

Appendix B:

Disposition Tables of Responses to Comments Received from Federal Reviewers on Preliminary Draft CEAA Screening Reports

Regions and Programs Branch,
Health Canada
180 Queen Street West, 10th Floor
Toronto, ON M5V 3L7

Our file Notre référence
TBA

May 25, 2009

Sarah O'Keefe
Surface Infrastructure Programs
Transport Canada
Place de Ville, 330 Sparks Street,
Ottawa, ON K1A 0N5

Subject: Health Canada's Comments on EA Report – External Agency Comments and Study Team Responses, dated March 18, 2009

Dear Ms. O'Keefe,

Thank you for Transport Canada's follow-up email dated April 16, 2009 and providing Health Canada (HC) with the comment response table for the aforementioned project. As per your request, HC has reviewed responses provided by the Proponent to HC's previously comments (#75 to #80) and would like to provide further responses and additional comments (#81- #85) for your consideration. HC's responses and additional comments are presented into the table, below, titled Health Canada Comments and Responses Table.

Thank you for providing HC with the opportunity to comment on this project. Should you have any questions with HC's response or identify any other specific human health concerns with respect to this project, HC would be pleased to provide expertise upon request as a Federal Authority, pursuant to subsection 12(3) of the Canadian Environmental Assessment Act, or under a territorial / provincial process.

Please feel free to direct your questions, concerns, or requests to the undersigned.

Sincerely,



Kitty Ma
Health Canada – Ontario Region
Regional Environmental Assessment Coordinator
Phone: (416) 954-2206
Fax: (416) 952-4444

cc: Atis Lasis, HC, Manager of Safe Environments Programme – ON Region
Melanie Lalani, HC, Environmental Assessment Coordinator – ON Region
Anne-Marie Lafortune, HC, Senior Advisor, Environmental Assessment Division – NCR Region

#	Health Canada's Comment (Feb, 27, 2009)	Proponent's Response (March 17, 2009)	Health Canada's Response/Additional Comment (May 25, 2009)	Proponents Response (Updated July 2009)																																								
75	Toxicological reference values (TRVs) rationale for Chemicals of Potential Concern (COPCs). Benzene is considered as a COPC, as indicated in table 4.1, however, the rationale for its TRV was not provided. Please provide a rationale for the TRV used in the risk estimation of this compound.	The benzene rationale was inadvertently left out of the document. Both the inhalation reference concentration and oral reference dose were taken from the U.S. EPA IRIS database. The oral slope factor was taken from Health Canada, and is based upon the Canadian Drinking Water Guideline values. Similarly the inhalation unit risk was taken from Health Canada, and is based upon human occupational studies. Additional information with regard to the rationale for the benzene TRV will be provided as part of the response to comments raised by the MOE Standards Development Branch.	No further comment from HC.	No response needed.																																								
76	Based on a one in a million excess cancer risk, HC calculated a $0.0022 \text{ (mg/ m}^3\text{)}^{-1}$ unit of risk for inhalation exposure, instead of the reported value of $0.022 \text{ (mg/ m}^3\text{)}^{-1}$ provided in table 4.1. Please clarify the assumptions that were used in the HHRA to reach the reported value.	This comment pertains to the unit risk for acetaldehyde. HC is correct in that the unit risk is $0.0022 \text{ (mg/ m}^3\text{)}^{-1}$ and not $0.022 \text{ (mg/ m}^3\text{)}^{-1}$ as reported in Table 4.1. This is a typographical error; however all the calculations were carried out with the correct unit risk value of $0.0022 \text{ (mg/ m}^3\text{)}^{-1}$. Clarification with regard to the assumptions used in the HHRA will be provided as part of the response to comments raised by the MOE Standards Development Branch.	<ul style="list-style-type: none"> HC understands that there is a typographical error in Table 4.1 for the unit risk for acetaldehyde (U.S. Environmental Protection Agency, 2009). In the clarification of the assumptions, as acetaldehyde is volatile and its risks are route-specific (e.g. EC and HC, 2000), please explain how this characteristic was factored into the calculation of the different unit of risks (i.e. was it summed, or were route-specific risk estimates used). <p>Reference: United States Environmental Protection Agency. 2009. Integrated Risk Information System (IRIS). Summary for acetaldehyde. Accessed May 21, 2009 at http://www.epa.gov/NCEA/iris/subst/0290.htm.</p> <p>Reference: Environment Canada and Health Canada. CEPA 1999 Priority Substances List Assessment Report - Acetaldehyde. 2000. http://www.hc-sc.gc.ca/ewh-semt/pubs/contaminants/psl2-lsp2/acetaldehyde/index-eng.php</p>	<p>An Amended report was provided in March 2009 and Table 4.1 was corrected as shown below. Acetaldehyde is considered to be a carcinogen from the inhalation pathway and thus the risks that were calculated and presented in the report were for the inhalation pathway only. The non-carcinogenic effects for acetaldehyde were also calculated and as seen from the Table below acetaldehyde has TRVs for both the oral and inhalation pathway. Separate HQ values were calculated for the two pathways and then were summed to get an overall HQ value. While the two end points are different for the two different pathways and therefore should be considered separately, the summation of the two end points is conservative as it assumes the same mode of action.</p> <table border="1"> <thead> <tr> <th rowspan="2">COC</th> <th colspan="2">Oral</th> <th colspan="2">Inhalation</th> <th rowspan="2">Source</th> </tr> <tr> <th>SF (mg/kg-d)⁻¹</th> <th>RfD (mg/kg-d)</th> <th>UR_i (mg/m³)⁻¹</th> <th>RfC (mg/m³)</th> </tr> </thead> <tbody> <tr> <td>Benzene</td> <td>0.31</td> <td>0.004</td> <td>0.0033</td> <td>0.03</td> <td>Carcinogenic - b, Non-carcinogenic - a</td> </tr> <tr> <td>1,3-butadiene</td> <td></td> <td></td> <td>0.03</td> <td>0.002</td> <td>a</td> </tr> <tr> <td>Formaldehyde</td> <td></td> <td>0.2</td> <td>0.013</td> <td></td> <td>a</td> </tr> <tr> <td>Acetaldehyde</td> <td></td> <td>0.2^c</td> <td>0.0022</td> <td>0.009</td> <td>a</td> </tr> <tr> <td>Acrolein</td> <td></td> <td>0.0005</td> <td></td> <td>2 x 10⁻⁵</td> <td>a</td> </tr> </tbody> </table>	COC	Oral		Inhalation		Source	SF (mg/kg-d) ⁻¹	RfD (mg/kg-d)	UR _i (mg/m ³) ⁻¹	RfC (mg/m ³)	Benzene	0.31	0.004	0.0033	0.03	Carcinogenic - b, Non-carcinogenic - a	1,3-butadiene			0.03	0.002	a	Formaldehyde		0.2	0.013		a	Acetaldehyde		0.2 ^c	0.0022	0.009	a	Acrolein		0.0005		2 x 10 ⁻⁵	a
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77	The TRV used for 1,3-butadiene presented in table 4.1 seems to be not in the referenced document (<i>United States Environmental Protection Agency (U.S. EPA) 1998. National Centre for Environmental Assessment – Health Risk Assessment of 1,3 Butadiene. External Draft</i>). Please clarify if this document is the correct reference.	The TRV for 1,3-butadiene is based on extrapolation of the rodent based unit cancer risks for inhalation exposure provided in Section 9.5 of the document which range from 4×10^{-3} /ppm to 0.29/ppm. The average of these values was approximately 0.097 /ppm, which when adjusted to mg/ m^3 using a conversion factor of $1 \text{ ppm} = 2.25 \text{ mg/ m}^3$ and extrapolation to a mg/kgd basis using an inhalation rate of 15.8 mg/ m^3 and a body weight of 70.7 results in an oral slope factor of approximately 1.8 per mg/kg d.	<ul style="list-style-type: none"> Both the U.S. Environmental Protection Agency (2009) in the Integrated Risk Information System (IRIS) and HC/EC in the Priority Substances List assessment (Environment Canada and Health Canada, 2000) are clear that there is little to no likelihood that humans will experience exposure to this substance via any route other than inhalation. Thus, the development of oral factors is misleading to readers and HC suggests that the proponent use the inhalation reference concentration (RfC) and inhalation slope factors to calculate the inhalation risks for 1-3-butadiene. Similar to HC's response #76, 1,3-butadiene is also a volatile and its risks are route-specific (Environment Canada and Health Canada, 2000). As such, please explain how these factors was taken into account in 	<ul style="list-style-type: none"> In the Amended Report, 1,3-butadiene was only considered for the inhalation pathway as shown in the table above. As discussed above, 1,3-butadiene was only considered via the inhalation pathway and thus the risks and HQ values presented in the amended report are only for the inhalation pathway. 																																								

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			<p>the calculation of the different unit of risks (i.e. was it summed, or were route-specific risk estimates used).</p> <p>Reference: United States Environmental Protection Agency. 2009. Integrated Risk Information System (IRIS). Accessed May 21, 2009 at http://www.epa.gov/NCEA/iris/subst/0139.htm.</p> <p>Reference: Environment Canada and Health Canada. CEPA 1999 Priority Substances List Assessment Report 1,3-butadiene. 2000. Accessed May 21, 2009 at http://www.hc-sc.gc.ca/ewh-semt/pubs/contaminants/psl2-lsp2/1_3_butadiene/index-eng.php.</p>	
78	<p>The one hour exposure TRV for sulphur dioxide (SO₂) is reported as 350 ug/ m³ in table 4.2. However, the referenced document (<i>World Health Organization (WHO) 2005. Air Quality Guidelines Global Update. EUR/05/5046029</i>) does not seem to report such a value. Please clarify the location of this value.</p>	<p>The one hour exposure for SO₂ has been scaled from the 10 minute exposure level of 500 µg/ m³ as provided by the WHO document. The scaling factor is based on an equation provided by the Ontario Ministry of the Environment (2005) which is entitled Air dispersion Modelling Guideline for Ontario. The equation is $C_0 = C_1 \times F$ where $F = (t_1/t_0)^n$ where C₀ is the concentration at averaging time t₀ and C₁ is the averaging time at C₁ and n is a power exponent in this case 0.42.</p>	<ul style="list-style-type: none"> The explanation given by the proponent is unclear for how this conversion was accomplished. The reference to the Ontario model and the equation provided do not appear to match up. Please provide a more explicit and detailed equation, since the current equation appears to provide what WHO indicated was inappropriate (i.e. a simple conversion). The World Health Organization (2005) indicates that it is not possible to estimate one hour SO₂ exposure limit values by converting from any duration exposure value using a simple factor: <p><i>"Because short-term SO₂ exposure depends very much on the nature of local sources and the prevailing meteorological conditions, it is not possible to apply a simple factor to this value in order to estimate corresponding guideline values over longer time periods, such as one hour."</i></p> <p>Reference: World Health Organization. 2005. Air quality guideline for particulate matter, ozone, nitrogen dioxide and sulfur dioxide. Global update. Summary of risk assessment. Accessed May 21, 2009 at: http://whqlibdoc.who.int/hq/2006/WHO_SDE_PHE_OEH_06.02_eng.pdf</p>	<p>The conversion from a 10 min to a 1 hr exposure is an empirical conversion used by the Ontario Ministry of the Environment (2005) for conversions of ½ hr POI concentrations to various other time intervals such as 1 hr, 24 hr and 1 day based on meteorological variability. The use of a value of 350 µg/m³ to evaluate the short-term effects of 1 hr exposure is a conservative value to use as it is lower than the 500 µg/m³ and thus any hazard quotient on a 1 hr basis would in fact be larger when dividing by a concentration of 350 µg/m³ versus 500 µg/m³ and thus the evaluation of the short term effects of SO₂ was carried out conservatively. It should also be noted that this risk assessment compares the exposures to residents along the road in its current configuration to residents along the same road corridor under the Parkway configuration and thus both configurations are evaluated and compared under the same assumptions.</p>
79	<p>Deficiencies were noted in the risk analysis for fine particulate matter's (PM_{2.5}). Two values (7ug/ m³ and 15 ug/ m³) have been considered as health reference concentration level for the HHRA (page 28).^{3,4} The references^{3,4} respectively used for these values are outdated. It is suggested that the reference value for PM_{2.5} provided in Judek et al. (2004)⁵ be considered instead as it provides a more appropriate analysis of the health risk associated with exposure to PM. <i>Recent scientific evidence, CCME (2000)⁶ indicates that there is no</i></p>	<p>The reference to the use of 7 µg/m³ as a threshold level for PM_{2.5} comes from a report published by the California Environmental Protection Agency Air Resources Board in 2008 and thus is a very current reference. The report was endorsed by a number of scientific advisors including Dr. Jonathan Levy, Dr. Barst Ostro and Dr. Arden Pope, all well known scientists in the fine particulate area. In addition, the information on the document was peer reviewed by 12 experts including scientists such as Dr. Doug Dockery, Dr. Kaz Ito, Dr. Morton Lippmann, Dr. Daniel Krewski³ and others. Thus the use of a threshold of 7 µg/m³</p>	<ul style="list-style-type: none"> As previously mentioned, HC suggests that the HHRA consider PM_{2.5} as a non-threshold substance in order to more adequately characterize the potential health risk due to exposure to PM based on the following: <p>It is unclear to HC if 7 µg/m³ (California Air Resources Board, 2008) is the proper value to be used as a threshold level for PM_{2.5} in the risk assessment considering the comments made by reviewers of the referenced report (CARB, 2008).</p> <p>Since Windsor is in Canada, HC suggests the appropriate position to be taken on estimating the risks of PM exposure is that enunciated by Canadian authorities.</p>	<p>It is acknowledged that there are different views on whether PM_{2.5} acts as a threshold or non-threshold acting substance. Nonetheless, we still believe that the use of the threshold levels provided in CARB 2008 represents the best currently published information and is endorsed by experts in the fine particulate matter area. As discussed previously, the Judeck <i>et al</i> (2004) paper seems to be focussed on nitrogen dioxide and not fine particulate matter and thus it is difficult to use the information in this paper to evaluate effects related to PM_{2.5} alone. It must also be noted that the assessment not only looked at the potential effects associated with a threshold concentration for PM_{2.5} but also looked at whether there would be any changes in the mortality rates or COPD rates in Windsor as a result of exposure to PM_{2.5} from the proposed Windsor Essex Parkway. The results of this evaluation, which was performed using epidemiologically based risk factors (i.e., relative risk in units of % increase per µg/m³) showed that the Parkway would not result in any measurable changes to mortality or COPD rates in Windsor. The assessment also</p>

