Design and Construction Report

Initial Construction of The Windsor-Essex Parkway Bridge No. 13, Bridge No. 14 & Noise Barrier Adjacent to Southwood Lakes Community

(Contract # 2009-3017)

G.W.P. 3117-08-00

Town of Tecumseh
City of Windsor
County of Essex

September 2009

URS

Canada Ontario Detroit River International Crossing Study The Windsor-Essex Parkway

DESIGN AND CONSTRUCTION REPORT

INITIAL CONSTRUCTION OF THE WINDSOR-ESSEX PARKWAY: BRIDGE NO. 13, BRIDGE NO. 14 & NOISE BARRIER ADJACENT TO SOUTHWOOD LAKES COMMUNITY

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Canada Ontario

THE PUBLIC RECORD

Copies of this document have been sent to the following locations:

Ontario Ministry of Transportation **Windsor Border Initiatives Implementation Group** 949 McDougall Avenue, Suite 200 Windsor, Ontario (519) 973-7367	**Ontario Ministry of the Environment** **Windsor Area Office** 4510 Rhodes Drive, Unit 620 Windsor, Ontario (519) 948-1464	**Office of the Clerk** **City of Windsor** 350 City Hall Square West Windsor, Ontario (519) 255-6211
Office of the Clerk **Town of LaSalle** 5950 Malden Road LaSalle, Ontario (519) 969-7770	**Office of the Clerk** **Town of Tecumseh** 917 Lesperance Rd Tecumseh, Ontario (519) 735-2184	**Office of the Clerk** **County of Essex** 360 Fairview Avenue West Essex, Ontario (519) 776-6441
Windsor Public Library **Central Branch** 850 Ouellette Avenue Windsor, Ontario (519) 255-6770	**Windsor Public Library** **Sandwich Branch** 3312 Sandwich Street Windsor, Ontario (519) 255-6770	**Windsor Public Library** **Nikola Budimir Branch** 1310 Grand Marais West Road Windsor, Ontario (519) 255-6770
LaSalle Public Library 5940 Malden Road LaSalle, Ontario (519) 969-8992	**Tecumseh Public Library** 13675 St. Gregory's Road Tecumseh, Ontario (519) 735-3760	**URS Canada Inc.** 75 Commerce Valley Drive E. Markham, Ontario (905) 882-4401
Ontario Ministry of the Environment **Environmental Assessment & Approvals Branch** 2 St. Clair Avenue West, Floor 12A Toronto, Ontario 1-800-461-6290		**Ontario Ministry of the Environment** **West Region Office** 733 Exeter Road London, Ontario 1-800-265-7672

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Executive Summary

The Detroit River International Crossing (DRIC) study is a bi-national planning study being conducted in accordance with the requirements of the *Ontario Environmental Assessment Act* (OEAA) and the *Canadian Environmental Assessment Act* (CEAA) in Canada and coordinated with the *U.S. National Environmental Policy Act* (NEPA) in the United States. The purpose of the Detroit River International Crossing study is to improve the movement of people and goods across the Canada-US border, which will support the economies of Ontario, Michigan, Canada and the United States. The Ontario Ministry of Transportation (MTO), in coordination with Transport Canada, has led the Environmental Assessment study in Canada and retained URS Canada Inc. to assist in the undertaking. The Windsor-Essex Parkway was identified as the recommended solution to the new access road that will connect Highway 401 to a new inspection plaza and crossing of the Detroit River.

The *Detroit River International Crossing Environmental Assessment Report Environmental Assessment report* (December 2008) was submitted to the Ontario Ministry of the Environment for approval of The Windsor-Essex Parkway. Approval under the Ontario Environmental Assessment Act was granted by the Minister of the Environment in August 2009.

As a component of The Windsor-Essex Parkway, the Ministry of Transportation has proceeded with the design of two bridges (No.13 and No.14) as well as noise mitigation along the easterly end of the study area from Howard Avenue to North Talbot Road. This project is an Initial Construction contract that forms part of the DRIC project.

The Ministry of Transportation has proceeded with detail design of the following initial components of The Windsor Essex Parkway:

- construction of two new bridges that will become part of The Windsor-Essex Parkway
- removal of the existing noise barriers and installation of a new noise barrier between Howard Avenue and North Talbot Road along the north side of Highway 3 and the west side of Highway 401
- restoration of properties affected by noise barrier construction.

This will be the first contract associated with construction of The Windsor Essex Parkway. Plans of the proposed improvements are outlined in Figure 3.1, 3.2, 3.3 and Appendix A of this report.

The detail design for the remaining components of The Windsor-Essex Parkway will be addressed in future design stages.

This Design and Construction Report has been completed to document the environmental investigations, environmental impacts, proposed mitigation measures and how commitments outlined in *Detroit River International Crossing Environmental Assessment Report* (December 2008) and the associated Conditions of Approval have been addressed. This report provides contract specific design and construction information for compliance and monitoring purposes. This Design and Construction Report has been prepared in accordance with the principles and requirements of the *Class Environmental Assessment for Provincial Transportation Facilities (2000)*.

A section 17 (2) (c) permit under the Ontario *Endangered Species Act*, 2007 is also being sought for this initial contract.

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1.0 PROJECT BACKGROUND

The Detroit River International Crossing (DRIC) study is a bi-national planning study being conducted in accordance with the requirements of the *Ontario Environmental Assessment Act* (OEAA) and the *Canadian Environmental Assessment Act* (CEAA) in Canada and coordinated with the *U.S. National Environmental Policy Act* (NEPA) in the United States. The purpose of the Detroit River International Crossing study is to improve the movement of people and goods across the Canada-US border, which will support the economies of Ontario, Michigan, Canada and the United States.

The Ontario Ministry of Transportation (MTO), in coordination with Transport Canada, lead the *Environmental Assessment* study and its implementation in Canada and has retained URS Canada Inc. to assist in the undertaking. The Windsor-Essex Parkway was identified as the recommended solution to the new access road that will connect Highway 401 to a new inspection plaza and crossing of the Detroit River. As a component of The Windsor-Essex Parkway, the Ministry of Transportation is proceeding with the design of two bridges (No.13 and No.14) as well as noise mitigation along the easterly end of the study area from Howard Avenue to North Talbot Road. The detail design for the remaining components of the DRIC study will be addressed in future design stages.

Proceeding with construction of the two bridges and noise mitigation, is conditional on receipt of the required Ontario and Canadian *Environmental Assessment Act* approvals and any approvals required under the Ontario *Endangered Species Act, 2007*. The EA study report was submitted to the Ontario Minister of the Environment for approval in December 2008 and approval was granted in August 2009. This project is an Initial Construction contract that forms part of the DRIC project.

Refer to Figure 1.1 for a map of the Initial Construction project limits, which includes two new bridges No. 13 and No. 14) over the future Highway 401 and approximately 2.0km of noise barrier along the north property line of Highway 401, between North Talbot Road and Howard Avenue.

Figure 1.1: Initial Construction Contract Project Limits

2.0 PURPOSE OF THE DESIGN AND CONSTRUCTION REPORT

This Design and Construction Report has been completed to document the environmental investigations, environmental impacts, proposed mitigation measures and how commitments outlined in *Detroit River International Crossing Environmental Assessment Report* (December 2008) and the associated Conditions of Approval (outlined in the MOE Notice of Approval to Proceed with the Undertaking, (August 2009)) have been addressed. This report provides contract specific design and construction information for compliance and monitoring purposes.

This Design and Construction Report has been prepared in accordance with the principles and requirements of the *Class Environmental Assessment for Provincial Transportation Facilities (2000).*

In general the Design and Construction Report includes the following information:

- Purpose and history of the project;
- Overview of existing and future natural, socio-economic, cultural and engineering conditions in the project area;
- Description of the recommended plan and associated potential environmental effects and mitigation / compensation measures; and
- Commitments to future work and monitoring aspects of the project, including expected environmental effects and proposed mitigation / compensation measures.

This Design and Construction Report is being made available to the public, other interested parties and external agencies for review. This Design and Construction Report is available for review at the following locations:

- Ontario Ministry of Transportation Windsor Border Initiatives Implementation Group
- Ontario Ministry of the Environment Windsor Area Office
- Office of the Clerk City of Windsor
- Office of the Clerk Town of LaSalle
- Office of the Clerk Town of Tecumseh
- Office of the Clerk County of Essex
- Windsor Public Library Central Branch
- Windsor Public Library Sandwich Branch
- Windsor Public Library Nikola Budimir Branch
- LaSalle Public Library
- Tecumseh Public Library
- URS Canada Inc.

- Ontario Ministry of the Environment Environmental Assessment & Approvals Branch
- Ontario Ministry of the Environment West Region Office

A "Notice of Design and Construction Report Review Opportunity" was placed in the local newspapers and letters were mailed to notify government agencies, municipalities, and members of the public on the Project Team's mailing list of the Design and Construction Report Review Opportunity.

Detailed background information, including supporting documentation can be accessed electronically from the project Website www.weparkway.ca or www.partnershipborderstudy.com. The Project Manager and/or Environmental Planner are available to discuss this information and can be contacted as follows:

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3.0 OVERVIEW OF THE PROJECT

3.1 PROJECT LIMITS

The project area for the Initial Construction contract is situated in the Town of Tecumseh, County of Essex and City of Windsor. The project limits are shown on Figure 1.1. The project includes two new bridges over the future Highway 401 and approximately 2.0km of noise barrier along the north property line of Highway 401, between North Talbot Road and Howard Avenue.

3.2 GENERAL DESCRIPTION OF THE INITIAL CONSTRUCTION CONTRACT WORKS

The Ministry of Transportation has proceeded with detail design of the following elements of The Windsor Essex Parkway:

- construction of two new bridges that will become part of The Windsor-Essex Parkway
- removal of the existing noise barriers and installation of a new noise barrier between Howard Avenue and North Talbot Road along the north side of Highway 3 and the west side of Highway 401
- restoration of properties affected by noise barrier construction.

The 2 structures which are to be built within the existing Ministry of Transportation (MTO) Right-of-Way (ROW) will be components of the new Highway 401 / Highway 3 Interchange. The project does not require the purchase of any properties for construction purposes. Along the north side of Highway 3 and Highway 401, adjacent to the MTO ROW, a 5.0m high noise barrier will be built between Howard Avenue and North Talbot Road, for a length of approximately two (2) kilometers.

As part of the detail design work, an application for an *Endangered Species Act (ESA), 2007,* 17 (2) (c) Permit Application was submitted due to species at risk located in the area of one of the structures. In addition, further air quality and human health modeling has been undertaken.

The detail design for the remaining components of The Windsor-Essex Parkway will be addressed in future design stages. It should be noted that the new bridges will not be open to traffic until construction of the entire Windsor-Essex Parkway is underway and / or complete.

Plans of the proposed improvements addressed under this Initial Construction contract (structural general-arrangement drawings) are outlined in Figure 3.1, 3.2, 3.3 and Appendix A.

3.2.1 Detail Design Process

Detail design activities associated with this Initial Construction contract include the following components:

- Preparation of the contract tender package for the construction of the both bridges and the noise barrier.
- Environmental investigations and avoidance / mitigation measure development to address potential environmental effects of associated with the construction works; and
- Utility relocations.

3.2.2 Bridge # 13

Elements of design and construction associated with Bridge 13 include the following (refer to Figure 3.1):

- The bridge will be a cast-in-place, post-tensioned, concrete structure with footings on piles driven into bedrock.
- This structure will carry the future Highway 3 over the below-grade Highway 401.
- Excavation for construction of the substructure will be required.
- All excavation required for construction will be backfilled and an earth berm will be placed from existing ground to the top of the structure deck.
- A chain link fence will be placed around the work zone during and after construction.

3.2.3 Bridge # 14

Elements of design and construction associated with Bridge 14 include the following (refer to Figure 3.2):

- The bridge will be a cast-in-place, post-tensioned, concrete structure with footings on piles driven into bedrock.
- This structure will carry the future Highway 401 Westbound off ramp to the future Highway 3/Howard Avenue Diversion roundabout.
- Excavation for construction of the substructure will be required.
- All excavation required for construction will be backfilled and an earth berm will be placed from existing ground to the top of the structure deck.
- A chain link fence will be placed around the work zone during and after construction.

3.2.4 Noise Barrier Installation

Installation of a new noise barrier will include the following:

- Construction of a new 5 m (16.4 ft) high noise barrier adjacent to Highway 401 between North Talbot Road and Howard Avenue along the north side of Highway 3 and the west side of Highway 401 will benefit residents by reducing noise levels (refer to Figure 3.3):
- Removal of the existing fencing/noise barrier and restoration of properties affected by construction.
- The new noise barrier, once constructed, will also assist in reducing noise from most heavy equipment during construction of The Windsor-Essex Parkway.

Figure 3.1: Bridge 13

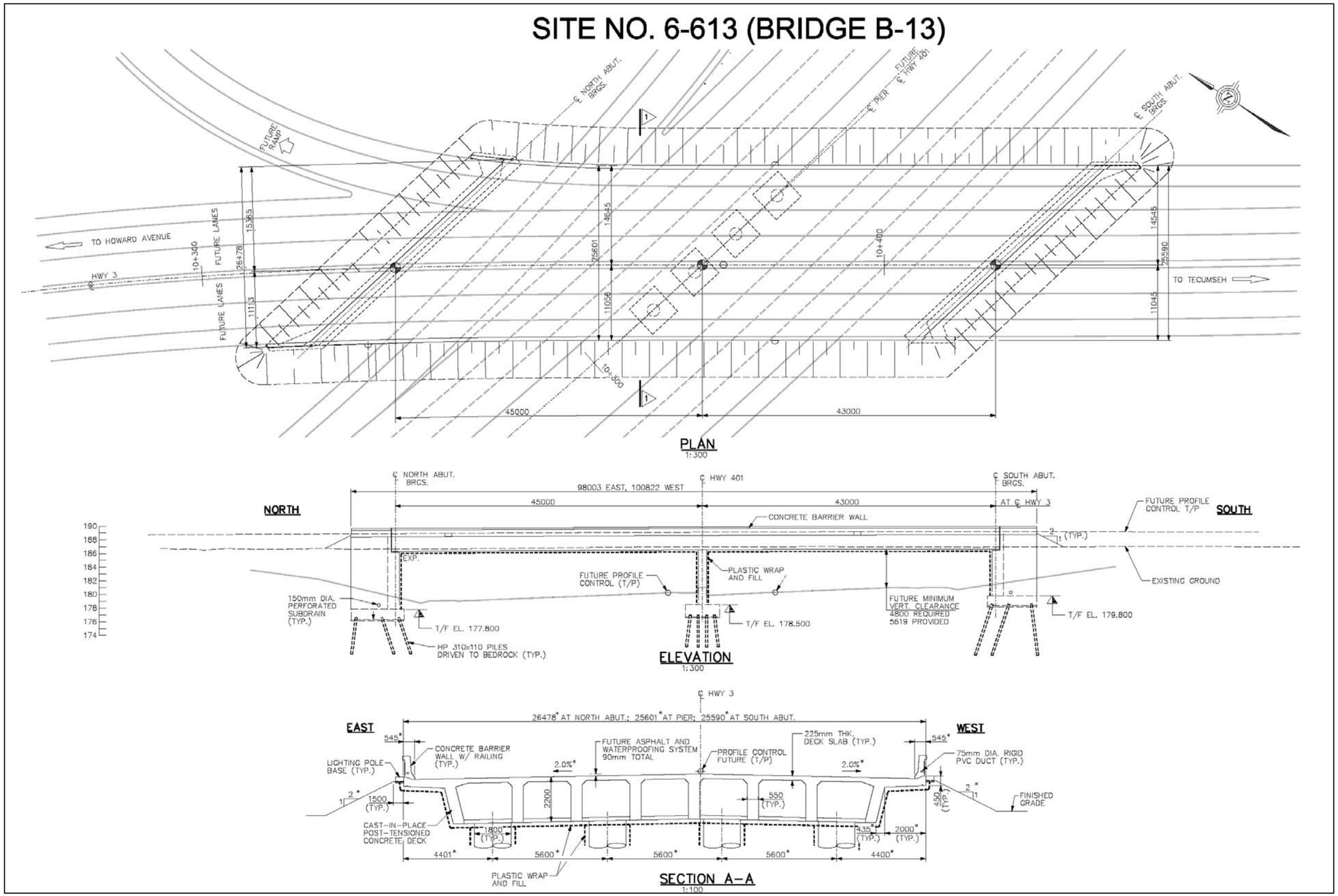


Figure 3.2: Bridge 14

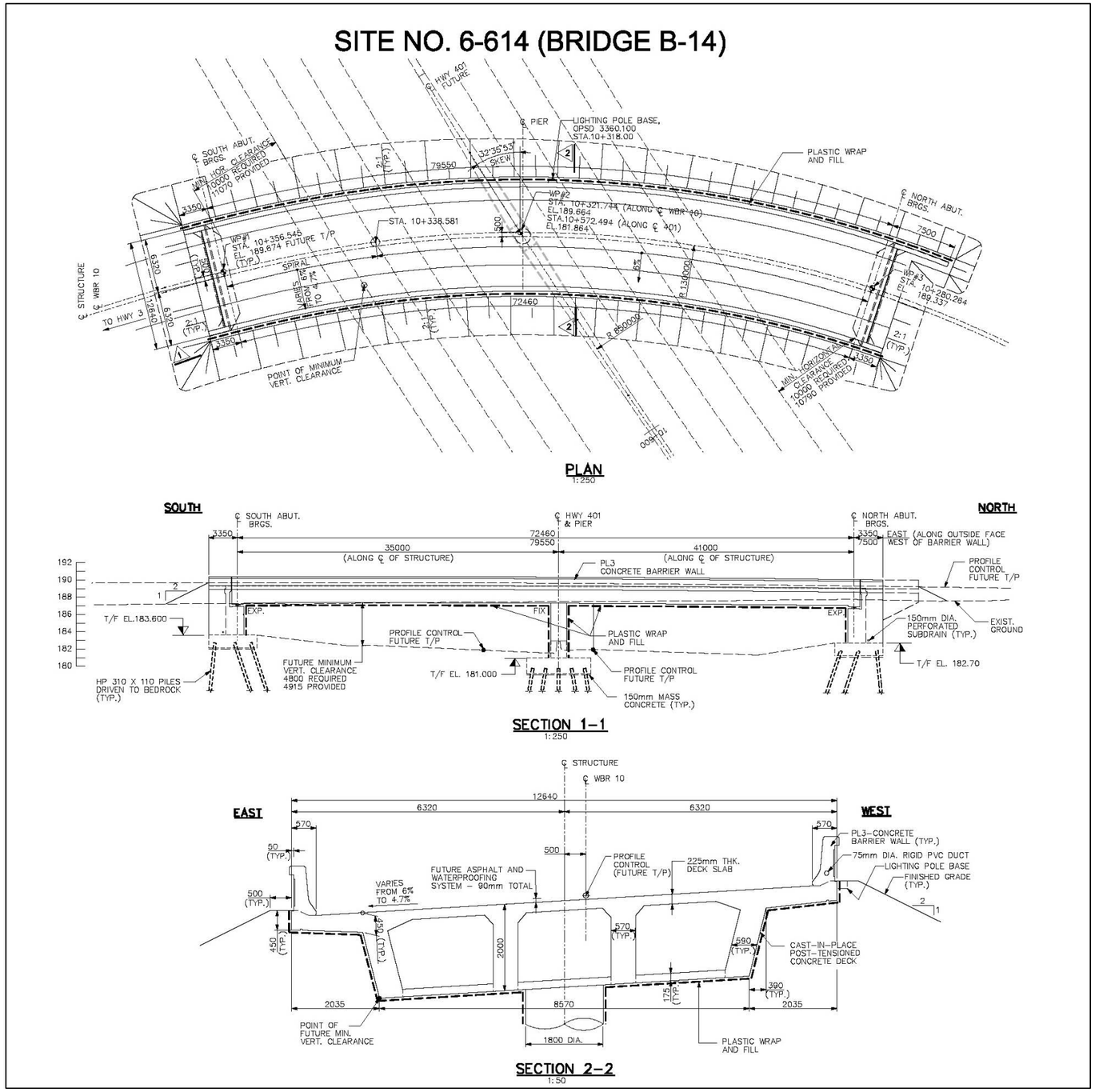


Figure 3.3: Noise Barrier Location (Red Line)

4.0 OVERVIEW OF PROJECT NEED & JUSTIFICATION

4.1 PROBLEM STATEMENT / EXISTING AND FUTURE TRANSPORTATION PROBLEMS

As outlined in Chapter 5.0 of the *Detroit River International Crossing Environmental Assessment Report Environmental Assessment report* (December 2008) the purpose of the Detroit River International Crossing study is to improve the movement of people and goods across the Canada-US border which will support the economies of Ontario, Michigan, Canada and the United States.

