural history that dates back to the 1700s. Also adjacent to the Project area is the University of Windsor, established in 1963.

The existing Ambassador Bridge is one of several border crossings located within the City of Windsor; an important gateway for cross border traffic and trade. Cross-border traffic results in increased vehicle emissions and noise localized along major corridors and routes, and in particular the existing Ambassador Bridge corridor. Regionally, reduced air quality events occur primarily as a result of transboundary contributions from the United States.

The Ambassador Bridge crosses the Detroit River which is part of the Great Lakes Seaway connecting Lake St. Clair to Lake Erie. The Detroit River is an important aquatic ecosystem, international shipping and recreational corridor, and a source of drinking water. Also important to the Project area is the presence of a breeding pair of peregrine falcons (*Falco peregrinus*) that have been nesting on the existing Ambassador Bridge since 2008.

Existing environmental conditions provided a baseline for the analysis of potential environmental effects. Detailed information on existing environmental conditions for each environmental factor can be found in the *Ambassador Bridge Enhancement Project Environmental Impact Statement* (Section 4.0).

Figure 5: Regional Map



5.2 Potential Project-Environment Interactions

Potential interactions between the construction and operation phase of the Project and the environment were identified. Although standard operational measures that would prevent interactions were considered at this stage, further analysis was undertaken in the assessment and additional mitigation measures were identified where interactions were likely to occur. Table 1 identifies potential Project-environment interactions that were assessed in the environmental effects analysis.

Table 1: Summary of Potential Project-Environment Interactions

Project Phases	Site Clearing	Relocation of Huron Church Rd	Plaza	Construct / Rehab Existing Approach	Green Space	Main Span	Operation
Air Quality / Climate	•	•	•	•	•	•	•
Surface Water	•	•	•				•
Groundwater	•			•			
Detroit River water levels / flows							
Surface, Subsurface Geology / Soils	•	•	•	•	•	•	
Vegetation / Vegetation Communities	•		•	•	•		
Fish / fish habitat	•			•		•	•
Wildlife / habitat / migratory birds	•			•	•	•	•
Species at Risk				•		•	•
Noise / Vibration	•	•	•	•	•	•	•
Contaminated Sites / waste management	•	•	•	•	•	•	
Effect of a change in the environment on:							
Human health / socio-economic	•	•	•	•	•	•	•
Physical and cultural heritage	•			•		•	•
Current use of lands and resources by Aboriginal Peoples							
Things of historical, archaeological, paleontological or architectural significance	•		•	•	•	•	

5.3 Assessment of Environmental Effects

Transport Canada and the Windsor Port Authority, in cooperation with other federal authorities, evaluated the Proponents' assessment of the Project's potential adverse environmental effects on the environmental components identified during the scoping stage of the assessment. The analysis of environmental effects was based on information and technical supporting documents prepared and provided by the Proponent, comments received during public consultation processes, and commitments made by the Proponent to implement mitigation monitoring and follow-up measures.

Mitigation measures were identified to reduce the overall impact of potential adverse environmental effects. Many of these measures are expected to be integrated into the project design or operational plans. The environmental effects remaining after the implementation of mitigation measures (i.e. the residual effects) were then evaluated taking into consideration criteria such as magnitude, duration, frequency, ecological context, geographic extent, and reversibility. A summary of the proposed mitigation and monitoring measures, and evaluation of the significance of residual adverse environmental effects is included in Appendix A.

A requirement for a follow-up program has been included in the assessment, to further monitor areas of the assessment where there may be some uncertainty about the magnitude of an environmental effect and the effectiveness of proposed mitigation measures (see Section 8.0).

6.0 Environmental Effects Analysis

6.1 Air Quality and Climate

Southern Ontario's climate is greatly influenced by the surrounding Great Lakes. The surrounding lakes cause increased precipitation throughout the year and moderate temperatures resulting in warmer temperatures in the winter, and cooler temperatures in the summer.

Existing baseline air quality conditions were determined by using air quality monitoring data collected from provincial and federal regulatory jurisdictions over a minimum five year period. Thirty-one pollutants of interest were analyzed using the 90th percentile concentrations to represent the background ambient air concentrations. Table 6.1 contains a list of all 31 pollutants that were analysed as part of the baseline air quality for the Project.

The baseline analysis revealed that the greatest existing air quality impacts occur around key intersection locations along Huron Church Road (within <150 metres) and decrease significantly with distance beyond that. Air quality monitoring results indicate that concentrations above the air quality criteria may occur at these locations for certain pollutants of interest (NO_X, PM_{10} and $PM_{2.5}$). The background concentrations for PM_{10} and $PM_{2.5}$ represent 84% and 67% of the ambient air quality criterion. The remaining pollutants of interest are shown to be within provincial and federal air quality criteria.

Table 2: Pollutants of Interest

Group	Pollutants of Interest
Pollutants and Precursors	Carbon monoxide (CO), nitrogen oxides (NO_X) (include nitric oxide (NO) and nitrogen dioxide (NO_2) expressed and NO_2), sulphur dioxide (SO_2), particulate matter $\leq$ 10 microns (10^{-6} metres) in diameter (PM_{10}), particulate matter $\leq$ 2.5 microns (10^{-6} meters) in diameter ($PM_{2.5}$), volatile organic compounds expressed as non-methane hydrocarbons (NMHC)
Air Toxics	Benzene (C_6H_6), acetaldehyde (CH_3CHO), formaldehyde (H_2CO), 1,3-butadiene (C_2H_4), acrolein (C_3H_4O), benzo(a) pyrene, plus other polycyclic aromatic hydrocarbons (PAHs) listed below
Other PAH Compounds	Acenaphthylene, acenaphthene, anthracene, benzo(a)anthracene, benzo (b) fluoranthene, benzo (g,h,i) pyrene, benzo (k) fluorine, chrysene, dibenzo (ah) anthracene, fluoranthene, fluorine, ideno (1,2,3-cd) pyrene, naphthalene, phenanthrene, pyrene
Greenhouse Gases	Carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4)
Other	ground level ozone (O_3)

The Revised Federal Environmental Assessment Guidelines established the future operating scenarios to be evaluated within the air quality assessment. These included:

- Current operation of existing Ambassador Bridge (recent 5-year period);
- Operation of existing Ambassador Bridge (recent 1-year period);
- Future (Do Nothing) operation of the existing Ambassador Bridge (year 2025);
- Operation of the existing Ambassador Bridge during construction of the Project (years 2013-2015);
- Operation of the replacement bridge at the completion of construction (years 2015, 2025); and
- Operation of the replacement bridge and the existing Ambassador Bridge[8] (year 2025).

Air quality effects during construction and operation of the Project were evaluated through the use of air dispersion modelling tools based on the *Air Dispersion Modeling Guide for Ontario*. Consistent with this guide, the U.S. Environmental Protection Agency CAL3QHCR model was used to evaluate vehicle emissions and road dust while the USEPA AERMOD model was used to evaluate construction activities. Emission vehicle factors used within the air dispersion model

[8] The *Environmental Impact Statement* notes that the American plaza facility, as currently configured, is unable to accommodate more than six lanes of international traffic as traffic lanes north of Fort Street in the City of Detroit are limited. Significant infrastructure modifications to the American plaza facility would require government approvals and a separate *National Environmental Policy Act* (NEPA) study in the United States. As a result, the Project will not be able to operate concurrently with existing Ambassador Bridge traffic operations.

were developed with MOBILE6.2C (a model developed by the U.S. Environmental Protection Agency and enhanced by Environment Canada), in combination with roadway fleet data and traffic data collected from the City of Windsor, the Proponent and the DRIC Project.

Based on modelled results[9], environmental effects anticipated during the construction phase of the Project include the potential for an increase in PM_{10} above the ambient air quality criterion during construction, mainly as a result of construction equipment emissions. Elevated amounts of dust in the site study area are also anticipated during construction. Idling and acceleration of vehicles related to traffic control lights and the potential for temporary detours may also be a contributor of elevated air quality impacts during construction. During operations, the air quality modelling results indicate that pollutants are anticipated to be within air quality criteria with the exception of PM_{10}. Both the operational phase modelled for the year 2015 and the future operating scenarios of 2025 indicate that PM_{10} will remain above the air quality criterion, in large part as a result of the baseline conditions accounting for 84% of the ambient air quality criterion.

Mitigation measures and monitoring measures will be implemented during the construction and operational phases of the Project. These will include:

- Best management practices for dust suppression and air emissions reduction from construction equipment during construction, including regular watering of stockpiles and water flushing entrances to construction zones.

- Review of the construction inventory prior to start of construction. Should a greater or lesser inventory of equipment (including barges) be required, the work hours may need to be adjusted accordingly. The contractor's most polluting heavy equipment (including barges) will be identified and use limited during smog advisories.

- Real-time air quality monitoring using Thermo Scientific SHARP model 5030 real-time monitors, during the construction phase and three years' post-construction for PM_{10}, $PM_{2.5}$ and NO_x (at minimum).

- A traffic management plan will be developed and implemented that includes construction haul routes, timing and equipment restrictions, alternative staging, delivery and other construction best management practices.

- Adaptive management strategies will be incorporated into an air quality follow-up program. For the construction phase, these may include reducing the extent of active work areas, improving training and awareness for operators. During operation, these may include a block queuing system and/or an anti-idling policy to ensure optimal traffic flow through the plaza facility.

[9] Table 10 of the March 2013 *Environmental Impact Statement* provides a summary of maximum air quality concentration results.

Taking into account the application of the mitigation, monitoring, and follow-up measures Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant adverse environmental effect on air quality and climate. Additional information on air quality and climate can be found in the *Ambassador Bridge Enhancement Project Environmental Impact Statement* (Section 5.1).

6.2 Surface Water Quality and Quantity

The Detroit River is an international water body used for industrial, commercial, and recreational purposes and is the only water body within the site study area. Drainage from the existing four-lane Ambassador Bridge and from the plaza facility is directed to the City of Windsor municipal storm water collection system. Storm water from the system is treated and discharged into the Detroit River.

The Project will result in a permanent increase in storm water runoff and flow within the local study area as a result of the permanent increase in impervious surface area for the additional span and expansion of the plaza facility. During construction, an increase in the rate of storm water runoff is also anticipated as a result of the disturbance of soils and removal of vegetation.

Mitigation measures during the construction and operation phase of the Project will include development and implementation of an Erosion and Sediment Control Plan, a storm water management system, and best management practices for spills prevention and response.

Taking into account the application of the mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant adverse environmental effect on surface water quality or quantity. Additional information on surface water can be found in the *Environmental Impact Statement* (Section 5.2).

6.3 Groundwater Quality and Quantity

Four aquifer systems are found in the regional study area of which three of these aquifer systems are present at the site of the Project. Recharge to all aquifers is mainly by infiltration of precipitation through the regional land surface. The water table in the area of the Project is estimated to be within 4 to 6 metres of the ground surface. Artesian groundwater conditions have been confirmed within the site study area.

During construction of tower and pier footings it is anticipated that artesian groundwater conditions may be encountered. In areas with artesian groundwater pressures, dewatering will be minimized by using controlled density drilling fluids for the installation of deep foundations. During operations of the Project groundwater aquifers will be allowed to return to pre-construction conditions except for localized changes in flow direction around the new foundation structures.

Taking into account the application of the mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant

adverse environmental effect on groundwater quality or quantity. Additional information on ground water quality and quantity can be found in the *Environmental Impact Statement* (Section 5.3).

6.4 Water levels and Flows in the Detroit River

The Detroit River flows approximately 51 km from Lake St. Clair to Lake Erie with an average flow of 5 182 m^3/s. The ordinary high water mark elevation at the Ambassador Bridge is 175.4 metres above sea level. The watershed associated with the river drains more than 2 000 km^2. The width of the Detroit River at the Ambassador Bridge is approximately 670 metres and the depth is approximately 18 metres.

No potential environmental effects have been identified that would result in a change to water levels or flows within the Detroit River. There will be no piers, cofferdams, pile driving, dredging, blasting, or any discharges of fill material into the Detroit River from the proposed Project. As a result, no changes in characteristics of the Detroit River as it relates to drainage patterns or natural ecological features of the river are anticipated. Storm water drainage from the new replacement bridge span and the plaza facility will be directed to the City of Windsor storm water system or a storm water facility constructed on site. Construction and operation of the six-lane new replacement bridge span will be designed to provide navigational clearances in accordance with U.S. and Canadian requirements.

Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant adverse environmental effect on water levels and flows in the Detroit River. Additional information on surface water quality and quantity can be found in the *Environmental Impact Statement* (Section 7.2).

6.5 Surface and Subsurface Geology and Soils

Existing soil composition is primarily disturbed native soil amended with topsoil and historic fill materials characteristic of urban areas. Geology of the regional study area consists of 30- 40 metres thick unconsolidated deposits of predominantly glacial tills and lacustrine clays overlying marine sedimentary bedrock. No mineral mining sites are known within 2 kilometres of the site study area.

Site preparation, grading, and stockpiling will result in disturbance of the site study area geology and soils throughout the construction period. Mitigation measures will include, but not be limited to, the implementation of the Erosion and Sediment Control Plan. The plan will include best management practices such as re-vegetation of exposed soils.

Localized fracturing of the bedrock may occur during foundation construction. Grouting will be used if necessary in order to stabilize the soil and bedrock and control groundwater flows.

Taking into account the application of the mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant

adverse environmental effect on surface and subsurface geology and soils. Additional information on surface and subsurface geology and soils can be found in the *Environmental Impact Statement* (Section 5.4).

6.6 Vegetation and Vegetation Communities, including Wetlands

There are a few areas of natural and semi-natural vegetation in the site study area due to the urban location of the Project. McKee Park is located alongside the Detroit River approximately 210 m west of the proposed new replacement bridge span and is the only semi-natural in the general vicinity of the Project. Most of the local study area is landscaped with ornamental plantings. Trees within the site study area represent a combination of native and non-native species. Only three native tree species were identified as Carolinian trees including tulip tree (*Liriodendron tulipifera*), red oak (*Quercus rubra*) and white oak (*Quercus alba*). No wetlands are located within the local study area; the closest wetland area is Turkey Creek wetland which is located over 7.5 kilometres from the Project.

The Project will result in the clearing and removal of vegetation within the project footprint including in the area of the permanent support tower and piers, the plaza facility expansion and in other construction and staging areas. Mitigation measures will include implementation of a Tree Preservation Plan to retain, wherever possible, mature trees adjacent to Indian Road. Protected areas will be delineated prior to construction and no activities will be permitted in these areas. Any required vegetation removal will occur outside the growing season (spring/summer), where possible, to avoid the loss of wildlife and wildlife habitat. Green space areas, located on the east side of Indian Road between Wyandotte Street and Mill Street will be re-planted using only native species.

Taking into account the application of the mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant adverse environmental effect on vegetation, vegetation communities and wetlands. Additional information on vegetation, vegetation communities including wetlands can be found in the *Environmental Impact Statement* (Section 5.5).

6.7 Fish and Fish Habitat

As part of the Great Lakes system, the Detroit River is a major fish corridor providing an ecosystem for a diversity of fish and other aquatic species including aquatic species listed on Schedule 1 of the *Species at Risk Act*[10]. Lake Sturgeon spawning habitat is also located within the

[10] Several aquatic species at risk and their critical habitat as listed on Schedule 1 under the *Species at Risk Act* have been identified in this reach of the Detroit River including: Channel Darter (Percina copelandi), Northern Madtom (Noturus stigmosus), Silver Chub (Macrhybopsis storeriana), Spotted Sucker (Minytrema melanops), Eastern Pondmussel (Ligumia nasuta), Kidneyshell (Ptychobranchus fasciolaris), Mapleleaf (Quadrula quadrula), Northern Riffleshell (Epioblasma torulosa rangiana), Rainbow (Villosa iris), Rayed Bean (Villosa fabalis), Round Hickorynut (Obovaria subrotunda), Round Pigtoe (Pleurobema sintoxia), Salamander Mussel (Simpsonaias ambigua), Snuffbox (Epioblasma triquetra) (RDIMS# 9082625).

project area in the restoration area adjacent to McKee Park and is considered a sensitive fish habitat location and a contributing component to the health of the Detroit River. The Detroit River is the only watercourse within the study area.

The Project is a cable-stayed new replacement bridge span and will not result in any permanent structures in the Detroit River, along its banks, or below the high water mark. There will be no piers, shoreline alterations, cofferdams, pile driving, dredging, blasting, or any discharges of fill material into the Detroit River. However, during construction, project material will be delivered to the site via barges on the Detroit River. Barge spuds (anchoring) may result in temporary and limited increases to localized turbidity in the Detroit River.

Mitigation measures for surface water quality and quantity will be implemented to ensure that unanticipated effects on fish and fish habitat in the Detroit River do not result from land based construction activities. These mitigation measures will include implementation of an Erosion and Sediment Control Plan as well a standard 30 metre setback for all construction, maintenance and fuelling and storage activities. An emergency spills response and prevention plan will be implemented during construction and operation to ensure that any accidental spills are properly contained and managed.

Taking into account the application of the mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant adverse environmental effect on fish and fish habitat. Additional information on fish and fish habitat can be found can be found in the *Environmental Impact Statement* (Section 5.6).

6.8 Wildlife and Wildlife Habitat

The wildlife habitats within, and surrounding the project footprint are adjacent to highly developed urban areas including the existing Ambassador Bridge, the University of Windsor, commercial and residential areas. Limited wildlife habitat within the local study area includes McKee Park, other open spaces and vegetated banks along the Detroit River. Twenty-eight mammal species have been recorded in the region including species commonly found in similar urban areas such as mice, squirrels, skunks, opossum, raccoons, common birds, and other species tolerant of humans.