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	<p>apparent lower threshold for the effects of PM on human health. Therefore, HC suggests that the HHRA consider PM_{2.5} as a non-threshold substance in order to more adequately characterize the potential health risk due to exposure to PM.</p>	<p>is supported by these experts and they indicate that this level is the best information due to the lack of long-term data at low ambient concentrations of PM_{2.5}.</p> <p>The Judeck et al paper (2004) referred to by the reviewer relies on the concentration response functions that has been accepted for publication but has not yet been published. Moreover, the source of the CRFs appears to be focussed on nitrogen dioxide and not fine particulate matter. Therefore the use of the threshold levels provided in CARB 2008 represents the best currently published information and is endorsed by experts in the fine particulate matter area. The threshold level of 15 µg/m³ may be dated but was provided for context since it was related to information consulted in the development of the Canada Wide Standard.</p>	<p>Such positions have been extensively peer-reviewed. As such, health impacts are suggested, as per Judek et al., 2004.</p> <p>Reference: CARB, 2008. Summary of Peer Reviewer Comments. Accessed May 21, 2009 at: http://www.arb.ca.gov/research/health/pm-mort/pm-mort_final.pdf</p> <p>Reference: Judek, S, B. Jessiman, D. Stieb and R. Vet. 2004. Estimated Number of Excess Deaths in Canada Due to Air Pollution. Health Canada and Environment Canada, Ottawa.</p>	<p>indicated that background concentrations of PM_{2.5} which are related to transboundary pollution account for 80% to nearly 100% of the PM_{2.5} concentrations.</p>
80	<p><From CEAA Report> In addition to the mitigation measures and/or best management practices mentioned under air quality in Table 6.1 of the report, proper maintenance calendar for truck and other equipment with diesel engines, and the use of electrical or propane powered equipment as often as possible are also suggested mitigation measures to be considered during the construction phase of the project.</p>	<p>Comment will be considered during finalization of CEAA Report.</p>	<p>No further comment from HC.</p>	<p>No response necessary.</p>
81			<p>Please include Polycyclic Aromatic Hydrocarbons in the human health risk assessment such as Benzo(a)Pyrene, a known carcinogen (IARC, 2009), as these pollutants are considered as important transportation sources (Office of Environmental Health Hazard Assessment, 1994).</p> <p>Reference: International Agency for Research on Cancer. 2009. Monograph for Benzo(a)Pyrene. Accessed May 21, 2009 at: http://monographs.iarc.fr/ENG/Classification/ListagentsCA_Snos.pdf</p> <p>Reference: Office of Environmental Health Hazard Assessment. 1994. Benzo(a)Pyrene as a Toxic Air Contaminant. Accessed May 21, 2009 at: http://oehha.ca.gov/air/toxic_contaminants/html/benzo%5Ba%5Dpyrene.htm</p>	<p>The Amended report has the following discussion on PAHs:</p> <p>PAHs are emitted from diesel transport trucks, which do and will continue to frequent the area for moving goods into and out of Canada. The emission factor values for Mobile 6C modelling associated with transportation sources suggest that naphthalene makes up the largest fraction of PAH compounds for all vehicle types, while other sources suggest naphthalene is the most abundant PAH found in gasoline fuels. Since no emission factors are available to evaluate the concentrations of PAHs for Mobile 6C modelling, naphthalene was used as a surrogate, with emission factors on the same order of magnitude as 1,3-butadiene. Based on 1,3-butadiene, the predicted incremental increase over background concentrations for naphthalene associated with vehicle emissions was less than 10% indicating that changes in naphthalene concentrations (as well as other PAHs) would not be distinguished from background measurements. Average background concentrations of naphthalene in Windsor are approximately 1 µg/m³, with a maximum concentration of naphthalene of 0.05 µg/m³ as a result of tailpipe emissions. Using a toxicity reference value of 3 µg/m³ for inhalation exposure resulting in nasal effects as provided by the U.S. EPA IRIS database (2009 last updated 1998), the hazard quotient related to traffic effects is calculated as 0.02, which is an order of magnitude below the reference hazard quotient value of 0.2. Additionally, the hazard quotient related to background exposure of naphthalene is 0.3. The traffic related effects of naphthalene are therefore indistinguishable from effects related to background exposure. Since there were no emission factors relating to benzo(a)pyrene, which is a carcinogenic PAH, benzo(a)pyrene concentrations were estimated by scaling the benzene CAL3QHCR model results. Scaling factors were calculated using two methods. In</p>

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				the first method a ratio was developed from estimated on-road mobile source contributions in US urban counties (ToxProbe Inc. 2002, <i>Diesel Exhaust in Toronto</i> , Table 4.1.3.1). In the second method, a ratio was developed from Toronto average on-road contributions (ToxProbe Inc. 2002, <i>Diesel Exhaust in Toronto</i> , Table 4.1.3.3). The ToxProbe Inc. (2002) report prepared for Toronto Public Health includes estimates of on-road mobile sources contributions in US urban counties and Toronto average on-road contributions. The benzene to benzo(a)pyrene scaling factor from US urban counties contributions was calculated to be 1.3×10^{-5} ; the scaling factor from Toronto average on-road contributions was calculated to be 2.8×10^{-5} . The average of these two ratios is 2.05×10^{-5} . Applying this factor to the maximum benzene concentration of $0.24 \mu\text{g}/\text{m}^3$ at receptor location 58 (Bellwood Estates) along the Huron Church corridor results in a benzo(a)pyrene concentration of $4.9 \times 10^{-6} \mu\text{g}/\text{m}^3$ as compared to a background concentration of $2.4 \times 10^{-4} \mu\text{g}/\text{m}^3$. Thus, the predicted concentration of benzo(a)pyrene is approximately 50 times lower than background. If the unit inhalation risk of $0.087 (\mu\text{g}/\text{m}^3)^{-1}$, based on the WHO (2000) value for increased lung cancer risk, is used to determine the potential risk from benzo(a)pyrene associated with vehicle emissions, the risk level is 4.3×10^{-7} , which is below an acceptable risk level of 1×10^{-6} . PAHs were therefore dropped from the final list of COC.																																								
82			<ul style="list-style-type: none"> In Appendix A - Equation A.1 (page 60), please include the Body Weight, Absorption Rate and Inhalation Rate in the calculation of the dose due to inhalation as they are missing. Also, in Appendix A – Equation A.2 (page 61), please include the Absorption Rate in the calculation of the dose as it is missing. 	<p>In the inhalation dose calculations as shown the units are in mg/m^3 (i.e. just a concentration) since the HQ and risk values are calculated by dividing a concentration by a TRV in (mg/m^3) or multiplying by a unit risk (in per mg/m^3); therefore these parameters are not necessary.</p> <p>The Absorption Rate is considered to be 100% and thus this parameter is not necessary in the equation.</p>																																								
83			<ul style="list-style-type: none"> In Appendix B, in the footnote of table B4.1, please indicate that formaldehyde is carcinogenic. To be consistent and prevent misleading assumptions, HC suggests such information be provided for other carcinogenic compounds in the table. 	<ul style="list-style-type: none"> Both the carcinogenic and non-carcinogenic end points were evaluated for all COC where available. 																																								
84			<ul style="list-style-type: none"> In Appendix C, for example in Table C. 1-3 (page 152), there is a Composite Risk calculation that is from the addition of the doses for different age groups. Please explain the purpose this calculation. 	<p>The composite risk calculation captures the risk of someone who is exposed at the same location from an infant to an adult and thus this person is the most exposed individual. The composite receptor is used to capture the carcinogenic risks as described in Section 2.2.1.</p>																																								
85			<ul style="list-style-type: none"> In Table 4.1, HC noticed errors in the conversion of unit risk values from $\mu\text{g}/\text{m}^3$ to mg/m^3 used for inhalation for 1-3 butadiene, formaldehyde and acetaldehyde (United States EPA, 2008). <p>Reference: United States Environmental Protection Agency. 2009. Integrated Risk Information System (IRIS). Summary for 1-3 butadiene. Accessed May 22, 2009 at http://www.epa.gov/NCEA/iris/subst/0139.htm.</p> <p>Reference: United States Environmental Protection Agency. 2009. Integrated Risk Information System (IRIS). Summary for formaldehyde. Accessed May 21, 2009 at http://www.epa.gov/NCEA/iris/subst/0419.htm.</p> <p>Reference: United States Environmental Protection Agency. 2009. Integrated Risk Information System (IRIS). Summary for acetaldehyde. Accessed May 21, 2009 at http://www.epa.gov/NCEA/iris/subst/0290.htm.</p>	<p>There are no errors in the calculations, the values calculated in the table below are correct. It should be noted that the unit risks are in $(\mu\text{g}/\text{m}^3)^{-1}$ and are converted to $(\text{mg}/\text{m}^3)^{-1}$ and not from $\mu\text{g}/\text{m}^3$ to mg/m^3, thus the conversion factors are correct.</p> <p>A unit risk value of $2.9 \times 10^{-5} (\mu\text{g}/\text{m}^3)^{-1}$ is equivalent to $2.9 \times 10^{-2} (\text{mg}/\text{m}^3)^{-1}$ as seen here - $2.9 \times 10^{-5} \text{m}^3/\mu\text{g} \times 1000 \mu\text{g}/\text{mg} = 2.9 \times 10^{-2} \text{m}^3/\text{mg}$ or $2.9 \times 10^{-2} (\text{mg}/\text{m}^3)^{-1}$</p> <table border="1"> <thead> <tr> <th rowspan="2">COC</th> <th colspan="2">Oral</th> <th colspan="2">Inhalation</th> <th rowspan="2">Source</th> </tr> <tr> <th>SF ($\text{mg}/\text{kg}\cdot\text{d}$)⁻¹</th> <th>RfD ($\text{mg}/\text{kg}\cdot\text{d}$)</th> <th>UR_i ($\text{mg}/\text{m}^3$)⁻¹</th> <th>RfC ($\text{mg}/\text{m}^3$)</th> </tr> </thead> <tbody> <tr> <td>Benzene</td> <td>0.31</td> <td>0.004</td> <td>0.0033</td> <td>0.03</td> <td>Carcinogenic – b, Non-carcinogenic - a</td> </tr> <tr> <td>1,3-butadiene</td> <td></td> <td></td> <td>0.03</td> <td>0.002</td> <td>a</td> </tr> <tr> <td>Formaldehyde</td> <td></td> <td>0.2</td> <td>0.013</td> <td></td> <td>a</td> </tr> <tr> <td>Acetaldehyde</td> <td></td> <td>0.2^c</td> <td>0.0022</td> <td>0.009</td> <td>a</td> </tr> <tr> <td>Acrolein</td> <td></td> <td>0.0005</td> <td></td> <td>2×10^{-5}</td> <td>a</td> </tr> </tbody> </table>	COC	Oral		Inhalation		Source	SF ($\text{mg}/\text{kg}\cdot\text{d}$) ⁻¹	RfD ($\text{mg}/\text{kg}\cdot\text{d}$)	UR _i (mg/m^3) ⁻¹	RfC (mg/m^3)	Benzene	0.31	0.004	0.0033	0.03	Carcinogenic – b, Non-carcinogenic - a	1,3-butadiene			0.03	0.002	a	Formaldehyde		0.2	0.013		a	Acetaldehyde		0.2 ^c	0.0022	0.009	a	Acrolein		0.0005		2×10^{-5}	a
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Agency	Comment Received	Action
Department of Fisheries and Oceans Canada. (Received March 10, 2009)	1. The report needs to be better aligned with the recommended content in the EA guidelines (February 2009).	Agree. List of factors has been updated as per the Final EA Guidelines (amended February 2009). The original Draft CEAA report was prepared based on the November 2006 EA Guidelines. Since the time the original Draft CEAA report was submitted in early February 2009, new EA Guidelines (February 10, 2009) were posted on the CEAR by TC. Wording has been included from new EA guidelines (February 10, 2009) that further describes the roles of the FAs as well as provides updated information on the scope of factors.
	2. Follow up program Compensation for impacts to fish and fish habitat has not been provided in the screening report or the technical documents provided to date. The screening report needs to reflect a firm commitment that compensation will be negotiated with DFO during the regulatory phase and incorporated in the Fisheries Act authorizations prior to construction. It should also be noted that a financial contribution to an external rehab/enhancement project is not acceptable compensation. If the proponent wants to partner with another agency or group to support a project the details of the enhancement project would need to be included in the authorization and the proponent would be responsible for ensuring it was completed as proposed.	A <i>Fisheries Act</i> authorization will be secured during later design phases. The authorization will include compensation measures that will result in no net loss of the productive capacity of fish habitat. Should off site compensation be considered, the applicable projects will be included under the authorization and the ministry will be accountable for ensuring the project is completed as proposed. A meeting was held with DFO/MTO/URS/LGL on April 6 th , 2009 (refer to the attached meeting minutes for details of the discussion). At this meeting fish locks including the feasibility and practicality of implementing them were discussed. MTO clarified in the meeting what was meant by financial compensation. As noted in the <i>Detroit River International Crossing Environmental Assessment Report</i> (December 2008) financial compensation for off-site projects will only be considered if insufficient opportunities exist within the Recommended Plan to offset lost fish habitat. In the event that funding is provided for other projects, MTO will be responsible for ensuring successful implementation and effectiveness of the projects.
	3. Note that for impacts to fish passage in Lennon and Cahill drains associated with the submerged culverts the proponent must implement some mitigation to address passage issues. We are not comfortable with the wording in the screening report or supporting documents that suggests that a decision will be made based on the cost etc whether mitigation will be provided. The fish passage issues at these locations are a serious concern for us and the proponent must make a commitment to mitigate the impact to the greatest extent possible and only then will DFO be prepared to discuss alternate compensation to address the issue. If maintaining fish passage in these systems is determined to not to be feasible after a complete examination of alternatives then the loss of access to the upper reaches of the watershed and fragmentation of the habitat will need to be addressed in a compensation plan. In table 6.1 fish passage impact in Lennon and Cahill drains are unlikely to be completely mitigated completely and should be reflected as a residual effect.	Refer to response # 2. A <i>Fisheries Act</i> authorization will be secured during later design phases. The authorization will include compensation measures that will result in no net loss of the productive capacity of fish habitat. At Cahill and Lennon Drains, where a deep submerged culvert is required, fish passage options, including mechanical systems such as fish locks/lifts and manual systems such as the capture, physical transport and release of fish across the potential barrier, will be considered to maintain fish access to upstream reaches. 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 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 of these options would be done in consultation with appropriate regulatory/environmental agencies (e.g., DFO, ERCA, MNR, and municipalities). Walpole Island First Nations have also expressed an interest in the development of solutions to address possible fisheries impacts. Should off site compensation be considered, the applicable projects will be included under the authorization and the ministry will be accountable for ensuring the project is completed as proposed. Refer to the DFO/MTO/URS/LGL April 6 th , 2009 meeting minutes for details of the discussion of fish locks and next steps. Since the meeting, LGL and DFO have met and developed a fisheries compensation plan, which has been submitted to MTO/URS for review. In Table 6.3 Potential Environmental Effects Analysis of the CEAA Report, a residual effect during construction has been acknowledged for fish and fish habitat; however, it is considered not significant. The fish habitat compensation measures to

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		<p>be implemented for this Project will offset the loss of fish habitat resulting from barriers to fish passage.</p> <p>In addition, <i>Fisheries Act</i> authorization is required and will be pursued and developed in consultation with the Department of Fisheries and Oceans Canada to offset the loss in upstream areas and to achieve “no net loss” of the productive capacity of fish habitat. Also, post-construction monitoring is typically prescribed in the <i>Fisheries Act</i> authorization. The terms and conditions of the <i>Fisheries Act</i> authorization will be met.</p> <p>The following information has been added into Table 6.3 Potential Environmental Effects Analysis - Fish and Fish Habitat of the CEAA Report:</p> <ul style="list-style-type: none"> ▪ The use of a mechanical or manual lift to maintain fish passage to upstream areas is not considered a practical option. Measures will be implemented to make the submerged culverts fish-friendly; however, these measures may not be effective due to the depth and length of the submerged culverts. As a result, the submerged culverts located at Cahill and Lennon Drains may present a barrier to fish passage and isolate upstream areas. A compensation strategy will be developed in consultation with the Department of Fisheries and Oceans Canada (DFO) to offset the loss of this upstream area and to achieve no net loss of the productive capacity of fish habitat. ▪ A Letter of Intent and Application will be prepared during future design stages to secure the required federal <i>Fisheries Act</i> authorizations for this Project. ▪ The ability of the submerged culverts to pass fish should be monitored for at least two years after construction to determine their effectiveness. ▪ Post-construction monitoring is typically prescribed in the <i>Fisheries Act</i> authorization. The terms and conditions of the <i>Fisheries Act</i> authorization will be met.
	<p>4. The section on “Molluscs and Insects” needs to be split into 2 sections or at the very least the freshwater mussels need to be removed. Mussels are aquatic and insects are terrestrial and are therefore impacted by different elements of the construction and shouldn't be grouped together.</p>	<p>Molluscs and/or Insects are not a component of the February 10, 2009 EA Guidelines and, therefore, are not considered separately in the updated CEAA Report.</p> <p>These two sections have been split into under the following: Molluscs will be put in Fish and Fish Habitat and Insects will be put in Wildlife, Wildlife Habitat and Migratory Birds.</p>
	<p>5. The conclusion that there are no mollusc species in the watercourses is based on secondary sources of information and not direct field study. Because there are SARA listed mussels in the Detroit River there remains a possibility that some may be found as the construction proceeds in the watercourses that drain into the River. A contingency plan with proper mitigation measures needs to be provided to outline what would be done in the event that mussels are found; a SARA permit may also be required.</p>	<p>The conclusion that there are no SARA listed molluscs in the study area watercourses is supported by the following information:</p> <ul style="list-style-type: none"> • There are no historical records for mollusc species in tributaries of the Detroit River; • aquatic habitat and water quality conditions are poor in tributaries of the Detroit River due to urbanization and drain maintenance activities; • No molluscs or shell fragments were observed incidentally during field investigations for fisheries; and, • No rare mollusc species were recovered on the U.S. side of the Detroit River by the U.S. study team, likely due to out-competition by zebra mussels. <p>In the unlikely event that rare molluscs are found in tributaries of the Detroit River, a permit will be secured under SARA/ESA 2007. The permit application will include mitigation measures for rare mollusc species.</p> <p>DFO suggested at the April 6th meeting that a survey for molluscs be conducted. Therefore, the following wording has been added into the CEAA Screening Report, Table 6.3 Potential Environmental Effects Analysis - Fish and Fish Habitat of the CEAA Report:</p> <p><i>“In terms of molluscs, a reconnaissance level of investigation in areas subject to physical alteration will be carried out during future design stages. A</i></p>