The Windsor-Essex Parkway was identified as the recommended solution to the new access road that will connect Highway 401 to a new inspection plaza and crossing of the Detroit River. Approval under the *Ontario Environmental Assessment Act* was granted by the Minister of the Environment in August 2009. As a component of the approved design for The Windsor-Essex Parkway, the Ministry of Transportation is proceeding with the design of two bridges (No.13 and No.14) as well as noise mitigation along the easterly end of the study area from Howard Avenue to North Talbot Road.

5.0 OVERVIEW OF ENVIRONMENTAL EXISTING CONDITIONS

Chapters 4, 7, and 10 of the *Detroit River International Crossing Environmental Assessment Report* (December 2008), identify all features within the project area limits that were considered in determining the potential impacts associated with the proposed Initial Construction improvements.

The following provides a brief overview of the natural, socio-economic, and cultural environment conditions within the project limits for the Initial Construction project.

5.1 NATURAL ENVIRONMENT

5.1.1 Vegetation

Field investigations for vegetation were conducted from 2006 to 2009 as part of the overall *Detroit River International Crossing Environmental Assessment* study. The field investigations identified one vegetation community that will be affected by construction of Bridge Site #13. The affected vegetation community consists of a cultural meadow (CUM1-1). The cultural meadow community supports several rare prairie species including one Species at Risk. For additional details on Natural Heritage, refer to the *Detroit River International Crossing Environmental Assessment Report* (December 2008).

5.1.2 Fisheries

Field investigations for fisheries were conducted from 2006 to 2009 as part of the overall *Detroit River International Crossing Environmental Assessment* Project.

One watercourse, the Wolfe Drain, is located within the project limits of the Initial Construction project. The Wolfe Drain directly supports a warmwater baitfish community at the Highway 401/Talbot Road interchange. For additional details on Natural Heritage, refer to the *Detroit River International Crossing Environmental Assessment Report* (December 2008).

5.1.3 Wildlife and Wildlife Habitat

Field investigations for wildlife and wildlife habitat were conducted from 2006 to 2009 as part of the overall *Detroit River International Crossing Environmental Assessment* Project.

No significant wildlife habitat or designated natural areas are located within the project limits of the Initial Construction. For additional details on Natural Heritage, refer to the *Detroit River International Crossing Environmental Assessment Report* (December 2008).

5.2 SOCIO-ECONOMIC ENVIRONMENT

5.2.1 Air Quality

The existing air quality is greatly influenced by local, regional, and long range (cross-border) contaminants generated in upwind urban and industrial areas. The predominant wind directions in Windsor are from the west to southwest, which brings contaminants from the heavily industrialized areas of Detroit, nearby communities and beyond. For further details on Air Quality, refer to the *Detroit River International Crossing Environmental Assessment Report* (December 2008) and Air Quality Technical Supporting Documents.

5.2.2 Noise

As part of the Initial Construction contract a noise modeling analysis was undertaken to optimize the design of the new noise barrier. The MOE STAMSON traffic noise model was used for this assessment.

By comparing predicted noise levels after the implementation of The Windsor-Essex Parkway to the predicted future "no-build" noise levels experienced at receptors, it was determined where noise barriers and berms will be effective in reducing sound levels.

The assessment determined that with a 5 m high noise barrier adjacent to the Highway 401 R.O.W. between North Talbot Road and Howard Avenue, receptors will result in noticeable reductions in noise levels associated with operating traffic on The Windsor-Essex Parkway in comparison with future "no-build".

5.2.3 Landscaping

Based on the stakeholder feedback and the aesthetic recommendations in the Urban Design and Landscape Planning Report, a natural theme, such as a tall-grass prairie, is being explored as a possible design motif to be applied to The Windsor-Essex Parkway. The aesthetic design may go beyond the application of a literal image of a natural object, but rather be drawn from forms, textures and colours found in these natural areas.

The aesthetic design plan may be applied to the following elements of the overall Windsor-Essex Parkway:

- Noise Barriers (including sound barriers, safety barriers and fencing).
- Retaining walls.
- Tunnel abutments, parapets and columns
- Bridges and overpass structures.
- Pedestrian and service road lighting.
- Multi-use Trail crossing structures.
- Landscaping.

For the Initial Construction contract, seed and cover will be used to cover exposed soils. Landscaping treatments for the entire Windsor-Essex Parkway will be addressed in future

design phases of the project and will include lands within the project limits for the Initial Construction Contract.

Noise Barrier Materials

A range of materials and types of noise barriers were considered for this portion of The Windsor-Essex Parkway. The materials considered for the noise barrier included the following:

- Composite Concrete
- Metal
- Wood
- Transparent Panels
- Plastics
- Planted or Bin Type

Motif Panels

Motif accent panels can be placed on the highway side of the barrier at equal spacing along long, linear stretches to break up the continuous panels. The motif panels may also occur at junctions and bends in the noise barrier as an accent feature.

The motif panels can be used to interject colour, texture, or a thematic element to the continuous noise barrier. In future design phases, artists and designers may be engaged in this process in order to develop a unique and innovative design that reflects the surrounding communities and the City of Windsor. The motif accent panels can be mounted on the surface of the standard noise barrier, at any stage of the corridor development, allowing for flexibility and ensuring that the design remains consistent throughout.

5.3 CULTURAL ENVIRONMENT

5.3.1 Archaeological Resources

A Stage 1 and 2 archaeological assessment was undertaken for this area.

- No archaeological or heritage resources have been identified in the area of Initial Construction.
- For the construction phase, any unexpected archaeological finds will be reported to the appropriate agencies.

5.3.2 Built Heritage Resources and Cultural Landscapes

A Built Heritage assessment was conducted and has concluded that no heritage resources have been identified in the area of Initial Construction.

6.0 CONSULTATION PROCESS

Consultation with affected parties and those interested in the study was an essential component of the design process to facilitate the identification and resolution of issues associated with the development of the Initial Construction project. Previous consultation activities were also undertaken for the planning and preliminary design of the Detroit River International Crossing Study and are documented in the *Detroit River International Crossing Environmental Assessment Report* (December 2008).

The following sections outline the consultation activities undertaken during the Detail Design phase for the Initial Construction of The Windsor-Essex Parkway.

6.1 INITIAL CONSTRUCTION - CONSULTATION PLAN

Consistent with the commitments outlined in the *Detroit River International Crossing Environmental Assessment Report* (December 2008) a Consultation Plan was prepared for the Initial Constriction project and made available at the Public Information Open House held on July 23rd, 2009 and was posted on the project website www.weparkway.ca and www.partnershipborderstudy.com. The purpose of the Consultation Plan was to outline the stakeholder consultation program/activities that would be carried out when conducting design work for the Initial Construction project.

In particular, the Consultation Plan outlined the consultation approach for the Initial Construction including:

- Notifying agencies, municipalities, the public, First Nations, property owners and other stakeholders of the design and construction works;
- Identifying the consultation methods that will be used to consult interested and affected stakeholders; and
- Identify how stakeholder input will be received and taken into account.

The consultation commitments outlined in the *Detroit River International Crossing Environmental Assessment Report* (December 2008) that are relevant to this Initial Construction include:

- Noise barrier mitigation design;
- Landscape plan elements for The Windsor-Essex Parkway (easterly component only for this Initial Construction project)
- Construction staging and associated mitigation elements;
- Commitment to further work with pubic and external agency stakeholders in addressing environmental impacts; and,
- First Nations consultation.

Additional Consultation Plan(s) will be prepared for the design works associated with the implementation of The Windsor-Essex Parkway. Future consultation plans will be made

available to public for the opportunity to provide input at the outset of the future design phases.

6.2 PUBLIC, EXTERNAL & FIRST NATIONS PROJECT NOTIFICATIONS

6.2.1 Newspaper Advertisements

External Agency, First Nation and Public notification was an essential element in the consultation process. Notification letters advertising study commencement and PIOH was provided to those on the Study Team mailing contact list. Project notification included the following:

A "Notice of Detail Design Commencement and Public Information Open House" (newspaper advertisement) announced the commencement of the detail design of two bridges (No.13 and No.14) and noise mitigation along the easterly end of the study area (from Howard Avenue to North Talbot Road), as well as the details of the scheduled Public Information Open House. The advertisement was placed in the following newspapers on the specified dates noted below:

Newspaper	Date of Insert
Windsor Star	Monday June 29, 2009
Harrow News	Tuesday June 30, 2009
Kingsville Reporter	Tuesday June 30, 2009
Essex Voice	Tuesday June 30, 2009
Leamington Post & Shopper	Wednesday July 1, 2009
Essex Free Press	Wednesday July 1, 2009
Le Rempart (French)	Wednesday July 1, 2009
Amherstburg Echo	Thursday July 2, 2009
LaSalle Post	Friday July 3, 2009
LaSalle Silhouette	Friday July 3, 2009
Windsor Star (2nd advertisement)	Saturday July 4, 2009

A "Notice of Design and Construction Report Review Opportunity" (newspaper advertisement) has been prepared to announce the completion of this detail design assignment. The notice has been placed in all newspapers listed above and hard copies of the report have been distributed to review locations as indicated at the beginning of the report.

Refer to Appendix B to view a copy of the Consultation Plan or visit the Project website at www.weparkway.ca or www.partnershipborderstudy.com.

6.2.2 Registered Letters

Registered letters were mailed to potentially affected property owners on July 6th, 2009 to advise them of study start-up and the upcoming PIOH for the Initial Construction project. Specifically, 104 registered letters were sent to property owners for properties located adjacent to the area where the Ministry of Transportation is proposing to build a noise barrier (i.e. noise wall). The notice encouraged property owners to attend the upcoming Public Information Open House (PIOH) to discuss potential issues and design considerations for the proposed noise barrier construction.

6.2.3 Project Website

For ease of access, materials notifying the public and other interested parties about the Initial Construction and upcoming PIOH were posted on the Project Website at www.weparkway.ca or www.partnershipborderstudy.com.

6.3 EXTERNAL AND FIRST NATIONS CONSULTATION

Consultation (meetings and/or discussions) was undertaken as necessary with Provincial Ministries / Agencies, Federal Agencies, Municipalities and First Nation Groups, relative to their mandate of area of interest.

Given the scope, location and nature of the Initial Construction project, external agency consultation primarily involved meetings / discussions with MNR in terms of permitting requirements and approvals under the *Ontario Endangered Species Act,* 2007.

The Project Team has engaged Walpole Island First Nation to address any issues or concerns that may arise as the project progresses.

Discussions concerning the Initial Construction contract will continue with the Town of Tecumseh, County of Essex and City of Windsor.

6.4 PUBLIC PARTICIPATION

6.4.1 PIOH

The community continues to have an important role to play in the design of Initial Construction project. A Public Information Open House (PIOH) was held for the Initial Construction contract for the implementation of The Windsor-Essex Parkway.

The PIOH was held on Thursday, July 23rd, 2009 from 2:00 P.M. to 8:00 P.M. at the Macedonian Community Centre located at 5225 Howard Avenue, LaSalle, Ontario.

The format for the PIOH was an informal drop-in session with displays. The Study Team was available to answer questions, explain the extensive technical work that had been completed, and to receive feedback from the public.

The goal of the PIOH was to share the latest project information with the public and receive comments on the work completed to date. Attendees were also invited to provide their ideas and comments in writing to the Study Team via comment sheets.

Representatives from the Ontario Ministry of Transportation's property section were available during the PIOH meeting to respond to specific questions regarding property acquisition. Property representatives were situated in a separate and private room.

The list below summarizes the key comments received from the PIOH:

- Removal of the bridge will increase my noise exposure;
- Raise the height of the barrier in the area of the ramp;
- Consider anti- graffiti paint on both sides of the barrier wall;

- We welcome the new noise wall;
- Close off Montgomery Drive connecting to Highway 3 as traffic cuts through;
- Would like to keep up the existing fence during construction and will remove it after;
- Would like the trees along the fence line to remain;
- Concerned that the barrier wall is too high;
- Concerned the project may lower properly value;
- Get started on construction;
- Open house like today's one is good in terms of location and time;
- Get this project going as fast as possible.

To view a copy of the display material shown at the Public Information Open House, refer to Appendix C.

6.4.2 Upcoming Workshop

Prior to the completion of the detail design for this Initial Construction contract a workshop will be held to follow-up on the Public Information Open House regarding design and aesthetic treatments of the residential side of the proposed noise wall located adjacent to the Southwood Lakes community. Adjacent property owners will also be notified of the opportunity to participate in the workshop.

6.5 First Nations

Consultation with First Nations has been an integral part of the Environmental Assessment for the Detroit International Crossing Study, since the start of the study in 2005.

Early in the study, Walpole Island First Nations (WIFN) demonstrated a desire to participate actively in the study. WIFN continues to have a strong interest in participating in the implementation of The Windsor-Essex Parkway.

MTO is working with WIFN to identify areas of future involvement for First Nations in this initial construction and future stages of The Windsor-Essex Parkway.

6.6 Review of DCR Documentation

This Design and Construction Report has been prepared and made available for public and external agency review. The DCR documents how the commitments and mitigation outlined in the *Detroit River International Crossing Study Environmental Assessment Report* and associated Ministry of Environment *Conditions of Approval (C of A)* have been addressed. Notices advising of the availability of the Design and Construction Report for review have been published in local newspapers.

7.0 ENVIRONMENTAL ISSUES & COMMITMENTS

This section identifies the impacts to the natural and built environment associated with the construction of the Initial Construction contract and the proposed measures to mitigate potential effects during construction. This section also determines how commitment outlined in *Detroit River International Crossing Environmental Assessment Report* (December 2008) and the associated Conditions of Approval (August 2009) have been addressed.

7.1 NATURAL ENVIRONMENT

7.1.1 Fisheries, Vegetation and Wildlife

No impacts to fisheries, vegetation, or wildlife are anticipated at Bridge Site No. 14 or in the vicinity of the noise barrier construction. However, site preparation activities at Bridge Site No. 13 will result in the loss of one cultural meadow vegetation community (CUM1-1) that supports several prairie species including a population of one Species at Risk (Willowleaf Aster).

Fisheries

One watercourse, Wolfe Drain, is located within the area of influence of the Initial Construction project. The Wolfe Drain directly supports a warmwater baitfish community at the Highway 401/Talbot Road interchange. No impacts are anticipated on fisheries within the project area.

The Contractor shall periodically monitor the Wolfe Drain to ensure that erosion and sedimentation control measures are continuously effective as outlined in OPSS 577.

No in-water works will be required to facilitate the construction of the two new bridges or the noise barrier.

Vegetation

The construction of the noise barrier will require minimal removal of trees / vegetation along the existing property lines and existing wooden fences/noise barriers. All trees not designated for removal shall be protected.

An Endangered Species Act (ESA 2007) Permit Under Section 17(2)(c) by the Ministry of Natural Resources (MNR) is being sought by MTO to address impacts to one Species at Risk (Willowleaf Aster) that will be affected by the Initial Construction works. The ESA 17(2)(c) permit requires an overall benefit to be demonstrated for the species. The permit is to be approved by the MNR prior to construction at Bridge Site No. 13.

The ESA 17 (2) (c) Permit identifies mitigation and monitoring measures for Willowleaf Aster identified at Bridge # 13. Mitigation and monitoring efforts for WIllowleaf Aster will comply with the ESA 17 (2) (c) Permit.

Wildlife& Wildlife Habitat - Migratory Birds

The contractor shall adhere to the following:

- Prior to construction the contractor shall inspect the construction area for nests and eggs and advise the Contract Administrator of any locations of nests and eggs immediately;
- The contractor shall, prior to the removal of the nests, notify the Contract Administrator who shall contact the Environmental Office and the environmental consultant responsible for birds;
- The contractor shall monitor the area daily for the recurrence of nesting activity upon removal of nests and notify the Contract Administrator immediately if a nest reappears; and,
- The contractor shall not destroy nests and eggs of protected migratory birds during migratory bird nesting seasons.

The contractor shall remove nests only during specific situations as identified below:

- The contractor shall not destroy nests during the migratory bird nesting season (April 1 to July 15); and,
- The contractor shall remove nests only outside the migratory bird nesting season (July 16 to March 31).

In certain circumstances a Canadian Wildlife Services (CWS) permit may be obtained for the removal of nest and eggs of migratory birds. The contractor shall notify the CA, the consultant and the environmental office if a CWS permit is required.

A breeding bird time restriction (Migratory Birds Act) will be in place (from April 1st to July 15th) for the removal of trees in the project area.

Mitigation

Several natural environmental mitigation measures will be implemented to ensure that any potential impacts are avoided or minimized. Project specific mitigation measures are as follows:

- Erosion and sedimentation control will be used to prevent the migration of sediments beyond the work zone.
- Construction fencing will be used to prevent access to areas located beyond the work zone.
- Species at Risk will be transplanted to a protected area prior to site preparation activities. Species at Risk to remain on site will be protected using construction fencing.
- Site preparation activities, including vegetation removals, will be conducted outside of the breeding season for wildlife, including migratory birds, to meet the requirements of the Migratory Birds Convention Act.
- Areas will be restored following construction.

- An application for a permit under the Ontario Endangered Species Act has been submitted to the Ministry of Natural Resources. The permit must be approved prior to construction of Bridge 13.

Monitoring

The following monitoring requirements will be employed as part of the Initial Construction contract:

- Conduct compliance monitoring during construction.
- Conduct effectiveness monitoring post-construction to determine the success of habitat restoration and enhancement, species relocation and stability of species at risk populations.

7.1.2 Groundwater

Dewatering for bridge construction will be required for construction activities associated with building both bridges. The extent of dewatering is expected to exceed 50,000 L/day and will require a permit from the Ministry of the Environment.

As prescribed by the Ministry of the Environment, a Permit To Take Water (PTTW) is being obtained to identify:

- Quantity of groundwater required during the construction period, and the
- Location of water release points.

7.1.3 Surface Water / Sediment & Erosion Control

Potential impacts on surface water include contamination due to accidental spills from construction equipment and transport of sedimentation due to exposed soils associated with excavation activities during construction.

The proposed disturbance associated with the Initial Construction project will have minimal impact on the contributing catchments. The project area will be subjected to erosion and sediment controls. A temporary erosion and sedimentation control pond will be constructed to provide quality and quantity control associated with dewatering activities with the two structures.

Protocols for erosion and sediment control will be followed based on the MTO document "Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects", with regular inspections during construction for the construction activities addressed under this contract. This focus of this plan is to prevent sediments (due to excavation activities) from entering the Wolfe Drain.

The following standard contract specifications and operational constraints will be also be adhered to during construction:

- No refueling will be undertaken in the vicinity of Wolfe Drain;
- Oils, lubricants and other chemicals will be stored in suitable containers and handled in accordance with MOE policies and other provincial regulations; and

- All spills will be cleaned up immediately and contaminated materials disposed as per current MOE guidelines and policies. MOE will be informed of reportable spills.

7.2 SOCIO-ECONOMIC ENVIRONMENT

7.2.1 Air Quality

Dust impacts during construction may occur. Contract provisions (operational constraints) will minimize impacts to residential areas during construction (i.e. dust control, restriction on heavy equipment idling, etc).

The construction of the two bridges and grading around the noise barrier has the potential to generate dust in the vicinity of the site. As with any construction site, these emissions will be of relatively short duration and are unlikely to have any long-lasting effects on the surrounding area.

Mitigation

The following requirements and best management practices will be included in the contract to limit dust:

- Periodic watering of unpaved (unvegetated) areas.
- Periodic watering of stockpiles.
- Limiting speed of vehicular travel.
- Using water sprays during the loading and unloading of materials.
- Sweeping and/or water flushing of the entrances to construction zones.
- Using calcium chloride to suppress dust.

The construction contract will dictate standard dust limiting best practices including:

- Avoiding site preparation, excavation and construction during windy and prolonged dry periods.
- Minimizing vehicle traffic on exposed soils.
- Stabilizing soil and other material storage piles against wind erosion.
- Covering and containing fine particulate materials during transportation to and from the site.
- Using new or well-maintained heavy equipment and machinery, fitted with fully functional emission control systems/ muffler/exhaust system baffles and engine covers.

These types of controls aid in minimizing impacts to the environment during the construction phase.

Monitoring

General, air quality monitoring (dust suppression) will be conducted during construction activities.

7.2.2 Human Health

Human health risks have not been identified for the Initial Construction component of The Windsor-Essex Parkway.

7.2.3 Noise

As part of the Initial Construction contract a noise modeling analysis was undertaken, refer to Table 7.1. The assessment determined that with a 5 m high noise barrier adjacent to the Highway 401 R.O.W. between North Talbot Road and Howard Avenue, receptors will result in noticeable reductions in noise levels associated with operating traffic on The Windsor-Essex Parkway in comparison with future "no-build".