Construction activities such as vegetation clearing and grubbing, the creation of staging areas and elevated noise and vibration levels are likely to result in the permanent removal of local urban wildlife habitat and the displacement of wildlife within the project footprint, and have the potential to disturb, destroy or take migratory bird nests or eggs. Potentially disruptive activities, such as vegetation removal, will be avoided between May 1 and July 31 to the extent possible to mitigate potential effects and minimize harm to all wildlife including migratory birds that may be nesting in the Project area. If clearing or other activities that may have an impact on migratory birds are required between May 1 and July 31, non-intrusive searching methods will be conducted by a qualified avian biologist to determine if migratory bird breeding has started.

Taking into account the application of the mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant adverse environmental effect on wildlife and wildlife habitat. Additional information on wildlife and wildlife habitat can be found can be found in the *Environmental Impact Statement* (Section 5.7).

6.9 Migratory Birds

More than 29 species of waterfowl, 17 species of raptors including the peregrine falcon and bald eagle, 31 species of shorebirds and 160 species of songbirds are found along or migrate through the Detroit River corridor. The area is a major corridor located in the middle of the Mississippi and Atlantic flyways. Approximately three million ducks, geese, swans, and coots migrate annually through this region. The Ontario Ministry of Natural Resources and the Michigan Department of Natural Resources recognize the Detroit River as having one of the highest diversities of avian species in the Great Lakes area. Over 300 bird species have been documented through numerous annual bird surveys, of which 150 to 160 are found to breed, nest or migrate throughout the Detroit River corridor. The importance of this area for migratory birds is recognized in the Canada-United States North American Waterfowl Management Plan that identified the Detroit River as part of one of the 34 waterfowl habitat areas of major concern in the United States and Canada.

It is anticipated that the construction and operation of the new replacement bridge span may result in some migratory bird collisions. The new replacement bridge span lighting will be designed to minimize collisions with migratory bird populations using the Detroit River as a flyway. This includes incorporating low intensity white strobe lights at the tops of the towers, and avoidance of red or yellow steady lights on the new replacement bridge span (which can disorient avian species). If coloured lighting is utilized to illuminate the cables, the Proponent will use lower intensity, lower wavelength lighting of blue, turquoise or green, pending final design criteria. The new replacement bridge span lighting will be focused in the downward direction to minimize the potential for night-time bird collisions with the bridge span.

Taking into account the application of the mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant adverse environmental effect on migratory birds. Additional information on migratory birds can be found can be found in the *Environmental Impact Statement* (Section 5.7).

6.10 Species at Risk

In addition to aquatic species at risk identified in Section *6.7: Fish and Fish Habitat*, a pair of peregrine falcons *(Falco peregrinus)* has been nesting on the existing Ambassador Bridge since 2008. The peregrine falcon is listed as threatened under Schedule 1 of the *Species at Risk Act* (2002). The peregrine falcon is also listed under the Ontario *Endangered Species Act* (2007) and is a Specially Protected Raptor under the Ontario *Fish and Wildlife Conservation Act* (1997), which prohibits hunting and trapping of the bird, and protects its nests and eggs.

Elevated noise and vibration levels during the construction phase of the Project as well as the close proximity of a number of people to the nest could displace and disrupt the peregrine falcons. The new replacement bridge span will be constructed approximately 6 metres from the existing Ambassador Bridge, with the nest located approximately 152 metres from the proposed tower pier location. Maintenance activities during the operation of the Project have the potential to disturb peregrine falcons if in close proximity to the nest, during nesting season.

A detailed Peregrine Falcon Management Plan will be implemented that includes environmental management practices, monitoring, and adaptive management strategies for the year round management of peregrine falcons in the project area. The plan will ensure that the peregrine falcons, including their annual brood, using the existing bridge are not adversely affected, disturbed, or discouraged from continued use of the nesting site and are not injured or killed. Two management zones around the nest site reflecting relative levels of peregrine activity have been identified. These spatial boundary management zones are defined as the restricted zone and the sensitive zone.

The restricted zone includes the nest site and extends 200 metres from the nest. The objective of the restricted zone is to minimize activities and limit excessive noise disturbances (10 dBA greater than ambient). No construction staging activities will occur within the restricted zone. If avoidance is not possible, the Proponent will ensure the duration of time spent on work activities that must be conducted during the nesting season will be minimized, by evaluating cost effective work shift alternatives. Activities that cause excessive noise disturbances (10 dBA greater than ambient), such as pile driving, will be limited in the restricted zone during the nesting season (approximately March 15 to July 31).

The sensitive zone is the area adjacent to the restricted zone and extends approximately 400 metres away from the nest. Human activities in this zone have less potential to cause noise disturbance because of the distance to the nest site. Activities will be minimized within the sensitive zone during the nesting season. For example, staging areas will be located outside of the sensitive zone wherever possible. Work associated with the plaza facility and roadway improvements are outside of the sensitive zone. The number of separate activities carried out within a short time period (i.e. one week) in the sensitive or restricted zone will be minimized during the nesting season. A qualified professional hired by the Proponent, in consultation with Ontario Ministry of Natural Resources and Environment Canada, will monitor the peregrine falcon behaviour during construction activities within or adjacent to the defined restricted and sensitive zones during the nesting season. If nest relocation is necessary, the chicks would need to be captured prior to the nest relocation. This would be proposed only as a last possible resort and only after any and all required permits were obtained. A nesting box/ledge will be located on the south-eastern side of the existing bridge in close proximity to the current nesting site to encourage a relocation of the peregrine falcons.

Measures will be taken by the Proponent to avoid or lessen any effects on the peregrine falcon and to monitor effects in a manner consistent with any applicable recovery strategy and action plans as required under subsection 79(2) of the *Species at Risk Act*.

Although the potential loss of nesting habitat for peregrine falcon was considered a potentially significant environmental effect, it was determined that this effect was of a low likelihood given the commitment to implement the above mitigation, monitoring and adaptive management strategies to ensure that these effects do not occur. Transport Canada and the Windsor Port Authority have concluded that the Project is not likely to cause a significant adverse environmental effect on species at risk. Additional information on species at risk can be found in the *Environmental Impact Statement* (Section 5.8).

6.11 Noise

An assessment of noise was undertaken using the most recent applicable criteria for capital construction or alterations to provincial roads or highways in Ontario. These were developed by the Ontario Ministry of Transportation and are contained in the *Environmental Reference for Design: Noise Technical Requirements for Environmental Impact Study and Environmental Protection / Mitigation (2006)*. Concerns have been expressed by local school boards with regards to noise levels on school property, and by local residents with regards to noise outside upper story bedroom windows and at heritage sites. These locations have also been treated as noise sensitive receptors as well as the ground level spaces specified in the Ontario Ministry of Transportation guideline documents.

Existing and future noise levels were modelled at 34 representative receptor locations adjacent to the project footprint in areas such as heritage sites, daycare facilities, schools, residential areas and a nursing home. Each of these receptor locations was considered representative of one or more receptors within the study area including more than 100 residential, institutional and heritage buildings. Noise levels were modeled under three different operating scenarios including: existing operations (baseline), future operations without the Project (no-build), and future operations with all traffic using the replacement bridge (the Project).

Existing (baseline) noise levels are presently above the Ontario Ministry of the Environment Provincial Objective of 55 dBA at most locations. Average daily noise levels range from 53–71 decibel A-weighting (dBA). Noise levels at the representative receptors near the plaza facility are generally dominated by truck traffic on Huron Church Road and other local roadways. Traffic using the bridge, particularly truck acceleration and braking, contribute to noise levels adjacent to the existing Ambassador Bridge.

Future operations (project no-build) noise levels are predicted to increase slightly (between 0–4 dBA at sensitive receptors) by the model year 2025. In comparison, the modelling for future operations with the Project (build) indicates noise level increases at 25 sensitive receptors ranging between 0–6 dBA. The implementation of roadside noise barriers as mitigation to reduce noise levels was also modelled as part the analysis. This modelling indicated that, for all

receptors, with the implementation of roadside noise barriers, no noise increases will exceed 3 dBA over the existing conditions. Noise differences of 3 dBA or less are generally considered to be not perceptible by the human ear.

Roadside noise barriers 3 metres in height will be installed along the west edge of the new replacement bridge span extending northwards from the existing noise barrier to a distance of approximately 120 metres north of Peter Street. The barrier will taper to 1.5 metres at this point but will maintain a height of 3 metres above the top of the road surface at the new replacement bridge span approach. A noise barrier of 5.5 metres in height will also be installed along the western extent of the plaza facility. Where possible, the noise barriers will be installed prior to construction to mitigate construction noise.

During construction, particularly during excavation, pile driving, and concrete pouring activities, noise levels are anticipated to increase. At any particular receptor the highest noise and vibration levels will likely occur when the nearest piers are being built. Pile driving activities are not expected to exceed a three month period at any given location.

Changes to local Traffic patterns on municipal roads in proximity to the Ambassador Bridge are not anticipated, with the exception of Indian Road and Huron Church Road. The closure of southbound lanes on Huron Church Road will reroute traffic to Indian Road, resulting in an increase from a daily average of 110 vehicles in 2010, to a pm hour peak of 772 vehicles. Although this will likely generate noise, it is anticipated that the installation of noise barriers as a component of the Project will block international traffic noise and mitigate the noise currently impacting this area.

Mitigation measures will include the development of a strategy for noise management as part of a Community Consultation Plan. This plan will be developed prior to construction and will include: measures to ensure that a Proponent representative will be accessible at all times; measures for coordinating with schools within 300 metres to create a mutually agreeable construction approach; and, signage and haul/delivery route designs to avoid residential neighbourhoods. In addition, best management practices will be implemented during construction to ensure that sound emissions from all construction equipment comply with *Noise Pollution Control Publication 115 of the Ontario Model Municipal Noise Control By-Law*. The most noise intensive construction activities will be limited to daytime hours to the greatest extent possible.

Taking into account the application of the mitigation measures, Transport Canada and the Windsor Port Authority have concluded that noise generated by the Project is not likely to cause a significant adverse environmental effect. Additional information on noise can be found in the *Environmental Impact Statement* (Section 5.9).

6.12 Vibration

Trucks traveling over the Ambassador Bridge can cause vibration in the bridge structure, particularly while passing over imperfections in the road surface. The measurements indicate that groundbourne vibration levels can be perceptible at distances up to approximately 40 metres from the bridge. The measurements indicate that the current vibration levels are below the range at which cosmetic damage would be anticipated in neighbouring structures, although vibration may be perceptible in the neighbouring dwellings depending on the degree of amplification in the structure.

Sound and vibration levels will be monitored during pile driving within 100 metres of the thirty-four identified sensitive receptors. If exceedances are found, reduced pile driving force and the construction of temporary noise barriers will be implemented.

A dynamic vibration study of the new replacement bridge span support structure will be undertaken for the Project to ensure that the piers and associated support structure will not radiate unacceptable levels of groundbourne vibration into the surrounding environment. To minimize the possibility of increased vibration levels, road upgrading will ensure a smooth road surface as possible. Expansion joints will be placed as far apart as feasible and will be constructed as close to flush as possible with the surface of the new replacement bridge span deck, minimizing the low frequency noise associated with traveling over the expansion joints during the operations phase.

Taking into account the application of the identified mitigation measures, Transport Canada and the Windsor Port Authority have concluded that vibrations caused by the Project are not likely to cause a significant adverse environmental effect.

Additional information on vibration can be found in the *Environmental Impact Statement* (Section 5.9).

6.13 Contaminated Sites and Waste Management

No areas of identified contaminated material have been found within the Project area nor are there any anticipated interactions between the Project and a contaminated site. Excess materials will, however, be generated during construction activities.

Mitigation measures will include best management practices for waste management such as: designated disposal areas for excess materials and non-contaminated materials will be reduced, reused or recycled to the greatest extent possible. Waste management procedures will be implemented during maintenance and operation of the Project to ensure proper management and disposal of waste in accordance with all regulatory requirements.

In the event contaminated materials (including soils or groundwater) are discovered, applicable procedures for dealing with these materials such as the Ontario Ministry of Environment's *Permit for Stockpiling of Contaminated Waste* will be adhered to. Immediate containment measures will

also be implemented to ensure that contaminants do not reach receiving water bodies either directly or indirectly.

Taking into account the application of the identified mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the management of contaminated sites and waste for the Project is not likely to cause a significant adverse environmental effect.

Additional information can be found in the *Environmental Impact Statement* (Section 5.14).

6.14 Human Health and Socio-economic Environment[11]

The existing Ambassador Bridge, as a tourist and trade gateway, is situated in an area that is a mix of residential, commercial, institutional and transportation land-uses. Residential areas within the community of Sandwich, McKee Park and institutional properties associated with the University of Windsor and Assumption University are situated immediately adjacent to the project footprint. Local area roads including Riverside Drive West and University Avenue West cross the project footprint and provide local connectivity for adjacent communities.

The Project will require changes to local traffic patterns including the redirection of non-international (local) traffic around the expanded plaza facility and the closure of the portion of Huron Church Road within the plaza facility. The Proponent may be required to obtain the necessary approvals from the City of Windsor and/or federal government in order to undertake changes to the local road network as well as the demolition of houses on residential properties.

The *Environmental Impact Statement* considered the potential effects of the Project on human health and the socio-economic environment that could be caused by Project-related air and noise emissions. In particular, during the public consultation process, concerns were raised related to potential effects on human health related to air emissions from traffic queuing and idling vehicles on the existing Ambassador Bridge. Mitigation for air quality will include the implementation of an air quality follow-up program that will monitor air quality during construction and the first three years of operations and evaluate block queuing and anti-idling policies as mitigation options. Mitigation measures for noise will include noise barriers and the development of a community consultation plan and traffic management plan that avoids using roads located within residential and heritage areas and includes detailed construction routes, site entrances and any traffic detours.

Taking into account the application of the mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the environmental effects from the Project are not likely to cause a significant adverse environmental effect on human health or the socio-economic

[11] Consistent with the definition of "environmental effect" in the Act, the environmental assessment included consideration of the effect of any change that the Project may cause in the environment on human health, and socio-economic factors, physical and cultural heritage, current use of lands and resources for traditional purposes by Aboriginal Peoples, and things of historical, archaeological, paleontological or architectural significance.

environment. Additional information can be found in the *Environmental Impact Statement* (Sections 5.10 and 5.13).

6.15 Physical and Cultural Heritage

Several designated historic structures, particularly in the community of Sandwich, provide unique visual elements largely associated with their age, architectural style and historic significance to the development of the community. A total of twenty-seven heritage sites are located within the regional and local study areas of the Project. These include Assumption University, Our Lady of Assumption Church, Assumption Park, and the Masson-Deck House.

No listed physical or cultural heritage sites have been identified within the project footprint and heritage sites will not be demolished or moved during construction of the Project. Mitigation measures, including hoarding to reduce the visual intrusion on the surrounding area and the development of haul routes that avoid residential and heritage areas, will be implemented during construction of the Project.

Transport Canada and the Windsor Port Authority have concluded that the environmental effects from the Project are not likely to cause a significant adverse environmental effect on physical or cultural heritage. Additional information on indirect environmental effects can be found in the *Environmental Impact Statement* (Section 5.11).

6.16 Current use of Lands and Resources for Traditional Purposes by Aboriginal Peoples

The site study area is highly urbanized and largely private property, and as a result it has been determined that there is no anticipated change to the current use of lands and resources for traditional purposes by Aboriginal peoples as a result of the Project. The Proponent has proposed to construct the replacement bridge without the placement of any piers within the bed of the Detroit River, an area of concern identified by Walpole Island First Nation during the early stages of the Proponent's public consultation.

Transport Canada and the Windsor Port Authority have concluded that the environmental effects from the Project are not likely to cause a significant adverse environmental effect on the current use of lands and resources for traditional purposes by Aboriginal peoples.

Additional information can be found in the *Environmental Impact Statement* (Section 5.16).

6.17 Things of Historical, Archaeological, Paleontological or Architectural Significance

A Stage I and II archaeological Assessment was completed by the Museum of Ontario - Archaeology for the Project area which included a review of the provincial database and the City of Windsor Archaeological Master Plan and indicated no registered archaeological sites exists within the local study area.

A subsequent Stage III archaeological assessment identified site AbHs-34 as a heritage resource located within the proposed footprint of the tower pier. Additional investigation will be required at this site as it is unlikely that archaeological site AbHs-34 can be avoided. Stage IV mitigation at this site will be employed prior to construction through consultation with the Ontario Ministry of Tourism, Culture, and Sport, Aboriginal communities, and other heritage stakeholders. Stage IV mitigation will be developed during final design and will likely include documenting and removing the archaeological site through excavation.

The Stage III archaeological assessment also identified site AbHs-30 within the local study area. The Walpole Island First Nation has expressed an interest in undertaking Stage IV mitigation in this site; however the proponent has indicated that the site will not be disturbed by construction activities. In the event that unanticipated construction activities are required in the vicinity of site AbHs-30, the proponent will consider Stage IV mitigation and consult with the Walpole Island First Nation, the Ontario Ministry of Tourism, Culture, and Sport, and other heritage stakeholders as appropriate.

Mitigation measures include construction monitoring by a licensed archaeologist. In the event that deeply buried archaeological deposits are found during construction activities, the Programs and Services Branch of the Cultural Programs Unit of the Ontario Ministry of Tourism, Culture, and Sport will be notified immediately.

Taking into account the application of the identified mitigation measures, Transport Canada and the Windsor Port Authority have concluded that the environmental effects from the Project are not likely to cause a significant adverse environmental effect on things of historical, archaeological, paleontological, or architectural significance.

Additional information can be found in the *Environmental Impact Statement* (Section 5.12).

6.18 Transboundary Effects

The Act requires consideration of any change that the Project may cause in the environment, whether any such change occurs within or outside Canada. Given that the Project is international in nature, and in close proximity to the international boundary with the United States, the potential for transboundary effects in relation to air quality and water quality were considered in the analysis of potential environmental effects. It was subsequently determined that after taking into account the appropriate mitigation measures; the residual effects are likely to be limited in geographical extent and would not likely cause any impacts on transboundary areas. An environmental assessment is required by the U.S. Coast Guard and will address potential effects occurring in the United States.