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		<p><i>mitigation strategy, including the relocation of rare molluscs will be prepared if rare species of molluscs are discovered. A permit will be secured under the Endangered Species Act (ESA 2007) and Species at Risk Act (SARA) prior to construction, if required”.</i></p>
	<p>6. In table 6.1 there are a number of environmental components that are identified as having a residual effect that is not significant after mitigation and no monitoring or follow up is recommended. I suggest that if there is a residual effect the conclusion that the effect isn't significant should be tested by implementing a monitoring program as a minimum requirement.</p>	<p>MTO has developed Compliance Monitoring Plans and Environmental Management Plans to be implemented for The Windsor-Essex Parkway, which are to be extended to the plaza and crossing. Refer to Chapter 11 of the <i>Detroit River International Crossing Environmental Assessment</i> Report for further detail on the Compliance Monitoring Plans and Environmental Management Plans.</p> <p>The determination of significance has been made by experts with experience in the application of mitigation measures and the resulting effect. Monitoring and follow-up will be used to confirm that the mitigation has been applied correctly.</p> <p>Further to recent meetings and discussions with federal authorities, wording from TC and DFO has been provided as requested into the Chapters 9 and 10 of the CEAA report regarding monitoring and follow-up programs.</p> <p>The following wording has also been added into Chapter 6 of the CEAA Report when identifying monitoring and follow-up programs:</p> <p><i>“The adaptive management measures identified in the application for permits under the ESA, 2007 and SARA will ensure that the Project does not jeopardize the survival or recovery of wildlife species at risk in Ontario”.</i></p> <p>Also,</p> <p><i>“Monitoring and follow-up will be done in accordance with the ESA 2007 permit for The Windsor-Essex Parkway and monitoring and follow-up for the plaza and crossing will be undertaken by Transport Canada in accordance with the SARA permit”.</i></p>
	<p>7. The report does not state anywhere (up-front) who the Canadian 'study team' is (assumed to be TC and MTO). If it is just TC and MTO, the role of DFO and the FAs should be described in relation to the study team. The report should also be more clear about what this report is intended to do (see track changes on p.2).</p>	<p>The original Draft CEAA Screening Report was prepared based on the November 2006 EA Guidelines. Since the time the original Draft CEAA report was submitted in early February 2009, new EA Guidelines (February 10, 2009) were posted on the CEAR by TC. Wording has been included from new EA guidelines (February 10, 2009) that further describes the roles of the FAs.</p>
	<p>8. The report needs to be much clearer about what the conclusions of the RAs/PA are (TC, DFO and WPA), as opposed to the 'study team' or the 'DRIC EA report' or any other report (see comments/track changes on p.8, 9, 22, 64, 65, 66, 79, 91, 92, 96, 97). There are probably two ways of approaching this:</p> <ul style="list-style-type: none"> ▪ Retain the approach provided in this report (i.e. the report was delegated to another party) and create a 'Screening Cover Report' or 'Screening Summary Report' that is clearly authored by the RAs that indicates the conclusions of the RAs (not the study team) regarding significance, adequacy of consultation etc. ▪ Re-work the current report so it discusses throughout, and again summarizes at the end of each section, what the conclusions of the RAs are (i.e. do RAs <i>agree or disagree</i> with the <i>study team or partnership</i> based on the analysis provided, and what is their conclusion. In the case where FAs were involved, how were they involved, and if RA conclusions took into account their expert advise – that should also be noted. 	<p>The original Draft Screening CEAA report was prepared based on the November 2006 EA Guidelines. Since the time the original Draft CEAA report was submitted in early February 2009, new EA Guidelines (February 10, 2009) were posted on the CEAR by TC. Wording has been included from new EA guidelines (February 10, 2009) that further describes the roles of the FAs.</p>
	<p>9. A full list of references (and proper formatting of references) is not provided (see p. 96).</p>	<p>Agree. A list of references has been included in Chapter 11 References of the CEAA Screening Report.</p>
	<p>10. Additional information needs to be provided to support the conclusions on the significance of residual effects</p>	<p>Agree. The study team has expanded upon the rationale for the determination of significance of residual effects. Throughout Table 6.3 Potential Environmental Effects Analysis more information / further justification and rationale has been provided in the “Residual Effects (after mitigation)” column.</p>
	<p>11. The conclusions in the cumulative effects analysis (CEA) require additional explanation. If a conclusion is stated a supporting reference or detailed analysis needs to be provided to explain to the reader how the determination was made.</p>	<p>Agree. The conclusion of the cumulative effects assessment has been moved to the end of Chapter 7 after Table 7.1 7.2 which identify and describe other projects that were considered and also those which were carried further in the CEA and where significance was determined. The types of projects to be carried forward have been</p>

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		discussed with FAs over the last couple of weeks.
	12. For the CEA please add in the additional environmental components that are likely to have a residual effect. For example DFO has identified that fish passage issues at Cahill and Lennon drains are likely to have a residual effect after mitigation. The projects that are likely to have an interactive cumulative effect will need to be reconsidered in light of this residual.	<p>Agree. There is potential for a residual effect during construction for fish and fish habitat; however, it is considered not significant. The fish habitat compensation measures to be implemented for this Project will offset the loss of fish habitat resulting from barriers to fish passage.</p> <p>In addition, <i>Fisheries Act</i> authorization is required and will be pursued and developed in consultation with the Department of Fisheries and Oceans Canada to offset the loss in upstream areas and to achieve “no net loss” of the productive capacity of fish habitat. Also, post-construction monitoring is typically prescribed in the Fisheries Act authorization. The terms and conditions of the Fisheries Act authorization will be met.</p> <p>The Project team has met with DFO and discussed the approach of a compensation plan for fish and fish habitat on April 6th.</p> <p>A <i>Fisheries Act</i> authorization will be secured during later design phases. The authorization will include compensation measures that will result in no net loss of the productive capacity of fish habitat. As a result, no residual effect is anticipated.</p>
	13. Aboriginal and Public consultation – need to clarify the role of the federal crown in the consultation process that was conducted and outline the activities that took place and whether they meet our needs. This section needs a significant amount of additional information to support a conclusion that we’ve met our consultation commitments.	<p>Agree. Will require TC input.</p> <p>TC provided wording in an e-mail dated April 14th which outlined both TC and DFO’s agreement that the CEAA Screening Report should provide some clarity regarding the federal crown’s role in aboriginal consultation.</p> <p>The information and suggestions provided by TC and DFO have been included in Chapter 8 of the CEAA Screening Report.</p>
	14. For the aboriginal consultation we need some discussion about the strength of the claim and the likely impact on the traditional use of the land and resources by FNs.	<p>Agree. Will require TC input.</p> <p>The Current Use of Lands and Resources for Traditional Purposes by Aboriginal Peoples has been included in Table 6.3 Potential Environmental Effects Analysis of the CEAA Report. This is also a requirement of the EA Guidelines.</p> <p>Additionally, information and suggestions from TC and DFO noted in the April 14th email correspondence has been included along with additional information to supplement this section of the CEAA Screening Report.</p>
	15. Need to add a section that outlines the role of the federal crown in the public consultation process. Describe how or if the consultation meets our needs and if we undertook anything independent of the proponent.	<p>Will require TC input.</p> <p>Some information and suggestions from TC and DFO (April 14th email correspondence) regarding the role of the federal crowns has been included in Chapter 8 of the CEAA Report.</p> <p>The following information has also been included in Chapter 8 of the CEAA Report:</p> <p><i>“The Federal Crown has a duty to consult with Aboriginal peoples under Section 16.1 of the recently amended Canadian Environmental Assessment Act (CEAA) which gives responsible authorities conducting an Environmental Assessment (EA) the discretion to consider Aboriginal traditional knowledge in any EA. As such, Aboriginal traditional knowledge was considered in conducting the Detroit River International Crossing Environmental Assessment”.</i></p> <p>This chapter also describes the consultation activities that have occurred, including specific matters of interest identified at meetings with Walpole Island First Nations.</p>
	16. There is a need to clarify whether we want to develop a follow-up program for this project. At this point the draft screening report is not consistent on that recommendation and nothing substantial has been provided for discussion	MTO has developed Compliance Monitoring Plans and Environmental Management Plans to be implemented for The Windsor-Essex Parkway, which are to be extended to the plaza and crossing. Refer to Chapter 11 of the <i>Detroit River International</i>

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	<p>purposes.</p>	<p><i>Crossing Environmental Assessment</i> Report for further detail on the Compliance Monitoring Plans and Environmental Management Plans.</p> <p>The determination of significance has been made by experts with experience in the application of mitigation measures and the resulting effect. Monitoring and follow-up will be used to confirm that the mitigation has been applied correctly.</p> <p>Further to meetings and discussions with federal authorities over the last couple of weeks, wording from TC and DFO (April 14th email correspondence) have been provided for monitoring and follow-up programs. Monitoring and follow-up is discussed in Chapter 9 of the CEAA Report. This section clearly identifies the roles and responsibilities of MTO for The Windsor-Essex Parkway and TC for the plaza and crossing.</p>

CEAA REPORT – EC COMMENT / RESPONSE TABLE – KEY ISSUES

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Environment Canada. Environmental Protection Operations Division – Ontario. (Received March 9, 2009) And Environment Canada. Environmental Protection Operations Division – Ontario. (Received May 25, 2009)	1. List of factors currently included should be amended to be consistent with the federal EA Guidelines.	1. Agree. Section 3.6.1 Factors and Scope of Factors to be Considered in the Assessment of the CEAA Report has been updated to reflect the list of environmental components outlined in the Final EA Guidelines (amended February 2009).	No further comment.	1. Review of the Draft ensured that factors including SAR, wetlands and Soils were properly addressed in the appropriate sections. It was determined that the Waste and Contamination factor would more appropriately be addressed as a project component in order to capture potential interactions with soils, groundwater and surface water.
	2. Table 3.1 (p. 16): EC suggests that Core Project Components for the construction phase should be listed in a more logical order (reflecting typical construction sequence); and, recommends that some important components not listed below be added and /or amended, such as: <ul style="list-style-type: none"> - Topsoil removal and stockpiling - Excavation / tunnelling and disposal of excess material - Fill for embankments and roadbase - Construction of drainage components - Maintenance of stormwater management facilities - Spills management 	2. Agree. Table 3.1 of the CEAA Report has been updated to include additional core project components. In addition, all components have been organized in sequence of typical construction activities etc.	No further comment.	2. The description of Components and Activities has been reorganized and expanded to capture primary/secondary and ancillary activities associated with the 3 major project components (parkway, plaza and bridge). In addition information about the scope of the proposed activities in the spatial context has been provided. Temporal boundaries were considered in the context of construction (approximately 4 years) and Operations within the 2035 planning horizon.
	3. Section 4.0, Table 4.1 (p. 19): Update activities in Table 4.1 to reflect comments above regarding suggested amendments to the list of core project components and work activities shown in Table 3.1.	3. Agree. Table 4.1 of the CEAA Report has been updated to reflect the updates made to the core projects components as per Comment #2.	No further comment.	3. Comment refers to linkage between the Scope of Project and the analysis of potential interactions. To better reflect the logical approach to the analysis, additional scoping information related to the Factors has been included in a new table (4.1). This table provides information about factors, attributes as well as an indication of the spatial and temporal boundaries. In general this information provides additional context and establishes better linkages between the Project Scope and the interactions. Table 4.1 is now 6.0 – Interaction matrix and has a summary of project and environmental components. Indirect effects are addressed later in the document.
	4. Table 4.1 (p. 19): EC notes that ‘Drainage & Stormwater Management’ is included as an environmental factor that presumably represents the surface water factor. This consideration is not really an environmental factor but a feature of project design and mitigation. EC commented on this deficiency in its December 12, 2008 letter of advice to the MTO on the draft provincial EA Report, however the factor ‘Surface Water’ is still not considered in the provincial EA as a distinct VEC. The federal EA Guideline (and	4. Agree. Throughout the CEAA Report, ‘Drainage & Stormwater Management’ has been updated to ‘Surface Water’ as per the list of environmental components outlined in the Final EA Guidelines (amended February 2009).	No further comment.	4. The surface water factor was further refined to reflect the differences in concerns related to local watercourses (quality and quantity) and those related to the Detroit River (quality and levels/flows). The referred to information on Drainage and Stormwater management primarily referred to Surface water- local watercourses-quality. Additional consideration has been given to the rest of the scope associated with surface

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	<p>provincial EA ToR) does not list this as an environmental factor (i.e. VEC) to include in the EA. EC notes however that water quality issues are partially addressed under this consideration, and under the factor 'Fish and Fish Habitat'. Further comments on this matter are provided in EC's letter of advice to the Ontario Ministry of the Environment (MOE) (Shaw/McLennon) dated February 27, 2009.</p>			<p>water.</p>
	<p>Table 4.1 (p. 19):</p> <p>5. EC recommends that a separate column should be included on 'Species at Risk' (SAR) in order to be consistent with requirements in the EA Guidelines.</p> <p>6. Also, effects on listed species at risk is an environmental effect specifically referenced under CEAA. SAR may include terrestrial and aquatic species covered under 'Wildlife.' and 'Fish and Fish Habitat'. Migratory birds are not specifically referenced; however, EC notes that they are included under 'Wildlife and Wildlife Communities' in the technical supporting documents.</p>	<p>5. Agree. A column for 'Species at Risk' has been added to Table 4.1 of the CEAA Report.</p> <p>6. Agree. The CEAA Screening has been updated to reflect the list of environmental components outlined in the final EA Guidelines (amended February 2009).</p>	<p>No further comment.</p>	<p>5. In order to accurately reflect the consideration given to SAR and the linkages associated with the vegetation and wildlife factors, SAR were included in the scope of these factors. Mitigation identified for both vegetation and wildlife is critical to and integrated with SAR.</p> <p>Refinements to the scope were included to accurately reflect the concern for Migratory Birds (ie nesting/site preparation plaza and parkway AND flight collisions/bridge)</p>
	<p>7. Section 5.1 (p. 21): In regard to the existing environmental feature 'Surface Water', EC has previously indicated in its comments to the MTO and MOE (Dec. 12-08 and Feb. 27-09) that baseline water quality has not been adequately characterized. The proponent has indicated that baseline studies may be undertaken at a later stage as a follow up component to the provincial EA. Also, in its above referenced comments on surface water quality, EC indicated that potential project effects on surface water quality (section 6.0 below) have not been adequately assessed, nor have the conclusions on the potential for adverse effects on receiving water quality been properly substantiated.</p>	<p>7. The study team has noted the comment for a more formal commitment to baseline monitoring during future design stages. The undertaking of baseline monitoring in watercourses is not a practice for MTO undertakings.</p> <p>The study team's rationale for committing to explore the need for baseline monitoring during future design stages was based on the premise that stormwater runoff from the existing highway is not currently controlled and as such, the provision of stormwater management measures in accordance with MOE standards is anticipated to provide a level of quality control that would avoid the potential for the Recommended Plan to negatively affect watercourses within the study area.</p> <p>However, as documented in 6.1.3 Transboundary Effects of the CEAA Report and on page 10-27 of the <i>Detroit River International Crossing Environmental Assessment Report</i> (December, 2008), MTO remains committed to investigating the need for measurement of baseline conditions in watercourses during future design stages in consultation with the appropriate regulatory agencies.</p> <p>With regard to environmental monitoring, MTO will require that visual monitoring of erosion and sediment control measures be undertaken by construction administration staff during the construction to ensure that these measures are functioning effectively as documented on page 10-28 of the <i>Detroit River International Crossing</i></p>	<p>7. Response #7 (p. 1) – In EC's opinion, the premise cited in the response regarding stormwater runoff from the existing highway is not applicable to a few segments of the project, as the proposed Parkway traverses areas not currently located adjacent to the existing high volume access route from Hwy 401.</p> <p><u>EC recommends</u> that the differing changes effected to existing runoff characteristics at various segments of the project be acknowledged in the assessment.</p>	<p>7. Transport Canada has considered the negative effects of the project on surface water (local watercourses – quality and quantity // Detroit River – quality and levels/flows) as they relate to the 3 major project components. The commitment to develop EMP for the plaza and bridge components will comprehensively address the management of stormwater runoff for both components and include monitoring requirements during construction and operation phases. These components are considered 'new construction in the assessment' along with the portion of the parkway connecting the existing road infrastructure to the bridge.</p> <p>MTO will be required to share the results of baseline monitoring with TC (and EC).</p> <p>Adverse Environmental Effects are expected on surface water, regardless of the existing conditions. However, there is no indication that the residual effects would be substantial. Because of the below-grade nature of large sections of the parkway, stormwater management/treatment is an important part of the design of the project..</p> <p>It is acknowledged that while the footprint of The Windsor-Essex Parkway will provide treatment to large areas that are currently untreated (including Highway 3 and Huron Church Road), there are some existing natural areas that will be impacted with the development. Runoff from the existing developed areas contribute to the overall existing pollutant load within the Municipal Drains, however runoff from the natural areas do not.</p>