TABLE 7.1: 2035 STAMSON MODELLING RESULTS

2035 STAMSON Modelling Results*				
Map ID	**2035 change in noise levels (without mitigation) (dBA)**		**2035 change in noise levels (with 5 m mitigation) (dBA)**	
	Day	**Night**	**Day**	**Night**
11-N	- 6.8	- 6.3	- 13.4	- 8.6
12-N	- 5.5	- 4.9	- 11.1	- 7.2
13-N	3.3	0.8	- 6.8	- 2.4
14-N	3.6	1.3	- 6.7	- 2.4
15-N	3.8	1.4	- 6.4	- 1.9

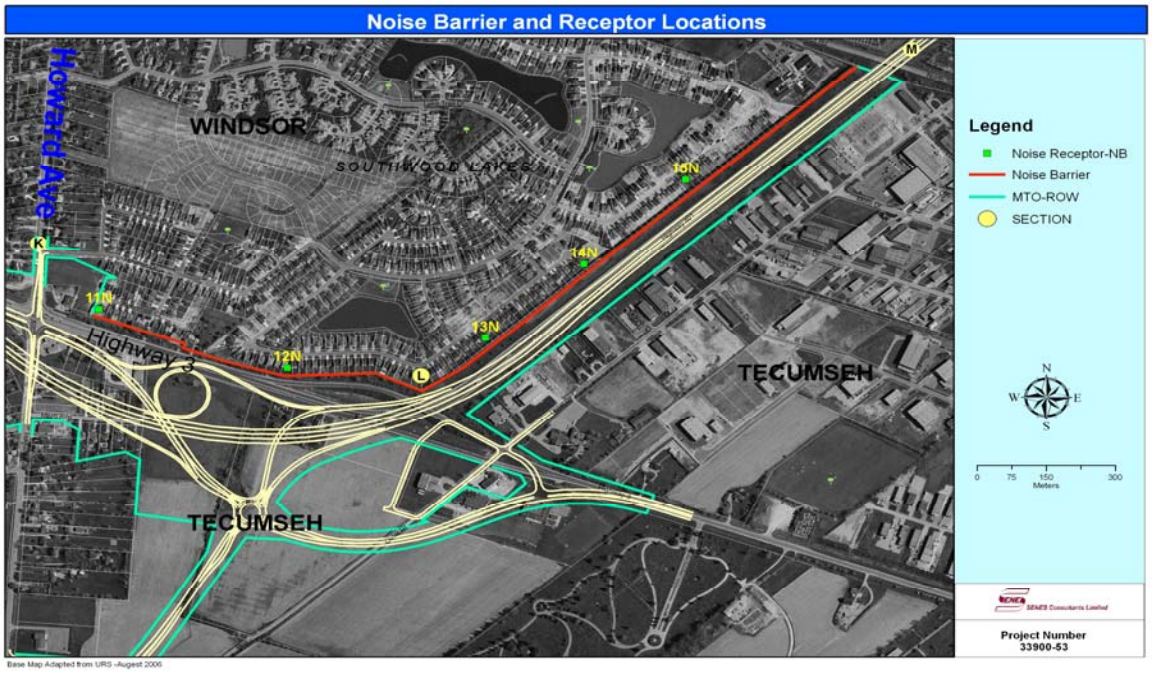
7.2.4 Construction Noise

The noise barrier may also be effective in reducing noise from most heavy equipment during the construction of The Windsor-Essex Parkway.

A new section of noise barrier adjacent to Southwood Lakes will be constructed as part of this contract. The noise barrier will be a 5.0 metre high sound absorptive type of noise barrier and will extend approximately 2 kilometres between Howard Avenue and North Talbot Road, refer to Figure 7.2. Plans of the proposed new section of noise wall are provided in Appendix A.

Noise from construction activities, such as bulldozers and dump trucks, has the potential to be noticeable, particularly if construction occurs outside of normal weekday construction periods when ambient sound levels are lowest. Noticeable noise effects from heavy equipment are typically limited to areas where residences are in close proximity to the proposed works (i.e. Southwood Lake Subdivision). The new section of noise barrier will be constructed and will be completed as part of this contract. The new noise barrier will provide added noise attenuation as construction of The Windsor-Essex Parkway proceeds.

TABLE 7.2: NOISE BARRIER AND RECEPTOR LOCATIONS



Mitigation

Various mitigation measures will be employed as required during construction to minimize noise impacts during construction, including:

- Limiting the noisiest construction activities to daytime hours to the greatest extent possible.
- During construction the Contractor will be required to keep idling of construction equipment to a minimum and to maintain good working order to reduce noise from construction activities;
- Maintenance of mufflers and other noise reduction devices on heavy equipment; and,
- If complaints regarding construction noise arise, they will be investigated according to the provisions of the existing "Noise Protocol" between MTO and MOE. The protocol requires that any initial complaint from the public requires verification by MTO that the general noise control measures agreed to are in effect. If not, MTO will warn the contractor of any problems, and enforce its contract. Refer to Table 7.2 *Ministry of Environment Conditions of Approval (August 2009)*, Section 5.0.
- Provisions will be placed in the contract (i.e. no unnecessary idling, monitoring construction noise complaints, etc.) to minimize the noise effects associated with construction activities to the extent possible.

7.2.5 Aesthetics – Landscaping

For the Initial Construction contract, seed and mulch will be used to cover exposed soils on MTO's property and sod will be used on residential property. Landscaping treatments for the entire Windsor-Essex Parkway will be address in future design phases of the project and will include lands within the project limits for the Initial Construction Contract.

7.2.6 Electrical

The two structures being built under this contract contain embedded electrical conduits for future lighting, etc. Temporary illumination may be required while the structures are being built.

7.2.7 Construction Staging

A construction staging sequencing for the Initial Construction contract has been developed.

All construction activities at the bridge sites are expected to be completed by December 2010. Access for equipment required to remove the existing noise barrier/wooden fencing and construct the new noise barrier will be from Highway 401/Highway 3. Completion of the new noise barrier including associated fencing and landscaping is expected to take approximately four months.

A temporary access road will be constructed from Outer Drive to the construction site.

7.2.8 Grading & Earthworks

The following outlines the grading and earthworks for the Initial Construction contract:

- Installation of temporary fencing, removal of the existing noise barrier and/or wooden fence located on private property, construction of the new 5.0m high noise barrier on MTO lands and restoration of existing private property will require grading.
- Minimal grading and excavation will be required for the new structures.

7.2.9 Illumination

Permanent illumination is not required at this stage for the Initial Construction contract; however the contractor may use portable illumination during construction.

7.2.10 Property Contamination

The proposed Initial Construction improvements will not impact lands known to contain contaminated soils. Provisions in the contract will address measures for handling contaminated soils if discovered during construction.

7.2.11 Management of Materials

Materials will be managed in accordance with OPSS 180 and the Ontario Ministry of the Environment's Guideline "Management of Excess Material in Road Construction Projects".

7.2.12 Property

No property is required for the construction. As discussed with MTO, "Permissions to Enter" will be finalized with property owners along the new noise barrier sections to accommodate several different phases of construction activities related to the project. These include, but are not limited to, a detailed topographic survey, placement of temporary fencing, removal of old fencing, and limited earthworks, grading and restoration.

7.2.13 Utilities

Relocation of Enwin Utilities and Bell Canada aerial plant will be required along the north side of Highway 3, east of Howard Avenue to accommodate construction of the noise barrier. Relocation of two gas service lines will also be required to accommodate construction of the noise barrier.

7.2.14 Traffic Disruption During Construction

Construction activities may result in some minor interruption along local roads and Highway 3. It is not anticipated that lane restrictions and/or the temporary closing of any roads will be required as part of this construction contract. Should a lane restriction occur, these effects are expected to be of short duration and are required to facilitate construction activities.

7.3 CULTURAL ENVIRONMENT

7.3.1 Archaeological Resources

A Stage 1 and 2 archaeological assessment was undertaken for the project area which will be impacted by construction of the two bridges and noise wall. No archaeological resources were found.

The following measures will be adhered to during construction:

- If it is suspected that an archaeological find, such as building remains, hardware, accumulations of bones or other human remains, pottery, arrowheads or other stone artefacts, has been encountered during construction, the MTO Environmental Planner or MTO Regional Archaeologist will be contacted. The MTO Regional Archaeologist, or if not available, a licensed consultant Archaeologist contacted by the Ministry will visit the site to assess and verify the find and determine a course of action. The Archaeologist on-site will also be responsible for contacting other appropriate authorities, including the Police, Ministry of Culture and the Ministry of Government Services, if they determine that human and/or archaeological remains have been encountered.

- Additional lands beyond the proposed right-of-way required for the construction of temporary facilities (staging areas, storage areas, access roads etc.), will be subject to archaeological assessment during detail design. However, it is not anticipated that this will be required for this work.

7.3.2 Built Heritage Features and Cultural Landscapes

No built heritage concerns were not identified therefore there will be no impact to cultural landscapes within the project limits.

7.4 CONTRACT ADMINISTRATION

Contract Administration for this assignment will ensure effective translation of measures to protect environmental sensitivities. The following sections outline the environmental Ontario Provincial Standard Specifications, MTO Standard Special Provisions and MTO Non-Standard Special Provisions that will be incorporated into the contract documents for this project.

7.4.1 Ontario Provincial Standard Specifications (OPSS)

The following Environmental OPSSs apply to this contract:

- OPSS 180 – General Specification for the Management & Disposal of Excess Material;
- OPSS 201 – Construction Specification for Clearing, Close Cut Clearing, Grubbing and Removal of Surface Boulders;
- OPSS 510 – Construction Specification for Removal;
- OPSS 511 – Construction Specification for Rip Rap, Rock Protection, Geotextiles and Gravel Sheeting;
- OPSS 517 – Construction Specification for Dewatering;
- OPSS 577 – Construction Specification for Temporary Erosion and Sediment Control;
- OPSS 506 – Construction Specification for Dust Suppression;
- OPSS 518 – Construction Specification for Control of Water;
- OPSS 572 – Construction Specification for Seed and Cover; and
- OPSS 565 - Construction Specification for Tree Protection.

7.4.2 MTO Standard Special Provisions

The following Environmental MTO Standard Special Provisions will be included in this contract:

- 100F08 – Restriction on the Use of Construction Equipment and Unlicensed Vehicles;
- 101F21 – Occupational Health and Safety Act Compliance;

- 199F12M – Environmentally Sensitive Areas;
- 199F34 – Identification of Local MOE Office;
- 105S114 – Environmental Requirements for Water and Product Dust Suppressants;
- 577F02 - Straw Bale Flow Checks, Rock Flow Checks, Silt Fence Barriers;
- 199F31 - Environmental Exemptions & Permits (Noise By-law exemption);
- 199F33 – Construction Noise Constraints; and
- 599 F01 – Installation of Noise Barrier.

7.4.3 MTO Non-Standard Special Provisions

The following Environmental NSSPs and Operational Constraints will be included in this contract:

- Erosion and Sedimentation Control;
- Watercourse / Fisheries Protection – General;
- Migratory Bird Protection – General;
- Permit to Take Water; and
- Protection of Environmental Sensitive Areas/Features.

7.5 PROJECT MONITORING

7.5.1 Project Specific Technical Monitoring

During construction, MTO or its agent ensures that the implementation of the mitigating measures and key design features are consistent with the contract. In addition, MTO or its agent will assess the effectiveness of its environmental mitigating measures to ensure the following:

- Individual mitigating measures are providing the expected control and/or protection;
- Composite control and/or protection provided by mitigating measure is adequate;
- Additional mitigating measures are provided as required for any unanticipated environmental conditions which may develop during construction;
- Information is available for the overview assessment of mitigating measures; and
- Environmental monitoring, after a project is completed, may involve follow-up monitoring of significant measures and /or significant concerns.

7.5.2 Project Specific Class EA Monitoring

During construction, MTO ensures that external notification is consistent with any commitments that may have been made earlier. Following construction,

monitoring will ensure that any follow-up information is provided to external agencies as per any outstanding environmental commitments.

7.5.3 Implementation of Environmental Monitoring Framework

Inspection by Construction Staff

Construction is subject daily to general on-site inspection to ensure the execution of the environmental component of the work and to deal with environmental problems that develop during construction. This is the primary method for compliance monitoring.

Site Visits by Environmental Staff

Construction projects with significant mitigating measures / concerns are subject to regular site visits by consultant environmental staff. The timing and frequency of such site visits are determined by the schedule of construction operations, the sensitivity of environmental concerns and the development of any unforeseen environmental problems during construction. MTO staff will be available should difficulties arise.

7.6 ENVIRONMENTAL ASSESSMENT COMMITMENTS

Table 7.3 outlines how the commitments identified in the *Ministry of Environment Conditions of Approval* (August 2009) have been be addressed during the detail design phase of this project or will be addressed during construction.

Table 7.4 outlines how the commitments to mitigation and future work identified in the *Detroit River International Crossing Environmental Assessment Report* (December 2008) have been addressed during the detail design phase of this project or will be addressed during construction.

TABLE 7.3: MINISTRY OF ENVIRONMENT CONDITIONS OF APPROVAL

EA Conditions of Approval		How Commitments to Future Study Have Been Addressed During Detail Design of the Initial Construction Project
1.0	General Requirements	
1.1	The proponent shall comply with the provisions in the Environmental Assessment which are hereby incorporated in this approval by reference except as provided in these conditions and as provided in any other approval or permit that may be issued for the undertaking.	The Initial Construction project will comply with all provisions as outlined in the DRIC Environmental Assessment Report (December 2008) and associated Conditions of Approval.
1.2	These conditions do not prevent more restrictive conditions being imposed under other statutes.	Acknowledged. Conditions associated with other permits and approvals will be incorporated in the contract documents as appropriate.
1.3	The proponent, during detail design and construction of the undertaking, shall comply with the provisions for Group A Projects identified in the Ministry of Transportation Class Environmental Assessment for Provincial Transportation Facilities.	The Design and Construction Report has been prepared to satisfy the documentation requirements under the Class EA.
1.4	Any refinements to the alignment and to the right-of-way of the undertaking shall be done in accordance with section A.2 of the Environmental Assessment and the requirements of the Ministry of Transportation Class Environmental Assessment for Provincial Transportation Facilities, as may be amended from time to time.	There are no amendments to the design or new requirements outlined in the DRIC Environmental Assessment Report (December 2008).
2.0	Public Record	
2.1	Where these conditions require the submission of a document that is required for the public record, the proponent shall provide two copies of the document to the Director: a copy for filing within the specific public record file maintained for the undertaking and a copy for staff use.	Two copies of the DCR will be provided to the MOE as requested.
2.2	As appropriate, additional copies of such documents will be provided to the : Regional Director; Clerk of the Town of Tecumseh; Clerk of the Town of LaSalle; and/or Clerk of the City of Windsor	Copies of the DCR will be provided to the identified stakeholders.
2.3	The file number EA 02 07 shall be quoted on all documents required to be submitted to the ministry.	Acknowledged.
3.0	Compliance Monitoring Program	
3.1	The proponent shall prepare and submit to the Director for review an Environmental Assessment	A Compliance Monitoring Plan (CMP) will be prepared and submitted to the MOE

EA Conditions of Approval		How Commitments to Future Study Have Been Addressed During Detail Design of the Initial Construction Project
	compliance monitoring program.	prior to construction.
3.2	The compliance monitoring program shall be submitted no later than one year from the date of this notice, or no later than 60 days before the commencement of construction, including initial construction, whichever is earlier.	Reporting of compliance will be documented in the CMP.
3.3	The compliance monitoring program shall include monitoring of the proponent's fulfillment of the provisions of the Environmental Assessment, including mitigation measures, public consultation, additional studies and work to be carried out, and of all other commitments made during the Environmental Assessment process.	Reporting of compliance will be documented in the CMP.
3.4	The compliance monitoring program must contain an implementation schedule for monitoring the fulfillment of the provisions of the Environmental Assessment.	Agreed, the CMP will include a schedule for monitoring EA commitments.
3.5	A statement must accompany the compliance monitoring program when submitted to the Director, indicating that the compliance monitoring program is intended to fulfill this condition of approval.	Agreed a statement will be included when the compliance monitoring program is submitted to the Director.
3.6	The Director may make amendments to the compliance monitoring program.	Acknowledged.
3.7	The compliance monitoring program, as it may be amended by the Director, must be carried out by the proponent.	Acknowledged.
3.8	The proponent may, in consultation with the Director, make amendments to the compliance monitoring program.	Acknowledged.
3.9	The proponent shall make the compliance monitoring program, including any amendments made to it, available to the ministry or it's designated upon request in a timely manner when so requested by the ministry during an inspection, audit, or response to a pollution incident report or when information concerning compliance is requested by the ministry.	Agreed, the CMP will be provided to the Ministry as outlined.
4.0	Compliance Reporting	
4.1	The proponent shall prepare annual compliance reports which describe the proponent's compliance with the conditions set out in this notice and the results of the compliance monitoring program.	Annual Compliance Reports (ACRs) will be prepared as outlined.
4.2	The proponent shall submit a compliance report to the Director on an annual basis until all conditions set out	Compliance Reports will be submitted to the MOE as outlined.

EA Conditions of Approval		How Commitments to Future Study Have Been Addressed During Detail Design of the Initial Construction Project
	in this notice are satisfied, with the first compliance report being submitted no later than one year following the date of this notice. Each compliance report shall cover the previous 12 month period.	
4.3	When all conditions set out in this notice have been satisfied, the proponent shall indicate in the compliance report following satisfaction that the compliance report is the final compliance report.	Acknowledged.
4.4	The proponent shall make all compliance reports available to the ministry or its designate upon request in a timely manner if requested by the ministry during an inspection, audit, or in response to a pollution incident report or when information concerning compliance is requested by the ministry.	Acknowledged.
5.0	Complaint Protocol	
5.1	The proponent shall prepare and develop a protocol on how it will deal with and respond to inquiries and complaints received during the construction and operation of the undertaking.	Prior to construction, the Ministry of Transportation will prepare a protocol on how inquiries and complaints received during the construction of the Initial Construction project of the undertaking will be dealt with and responded to. The Initial Construction contract will not address the operations phase as this will be completed as part of The Windsor–Essex Parkway and will be developed during future design stages. Reporting of compliance concerning the complaints protocol will be documented in the ACR.
5.2	The proponent shall submit the protocol to the Director for review and placement in the public record.	The protocol will be submitted to the MOE EAAB for placement on the Public Record.
6.0	Construction Contracts	
6.1	In carrying out the undertaking, the proponent shall ensure that as appropriate, contractors and subcontractors: Adhere to commitments made by the proponent during the Environmental Assessment process, including those made in the Environmental Assessment and in the proponent's responses to comments made during the Environmental Assessment comment periods; Meet applicable regulatory standards, regarding	Acknowledged, the proponent will ensure that contractors and subcontractors adhere to the commitments in the EA, Conditions of Approval, and relevant regulatory standards.

EA Conditions of Approval		How Commitments to Future Study Have Been Addressed During Detail Design of the Initial Construction Project
	construction, operation and maintenance of the undertaking; and Obtain any necessary approvals, permits and licenses.	
7.0	Contaminated Materials	
7.1	If contaminated materials are encountered during construction, the proponent shall ensure that management of the contaminated materials is consistent with the ministry guidelines and legislation.	Acknowledged. No contaminated material is anticipated for the Initial Construction contract.
7.2	If contaminated materials are encountered during construction, the proponent shall contact the ministry (Windsor Area Office) prior to continuing with construction to confirm compliance with ministry legislation and guidelines.	Acknowledged. The proponent will contact the ministry (Windsor Area Office) prior to continuing with construction if contaminated materials are encountered during construction.
8.0	Surface Water Monitoring	
8.1	Before commencing initial construction, the proponent shall identify the areas, if any, within which the undertaking may affect surface water.	Acknowledged. The Initial Construction contract is not expected to impact surface water given the nature of the construction works and the proximity to surface water.
8.2	The proponent shall prepare and submit to the Regional Director for review and comment a surface water monitoring plan for the areas within which the undertaking may affect surface water as identified in accordance with condition 8.1. The proponent shall submit the plan at least three months before commencing construction within any of the areas identified in accordance with condition 8.1.	A surface water monitoring plan is not required for this Initial Construction contract as the project is not expected to impact surface water given the nature of the construction works and the proximity to surface waters.
8.3	The surface water monitoring plan shall identify monitoring parameters, locations and frequencies and include the requirement for interpretive report(s) prepared by a Qualified Person.	See above.
8.4	The proponent shall collect baseline data on surface water quality within the areas identified in accordance with condition 8.1. Baseline data shall be collected during the 12 months before commencement of construction and during the 12 months following the end of construction.	See above.
8.5	Following completion of the surface water monitoring required by condition 8.4, the proponent shall submit a report to the Regional Director outlining the results of the surface water monitoring program. As required, the monitoring results shall include a discussion of the adequacy and success of erosion and sedimentation	See above.