Taking into account the application of the mitigation measures identified for air and water quality, Transport Canada and the Windsor Port Authority have concluded that the environmental effects from the Project are not likely to cause a significant adverse environmental effect on

transboundary areas. Additional information on transboundary environmental effects can be found in the *Environmental Impact Statement* (Section 5.17).

6.19 Accidents and Malfunctions

Accidents and malfunctions that may result in unanticipated adverse environmental effects were considered in the environmental assessment and included:

- Hydrocarbon and other dangerous goods spills
- Traffic accidents
- Accidental sediment and storm water discharge
- Fires and explosions

Potential oil and other lubricant spills and releases could occur during the operation and refueling of heavy equipment during construction or during operations as a result of vehicle collisions. Any accidental release of deleterious substances into the Detroit River following a spill may degrade water quality and fish habitat and result in direct or indirect mortality of fish.

Although the transportation of dangerous goods across the existing Ambassador Bridge is not currently permitted in the U.S., a proposal to reduce restrictions and provide a corridor route through the City of Detroit is currently under consideration by American authorities. As a result, the environmental assessment included consideration of potential accidents involving dangerous goods in the analysis. In Canada, there are currently no restrictions for transport dangerous goods through the Ambassador Bridge corridor under the *Transportation of Dangerous Goods Act*.

Mitigation measures to avoid or minimize effects from spills include implementation of a spill prevention protocol and response plan, the development of a storm water management system, and restrictions on refueling and maintenance activities within a 30 metres proximity to the Detroit River. American authorities are also considering the use of escort vehicles as an additional measure to reduce the risk of accidents. In the event of an accident, emergency response agencies in both the U.S. and Canada may be contacted to assist in a response.

With the implementation of the spill response procedures and the storm water management system, designed in consultation with the City of Windsor and Environment Canada, Transport Canada and the Windsor Port Authority have concluded significant effects resulting from accidents and malfunctions are not likely to occur. Additional information on accidents and malfunctions can be found in the *Environmental Impact Statement* (Section 3.4)

6.20 Effects of the Environment on the Project

The Project will be engineered and constructed in accordance with applicable legislative standards that reflect such conditions as wind, snow, seismic, thermal and all other forces. Although unlikely, and depending on the timing of certain construction activities, ice jams in the Detroit River could prohibit the use of barges during construction at certain times of the year.

Severe and extreme weather events may result in delays in the construction of the Project, or reduce traffic operations for a limited period, however no other effects on the Project as a result of the environment are anticipated.

There is a history of salt mining in the regional study area that has contributed to some surface settlement; however the City of Windsor Official Plan indicates that there are no mineral mining sites within 2 kilometres of the site study area and the site specific geotechnical investigation concluded that no historic salt mining activity occurred within the site study area.

Transport Canada and the Windsor Port Authority have concluded that effects of the environment are not likely to cause significant adverse environmental effects on the Project. Additional information on effects of the environment on the Project can be found in the *Environmental Impact Statement* (Section 7.3.1.2 and 7.3.1.11).

7.0 Cumulative Effects Assessment

7.1 Approach

Section 6.0 of the *Environmental Impact Statement* includes the cumulative effects assessment, as prepared by the Proponent. As required by the Federal Environmental Assessment Guidelines, the cumulative effects assessment was scoped to focus on the identified residual environmental effects of the Project when considered in association with environmental issues of regional concern, and the effects of past, present, and reasonably foreseeable actions or projects that have been or will be carried out in the region.

The temporal and spatial boundaries for determining cumulative effects were established consistent with the Federal Environmental Assessment Guidelines. The analyses included present day conditions, the construction period of the Project, and the future operation phase of the Project to the year 2025. Spatial boundaries were defined as the Windsor-Essex region, within which the potential exists for any past, present, and reasonably foreseeable projects or activities to interact with the Project to create a cumulative effect.

The cumulative effects assessment considered the potential for the identified residual environmental effects on air quality, noise, migratory birds, human health and the socio-economic environment to act cumulatively with the potential environmental effects of past, present and future activities and projects that may overlap spatially and/or temporally with the Project. Specific consideration was given to the projects listed in section 7.2 of this report.

7.2 Past, Present, and Reasonably Foreseeable Future Projects

Past, present and reasonably foreseeable future projects and activities were identified for consideration in the assessment of cumulative effects. These projects and activities included:

- the American portion of the Ambassador Bridge Enhancement Project;
- the DRIC project;
- the Windsor Central Riverfront Implementation Plan – Segment 4: Canal and Marina Project;
- the Windsor Family Aquatics Complex;
- the Malden Road Transportation, Public Safety, and Urban Design Improvement Project;
- the multi-use trail on Quality Way from Jefferson Boulevard to Lauzon Parkway; and,
- the commercial and residential land redevelopment in Olde Sandwich Towne.

7.3 Air Quality

Existing air quality in the region is largely influenced by local and long-range (cross border) contaminants generated in existing upwind urban and industrial areas. The predominant wind directions in Windsor are from the west to southwest, which brings atmospheric contaminants from the Midwest United States, the heavily industrialized areas of the Detroit area and nearby communities. Predicted annual Project air emissions represent less than 1% and in many cases less than 0.1% of the total annual regional emissions for Essex County Ontario and Wayne County Michigan. The measures identified for mitigating and monitoring air quality, including the implementation of the follow-up program and traffic management plan, will further ensure that the Project is not likely to cause a significant contribution to regional air quality issues.

7.4 Noise

Construction may result in temporary increases to noise in the regional study area. It is likely that construction vehicles for the Project using haul routes within the City of Windsor may increase the overall number of construction vehicles on these routes. It is anticipated that some construction traffic will originate from the United States and not require use of the regional road network in the City of Windsor. These impacts may interact with other projects in the study area, however, with the implementation of noise mitigation for the operational phase, these impacts are expected to be limited to the construction phase. The Proponent has committed to preparing and implementing a detailed traffic management plan to mitigate these effects, which will avoid using roads located within residential and heritage areas and include detailed construction routes, site entrances and any traffic detours.

7.5 Migratory Birds

The Project has the potential to contribute to the regional loss of avian species through collisions with structures including with the DRIC project and the existing Ambassador Bridge. As collisions with the existing Ambassador Bridge are not known to result in the death of an inordinate number of birds, it is not anticipated that the construction of the Project will result in any significant increase in bird collisions. However, some increases are anticipated as a result of the increased height of the new replacement bridge span. Lighting strategies that reduce the potential for nocturnal bird collisions will be implemented as part of the Project.

7.6 Human Health and the Socio-economic Environment

Cumulative effects related to human health and other socio-economic factors as a result of air emissions from traffic are of concern in the regional study area. The measures identified for mitigating and monitoring air quality, including the implementation of the follow-up program and traffic management plan, will further ensure that the Project is not likely to cause a significant contribution to regional air quality issues. The Proponent is also committed to developing and implementing a community consultation plan, to include a summary of planned public open houses and a public complaints resolution strategy. Regional planning requirements, including approvals from the City of Windsor, are expected to ensure that direct cumulative effects on human health and other socio-economic factors are considered.

7.7 Conclusion on Cumulative Environmental Effects

Taking into account the implementation of the proposed mitigation, monitoring, and follow-up measures, Transport Canada and the Windsor Port Authority have concluded that significant adverse cumulative environmental effects related to the Project are unlikely to occur. Additional information on cumulative effects can be found in the *Environmental Impact Statement* (Section 6.0).

8.0 Monitoring and Follow-up

8.1 Roles and Responsibilities for Monitoring and Follow-up

Transport Canada and the Windsor Port Authority have overall responsibility to ensure that the mitigation measures they have taken into account in the determination of the significance of effects are implemented. The Canadian Transit Company, as the Proponent, is responsible for the implementation of mitigation measures, monitoring programs, and the conduct of required follow-up, as described in this screening report and its appendices. In addition, where federal regulatory processes exist for a specific environmental component, mitigation measures, monitoring, and follow-up requirements may be specified in the terms and conditions of the federal regulatory instruments.

Transport Canada will be responsible for the follow-up program and for arranging for the review of the results submitted by the Proponent on the follow-up program. As reports are submitted, Transport Canada, in consultation with the Windsor Port Authority, will determine if:

- the follow-up program as implemented is meeting the stated objectives;
- the effects are occurring as predicted and summarized in the screening report;
- the follow-up program requires amendment to adapt to changes in the Project or differences in the observed environmental effects; and,
- the Proponent is required to implement additional adaptive management measures to achieve acceptable environmental effects.

In conducting this review, Transport Canada may request expertise from expert federal authorities, including Environment Canada and Health Canada.

Specific details of the monitoring programs and management plans will be defined by the Proponent during the pre-construction period of project design. The Proponent is expected to conduct the necessary consultation with experts and stakeholders, prior to finalizing and submitting these documents to Transport Canada

Monitoring program and management plan details relevant to the federal environmental assessment scope will be submitted to Transport Canada for review and approval before Project construction activities that could adversely affect monitoring results commence.

Details on the monitoring programs, management plans, and follow-up program to be completed by the Proponent, are further described in the following sections.

8.2 Compliance Monitoring and Training Program

A Compliance Monitoring and Training Program will be developed by the Proponent to ensure the effective implementation of Project related mitigation and best management practices. This program will include:

- A comprehensive approach to compliance monitoring and reporting to ensure effective and efficient resolution to any compliance issues during construction. This will include the development of a daily log sheet consistent with mitigation requirements which will be provided to Transport Canada upon request and on a monthly basis.
- A comprehensive training program for staff and contractors to become familiar with required mitigation and Project environmental sensitivities.
- A plan to adhere to all relevant environmental legislation and regulations.
- A requirement for a quarterly Compliance Monitoring and Training Program report to be provided to Transport Canada.

A draft Compliance Monitoring and Training Program will be submitted to Transport Canada and the federal review team a minimum of six weeks prior to construction for review and approval.

As noted above, the Canadian Transit Company will be required to submit a Compliance Monitoring and Training Program report recording the status of the implementation of the mitigation measures outlined in Appendix A on quarterly basis during the construction period. This can be done using Appendix C: Example Environmental Assessment Monitoring Table, or another format acceptable to Transport Canada. Compliance Monitoring and Training Program quarterly reports will also include:

- A summary of environmental inspection activities, construction activities and site conditions.

- A list of implemented mitigation measures with an explanation of any changes or adjustments including any additional mitigation or adaptive management strategies.
- Photographs of key mitigation measures with a description, location as well as the date and time of the photograph.
- Photographs of any non-compliance issues with a description, location as well as the date and time of the photograph. The description should include information with regards to how the issue was resolved.

8.3 Construction Noise Management Plan

A construction noise management plan will be developed by the Proponent to include a strategy for noise management during construction and a communication process for noise complaints. It is expected that the Proponent will conduct the necessary consultation with experts and stakeholders to finalize the noise management plan, and will subsequently submit the plan to Transport Canada a minimum of six weeks prior to construction for review.

In addition, the Proponent has indicated it will also incorporate measures for noise avoidance and reduction in the development of the traffic management plan, which will incorporate hauls routes that avoid residential and heritage area roads.

8.4 Detailed Peregrine Falcon Management Plan

A detailed Peregrine Falcon Management Plan will be finalized in consultation with Transport Canada, the Windsor Port Authority, Environment Canada, and the Ontario Ministry of Natural Resources. The plan will ensure that the peregrine falcons, including their annual brood, using the existing bridge are not adversely affected, disturbed, or discouraged from continued use of the nesting site and are not injured or killed. This plan is expected to include the following components:

- A summary of any construction activities proposed during the breeding season within the restricted or sensitive zones.
- A summary of mitigation, monitoring and training required for construction work within the restricted and sensitive zones.

The Proponent will be required to report annually on the implementation of the detailed peregrine falcon management plan. This report is to be submitted to Transport Canada and Environment Canada on or before December 31st for each year of construction, and for the first year of operation. This monitoring report is to include:

- A summary of monitoring activities, construction activities and general site conditions.
- A list of implemented mitigation measures with an explanation of any changes or adjustments including any additional mitigation or adaptive management strategies.
- Photographs of key mitigation measures with a description and location, as well as the date and time of the photograph.

- Photographs of any non-compliance with a description and location, as well as the date and time of the photograph. The description will include information with regards to how the issue was resolved.

It is expected that the Proponent will conduct the necessary consultation with experts and stakeholders to finalize the detailed peregrine falcon management plan. The Proponent will submit the plan to Transport Canada a minimum of six weeks prior to construction for review.

8.5 Air Quality Follow-up Program

In addition to the monitoring programs identified during the environmental assessment process, Transport Canada requires the Proponent to implement an air quality follow-up program. This follow-up program has been required by Transport Canada and the Windsor Port Authority to:

- verify the prediction of environmental effects identified;
- determine the effectiveness of mitigation measures in order to modify or implement new measures where required;
- support the implementation of adaptive management measures to address previously unanticipated adverse environmental effects; and,
- provide information on environmental effects and mitigation that can be used to improve and/or support future environmental assessments, including cumulative effects assessments.

The description of the follow-up measures described in this section are provided at a general level of detail, and will be documented in greater detail in the follow-up program to be submitted by the Proponent. The follow-up program is expected to:

- establish the roles and responsibilities of participants for the program duration;
- establish thresholds that will trigger immediate reporting;
- identify reporting mechanisms in the event of exceedances;
- identify adaptive management options;
- describe a consultation process to determine the need for and timing of adaptive management measures; and
- include requirements for quarterly and annual summary monitoring reports, that will:
    - describe implemented mitigation measures including photographs of key mitigation;
    - describe all monitoring activities and the results of real-time monitoring data; and
    - discuss the implementation of any adaptive management measures including any proposed changes to the follow up program.

It is expected that the Proponent will conduct the necessary consultation with experts and stakeholders, including Transport Canada, Environment Canada, and the Canada Border Services Agency, to finalize the air quality follow-up program. The Proponent will submit the plan to Transport Canada a minimum of six weeks prior to construction for review.

Once finalized, the Proponent will be responsible for implementing the follow-up program requirements and reporting the results to Transport Canada during construction and for a period of three years after the Project has commenced operation. Environment Canada and the Canada Border Services Agency will provide advice, as requested, on the implementation and results of the program.

Traffic Management Plan

As part of the Proponent's commitment to air quality, it has committed to developing a traffic management plan for the Project, which will provide a comprehensive approach to managing general traffic and construction traffic (including barge traffic) during the construction phase of the Project. This plan will be submitted to Transport Canada and the Windsor Port Authority a minimum of six weeks prior to construction, and is expected to include:

- an analysis of anticipated traffic delays;
- a process to notify the public of any anticipated traffic delays;
- mapping of construction haul routes;
- design drawings for any proposed detours; and
- a plan for barge work.

It is expected that the Proponent will conduct the necessary consultation with experts and stakeholders, prior to finalizing the traffic management plan.

Adaptive Management

The Proponent will ensure that the principles of adaptive management are incorporated into the monitoring and compliance program and the follow-up program for air quality to ensure that the most effective mitigation is implemented and is responsive to unanticipated or accidental events or activities. The responsible and prescribed authorities may require, throughout the course of the Project, additional mitigation measures or modification of mitigation measures to address any unanticipated environmental effects.

In the event that modifications to the Project are proposed by the Proponent that were not assessed as part of this environmental assessment, a separate environmental assessment may be required.

Reporting on the Follow-up Program

During any month that an exceedance is measured, Transport Canada and the Windsor Port Authority will be notified within a timely manner and the quarterly mitigation monitoring report to Transport Canada will indicate what further management measures were taken and when they began. Otherwise, information during the follow-up program will be report to Transport Canada annually.

9.0 Public Consultation

9.1 The Canadian Environmental Assessment Registry

For the purpose of facilitating access to environmental assessment records and providing public notice in a timely manner; an internet site and project file were created for this environmental assessment. The Canadian Environmental Assessment Registry internet site[12] contains public notices, the Federal Environmental Assessment Guidelines, the Federal Public Participation Plan and the draft screening report. The environmental assessment file contains environmental assessment documentation and is maintained by Transport Canada to ensure public access to records.

9.2 Public Participation

Given the level of public interest in border issues in the Windsor area, the responsible and prescribed authorities used their discretion to include, where it is considered appropriate, public participation in the screening of the Project under subsection 18(3) of the *Canadian Environmental Assessment Act*. In accordance with the federal public participation plan, opportunities for public participation were provided at key stages and throughout the environmental assessment process including the development of the Federal Environmental Assessment Guidelines and during the preparation of the screening report. For both, a 30 day public review process was provided and notifications were published in Windsor papers and posted on the Canadian Environmental Assessment Registry internet site.

As part of the public participation process for this environmental assessment, the responsible and prescribed authorities met with the City of Windsor, and consulted with City officials, during the development of the federal Environmental Assessment Guidelines and during the review of the draft screening report.

Approximately 50 public comments were received in response to the draft environmental assessment guidelines. Comments, including comments from the City of Windsor, requested that the responsible and prescribed authorities further consider:

- security of International trade and traffic;
- direct changes to socio-economic conditions for residents, communities, neighbourhoods, property values, municipal infrastructure and services, land use plans, businesses, local economy, historic features and human health;
- public interest and opinion;

[12] The Registry number for this project is 06-01-21100 - http://www.ceaa.gc.ca/050/details-eng.cfm?evaluation=21100. The full *Environmental Impact Statement* (EIS) prepared by the proponent is also available on-line at: http://www.ambassadorbridge.com/!Downloads/Updated_Screening_Report_20130306.pdf

- transportation issues including local, regional, and international traffic patterns;
- changes to access and other impact on the University of Windsor;
- Project alternatives including alternative locations;
- benefits, need and purpose of the Project.
- pedestrian safety;
- air quality and human health;
- aesthetics; and
- impacts from trucks on Huron Church Road.

The responsible and prescribed authorities considered all input received from the City of Windsor, local residents and other community organizations, and incorporated this input into the Revised Environmental Assessment Guidelines to the extent possible. This included:

- The consideration of other factors under paragraph 16(1)(e) of the Act including direct socio-economic effects, purpose, need and benefits of the Project, and alternatives and alternative means to the Project.
- The assessment of human health impacts as a result of environmental effects of the Project.
- The inclusion of municipal infrastructure projects within the scope of the Project including the relocation of Huron Church Road.
- Further consultation with the City of Windsor and the Walpole Island First Nation.