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		<p><i>Environmental Assessment Report</i> (December, 2008).</p> <p>It has been recommended by provincial agencies that baseline monitoring be conducted in future design stages, as such a Condition of Approval (C of A) may be included in the environmental assessment decision by the Ontario Ministry of the Environment. As per the teleconference held with Transport Canada and Environment Canada on Wednesday, April 15, 2009, TC stated that federal agencies will be satisfied with this analysis if MOE requests a Condition of Approval for baseline monitoring.</p> <p>Additional information on surface water quality and quantity effects and mitigation can be found in the <i>Draft Practical Alternatives Evaluation Assessment Report – Stormwater Management Plan</i> (March 2008) and Chapters 7, 9 and 10 of the <i>Detroit River International Crossing Environmental Assessment Report</i> (December, 2008). Also, refer to Response #12 below for further detail on surface water quality and quantity.</p>		<p>Therefore, in areas where The Windsor-Essex Parkway will be replacing existing highway/roadway or development, there will be an improvement in overall water quality discharge. For areas that are currently undeveloped, the water quality will be negatively impacted based on the limits of the stormwater management provided. However, the existing undeveloped area affected by The Windsor-Essex Parkway development is much less than the existing untreated developed area (~50 ha of undeveloped area vs. ~166 ha of developed and untreated area, or 23% undeveloped and 77% developed). Therefore, providing treatment to the area is proposed to have an overall beneficial impact to the Municipal Drains.</p> <p>For the purposes of baseline monitoring, the requirements to be undertaken will be consistent with the anticipated Condition of Approval from the Ontario Ministry of the Environment.</p>
	<p>Table 6.1 – Air Quality:</p> <p>8. Construction Phase, under ‘Recommended Mitigation Measures...’ (p. 23): EC <u>recommends</u>, in addition to the mitigation measures already listed, that project construction air emissions be controlled through the implementation of an air emissions management plan based on recognized approaches such as the Cheminfo Services Inc. <i>Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities</i>. March 2005.</p> <p>http://www.ec.gc.ca/cppic/En/refView.cfm?refId=1863</p> <ul style="list-style-type: none"> ▪ <i>Residual effect:</i> Minor residual adverse effects are likely during construction as mitigation measures are applied once environmental processes such as visible dust generation are already underway. 	<p>8. Acknowledged. MTO has approved standards and guidelines that consider Best Management Practices for air emissions for new roadways. These guidelines will be applied to the design of The Windsor-Essex Parkway, the inspection plaza, and the crossing. Such construction-related mitigation measures include:</p> <ul style="list-style-type: none"> ▪ 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. ▪ Use of calcium chloride. <p>In addition, during construction, the Contractor is required to implement dust suppression measures to reduce the potential for airborne particulate matter resulting from construction activities. These suppression measures are commonly in the form of water as a first choice on exposed soils to prevent dust from becoming airborne, or chemical applications if required where water is ineffectual. The Contractor is required to take steps as necessary to control dust resulting from the Contractor’s operations, or by public traffic where temporary roads are maintained by the Contractor through work zones, such that dust does not affect traffic, enter surface waters or escape beyond the right-of-way to create a nuisance to residents, businesses or utilities. Standard dust</p>	<p>8. Air Quality - Construction Phase, under ‘Recommended Mitigation Measures...’ (p. 23): Response #8 (pp. 2-3) – The mitigation proposed relates to typical construction and operation impacts, however we expect that some demolition of existing facilities, residences, etc. along the project corridor will be required. The additional information provided in the response is helpful and includes a number of useful measures to mitigate construction dust emissions.</p> <p>EC (March 2009) recommended that construction air emissions be controlled through the implementation of an air emissions management plan. EC requests clarification within the CEAA screening of whether such a plan will be developed for this project.</p> <p>EC supports the best-practice dust control techniques that were listed in the April 22nd response. However, they were not presented as proposed measures, but rather as examples that are sometimes required. EC requests that the updated CEAA screening specify which dust control measures are expected to be implemented for this project.</p> <p>EC will need to review the revised CEAA screening to determine if the additional information addresses our concerns.</p>	<p>8. Response #8 (pp. 2-3) - Please refer to the Air Quality & Climate Section 7.1 of the Draft CEAA Screening Report (July 2009).</p> <p>Transport Canada understands that the MTO is committed the implementing the MTO Standard Best practices during the construction phase of the parkway. These are consistent with the referred to document and provide a planned approach to mitigating effects on air quality.</p> <p>An EMS will be developed and implemented for the operations of the parkway.</p>

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	<p>9. Operation and Maintenance Phase, Parkway (p. 24) - An opinion on ecological consequences of adverse residual air quality effects on terrestrial and wildlife communities adjacent to and within the right-of-way, notably on terrestrial habitat proposed to be created for species at risk, was not provided.</p>	<p>suppression requirements dictated by the construction contract will comply with local Municipal By-Laws for such activities. Examples of other best practices for dust control, which are sometimes required during construction include:</p> <ul style="list-style-type: none"> ▪ 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. Install a tarpaulin on material stockpiles and haulage trucks, as appropriate. ▪ Use of new or well-maintained heavy equipment and machinery, fitted with fully functional emission control systems/ muffler/ exhaust system baffles and engine covers. <p>The above mitigation measures may evolve during future design stages; and as such, the mitigation measures to be implemented by the contractor will adhere to all standards and practices that are applicable at that time.</p> <p>Table 6.3 Potential Environmental Effects Analysis of the CEAA Report has been updated to include any additional mitigation measures as outlined above for air quality during the construction phase.</p> <p>9. Exposures that fall within the guidelines for humans are sufficient to protect vegetation and wildlife. While air pollutants, such as ground level ozone, acid precipitation and particulate matter can stress vegetation and lead to reduced vigour, wilting, dieback and mortality, typically, exposures must be in high concentrations and over extended periods to stress vegetation. The concentration of air pollutants, the duration of the exposure, the proximity of vegetation to the source and the sensitivity of the vegetation to air pollutants are factors in determining the response of vegetation to exposure. It is unlikely that any adverse effects on vegetation or wildlife from air pollutants can be attributed directly to the Project as contaminant concentrations throughout the corridor are either below criteria or are low relative to ambient conditions. While PM and PM₁₀ are predicted to have elevated concentrations and days of exceedances, the exceedances are more attributable to the conservative choice of the 90th percentile background and when a more realistic background concentration is chosen both</p>	<p>9. No further comment.</p>	<p>9. The limited geographic extent and frequency of the residual effects on air quality during operations of the parkway will limit the potential for subsequent interactions with ecological factors, particularly, in environmentally sensitive areas adjacent to the highway. Areas in the corridor may even in some instances provide suitable habitat for sensitive species (i.e. Oak wood tunnel).</p>

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	<p>10. Operation and Maintenance Phase, Plaza and Crossing (pp. 25-26) – An opinion on the ecological consequences of adverse residual air quality effects on terrestrial and wildlife communities to the south, including species at risk, was not provided.</p>	<p>exceedances and maximum concentrations are driven by ambient conditions unrelated to the Project.</p> <p>10. Refer to Response #9.</p>	<p>10. No further comment.</p>	<p>10. No further response.</p>
	<p>Table 6.1 – Surface Water:</p> <p>11. Construction Phase (p. 27) - Based on EC's experience with similar projects, the conclusion of 'No likely residual effect anticipated after mitigation' is not credible as the proposed mitigation is not 100% effective in preventing erosion and releases of suspended sediment. Short term adverse effects on receiving water quality will likely occur until disturbed soils and new drainage swales are fully stabilized.</p>	<p>11. Agree. There is potential for a temporary residual effect on surface water quality during construction</p> <p>Mitigation measures as follows will be in place to ensure that any residual effect that occur will be temporary and not significant.</p> <ul style="list-style-type: none"> ▪ Sediments should be prevented from reaching sensitive areas through erosion and sediment controls and exposed soils stabilized as soon as possible. ▪ A monitoring plan may be required to confirm that the construction of the project will not degrade water quality. This requirement will be investigated by the proponents during future design stages and the need for/requirements of a monitoring program will be approved by the RAs/PA. If required, elements of the plan would include inspections by an Environmental Monitor. Elements of a possible monitoring plan are summarized below: <ul style="list-style-type: none"> ▪ Minimum weekly inspections of all erosion and sediment control (ESC) measures, including all siltation fencing; ▪ Mandatory inspections of all ESC measures following a rainfall event; ▪ Inspections after significant snow-melts; ▪ Daily inspections during extended rain or snowmelt periods; ▪ High-risk areas (soil stockpiles, dewatering locations, etc) may require more frequent inspections; ▪ An ESC report will be required after each inspection, citing all deficient measures (broken/torn silt fence, siltation entering watercourse, etc); and, ▪ All damaged/deficient ESC measures should be repaired or replaced within 48-hours of the inspection. ▪ The monitoring plan will include specific contingency measures to rectify degradation that is identified based on monitoring data. 	<p>11. No further comment.</p>	<p>11. No further response.</p>

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	<p>12. Operation & Maintenance Phase (p. 28) - Based on expected efficacy of the proposed stormwater management measures, the conclusion of 'No likely residual effect anticipated after mitigation' is not credible as the best mitigation (i.e., wet ponds) are typically only 80% effective in removing suspended sediments and any dissolved contaminants (e.g., road salt) are typically not removed. Long term adverse effects on receiving water quality will likely occur. The proponent has not substantiated their general conclusion that due to untreated runoff from existing roadways, the project mitigation will improve downstream water quality. Please refer to EC's detailed comments on this issue in its letter of advice on the provincial EA dated February 27, 2009. In regard to treated stormwater runoff from the bridge deck and approaches, EC's foregoing concerns on the efficacy of the proposed treatment measures also apply to the conclusion made on residual effects of this component.</p>	<p>Table 6.3 Potential Environmental Effects Analysis of the CEAA Report has been updated to include the above analysis for surface water during construction.</p> <p>12. There is no likely residual effect on surface water quality or quantity when considering the removal of total suspended solids, given that the Recommended Plan will be removing 80% of total suspended solids and that the stormwater from the existing roadway does not currently receive treatment. The stormwater management plan for the DRIC Project will improve water quality along The Windsor-Essex Parkway and will prevent water quality impacts to the Detroit River associated with operation of the inspection plaza. Additional information on surface water quality and quantity can be found in the <i>Draft Practical Alternatives Evaluation Assessment Report – Stormwater Management Plan</i> (March 2008) and Chapters 7, 9 and 10 of the <i>Detroit River International Crossing Environmental Assessment Report</i> (December, 2008).</p> <p>The stormwater runoff associated with the Windsor-Essex Parkway and the inspection 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 a minimum of 80 per cent of total suspended solids (TSS), as well as providing erosion attenuation of the 25 mm storm for 24 hours. The 80 per cent TSS removal provided through the proposed stormwater management practices is based on the highest level of protection required as set by the Ministry of Environment. The remaining suspended solids represent a permissible impact as determined by the review agencies.</p> <p>The stormwater management ponds will also provide quantity storage to control peak flows from the Windsor-Essex Parkway and inspection plaza to pre-development rates. This approach will prevent erosion downstream, and provide net benefits to fish and fish habitat for receiving watercourses along The Windsor-Essex Parkway. The collection and treatment of stormwater in ponds will also prevent water quality impacts to the Detroit River associated with operation of the inspection plaza.</p> <p>Deck drains are not proposed on the new Detroit River structure. Stormwater runoff from the crossing will be collected and conveyed for quality treatment on land prior to discharging to the</p>	<p>12. Operation & Maintenance Phase (p. 28):</p> <p>Response #12 (p. 4) - The statement made in the 1st paragraph of the response has not been substantiated, notably effects on surface water quality. See EC's letter of advice to TC on the basis for this concern and our comments above on the proponent's response to comment #7. Also, reference made to the effects on quantity is not correct given that a much larger area of impermeable surface will be created by the project, reducing infiltration into the soils/groundwater and increasing runoff volume from the project area. EC acknowledges that peak flows from the project are controlled by the proposed ponds, however, the total volumes of runoff are typically not reduced unless active infiltration of stormwater to groundwater is a viable option.</p> <p>It is unclear to EC what the reference to 'permissible impact' in the 2nd paragraph (last sentence) of the response means. As EC does not regulate stormwater discharges under s. 36(3) of the Fisheries Act, it should be clarified that the statement applies only to provincial agencies, notably the MOE. EC understands that the MOE issues CoA's for stormwater management facilities. Regardless, the 'permissible impact' cited would be a negative adverse residual effect on receiving water quality.</p> <p>Response #12 (p. 5) – In regard to the statement made in the 1st paragraph of the response, EC is of the opinion that the magnitude of potential residual effects has not been adequately demonstrated. Also, we understand that monitoring of receiving water quality is proposed to confirm the magnitude of this effect. Please refer to EC's comments above on this issue.</p>	<p>12. Agreed with EC. Residual effects are anticipated on Surface water as a result of the operations of all major project components. Stormwater management facilities will be designed and implemented such that they meet or exceed MOE design standards and any applicable criteria^[MAS1]. The prohibition on the use of deck drains on the deck of the bridge will be included as a design constraint.</p>