EA Conditions of Approval		How Commitments to Future Study Have Been Addressed During Detail Design of the Initial Construction Project
	control measures during construction based on surface water impacts.	
9.0	Human Health	
9.1	The proponent shall prepare workplans for conducting focused assessments of risks to human health associated with the construction of the undertaking.	A work plan for a human health assessment specific to the Initial Construction will be prepared.
9.2	The proponent shall submit the focused risk assessment workplan for initial construction to the Director for review and comment as soon as possible after the date of this approval.	The human health work plan will be submitted to the Director for review and comment.
9.3	The proponent shall submit the focused risk assessment workplan for the construction of the remainder of the undertaking to the Director for review and comment within one year of the date of this approval.	The focused risk assessment work plan for the construction of the remainder of the undertaking will be submitted to the Director for review and comment within one year of the date of this approval.
9.4	The proponent shall carry out the requirements contained in the focused risk assessment workplans.	Acknowledged.
9.5	No later than 45 days before commencing initial construction, the proponent shall submit the results of the risk assessment for initial construction to the Director for review and comment.	Acknowledged. The results of the risk assessment for the initial construction will be submitted to the Director for review and comment no later than 45 days before commencing of the initial construction.
9.6	No later than 3 months before construction (other than initial construction), the proponent shall submit the results of the risk assessment for the construction of the undertaking (other than for initial construction) to the Director for review and comment.	Condition does not apply to this Initial Construction project.
10.0	Landscape Plan	
10.1	The Landscape Plan identified in Section 10.7 of the EA shall be prepared by the proponent in consultation with the MNR. A Landscape Plan shall be prepared for each stage of the project, and shall be provided to the MNR District Manager for review and comment no later than 90 days prior to construction of the applicable stage.	Condition does not apply to this Initial Construction project.
10.2	The portions of the Landscape Plan(s) dealing with ecological protection, restoration and enhancement are subject to review comment by the MNR District Manager.	Condition does not apply to this Initial Construction project.
10.3	The Landscape Plan(s) shall contain, at a minimum, the following: A Monitoring and Adaptive Management Protocol; Strategies for minimizing impacts to natural heritage	Condition does not apply to this Initial Construction project.

EA Conditions of Approval		How Commitments to Future Study Have Been Addressed During Detail Design of the Initial Construction Project
	features; Details of restoration measures; and Identification of measurable indicators that can be used to report progress towards desired targets.	
10.4	The Landscape Plans must reflect any relevant conditions of any permit obtained in respect to the undertaking under the *Endangered Species Act, 2007.*	Condition does not apply to this Initial Construction project.
10.5	As part of the annual compliance report required by condition 4.1, the proponent shall include a discussion of the impacts of the undertaking on identified natural heritage features and their functions and whether the proposed mitigation measures in the Environmental Assessment have yielded expected results and what approaches have been used to address failures.	Condition does not apply to this Initial Construction project.
10.6	The requirement for Landscape Plans set out in condition 10.1 does not apply to initial construction works not affecting critical natural heritage elements.	Agreed.
11.0	Compensatory Mitigation	
11.1	During the detail design phase, the proponent shall identify whether any designated natural heritage features and rare ecological communities and their functions will be lost due to the construction and/or operation of the undertaking.	Condition does not apply to this Initial Construction project. However, all requirements as noted in the *Endangered Species Act*, 2007 for the ESA 17 (2) (c) permit and conditions of the permit from MNR will be complied with.
11.2	The proponent shall determine how it will restore and/or replace any identified designated natural heritage features and rare ecological communities, including an identification of what restorative/replacement techniques the proponent will use and at which locations.	Condition does not apply to this Initial Construction project.
11.3	The proponent shall provide the information required by conditions 11.1 and 11.2 to the MNR District Manager for review and comment.	Information pertaining to the requirements as noted in the Endangered Species Act, 2007 for the ESA 17 (2) (c) permit have been shared with the MNR.
11.4	Prior to removing a rare community, the proponent shall, in consultation with the MNR, determine the sufficiency of the proposed restorative techniques including the identification of compensation lands.	Information pertaining to the requirements as noted in the Endangered Species Act, 2007 for the ESA 17 (2) (c) permit have been shared with the MNR and measures approved in the permit and associated conditions will be complied with.
12.0	Major Biological Feature	
12.1	During the construction of the undertaking, including initial construction, if the proponent or the MNR	Acknowledged.

EA Conditions of Approval		How Commitments to Future Study Have Been Addressed During Detail Design of the Initial Construction Project
	identifies a new major biological feature upon which the undertaking may have adverse environmental effects, the proponent shall, in consultation with the MNR and any other directly affected agencies and stakeholders, determine the responses, if any, that would prevent, change, mitigate or remedy the adverse environmental effects.	
12.2	In consultation with the MNR, the proponent shall evaluate the range of possible responses developed in accordance with condition 12.1 and determine which is the preferred response.	Acknowledged.
12.3	Prior to undertaking any work that could affect a new major biological feature, the proponent shall prepare and submit to the MNR a report describing the biological feature, the range of responses evaluated, the preferred response, and the results of any consultation that was carried out.	Acknowledged.
13.0	Ojibway Prairie Wetland Complex	
13.1	The proponent shall identify the potential impacts (direct and indirect) of the construction and operation of the undertaking on the Ojibway Prairie Wetland Complex during the detail design phase for the portion of the undertaking that would cross the wetland.	Condition does not apply to this Initial Construction project.
13.2	The proponent shall develop mitigation measures for any potential impacts to the wetland as part of detail design.	Condition does not apply to this Initial Construction project.
13.3	The proponent shall provide the information required under conditions 13.1 and 13.2 to the MNR District Manager and Transport Canada for their review and comment prior to construction in any part of the wetland.	Condition does not apply to this Initial Construction project.

TABLE 7.4: DETROIT RIVER INTERNATIONAL CROSSING ENVIRONMENTAL ASSESSMENT REPORT - CHAPTER 10

ID #	Environmental Element/Concern and Potential Impact	Reference Section	Anticipated Timeframe	Concerned Agencies	Summary of Environmental Mitigation and Commitments to Future Work	How Commitments to Future Study Have Been Addressed During Detail Design of the Initial Construction Project
1.0	AIR QUALITY	10.1	Construction / Operation	MOE/ EC/ MTO	Air Quality Mitigation During Construction and Operation Various mitigation measures will be employed during construction to minimize adverse air quality effects such as dust impacts through the use of proper controls, such as: • periodic watering of unpaved (unvegetated) areas; • periodic watering of stockpiles; • limiting speed of vehicular travel; • use of water sprays during the loading, unloading of materials; • sweeping and/or water flushing of the entrances to the construction zones; and, • use of calcium chloride. Road sweeping practices in accordance with maintenance standards will be employed to reduce silt loading on The Windsor-Essex Parkway during the operations phase.	Mitigation measures to address dust generated by construction activities will be included in the contract documents. Refer to Section 7.2.1 for details.
2.0	NOISE & VIBRATION	10.2.1	Construction / Operation	MOE/ MTO	Noise Mitigation During Construction and Operation The following measures will be undertaken to reduce noise during the operating phase: • Mitigation measures were identified to address operation effects for the Recommended Plan as outlined below: In all cases, for receptors located in areas along The Windsor-Essex Parkway, the proposed 5 m high noise barrier where required was effective in reducing the predicted project noise to within 5 dB of the estimated baseline noise levels. • In many cases, especially for receptors on the north side of the Windsor-Essex Parkway a decrease in noise levels compared to future "No-Build" noise levels was predicted. The following measures will be undertaken to mitigate noise during the construction phase of the Recommended Plan: • Ensure that all construction equipment used is in good repair, fitted with functioning mufflers, and complies with the noise emission standards outlined in MOE guidelines; • To the greatest extent possible, limit the most noisy construction activities to daytime hours; • Where the sequencing of construction permits, permanent noise barriers and/or berms may be built during the early phases of construction in order to reduce construction noise levels at receptor locations; • Maximize the distance between the construction staging areas and nearby receptors to the greatest extent possible; • Maintain construction haul roads to prevent potholes and ruts to avoid the loud noise caused by construction vehicles travelling over uneven road surfaces; and • Develop a process for receiving, investigating and addressing construction noise complaints received from the public. Consultation with communities during the design and construction phases will provide additional opportunities for input on noise mitigation measures during both the construction and operation stages. The pavement design shall consider the generation of noise from roadway elements does not exceed the noise levels assumed within the acoustic modelling carried out within this Environmental Assessment for the purposes of identifying impacts to surrounding communities and mitigation strategies.	A new section of noise barrier will be installed along the north side of Highway 3 and Highway 401, adjacent to the MTO ROW. A 5.0m noise barrier will be built between Howard Avenue and North Talbot Road, for a length of approximately two (2) kilometers. Plans of the proposed new section of noise wall are provided in Appendix A. Mitigation control measures to reduce noise during construction (as noted in Section 7.2.4 of this report) will be incorporated into the contract documents and employed during construction. There are no identified vibration impacts identified for the Initial Construction project.

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					Based on the field monitoring results, it is expected that the vibration levels as a result of implementation of the Recommended Plan will comply with MOE criteria. For this reason, no measures are being proposed to mitigate vibration levels.	
3.0	PROTECTION OF COMMUNITY AND NEIGHBOURHOOD CHARACTERISTICS	10.2.2	Construction / Operation	MTO/ MOE	Protection of Community and Neighbourhood Characteristics Mitigation measures recommended to reduce the social impact on the broader and neighbourhood communities include: • Implementation of the "willing seller-willing buyer" property purchase program; • Fair market value for properties required for the project; • Implement a communication process during construction to manage disruption effects experienced by residents; • Develop and maintain regular communications with emergency services and the municipalities with regard to changes to the road network, municipal services, etc.; • For residents in the Spring Garden area, protect and maintain and landscape as much as possible to enhance the lands between the residences and the facility; • Assess the need for improvements to Montgomery Drive; and, • For The Windsor-Essex Parkway, illumination will be designed to provide sufficient lighting for the roadways while limiting light trespass beyond the roadways, and full cut-off luminaires will be provided. Additional details of the illumination system will be determined during subsequent stages of design. • Where practical, lighting used at the plaza should be designed to minimize light intrusion into surrounding areas, while ensuring adequate lighting for operational requirements. This may involve using full cut-off luminaires, shielding, if necessary, and investigating the use of conventional lighting in place of high mast lighting. Lighting should be focused downwards and shielded where necessary to prevent light spillage into nearby residential and community areas.	Mitigation measures as outlined under this section specific to the Initial Construction area will be addressed prior to or during construction. The Province is in ownership of the lands required for the Initial Construction (no additional property is required). A Communications Plan will be developed to address community concerns during construction. Refer to Section 5.0 of the EA Conditions of Approval noted in Table 7.3. The project limits are not in close proximity to the Spring Garden area. High mast lighting will not be installed for this Initial Construction project; however, it may be installed as part of the overall Windsor-Essex Parkway project.
4.0	ECONOMIC IMPACTS	10.2.3	Construction/ Operation	MTO	Economic Impacts Construction of the Recommended Plan will lead to 12,000 project related jobs. Mitigation measures recommended to reduce economic impacts are identified below. • For businesses that are physically disrupted, financial compensation will be offered. • For businesses that are not physically disrupted but are affected through visibility, or reduced traffic volumes, several other forms of mitigation will be used: o The service road network will allow for adequate access to existing commercial corridors; o Signage will be considered at certain locations to make motorists aware of businesses/business clusters, as policies permit; and o Efforts will be made during the construction phase to ensure access is maintained to operating businesses.	There are no economic impacts identified as part of the Initial Construction project. The Province is in ownership of the lands required for the Initial Construction (no additional commercial property is required). A signage plan will be developed during future stages of design and constriction for The Windsor Essex Parkway. The Initial Construction contract will not impact access to operating businesses.
5.0	EXISTING AND PLANNED LAND USE	10.2.4	Operation	MTO/ MUNICIPALITIES	Existing and Planned Land Use Mitigation measures and commitment to future consultation recommended to reduce existing and planned use impacts are identified below. • The following municipalities will be consulted; City of Windsor, Town of Tecumseh, Town of	Landscape Plans will be developed as part of future design and construction stages for The Windsor Essex Parkway.

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					LaSalle and Essex County through the development of an integrated Urban Design and Landscape Plan during later design stages. • Further consultation between Hydro One and Transport Canada/Public Works Canada will be completed during future design phases.	Utility relocations have been addressed with affected utility companies (refer to Section 7.2.13 for details).
6.0	WASTE AND WASTE MANAGEMENT	10.2.6	Construction	MTO/ MOE	Waste and Waste Management Mitigation measures recommended for waste and waste management to reduce impacts are identified below. • If contamination to soil and/or groundwater is identified, a Site Management Plan may be developed for further investigation, which may include a Phase III ESA. • Further evaluations could include risk assessments to determine whether the contamination represents a potential threat to human health or the environment, typically followed by monitoring of natural attenuation (MNA). • Should any contaminated materials be encountered during construction, caution will be exercised while handling and disposing of contaminated materials. Excess materials will be managed in accordance with normal MTO practices (as governed by OPSS 180, or the most current standard at the time of construction). • To evaluate the presence of ACMs, LBP and PCBs, in structures and equipment a Designated Substance Survey (DSS) may be required prior to demolition.	The proposed Initial Construction improvements will not impact lands known to contain contaminated soils. Provisions in the contract will address measures for handling contaminated soils if discovered during construction.
7.0	ARCHAEOLOGICAL RESOURCES	10.3.1	Construction	MCL / MTO	Archaeological Resources Mitigation measures required for Archaeology Resources prior to and during construction are identified below. • Should deeply buried archaeological remains be found on the property during construction activities, the Manager, Cultural Programs unit, Ontario Ministry of Culture, should be notified immediately; and, • In the event that human remains are encountered during construction, the proponent should immediately contact both the Ontario Ministry of Culture and Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ontario Ministry of Small Business and Consumer Services. The study team will continue to consult with WIFN regarding archaeology work.	The lands within the construction zone for the Initial Construction project are clear of archeological potential based on the results of the Stage 1 and 2 archaeological assessments undertaken during the preliminary design stage of this project. Standard provisions regarding archaeological finds have been included in the contract documents.
8.0	CULTURAL HERITAGE RESOURCES	10.3.2	Construction	MCL / MTO	Built Heritage Resources Mitigation measures recommended for Cultural Resources to reduce any impacts are identified below. • A Cultural Heritage Resource Documentation Report will be prepared for applicable features. • Relocation of individual structures within the region; or • Salvage of significant architectural elements followed by demolition. Where relocation is recommended, the City of Windsor Heritage Committee should be consulted.	No built heritage concerns were identified therefore there will be no impact to cultural landscapes within the project limits.
9.0	VEGETATION AND VEGETATION COMMUNITITES	10.4.3	Construction / Operation	MNR / MTO / MUNICIPALITIES	Vegetation and Vegetation Communities The following mitigation measures can be employed to address impacts to Vegetation and Vegetation Communities as a result of the construction and operation of the Recommended Plan. • Areas that should be protected during construction will be delineated prior to construction start and no activities will be permitted in these areas. • The Urban Design and Landscape Plan will include detailed prescriptions for vegetation	No impacts to vegetation are anticipated at Bridge Site No. 14 or in the vicinity of the noise barrier construction. However, site preparation activities at Bridge Site No. 13 will result in the loss of one cultural meadow vegetation community (CUM1-1) that supports several prairie species including a population

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					management including edge management plans, soil management plans, use of native and non-invasive plant materials, prairie disturbance regimes, control of exotic and invasive species and management of species at risk. The landscaping plan will be prepared in later design stages. • Permits and approvals required under SARA and ESA 2007 will be obtained prior to construction. Detailed mitigation strategies will be developed in order to obtain the permits. • Vegetation removals will be avoided in the vicinity of species at risk and their habitat during the growing season. • Opportunities will be sought to forge partnerships with parties to relocate species to lands in public ownership, to otherwise restore and enhance these lands with native plants and species at risk and to transfer lands within The Windsor-Essex Parkway to parties that can best protect sensitive areas. • Consideration of these strategies would be done in consultation with appropriate regulatory agencies (e.g. CWS, MNR) and with other authorities who may have a role in environmental stewardship, including municipalities, ERCA and WIFN. Monitoring Activities • During construction, an environmental inspector will make frequent random site visits to ensure that construction activities are not causing any harm in areas that are to be protected. • Post-construction monitoring should occur to ensure successful plant establishment and reproduction.	of one Species at Risk. The construction of the noise barrier will require minimal removal of trees / vegetation along the existing property lines and existing wooden fences/noise barriers. All trees not designated for removal shall be protected. An Endangered Species Act (ESA 2007) Permit Under Section 17(2)(c) by the Ministry of Natural Resources (MNR) is being sought by MTO to address impacts to one Species at Risk (Willowleaf Aster) that will be affected by the Initial Construction works. The ESA 17(2)(c) permit requires an overall benefit to be demonstrated for the species. The permit will be received from MNR prior to construction at Bridge Site No. 13. Mitigation for vegetation removals and associated works will be incorporated into the contract documents. Refer to Section 7.1.1 and 7.4 for details. Monitoring of construction activities will undertaken during construction (refer to Section 7.5 for details).
10.0	MOLLUSCS AND INSECTS	10.4.4	Construction / Operation	MNR / MTO	Molluscs and Insects The following mitigation measures can be employed to address impacts to Molluscs and Insects as a result of the construction and operation of the Recommended Plan. • The area for vegetation removals has been minimized to the extent possible, and areas that should be protected during construction will be delineated prior to construction start. The mitigation measures prescribed for Monarchs will also reduce potential impacts to other insect species. • To avoid impacts to species at risk and their critical habitat, vegetation removals will be avoided in the vicinity of species at risk and their habitat during the growing season. • The areas for restoration and enhancement will result in the creation of new Monarch habitat, as those areas will be intentionally or naturally seeded by host plants. • Following construction other disturbed areas that re-vegetate are also likely to self-seed with host plants and create additional Monarch habitat. The construction limits will be delineated with sensitive areas identified prior to the start of construction. • Good housekeeping practices will be employed to prevent the contamination of habitat adjacent to the work area. In the event of an upset or spill, a quick and effective response to contain the spill and clean up the area will be employed.	No impacts to molluscs or insects will occur as part of the Initial Construction contract.
11.0	FISH AND FISH HABITAT	10.4.5	Construction / Operation	MTO/ MNR/ DFO	Fish and Fish Habitat The following mitigation measures can be employed during construction to avoid or reduce impacts	One watercourse, the Wolfe Drain, is located within the area of influence of the Initial Construction project. The

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					of the Recommended Plan: *Changes to water quality and quantity:* • Best construction practices should be employed to reduce the potential for spills and materials/equipment from entering water. • Maintenance, fuelling and storage should occur at least 30 m from watercourses/drains. • Debris should be prevented from entering watercourses/drains and a spill response plan should be developed. • Sediments should be prevented from reaching sensitive areas through erosion and sediment controls and exposed soils stabilized as soon as possible. • A stormwater management plan should be developed and implemented to treat run-off during operations. • If it is necessary to undertake construction activities within the Detroit River, an assessment of potential impacts will be completed, subject to approval from the relevant regulatory agencies. *Alterations to baseflow:* • The increases in impervious surfaces and areas of soil compaction should be minimized to facilitate as much infiltration of surface water as possible. • Management of stormwater through the development and implementation of a stormwater management plan will address potential reductions in baseflow. • Methods that encourage infiltration will be investigated. • Flows in watercourses will be monitored during dewatering activities and measures will be implemented in the event that baseflow is significantly affected. *Barriers to fish passage:* • Water flow should be maintained during construction. *Mortality of fish species:* • The magnitude of effects should be minimized through the employment of timing windows for in-water work, commencing work only when all materials are present and staging of work to minimize duration. • Work should be performed in the dry and isolated fish should be captured and relocated by qualified personnel. Impacts associated with the operations phase for the Recommended Plan on fish and fish habitat can be mitigated by the following: *Barriers to fish passage:* • Culverts, designed using fish-friendly methods, and channels, designed using natural channel design principles, should not form barriers to fish passage during operations. • Fish passage options (including mechanical and manual lifts) will be considered at Cahill and Lennon Drains to provide safe fish passage across the Windsor-Essex Parkway. • If the feasibility of maintaining fish passage in Cahill and Lennon Drains is found to be impractical due to costs, maintenance, hazards to roadway, etc., additional habitat creation areas within the Recommended Plan area will be examined, in addition to the possibility of	Wolfe Drain directly supports a warmwater baitfish community at the Highway 401/Talbot Road interchange. No impacts are anticipated on fisheries within the project area. Sediment and erosion control measures will be employed during construction (refer to Section 7.1.3 for details). The Contractor shall periodically monitor the Wolfe Drain to ensure that erosion and sedimentation control measures are continuously effective.