The responsible and prescribed authorities provided an additional opportunity to comment during the environmental assessment, by making the draft screening report available for a 30-day review period ending on May 13, 2013. A total of 32 submissions were received on the draft screening from members of the public, interested stakeholders, organizations, and the City of Windsor. Key areas of public concern included:

- Project construction phases and key local infrastructure modifications required for the Project;
- opportunities for coordination and post environmental assessment approval and monitoring requirements;
- consideration for the need and alternatives to the Project under paragraph 16(1)(e) of the Act;
- increased air quality and human health effects in areas directly adjacent to the Project and along Huron Church Road;
- consideration of direct socio-economic effects under paragraph 16(1)(e) of the Act (including local property and land use impacts adjacent to the Project, residential and commercial properties in the community of Sandwich and the adjacent University of Windsor);
- a proposal to transport hazardous material and dangerous goods to the existing Ambassador Bridge through the Michigan road network; and

- interactions between the Project and existing rail operations at the site, including safety concerns related to the proposed new crossing of the Essex Terminal Railway line.

A summary of the changes, clarifications and updates that were incorporated into this report after consideration of public comments and discussions with key stakeholders including the City of Windsor, is provided in Table 3.

All public input was considered by the responsible and prescribed authorities prior to taking the decision under section 20 of the Act. Additional information, including comments and responses received during public consultation on the draft screening, can be found in Appendix B. Where appropriate, comments received during the consultation process may also be further considered during any future approval process including under the *International Bridges and Tunnels Act* and the *Navigable Waters Protection Act.*

Table 3: Incorporation of Public Input into the Final Screening Report

Section	Revisions
Introduction	• Differentiated between the DRIC project, including need and benefits, and the Ambassador Bridge Enhancement Project as proposed by the Proponent. • Provided information on potential or likely planning approvals and municipal class environmental assessment requirements for local infrastructure modifications. • Clarified opportunities for coordination with other environmental assessment jurisdictions.
Project Description	• Expanded on Project phases (including proposed rehabilitation of the existing bridge, phased approach to construction, and operations such as standard Canada Border Services Agency operations and VACIS scanning). • Clarified proposed construction implementation schedule. • Clarified the use of travel demand forecasts and how these relate to general crossing/corridor capacity.
Other Considerations	• Clarified consideration of direct socio-economic effects under paragraph 16(1)(e) of the *Canadian Environmental Assessment Act.* • Clarified that the alternatives to and the alternative means are presented from the perspective of the Proponent.
Environmental Effects Analysis	• Included details for a dynamic vibration assessment for operations • Provided additional information on approach to limit the use of Jake brakes during operations to mitigate noise. • Clarified anticipated increases in local traffic along Indian Road during operations (once section of Huron Church is closed). • Clarified the use of 'the build' and 'the do-nothing' scenarios to comparatively assess future predictions for air quality and noise effects. • Included details on the transportation of dangerous goods during operations, including response protocols and design elements for prevention of accidents and spills. • Clarified the requirement for detailed environmental management planning during the detail design stage, including for construction noise management. • Identified McKee Park as sensitive fish spawning habitat adjacent to the Project. • Incorporated Environment Canada's recommendations for updated text for migratory bird nesting avoidance and air quality monitoring timing.
Follow-up and Monitoring Programs	• Clarified requirement for a construction noise environmental management plan that includes determining the zone of influence, providing a scope for monitoring, and establishing precautionary limits.
Consultation	• Provided information on the proposed community advisory committee for detailed design elements and public open houses. • Updated information related to Proponent consultation with Walpole Island First Nation and included a commitment to additional/continued collaboration between the Proponent and Walpole Island First Nation subsequent to the environmental assessment.
Commitments for Further Work	• Clarified potential requirements for detailed design to ensure consistency with the requirements of the *Railway Safety Act* and the *Canadian Transportation Act*, as required.

9.3 Aboriginal Consultation

As part of the public consultation process on the draft screening report, Transport Canada contacted eight Aboriginal groups within the regional study area to determine whether the Project would result in any unidentified Project impacts on established or potential treaty or Aboriginal rights, or the current use of lands and resources for traditional purposes. To date, no known current use in the Project area has been identified. Walpole Island First Nation is the only Aboriginal group to date that has expressed an interest in the Project.

Aboriginal groups and agencies located in proximity to the study area were also contacted by the Proponent in order to provide an opportunity to comment on the Project proposal. These groups included the CanAm Indian Friendship Centre of Windsor, Walpole Island Friendship Centre, Aamjiwnaang First Nation, Caldwell First Nation, Walpole Island First Nation, Wyandotte Nation, Detroit River Wyandot's, and The Wyandot of Andernon Nation.

In response to an expressed interest in the Project from Walpole Island First Nation, environmental assessment consultations were initiated at the beginning of the process during the development of the Federal Environmental Assessment Guidelines and Public Participation Plan. The Public Participation Plan included a commitment to meet with representatives of the Walpole Island First Nation during the environmental assessment process, to provide information on the Project, and to address any specific issues or concerns. Environmental assessment consultations with Walpole Island First Nation have resulted in:

- The identification of Walpole Island First Nation's interests in the Project, in particular an interest in archaeological and historic resources, natural features and land use.
- A commitment from the Proponent to facilitate Walpole Island First Nation participation in required archaeological excavations as part of a Stage IV Archaeological Assessment.
- The development of a relationship between the Proponent and the Walpole Island First Nation, and the establishment of a process to engage the Walpole Island First Nation (including a review of environmental assessment documentation).
- A commitment from the Proponent to continue consultation and collaboration related to the Project throughout detailed design, construction, and operation of the Project.

The Proponent and Walpole Island First Nation continue to engage in discussions related to potential benefits and opportunities for Walpole Island First Nation. Transport Canada and the Windsor Port Authority are aware of this process and understand that an agreement may be negotiated between Walpole Island First Nation and the proponent to provide work opportunities and an Aboriginal centre in the Project area. Transport Canada and the Windsor Port Authority will continue to track this process.

Subsequent to the environmental assessment, Transport Canada and the Windsor Port Authority will determine specific requirements for approvals under the *Navigable Waters Protection Act*, the *International Bridges and Tunnels Act* and completion of water lot lease agreements. Additional consultation with regards to these processes may be undertaken with Walpole Island

First Nation and other interested Aboriginal groups at that time and as required. Transport Canada and the Windsor Port Authority remain committed to meaningful Aboriginal consultation in accordance with the Government of Canada's guidelines for federal officials to fulfill the duty to consult.

9.4 Proponent Public Information Sessions

The Canadian Transit Company held a series of public information sessions and open houses to discuss and review the Project with the public in 2007. At each session there was a presentation about the Project, and representatives from the Project's consulting team and the Ambassador Bridge were available to respond to any comments or concerns from the public.

Topics covered by the comments and concerns included, but were not limited to, the design and construction process, the DRIC project, local roads, traffic levels, funding, and the replacement bridge and plaza facility details. Comments and concerns raised during the public information sessions were considered during the refinement of the recommended Project plan.

Comments and concerns raised by the public were recorded and can be found in the *Environmental Impact Statement* (Appendix O).

9.5 Post Environmental Assessment Community Consultation Plan

The Proponent has committed to ongoing consultation with the general public, adjacent communities and other key stakeholders involved with the Project. A community consultation plan will be developed by the Proponent for post environmental assessment consultation activities and will include a summary of planned public open houses, a public complaints resolution strategy, and a detailed approach for incorporating recommendations of a community advisory committee. The community advisory committee will:

- assist in the development of detail design elements of the green buffer space, buffer features, landscaping, pedestrian and trail connections to retain community continuity, noise wall aesthetics, and lighting along the west side of the Project area;
- include representatives from the Olde Sandwich Towne Business Improvement Association, the City of Windsor planning department, community leaders, and Walpole Island First Nation who are interested in participating; and,
- result in features such as artistic, community and/or historical elements.

The Proponent will work with the community advisory committee to incorporate recommendations into a final detail design. The responsible and prescribed authorities will determine participation, as appropriate, during future permitting and approval processes.

The Proponent has indicated that a community consultation plan will be developed and implemented during the Project design phase A summary of consultation activities will be submitted to Transport Canada a minimum of six weeks prior to the start of construction.

10.0 Commitments for Further Work

Throughout the *Environmental Impact Statement* and federal screening report, references are made to plans and programs that will be further developed during the design phase of the Project. Transport Canada will review the following documents to ensure the federal environmental assessment commitments are met.

- Air Quality Follow-up Program
- Traffic Management Plan
- Storm water Management System Plan and facility design
- Construction Noise Management Plan
- Erosion and Sediment Control Plan
- Tree Preservation Plan
- Detailed Peregrine Falcon Management Plan
- Community Consultation Plan, including a Community Advisory Committee
- Dynamic Vibration Study for Project operation
- Compliance Monitoring and Training Program
- Stage IV Archaeological Assessment (copy of Ontario Ministry of Tourism, Culture and Sports' Archaeological report review letter for site AbHs-34 will be provided to Transport Canada prior to construction)
- A plan for the completion of nest surveys for Migratory Birds.

A minimum of 6 weeks is to be provided to facilitate federal review of each of these documents. To ensure adequate time is provided for review, it is recommended that the Proponent provide Transport Canada with a work plan outlining when each of these documents will be prepared and circulated for review.

In addition to the environmental assessment commitments, the Proponent is responsible for ensuring that, as required, federal approvals for the Project are obtained in accordance with the following prior to construction:

- *Navigable Waters Protection Act*
- *International Bridges and Tunnels Act*
- *Railway Safety Act* and the *Canadian Transportation Act*
- A lease for the use of federal water lots from the Windsor Port Authority and a permit to construct, consistent with the *Port Authorities Operations Regulations.*

11.0 Environmental Assessment Decisions

11.1 Transport Canada

After taking into consideration the screening report, public comments and taking into account the implementation of mitigation and monitoring measures, Transport Canada has determined that the Project is not likely to cause significant adverse environmental effects in accordance with paragraph 20(1)(a) of the *Canadian Environmental Assessment Act.* As such, Transport Canada may exercise any power duty or function that would permit the Project to be carried out in whole or in part.

The Canadian Transit Company (the Proponent) has read this environmental assessment screening report and accepts responsibility for the implementation of the mitigation, monitoring, and follow-up programs identified. The Canadian Transit Company will provide written confirmation on the implementation of these measures to Transport Canada and the Windsor Port Authority, according to frequencies prescribed in this report. Furthermore, the Canadian Transit Company agrees to provide Transport Canada and the Windsor Port Authority access to Project area, upon request, to confirm that the mitigation measures and related follow-up programs have been implemented.

These environmental assessment mitigation, monitoring and follow-up commitments will also be incorporated into future approvals, as appropriate.

Mr. Dan Stamper
President
Canadian Transit Company

Date: 2/7/14

Execution of this Canadian Environmental Assessment by the CTC is done on a without prejudice basis to its legal position that the IBTA does not apply to the Ambassador Bridge.

The Canadian Environmental Assessment Act Decision is recommended:

Ms. Cathy Hainsworth
Manager, Environmental Assessment _____ Date: _____
Transport Canada

The recommended Canadian Environmental Assessment Act Decision is approved:

Mr. Alec Simpson
Senior Director, Environmental Management _____ Date: _____
Transport Canada

11.2 Windsor Port Authority

After taking into consideration the screening report, public comments and taking into account the implementation of mitigation and monitoring measures, the Windsor Port Authority has determined that the Project is not likely to cause significant adverse environmental effects in accordance with paragraph 20(1)(a) of the *Canadian Environmental Assessment Act.* As such, the Windsor Port Authority may exercise any power duty or function that would permit the Project to be carried out in whole or in part.

The Canadian Transit Company (the Proponent) has read this environmental assessment screening report and accepts responsibility for the implementation of the mitigation, monitoring, and follow-up programs identified. The Canadian Transit Company will provide written confirmation on the implementation of these measures to Transport Canada and the Windsor Port Authority, according to frequencies prescribed in this report. Furthermore, the Canadian Transit Company agrees to provide Transport Canada and the Windsor Port Authority access to Project area, upon request, to confirm that the mitigation measures and related follow-up programs have been implemented.

These environmental assessment mitigation, monitoring and follow-up commitments will also be incorporated into future approvals, as appropriate.

Mr. Dan Stamper
President _____Date: _____
Canadian Transit Company

The Canadian Environmental Assessment Act Decision is approved:

Mr. David Cree
President _____Date: _____
Windsor Port Authority

12.0 Key References

Ambassador Bridge Enhancement Project Environmental Impact Statement (March 2013)

Canada Border Services Agency Ambassador Bridge Plaza Master Plan Study Report (July 2010)

Federal Review Comment/Response Table: Ambassador Bridge Enhancement Project Draft Environmental Impact Statement (April 2011)

Federal Public Participation Plan for the Environmental Assessment Screening under the Canadian Environmental Assessment Act (February 2007)

Revised Federal Environmental Assessment Guidelines under the Canadian Environmental Assessment Act for the Ambassador Bridge Enhancement Project (August 2007)

Technical Memorandum - Responses to Environment Canada Comments on the Environmental Impact Statement and Peregrine Falcon Management Plan (December 2012)

Technical Memorandum - Response to Federal Review Team Comments on the Environmental Impact Statement (November 2012)

Technical Memorandum: Ambassador Bridge Enhancement Project Environmental Impact Statement Clarification (August 2012)

Appendix A: Significance of Effects Analysis

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics							
		Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
Air Quality and Climate	*Construction*	ST/C	M	L	R	D	N	H	F/M
	• Best management practices for dust suppression during construction will be implemented based on the Ontario Ministry of the Environment Technical Bulletin *Review of Approaches to Manage Industrial Fugitive Dust Sources* (2004). These will include, but not be limited to: periodic watering of unpaved (non-vegetated) areas and stockpiles; limiting speed of vehicular travel and covering loaded haul trucks with tarpaulins; use of water sprays during the loading and unloading of materials; use of calcium chloride and road sweeping; and sweeping and/or water flushing of the entrances to the construction zones and daily removal of excess soils from roads. • Best management practices for air emissions during construction will be implemented based on *Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities* developed by Environment Canada (2005). These include vehicle maintenance, asphalt concrete paving, and traffic marking operations guidelines and recommendations. Best management practices will also include, but not be limited to: - A review of the construction inventory will be conducted prior to the start of construction. Should a greater or lesser inventory of equipment (including barges) be used, the work hours may need to be adjusted accordingly; - The contractor's most polluting heavy equipment (including barges) will be identified and use limited during smog advisories; and, - Idling of heavy equipment will be monitored and limited in keeping with the City of Windsor idling by-law which limits idling for more than five minutes in a sixty minute period unless exceptions apply.								
	Operation	LT/C	L	L	R	D	N	H	M
	• Road sweeping practices in accordance with maintenance standards will be employed to reduce silt loading on the area road network during the operations phase of the Project. *Follow-up:* • An Air Quality Follow-up Program is required for review and approval by the responsible and prescribed authorities in consultation with expert federal authorities prior to construction. This program will include: - Mitigation such as best management practices for dust suppression and air emissions during construction, traffic/staging strategies, as well as alternative mitigation in the event of unanticipated air quality exceedances. Alternative mitigation will include timing and equipment restrictions, alternative staging and delivery and other construction best management practices. - Air quality monitoring during construction and three years' post-construction, using Thermo Scientific SHARP model 5030 real-time monitors. One will be configured for $PM_{2.5}$ and the other for PM_{10}. The								

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics: Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
	SHARP 5030 monitors will combine light scattering photometry and beta radiation attenuation for continuous measurement of either $PM_{2.5}$ or PM_{10}. Digital filtering will be used to continuously mass calibrate the nephelometric measurements. - additional mitigation, such as a block queuing system, and/or an anti-idling policy to ensure optimal traffic flow through the plaza facility								
Surface Water and Ground Water Quality and Quantity	*Construction*	ST/S	L	L	R	U	N	M	M
	• An Erosion and Sediment Control Plan will be reviewed and approved by the responsible and prescribed authorities in consultation with expert federal authorities prior to construction to address onsite drainage, construction staging and seasonal timing. The Plan will include, but not be limited to, a maintenance and repair schedule and best management practice control measures used during construction for minimizing erosion and sedimentation such as: - Silt fencing, straw bales and inlet protection and other methods used to block sediment as required; - Exposed soils will be stabilized through re-vegetation or other comparable methods, within 60 days of work completion; - Unprotected surfaces will be stabilized through seeding and mulching and by use of dust suppression techniques such as watering; and - The Plan will also include best management practices for water discharge during any groundwater pumping activities. Groundwater will be tested and treated to reduce pollutants to acceptable levels when required. • Best management practices will be implemented to reduce the potential for spills, debris and materials/equipment from entering the surface water, watercourses or groundwater. This includes: a 30 metre setback from watercourses/drains for all maintenance, fuelling and storage activities; and, the installation of emergency response spill kits. • In areas with artesian groundwater pressures, dewatering will be minimized by using controlled density drilling fluids for the installation of deep foundations (e.g. drilled shafts or caissons).								
	Operation	LT/S	L	L	R	U	N	M	-
	• A Storm Water Management Plan and facility design will be developed to manage run-off from the replacement bridge and plaza facility during operations. - The storm water management system will be sized to treat the new pavement and increased traffic volume and include measures to reduce the impact of de-icing materials on the aquatic ecosystem. Existing storm water treatment will be integrated into the new facility design. - Storm water will be treated at an "Enhanced" protection (Enhanced protection corresponds to the end-of-pipe storage volumes required for the long-term average removal of 80% of suspended solids) as described in the Ontario Ministry of the Environment's *Storm water Management Planning and Design Manual* (2003).								