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	<p>13. Operation & Maintenance Phase (p. 29) - In regard to the residual effects of spills from the crossing and plaza area, EC is of the opinion that the finding of 'No likely residual effect...' is not credible. A negligible or minor effect may still be experienced if an effective spills contingency/response plan is developed and implemented by the proponent.</p> <ul style="list-style-type: none"> ▪ <u>EC recommends</u> that additional BMP's, such as the foregoing, should be referenced and implemented by the proponent to minimize the effects of spills on receiving water quality. ▪ <u>EC also recommends</u> that the Parkway project component be added to consider: 'Potential contaminant spills (e.g. oil, chemical, etc.) on the Parkway and releases to associated drainage structures'. EC's above comments should be taken into consideration when evaluating the residual effect from this potential impact. 	<p>Detroit River;</p> <p>In summary, stormwater management quality and quantity treatments will be provided to an area that is currently uncontrolled and is discharging directly to watercourses. The BMPs followed for this study are to the highest level of protection (in accordance with provincial requirements), and therefore, no likely residual effects are anticipated.</p> <p>13. Agree. There is potential for a minor residual effect on surface water quality or quantity resulting from potential contaminant spills (i.e., oil, chemical, etc.) during the operations phase. 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.</p> <p>A spill response could include shutting off pumping station. Also, if pumped to a pond there is a further opportunity to control spill. Also, oil grit separator and on-line tank proposed in conjunction with pumping station design provide additional control.</p> <p>In addition, best construction practices will 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.</p> <p>Construction provision SP100 S35 describes the responsibilities and required action that contractors must implement in the event of a spill.</p> <p>In the event of an accident during construction, environmental effects would be limited to petrochemical spillage. Accidents and spills management are considered as part of emergency response. During construction, the Contractor is mandated to identify spill hazard situations and address in a pro-active manner.</p> <p>As to the issue of spills generated by all types of vehicle during the construction of the recommended improvements or post-construction, the management of accidents is the</p>	<p>13. No further comment.</p>	<p>13. No further response.</p>

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	<p>14. In regard to the residual effect of winter maintenance activities, EC previously advised that dissolved contaminants, including road salt, cannot be removed by the proposed stormwater treatment facilities. Therefore, the finding of 'No likely residual effect...' for winter maintenance activities is not credible.</p>	<p>responsibility of the local police force (i.e. OPP). In addition, MTO is called upon to assist this agency in scene management and traffic control. The Environmental Protection Act (Ontario) places the onus upon the individual with care and control of products hazardous to the environment (i.e. gasoline).</p> <p>Notwithstanding these legal positions as to responsibility and ownership, MTO responds proactively to spills and accidents that are discovered. For example, if petroleum product or pesticide is discovered along a highway, action is initiated to:</p> <ul style="list-style-type: none"> ▪ Contain the material, restricting movement to the natural environment (waterbodies, etc.); ▪ Determine the nature of the material and management options; ▪ Advise the Ministry of the Environment (Spills Action Centre); and ▪ Cleanup and safe disposal of material. <p>Table 6.3 Potential Environmental Effects Analysis of the CEAA Report has been updated to include the above analysis.</p> <p>14. Agree. There is potential for a residual effect for winter maintenance activities, MTO will employ and recognizes the importance of best salt management practices and has developed a Salt Management Plan in accordance with <i>Environment Canada's Code of Practice for the Environmental Management of Road Salts</i> (Environment Canada, 2004).</p> <p>MTO partners with stakeholders using the latest technology, tools and methods to keep roads safe for winter driving and to minimize salt usage.</p> <p>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.</p> <p>MTO will continue to investigate de-icing alternatives to control and reduce salt usage while ensuring highway safety.</p>	<p>14. No further comment.</p>	<p>14. No further response.</p>
	<p>Table 6.1 – Groundwater:</p> <p>15. Construction Phase (p. 30) – EC cannot advise on the conclusion made regarding 'No likely residual effect...' as we have no information on the type of treatment system proposed and its effectiveness. If groundwater contains hydrogen sulphide and treatment is necessary, the proponent is advised that any effluents discharged to Canadian Fisheries</p>	<p>15. There is no likely residual effect to groundwater during construction as an assessment of the potential for the water taking to mobilize contaminants that are both on-site and adjacent to the proposed works would be part of any application for a Permit to Take Water, should such a water taking be considered necessary and part of the final design. Currently, no dewatering is</p>	<p>15. Construction Phase (p. 30): Response #15 (p. 6) - In EC's opinion, the rationale provided in the response is not an adequate to arrive at the conclusion made (i.e., 'no likely residual effect'). The proponent cannot determine at this time what potential environmental effect the MOE may approve under a Permit to Take Water if this is later</p>	<p>15. Response #15 (p. 6) - Please refer to the Groundwater Section 7.3 of the Draft CEAA Screening Report (July 2009).</p>

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	<p>Water must not be deleterious to fish. Section 36(3) of the <i>Fisheries Act</i> prohibits such discharges.</p> <p>16. Operation & Maintenance Phase (p. 31) – In regard to the potential for groundwater lowering in certain</p>	<p>required as part of the proposed design.</p> <p>Based on the anticipated condition of the soil and bedrock near the bedrock interface and the likely overall dimensions of construction, it is likely that substantial volumes of water would require extraction in order to have measurable effects on the groundwater pressures. The natural groundwater contains hydrogen sulphide that must be managed and may require treatment during any extraction, collection, and disposal process. Disposal of the volumes that might be generated by construction dewatering may be impractical or prohibitively costly and will certainly require that a Permit to Take Water be obtained from the MOE for the project.</p> <p>The need for dewatering should be minimized by limiting the depths of temporary and permanent excavations to the extent practicable. It is anticipated that limiting the maximum depth for the approach highway permanent cuts to depths on the order of about 9 m, generally east of the intersection of Huron Church Road and E.C. Row Expressway, should be sufficient to minimize the need for temporary construction dewatering that might otherwise induce settlements, impractical dewatering rates, treatment of groundwater and the need for MOE Permits to Take Water. 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.</p> <p>Where contaminated soils and material are encountered, the procedures outlined in Section 10.2.6 of the <i>Detroit River International Crossing Environmental Assessment Report</i> should be followed to minimize the risk of mobilizing contaminants due to dewatering activities. On page 10-26 of the <i>Detroit River International Crossing Environmental Assessment Report</i>, the following is noted that: "In the event that hydrogen sulphide and any other contaminants are present in the groundwater, an <i>Ontario Water Resources Act</i> approved treatment system may be required before discharging to a watercourse", and if required, this treatment system would avoid a residual effect.</p> <p>As noted in the teleconference on Wednesday, April 15, 2009, Environment Canada will be satisfied with this analysis if hydrogen sulphide is treated off-site.</p>	<p>required for de-watering work. The MOE may allow the use of treatment technologies that do not provide 100% removal of contaminants based on best available technology economically achievable.</p> <p>Response #15 (p. 7) - Please refer to EC's comment on this response (p. 6). If effluent is trucked off site for treatment, depending on the level of treatment, location of treatment facility and point of discharge, EC notes that a small residual effect may or may not occur on receiving waters in the project area due to groundwater effluents. Therefore, EC recommends that the last paragraph should reflect this consideration.</p>	<p>Response #15 (p. 7) - Please refer to the Groundwater Section 7.3 of the Draft CEAA Screening Report (July 2009).</p> <p>In general, residual effects can be anticipated as a result of the project interactions. These were considered in support of the decision on the potential for significant effects.</p>

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	<p>areas, <u>EC recommends</u> that the potential effect of this impact on terrestrial vegetation communities, notably species at risk, should be assessed and the potential for adverse residual effects identified in the EA. Also, an opinion on ecological consequences of groundwater level drawdown effects on terrestrial communities adjacent to and within the right-of-way, notably on existing terrestrial habitat and habitat proposed to be created for species at risk should be provided.</p>	<p>16. As expressed in the Natural Heritage Impact Assessment, the study team recognizes that further investigation may be required to more definitively establish the interaction between groundwater, surface water and the maintenance of watercourses and adjacent natural heritage areas. However, as the proposed works are not expected to result in permanent dewatering or changes in groundwater due to the limited permeability of the native soils, the study team does not anticipate permanent effects to adjacent vegetation communities and watercourses.</p>	<p>16. No further comment.</p>	<p>16. No further response.</p>
	<p>Table 6.1 – Fish and Fish Habitat:</p> <p>17. Construction Phase, Effects on water quality and quantity (p. 34) – In regard to the conclusion of ‘No likely residual effect...’ please see EC’s previous comments above in regard to potential project effects on surface water quality due to stormwater runoff.</p> <p>18. Construction Phase, Changes to water quality and quantity (p. 35) – In regard to the conclusion of ‘No likely residual effect...’, we note that a spills response plan is proposed; however, please see additional considerations raised in EC’s previous comments above in regard to potential project effects due to spills on surface water quality.</p> <p>19. Construction Phase, ‘Changes to water quality and quantity’ (p. 34) – In regard to the conclusion of ‘No likely residual effect...’ please see EC’s previous comments above in regard to potential project effects on surface water quality due to winter maintenance activities and stormwater runoff.</p>	<p>17. Refer to Response #12.</p> <p>18. Refer to Response #13.</p> <p>19. Refer to Response #14.</p>	<p>17. Fish and Fish Habitat In regard to the response #12, please refer to EC comments on this response.</p> <p>18. No further comment.</p> <p>19. No further comment.</p>	<p>17. Refer to Response # 12 noted above.</p> <p>18. No further comment.</p> <p>19. No further comment.</p>
	<p>Table 6.1 – Wildlife and Wildlife Habitat:</p> <p>20. Construction Phase (pp. 37-38), and Operation & Maintenance Phase (p. 39-40) – In regard to the mitigation proposed: ‘Habitat restoration and enhancement’, please see EC’s detailed recommendations on this measure under our specific comments on the Natural Heritage Report. An opinion on ecological consequences of adverse residual effects on wildlife and wildlife habitat directly and indirectly impacted by the project was not provided.</p>	<p>20. Wildlife and wildlife habitat will be displaced by the Project in the short term during the Construction Phase.</p> <p>Disturbance to wildlife during the operations phase will be mitigated through fencing, berming, light shielding and prohibiting access to significant wildlife habitat by humans. Also, enhancement and restoration of habitat located along The Windsor-Essex Parkway will offset habitat loss and will establish connections between designated natural areas. Tunnels in selected areas including the Oakwood Tunnel will reduce existing barriers for wildlife and enhance wildlife movement. The site plan for the inspection plaza incorporates several mitigation measures including: Landscaping and the establishment of setbacks and a stormwater detention pond and the stormwater detention pond will provide a buffer width between the plaza and the Black Oak</p>	<p>20. Wildlife and Wildlife Habitat</p> <p><u>Response #20, 21</u> (pp. 7, last para., p. 8, 1st row) - There will almost certainly be residual effects from the footprint of the Plaza and Parkway ROW; in any case, mitigation measures have not been fully defined. In addition, there will be avian mortality (i.e. residual effects) due to collisions with the bridge structure regardless which bridge design is chosen, or which mitigation measures are employed.</p>	<p>20. Agreed. Wildlife and wildlife habitat will be displaced and disturbed by the Project during the Construction and the Operations and Maintenance Phases. This will include potential avian mortality resulting from bridge collisions. The environmental protection measures that will be implemented for this Project will not fully mitigate the displacement of and disturbance to wildlife and wildlife habitat and it is anticipated that an adverse residual environmental effect will occur [MAS2]. The restoration and enhancement measures that will be implemented for this Project will greatly offset the displacement of and disturbance to wildlife and wildlife habitat in the long term. Please also refer to response # 21 below.</p>

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	<p>21. Operation & Maintenance Phase (p. 41) – In regard to the proposed radar surveys to help identify potential effects on migratory birds to inform the bridge selection, and bridge design and lighting, please see EC’s detailed recommendations on this component, and the comments in our letter of advice to the MOE dated February 27, 2009. An opinion on ecological consequences of adverse residual effects on migratory birds potentially impacted by the crossing was not provided; however, as data is not currently available to do this, EC requests that this be provided after the proposed radar surveys are undertaken.</p>	<p>Woods to the south</p> <p>Several mitigation measures have been incorporated into the design of The Windsor-Essex Parkway and the plaza that will address existing barriers to wildlife and which will help to enhance wildlife movement. Such measures include: tunnels in selected areas along The Windsor-Essex Parkway (i.e., Oakwood Tunnel) and a stormwater detention pond to provide a buffer width between the plaza and the Black Oak Woods.</p> <p>No likely residual effect anticipated after mitigation measures are employed</p> <p>Table 6.3 Potential Environmental Effects Analysis of the CEAA Report has been updated to clarify the above.</p> <p>21. Further work will be undertaken during future design stages to confirm and mitigate the potential for effects of the new bridge on migratory birds. Radar studies, acoustic studies and point count surveys will be coordinated by Transport Canada in consultation with Environment Canada to provide input to bridge design. A Terms of Reference document has been developed by Transport Canada, in consultation with Environment Canada which outlines the approach for conducting migratory bird survey work.</p> <p>Given the availability of known techniques to mitigate impacts to migratory birds, (including modifications to bridge illumination), any residual effects are not expected to be significant.</p> <p>Table 6.3 Potential Environmental Effects Analysis of the CEAA Report has been updated to clarify the above.</p>	<p>21. <u>Response #21</u> (p. 8, 1st para.) - Please note that EC has not recommended that point count surveys be conducted.</p>	<p>21. Noted. Transport Canada will continue to work with EC through out the design stages of the project to ensure that appropriate mitigation techniques are further developed and implemented.</p> <p>Radar studies and acoustic studies will be carried out by Transport Canada in consultation with Environment Canada to provide input to bridge design. A Terms of Reference document has been prepared by Transport Canada, in consultation with EC, which outlines how further work is to be carried out. The first component of this work has recently been completed by the MTO and the report documenting the results will be provided for EC’s review [MAS3].</p> <p>The Responsible Authorities have determined that a follow-up program pursuant to CEAA will be required for Migratory Birds and will continue to discuss with EC where formal CEAA follow-up programs may be warranted. In some cases, monitoring and/or regulatory follow-up programs may be more appropriate (i.e. species at risk on federal land). The Responsible Authorities will continue to engage Environment Canada in the development of monitoring and CEAA follow-up programs.</p> <p>The United States Fish and Wildlife Service has also reviewed the Terms of Reference including EC’s comments, and is generally satisfied and are not proposing any additional changes further to those that EC recommended.</p>
	<p>Table 6.1 – Vegetation and Vegetation Communities:</p> <p>22. Construction Phase (pp. 43-46), and Operation &</p>	<p>22. Vegetation and vegetation communities will be displaced by the Project in the short term during</p>	<p>22. Vegetation and Vegetation Communities</p> <p>Construction Phase (pp. 43-46), and Operation &</p>	<p>22. Vegetation and vegetation communities will be displaced and disturbed by the Project during the Construction and the Operations and</p>