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					off-site compensation for the potential loss of productivity in the form of financial contributions to fund, or help to fund, nearby fish habitat restoration/enhancement projects • Consideration for project funding regarding fish passage options should be done in consultation with appropriate regulatory/environmental agencies (e.g., DFO, ERCA, MNR, municipalities). Walpole Island First Nations have also expressed an interest in the development of solutions to address possible fisheries impacts *Loss of fish habitat:* • The extent of fish habitat affected can be minimized through engineering structures to fit within the smallest possible footprint areas. • Culvert lengths and extensions can be minimized through the use of headwalls, wingwalls and guide rails and extensions should match the inverts of the existing culverts and streambeds. • New crossing structures should be constructed using fish-friendly designs including appropriate horizontal and vertical clearances, open bottoms, countersinking, etc. • Realigned channels should be designed using natural design principles to enhance new habitat over existing habitat. • Riparian vegetation should be maintained where possible. • A fish habitat compensation plan will be prepared during later design stages to ensure no net loss of the productive capacity of fish habitat. *Effects on Water Quality and Quantity:* • Stormwater quality control that will be provided with the Windsor-Essex Parkway will lead to an overall enhancement to water quality and a net benefit to fisheries. • Stormwater runoff associated with The Windsor-Essex Parkway and the plaza will be treated in stormwater management wet ponds designed in accordance to the MOE document "Stormwater Management Planning and Design Manual" for Enhanced Protection Level. This will require the removal of 80 per cent of total suspended solids (TSS), as well as providing erosion attenuation of the 25mm storm for 24 hours. • In addition, the stormwater management ponds will provide quantity storage to control peak flows from The Windsor-Essex Parkway to pre-development rates. • Deck drains are not proposed on the crossing and runoff will be collected to stormwater detention facilities for quality treatment prior to discharging to the river, as necessary and feasible. In addition, the removal of 30 entrance culverts and the plan to provide a natural channel configuration for a significant area of the Wolfe Drain will result in a gain of fish habitat. *Alterations to baseflow:* • A stormwater management plan should be developed and implemented to ensure that reductions in baseflow do not occur. *Changes to water temperature:* A stormwater management plan will be developed which will address the treatment of run-off. *Monitoring Activities*	

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					• An environmental inspector should be present on site during critical in-water work activities. • Post-construction monitoring is typically prescribed in the federal Fisheries Act authorization. The terms and conditions of the federal Fisheries Act authorization will be met. • Post-construction monitoring, if prescribed, will determine the effectiveness of environmental protection and compensation measures, identify problem areas and recommend corrective measures. • The performance of any fish passage system (mechanical or manual lifts) should be monitored for at least two years after construction to ensure that they are passing fish as designed. • During spring migration (March/April), a fish passage study using mark-recapture or radio-telemetry could assist in determining the effectiveness of fish passage.	
12.0	WILDLIFE AND WILDLIFE HABITAT		Construction / Operation	MNR/ MTO	Wildlife and Wildlife Habitat Mitigation Measures The following mitigation measures may be employed to address impacts to Butler's gartersnake and eastern foxsnake populations and other wildlife as a result of the construction and operation of The Windsor-Essex Parkway. • Permits and approvals under SARA and ESA 2007 will be obtained prior to construction. Detailed mitigation strategies will be developed in order to obtain the permits. On-going consultation with regulatory agencies such as ERCA, MNR, CWS as well as on-going consultation with First Nations will occur during future design stages. • To avoid impacts to species at risk and their critical habitat, vegetation removals should not occur during the growing season in specified areas. • Habitat restoration and enhancement will be implemented to create new and higher quality habitat. • Areas of habitat to be retained will be clearly marked in the field and protected from construction activities. • Wildlife salvage will be carried out prior to clearing/grubbing to reduce the risk of wildlife mortality. • Enhancement and restoration of habitat located along The Windsor-Essex Parkway will offset habitat loss and will establish connections between designated natural areas. • A snake barrier will be installed along side portions of the construction area to prevent snakes from entering the work zone and redirect snake movements to safer areas, like the restored habitat. • Options for permanent protection of critical Butler's gartersnake habitat will be developed in later consultation phases. • The creation of new snake nesting areas and hibernacula will occur to compensate for any losses of habitat. • Snakes will be captured and relocated prior to construction as necessary, to avoid mortality. • Disturbance to wildlife during the operations phase will be mitigated through berming, light shielding and prohibiting access to significant wildlife habitat by humans. • Measures to mitigate potential bird mortality from the Detroit River crossing such as bridge design and lighting will be investigated in greater detail during future design phases.	No impacts on Wildlife and Wildlife Habitat are anticipated as part of this project. MTO Non-Standard Provisions will be followed according to the Migratory Bird Protection – General Provisions. A breeding bird time restriction (Migratory Birds Act) will be in place (from April 1st to July 15th) for the removal of trees in the project area. Refer to Section 7.1.1 Fisheries, Vegetation and Wildlife of this report for additional details. No SARA or ESA snakes or snake habitat areas will be impacted as part of the Initial Construction project.

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					• The Ministry of Transportation will consult with relevant agencies and authorities with regard to future lighting requirements for the proposed crossing. • Architectural lighting to highlight the aesthetics of the bridge should be developed in consideration with the effect of the migrating birds. • Monitoring of the remaining Butler's garter snake population and their hibernacula should be undertaken in order to provide for long-term protection of the Butler's gartersnake population and their habitat. • Eastern foxsnake tracking should continue to determine their egg laying sites and hibernacula sites. The following mitigation measures can be employed to address impacts to these species and others as a result of the construction and operation of the plaza and crossing. • The site plan for the inspection plaza incorporates several mitigation measures including: berming, landscaping, the establishment of buffer areas/setbacks and a stormwater detention pond. • On the south side of the inspection plaza, a stormwater detention pond is proposed in association with a vegetative buffer. The stormwater detention pond enhances the buffer width between the inspection plaza and the Black Oak Woods to the south. • Lighting used at the inspection plaza should be designed to minimize light intrusion into surrounding areas, while ensuring adequate lighting for operational requirements. This may involve using full cut-off luminaires, shielding, if necessary, and investigating the use of conventional lighting in place of high mast lighting. Lighting should be focused downwards and shielded where necessary to prevent light spillage into nearby natural areas such as the Black Oak Woods. • Wildlife salvage should be performed on-site prior to vegetation removals. Vegetation removals should be avoided in the vicinity of species at risk and their habitat during the growing season.	
13.0	DESIGNATED NATURAL AREAS	10.4.6	Construction / Operation	MNR/ MTO	Designated Natural Areas • Mitigation measures and consultation recommended to reduce impacts on designated natural areas include: • Opportunities to dedicate portions of these lands to appropriate parties for protection will be discussed at later design stages. Lands will be available to be dedicated for protection including provincially rare vegetation communities, habitat for species at risk, wildlife corridors and other ecological functions. • Mitigation measures for the loss of area or ecological function of designated natural areas are similar to the mitigation measures identified for vegetation and wildlife. Monitoring Activities • Consideration of these options would be done in consultation with appropriate regulatory agencies (e.g. DFO, MNR) and with other authorities who may have a role in environmental stewardship, including municipalities, ERCA and WIFN.	No Designated Natural Areas (DNA) will be impacted by the construction of the Initial Construction project.
14.0	URBAN DESIGN AND LANDSCAPE PLAN	10.4.7	Operation	MTO / MUNICIPALITIES	Urban Design and Landscape Plan Commitments for future consultation and work with regard to the Urban Design and Landscape Plan. • This plan will build upon the concepts and principles established at this stage.	Landscape Plans will be developed as part of future design and construction stages for The Windsor-Essex Parkway.

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					• The Urban Design Plan will address the visual aspects of the form, finish and materials used in the landscape and open spaces as well as in proposed structures (e.g. bridges, abutments, retaining walls, noise attenuation and safety barriers). • The Urban Design Plan will also be closely coordinated with the future Landscape Plan. The Urban Design Plan should be developed as part of a consultation process with local stakeholders. • Partnerships will be developed with First Nations, federal, provincial and local stakeholders to provide for the curation of public art associated with potential gateway features. Mitigation measures to reduce or improve visual and landscape impacts will include: • The development of clear urban design and aesthetic guidelines to guide future design. • The use of landforming and vegetation strategies to improve views, aesthetics, ecological function and screening. • The inclusion of a multi-use trail system and pedestrian-accessible open space within the facility.	
15.0	GROUNDWATER	10.4.8	Construction/ Operation	MTO	Groundwater Mitigation measures recommended to reduce groundwater impacts include: • In areas with artesian groundwater pressures, generally west of Malden Road, groundwater pressure mitigation measures may include use of controlled density drilling fluids for installation of deep foundations (e.g. drilled shafts or caissons) so as to minimize or avoid the need for dewatering. • Detailed investigations, testing, and analyses will be required during final design to adequately assess the feasibility of dewatering or groundwater depressurization within the bedrock or overlying granular soils, the consequent effects of dewatering/depressurization (if any), and any mitigation measures needed to minimize or avoid the influence of such work on the surrounding area. • If a Permit to Take Water is required, Ministry of the Environment (MOE) approval, under the Ontario Water Resources Act, will be sought. • As discussed in Section 10.2.6, there are potential contaminated sites within the corridor. Where contaminated soils and material are encountered, the procedures outlined in Section 10.2.6 should be followed to minimize the risk of mobilizing contaminants due to dewatering activities. In the event that hydrogen sulphide and any other contaminants are present in the groundwater, an Ontario Water Resources Act approved treatment system may be required before discharging to a watercourse.	Dewatering will be required for construction activities associated with building both bridges. The extent of dewatering is expected to exceed 50,000 L/day and will require a permit from the Ministry of the Environment. As prescribed by the Ministry of the Environment, a Permit To Take Water (PTTW) will be obtained for these works to identify: • Quantity of groundwater required during the construction period, and the • Location of water release points. Refer to Section 7.1.2 for details.
16.0	DRAINAGE AND STORMWATER MANAGMENT	10.4.9	Construction/ Operation	MTO	Drainage and Stormwater Mitigation measures recommended to reduce drainage and stormwater impacts include: • Stormwater quality control that will be provided with the Windsor-Essex Parkway will lead to an overall enhancement to water quality. • The proposed stormwater management strategy consists of utilizing flat-bottomed grassed swales where feasible for surface drainage and stormwater management wetponds to provide Enhanced Protection Level quality, quantity and erosion control to runoff. • Vegetative SWMP's such as enhanced ditches, bio-swales and plunge pools are to be utilized along critical highway areas where access to a Stormwater management pond is	The mitigation measures for the Plaza and Crossing do not apply to this Initial Construction contract. Conditions relating to surface water monitoring will be in compliance with the Conditions as outlined in the MOE Conditions of Approval that are specific to the Initial Construction project. Drainage design will be undertaken as part of future

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					limited, as well as to provide localized erosion control measures. • Due to the high groundwater level of associated with the study area, clay or impermeable liners will be required for swales in areas of high aquifer vulnerability. • To account for potential contaminant spills (e.g. oil, chemical, etc.) on the crossing structure and within the plaza area, design details will be developed during future design stages in accordance with applicable standards. • For the plaza area, a shut-off valve or other alternative damming procedures may be proposed for the adjacent stormwater management ponds. The preferred treatment will be determined during future design stages. • Stormwater management for runoff treatments for the crossing structure will be investigated during future design stages. Alternative methods for providing quantity and quality treatment will be examined, all in accordance with the latest applicable MOE design standards and guidelines. Deck drains are not recommended for drainage of the bridge deck, as this would release discharge directly to Detroit River without providing quality control. Possible alternatives may utilize pipe systems integrated within the crossing to convey stormwater off of the structure. However this will be subject to an assessment of technical feasibility during future design stages. If determined to be feasible, the runoff will be conveyed to a treatment facility (wetpond or grassed swales) where quality, quantity and erosion treatments can be provided as per the MOE requirements. The sizing and location of the treatment facility will be confirmed during future design stages. • The need for measurement of baseline conditions in watercourses will be investigated during future design stages in consultation with the appropriate regulatory agencies. • Alternative stormwater solutions for the plaza that may be considered include permeable pavers, perforated storm sewer pipes, Green Roof systems, and infiltration basins. These alternative solutions will be designed to provide additional upstream quality and quantity control of runoff prior to reaching the stormwater management ponds. Additional analysis will be performed during subsequent design stages to assess the effectiveness and feasibility of these solutions at the plaza location. Measures to reduce the area of impervious surface associated with the new plaza will also be investigated during future design phases. • A Salt Management Plan has been developed in accordance with Environment Canada's Code of Practice for the Environmental Management of Road Salts (Environment Canada, 2004). MTO follows best management practices for road salt management, which are consistent with the best practices in North America. MTO partners with stakeholders using the latest technology, tools and methods to keep roads safe for winter driving and to minimize salt usage. Best management practices include advanced weather forecasting, electronic spreader equipment, the use of brines in pre-wetted salt, and varying application rates of road maintenance materials to match weather conditions. MTO will continue to investigate de-icing alternatives to control and reduce salt usage while ensuring highway safety. • A monitoring plan may be required to confirm that the construction and operation of the project will not degrade water quality. This requirement will be investigated during future design stages.	design stages.

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18.0	TRANSPORTATION FACTORS FOR THE RECOMMENDED PLAN	9.1 – 9.3	Construction	MTO / TC / MUNICIPALITIES / COAST GUARD	General Transportation Commitments • Construction of the crossing, plaza and The Windsor-Essex Parkway will be completed in such a manner so as to minimize disruption to the surrounding community and local traffic patterns as much as possible, and to maintain local access to residences and businesses. In order to ensure minimal disruption, maintaining four lanes of traffic in the Highway 3/Huron Church Road corridor as well as the E.C. Row Expressway corridor has been established as a principle for development of the staging concept of The Windsor-Essex Parkway. This principle will be a key requirement in the development of detailed staging plans in future design phases. • Temporary assumptions of portions of municipal roads will be required to facilitate construction. Assumed portions not required for highway purposes will be transferred back to municipalities upon completion of construction. • The relocation of existing utilities and other municipal services will be required to facilitate construction of the Recommended Plan. • Relocations and approvals will generally take place in the early stages of construction to minimize risk to construction schedules, but may be included within a design-build contract. • Complete details and a utility relocation strategy will be prepared during future design stages of the project. • Future stages of design will include the consideration of renewable energy sources to power portions of the illumination system, including the use of solar panels to power lighting along the trail system. Specific Transportation Commitments – Crossing X-10B • A navigation clearance envelope of adequate size will be provided at the international crossing so as not to restrict marine traffic along the Detroit River. • The proposed crossing will avoid the placement of piers in the Detroit River for both the suspension bridge and cable-stayed bridge options. • Specific access requirements for delivery of prefabricated deck units by barge will be quantified and included in the future permit applications. • Subsequent stages of the main bridge design will consider the visual quality and aesthetic development of the design. A series of Context Sensitive Design Workshops have been conducted in parallel with the development of the bridge concepts and the results of those workshops should be reasonably factored into the visual development of the bridge. • Full illumination will be provided along the approach to the main bridge and along the main bridge itself. Bridge lighting should be designed with considerations for mitigating potential bird mortality while still satisfying the principle needs of lighting as a safety enhancement. Specific Transportation Commitments – Plaza B1 • The international customs plaza will be designed to accommodate projected border traffic to beyond the 2035 design year. Although the precise layout of the various facilities within the plaza may be modified during future design stages of the plaza, the type and function of the major facilities within the plaza will remain generally unchanged. The final layout of the plaza will be based on consultation with the Canada Border Services Agency (CBSA). Ultimate ownership and operation of the plaza will be under the direction of the Government of Canada.	With the exception of the two bridges and noise wall construction, the specifics of other design elements related to the Plaza, Crossing or Windsor-Essex Parkway are not part of the Initial Construction project and will be addressed during future design stages. General Transportation Commitments to minimize disruption to the surrounding community and local traffic patterns as much as possible, and to maintain local access to residences and businesses have been addressed through the development of the construction staging plan (refer to Section 7.2.7 for details). Municipal roads will not be impacted by the Initial Construction works. Utility relocations will take place for the Initial Construction project as outline in Section 7.2.13 of this report. Illumination is not part of the Initial Construction project. Refer to Section 7.2.9.

ID #	Environmental Element/Concern and Potential Impact	Reference Section	Anticipated Timeframe	Concerned Agencies	Summary of Environmental Mitigation and Commitments to Future Work	How Commitments to Future Study Have Been Addressed During Detail Design of the Initial Construction Project
					• Full illumination of the plaza will be provided. Lighting of the plaza should be designed to minimize light intrusion into surrounding areas, while ensuring adequate lighting for operational requirements. This may involve using full cut-off luminaires, shielding, and investigating the use of conventional lighting in place of high mast lighting. Specific Transportation Commitments – The Windsor-Essex Parkway • The vertical alignment of the proposed freeway will adhere to general principles as outlined in Section 9.3.1 of the report. From the plaza to the Huron Church Road corridor, the Windsor-Essex Parkway will be constructed to match the existing profile of E.C. Row Expressway and will be grade separated over Matchette Road, Ojibway Parkway and the Essex Terminal Railway. The freeway will generally be constructed between 4 and 7 m below-grade along the Highway 3/Huron Church Road corridor, except for a stretch at Turkey Creek where the freeway will be between zero and 2m below grade. • Additional study will be completed during future design stages to determine the layout and general feasibility of providing a carpool lot on the Howard Avenue diversion, south of the proposed roundabout at realigned Highway 3. • Additional consultation with the public and local municipalities will guide future decisions regarding the proposed trail network. Future design and consultation stages will include a consideration of issues such as winter maintenance of the trail system, illumination, potential connections to the Chrysler Greenway, and the surface treatment to be provided along the trail. • Full illumination will also be provided along the freeway portion of The Windsor-Essex Parkway. Lighting should be designed to minimize light intrusion into surrounding areas, while ensuring adequate lighting for operational requirements. This may involve using full cut-off luminaires, shielding, if necessary, and investigating the use of conventional lighting in place of high mast lighting. • Illumination within the tunnel sections of the freeway will be designed to ensure driver's eyes can adjust to the changing lighting conditions between the tunnel and open sections of the freeway. Adaptive lighting will be provided that varies the strength of illumination depending on the time of day and lighting conditions outside the tunnel. • In keeping with the concept of creating an Intelligent Border Crossing, The Windsor-Essex Parkway will include an Advanced Traffic Management System (ATMS). The ATMS will help to reduce travel delay and travel time uncertainty, enhance safety, reduce the costs associated with cross-border travel, and reduce the negative impacts of the border crossing to surrounding communities. • Utilities that must be maintained parallel to The Windsor-Essex Parkway will be relocated to utility corridors, where possible and as required.	