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics							
		Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
	- Prior to discharge, storm water will be treated to reduce pollutant levels consistent with both the Ontario Ministry of the Environment *Water Management, Policies, Guidelines: Provincial Water Quality Objectives* (1994) and applicable Canadian Environmental Quality Guidelines published by the Canadian Council of Ministers of the Environment. Best management practices will be implemented to reduce the potential for spills, debris and materials/equipment from entering the surface water, watercourses or groundwater. This includes: a 30 metre setback from watercourses/drains for all maintenance, fuelling and storage activities; and, the installation of emergency response spill kits.								
Water levels/flows in the Detroit River	*Construction*	ST/S	L	L	R	D	N	L	-
	• Barge operations will be in compliance with marine safety, pollution, and spill control requirements established to protect the aquatic ecosystem such as the *Vessel Pollution and Dangerous Chemicals Regulations* (2012) and the *Environmental Response Arrangement Regulations* (2008).								
	Operation								
	• No changes to water levels and flows are expected to occur during operation; therefore no mitigation has been identified.								
Surface, Subsurface Geology and Soil	*Construction*	ST/S	L	S	R	D	N	L	-
	• Localized fracturing of the bedrock may occur during foundation construction. Grouting will be used if necessary in order to stabilize the soil and bedrock and control groundwater flows. • Preparation and implementation of the Erosion and Sediment Control Plan and associated best management practices.								
	Operation								
	• No changes to surface, subsurface geology or soils are expected to occur during operation; therefore no mitigation has been identified.								
Vegetation, Vegetation Communities and Wetlands	*Construction*	ST/O	L	S	R	D	N	H	-
	• A Tree Preservation Plan will be prepared and implemented to retain mature trees that provide wildlife habitat adjacent to Indian Road wherever possible. Protected areas will be delineated prior to construction and no activities will be permitted in these areas. • Native vegetation will be re-planted around the plaza facility. • Any required vegetation removal will occur outside the growing season (spring/summer) to avoid the loss of wildlife and wildlife habitat wherever possible. • Any excess areas cleared during construction will be replanted once construction is complete using native species.								

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics							
		Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
	Operation								
	• No changes to vegetation, vegetation communities or wetlands are expected to occur during operation; therefore no mitigation has been identified.								
Fish and Fish Habitat	*Construction*	ST/S	L	L	R	U	N	M	-
	• Environmental effects on fish and fish habitat will be avoided through project design. Dredging, in-water blasting, in-water pile driving, pier construction and the placement of shore protection in or along the Detroit River are not proposed. • The implementation of an Erosion and Sediment Control Plan to address onsite drainage issues, construction staging and seasonal timing will ensure storm water discharges into watercourses meet all applicable provincial guidelines and requirements.								
	Operation	LT/S	L	L	R	U	N	M	-
	• A storm water management facility will be developed to treat storm water runoff from additional impervious area as a result of the replacement bridge and expanded portion of the plaza facility during operations.								
Wildlife and Wildlife Habitat including Migratory Birds	*Construction*	ST/O	L	S	R	D	N	H	-
	• Vegetation removal will be avoided between May 1 and July 31 to the extent possible to minimize harm to all wildlife including migratory birds. - If clearing or other activities that may have an impact on migratory birds are required between May 1 and July 31, non-intrusive searching methods will be conducted by a qualified avian biologist to determine if migratory bird breeding has started a nest survey will be conducted by a qualified avian biologist within 2 days of the proposed activity. - The nest survey will identify and locate active nests. Should it be determined that the breeding season has started and that migratory bird breeding is in progress and migratory bird nests are identified in locations where Project works or activities may result in their disturbance or destruction, a mitigation plan will be developed in consultation with Environment Canada.								
	Operation								
	• New replacement bridge span lighting will be designed to minimize impacts on migratory bird populations using the Detroit River as a flyway. This will include: - Low intensity white strobe lights (one flash every three seconds) at the tops of the towers pending any change needed based on final design criteria and final consultation with the State Historic Preservation Office in the United States. - No red or yellow steady lights on the new replacement bridge span, which can disorient avian species; if coloured lighting is utilized to illuminate the cables, the Canadian Transit Company will use	LT/C	L	S	R	D	N	H	-

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics							
		Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
	lower intensity, lower wavelength lighting of blue, turquoise or green, pending final design criteria. • New replacement bridge span lighting (shield lights) will be focussed in the downward direction to minimize the potential for night-time bird collisions with the new replacement bridge span.								
Species at Risk	*Construction*	ST/R	H	S	I	D	S	L	M
	• A Detailed Peregrine Falcon Management Plan will be implemented that includes environmental management practices, timing restrictions, monitoring, and adaptive management strategies. The plan will ensure that the peregrine falcons, including their annual brood, using the existing bridge are not adversely affected, disturbed, discouraged from continued use of the nesting site and are not injured/killed. • Where feasible, construction activities will be limited within the defined restricted and sensitive zones during the nesting season from March 15 to July 31 and beyond (i.e., as late as mid-August), as required. A qualified professional hired by the Canadian Transit Company will monitor the peregrine falcon behaviour during construction activities within or adjacent to the defined restricted and sensitive zones during the nesting season and also will determine when the birds fledge the nest and when construction activities may resume. • If construction cannot be avoided in the restricted and sensitive zones during the nesting season, installation of a curtain or other visual barrier that blocks the line of site between the nest and construction activities will be put in place. • If nest relocation is necessary, the chicks would need to be captured prior to the nest relocation. This would be proposed only as a last possible resort and only after consultation with Environment Canada and the Ontario Ministry of Natural Resources and any and all required permits are obtained. • A nesting box/ledge will be located on the south-eastern side of the existing bridge in close proximity to the current nesting site to encourage potential relocation of the peregrine falcons. • The Proponent will continue to consult with Environment Canada and the Ontario Ministry of Natural Resources on management of the Peregrine Falcons present within the study area.								
	Operation	MT/S	H	S	I	D	S	L	-
	• Operational activities, including maintenance, may disturb the peregrine falcons nesting on the existing bridge. However, given the peregrine falcons are successfully nesting at this location, this effect is considered unlikely to occur and no additional mitigation for the operational phase of the Project was identified.								
Noise	*Construction*	ST/R	M	L	R	D	N	H	M
	• A Construction Noise Management Plan detailing a strategy for noise management will be incorporated into a Community Consultation Plan. The Plan will be developed prior to construction and will include determining the zone of influence, providing a scope for monitoring, and establishing precautionary limits. Additional measures will be identified to ensure that: - A Canadian Transit Company representative will be accessible at all times and appointed as the								

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics							
		Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
	community contact to address noise related complaints or concerns and conduct any necessary field work related to noise during construction, when necessary; - Coordination will occur with schools within 300 m of the Project, with an objective of creating a mutually agreeable construction system to reduce the impact of noise on schools, especially during exams. - Haul routes will be designed to avoid residential neighbourhoods; and - Signage will be installed to notify trucks that engine braking is prohibited according to City of Windsor By-laws prior to construction. • Best management practices will be implemented during construction to ensure that sound emissions from all construction equipment comply with Noise Pollution Control Publication 115 of the Ontario Model Municipal Noise Control By-Law (1978). This will include, but not be limited to: ensuring that factory recommended mufflers are maintained on all construction equipment; and vehicle back-up alarms are limited through design of construction haul routes. • The most noise intensive construction activities will be limited to daytime hours to the greatest extent possible. Time restrictions set out in the City of Windsor's Noise By-law 6716 will be respected including prohibitions for the operation of any equipment in connection with construction from 8 p.m. to 6 a.m. in residential areas. • Sound and vibration levels will be monitored during pile driving within 100 metres of the 34 identified sensitive receptors. Typical noise sensitive receptors include: private residences, townhouses, multiple unit buildings with outdoor living spaces, and hospitals, nursing homes educational facilities and daycare centers where there are outdoor living spaces. If exceedances are noted to cause a nuisance, mitigation measures such as reduced driving force and/or temporary noise barriers will be implemented. • Pile driving and/or other unusually loud activities will not occur prior to 7 a.m. or after 8 p.m. Vibration monitoring will be conducted when pile driving is taking place within 100 metres of a sensitive receptor, including heritage buildings. If exceedances are found, reduced pile driving force and the construction of temporary noise barriers will be implemented.								
	Operation	LT/C	M	L	R	D	N	H	-
	• A permanent noise barrier 3 metres in height will be installed as soon as practical during the construction schedule (as the wall will be mounted on the new replacement bridge span) along the west edge of the new replacement bridge span extending northwards from the existing noise barrier to a distance of approximately 120 metres north of Peter Street. The barrier will taper to 1.5 metres at this point but will maintain a height of 3 metres above the top of the road surface at the new replacement bridge span approach. • A permanent noise barrier 5.5 metres in height will also be installed along the western extent of the plaza facility. • Jake break usage for truck breaking will be discouraged on the new replacement bridge span. The								

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics: Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
	Proponent will work cooperatively with the City of Windsor in eliminating the use of jake brakes without compromising safety								
Vibration	*Construction*	ST/S	L	L	R	D	N	M	-
	• Vibration will be perceptible during construction, particularly during pile driving activities, but are not expected to cause cosmetic or structural damage to buildings. • Vibration monitoring will be conducted when pile driving is taking place within 100 metres of a sensitive receptor, including heritage buildings. If excesses are found, Proponent will reduce pile driving force.								
	Operation	LT/C	L	L	R	D	N	M	-
	• A dynamic vibration study of the new replacement bridge span support structure for the operational phase of the Project will be undertaken when sufficient detail is available to ensure that the piers and associated support structure will not radiate significant levels of ground borne vibration into the surrounding environment. • To minimize the possibility of increased vibration levels, the road upgrading will ensure a smooth road surface, other than requirements for deck drainage to prevent hydroplaning, with few imperfections. Expansion joints will be placed as far apart as feasible and will be constructed as close to flush with the surface of the new replacement bridge span deck as possible while still allowing snow removal activities without damaging the joint, minimizing the low frequency noise associated with traveling over the expansion joints during the operations phase.								
Contaminated Sites and Waste Management	*Construction*	ST/R	L	L	R	D	N	M	-
	• Designated disposal areas for excess materials will be identified and used during construction. • Non-contaminated materials will be reduced, reused or recycled to the greatest extent possible. • In the event contaminated materials (including soils or groundwater) are discovered, applicable procedures for dealing with these contaminated materials such as the Ontario Ministry of Environment's Permit for Stockpiling of Contaminated Waste will be adhered to. Immediate measures will be implemented prior to the arrival of authorities to ensure that contaminants do not reach receiving water bodies either directly or indirectly.								
	Operation	-	-	-	-	-	-	-	-
	• No changes to contaminated sites or waste management are expected to occur during operation; therefore no mitigation has been identified.								
Human Health	*Construction*	ST/S	L	L	R	D	N	L	-
	• Mitigation for air quality and noise including emissions reduction, dust suppression, staging practices, and sound barriers will be implemented to mitigate indirect effects on human health. • A Community Consultation Plan will be implemented and include a communication process to manage any disruption effects experienced by residents during construction.								

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics							
		Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
	• The Community Consultation Plan will include a detailed Traffic Management Plan that will describe how using roads located within residential and heritage areas will be avoided and include detailed construction routes, site entrances and any traffic detours. • Canadian Transit Company offices are located onsite and an individual within those offices will be appointed as the community contact to address any questions, concerns or complaints by business owners. • Efforts will be made during the construction phase to ensure access is maintained to operating businesses. • Temporary fencing and other protective measures will be used to mitigate the visual intrusion of construction.								
	Operation	LT/S	L	L	R	D	N	L	-
	• The air quality follow-up program requires implementation of air quality monitoring for three years' post-construction will use Thermo Scientific SHARP model 5030 real-time monitors. Should the results indicated additional mitigation is required, measures such as a block queuing system, and/or an anti-idling policy to ensure optimal traffic flow through the plaza facility, will be implemented. • A permanent noise barrier will be installed along the west edge of the new replacement bridge span extending northwards from the existing noise barrier. A permanent noise barrier will also be installed along the western extent of the plaza facility. • Jake break usage for truck breaking will be discouraged on the new replacement bridge span. The Proponent will work cooperatively with the City of Windsor in eliminating the use of jake brakes without compromising safety.								
Physical and Cultural Heritage	*Construction and Operation*	-	-	-	-	-	-	-	-
	• Mitigation for noise, vibration and air quality will be implemented to reduce indirect effects on cultural resources, including Assumption Church and Assumption College. • The construction of fences (hoarding) will be undertaken to reduce the visual intrusion on the surrounding area. • Haul routes used for construction will be designed to avoid residential and heritage areas.								
Current use of lands/resources for traditional purposes by Aboriginal Peoples	*Construction and Operation*	-	-	-	-	-	-	-	-
	• The Project will not result in any piers or other permanent structures in the waters of the Detroit River, an area of concern identified by Walpole Island First Nation. • The Proponent is committed to continued consultation and collaboration with the Walpole Island First Nation throughout the Project.								

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics							
		Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
Things of Historical, Archaeological, Paleontological or Architectural Significance	*Construction*	ST/S	M	S	I	U/D	N	H	-
	• Known archaeological sites will be avoided to the extent possible. However Site abHs-34 will undergo a Stage 4: Mitigation of Development Impacts of the Archaeological Assessment Process. This will likely include documenting and removing the archaeological site through excavation. Documentation could include measurements, maps, drawings, and photographs. Artefacts may be placed at the Museum of Ontario Archaeology. • In the event that construction is also required at Site abHs-30, further consideration for Stage 4: Mitigation will be given and Proponent will consult the Ontario Ministry of Tourism, Culture and Sport and the Walpole Island First Nation. • Archaeological artefacts including the majority of the 714 artefacts identified at the abHs-34 site in the areas of the proposed foundation construction are Aboriginal in nature and may be of interest to Aboriginal groups. The Proponent has committed to continued consultation with interested Aboriginal throughout the Archaeological process. • Strategies will be reviewed with the Ontario Ministry of Tourism, Culture and Sport, Aboriginal Groups and other heritage stakeholders and be directed by a Licensed Archaeologist during the Stage 4 analysis. • A licensed archaeologist will be at the Project site when soil disturbing activities are taking place. The Proponent, working with a licensed Archaeologist will ensure that: - In the event that human skeletal remains are encountered during construction, all construction and soil disturbance will cease immediately. The Proponent will promptly contact the Ontario Ministry of Tourism, Culture and Sport, the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Business Services, and interested Aboriginal Groups; and - If any deeply buried archaeological deposits are found during construction activities, construction activities will cease and the Programs and Services Branch of the Cultural Programs Unit of the Ontario Ministry of Tourism, Culture and Sport will be notified immediately.								
	Operation	-	-	-	-	-	-	-	-
	• No environmental effects resulting from the Project, either beneficial or deleterious to the environment, are expected to adversely affect things of historical, archaeological, paleontological or architectural significance during the operation of the Project. No mitigation has been identified.								
Navigation	*Construction and Operation*	-	-	-	-	-	-	-	-
	• No environmental effects resulting from the Project, either beneficial or deleterious to the environment, are expected to adversely affect navigation. • Any approvals or permits required under the *Navigable Waters Protection Act* or the *Navigation Protection Act* will be obtained prior to construction of the new replacement bridge span. This includes any approvals								

Potentially Affected Environmental Components	Description of Mitigation and Follow-up (as applicable)	Residual Environmental Effect Characteristics: Duration/ Frequency	Magnitude	Geographic Extent	Reversibility	Ecological Context	Significance	Likelihood	Follow-up/ Monitoring
	or permits required for the use of barges during construction. • All relevant pollution control requirements will be adhered to including those under the *Canada Shipping Act* (2001), the *International Regulations for Preventing Collisions at Sea* (1972) referred to as the COLREGs, and the *St. Clair and Detroit River Navigation Safety Regulations* (1984) (SOR/84-335).								
Accidents and Malfunctions	• A Spills Prevention and Contingency Plan will identify the type of potential spills, including motor vehicle spills that may occur and will provide procedures to respond to emergencies. The plan will include: roles and responsibilities and standard procedures for responding to oil spills on land and in the Detroit River, chemical spills and gaseous releases; spill response equipment and training; and provisions for updates and review procedures. • In the event of larger spills such as major accidents, emergency response procedures will be employed immediately to reduce the potential for spills and materials/equipment entering water and will include provisions for the released material at outfall locations such as turbidity barriers for containment, and inflatable bag plugs for closing of storm drain inlets. Additionally, the Ontario Ministry of Environment's Spill Action Centre will be contacted immediately. • The Proponent will comply with the *Ontario Environmental Protection Act* (1990), and the *Ontario Water Resources Act* (1990) regarding spill requirements.	ST/S	H	S/L/ R	I/ R	D	S	L	-

Table Key: Characteristics of Residual effects[13]

Duration
(ST) Short-term: Effects are measurable for <2 years
(MT) Medium-term: Effects are measurable for 2 to 20 years
(LT) Long-term: Effects are measurable for >20 years
(P) Permanent: Effects are permanent

Frequency
(O) Occurs once
(S) Occurs sporadically at irregular intervals
(R) Occurs on a regular basis and at regular intervals
(C) Continuous

Magnitude
(L) Low: Minimal or no impairment of environmental component
(M) Moderate : Measureable change in environmental component
(H) High: Serious impairment to environmental component

Geographic Extent
(S) Site Study Area: Effects restricted to the Project site (i.e., project footprint)
(L)Local Study Area : Effects extend beyond the project footprint but remain localized
(R) Regional Study Area: Effects extend to the watershed/regional level

Reversibility
(R) Reversible
(I) Irreversible

Ecological Context
(U) Undisturbed: Area relatively or not adversely affected by human activity
(D) Developed: Area has been substantially previously disturbed by human development or human development is still present

Significance
(N) Not Significant
(S) Significant

Likelihood
(L) Low probability of occurrence
(M) Medium probability of occurrence
(H) High probability of occurrence