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	<p>Maintenance Phase (p. 47) – In regard to the mitigation proposed for enhancement and restoration of vegetation communities, to naturalize lands, etc., please see EC's detailed recommendations on this measure under our specific comments on the Natural Heritage Report. An opinion on ecological consequences of adverse residual effects on terrestrial and wildlife communities directly and indirectly impacted by the project was not provided.</p>	<p>the Construction Phase.</p> <p>The restoration and enhancement measures to be implemented for this Project prior to the operations and maintenance phases will offset the temporary loss of vegetation and vegetation communities during the construction phase.</p>	<p>Maintenance Phase (p. 47) – In regard to the mitigation proposed for enhancement and restoration of vegetation communities, to naturalize lands, etc., please see our comments on the proponent's responses to EC's detailed recommendations on this below under the sub-header 'Wildlife Habitat and Restoration'.</p>	<p>Maintenance Phases. The environmental protection measures that will be implemented for this Project will not fully mitigate the displacement of and disturbance to vegetation and vegetation communities and it is anticipated that an adverse residual environmental effect will [MAS4].</p>
	<p>Table 6.1 – Species at Risk:</p> <p>23. Construction Phase (pp. 48-49), and Operation & Maintenance Phase (p. 49) – please see EC's detailed recommendations on species at risk under our specific comments on the Natural Heritage Report. An opinion on ecological consequences of adverse residual effects on species at risk directly and indirectly impacted by the project was not provided.</p>	<p>23. The application for a permit under the Endangered Species Act, 2007 for The Windsor-Essex Parkway has demonstrated that the Project will not jeopardize the survival or recovery of species at risk in Ontario. Extensive monitoring and follow-up will be required provincially under the Endangered Species Act, 2007 permit. A permit under the Species at Risk Act will also be secured for the plaza and crossing. A formal follow-up program will be required federally under the <i>Species at Risk Act</i> permit. (Chapters 9 and 10 of the CEAA Report have been updated to reflect commitments to future work regarding monitoring and follow-up programs that will be developed.) Additionally, information on monitoring and follow-up provided by TC on April 14th, 2009 has been incorporated into the CEAA Report.</p>	<p>23. Species at Risk</p> <p><u>Response #23</u> (p. 8, last para.) – Response #23 (p. 8, last para.) - Since mitigation will not be 100% percent effective, there will be residual effects on SAR during the operations/maintenance of the Project, particularly in the areas of the Plaza and access road, where these species are prevalent.</p>	<p>23. The application for a permit under the Endangered Species Act, 2007 for The Windsor-Essex Parkway will demonstrate that the Project will not jeopardize the survival or recovery of species at risk in Ontario. Extensive monitoring and follow-up will be required provincially under the Endangered Species Act, 2007 permit. A permit under the Species at Risk Act will also be secured for the plaza and crossing. A formal follow-up program will be required federally under the <i>Species at Risk Act</i> permit. (Chapters 9 and 10 of the CEAA Report have been updated to reflect commitments to future work regarding monitoring and follow-up programs that will be developed.) Additionally, information on monitoring and follow-up provided by TC on April 14th, 2009 has been incorporated into the CEAA Report.</p> <p>Residual effects on SAR are anticipated during all phases of the project.</p>
	<p>Table 6.1 – Waste and Waste Management:</p> <p>24. Construction Phase (p. 52) – In regard to management and disposal of waste, the proponent is also advised of requirements under the <i>Canadian Environmental Protection Act 1999</i> with respect to any substances designated as toxic under the Act, having due regard to any applicable Regulations, notably those governing storage and export of PCB's.</p>	<p>24. Acknowledged. The requirements under the <i>Canadian Environmental Protection Act 1999</i> will be considered during later design stages.</p>	<p>24. Waste and Waste Management The response is acceptable.</p>	<p>24. No further comment.</p>
	<p>25. Tables 6.3 and 6.4 (p. 59): EC expects that there will be minor residual construction impacts in the immediate vicinity of the main DRIC construction works since these impacts are challenging to contain and mitigation measures are generally triggered once emissions are underway. EC rates the air quality component as follows:</p> <p align="center"><i>Residual Effect: Yes</i> <i>Magnitude: Low-High</i></p>	<p>25. Agree. Due to the length of the construction period it is possible that there will be infrequent episodes where mitigation may not be fully protective.</p>	<p>25. No further comment.</p>	<p>25. No further comment.</p>

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	<p><i>Geographic Extent: Low</i></p> <p><i>Duration: Low</i></p> <p><i>Frequency: Low (moderate downwind of storage piles and graded earth)</i></p> <p><i>Permanence: Low</i></p> <p><i>Ecological Context: Low</i></p>			
	<p>26. 6.1.2 Transboundary Effects (p. 61): EC recommends that a statement be added about the potential for air quality or other impacts on Aboriginal lands, notably the Walpole Island First Nation Section 6.1.2 - The potential for project related transboundary effects on Aboriginals, notably WIFN are not discussed under this section.</p>	<p>26. The assessment conducted for the Project did not identify any transboundary effects.</p> <p>TC and MTO are currently consulting with WIFN regarding matters of concern including potential effects to traditional lands.</p> <p>Section 6.1.3 Transboundary Effects in the CEAA Report has been updated to include text on transboundary effects on Aboriginal Lands.</p>	<p>26. 6.1.2 Transboundary Effects (p. 61): Response #26 (p. 9) - The response appears to be acceptable. EC will review the new text in the revised CEAA screening report when it is available.</p>	<p>26. Refer to the Transboundary Effects Section 7.1.2 (p. 37) of the Draft CEAA Screening Report (July 2009).</p>
	<p>27. Section 6.1.2 (3rd para.): In EC's opinion, the conclusion on potential project effects on water quality has not been adequately substantiated. The basis for this opinion is described in EC's comments to the MOE dated February 27, 2009. Also, the statement: <i>'will improve the quality of water that flows into the Detroit River'</i> should be reworded so as not to be misleading. The proposed mitigation may not necessarily improve the quality of water currently draining from the same area under existing conditions, but will likely minimize the extent of adverse impacts on receiving water quality due to project discharges of stormwater runoff.</p>	<p>27. This statement will be clarified in the CEAA Report in Section 6.1.3 and will read as follows:</p> <p>6.1.3 Transboundary Effects</p> <p>Overall, it is not anticipated that the Detroit River International Crossing project will result in transboundary effects across the Detroit River in the United States. As previously discussed the Project will be improving regional air quality and will be improving water quality along The Windsor-Essex Parkway as well as preventing water quality impacts to the Detroit River associated with operation of the inspection plaza. As such, no transboundary effects are anticipated as a result of the Project.</p>	<p>27. Response #27 (p. 9, 2nd para.) - As residual water quality impacts will likely occur due to releases of fine suspended sediment and dissolved contaminants, this statement on 'preventing water quality impacts' is inaccurate. It would be more correct to say 'minimizing water quality impacts', and conclude that 'no substantive transboundary effects are anticipated...'</p>	<p>The potential for effects on water quality in the Detroit River exists particularly during the construction phases for the bridge component. However, these interactions will be limited (accidental) and not likely to result in substantive transboundary effects.[MAS5]</p> <p>Minor transboundary operational water quality effects are likely to occur due to stormwater runoff, however similar effects are likely to occur on both sides of the border due to the US component of the international crossing project.</p>
	<p>28. Section 6.2.1 (p. 62): It was stated that the <i>'MTO responds proactively to spills and accidents that are discovered.'</i> EC assumes that this refers to the construction, and operation and maintenance phases of the project. This should be clarified in the CEAA Screening Report.</p>	<p>28. Agree. Section 6.2.1 Accidents and Malfunctions in the CEAA Report has been updated to read as follows:</p> <p><i>"MTO responds proactively to spills and accidents that are discovered during the construction and operation / maintenance phases".</i></p>	<p>28. No further comment.</p>	<p>28. No further response.</p>
	<p>29. 6.2.2 Effects of the Environment on the Project (p. 63)</p> <p>Climate Change - Section 8.5.2 of the EA Guidelines specified that 'the assessment should also take into account any potential effects of climate change on the project, such as whether the project might be sensitive to changes in climate conditions during its life span.' The analysis should be included within this subsection.</p> <p>The bridge has a design lifetime of 75 years and the plaza and Parkway are expected to have corresponding operational time horizons.</p>	<p>29. In consultation with ERCA, it was established that the regional storm for the study area is equivalent to the 100-year storm event. This represents the most significant foreseeable storm event. All storm sewer systems for freeway and all culvert crossings of the freeway are designed in accordance with the requirements of the Ministry of Transportation Drainage Manual and will be sized to convey the 100-year storm with no impacts. The watercourse crossings have all been designed to convey the 100-year storm without negatively impacting The Windsor-Essex Parkway, and will convey the Regional storm</p>	<p>29. Response #29 (p. 9) - The response appears to address the spirit of EC's March 2009 recommendation. The response indicates that the crossing designs were checked against the Hurricane Hazel storm and that berms will be provided where the access road will be susceptible to overtopping. However, it unclear whether the checks against the Hurricane Hazel design storm revealed any other potential weaknesses that merit discussion.</p> <p>EC recommends that the revised CEAA screening report all results of the testing of the</p>	<p>29. Overall, the designs of all crossing structures and channels related to The Windsor-Essex Parkway have been conducted to convey the 100-year storm and include a freeboard following the MTO design parameters. This freeboard will provide protection for peak flows greater than the 100-year storm. This information will be documented as part of the design process.</p> <p>The checks against the Hurricane Hazel storm were to confirm that there were no negative impacts to either the existing floodlines or for the proposed Windsor-Essex Parkway. The level of</p>

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	<p>Substantial changes in the intensity and frequency of extreme precipitation are expected over that time frame. A recent climate modelling experiment (Kharin et al., <i>Journal of Climate</i>, 2007) projected that 20-year return period rainfalls (24-hour) would increase in intensity by 10-20% by 2100.</p> <ul style="list-style-type: none"> EC recommends that the assessment of flooding potential and the design of stormwater management for all aspects of the project include consideration of the potential increases in extreme precipitation intensity and frequency due to climate change. Further details are included in EC's supplementary review below of the EA Report (Sect. 9.1.5, Stormwater Management). 	<p>without increasing existing upstream floodlines. As details to the effects of climate change have not been finalized, the drainage features have been designed considering the most conservative rainfall events. However, in lieu of a formal design to account for potential climate change, designs for the major watercourse crossings and the stormwater management facilities with approximately 0.3m of freeboard account for storms in excess of the 100-year design storm. In addition, the crossing designs have been checked against the Hurricane Hazel storm, and berms provided where the access road may be susceptible to overtopping, particularly along the Wolfe/Cahill channel re-alignment.</p> <p>Section 6.2.2 Effects of the Project on the Environment – Flooding in the CEAA Report has been updated to include the above text.</p>	<p>crossing design and stormwater design against storms in excess of the 100-year design storm. The goal for the climate change component of the analysis is to demonstrate that the project is robust enough to accommodate the magnitude of change in extreme precipitation intensity expected under climate change.</p>	<p>safety considered with the analysis shows that the proposed design will convey storms without negatively impacting the upstream area, including storms greater than the 100-year storm.</p> <p>Additional consideration will be given to the potential for effects from climate change on the project as the design work continues in order to appropriately refine the design.</p>
	<p>30. Extreme Weather Events (p. 64): It is not clear to EC why 'earthquake' is included under this header as an earthquake is not considered to be a weather event. EC suggests that reference should be made to the hydro line consideration described here in the paragraph above dealing with earthquake events, or amend the paragraph header, for example to 'Extreme Weather and Other Natural Events'.</p>	<p>30. Agree. The reference to 'earthquake' has been removed from this paragraph in Section 6.2.2 Effects of the Project on the Environment.</p>	<p>30. No further comment.</p>	<p>30. No further response.</p>
	<p>31. Cumulative Effects Assessment, Section 7.0 (p.66): EC has numerous concerns with the cumulative effects assessment (CEA) of the project, mostly stemming from the foregoing evaluation of residual effects of the project on a number of environmental factors, as described in our earlier comments. We also have concerns with the level of information provided in the following sub-sections and Table 7.1 as described below.</p>	<p>31. The cumulative effects assessment was reviewed and amended as per the updated residual effects analysis and in light of the comments provided by TC, CEAA, , EC, DFO, HC and WPA.</p>	<p>31. Cumulative Effects Assessment, Section 7.0 (p. 66): Response # 31 - EC will review the amended cumulative effects information in the revised CEAA screening when it is available. Please refer to EC's comments on the consideration of residual adverse effects and on proposed revisions to be made to the CEAA screening report.</p>	<p>31. Refer to Chapter 7.0 of the Draft CEAA Screening Report (July 2009) and to the Draft Cumulative Effects Assessment</p>
	<p>32. Section 7.1.1 (p. 67): In regard to construction and operational effects on surface water (not included under s. 7.1.3), we note that no residual surface water quality effects are identified from drainage/SWM runoff from the project.</p> <p>Also, the proponent's conclusions on the potential for water quality effects downstream of the project have not been adequately substantiated, to warrant a conclusion of no residual adverse effects for this consideration (see also EC's prior comments on this issue, notably in regard to the wording used in the statement in the last sentence of this paragraph highlighted below in the attached document).</p>	<p>32. Refer to Response #7.</p>	<p>32. No further comment.</p>	<p>32. No further response.</p>
	<p>33. Section 7.1.2 (p. 68): The discussion indicates that the relatively short construction time period does not appear to have been adequately considered in this aspect of the assessment, notably for</p>	<p>33. The spatial and temporal boundaries of the cumulative effects assessment have been clarified in Section 7.1.1 and 7.1.2 of the CEAA Report, and the cumulative effects assessment has been</p>	<p>33. No further comment.</p>	<p>33. No further response.</p>

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	temporary loss of wildlife habitat and construction air quality effects from nuisance dust. Cumulative effects that occur during the construction phase should also be considered.	appropriately revised. Potential for cumulative effects on air quality and wildlife and wildlife habitat during construction have been addressed in the CEAA Report..		
	<p>34. Section 7.1.3 (pp. 68-69): The discussion does not include air quality effects from dust and heavy equipment exhaust emissions generated in the project work area, notably for the construction phase. EC expects that given the magnitude of this project, this issue would be of interest and concern to local residents adjacent to the work areas. <u>EC recommends</u> that full consideration be given to effects of dust emissions on sensitive receptors adjacent to the project, including sensitive vegetation communities, wildlife species and species at risk. EC identified minor residual air quality effects during the construction phase and so potential cumulative effects should be assessed, primarily for other projects and activities located in close proximity to the construction activities of the primary project.</p> <p>35. The CEA should consider the potential for short term effects in combination with other local projects and activities (e.g., land development, existing road use, etc.).</p>	<p>34. Refer to Response #9.</p> <p>35. Based on available information, future projects and activities within the Project area are not anticipated. However, should the construction of any other projects and activities coincide with the construction of the Project, consideration will be given to additional mitigation measures such as the coordination of timing of construction activities. Such adaptive management and coordination will be governed by the by-laws and provisions that are currently in place.</p>	<p>34. Section 7.1.3 (pp. 68-69) – Response #34 - Reference should also be made to EC's comments on the response to comment #8.</p> <p>35. No further comment.</p>	<p>34. Refer to response # 8.</p> <p>35. No further comment.</p>
	<p>36. Section 7.2 (p. 69): In EC's opinion numerous past projects and many proposed project and activities should have been included in the CEA, apart from the Ambassador Bridge Enhancement Project. Further comments related to this are provided on Table 7.1.</p>	<p>36. The existing Ambassador Bridge (4-lanes) in combination with the Ambassador Bridge Enhancement Project has been included and addressed in the cumulative effects assessment as requested. However, the existing Ambassador Bridge was not included separately in the cumulative effects assessment as it was included in the background conditions for the Project.</p> <p>Section 7.2 in the CEAA Report has been updated to clarify that past projects have been addressed under the assessment of existing conditions and background conditions. .</p>	<p>36. Section 7.2 (p. 69): Response #36 – EC will need to review the revised CEAA screening to determine if the response is adequate.</p>	<p>36. Refer to the Draft CEAA Screening Report (July 2009).</p>
	<p>Table 7.1 (pp. 70- 78): EC disagrees with the conclusions for 'Inclusion in CEA' in Table 7.1, or cannot verify the credibility of the conclusion(s) for most of the 'Other projects or Activity' included in the table, given that:</p> <p>37. The proximity of the other projects identified in the table to DRIC are typically not properly described;</p> <p>38. Any development in a greenfield area will impact wildlife habitat and all wildlife utilizing the habitat(s).</p>	<p>37. Section 7.1.1 Spatial Boundaries has been updated to further describe the spatial boundary that was used for the cumulative effects assessment.</p> <p>38. The loss of wildlife habitat during the Construction Phase will be short-term and will be offset through restoration and enhancement prior to the</p>	<p>37. No further comment.</p> <p>38. Table 7.1 (pp. 70- 78): Re. development in a greenfield area: Response #38 (p. 11, last sentence) - There will be cumulative effects due to this project, even though these effects may not</p>	<p>37. No further response.</p> <p>38. Refer to Response # 20 noted above in this table and also refer to Chapter 7.0 of the Draft CEAA Screening Report (July 2009).</p>