INITIAL CONSTRUCTION
OF THE WINDSOR-ESSEX PARKWAY:
BRIDGE NO. 13, BRIDGE NO. 14 &
NOISE BARRIER ADJACENT TO SOUTHWOOD LAKES COMMUNITY

G. W. P. 3117-08-00
(CONTRACT # 2009-3017)

DESIGN & CONSTRUCTION REPORT APPENDICES

SEPTEMBER 2009

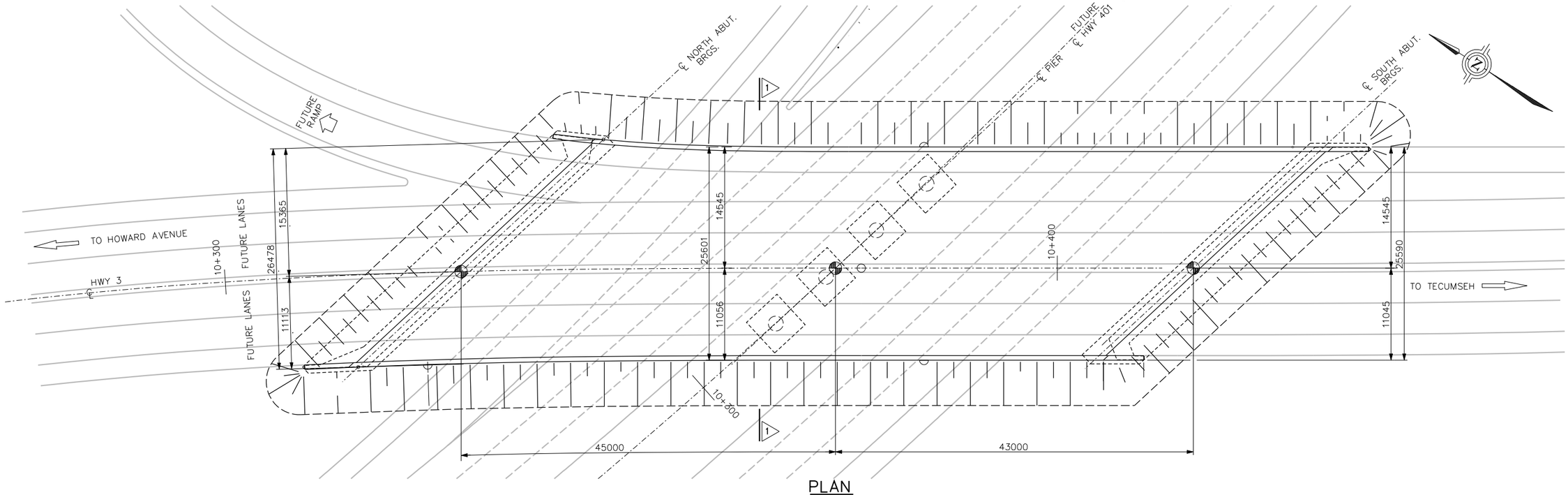
INITIAL CONSTRUCTION
OF THE WINDSOR-ESSEX PARKWAY:
BRIDGE NO. 13, BRIDGE NO. 14 &
NOISE BARRIER ADJACENT TO SOUTHWOOD LAKES COMMUNITY

G. W. P. 3117-08-00
(CONTRACT # 2009-3017)

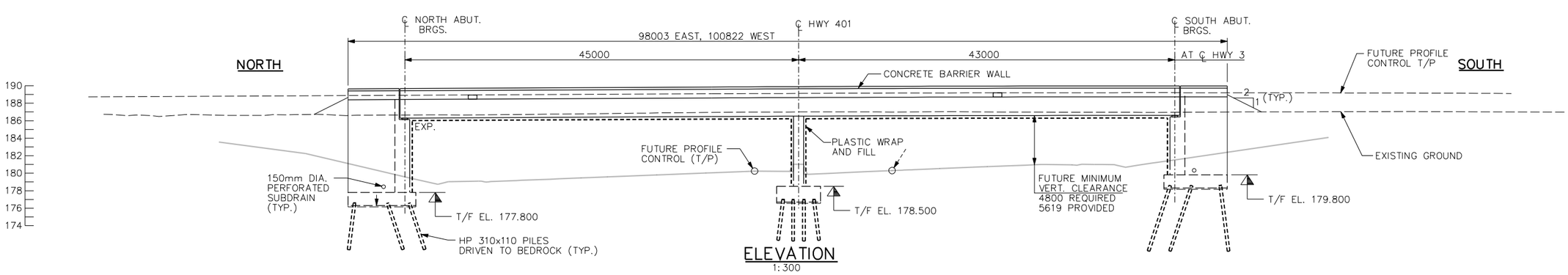
APPENDIX A

GENERAL ARRANGEMENT DRAWINGS OF THE TWO BRIDGES & NOISE BARRIER

SITE NO. 6-613 (BRIDGE B-13)



PLAN
1:300



ELEVATION
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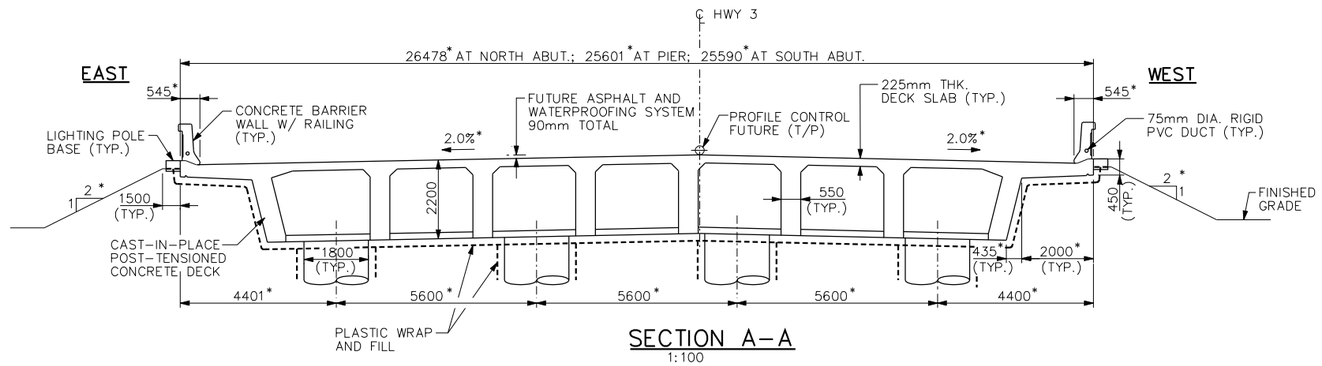

SECTION A–A
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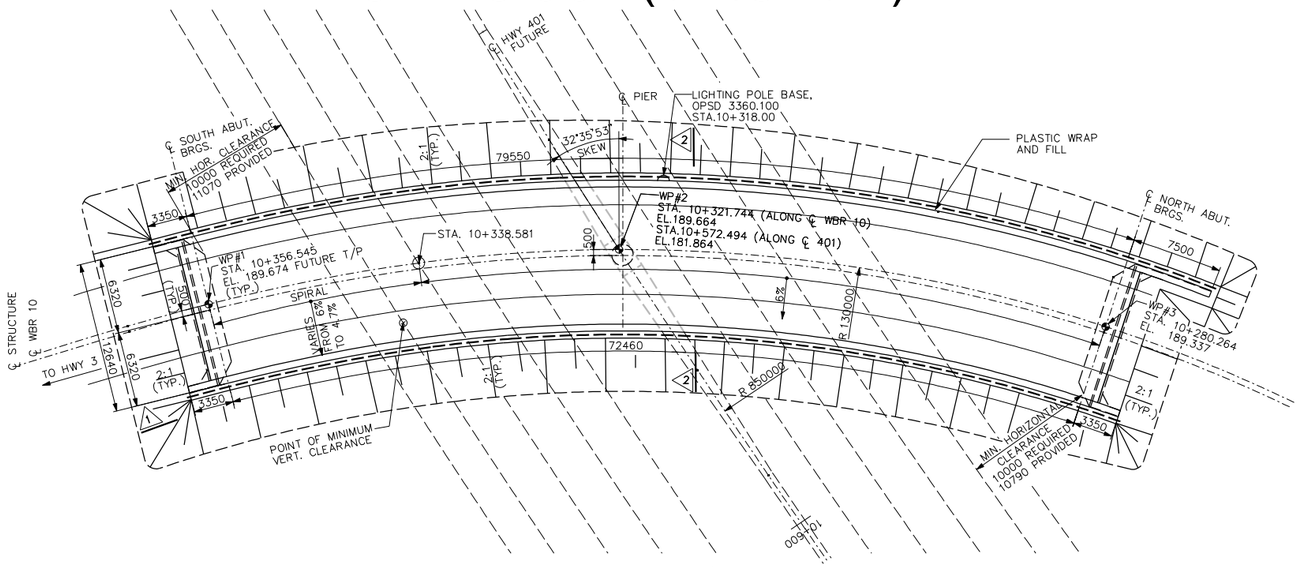
SITE NO. 6-614 (BRIDGE B-14)



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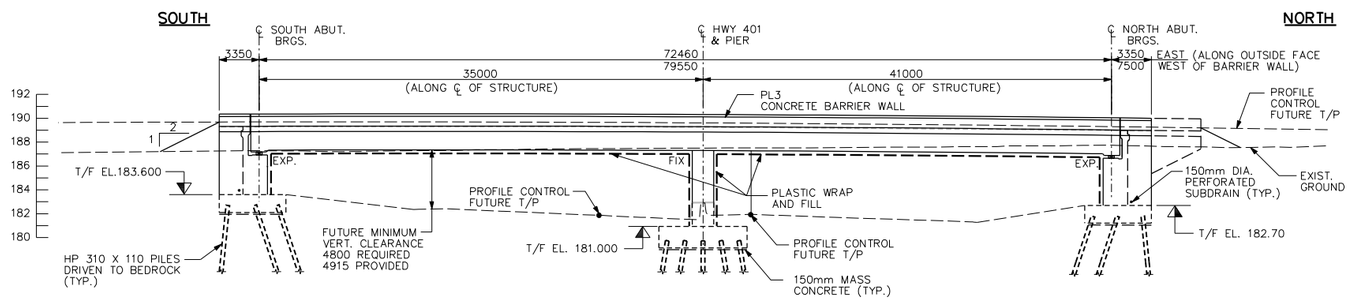
1:250



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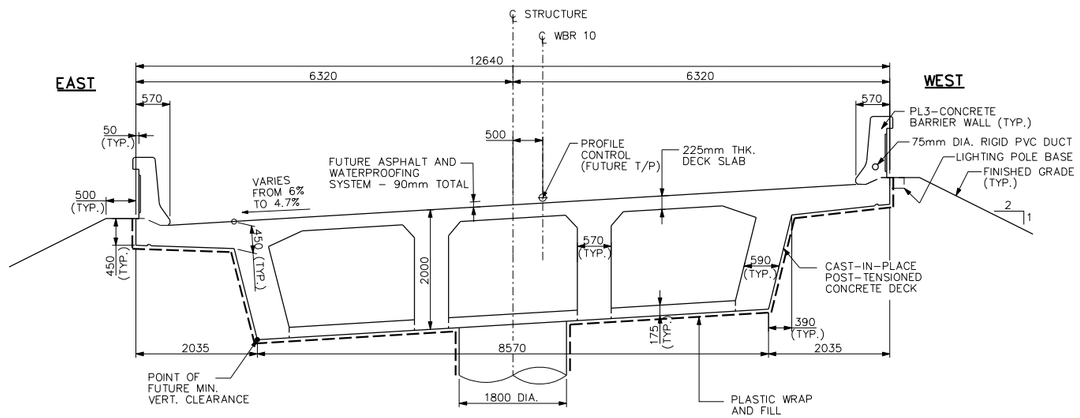


SECTION 2–2
1:50

PROPOSED NOISE BARRIER

INITIAL CONSTRUCTION
OF THE WINDSOR-ESSEX PARKWAY:
BRIDGE NO. 13, BRIDGE NO. 14 &
NOISE BARRIER ADJACENT TO SOUTHWOOD LAKES COMMUNITY

G. W. P. 3117-08-00
(CONTRACT # 2009-3017)

APPENDIX B

CONSULTATION PLAN

Canada

Ontario

Detroit River
INTERNATIONAL CROSSING
S T U D Y

Consultation Plan
Initial Construction from Howard Avenue to North Talbot Road

Detroit River International Crossing Study

City of Windsor, County of Essex, Town of LaSalle, Town of Tecumseh

DRAFT July 2009

URS

Table of Contents

1.0 Introduction and Purpose of the Consultation Plan

1.1 Background

The Detroit River International Crossing (DRIC) Study is a bi-national transportation improvement study that is being undertaken by a partnership of the federal, state and provincial governments in Canada and the United States.

The Partnership includes the transportation authorities from two federal governments and two provincial/state governments. The Federal Highway Administration (FHWA) is an arm of the U.S. Department of Transportation, and Transport Canada (TC) is the corresponding federal agency in Canada. The Ontario Ministry of Transportation (MTO) and the Michigan Department of Transportation (MDOT) are the provincial and state agencies that have roadway jurisdiction in Ontario and Michigan.

The purpose of the Detroit River International Crossing study is to improve the movement of people and goods across the Canada-US border which will support the economies of Ontario, Michigan, Canada and the United States. The Partnership initiated a formal environmental assessment process for a new or expanded Detroit River International Crossing. An integrated environmental assessment process was developed to meet the requirements of the respective legislation of each jurisdiction, including the *Canadian Environmental Assessment Act (CEAA)*, the *Ontario Environmental Assessment Act (OEAA)*, and the *U.S. National Environmental Policy Act (NEPA)*.

In Canada, the study process was led by MTO. In the U.S., the study was led by the MDOT. The Canadian and U.S. teams coordinated their work, to minimize duplication and to ensure that a single end-to-end solution would be developed.

1.2 Initial Construction Details

The Ontario Ministry of Transportation (MTO), in coordination with Transport Canada, is leading the *Environmental Assessment* study and its implementation in Canada and has retained URS Canada Inc. to assist in the undertaking. The Windsor-Essex Parkway was identified as the recommended solution to the new access road that will connect Highway 401 to a new inspection plaza and crossing of the Detroit River. As a component of The Windsor-Essex Parkway, the Ministry of Transportation is proceeding with the design of two bridges (No.13 and No.14) as well as noise mitigation along the easterly end of the study area from Howard Avenue to North Talbot Road. The detail design for the remaining components of the DRIC study will be addressed in future design stages.

Proceeding with construction of the two bridges and noise mitigation, is conditional on receipt of the required Ontario and Canadian *Environmental Assessment Act* approvals and any approvals required under the Ontario *Endangered Species Act, 2007*.

1.3 Purpose Of This Consultation Plan

Consultation provides opportunities for two-way communication with interested stakeholders. Consultation activities also enable the identification of project issues early on in the decision-making process and ensure they are given appropriate consideration. Consultation is also important in communicating the design and implementation of the two bridges (No.13 and No.14) as well as noise mitigation along the easterly end of the study

area from Howard Avenue to North Talbot Road.

The purpose of this Consultation Plan is to outline the consultation program to be carried out when conducting design work for the initial construction and design of two bridges and noise mitigation. In particular, this document outlines the consultation approach for the initial construction including:

- Notifying agencies, municipalities, the public, First Nations, property owners and other stakeholders of the design and construction works;
- Identifying the consultation methods that will be used to consult interested and affected stakeholders; and
- Identify how stakeholder input will be received and taken into account.

As outlined in the *Detroit River International Crossing Environmental Assessment Report* (December 2008), the Ministry of Transportation is committed to the development of consultation plans that will assist future design phases of the project.

The consultation commitments outlined in the *Detroit River International Crossing Environmental Assessment Report* (December 2008) that are relevant to this initial construction include:

- Noise barrier mitigation design;
- Landscape plan elements for The Windsor-Essex Parkway (easterly component only for this initial construction project)
- Construction staging and associated mitigation elements;
- Commitment to further work with pubic and external agency stakeholders in addressing environmental impacts; and
- First Nations consultation

Additional consultation plan(s) will be prepared for the design works leading to the implementation of the DRIC project including The Windsor-Essex Parkway, Plaza and Crossing. Future consultation plans prepared for the DRIC project will be made available for public input at the outset of the future design phases.

This consultation plan is being made available for stakeholder review and comment. Please refer to Section 3.0 for details regarding how to provide input on the consultation plan for this initial construction.

2.0 Consultation Plan for Initial Construction

The public has a major role and responsibility in determining the success of a public consultation program. The extent to which the public participates, the issues they raise and how such issues are resolved all influence the effectiveness of the consultation process.

The following consultation activities are designed to provide opportunities for effective two-way communication with interested stakeholders.

2.1 Public Consultation Methods

One of the key components of public consultation is Public Information Open Houses (PIOHs). They provide one of the most useful and beneficial techniques of exchanging information with the public. Public Information Open Houses (PIOHs) provide:

- A means of describing and/or explaining the project
- A means of communicating project impacts, mitigation and schedule of construction, if known
- A means of gathering additional study area information;
- A forum for reviewing project conclusions to date and for providing comments to the Project Team;
- An opportunity to address individual needs for information;
- Follow-up on matters of specific interest to the individual; and
- An opportunity to learn about potential effects on individual properties.

2.1.1 PIOH

The community continues to have an important role to play in the design of The Windsor-Essex Parkway project. A Public Information Open House (PIOH) will be held for the initial construction as part of The Windsor-Essex Parkway implementation.

The PIOH will be arranged in summer 2009 to gain public input to the proposed noise mitigation and bridge works. Members of the public will be notified of the PIOH through the following methods as appropriate:

- News advertisements
- Letters to individuals on the Project Team's mailing list
- Registered letters to potentially affected property owners
- Postings on the Project Website

At the PIOH there will be an opportunity to fill out a comment sheet and to also speak with knowledgeable Project Team members. The stakeholder input received at the PIOH will be considered by the Project Team in determining the design details of the proposed noise wall in the Southwood Lakes community (between Howard Avenue and North Talbot Road).

2.1.2 Follow-Up Activities

The Public Information Open House may be augmented by follow-up activities such as workshops and informal/kitchen table meetings with interest groups and residents. The focus of follow-up activities is to provide the opportunity to bring stakeholders together to develop an understanding of the potential impacts of the design and construction activities to be considered and to address specific project issues and concerns as they arise. The format of these activities will be flexible to reflect the type of Project Team - stakeholder interaction required to address a particular issue(s).

A workshop will be held following the Public Information Open House to address the design and aesthetic treatments of the residential side of the proposed noise wall located adjacent to the Southwood Lakes community. Adjacent property owners will also be notified of the opportunity to participate in the workshop.

2.2 Public Notification Procedures

Public notification is an essential element in the consultation process and will be provided as follows:

- A “Notice of Detail Design Commencement and Public Information Open House" (newspaper advertisement) will announce the commencement of the detail design of two bridges (No.13 and No.14) and noise mitigation along the easterly end of the study area (from Howard Avenue to North Talbot Road), as well as the details of the scheduled Public Information Open House;
- A “Notice of Design and Construction Report Submission” (newspaper advertisement) will announce the completion of this detail design assignment and locations for review of the Design and Construction Report;
- Notices of follow-up activities will be published and / or distributed as appropriate.

Notices will be placed in the following newspapers as appropriate:

- Windsor Star
- Kingsville Reporter
- Leamington Post & Shopper
- Le Rempart (French)
- LaSalle Post
- Harrow News
- Essex Voice
- Essex Free Press
- Amherstburg Echo
- LaSalle Silhouette

In addition, brochures and/or letters will be directly sent to those on the Project Team's mailing list, and attendees of the PIOH.

The project Website (www.weparkway.ca) or (www.partnershipborderstudy.com) will also relay project information and notices of project activities. The Website will be updated throughout the study and will include an opportunity for comments or questions to be directly provided to the project team.

2.3 External & First Nations Consultation

External agencies provide valuable support by identifying compliance issues (laws, regulations, policies and programs) and other areas of concern within their jurisdiction. These groups can offer valuable input and professional expertise and are often knowledgeable regarding local issues and can assist in the identification of local interest groups that should be consulted. Consultation (meetings and/or discussions) will be undertaken as necessary with Provincial Ministries / Agencies, Federal Agencies, Municipalities and First Nation Groups.

Given the scope of this initial construction, it is expected that external agency consultation will primarily involve meetings / discussion with MNR and focus on permitting requirements and approvals under the Ontario Endangered Species Act.

The Project Team will continue to engage Walpole Island First Nation to address any issues or concerns that may arise as the project progresses.

External agency and First Nations notification is an essential element in the consultation process and notification letters will be provided to these external stakeholders as follows:

- A “Notice of Detail Design Commencement and Public Information Open House" (newspaper advertisement) will announce the commencement of the detail design of two bridges (No.13 and No.14) and noise mitigation along the easterly end of the study area (from Howard Avenue to North Talbot Road), as well as the details of the scheduled Public Information Open House; and
- A “Notice of Design and Construction Report Submission” (newspaper advertisement) will announce the completion of this detail design assignment and locations for review of the Design and Construction Report.

2.4 Review of Detail Design Documentation

A Design and Construction Report (DCR) will be prepared and made available for public and external agency review. The DCR will document how the commitments and mitigation outlined in the Ontario *Environmental Assessment* and the Canadian *Environmental Assessment* have been addressed. Notices advising of the availability of the Design and Construction Report for review will be published in local newspapers.

3.0 Contacting the DRIC Project Team & Providing Comments

3.1 How to Contact the Project Team and Provide Comments

Interested individuals can contact the Canadian Project Team as noted below.

For more information on the study please visit us electronically from the study website (www.weparkway.ca) or (www.partnershipborderstudy.com).

To provide comments on this Draft Consultation Plan please submit your comments to either of the addresses noted below by July 31, 2009.

Ministry of Transportation
Windsor Border Initiatives
Implementation Group
949 McDougall Street, Suite 200, Windsor
detroit.river@ontario.ca

URS Canada Inc.
DRIC Project Office
1010 University Avenue, Suite 104, Windsor
info@partnershipborderstudy.com

Information collected at these Open Houses and Workshops will be used in accordance with the *Freedom of Information and Protection of Privacy Act and the Access to Information Act*. With the exception of personal information, all comments become part of the public record.

INITIAL CONSTRUCTION
OF THE WINDSOR-ESSEX PARKWAY:
BRIDGE NO. 13, BRIDGE NO. 14 &
NOISE BARRIER ADJACENT TO SOUTHWOOD LAKES COMMUNITY

G. W. P. 3117-08-00
(CONTRACT # 2009-3017)

APPENDIX C

PUBLIC INFORMATION OPEN HOUSE DISPLAY MATERIALS

Detroit River INTERNATIONAL CROSSING STUDY

THE WINDSOR-ESSEX Parkway

Welcome to the Public Information Open House

for the

Initial Construction of The Windsor-Essex Parkway: Bridge No. 13, Bridge No. 14 & Noise Mitigation Adjacent to Southwood Lakes Community

DETROIT RIVER INTERNATIONAL CROSSING STUDY

July 23, 2009

>> Please Sign In <<

Members of the Study Team are available to discuss any questions that you may have.

Canada Ontario

URS

The Border Transportation Partnership

The Detroit River International Crossing Study has followed an Environmental Assessment process that is a proven, legislated process used throughout Ontario and Canada on infrastructure projects, ranging from simple road widening to complex long span bridges.

The DRIC EA has been undertaken by the Border Transportation Partnership, a dedicated bi-national team of leading engineers, planners, and policy experts. The Canadian study team is led by the Ontario Ministry of Transportation in conjunction with Transport Canada.

Purpose of the DRIC Study

To provide for the safe, efficient and secure movement of people and goods across the Canada-U.S. border in the Detroit River area to support the economies of Ontario, Michigan, Canada and the U.S.

To construct a new end-to-end transportation system that will link Highway 401 to the U.S. interstate system with new inspection plazas and a new river crossing in between.