[13] *Based on professional judgement*

Appendix B: Summary of Responses to Public Input on the Draft Screening Report

Section 1: Comments from the General Public

No	Comment	CTC Response	Action
1-1	The EA documentation states that the project is to start in spring of 2013. As this date has passed, an updated timeline for the start of the construction and operation phases of the project should be provided.	The beginning of the project date cited in the EA includes the initiation of the development of the necessary mitigation plans, consultations and preliminary design and permitting where appropriate. The CTC has already begun this effort and is working on the consultation and mitigation plans, as well as coordinating and partnering with the CBSA to develop the SOR for the long term master plan of the consolidated plaza shown in the CBSA Plan included in Appendix B that needs to be constructed regardless of the ultimate disposition of the Ambassador Bridge Enhancement Project. Should the project be delayed in the future, an updated timeline will be provided with appropriate re-evaluation of any impacts and mitigation. Construction of the project is expected to take place in phases as they are approved by the appropriate authorities. Based on the current anticipated approvals and requirements, the CTC first expects to undertake construction in the following manner; 1. Clearing of the site to include the removal of the vacant homes owned by the CTC. 2. Relocate Huron Church Road to the west of the proposed plaza. 3. Upon completion and approval of the master plan for the plaza by the CBSA, construct the expansion of the plaza as shown in the EIS to allow the offsite secondary inspections to be relocated to the planned onsite location and avoid the comingling of local and international traffic 4. Rehabilitate the existing approach spans to the existing suspension bridge. This will require the construction of the approaches to the new cable stayed structure adjacent to the existing bridge to allow traffic to continue its unimpeded flow through the facility. 5. Construct the buffer and green space adjacent to the proposed structure. 6. The final phase includes the construction of the new span across the river. Approvals with the City of Windsor regarding the road alignment and zoning requirements have not been initiated and will be done where required during the design phase of the project once federal approval has been obtained. Municipal Class EAs are undertaken under the Ontario *Environmental Assessment Act.* The provincial EA process has not been triggered by the project and the improvements within the City limits have not been initiated by the City of Windsor. Therefore, a municipal class EA is not required.	Clarification has been added to the final screening report on the scope of the Project, as well as a requirement to develop detailed environmental management plans prior to construction. Text has been added to indicate a potential future requirement for the project, or parts of the project such as the relocation of Huron Church Road, to undergo a provincial Class EA process, as required.
1-2	It was noted that technical environmental studies were conducted more than four years ago to support the development of the environmental assessment documentation and may not reflect current existing conditions and changes in the environment.	Many of the studies began four years ago but have been updated throughout the process as we have received comments from the various federal entities and as the project and existing conditions have changed. The studies within the EIS that were not part of a special study detailed in an appendix were all updated in May 2012. The air quality study was last updated in April 2012. The storm water management plan was last updated in May 2012. The contamination screening was last updated in January 2011. The noise study was last updated in April, 2011. While the archaeological study and heritage resource study are older (2007-2008), the results of these analyses are not expected to change over time given the nature of what is being studied. The traffic analysis was completed in March 2012. The reports have been in review with the federal agencies since 2012.	Acknowledged.
1-3	Concern was raised that the extension of the plaza and re-	In general terms, our study indicates that free flowing traffic Conditions have a minimal impact on air quality - when stop/go / queuing traffic occurs, air quality impacts are greater. With the introduction	Acknowledged.

No	Comment	CTC Response	Action
	routing of traffic will result in direct air quality and noise effects on the commercial property directly adjacent to the proposed staff parking lot and connecting access road (plaza). In particular, proposed noise barriers may result in decreased air flow and affect indoor air quality at adjacent commercial property and will not be effective in reducing noise.	of FAST lanes by the Ambassador Bridge Enhancement Project, less queuing and idling is expected. The air quality analysis included an assessment of impacts related to the relocation of Huron Church Road. Analysis shows the noise walls to be extremely effective in reducing noise as shown in Table VIII beginning on Page 27 of Appendix J. Construction of noise walls at this height, less than that of a typical one story residence, have not been shown to negatively affect air flow such that indoor air quality could be affected at adjacent properties. The noise study did not include the local traffic on the relocated Huron Church Road. However, the majority of traffic noise within the neighborhoods surrounding the project is due to traffic on the bridge and plaza and not from local roads. A 5.5m tall noise wall is proposed to muffle the noise from the plaza which is expected to more than compensate for any local traffic noise on the re-routed Huron Church Road. Further, due to the extensive number of driveways that will be provided along the re-routed Huron Church Road, the construction of a noise barrier in this location would not be possible or beneficial regardless.	
1-4	Concern was raised that air quality modeling was not conducted properly and baseline data was gathered during holiday periods when low traffic volumes can be expected.	Details of the air quality study can be found in Appendix D of the EIS and Section 6.1 of the DSR. The predicted results align well with air quality modelling conducted along Huron Church. Baseline traffic data was not collected during holiday periods. For ambient monitoring data, the background concentration of 42 ug/m^3 for PM_{10} is the 90^{th} percentile background concentration from the MOE Interim Guideline. The future traffic volumes on the Ambassador Bridge used for the air quality assessment were based on projected future travel demands developed independent of the Ambassador Bridge Enhancement Project under the Detroit River International Crossing Study.	Acknowledged.
1-5	Although no permanent structures in the water will minimize or eliminate impacts on fish and their habitat, spawning ponds at McKee Park should be considered in the assessment as an important component of the health of the Detroit River. The screening describes the closest located wetland as 7.5 km. However, one commenter asked to make the proponent aware of wetland located only 4.75 km away in the area of Huron Church and the E.C. Row Expressway.	Impacts to fish and fish habitat are discussed in the EIS in Sections 4.7, 5.6, 5.8, and 7.2 as well as Section 6.6 of the DSR. The spawning ponds within McKee Park were considered as part of the Detroit River, as they are connected. The proposed Project does not involve any activities within the Detroit River that would result in filling and loss of habitat or any activities that would disturb sediment or destroy benthic communities. The proposed Project will also not interfere with, or affect fish migration, or spawning and nursery areas. No impacts to wetlands are anticipated. All runoff from the bridge will be piped off and into a storm water facility or the City sewer system where it will be treated before reaching the Detroit River. Therefore, any wetland system 4.75 km away will not be impacted.	The final screening report has been amended to identify McKee Park as sensitive fish habitat located adjacent to the Project area.
1-6	Concern was raised regarding the petroleum coke piles along the Detroit River and potential cumulative effects on air quality.	In April 2013, the Michigan Department of Environmental Quality completed an evaluation and determined that the coke piles do not pose a significant public health risk for inhalation exposure. The report also states that ambient air monitors in Detroit haven't shown unusual elevations of fine particulate matter in the wind direction of the piles. Regarding toxicity, the report notes that petroleum coke dust isn't regulated as a carcinogenic. No cumulative impacts on air quality are expected from the coke piles. It has been noted that the petcoke piles have decreased in size and will no longer be stored in this area. Further, as discussed in the EIS, the project is not expected to cause significant air quality impacts.	Based on the information provided, the environmental effects of the Ambassador Bridge Enhancement Project are not likely to overlap spatially or temporally with the any environmental effects that may result from the coke piles.
1-7	Concern was raised regarding the	The Windsor Plaza was expanded in 2006 to include three additional customs booths and in 2007	Acknowledged.

No	Comment	CTC Response	Action
	completeness of archaeological work and regarding whether top soil on Indian Road properties was removed without proper assessment.	work was completed on an additional six customs booths, bringing the total to nine (9) new customs booths at the Windsor Plaza, all within the original plaza footprint and on the west side of Huron Church Road. The City of Windsor reviewed plans and issued building permits to facilitate this construction. During some of the earliest stages of construction, concern was raised that there may be archaeological resources impacted by the plaza expansion. Immediately work on the site was halted and a licensed archaeologist was called to the site to conduct a detailed investigation of the soil disturbing activities and the potential impacts to cultural resources. Individuals who had raised the concerns were consulted and permitted to observe the site with the licensed archaeologist. Concurrence was achieved that no archaeological resources had been affected. No soil on the properties along Indian Road has been removed to date. Subsequent efforts, as part of the Ambassador Bridge Enhancement Project (ABEP) included Stage I, II, and III investigations for the entire corridor prior to any soil disturbing activities (Appendix M of the EIS). The Stage I investigation included a background or pre-survey phase of an assessment. The Stage II investigation included actual field examination, and involved either surface survey or test pitting. The Stage III investigation included those field activities conducted when archaeological remains were encountered during a Stage II survey. The purpose of Stage III work is to gather information which will be used to delineate and evaluate the significance of the site in question, in order to determine appropriate mitigation measures. A Stage IV investigation was found to be necessary and will occur for one site that could not be avoided (AbHs-34). The Stage IV investigation refers to mitigating the development impacts to archaeological sites, through site excavation or avoidance. This occurs once the field assessment has been completed and the assessment report has been reviewed by the Ministry of Culture. Stage IV mitigation will be employed at the site prior to construction and through consultation with the Ministry of Culture, First Nations, and other heritage stakeholders. Stage IV mitigation will be developed during final design but will likely involve documenting and removing the archaeological site through excavation. Documentation could include measurements, maps, drawings, and photographs. During the construction of the Project, a licensed archaeologist selected in concurrence with the First Nations, will be onsite to observe activities and ensure that no previously unknown archaeological resources will be adversely affected. Should deeply buried archaeological deposits be found during construction activities, the Programs and Services Branch of the Cultural Programs Unit of the Ontario Ministry of Culture will be notified immediately. Details of the archaeology investigations can be found in Section 7.7 and Appendix M of the EIS and 6.11 of the DSR.	
1-8	Comments included a question as to whether a truck bypass connection to EC Row Expressway is linked to or a component of the proposed project. The commenter notes that the CTC has a plan to use the Essex Terminal Railway corridor to connect to Ojibway Parkway and have obtained property to realize this plan.	The Ambassador Bridge Enhancement project extends only though the south end of the Windsor plaza as shown at numerous locations in the EIS and DSR. The CTC has no plans to construct a connection to EC Row Expressway.	Acknowledged.
1-9	It was noted that the operation of the Essex Terminal Rail line is not identified as a factor in the Traffic	Given the close proximity of the proposed crossing to the current crossing, they will essentially function concurrently. Therefore, traffic stoppages will be the same or similar to what they are today. Traffic stoppages from train crossings will not change as a result of the project. Currently, all	Clarification has been added to the Cumulative Effects section of the final screening report to include the Essex

No	Comment	CTC Response	Action
	Analysis Report. Clarification is requested on the effect of rail traffic at the proposed new rail crossing on the level of service of this road (traffic stoppage), the operation of the plaza, the proposed new bridge itself and air quality.	northbound Huron Church Road (HCR) Traffic proceeds thru the middle of the existing plaza, over the railway and down HCR toward the freeway or expressway system. This route will not be significantly changed as a result of the project. The southbound HCR will simply be shifted to the west about 130 metres and continue to function as it currently functions. That is, an "at grade" crossing of the railway currently exists and will be retained, it will simply be shifted away from the center of the plaza as desired by the CBSA to prevent the unsecure comingling of local and international traffic. Currently, southbound traffic uses Patricia Rd/Union St passing to the east of the plaza. This route has an "at grade" crossing of the Windsor Essex Railway which will be retained and continue to function exactly as it does today. The relocation of the HCR to the west of the plaza simply allows for an alternative crossing of the southbound traffic. Given that the traffic flow, pattern and wait times are not materially changed and on average, three trains cross the corridor daily and require about 10 minutes to pass through the area, no adjustments to the air quality and noise modeling was deemed appropriate. The current intersection at HCR and College becomes a four way stop with all lights flashing red. While the train is crossing relocated Huron Church Road and the gates are down, this signal will remain green for east and westbound traffic on College. The CTC will work closely with the CBSA, the Essex Terminal Railway, the City of Windsor and TC during final design.	Terminal Railway operations in the analysis for air quality and noise.
1-10	Concerns raised that x-ray machines in operation in the plaza will result in gamma radiation escaping into the community and that nuclear radiation detectors are not in operation to facilitate the crossing of contaminated waste.	The use of the Vehicle and Cargo Inspection Service (VACIS) is a requirement of the CBSA. This technology is deemed safe and secure by the CBSA and is part of their initiative to stop dangerous goods from entering Canada and to better protect Canadians. The VACIS system is currently used in the Windsor Plaza and will continue to be used there once the ABEP is constructed.	Additional clarification regarding proposed CBSA operations has been added to the final screening report.
1-11	Related to engagement with the public, several comments were received, including: whether there will be another open house offered by the CTC; how public complaints and concerns will be are addressed by the CTC; and whether air quality monitoring results will be shared with the community.	As stated in the EIS (Sections 5.9, 5.19 and 7.5) and DSR (Section 8.0) a Community Consultation Plan will be developed during the design phase of this project. A CTC representative will be accessible at all times and appointed as the community contact to address any questions, concerns or complaints during construction. As part of the Noise Management Plan, CTC will retain an expert to address noise related complaints or concerns and conduct any necessary field work related to noise during construction, when necessary. In addition, the CTC will have results of the air quality analyses at this location for the public to review. The Community Consultation Plan will also include at least one public meeting prior to construction and a public website with project information and information on how to comment on the Project. Appendix D of the EIS contains the Proposed Air Monitoring Concept for the ABEP that includes information on the frequency and scheduling of air quality monitoring. Results of the air quality monitoring will be available with the CTC representative appointed to the construction of the project. In addition, the results will be provided to Transport Canada and will be available through the Canadian Environmental Assessment Registry (CEAR).	Clarification has been added to the final screening report regarding the commitment to further public consultation, and the establishment of a community advisory committee. Transport Canada may be contacted at any time through the Canadian Environmental Assessment Registry with concerns related to the EA decision and to request additional information.
1-12	Concerns raised about the Peregrine Falcons nesting on the existing Ambassador Bridge.	The CTC is equally concerned with the pair of nesting peregrine falcons on the bridge. A peregrine falcon management plan was developed in conjunction with the Ontario Ministry of the Environment. The OME has approved the management plan which includes provisions to have an experienced monitoring team for the peregrine falcon nest and other nesting birds to determine if construction or other elements of the project are affecting the nest and to determine when the birds flee the nest. Behavioral studies will be conducted to monitor activity and behavior in or directly adjacent to the construction site during the breeding season. The Peregrine Falcon management	Acknowledged.

No	Comment	CTC Response	Action
		plan can be found in Appendix P of the EIS.	
1-13	"Table 5.1: Potential Environmental Interactions with the Project": In my opinion almost every category would have an impact on the fragile structure of the old Assumption Church: = "Physical and cultural heritage"!! Installation of the piles WILL have an impact on the structural stability of the church. (See cracks above altar in wall.")	During construction, dynamic vibration monitoring will be conducted to ensure the damage threshold is not exceeded.	Additional details have been included in the final screening report to describe the CTC's commitment to complete a Dynamic Vibration Study during detailed design.

Section 2: Comments from the City of Windsor

No	Comment	CTC Response	TC/WPA Response
2-1	From the June 12, 2013 letter from D. Estrin on behalf of the City of Windsor, the Responsible and Prescribed Authorities will respond to the comments related to the significance of Economic, Social, Traffic and Environmental impacts within the City of Windsor, the examination of alternatives and alternative means, considerations and assessment of key public concerns, consideration of the City of Windsor as a jurisdiction for co-ordination of the environmental assessment.		At key stages in the process, TC and the WPA have met with and consulted with the City of Windsor on issues related to the environmental assessment. TC and the WPA appreciate the work undertaken by the City to contribute expertise and technical knowledge to the environmental assessment. With respect to EA coordination with other jurisdictions, TC and the WPA have consulted with the Ontario Ministry of Environment throughout the EA to identify opportunities for provincial EA coordination. To date no opportunities have been identified and the Ontario Ministry of Environment has indicated that an EA is not required for this project by the province of Ontario. The potential for a municipal class EA requirement has been identified by the City of Windsor and the Ontario Ministry of Environment for the purposes of road work associated with the expansion of the plaza area and the relocation of Huron Church

No	Comment	CTC Response	TC/WPA Response
			Road. This process has not been initiated to date however; text has been added to the screening report to indicate this potential requirement. TC and the WPA are open to discussions with the City Windsor, as requested, during any municipal class EA or other planning processes that may be required for the project, or parts of the project such as the relocation of Huron Church Road. Additional information with regards to coordination activities, consultation processes with the City of Windsor, and potential municipal approval requirements have been included in the revised screening report. The screening report has been revised to clarify consideration of direct socio-economic effects considered under paragraph 16(1)(e) of CEAA, including economic, social, and traffic impacts. It has also been revised to clarify that the alternatives and alternative means for the project have been described from the perspective of the proponent. TC and the WPA have considered all public input before making a decision under section 20 of CEAA.
2-2	From the Novus Environmental Peer Review, please respond to the comments related to the air quality assessment, including: exceedances of Ontario and CCME Canadian Ambient Air Quality Standards; background concentrations for PM2.5; air quality impacts along Huron Church Road; the use of the 90th percentile background concentrations for PM2.5, PM10 and NOx; modelling for particulate emissions as a result of "creeping" conditions and frequent stops,	Details of the air quality study can be found in Section 7.1 and Appendix D of the EIS and Section 6.1 of the DSR. Table 11 on page 42 of 56 of the air quality report contained in Appendix D of the EIS summarizes the maximum air quality concentration results for all of the studied pollutants. As shown in this table, there were PM10 exceedances in the background concentrations, during the construction and during the operation scenarios. All other pollutants are within compliance for all scenarios (construction and all operation scenarios). For the PM10 exceedances, there is no difference between the build and the do nothing scenario. That is, as shown in Table 11, the maximum air quality concentration for PM10 is 63 for the 2025 do nothing scenario and 63 for both 2025 future operating scenarios A and B. Further, these exceedances in the future 2025 operating scenarios primarily occur well outside the limits, along Huron Church Road south of the existing and proposed plaza as shown in Figures A13-11 and A13-12 found in Appendix 13 to the Air Quality Report found in Appendix D of the EIS. The future primary operating scenario also showed an exceedance of PM10 between Wyandotte Street and the plaza as shown in Figure A13-11, however, the extent and the intensity of the exceedance is reduced from that present today as shown in Figure A13-7.	PM_{10} exceedances, in particular effects along Huron Church Road south of the project, are anticipated as a result of the project. Clarification has been included in the revised screening report to provide context and describe the similarities between the anticipated air quality impacts for the "build" and for the "no build" project scenarios, in particular, for effects along Huron Church Road. TC and the WPA acknowledge the