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	<p>Existing development has already had a substantial impact on historical wildlife use of the area, local air quality and water quality in local watercourses.</p> <p>39. Residual effects of the DRIC project, and other projects/activities, do not have to be significant to be considered in the cumulative effects assessment (CEA). This is why a CEA is done, to consider all of the minor effects that are potentially additive at a given point in time (including temporary construction or maintenance effects that may overlap with other effects external to DRIC).</p> <p>40. Existing industrial/commercial facilities in close proximity to the DRIC project do not appear to have been considered (e.g., Brighton Beach Power Plant, EC ROW Highway, etc.).</p>	<p>Operation and Maintenance Phase. Overall, the Project will have no significant adverse residual effect or cumulative effect.</p> <p>39. Agree. All environmental components that have been identified to have a residual effect in Table 6.3 have been carried through to the cumulative effects assessment (significant or not).</p> <p>40. Brighton Beach Power Plant has been included in Table 7.1 Identification of Other Projects and Activities; however, it has not been carried through the cumulative effects assessment as it was included in the background conditions. Additional local projects and activities (e.g., land development, existing road use, etc.) were not included in Table 7.1 as they were included in the background conditions. Spatial and temporarily boundaries have been further clarified in the CEEA Report.</p>	<p>prove to be significant in the context of CEEA. See also the response to comment 20 (and EC's comments on the response).</p> <p>39. No further comment.</p> <p>40. Re. existing industrial/commercial facilities: Response # 40 - It is likely that the Brighton Beach Power Plant would have an air quality impact within a few kilometers of the BBPP and Plaza B that would be discernible above the general air quality background. EC recommends that the most notable air quality impacts of the Brighton Beach Power Plant (NOX and PM2.5) be included in the cumulative air quality assessment for the vicinity of Plaza B. For further explanation see Response #49.</p>	<p>39. No further response.</p> <p>40. Refer to response 49 for further discussion.</p>
	<p>41. All loss of wildlife habitat in the project region due to existing development and other proposed projects or activities will be an obvious cumulative effect. In many cases good quality wildlife habitat will be lost to allow other projects to occur in greenfield (semi-natural or natural) areas where urban development is located based on municipal land use plans. Therefore these effects will be permanent, and should be considered as such in the CEA.</p>	<p>41. The loss of wildlife habitat during the Construction Phase will be short-term and will be offset through restoration and enhancement prior to the Operation and Maintenance Phase. Areas that were available for future urban development have been acquired by MTO and will be restored, enhanced and maintained for ecological purposes.</p>	<p>41. No further comment.</p>	<p>41. No further response.</p>
	<p>42. Table 7.1: Other Project or Activity: Walker Road/CPR Grade Separation: Rationale (1st bullet, p. 73) - The type of information included for this provincial project should also be included for all of the other project considered to have local short term effects (see highlighted text above and below, that do not include this type of info).</p>	<p>42. Additional information has been provided where it is available.</p>	<p>42. No further comment.</p>	<p>42. No further response.</p>
	<p>43. Section 7.4 (p. 79): In EC's opinion, the conclusion presented is not credible, given that we expect that there are likely to be some cumulative impacts on ambient PM levels in the long and short terms due to highway generated dust, and on wildlife habitat (and wildlife) due to footprint effects (loss of habitat).</p>	<p>43. Refer to Response #20.</p>	<p>43. Section 7.4 (p. 79): Response # 43 - In regard to the response #20, please refer to EC comments on the adequacy of this response, and note that EC's comment # 20 only raises wildlife and habitat issues (i.e., comments on PM not addressed).</p>	<p>43. Refer to Response # 20 noted above in this table and also refer to Chapter 7.0 of the Draft CEEA Screening Report (July 2009). Agreed with EC the potential interactions resulting from construction (air quality). Concern for cumulative effects related to wildlife primarily relate to SAR/Habitat and were considered in the CEA.</p>
	<p>44. Table 7.2 Air Quality: Operation (p. 80) - EC notes that other overlapping projects/activities that should reasonably be considered in the CEA are not</p>	<p>44. Agree. Table 7.2 Summary of Potential Cumulative Effects and Their Significance has been amended to include additional projects</p>	<p>44. Table 7.2 (p.80), under 'Component': Air Quality, Operation (p. 80): Response #44 (p. 11, 2nd para.) - EC assumes that the response</p>	<p>44. All foreseeable future projects were considered in the Cumulative Effects Assessment. The potential for interactions with foreseeable</p>

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	<p>included in this table (see EC's overall comments on Table 7.2, and other related comments above). We also note that these other projects and activities would likely have some additive effect, depending on the timing of any residual effects generated by their implementation. If measurable small effects on air quality (and other environmental factors assessed below) are likely, the conclusion in the table on significance would be incorrect as it is not the same as saying 'no significant residual effect'.</p>	<p>considered in Table 7.1 Identification of Other Projects and Activities (i.e. existing Ambassador Bridge (4-lane) in combination with the Ambassador Bridge Enhancement Project (future 6-lane)).</p> <p>Additional local projects and activities (e.g., land development, existing road use, etc.) were not included in Table 7.1 as they were included in the background conditions. Section 7.2 in the CEAA Report has been updated to clarify that past projects have been addressed under the assessment of existing conditions and background conditions.</p>	<p>infers that all likely future projects will be included in the CEA. Is this correct?</p>	<p>projects was considered in light of the existing baseline conditions that are reflective of anthropogenic activity.</p>
	<p>Table 7.2 Wildlife and Wildlife Habitat:</p> <p>45. Construction (p. 83) - In EC's opinion, permanent loss of wildlife habitat, albeit low quality (based on its location), will result in a tangible residual effect, therefore EC expects that a negligible or minor cumulative effect is likely.</p> <p>46. Operation and Maintenance (p. 83) - In EC's opinion, some residual impacts to migratory birds are expected (possibly infrequently as stated); therefore, EC expects that a negligible or minor cumulative effect is likely from the Ambassador Bridge Enhancement Project.</p>	<p>45. The loss of wildlife habitat during the Construction Phase will be short-term and will be offset through restoration and enhancement prior to the Operation and Maintenance Phase</p> <p>46. Refer to Response #21 above. Residual effects on migratory birds have been carried through to the cumulative effects assessment (i.e., Table 7.2 Summary of Potential Cumulative Effects and Their Significance).</p>	<p>45. Wildlife and Wildlife Habitat, Construction (p. 83): Response #45 (p. 11, last sentence) - Please refer to EC's comments on response to comment #38 above.</p> <p>46. No further comment.</p>	<p>45. Refer to Response # 38 noted above and also refer to Chapter 7.0 of the Draft CEAA Screening Report (July 2009).</p> <p>46. No further response</p>
	<p>47. Table 7.2 Species at Risk: Construction (p. 85) - Due to the substantial footprint impact on species at risk, EC expects that there will be a residual effect on species at risk due to other project not included in this CEA.</p>	<p>47. Permanent residual effects are not anticipated pending approval of the ESA, 2007 Permit and SARA Permit and implementation of associated mitigation measures.</p> <p>This issue of Species at Risk along The Windsor-Essex Parkway will be addressed through the ESA, 2007 Permit; however, Species at Risk at the plaza will be addressed through a SARA Permit by Transport Canada.</p> <p>Extensive monitoring and follow-up will be required provincially under the Endangered Species Act, 2007 permit for The Windsor-Essex Parkway. A formal follow-up program will be required federally under the Species at Risk Act permit for the plaza.</p> <p>The CEAA Report has been updated to clarify monitoring and follow-up requirements under provincial and federal permit processes.</p>	<p>47. Species at Risk, Construction (p. 85): Response #47 (p. 12) - Since mitigation has not been clearly defined, it cannot be said that "Permanent residual effects are not anticipated ..."</p>	<p>47. Agreed. Refer to Chapter 7.0 of the Draft CEAA Screening Report (July 2009).</p>
	<p>48. Table 7.2, Ambassador Bridge Enhancement Project, Air Quality, Operation: Doubling the Ambassador Bridge crossing capacity has the potential to increase the congestion along the Parkway service road feeding into Huron Church Road and the Ambassador Bridge approaches. This would be expected to create a cumulative air quality impact for residences and sensitive</p>	<p>48. Air quality impacts from the existing Ambassador Bridge were considered as part of the background conditions for the air quality modeling / analysis that was conducted as part of the Project, and the results show that, although the capacity at the Ambassador Bridge is proposed to be increased (i.e., the Ambassador Bridge Enhancement Project), the traffic volumes will not increase as a</p>	<p>48. Table 7.2, Ambassador Bridge Enhancement Project, Air Quality, Operation - Response #48 – Increasing the capacity of the Ambassador Bridge would intuitively be expected to increase traffic volumes in the approaches to the bridge, including the Huron Church corridor over time. EC recommends that the projected traffic volumes in the approaches to the Ambassador</p>	<p>48. Configuration changes at the Ambassador crossing are unlikely to result in any change in traffic patterns on the Parkway. (personal Communication Roger Ward). Traffic projections for the project into air quality which included other sources of pollutants in the background??. This was addressed in the previous response.</p>

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	<p>receptors adjacent to this corridor. EC requests that this potential cumulative effect be evaluated.</p>	<p>result of this increased capacity.</p>	<p>Bridge be presented as part of the cumulative effects analysis within the CEAA screening. These traffic volumes should be examined in the context of the baseline traffic volumes approaching the Ambassador Bridge.</p>	
	<p>49. Table 7.1 and 7.2: The cumulative effects assessment is intended to focus on projects or activities for which the effects are expected to overlap with those of the project. Industries located in close proximity to the Crossing-Plaza-Parkway that emit quantities of air pollutants that are also emitted by the DRIC are strong candidates for the cumulative effects assessment.</p> <ul style="list-style-type: none"> ▪ The Brighton Beach Power Plant emits substantial amounts of NO_x and PM_{2.5}. Overlooking this source would lead to an underestimate of the cumulative air quality impact on the receptors in the vicinity of Plaza B. ▪ <u>EC recommends</u> the emissions from the Brighton Beach Power Plant (BBPP) be evaluated to determine the extent of the cumulative air quality impacts in the vicinity of the project. Further discussion of the potential cumulative impacts of this facility is included in our review comment of section 10.1 of the DRIC Environmental Assessment Report. 	<p>49. Air quality impacts from BBPP were considered as part of the background conditions for the air quality modeling / analysis that was conducted as part of the Project.</p> <p>It is important to note that modelled worst case air quality impacts of the Brighton Beach Power Plant (BBPP) in the vicinities of the Plazas are worst case predictions that occur once over the modelling period (5 years) and are not indicative of typical concentrations. As per a letter issued by Environment Canada to the Citizen's Alliance on August 7, 2002 in regard to the Brighton Beach Power Plant environmental review report, air impacts relating to the Brighton Beach Power project are expected to be low.</p> <p>As SENES conducted work on the Air Quality Impacts relating to the Brighton Beach project, we were able to review the concentrations presented in the Environmental Review Report December 2001. Table 4.3 of this assessment (shown below) indicates that the maximum increment relating to SO₂, CO, and the particulate matter fractions is very low relative to the applicable criteria, with maximum concentrations of 0.9 µg/m³ for SO₂ on a 24 hour basis and 94 µg/m³ for CO and 2 µg/m³ of the particulate matter fractions. These contaminant maximum concentrations are also low relative to ambient conditions. NO_x concentrations for Brighton Beach Power Plant assessment were conservative by a factor of two to determine the impacts of equipment degradation (which is not expected to occur). The concentrations presented are the maximums that occur once in five years. NO_x 24 hour averages for BB have a maximum increment of 20 µg/m³. Maximum NO_x 24 hr concentrations at the Plaza are 138 µg/m³ in 2025 assessed in the TEPA report. Even if the worst case once in five year day of Brighton Beach were to coincide with the worst case day of the TEPA, there would be no exceedance of the NO_x criteria.</p> <p>Up to 10 hours of exceedances per year are predicted for NO_x 1 hr near the Plaza with the TEPA. The maximum concentration for one hour in five years for Brighton Beach is 200 µg/m³. It is extremely unlikely that the one hour maximum that would occur with the Brighton Beach project would coincide with the few hours of exceedances that are predicted to occur with the TEPA,</p>	<p>49. Table 7.1 and 7.2, Cumulative Effects / Brighton Beach Power Plant:</p> <p><u>Response #49</u> (pp. 12-13) - EC does not support the classification of the impacts of emissions from the BBPP as simply part of the background air quality conditions. The Brighton Beach Power Plant is an important local source of NO_x and PM_{2.5}. The two MOE stations used to establish the background air quality are roughly 2.5 and 6 km from the Brighton Beach Power Plant whereas the area near Plaza B is 1 kilometre or less from the BBPP. One would not expect the impacts of the BBPP to be fully reflected at a monitoring station 6 kilometres away.</p> <p>EC expects the BBPP to produce a measurable air quality effect (above background concentrations), especially under approaching worst-case conditions.</p> <p>EC acknowledges that adding the worst case NO_x and PM_{2.5} concentrations attributable to the BBPP would not be realistic. However, following the approach taken for the generalized regional air quality concentrations, it should be possible to obtain an estimate for the 90th percentile concentrations attributable to the BBPP emissions for use in the cumulative effects assessment. This would produce a slightly elevated background concentration for the area, which is what moderate-large local sources do.</p> <p>EC maintains that the impacts of the BBPP emissions should be included in the cumulative effects assessment, primarily for the area north of plaza B. EC suggests that a reasonable approach would be to select (or estimate) the 90th percentile concentration of BBPP NO_x and PM_{2.5} concentrations for the vicinity of Plaza B, and combine these with the direct impacts of project emissions and suitably conservative local background concentrations.</p>	<p>The potential for cumulative effects on air quality resulting from the close proximity of the project to the Brighton Beach PP were identified early on in the study and as such were incorporated into the modeling and analysis for the project. The results of the analysis include consideration for the interactions with other major sources of pollutants in the study area. The conclusions of the cumulative effects assessment are based on the technical supporting documentation on air quality.</p> <p>49. It is important to note that modelled worst case air quality impacts of the Brighton Beach Power Plant (BBPP) in the vicinities of the Plazas are worst case predictions that occur once over the modelling period (5 years) and are not indicative of typical concentrations. As per a letter issued by Environment Canada to the Citizen's Alliance on August 7, 2002 in regard to the Brighton Beach Power Plant environmental review report, air impacts relating to the Brighton Beach Power project are expected to be low.</p> <p>As SENES conducted work on the Air Quality Impacts relating to the Brighton Beach project, we were able to review the concentrations presented in the public available document Environmental Review Report (ERR) December 2001. The concentrations presented are the maximums that occur once in five years. Table 4.3 of this assessment (shown below) indicates that the maximum increment relating to SO₂, CO, and the particulate matter fractions is very low relative to the applicable criteria, with maximum concentrations of 0.9 µg/m³ for SO₂ on a 24 hour basis and 94 µg/m³ for CO and 2 µg/m³ of the particulate matter fractions. These contaminant maximum concentrations are also low relative to ambient conditions.</p> <p>It should be noted that the NO_x concentrations predicted for Brighton Beach Power Plant assessment were conservative by a factor of two at double the manufacturer's guarantee to determine the impacts of equipment degradation (source testing undertaken since the plant was fully operational has shown the emissions to be below the manufacturer's guarantee) . In addition, the one hour maximum concentrations presented in the assessment were based on assuming a cold start condition was occurring every hour, in the day, 365 days per year for five</p>