In meeting the purpose, this study must address the following regional transportation and mobility needs:

- Provide new border crossing capacity to meet increased long-term travel demand;
- Improve system connectivity to enhance the continuous flow of people and goods;
- Improve operations and processing capabilities at the border; and
- Provide reasonable and secure crossing options (i.e. network redundancy).

The Study Team seeks to implement transportation solutions which minimize community and environmental impacts as much as possible. In particular, the Canadian Study Team is looking to address the local communities' goals to:

- *Improve quality of life;*
- *Take trucks off local streets; and,*
- *Improve traffic movement across the border.*

Coordination of CEAA & Ontario EA Process

The DRIC EA study has been undertaken through a coordinated federal-provincial Environmental Assessment (EA) process. Both governments have agreed to coordinate their respective EA processes as outlined in the *Canada-Ontario Agreement on EA Cooperation* (November, 2004), which states that federal and provincial governments:

> *"will coordinate the environmental assessment processes whenever projects are subject to review by both jurisdictions…The agreement maintains the current level of environmental standards and the legislative and decision-making responsibilities of both governments. While projects requiring both provincial and federal environmental assessment approvals will still require separate approvals, decisions will be based on the same body of information and there will be an ability to make decisions concurrently".*

The federal EA process was initiated early in the project planning stages in order to maximize opportunities for coordination with the provincial EA process.

All technical studies prepared as part of the provincial EA process have formed the basis for meeting the requirements of the *Canadian Environmental Assessment Act.*

Federal departments provided input into the development of the Work Plans developed for each of the various disciplines required for this study, as part of the coordinated process.

DRIC Recommended Plan – Moving Forward

Roles and Responsibilities of the Governments of Canada and Ontario

The Government of Canada, represented by Department of Transportation, Infrastructure and Communities (TC), is responsible for the further development and delivery of the Canadian inspection plaza and the bridge.

- TC is working in collaboration with the Michigan Department of Transportation (MDOT) regarding the delivery of the bridge.
- The Government of Canada has communicated its intention to explore a Public Private Partnership in regards to the delivery of the above project elements.

The Province of Ontario, represented by the Ministry of Transportation (MTO), will be responsible for the further development and delivery of The Windsor-Essex Parkway (access road) element of the Recommended Plan.

- MTO is working in collaboration with Infrastructure Ontario regarding the procurement via an Alternative Finance and Procurement arrangement.

In the U.S., Michigan is leading the implementation of the plaza and crossing.

DRIC Chronology

Study Process

An Ontario Environmental Assessment Terms of Reference, outlining the process for the Detroit River International Crossing Study, was prepared by the Partnership

Terms of Reference Approved, September 2004

Consultation

Public Information Open House, June 2003

Meetings with private sector and agencies

Meetings with Municipalities (Sarnia, Windsor, LaSalle, Essex County, Tecumseh, Amherstburg)

Environmental Assessment Initiated, January 2005

Coordinate the U.S. and Canadian work programs

Investigate engineering, social, economic, cultural and natural environment

Present assessment of impacts for public review

Incorporate public and agency input

Public Information Open Houses scheduled at study milestones

Meetings with public, private sector and agencies throughout the study

Community Consultation Group formed

Detroit River INTERNATIONAL CROSSING STUDY

Parkway THE WINDSOR-ESSEX

DRIC Chronology

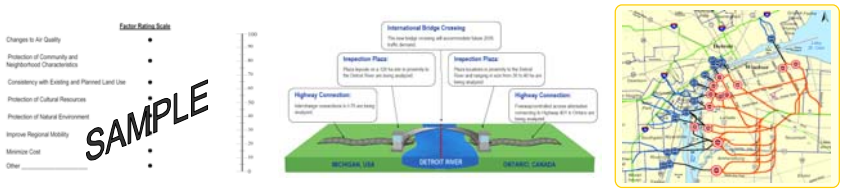
Study Process

Developed initial set of alternatives based on public, agency and municipal input, Guiding Principles and recommendations made by other studies

Identified sensitive community features

Sought public input on the level of importance of each evaluation factor

Developed Illustrative Crossing, Plaza Locations & Connecting Route Alternatives in Canada and the U.S., Summer 2005



Consultation

Initial Public Outreach, April 2005

Workshops

Tours of Detroit River area

Meetings with public, private sector municipalities and agencies

Public Information Open House 1, June 2005

Based on the assessment of Illustrative Alternatives, Area of Continued Analysis was identified

Assessment considered Specialists' Evaluation and public input to level of importance of Evaluation Factors

At-grade and below-grade alternatives considered

Identified Area of Continued Analysis, Fall 2005

Workshops

Tours of Detroit River area

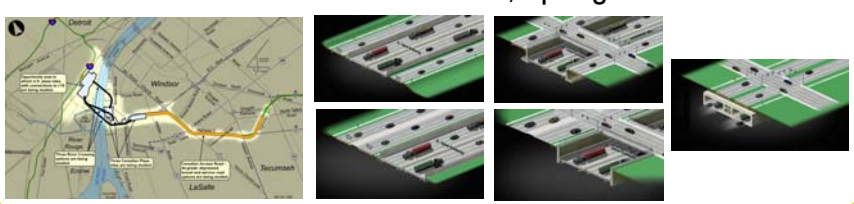
Meetings with public, private sector municipalities and agencies

Public Information Open House 2, November 2005

Established Guiding Principles in generating practical alternatives

Specific options generated based on community objectives, public, agency, municipal and specialists input

Identified Practical Crossing, Plaza and Access Road Alternatives, Spring 2006



Public Workshops to define specific options and explore Context Sensitive Solutions

Tours of Detroit River area

Meetings with public, private sector municipalities and agencies

Public Information Open House 3, March 2006

Canada Ontario

URS

Detroit River INTERNATIONAL CROSSING STUDY

Parkway THE WINDSOR-ESSEX

DRIC Chronology

Study Process

Study Team sought and gathered information on key community features

Field data, modelling, design work and secondary source info, incorporated in analysis of impacts and benefits

Compile all analysis data

Present Preliminary Analysis of Practical Alternatives, December 2006

Consultation

Context Sensitive Solutions Workshops

Tours of Detroit River area

Workshops

Meetings with public, private sector municipalities and agencies

Public Information Open House 4, Dec. 2006

Used knowledge gained from analysis of original practical alternatives and community input to develop the Parkway alternative

Continued with foundation investigations for the plaza and crossing alternatives

Compiled data, finalize and present analysis to public

Update of Preliminary Analysis of Practical Alternatives, August 2007

Meetings with public, private sector municipalities and agencies

Public Information Open House 5, August 2007

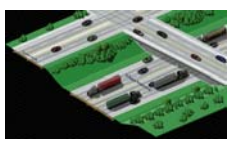
Improved Parkway alternative based on community input

Completed plaza/crossing foundation investigations

Finalized evaluation of practical alternatives

Selected Technically and Environmentally Preferred Alternative crossing, plaza and access road

Evaluation of Practical Alternatives & Selection of TEPA, June 2008



Workshops

Meetings with public, private sector municipalities and agencies

Public Information Open House 6, June 2008

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Detroit River INTERNATIONAL CROSSING STUDY

Parkway THE WINDSOR-ESSEX

DRIC Chronology

Study Process

Selection of the TEPA was made following a complete analysis and evaluation of practical alternatives for the crossing, plaza and access road.

The TEPA consists of The Windsor-Essex Parkway, Plaza B1 together with Crossing X-10B. These components were announced in June 2008.

Consultation

Meetings with agencies and municipalities

Public Information Open House 7, November 2008.

Draft OEA Report circulated for comment on November 12, 2008 to December 12, 2008.

The Recommended Plan

The Recommended Plan has been developed to a concept design level to confirm feasibility of the proposed infrastructure and to identify the property requirements and the environmental impacts. This concept design is intended to provide a sufficient level of detail on which to base a decision regarding approval of the undertaking and to guide the development of more detailed designs during subsequent design phases of the study. The Recommended Plan is referred to as the Project for the purposes of the Draft Federal CEAA Screening Report.

Final Ontario Environmental Assessment Act Report (OEA)

Final Ontario Environmental Assessment Report including Supporting Documents submitted to the Ontario Ministry of the Environment on December 31, 2008

Comments from PIOH #7 and the Draft OEA Report were considered and the Final OEA Report was prepared.

Comments from agencies, municipalities, private sector stakeholders and the general public were received and considered.

Canadian Environmental Assessment Act Report (CEAA)

Draft CEAA Screening Report available for public comment July 8, 2009

Based on the entire body of work, the DRIC Team prepared the Draft Federal *CEAA* Screening Report and Draft Cumulative Effects Assessment Reports.

Proceeding with construction of the two bridges and noise mitigation is conditional on receipt of the required approvals under the Ontario *Environmental Assessment Act* and the *Canadian Environmental Assessment Act.*

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OEA/CEAA Approvals Process

Ontario Environmental Assessment (OEA) Approvals Process

- ✓ → OEA Report finalized and submitted: December 31, 2008
- ✓ → Government and Public Review of Final OEA Report: January 9 to February 27, 2009
- ✓ → MOE Review of Public and Government Comments on OEA Report: February 27 to April 3, 2009
- ✓ → Public Inspection of MOE Findings: April 24 to May 29, 2009
- We are here → Minister's consideration and decision of OEA

Minister's Options:

- Decision - approve, approve with conditions, or refuse
- Refer to Environmental Review Tribunal (Hearing)
- Refer to Mediation

CEAA Approvals Process

- ✓ → Agency review of Draft Screening Report
- ✓ → Address Agency Comments: March
- ✓ → Draft Screening Report available for public review and comment: July 8, 2009
- We are here → 30-day Public Comment Period closes August 7, 2009
- → Address Public Comments: August 2009
- → Final Screening Report
- → Federal Agency's Approval (timed to be collaborative with Provincial EA approval)

Responsible Authority Options:

- Decision – No significant adverse effects, project can proceed with application of mitigation measures
- Decision - Significant effects that cannot be justified (project cannot proceed)
- Refer to a review panel or mediator (significant effects, uncertainty, or public concern)

CEAA Process

The Canadian Environmental Assessment Act (the Act) applies to federal authorities when they contemplate certain actions in relation to a *project* (e.g. funding and certain regulatory permits). Federal departments that have an environmental assessment (EA) responsibility in relation to a project are called Responsible Authorities (RAs).

Transport Canada (TC) is an RA for the Detroit River International Crossing project because TC is a co-proponent of the project, together with the Ontario Ministry of Transportation. As an RA, TC must ensure that an environmental assessment is carried out under the Act. In addition, Fisheries and Oceans Canada (DFO) is also an RA in relation to certain water crossings along The Windsor-Essex Parkway alignment. The Windsor Port Authority also has an EA responsibility under the *Canada Port Authority Environmental Assessment Regulations*. The DRIC study has been designed to coordinate the federal and provincial EA requirements.

The CEAA process was formally initiated in March 2006, and a Notice of Commencement was posted on the Canadian Environmental Assessment Register, registry number 06-01-18170. Other Federal authorities who are actively participating in the assessment include:

Environment Canada	Health Canada	Canada Border Services Agency

Federal authorities have been participating in the coordinated DRIC EA process since it began in 2005, by reviewing the work plans to ensure that the information being collected as part of the DRIC process will be sufficient to meet Federal information needs under CEAA.

Draft federal Environmental Assessment Guidelines have been developed to outline the specific requirements of the CEAA process. The guidelines were made available for public review in December 2006, and were updated in February 2009 to reflect public input. In addition, a public participation plan was developed, to describe the opportunities the public will have to provide input directly into the federal process. Both of these documents are available on the CEAA website at www.ceaa.gc.ca.

For more information about the CEAA process, please contact:

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Tel: 613-990-5473, Fax: 613-990-9639
Email: sarah.okeefe@tc.gc.ca

Initial Construction

Relationship between Initial Construction and EA approval of Windsor-Essex Parkway:

- The Ontario Government proposes to undertake some initial construction prior to issuing the main contact for The Windsor-Essex Parkway through the AFP process.
- Initial Construction cannot commence prior to receiving approval from the Minister of Environment for the Environmental Assessment Report for the Detroit River International Crossing Study.
- The Initial Construction is within the limits of The Windsor Essex Parkway.
- The Initial Construction will comply with all relevant commitments made in the Environmental Assessment.
- The Minister's approval may also contain conditions that apply to the Initial Construction.
- A Design and Construction Report (DCR) is to be filed prior to construction and will contain design details for the Initial Construction including an explanation of how all relevant conditions and commitments are being addressed.
- Details of the Initial Construction are documented on the following displays.

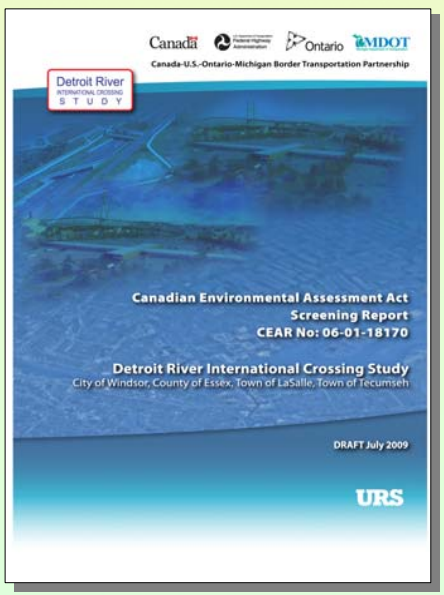
Approvals

Approvals & Initial Construction

Proceeding with construction of the two bridges and noise mitigation is conditional on receipt of the required approvals under the Ontario *Environmental Assessment Act* and the Canadian *Environmental Assessment Act*.

The Ministry of Transportation is also seeking permits under the Ontario *Endangered Species Act*, 2007.

In accordance with Ontario *Environmental Assessment Act* requirements, a Design and Construction Report (DCR) will be prepared and made available for review.



Detroit River INTERNATIONAL CROSSING STUDY

Parkway THE WINDSOR-ESSEX

Windsor-Essex Parkway in Area of Initial Construction

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Initial Construction

Bridges

- Two new bridges (No. 13 and No. 14) will become part of The Windsor-Essex Parkway.
- Construction will take place south of existing Highway 3 and will not immediately carry traffic.
- Bridge No. 13 will carry the future Highway 3 over the below-grade Highway 401.
- Bridge No. 14 will become part of the future interchange between Highway 401, Highway 3 and the Howard Avenue Diversion.

Noise Mitigation

- New noise barrier between Howard Avenue and North Talbot Road along the north side of Highway 3 and the west side of Highway 401.
- Includes various textures and colours for the noise barrier.
- Proposed work includes installation of temporary fencing, removal of the existing noise barrier and/or wooden fence, construction of the new noise barrier and restoration of existing property.

Consultation Plan

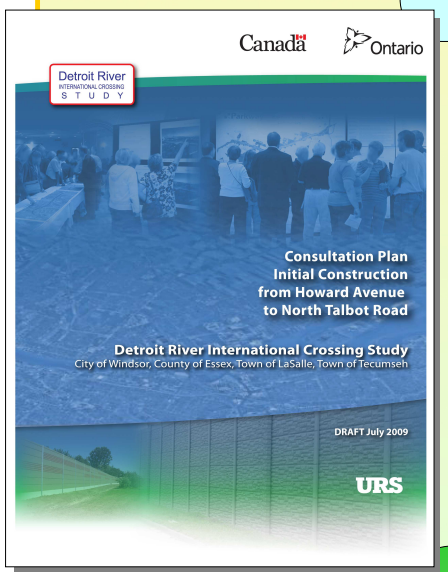
PURPOSE

The Consultation Plan outlines the consultation program to be carried out for the initial construction of two bridges and noise mitigation.

Preparation of the Consultation Plan was a commitment in the *Detroit River International Crossing Environmental Assessment Report* (December 2008).

The Ministry of Transportation is committed to the development of consultation plans that will assist future design phases of the project.

The public has a major role and responsibility in determining the success of a public consultation program.



BENEFITS OF CONSULTATION

Consultation activities enable the identification of project issues early on in the decision-making process and ensure they are given appropriate consideration.

Consultation provides opportunities for two-way communication with interested stakeholders.

Consultation is important in communicating the design and implementation of the two bridges (No.13 and No.14) as well as noise mitigation along the easterly end of the study area from Howard Avenue to North Talbot Road.

Initial Construction

Construction Staging

Subject to EA approvals and other permitting requirements / approvals:

- Construction of Bridge No. 14 is scheduled to start in late 2009.
- Construction of Bridge No. 13 is scheduled to start in early 2010.
- All construction activities at the bridge sites are expected to be completed by December 2010.
- Construction of the noise barrier is tentatively scheduled to start in early 2010.
- Access for equipment required to remove the existing noise barrier/wooden fencing and construct the new noise barrier will be from Highway 401/Highway 3.
- Completion of the new noise barrier including associated fencing and landscaping is expected to take approximately four months to complete.

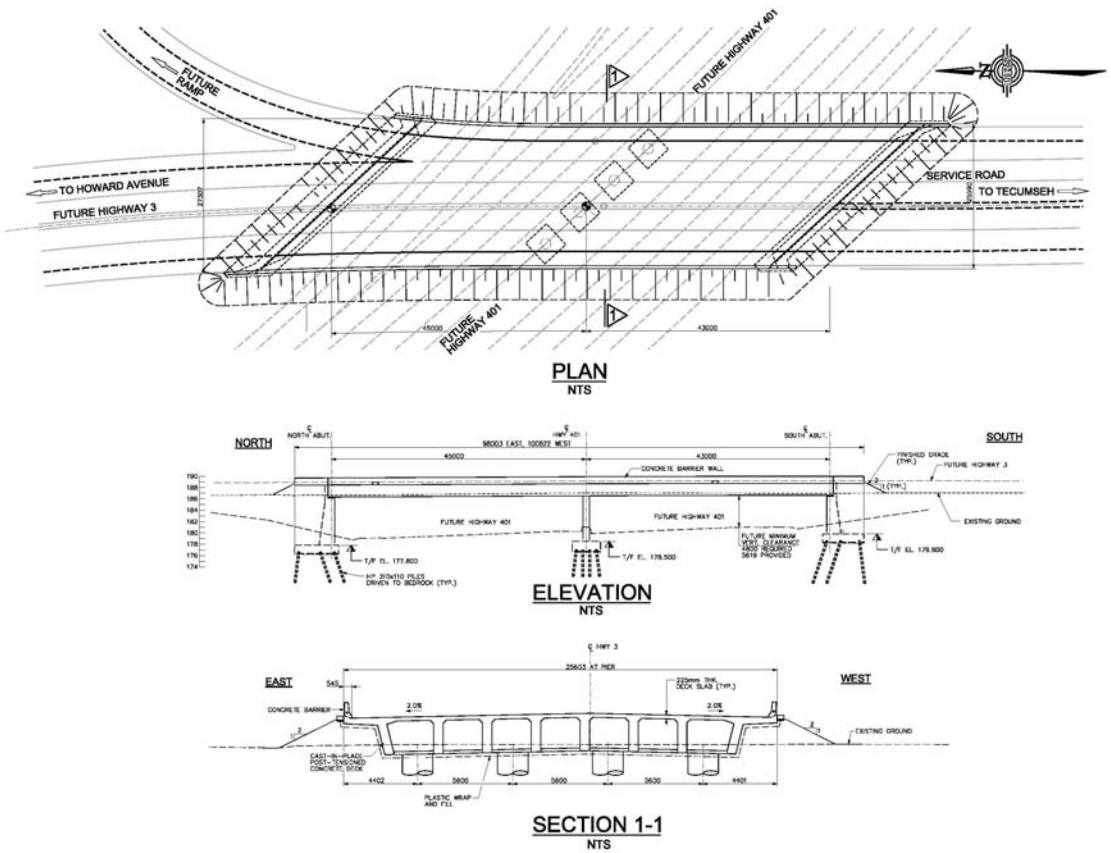
Detroit River INTERNATIONAL CROSSING STUDY

Parkway THE WINDSOR-ESSEX

Highway 3 Overpass – Bridge 13

Bridge 13 - Description

- Cast-in-place, post-tensioned, concrete structure with footings on piles driven into bedrock.
- This structure will carry the future Highway 3 over the below-grade Highway 401.
- Will require excavation for construction of the substructure.
- All excavation required for construction will be backfilled and an earth berm will be placed from existing ground to the top of the structure deck.
- A chain link fence will be placed around the work zone during and after construction.