No	Comment	CTC Response	TC/WPA Response
	particularly from heavy duty diesel vehicles in areas near the Windsor customs booths and along Huron Church Road; modelling predictions for the year 2035; and, the combined effects analysis for future scenarios.	Figure A13-9 in Appendix 13 of the Air Quality Report contained in Appendix D of the EIS suggests a potential increase in PM10 with exceedances during the construction years in the vicinity of the project. As such, rigorous and comprehensive mitigation measures will be implemented as described in Table 14 in Section 5.19 of the DSR. The effectiveness of this mitigation will be confirmed through a comprehensive compliance monitoring and adaptive management plan as discussed in the EIS. The exceedances south of the plaza on Huron Church Road continue almost to the E.C. Row Expressway. As shown in Figure A13-10, there are more areas of exceedances of PM10 predicted to occur in the future (2025) No-Build scenario than either of the future build scenarios, indicating air quality is expected to improve with the proposed project. Regarding the background concentrations for PM2.5, the correct value is 20 as shown in Table 11 on page 42 of 56 and in Table A2-8 of Appendix 2 of the report contained in Appendix J of the EIS. There is a typo in Table A2-16 incorrectly identifying this value as 24. This value was mistakenly retained in this one table when the study was updated from the original version completed in 2010 to the 2012 values. As shown in Table A2-8, the value of 20 is confirmed by physically monitoring between 2002 and 2009 showing a steady reduction of the background concentrations to about 15 in 2009. Nevertheless, a value of 20 was conservatively used in the assessment of impacts. This applies to all scenarios studied. The predicted concentrations of PM2.5 are expected to be the same for the future No-Build scenario and each of the future Build scenarios. The Canadian Council of Ministers of the Environment (CCME), Canada-wide standard (CWS) for PM2.5 is 30µg/m^3, a number greater than the 27 µg/m^3 predicted by the proposed project. The use of the 90th percentile is directed in Table 1 on page 18 of the August 2007 "*Revised Federal Environmental Assessment Guidelines under the Canadian Environmental Assessment Act for the Ambassador Bridge Enhancement Project".* The use of this 90th percentile is appropriate and customary for projects like the ABEP. This standard is identical to that used in the air quality report prepared and approved for the Detroit River International Crossing (DRIC) study. For ambient monitoring data, the background concentration of 42 ug/m3 for PM10 is the 90th percentile background concentration from the MOE Interim Guideline. The background concentration used in the air quality assessment is the same for the build and no build scenario. As directed in Table 1 on page 18 and 19 of the August 2007 "*Revised Federal Environmental Assessment Guidelines under the Canadian Environmental Assessment Act for the Ambassador Bridge Enhancement Project,* Mobile 6/6.2C with US EPA emission factors and CALQ3HCR was used to assess the potential air quality impacts. In order to conservatively estimate the air quality impacts, the vehicles were coded into the modeling at the slowest rate of speed (2.5mph or 4kph) allowable under the software that was used. In addition, none of the advantageous effects resulting from the introduction of FAST lanes on the bridge were included in the modeling assessment. Since the processing of FAST trucks takes roughly half the time for that of non-FAST vehicles, a significant overall reduction in idling, "creeping" and frequent stopping is anticipated once the facility is enhanced to provide full FAST capability instead of the limited FAST capability currently present only in the plaza. Developed in 1978, the air quality software analysis model used for this project is the same one that has been used for all projects constructed in Canada in the last several decades. This model has been the standard used throughout North American for over 40 years for transportation projects. It is also the same model used in the recently approved DRIC/NITC project. The analysis included emission factors representative for vehicle speeds of 4.0 kph. This is the slowest speed recognized by the Mobile6.2 model. The MOVES model was only recently approved	CTC's commitment to ensure that no exceedances above the "operation" or "no build" alternative occur during construction and have included this commitment in the air quality follow-up section. Additional mitigation, including changes to construction timing and staging, may be required to meet this commitment. The screening report reflects the CTC's commitment to real-time monitoring to be used on site to establish current conditions in an efficient manner and to allow the CTC to respond to any exceedances as soon as possible. The screening report also reflects the CTC's commitment to continue real time monitoring for three years of operation.

No	Comment	CTC Response	TC/WPA Response
		by USEPA and few projects have been completed using this model. The use of the MOVES model is beyond the scope of this project. The August 2007 "*Revised Federal Environmental Assessment Guidelines under the Canadian Environmental Assessment Act for the Ambassador Bridge Enhancement Project"* states on Page 18 in Table 1 that the emissions scenarios should include the project completion year and 10 years later. In general terms, the analysis shows that total vehicular particulate emissions are reduced over time. As older, less efficient vehicles that were manufactured under previous less restrictive air quality emission standards are retired, they are replaced with lower emitting vehicles manufactured under today's more restrictive emission standards. The projected growth rate in traffic volumes is slower than the effects of the trend toward lower emitting vehicles resulting in an overall improvement in air quality near the project. As such, the modeling of years beyond 2025 are not expected to result in greater emission levels. The combined effects analysis is discussed in Section 6.3.2 of the Air Quality Study found in Appendix D of the EIS. This analysis was conducted in accordance with the August 2007 "Revised Federal Environmental Assessment Guidelines under the Canadian Environmental Assessment Act for the Ambassador Bridge Enhancement Project and the project work plan. The air quality assessment considered maximum (worst case) impacts for specific scenarios through the use of conservative model inputs and selection of maximum model outputs to develop the maximum credible air pollution emission scenarios for comparison with air quality criteria. In addition, one future build scenario included traffic on both the proposed bridge and existing Ambassador Bridge in order to provide a worst case scenario as described in Appendix D of the EIS. Figure 1 of the Air Quality Assessment includes a flow diagram of the project which identifies the creation of the work plan and study area, identification of sensitive receptors, and identification of modeled scenarios. Per the EA Guidelines, the air quality assessment should consider "the additional impact of other local and regional emissions through addition of a suitably conservative background concentration (i.e. 90th percentile) or through use of another approach such as combined effects assessment." As previously stated, the use of this 90^{th} percentile is conservative and appropriate for projects like the ABEP, which was done for this analysis. Frequency histograms for NO_x, PM_{10} and PM2.5 are located in Appendix 15 of the Air Quality Assessment found in Appendix D of the EIS. Note that comments from the City's traffic expert suggest that the existing bridge has a capacity of up to 27 Million vehicles annually. The projected demand at the Ambassador bridge is less than 16 Million vehicles in 2025 based on the Travel Demand Forecasts prepared under the Detroit River International Crossing (DRIC) study. As such, very little difference in air quality impacts will occur between the build and the do-nothing scenario. A substantial mitigation plan has been developed for the construction of the system including a monitoring plan and best management practices to ensure that no exceedances above the operation or no build alternative occur during construction.	
2-3	From the Valcoustics Canada Peer Review, please respond to the comments related to the noise impact analysis, including: noise mitigation for pile driving activities; sound levels in excess of the MOE	Details of the noise study can be found in Appendix J of the EIS and Section 6.9 of the DSR. CTC has committed to retain an expert to address noise related complaints or concerns and to conduct any necessary field work related to noise during construction, when necessary. Once construction details and drawings are finalized a construction noise and vibration assessment shall be undertaken to determine the zone of influence, provide a scope for monitoring, and establish precautionary limits. The construction activity with the greatest potential noise emissions is pile	Additional details regarding the CTC's commitment to a dynamic vibration study for effects during operations have been included in the final screening. The screening has been revised to clarify that the

No	Comment	CTC Response	TC/WPA Response
	noise guidelines; potential amplification of vibration in nearby structures; the use of 2010 daily traffic volumes to predict noise to 2025; potential noise impacts as a result of future traffic queuing; noise resulting from grooved concrete; the use of the RLS-90 for acoustic modelling; sampling of existing conditions; engine brake use; discussions on the significance of the predictions; and, significance of exceedances at 33 of 34 sensitive receptors.	driving. Additional appropriate mitigation will be determined at that time which may include jacketing around pile drivers, vibratory pile driving or adjustment of hammer force, for example. The proposed activities would be conducted in the context of the community consultation plan as a post EA requirement. The ENVA (Environmental Noise and Vibration Assessment) utilizes guidelines for road widenings published by the Ontario Ministry of Transportation, Noise Environmental Standards and Practices User Guide which are applicable for the operational phase of this proposal. The MTO Guidelines were utilized on this study as they specifically relate to transportation projects. MOE Guidelines do not apply to new or the expansion of major road or rail transportation sources. They apply to the assessment of noise from industrial facilities under Section 9 of the Environmental Protection Act, or to the development of new noise sensitive uses such as residential developments near industry or transportation corridors. The project has been designed to include noise mitigation features such that the predicted future sound levels at the considered receptors do not increase under the Build scenario versus the No Build scenario. In fact, as shown in Table VIII beginning on page 27 of Appendix J; 26 of the 34 receptors studied actually show noise level reductions in 2025, some by as much as 13%, due to the mitigating effects of the noise walls proposed by the project. The remaining 8 receptors experience no change since they are outside the area where noise walls could be constructed. The overall noise levels in the vicinity of the project drop dramatically under the build alternative since new noise walls will be constructed as part of the enhancement project. A dynamic vibration study of the bridge support structure will be undertaken when sufficient detail is available to ensure that the piers and associated support structure will not radiate significant levels of ground-borne vibration into the surrounding environment. The ENVA utilizes guidelines for road widenings published by the Ontario Ministry of Transportation Noise Environmental Standards and Practices User Guide, which requires the use of road traffic data 10 years post construction (2025). Based on discussions with Paul Bouliane at the City of Windsor, traffic on surrounding roadways has remained fairly consistent over the last number of years, and that trend is expected to continue into the foreseeable future because the area is mature in terms of development. Based on these discussions, growth was not assumed for surrounding roadways. It has been HGC's experience, based on extensive monitoring along expressways in urban areas, that when traffic is heavily congested (queuing) sound levels decrease. We concur that different road surfaces cause different sound level emissions, however, the noise walls proposed for the project will mitigate the existing noise levels such that an overall improvement is anticipated as shown in Table VIII beginning on Page 27 of the noise study contained in Appendix J of the EIS. RLS90 was implemented to address the complex terrain and built form in the area. The difference between RLS90 and the North American Models like TNM is well understood. A comparison of predicted sound levels between TNM and RLS-90 was completed during the modeling and the results indicated a variation of no greater than +/- 2 dBA. The issue of truck source height was accounted for in the modeling. Trucks were modeled with a source height of 2.4m above the road surface equivalent to the source height in MTO's STAMSON. Measurements in the field were conducted to only assist with calibrating the acoustical model of the bridge to be representative of both the existing (no build) and future scenarios. More extensive	commitment to study the bridge support structure is for this to be undertaken when sufficient detail is available to ensure that the piers and associated support structure will not radiate significant levels of ground-borne vibration into the surrounding environment. The revised screening has been amended to include additional details regarding the CTC's commitment to a construction noise and vibration environmental management plan to determine the zone of influence, provide a scope for monitoring, and establish precautionary limits. Additional information regarding the CTC's approach to limiting the use of jake brakes to the extent possible has been included in the revised screening report. Clarification has also been included with regards to current and anticipated levels of local traffic on Indian Road (110 vehicles average daily will likely increase to approximately 772 PM peak hourly). These values are based on figures 2.1 and 2.3 of Appendix Q – Traffic Analysis. As a result of the proposed realignment of Huron Church Road and modifications to Indian Road, TC understands that traffic modeling indicates that traffic levels are anticipated to increase along the modified Indian Road. TC further understands that this increase is anticipated to be most pronounced during the peak afternoon commuting. While noise is expected to result from this increase in traffic, the screening report has been revised to reflect

No	Comment	CTC Response	TC/WPA Response
		monitoring would not provide additional information for that purpose. The City of Windsor has a bylaw prohibiting the use of engine brakes. CTC will continue to do its best to encourage people to not use jake brakes. The City of Windsor is responsible for enforcing the prohibition of jake braking and CTC does not have the authority to levy fines or other measures to prevent the use of engine braking. CTC is willing to work cooperatively with the City of Windsor in eliminating the use of jake brakes without compromising safety. In any case, the noise walls that will be installed as part of this project will serve to reduce overall noise levels as shown in the noise study in Appendix J. The noise study did not include the local traffic on the relocated Huron Church Road. However, the majority of traffic noise within the neighborhoods surrounding the project is due to traffic on the bridge and plaza and not from local roads. A 5.5m tall noise wall is proposed to muffle the noise from the plaza which is expected to more than compensate for any local traffic noise on the re-routed Huron Church Road. Further, due to the extensive number of driveways that will be provided along the re-routed Huron Church Road, the construction of a noise barrier in this location would not be possible or beneficial regardless.	the CTC's prediction that the implementation of noise barriers adjacent to the plaza is expected to reduce noise from the bridge facilities and is expected to maintain overall noise at an acceptable level.
2-4	From the Sam Schwartz Engineering Peer Review, please respond to the comments related to the traffic analysis, which formed the basis for the modelling of noise and air quality impacts, in particular: the potential for long back-ups of vehicles on the Ambassador Bridge and approach roads; consideration of total vehicle capacity in predicting effects; extent of traffic impacts on Huron Church Road and other city streets; the use of 2025 traffic volumes instead of 2035; and, the calculation of customs processing times and use of those calculations in modelling. Also pertaining to Sam Schwartz Engineering Peer Review, please clarify whether the DRIC traffic projections were used to establish the need and alternatives for the project.	Traffic volumes used in the Ambassador Bridge Enhancement Project are from the Travel Demand Forecasts prepared and approved under the Detroit River International Crossing (DRIC) study. The 2005 Travel Demand Forecast prepared and used for the DRIC project included a comprehensive prediction of future border crossing needs in the region. These projections were prepared based on the total needs of the region without constraints from the existing infrastructure. That is, these forecasts included an estimate of the unconstrained demand across the river and the "No-Build" alternative represents an upper bound of the potential traffic demand at the Ambassador Bridge in the coming years. While the actual traffic volumes since their baseline projection of 2005 have proven to overestimate the traffic by a wide margin, it is not unreasonable to assume conservative traffic projections for a major project such as the ABEP. As such, the impacts for the ABEP are conservatively based on the total travel demand forecasts for the region based on the proven conservatism of the 2005 DRIC Travel Demand Forecasts for the Ambassador Bridge which was based on the total needs of the region without reduction for the infrastructure planned and in place. The unconstrained traffic volumes, assuming no reduction for the construction of the DRIC facility, were used in assessing all impacts from the ABEP. Factors used to determine the growth rate in the traffic volumes in that study are described in chapter 5 of the Travel Demand Forecasts from September 2005 prepared for the DRIC study include population growth projections of Ontario and Michigan, the US-Canada exchange rate, the Windsor casino attendance, Canadian and US GDP, international trade values, automotive and metal demand, machinery and equipment demand, forestry, agriculture, and other commodities. These travel demand forecasts at the Ambassador Bridge are not constrained by infrastructure limitations. Therefore, they represent the upper bound of traffic volumes that will occur at the Ambassador Bridge. In 2025, the total demand to cross the Ambassador Bridge was projected to be 15,220,000 vehicles as shown in Exhibit 5-23 of that report. The actual traffic growth experienced at the Ambassador Bridge since these forecasts were developed, are roughly 65% of that predicted under the DRIC Study. That is, the actual volumes experienced are 35% lower in 2012 than that predicted by the DRIC Travel Demand Forecast in the same year. Nevertheless, these extremely conservative volumes are used to assess environmental and other impacts related to the Ambassador Bridge Enhancement Project in the required study years. Regardless of these shortcomings in the DRIC study, their traffic volumes were conservatively used for the assessment of impacts. Given the long term nature of the project, some	Additional information has been included in the final screening describing the use of traffic demand modeling to predict traffic levels at the crossing to the year 2025. Information related to the volume analysis provided by Sam Schwartz Engineering has also been included in the revised screening as it relates to the capacity of the corridor. The analysis undertaken by Sam Schwartz engineering indicated that the total capacity of the bridge crossing is likely over 27 million vehicles annually. Studies undertaken by TC to determine the unconstrained regional travel demand indicate that total traffic demand over the course of the planning horizon will likely be substantially less than the volume capacity examined in the review analysis. The CTC analysis has established 16.47 million vehicle crossings per year as the unconstrained traffic demand prediction for the Ambassador Bridge crossing for both the "no build" and "build" project scenarios. Clarification has been included in the revised