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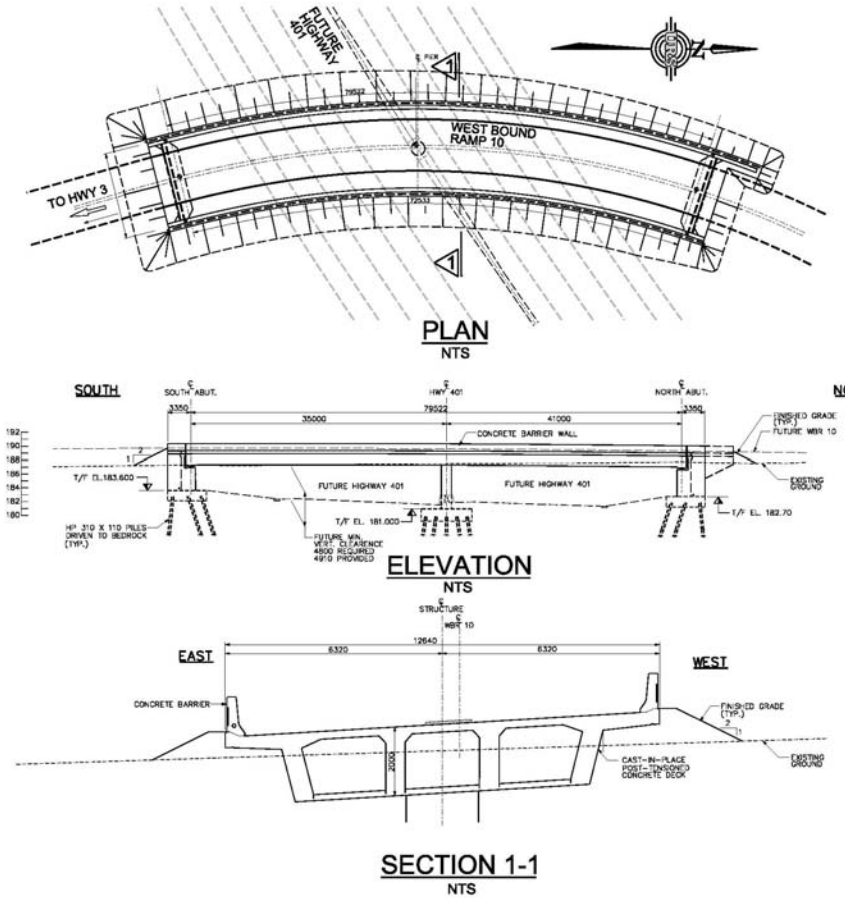
Westbound Ramp 10 Overpass – Bridge 14

Bridge 14 - Description

- Cast-in-place, post-tensioned, concrete structure with footings on piles driven into bedrock.
- This structure will carry the future Highway 401 Westbound off ramp to the future Highway 3/Howard Avenue Diversion roundabout.
- Will require excavation for construction of the substructure.
- All excavation required for construction will be backfilled and an earth berm will be placed from existing ground to the top of the structure deck.
- A chain link fence will be placed around the work zone during and after construction.



Noise Barrier Construction

WHAT WE ARE DOING NOW

Construction of the noise barrier and landscaping/regrading on the property owner side of the noise barrier will be part of the Initial Construction.

WHAT WILL HAPPEN LATER

In future design stages, landscaping and aesthetic design elements (such as motif accent panels) will be added in order to ensure a consistent and cohesive theme for the entire corridor.

Noise Barrier Aesthetics

Noise Barrier Design Aesthetics

As a gateway to Canada, The Windsor-Essex Parkway and the new plaza and crossing will be major landmarks. As such, the visual and aesthetic of these features and further gateway infrastructure is critical. Noise barrier aesthetics are often overlooked; however, since they become a major line element in the highway corridor, second only to the roadway itself, it is vital to include them in design considerations. Colour, texture, scale, line, proportion, and form must be carefully evaluated to suit the site.

A range of materials and types of noise barriers were considered for the Eastern portion of the Windsor-Essex Parkway. The material considered for the noise barrier included the following:


Composite Concrete


Metal


Wood


Transparent


Plastics


Planted or Bin Type

IMAGES 1-4 DISPLAY THE VERSATILE NATURE OF CONCRETE/CONCRETE NOISE BARRIERS

Criteria for Choosing Noise Barrier Type

- Maintenance
- Aesthetics (Corridor View)
- Minimal
- Performance & Availability
- Functionality of Material

Preferred Option

Composite concrete barriers with some transparent panels were chosen as the desired noise barrier type for the barrier for a number of reasons:

1. Concrete barriers are versatile with respect to shaping, colour and texture options.
2. Concrete barriers are more durable (against salt, ice, light, etc.) than other proposed material which reduces the maintenance cost in the long-term. Additionally, damaged areas can be patched as opposed to having to replace the entire panel.
3. Transparent panels reduce the visual impact of the noise barrier from both the residential and driver perspective. The transparent panels can also be coloured or tinted to offer more flexibility in the design of the barrier.

IMAGES 5-6 DISPLAY THE EFFECTIVE USE OF TRANSPARENCY TO REDUCE THE VISUAL IMPACT OF THE BARRIER

Aesthetic Plan, Elements + Proposed Design

Aesthetic Design Plan

Based on the stakeholder feedback and the aesthetic recommendations in the *Urban Design and Landscape Planning Report*, a natural theme, such as a tall-grass prairie, is being explored as a possible design motif to be applied to The Windsor-Essex Parkway. The aesthetic design may go beyond the application of a literal image of a natural object, but rather be drawn from forms, textures and colours found in these natural areas.

The aesthetic design plan may be applied to the following elements:

- Noise Barriers (including sound barriers, safety barriers and fencing).
- Retaining walls.
- Tunnel abutments, parapets and columns
- Bridges and overpass structures.
- Pedestrian and service road lighting.
- Multi-use Trail crossing structures.
- Landscaping.

Design Methodology

The criteria for the proposed design will consider the perspective of both the drivers on the Windsor-Essex Parkway and the residential community adjacent to the noise barrier.

Driving Experience: Creating a rhythmic and unique driving experience is central to the design criteria for the new noise barrier. In order to create variety while driving, solid motif accent panels are combined with transparent panels and strategically arranged along the Windsor-Essex Parkway. The stepping pattern created by utilizing a combination of noise barrier heights (transparent panels, standard concrete walls and a motif panel) will produce a rhythmic and stimulating visual effect from the driver's perspective.

Residential Experience:

A combination of transparent panels, colour and vegetation will be effectively used to reduce the visual impact of the noise barrier from the residential perspective. The recommended colour palette includes earth tone hues and greens. The proposed vegetation (see images 4-14 below) will act to further screen the noise barrier and will be selected based on the plant's tolerance to shade and its ability to establish quickly in order to screen the noise barrier.

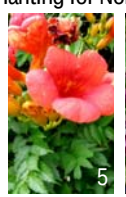
IMAGE 2 VISUALIZATION SHOWING THE USE OF VEGETATION TO REDUCE THE VISUAL IMPACT OF THE NOISE BARRIER

IMAGE 3 THE RECOMMENDED COLOUR PALETTE TO PAINT NOISE BARRIER ON THE RESIDENTIAL SIDE

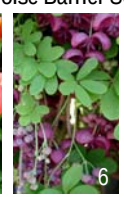
IMAGES 4-14 RECOMMENDED PLANT SPECIES FOR NOISE BARRIER SCREENING PURPOSES FROM PROPERTY OWNER SIDE OF NOISE BARRIER

Suggested Planting for Noise Barrier Screening on Property Owner Side of Barrier

Parthenocissus quinquefolia
Virginia Creeper



Campsis Radicans
Trumpet Creeper



Akebia Quinata
Five leaf Akebia

Viburnum lentago
Nannyberry

Cotinus coggygria
Smoke Tree

Amelanchier canadensis
Serviceberry

Juniperus virginiana
Easter Red Cedar

Metasequoia glyptostroboides
Dawn Redwood

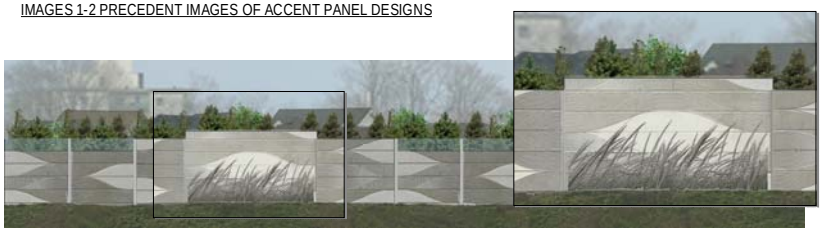
Liriodendron tulipifera
Tulip Tree

Ginkgo biloba
Ginkgo

Sorbus americana
American mountain ash

Motifs Location and Design

IMAGES 1-2 PRECEDENT IMAGES OF ACCENT PANEL DESIGNS



POSSIBLE ACCENT PRAIRIE MOTIF PANELS: EXPLORING THE PRAIRIE THEME WITH PATTERN, TRANSPARENCY, COLOUR AND TEXTURE.

Accent Motif Panel Location + Design Criteria

Motif accent panels can be placed on the highway side of the barrier at equal spacing along long, linear stretches to break up the continuous panels. The motif panels may also occur at junctions and bends in the noise barrier as an accent feature (refer yellow circles on plan).

The motif panels can be used to interject colour, texture, or a thematic element to the continuous noise barrier (refer to images 1& 2). In future design phases, artists and designers may be engaged in this process in order to develop a unique and innovative design that reflects the surrounding communities and the City of Windsor. The motif accent panels can be mounted on the surface of the standard noise barrier, at any stage of the corridor development, allowing for flexibility and ensuring that the design remains consistent throughout.

Detroit River INTERNATIONAL CROSSING STUDY

THE WINDSOR-ESSEX Parkway

PROPOSED MITIGATION MEASURES

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Groundwater Protection & Erosion & Sediment Control

Groundwater Protection

- As prescribed by the Ministry of the Environment, a Permit To Take Water is being obtained to identify:
  - Quantity of groundwater required during the construction period.
  - Location of water release points.
  - Requirements, if any, for water treatment prior to release.

Erosion and Sediment Control Practices

- The proposed disturbance will have minimal impact on the contributing catchments. Area will be subjected to erosion and sediment controls.
- Protocols for erosion and sediment control will be followed based on the MTO document "*Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects*", with regular inspections during construction.

Detroit River INTERNATIONAL CROSSING STUDY

Parkway THE WINDSOR-ESSEX

Natural Heritage / Species at Risk

Natural Heritage / Species at Risk

- Field investigations for vegetation, fisheries and wildlife were conducted from 2006 to 2009 as part of the overall DRIC Project.
- One vegetation community is located within the area of influence of the initial construction: a cultural meadow (CUM1-1). The cultural meadow community supports several rare prairie species including one Species at Risk.
- No significant wildlife habitat or designated natural areas are located within the area of influence of the initial construction.

MONITORING

- Conduct compliance monitoring during construction.
- Conduct effectiveness monitoring post-construction to determine the success of habitat restoration and enhancement, species relocation and stability of species at risk populations.

Impacts

- No impacts to vegetation, fisheries or wildlife are anticipated at Bridge Site No. 14 or the noise barrier.
- Site preparation activities at Bridge Site No. 13 will result in the loss of one cultural meadow vegetation community (CUM1-1) that supports several prairie species including a population of one Species at Risk.

Mitigation

- Erosion and sedimentation control will be used to prevent the migration of sediments beyond the work zone.
- Construction fencing will be used to prevent access to areas located beyond the work zone.
- Species at Risk will be transplanted to a protected area prior to site preparation activities. Species at Risk to remain on site will be protected using construction fencing.
- Site preparation activities, including vegetation removals, will be conducted outside of the breeding season for wildlife, including migratory birds, to meet the requirements of the *Migratory Birds Convention Act*.
- Areas will be restored following construction.
- An application for a permit under the *Ontario Endangered Species* Act has been submitted to the Ministry of Natural Resources. The permit must be approved prior to construction of Bridge 13.

Air Quality

Construction Effects: Air Quality

The construction of the two bridges and grading around the noise barrier has the potential to generate dust in the vicinity of the site.

As with any construction site, these emissions will be of relatively short duration and are unlikely to have any long-lasting effects on the surrounding area.

Mitigation Measures

The following requirements and best management practices will be included in the contract to limit dust:

- Periodic watering of unpaved (unvegetated) areas.
- Periodic watering of stockpiles.
- Limiting speed of vehicular travel.
- Using water sprays during the loading and unloading of materials.
- Sweeping and/or water flushing of the entrances to construction zones.
- Using calcium chloride to suppress dust.

The construction contract will dictate standard dust limiting best practices including:

- Avoiding site preparation, excavation and construction during windy and prolonged dry periods.
- Minimizing vehicle traffic on exposed soils.
- Stabilizing soil and other material storage piles against wind erosion.
- Covering and containing fine particulate materials during transportation to and from the site.
- Using new or well-maintained heavy equipment and machinery, fitted with fully functional emission control systems/ muffler/exhaust system baffles and engine covers.

Human Health

Construction Effects: Human Health

The Recommended Plan for The Windsor-Essex Parkway does not result in an increased health risk over the future "No-Build" or background scenarios.

Human Health

Although there are no human health risks associated with The Windsor-Essex Parkway, a risk assessment will be carried out for the construction activities associated with the two bridges and noise barriers:

- The assessment will evaluate the exposure of near by residents to fine particulate matter and emissions associated with the construction vehicles.

Detroit River INTERNATIONAL CROSSING STUDY

Parkway THE WINDSOR-ESSEX

Noise & Vibration

Background

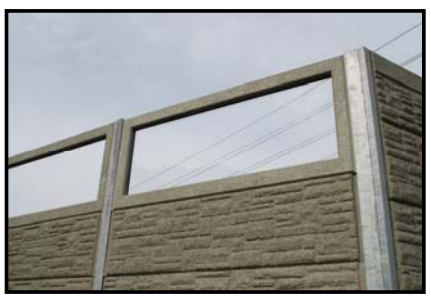
- Noise impacts associated with transportation projects are assessed based on policies developed by MTO and MOE.
- The assessment involves comparing the predicted noise levels associated with the Recommended Plan (future "Build") to future noise levels based on a "No-Build" scenario.
- Mitigation is considered when the difference in noise levels between future "Build" and future "No Build" exceeds 5 decibels (dB).
- To be considered technically feasible, the measures must reduce this difference by 5 dB or more.
- There are two types of impacts considered relative to vibration:
  - Human response to building vibration; and,
  - Potential for structural damage to buildings.
- The threshold for perception of vibration by the average person is 0.14 mm/sec.
- Structural damage to buildings generally occurs when vibration levels reach 50 mm/sec.

Predicted Noise and Vibration Impacts

- The new 5 m (16.4 ft) high noise barrier adjacent to Highway 401 between North Talbot Road and Howard Avenue will benefit residents by reducing noise levels.
- Vibration levels measured for potentially vulnerable receptors were generally within the threshold of perception limit of 0.14 mm/sec.

The following measures will be employed to address possible construction noise effects:

- Using construction equipment in good repair, fitted with functioning mufflers, and in compliance with the noise emission standards outlined in the Ministry of the Environment guidelines.
- Limiting the noisiest construction activities to daytime hours to the greatest extent possible.
- Building permanent noise barriers during the early phases of construction (where construction sequencing allows) in order to reduce noise levels.



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Noise Modelling

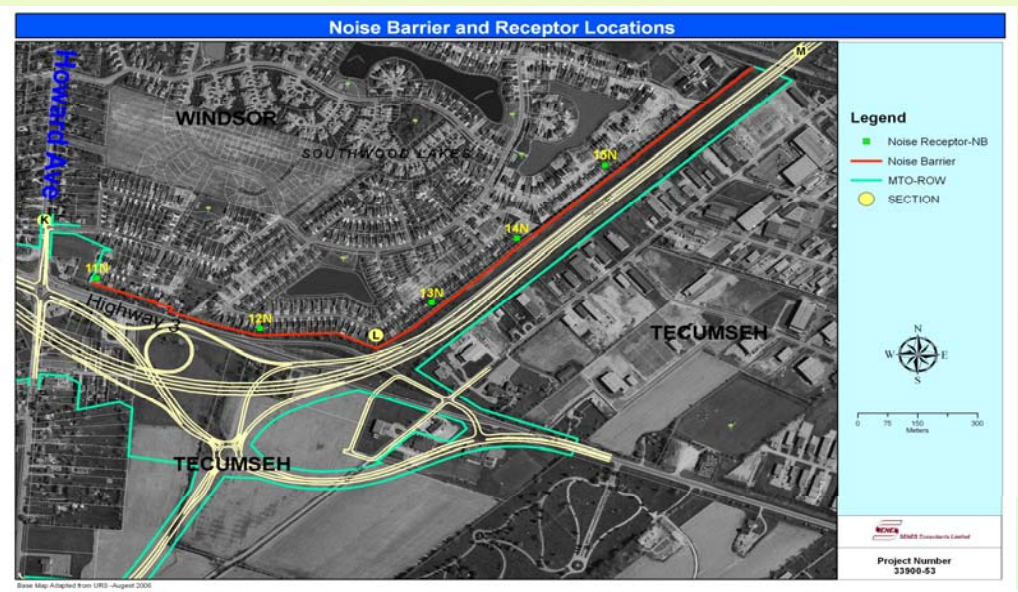
Noise From the Operation of The Windsor-Essex Parkway

- The MOE STAMSON traffic noise model was used for this assessment.
- By comparing predicted noise levels after the implementation of The Windsor-Essex Parkway to the predicted future "no-build" noise levels experienced at receptors, it was determined where noise barriers and berms will be effective in reducing sound levels.
- The assessment determined that with a 5 m high noise barrier adjacent to the Highway 401 R.O.W. between North Talbot Road and Howard Avenue, receptors will result in noticeable reductions in noise levels associated with operating traffic on The Windsor-Essex Parkway in comparison with future "no-build".

2035 STAMSON Modelling Results*				
Map ID	2035 change in noise levels (without mitigation) (dBA)		2035 change in noise levels (with 5 m mitigation) (dBA)	
	Day	Night	Day	Night
11-N	- 6.8	- 6.3	- 13.4	- 8.6
12-N	- 5.5	- 4.9	- 11.1	- 7.2
13-N	3.3	0.8	- 6.8	- 2.4
14-N	3.6	1.3	- 6.7	- 2.4
15-N	3.8	1.4	- 6.4	- 1.9

* A decrease in 5 dB means that sound is decreased by half

- The noise barrier will also be effective in reducing noise from most heavy equipment during the construction of The Windsor-Essex Parkway.



Protection of Archaeological & Cultural Resources

Background

In the Province of Ontario, heritage and archaeological resources are protected by a number of pieces of legislation, including the:

- *Ontario Heritage Act*
- *Planning Act; and*
- *Environmental Assessment Act.*

Under these Acts, it is MTO's responsibility to plan and build highways with minimal impact to the environment and heritage resources. The *Ontario Heritage Act* and *Planning Act* require that the MTO undertake an archaeological assessment of any lands to be disturbed through development activities. Individuals engaged in archaeological work must be licensed through the Ministry of Culture.

Results

- No archaeological or heritage resources have been identified in the area of Initial Construction.
- For the construction phase, any unexpected archaeological finds will be reported to the appropriate agencies.

Consultation with First Nations

- Consultation with First Nations has been an integral part of the Environmental Assessment for the Detroit International Crossing Study, since the start of the study in 2005.
- Early in the study, Walpole Island First Nations (WIFN) demonstrated a desire to participate actively in the study. WIFN continues to have a strong interest in participating in the implementation of The Windsor-Essex Parkway.
- Funding has been provided to WIFN to support their continued involvement in the process.
- MTO is working with WIFN to identify areas of future involvement for First Nations in this initial construction and future stages of The Windsor-Essex Parkway.

What's Next

- Design and Construction Report – in accordance with Ontario *Environmental Assessment Act* requirements, a Design and Construction Report (DCR) will be prepared and made available for review. The DCR will document how the commitments and mitigation outlined in the Ontario *Environmental Assessment Report* and the Canadian *Environmental Assessment Screening Report* have been addressed.
- Notices advising of the availability of the Design and Construction Report will be published in local newspapers.
- Construction starts subject to EA approvals and any associated conditions.
- Consultation during construction.
- Future Workshop for adjacent property owners.

For more information visit us at:
www.weparkway.ca or
www.partnershipborderstudy.com

PUBLIC REVIEW PERIOD

There will be an opportunity for a 30-day public review of the DCR once it is prepared.

STAY INVOLVED!

There will be further opportunities for public involvement during subsequent design and construction study phases.

Contact Information – Initial Construction

Ministry of Transportation

Windsor Border Initiatives Implementation Group

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detroit.river@ontario.ca

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Manager, Project Delivery
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Detroit River
INTERNATIONAL CROSSING
S T U D Y

THE WINDSOR-ESSEX Parkway

>> WORKSHOP <<

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WORKSHOP

As noted in the Consultation Plan (July 2009) as part of follow-up activities a workshop will be held in the Fall.

Purpose:

The Workshop will address the design and aesthetic treatments of the residential side of the proposed noise barrier located adjacent to the Southwood Lakes community.




Fall Workshop

The feedback received from the Fall Workshop will be considered when determining the final colour, texture and design of the noise barrier.

Adjacent property owners will be notified at a later date of the opportunity to participate in the Fall Workshop.

Detroit River INTERNATIONAL CROSSING STUDY

Parkway THE WINDSOR-ESSEX

Study Area - Initial Construction

If you live adjacent to the proposed noise barrier (yellow), plan to attend the workshop.

Canada Ontario

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