No	Comment	CTC Response	TC/WPA Response
		conservatism in the analysis is appropriate and not unwarranted. With the addition of the FAST lanes, E-Manifest and ACE programs, overall queuing is expected to decrease dramatically on the proposed bridge. However, the new bridge will accommodate additional queuing space for customs processing. The traffic Peer Reviewer suggested that the existing bridge has a capacity of 27 Million vehicles annually. With the demand to cross the structure at less than 16 Million vehicles as shown in the approved DRIC travel demand forecasts, the cause of any backups on the bridge or approach roadway cannot properly be attributed to the Ambassador Bridge. That is, the lanes across the river do not cause backups and there will be no difference between the build and do nothing alternatives since the bridge is not a "bottleneck" and does not reach its capacity in 2025 or even 2035 for that matter. The total vehicle capacity is not germane and was not considered in assessing impacts. The total unconstrained travel demand across the river was used to assess impacts of the Ambassador Bridge Enhancement Project. As noted above, the City's traffic Peer Reviewer calculated a capacity of the existing Ambassador Bridge of 27 Million vehicles while the DRIC study determined a total demand of less than 16 Million vehicles. Based on those calculations, additional general purpose lanes, let alone special purpose lanes, will result in no increase in traffic volumes since the total travel demand at the crossing is less than the 27 Million vehicles that the Peer Reviewer himself states is the capacity of the existing bridge. This is also why there is no increase in impacts associated with the build alternative over the do nothing alternative. 2025 traffic volumes were used in assessing impacts as required by Table 1 of the August 2007"*Revised Federal Environmental Assessment Guidelines under the Canadian Environmental Assessment Act for the Ambassador Bridge Enhancement Project".* Future years could be used but they would have no effect on the difference between the build and do nothing alternative. For traffic noise, a worst case scenario would assume the maximum amount of free flowing traffic at the highest speed (considered level of service C) as opposed to constant queuing on the bridge. Therefore, the assumption of constant queuing on the bridge and plaza were not used for the traffic noise study. Appropriate idling speeds and queuing were used in the air quality study as described in the response above related to air quality. The DRIC traffic projections and forecasts were not used for determining purpose and need for the Ambassador Bridge Enhancement Project (ABEP). The purpose and need for the ABEP is as described on pages 3 and 4 of the DSR and include ensuring the continued free flow of goods, the introduction of efficiencies related to FAST/NEXUS lanes, upgrading to current geometric standards and preserving the existing historic structure. Traffic projections, forecasts or demand volumes are not a consideration in the purpose and need for the project and have no effect on these four items.	screening to describe the "build" and "do nothing" traffic scenarios, as they relate to the prediction of environmental effects including air quality and noise impacts. Clarification with regards to the need and alternatives to the Project, from the proponent's perspective, has been included in the revised screening. The final screening further identifies and differentiates the DRIC project and the needs and purpose established for it.
2-5	In relation to Thom Hunt's letter dated June 10, 2013, and understanding that some discussion may need to take place between the CTC and the City of Windsor with regards to land use planning requirements, please provide clarification on how the	Consideration of the City's Zoning By-Law and Official Plan was conducted and information and analysis is included in Sections 4.10, 4.11, 4.12, 6.2.3, 5.10, 5.11, 5.13 and 7.6 of the EIS; Appendix K, L, and N; and other issue specific sections (e.g., noise, air quality, cultural and heritage resources, etc.) of the EIS and DSR. The analysis of socioeconomic effects was done in accordance with Table 1 of the August 2007 "*Revised Federal Environmental Assessment Guidelines under the Canadian Environmental Assessment Act for the Ambassador Bridge Enhancement Project".* During the design phase and construction phase, the CTC will engage the Olde Sandwich Towne	The revised screening includes additional information with regards to direct socio-economic considerations under paragraph 16(1)(e) of CEAA. The revised screening report also includes a description of potential municipal planning and class EA

No	Comment	CTC Response	TC/WPA Response
	CTC intends to approach potential impacts on community and neighbourhood characteristics, existing and planned land use, cultural resources and heritage areas and features.	Business Improvement Association as well as City planning staff and selected community leaders to establish an advisory committee to work together with the CTC in the development of the green buffer space, buffer features, landscaping, pedestrian and trail connections retaining community continuity, lighting and other elements of the buffer located on the west side of the ABEP. Transport Canada will retain a seat on the advisory committee to provide leadership, oversight and guidance. Additionally, the WIFN will be invited to be a member of the advisory committee. While this committee will have broad authority in the introduction of community enhancement elements, CTC will retain the final decision making authority to fund any recommended concepts. The CTC will consult with this committee to develop aesthetically pleasing architectural features on the west face of the proposed noise walls adjacent to the plaza. This could include a competition or other engagement of local artists to develop an artistic theme, mural or paintings on the face of the walls to complement and memorialize the community's past, present and future. The purpose of the advisory committee is to ensure that community input is included in the proposed features of the project. The advisory committee members will be selected as those individuals who have a pulse on the desires of the community and can opine on behalf of the citizenry. Input from the committee will be used as recommendations for the CTC. The CTC is committed to implementing any and all feasible recommendations of the advisory committee.	requirements identified by the City of Windsor that may be required for the project or parts of the project such as the relocation of Huron Church Road. The proponent's commitment to develop a community consultation/advisory committee has been included in the screening as a commitment for further work. If it is appropriate at the time, TC will consider participation during the post-EA regulatory processes.
2-6	From Mario Sonego's letter dated June 7, 2013, please respond to the comments related to: potential for spills of toxic materials and other accidents and malfunctions related to the transportation of dangerous goods, taking into consideration a recent proposal to transport hazardous materials across the Ambassador Bridge; proposed storm water management and potential impacts on access to and the capacity of the City of Windsor's storm water system, with particular consideration of the 2.7 m diameter storm sewer located within the plaza footprint; and, removal of suspended solids and contaminants from storm water run-off.	The transport of hazardous materials between the existing structure and proposed structure will not change as a result of the Ambassador Bridge Enhancement Project. That is, those materials currently being carried on the existing Ambassador Bridge will continue to cross on the proposed bridge. The ABEP is not expected to have any impact on the application of the laws governing hazardous materials transport, or the enforcement of current laws by the agencies that hold this responsibility. Currently hazardous materials, such as explosive gases and corrosive liquids, are not allowed to cross the Ambassador Bridge unless an escort is used. Rather, these are transported by a ferry operated by Canadian Maritime Transport Limited. The Hazardous Materials Routing Synopsis Report for Wayne County developed by the Michigan Department of Transportation (MDOT), dated December 2012, points out that explosive materials could result in an explosive-caused fire or a toxic release that could trap occupants and they may not survive. It should be noted that this is true on the existing Ambassador Bridge as well as the ferry currently used. The MDOT felt the use of escorts reduced this risk and indicated that "A request for escorts (accompanying vehicles) for shipments on NRHM routes has been analyzed. Based on the research, it has been determined that vehicular escorts provide an acceptable alternative to restricting certain hazardous materials through the use of protective measures. The requirement for escorts – as an additional means to reduce risk – was recommended as a viable approach based on key variables, including the length of the route, speed of traffic and control of the traffic." It is also important to note the fact that the Michigan DOT Hazardous Materials Routing Synopsis Report identified the existing Ambassador Bridge as having one of the lowest number of incidents at 1.40 crashes per 10^6 miles versus the Detroit Windsor Tunnel that had a crash rate over three times higher at 4.92 crashes per 10^6 miles. The Ambassador bridge command center continuously monitors the facility in real time through its cctv camera network and will immediately notify the proper authorities on the location and severity of all accidents. The command center will also immediately dispatch traffic management personal to assess the situation and control the scene until the emergency responders arrive. The precise traffic control measures and methodologies are based on the location and severity of the lane blockages and impediments. The command center also controls the ingress and egress of all of the traffic and can restrict access to the bridge while the accident is being resolved and can assist emergency	After consultation with TC's Transportation of Dangerous Goods Directorate, clarification has been included in the revised screening to reflect the potential for accidents and malfunctions associated with the transportation of dangerous goods and operational mitigation and protocols that would be in place to prevent and/or respond to any unforeseen accidents. The Transportation of Dangerous Goods Act continues to apply to the movement of dangerous goods through Windsor, including through the project area. The CTC is required to establish the preferred design option for storm water management prior to the construction of the bridge, bridge approaches or the expansion of the plaza footprint. The preferred design option will be submitted to TC for review by the federal review team, as required, to ensure the EA commitments are met. Storm water management implemented during the early stages

No	Comment	CTC Response	TC/WPA Response
		responders by creating an unrestricting path to and from the accident location. While the ABEP does not suggest any changes in policy related to the transport of hazardous materials, the proposed structure will have better, more accessible ways to deal with any materials in the unlikely event of a spill. All runoff will be collected and sent to a stormwater treatment facility and or designated spill containment areas for the project allowing for quicker and easier clean-up and less chance of contamination reaching other areas of the environment or the Detroit River. The addition of shoulders on the proposed bridge will allow emergency response vehicles to access an accident even if there are long queues on the bridge. CTC does not have the authority to track the contents of all trucks that cross the border, nor is it within their jurisdiction. A discussion of documented spills is discussed in Section 7.3.1.7 of the EIS. Of these, the spills either did not have an environmental impact, the environmental impact was not known or not documented or the spill was successfully cleaned up. Further discussion of the potential effects of accidents, hazardous material spills, erosion, sediment and stormwater discharge, fire and explosion, and disturbance of archaeological features is included in Sections 3.4 and 3.6 of the EIS. The Spills Prevention and Contingency Plan in Appendix C contains the best management practices to minimize the likelihood of a spill. Spills of hydrocarbons or other hazardous materials will be handled in accordance with applicable regulations and procedures and in full compliance with all legislative requirements. All pollutants and runoff will be collected in a system located on the bridge and carried to the treatment system. In the unlikely event of larger spills, such as major accidents during operation, the appropriate emergency response procedures will be utilized to minimize potential environmental effects including provisions for containment at outfall locations such as turbidity barrier for containment at the outfall location and inflatable bag plugs for closing off storm drain outlets. Standard procedure for any spill is specifically outlined in Appendix C. Emergency response and contingency planning are accepted and effective means to limit the severity of environmental effects. These plans and procedures will be implemented in accordance with the Spills Prevention and Contingency Plan and supported through training programs. Further, as mentioned within the EIS, in the event of a major spill or accident, the existing Ambassador Bridge would be available as a redundant resource if the proposed bridge needed to be shut down. This would provide multiple benefits including providing enhanced access to the incident scene for emergency vehicles when necessary. While we appreciate the desire to see the final stormwater management design detail, we have not yet completed final design of those facilities at this time. Section 3.4 of the EIS describes the two alternatives that will be considered during final design for stormwater. In addition specific details are described in Appendix E of the EIS pertaining to Draft Erosion and Sediment Control and Stormwater Management Plan. Appendix E discusses extensively the design measures during construction including the Ontario Provincial Standards for Roads and Public Works prepared by the Ontario Ministry of Transportation and Municipal Engineers Association. We feel that there are no significant challenges that would preclude the ultimate design and construction of stormwater management facilities fully compliant with the criteria identified and therefore it appears reasonable that the detail of such facilities not be developed at this time. A system designed to meet the applicable criteria is presumed to adequately address the potential for impacts and there would be numerous stormwater facility alternative designs that could achieve that. The details of the	of the project will be consistent with the requirements established for the project as a whole and reflect future design and capacity requirements. In the event that agreement cannot be reached with municipal officials for additional storm water quantities resulting from the construction of the project (the preferred approach), TC understands that alternative on-site approaches will be applied.

No	Comment	CTC Response	TC/WPA Response
		stormwater facility will be determined during final design in conjunction with Transport Canada, the federal review team and the City of Windsor. Utility coordination was recognized as potentially needed in Table 1 within Section 3.2 of the EIS. Utility coordination was slated to occur during the design phase of the project. Preliminary assessments of the availability of infrastructure was conducted and it was determined that there were practical solutions with access easements and authorities available to maintain continuity of service provision and the ability to efficiently and effectively maintain the City's infrastructure. We understand that City currently has access to the sanitary sewer system and the City's access to this system will remain throughout construction and operation of the ABEP.	

Section 3: Comments from Walpole Island First Nation

No	Comment	CTC Response	TC/WPA Response
3-1	Walpole Island First Nation (WIFN) has indicated that it is engaged with the CTC in the WIFN Consultation and Accommodation Protocol (WIFN CAP) and that the CTC will provide reasonable resources necessary for a thorough review of the project. WIFN is also of the understanding that the CTC is willing to address any current and future concerns that WIFN may have along with mitigation and accommodation of potential impacts as a result of the project going forward. This includes the full review of the EIS and meetings and discussions, and developments of a memorandum of understand/Impacts Benefits Agreement.	CTC is currently undergoing consultation with the Walpole Island First Nation. The consultation is expected to be a collaboration between the WIFN and CTC so that we may work together towards a mutually beneficial result. The CTC is anticipating input and recommendations from the WIFN that CTC will use moving forward. The consultation with WIFN will be completed as Post EA commitment. The CTC is willing to address any current and future concerns that WIFN may have along with mitigation and accommodation of potential impacts as a result of the project. We agree with the approach suggested by the commenter. Though not required, the CTC plans to have WIFN members or consultants on site during excavation of archaeological site AbHs-34 in order to provide input and/or assistance. In addition, the WIFN will be invited to be a member of the advisory committee discussed in the response to comment 4. Information regarding First Nations can be found in the EIS is Sections 5.16 and 7.10 in addition to Sections 6.11, 9.1 and 9.3 of the DSR.	Clarification has been included in the revised screening regarding the collaborative process between the WIFN and CTC.
3-2	From D. R. Poulton and Associates, on behalf of Walpole Island First Nation, comments on the Stage 1, 2, and 3 Archaeological Assessment Reports including changes to standard procedures for archaeological assessments in Ontario, the identification of potential first nation artefacts and sites including possible unregistered burial sites, further consultation with the Ministry of Sport Culture and	AbHs-30 will be avoided through the current engineering plans but particular concern will be paid to soil disturbing activities in this area during construction. Observation by WIFN approved monitors will occur. An external observer approved by WIFN, archaeologist Rosemarie Denunzio was present for portions of the earlier Stage 2 archaeological assessment in May – June 2007. Any future Stage 3 or 4 archaeological fieldwork which might be conducted at any of the archaeological sites to be potentially impacted by the Ambassador Bridge Enhancement Project would follow the Ministry's 2011 standards and Guidelines as well as existing or developing protocols regarding Aboriginal Engagement. Future archaeological fieldwork associated with the proposed project should include a re-	Clarification has been included in the revised screening report to identify Walpole Island First Nation's interest in archaeological issues related to the project. Contingency measures have also been included in the event that unanticipated impacts to Site AbHs-30 would not be avoided during construction as proposed by the proponent.

	Tourism and Walpole Island First Nation and further work anticipated as part Stage 4 mitigation including recommendations for AbHs-30 and AbHs-34.	examination of all available historical data concerning the 18th century Huron village and First Nation's consultation. Committed to provide WIFN with copies of reports and all relevant correspondence from the Ministry regarding the Ambassador Bridge Enhancement Project archaeological assessments.	
3-3	From Walpole Island First Nation consultants, comments on the environmental effects analysis including identification of wildlife species and sensitive vegetation including species at risk, the location of McKee Park, effective management of interactions with peregrine falcons, the timing of breeding bird surveys and migratory bird flight patterns.	The management plan for the peregrine falcons will be carried out regardless of any changes to the species status. If clearing or other activities that may have an impact on migratory birds are required between May 1st and July 31st, non intrusive searching methods will be conducted by an qualified avian biologist to determine if migratory bird breeding has started.	Consistent with Environment Canada's recommendations, the revised screening report has been updated to reflect mitigation to avoid disturbance of breeding birds within the project area.

Section 4: Comments from the Essex Terminal Rail Railway

No	Comment	CTC Response	TC/WPA Response
4-1	The proposed extension of Indian Road to intersect College Avenue, and the partial closure of Huron Church Road, will require a new, second, at-grade crossing with ETR's existing line. This would be subject to compliance with the Railway Safety Act and include the requirement for a railway safety assessment. All necessary studies, agreements, regulatory compliance details, and consultation with the ETR will be required as part of this process. Given the close proximity to the ETR and potential effects of the interaction with operation of the ETR railway, any development should be undertaken consistent with appropriate development standards such as CN's development restrictions.	Agree, the CTC, in collaboration with the CBSA, is prepared to conduct all necessary studies, coordination and consultation in compliance with the Railway Safety Act during the design phase of the project. While the plaza master plan was developed by the CBSA and its consultant and included some coordination with the Essex Terminal Railway, the CTC is prepared to meet with the railway and the appropriate authorities to finalize a design that meets the standards and requirements of the Essex Terminal Railway, TC and the CTA	Clarification has been included in the revised screening report to identify potential design requirements for rail crossings within the project area under the *Railway Safety Act* and the *Canadian Transportation Act*.

Section 5: Comments from Environment Canada

No	**Comment**	**CTC Response**	**TC/WPA Response**

5-1	Section 6.1 on page 17; the text in bullet 3 be amended as follows: Real-time air quality monitoring utilizing Thermo Scientific SHARP model 5030 real-time monitors during the construction phase and three years post-construction (i.e. operation) for PM10, $PM_{2.5}$ and NO_x (at minimum).	CTC does not object to the suggested text updates.	The revised screening report has been updated to include the recommended text.
5-2	Section 6.7 (page 22): Construction activities such as vegetation clearing and grubbing, the creation of staging areas and elevated noise and vibration levels are likely to result in the permanent removal of local urban wildlife habitat and the displacement of wildlife within the project footprint, and have the potential to disturb, destroy or take migratory bird nests or eggs. Potentially disruptive activities, such as vegetation removal, will be avoided between May 1 and July 31 to the extent possible to mitigate potential effects and minimize harm to all wildlife including migratory birds that may be nesting in the project area. If clearing or other activities that may have an impact on migratory birds are required between May 1 and July 31, non-intrusive searching methods will be conducted by a qualified avian biologist to determine if migratory bird breeding has started. ~~a nest survey will be conducted by a qualified avian biologist.~~	CTC does not object to the suggested text updates.	The revised screening report has been updated to include the recommended text.
5-3	Table 6.2 (page 35): If clearing or other activities that may have an impact on migratory birds are required between May 1 and July 31, non-intrusive searching methods will be conducted by a qualified avian biologist to determine if migratory bird breeding has started ~~a nest survey will be conducted by a qualified avian biologist.~~ within 2	CTC does not object to the suggested text updates.	The revised screening report has been updated to include the recommended text.

	days of the proposed activity. The nest survey will identify and locate active nests. ~~Should migratory bird nests~~ Should it be determined that the breeding season has started and that migratory bird breeding is in progress ~~be identified~~ in locations where project works or activities may result in their disturbance or destruction, a mitigation plan will be developed in consultation with Environment Canada.		

Appendix C: Example Environmental Assessment Monitoring Table

Mitigation and Monitoring Measures Implemented by the Proponent During Project Construction					
Project Phases/ Activities	**Environmental Components**	**Mitigation and/or Monitoring Measure**	**Measure Implemented**	**Photos or document No.**	**Description**
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		