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		<p>particularly as the maximum concentrations for Brighton Beach are more than a factor of two conservative. The Air Quality Impact Assessment Supplementary Documentation provides more information on hourly concentrations near the Plaza and it can be seen that 99% of the time the impacts will be well below criteria for the TEPA and thus highlighting that exceedances would occur for NO_x 1 hr criteria only under extreme circumstances.</p> <p>The maximum 24 hour increment for PM_{2.5} and PM₁₀ is 2 µg/m³ according to the Brighton Beach Report, Table 4.3. Compared to a background increment of 21 µg/m³ for a 90th percentile concentration the additional 2 µg/m³ that only occur once in a five year period are unlikely to change the compliance status of the predicted concentrations. In addition, the day to day variability for both PM_{2.5} and PM₁₀ from ambient conditions often can be greater than 10 µg/m³.</p> <p>Due to the low elevation of the emission sources from the Plaza, the impacts are most appreciable within closest range of the Plaza. Receptor R4 in the attached table is indicative of a receptor that would be located within the plaza vicinity. Increments from the BBPP are low relative to other receptors presented in the attached table as the tall stacks from BBPP assist in dispersing the contaminants from BBPP.</p> <p>As stated in the BBPP Report, <i>the predicted incremental concentrations of SO₂, CO, SPM, and PM₁₀ are only a small fraction of the ambient concentrations measured in Windsor. For these constituents, no measurable increase in ambient concentrations should be experienced.</i></p> <p>Information on Brighton Beach Power Plant has been added into Table 7.1 Identification of Other Projects and Activities in the CEA of the CEAA Report.</p>		<p>years. As a cold start would only occur if the facility were completely shut down for a period of several days, it is unrealistic to expect that the hourly maximum concentration would occur concurrently with the maximum concentration at the plaza. For the 24 hour averages the assessment performed for BB assumed that the facility was operating for 24 hours per day. The BB facility is to be used as an intermittent facility and does not operate on the full 24 hours. Therefore the results presented in the BB assessment are very conservative.</p> <p>Predicted NO_x 24 hour averages for BB have a maximum increment of 20 µg/m³. Maximum NO_x 24 hr concentrations at the Plaza are 138 µg/m³ in 2025 assessed in the TEPA report (other concentrations away from the plaza would be lower). Even if the worst case once in five year day of Brighton Beach were to coincide with the worst case day of the TEPA, there would be no exceedance of the NO_x criteria.</p> <p>Up to 10 hours of exceedances per year are predicted for NO_x 1 hr near the Plaza with the TEPA. The maximum concentration reported in the ERR for one hour in five years due to Brighton Beach is 200 µg/m³. It is extremely unlikely that the one hour maximum that would occur with the Brighton Beach project would coincide with the few hours of exceedances that are predicted to occur with the TEPA, particularly as the maximum concentrations for Brighton Beach are more than a factor of two conservative. The Air Quality Impact Assessment Supplementary Documentation provides more information on hourly concentrations near the Plaza and it can be seen that 99% of the time the impacts will be well below criteria for the TEPA and thus highlighting that exceedances would occur for NO_x 1 hr criteria only under extreme circumstances. NO_x concentration curves typically show extreme maximums and then decrease precipitously with 90th percentile values often lower than maximums by factors of 2 - 5 (one example is Figure 4.1 in the TEPA report). This is also highlighted in Table 4.9 of the TEPA report which shows that for receptors located near the plaza, the maximum values are in the order of 300 µg/m³ for NO_x on a 24 hour basis for locations south of the plaza but by the 90th percentile (i.e., values are lower 90% of the time), the concentrations are approaching the background concentrations of 64 µg/m³ with values in the 70 µg/m³ range. Data from the BB facility was examined for 90th percentile concentrations and showed a similar trend. Maximum 1 hour BB increments under steady state conditions are between 40-80 µg/m³ (does</p>

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				<p>not include background) while 90th percentile BB increments are approximately 5-10 µg/m³. Adding 10 µg/m³ (the 90th percentile predicted from BB) along with the 90th percentile background to the maximum incremental concentrations predicted by the TEPA for north of the plaza area will not impact compliance status. In reality, since the emissions were doubled for the BB project for NOx, this increment of 10 µg/m³ would be lower and would be closer to 5 µg/m³.</p> <p>The maximum 24 hour increment for PM_{2.5} and PM₁₀ is 2 µg/m³ according to the Brighton Beach Report, Table 4.3. Compared to a background increment of 21 µg/m³ for a 90th percentile concentration the additional 2 µg/m³ that only occur once in a five year period are unlikely to change the compliance status of the predicted concentrations. In addition, the day to day variability for both PM_{2.5} and PM₁₀ from ambient conditions often can be greater than 10 µg/m³ and the maximum concentrations of PM_{2.5} are not likely to be detectable from the daily background variability using conventional monitoring equipment.</p> <p>Due to the low elevation of the emission sources from the Plaza, the impacts are most appreciable within closest range of the Plaza. Receptor R4 in the attached table is indicative of a receptor that would be located within the plaza vicinity. Increments from the BBPP are low relative to other receptors presented in the attached table as the tall stacks from BBPP assist in dispersing the contaminants from BBPP.</p> <p>As stated in the BBPP Report, <i>the predicted incremental concentrations of SO₂, CO, SPM, and PM₁₀ are only a small fraction of the ambient concentrations measured in Windsor. For these constituents, no measurable increase in ambient concentrations should be experienced.</i></p> <p>Information on Brighton Beach Power Plant has been added into Table 7.1 Identification of Other Projects and Activities in the CEA of the CEAA Report.</p>
	<p>50. Table 7.3 (p. 90): The likely residual effects on surface water (and associated effects on fish) are tangible for certain project effects as indicated in our foregoing comments. These effects may not be significant, but in EC's opinion, should be properly considered in the CEA and addressed if required.</p>	<p>50. Refer to Response #12.</p>	<p>50. Response #50 (p. 13) - The response not adequate. Please refer to EC's comments on the response to comment #12</p>	<p>50. Agreed with EC. Refer to Response #12 regarding residual effects.</p>
	<p>51. Table 7.3, Cumulative Effects Summary Checklist (p. 90): This table should be renumbered as 7.4 to avoid confusion. It should probably be</p>	<p>51. Table 7.3 Project Environmental Effects Summary Checklist (now referred to as Table 6.6 Project Environmental Effects Summary)</p>	<p>51. Table 7.3, Cumulative Effects Summary Checklist (p. 90):</p>	<p>51. Refer to the Draft CEAA Screening Report (July 2009).</p>

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	<p>Table 7.4.</p> <p>EC does not agree with the findings of the CEA presented in this table based on the concerns on the CEA raised in our foregoing comments. <u>EC recommends</u> that the potential cumulative impact of the emissions from Plaza B and the Brighton Beach Power Plant be assessed to determine if there are any notable cumulative effects. It is not expected that such an assessment would dramatically alter projected concentrations in the vicinity of Plaza B.</p>	<p>Checklist) has been moved to Section 6.3 of the CEAA Report.</p> <p>Refer to Response #49 above for information relating to Brighton Beach Power Plant.</p>	<p><u>Response #51</u> (p. 13, 1st & 2nd paras.) - As noted above, EC needs to review the revised CEAA screening report to determine whether the consideration of the issues raised is adequate.</p>	<p>The conclusions on significance of cumulative effects have been more appropriately presented in the CEA in text format.</p>
	<p>52. Section 9.0 (p. 95): EC agrees that a monitoring and follow-up program should be developed and implemented for this project based on the concerns raised to date in our letter(s) of advice on potential crossing effects on migratory birds, surface water quality, terrestrial habitat restoration and species at risk. See EC's comments below on this component of the screening.</p>	<p>52. As part of the DRIC study, MTO will develop compliance monitoring plans (CMPs) for Compliance Monitoring Programs (CMPs) to ensure compliance with the terms and conditions, as well as to ensure effective implementation of typical project related mitigation and best management practices. As outlined in the Detroit River International Crossing Study Environmental Assessment Report (December 2008), CMPs for The Windsor-Essex Parkway will be carried out by MTO, where TC will carry out and ensure the effectiveness of CMPs for the plaza and the Canadian portion of the crossing.</p> <p>Environmental Management Plans (EMPs), as identified in the <i>Detroit River International Crossing Study Environmental Assessment Report</i> (December 2008), will be developed for the Plaza and Crossing as per federal practices to assess the effectiveness of mitigation proposed to address potential effects of the Project. The MTO is committed to ensure that an EMS is in place to guide the operation and maintenance of The Windsor-Essex Parkway.</p> <p>As per the <i>Migratory Birds Convention Act</i>, specific details related to monitoring and follow-up activities will be documented in a follow-up plan for migratory birds. The document will be finalized by TC and MTO, following review by appropriate agencies, before the commencement of construction activities associated with the international crossing.</p> <p>As part of the <i>Species at Risk Act</i> (SARA) permit approval process, a follow-up program for SAR associated with the plaza will be developed by MTO and TC. The RAs/PA will continue to engage EC in the development of a monitoring and follow-up program for Species at Risk under the federal Species at Risk Act.</p> <p>Chapters 9 and 10 of the CEAA Report have been updated to reflect monitoring and follow-up for the Project. These chapters have also been updated with the information sent from TC on April</p>	<p>52. Section 9.0 (p. 95): <u>Response #52</u> (p. 14) - In regard to migratory bird follow-up plans, please refer to EC's comments on Response #57.</p>	<p>52. Refer to comment # 57 below which notes the following: Refer to the Draft CEAA Screening Report (July 2009), Sections 9.0 and 9.3. There will be a follow-up program for Migratory Birds.</p>

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		14 th , 2009 regarding monitoring and follow-up.		
	<p>Monitoring and Follow-up</p> <p>EC agrees that a formal follow-up program should be implemented as part of this project screening, and requests the opportunity to review and comment on such a program. EC supports the monitoring proposed and recommends monitoring and follow-up activities related to:</p> <p>53. Tracking the success of terrestrial wildlife habitat enhancement and restoration, in regard to the maintenance of their ecological functions, including the viability of initiatives to relocate vegetation species at risk. EC notes that the Natural Heritage Report recommends that 'Species-specific post-construction monitoring and management should also be conducted for each of the plant species at risk' (Sec. 6.11, Table 13, p. 102, ID # 6.9). Consideration should also be given to any effects resulting from changes in groundwater levels due to the project.</p> <p>54. The collection of baseline radar data to characterize seasonal migratory bird movements at the crossing to inform the selection of the preferred bridge design option and lighting, and any additional monitoring identified as being required based on the results of the proposed radar surveys, after EC has had the opportunity to review the survey report.</p>	<p>53. MTO has submitted an application for a permit under the <i>Endangered Species Act, 2007</i> for The Windsor-Essex Parkway to demonstrate that it will not jeopardize the survival or recovery of species at risk in Ontario. TC will also secure a permit under the <i>Species at Risk Act</i> for the Plaza and Crossing. As part of the federal Species at Risk Permit approval process, follow-up programs for Species at Risk will be developed by TC with the following objectives:</p> <ul style="list-style-type: none"> ▪ Monitor the accuracy of predicted effects to vegetative Species at Risk associated with the plaza. ▪ Monitor the effectiveness of the proposed mitigation in minimizing the effects to vegetative Species at Risk associated with the plaza. ▪ Obtain data that can be used, if required, to support the design of adaptive management measures to address any unanticipated effects to vegetative Species at Risk associated with the plaza. <p>Based on the commitments to further develop follow-up programs, and taking into consideration the measures described in the <i>Detroit River International Crossing Study Environmental Assessment Report</i> (December 2008) and the Draft CEAA Report, the federal RAs/PA are satisfied that the mitigation and monitoring measures and follow-up programs developed will be sufficient to verify the EA predictions, determine the effectiveness of mitigation measures, support the implementation of adaptive management measures, and provide information on environmental effects and mitigation that can be used to improve and support future EA processes.</p> <p>54. During the coordinated environmental assessment process, concerns were raised regarding the potential effects on migratory birds in selecting the bridge design, location and illumination. Further work will be undertaken during future design stages to confirm and mitigate the potential for effects of the new bridge on migratory birds. Radar studies, acoustic studies and point count surveys will be coordinated by Transport Canada in consultation with Environment Canada to provide input to bridge design. A Terms of Reference document has been developed by Transport Canada, in consultation with Environment Canada which outlines the approach for conducting migratory</p>	<p>53. <u>Response #53</u> (p. 14, 1st para.) - EC notes that the application submitted by the proponent to demonstrate that the project: 'will not jeopardize the survival or recovery' of species at risk in Ontario may not necessarily ensure that there would be 'no residual impacts' as stated in the response to EC's comment #47. Please refer also to EC's comments on the response to comment #47.</p> <p>54. <u>Response #54</u> (pp. 14-15) - EC has not recommended that point count surveys be conducted.</p>	<p>53. Response # 40 relates to Air Quality for BBPP not to Species at Risk. Regardless, TC is in agreement and has considered the residual effects in the assessment.</p> <p>54. Radar and acoustic studies will be coordinated by Transport Canada in consultation with Environment Canada to provide input to bridge design.</p>

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	<p>55. Characterizing baseline water quality in local watercourses potentially impacted by drainage/stormwater runoff from the project; and, operational monitoring to determine project effects on receiving water quality.</p> <p>56. The effectiveness of proposed dust and emissions control measures in minimizing adverse ambient air quality effects and dust fallout at sensitive receptors, including significant wildlife habitats supporting species at risk.</p> <p>57. <u>EC recommends</u> that detailed work plans for the monitoring and follow-up program, including the above considerations should be developed by the proponent and RAs and provided to EC for review and comment.</p>	<p>bird survey work.</p> <p>As part of the migratory bird survey, a follow-up program will be developed with the following objectives:</p> <ul style="list-style-type: none"> ▪ Monitor the accuracy of predicted effects on migratory birds ▪ Monitor the effectiveness of the proposed mitigation in minimizing the effects to migratory birds ▪ Obtain data that can be used, if required, to support the design of adaptive management measures to address any unanticipated effects to migratory birds <p>Specific details related to monitoring and follow-up activities including the duration of the activities will be documented in a follow-up plan for migratory birds. This document will be finalized by TC and MTO, following review by appropriate agencies, prior to construction activities associated with the international crossing.</p> <p>55. Refer to Response #7 above.</p> <p>56. Refer to Response #8 above. Monitoring will be undertaken during construction to ensure that dust control measures that have been identified are applied correctly.</p> <p>57. MTO will develop Compliance Monitoring Plans and Environmental Management Plans for The Windsor-Essex Parkway, which will extend to the plaza and crossing.</p> <p>In addition, the Responsible Authorities / Prescribed Authority have determined that a follow-up program pursuant to CEAA will be required for migratory birds at the crossing and species at risk at the plaza. The RAs / PA will continue to engage EC in the development of formal follow-up programs.</p> <p>Chapters 9 and 10 of the CEAA Report have been updated to reflect commitments to future work regarding monitoring and follow-up programs that will be developed. These chapters have also been updated with the information sent from TC on April 14th, 2009 regarding monitoring and follow-up.</p>	<p>55. Additional Environment Canada Comment Received May 25, 2009 Response #55 (p. 15) - The response is not adequate. Please refer to EC's comments on the response to comment #7.</p> <p>57. Response #57 (p. 15) - As indicated previously, EC needs to review the revised CEAA screening report to determine whether the consideration of the issue raised is adequate. It is uncertain at this time whether a follow-up program will be required with respect to "migratory birds at the crossing" (i.e. avian mortality caused by the bridge structure).</p> <p>The need for a follow-up program with respect to this residual effect will be initially dependent on the bridge design chosen, and the results of the ongoing radar study. It is also possible that an unexpected recurring problem with birds kills, after perhaps several years of bridge operation, could result in an adaptive management approach to mitigation. As a contingency, EC may recommend that this mitigation be informed by a deferred follow-up program.</p>	<p>55. Refer to Response #7 regarding baseline monitoring. MTO will provide TC (and EC) with the results of the baseline monitoring.</p> <p>56. Monitoring requirements will be developed as part of the SARA permitting process for the Plaza. In addition TC will continue to work in collaboration with MTO to enhance understanding on the effects on SAR and adaptively manage project effects.</p> <p>57. TC is committed to implementing a monitoring and follow-up program for Migratory birds. The program will be managed in a way adaptively responds to requirements as additional information about the project design and specific effects on Migratory birds becomes available. An EMP will be developed in support of these goals and EC will be consulted for input about the requirements.</p>

Table 4.3 from Environmental Review Report for the Brighton Beach Power Station, December 2001 (As referenced above in Response #48)

TABLE 4.3
MODELLED CONVENTIONAL POLLUTANT MAXIMUM
INCREMENTAL CONCENTRATIONS

Contaminant	Averaging Time	MOE POI ¹ and AAQC ² (µg/m ³)	Federal AQ Objectives MAL (µg/m ³)	Calculated Maximum Incremental Concentration at Receptors (µg/m ³)				Existing Annual Conditions ³
				R1 Residence	R2 Ojibway Prairie	R3 Raceway	R4 Black Oak	
NOx {as NO ₂ }	½h (POI)	500	-	162	220	239	103	n/a
	1 h	400	-	135	184	200	86	74 (NO _x)
	24 h	200	-	20	11	11	18	
	annual	-	100 ⁴	2.6	0.7	0.6	1.1	48 (NO ₂)
SO ₂	½h (POI)	830	-	3	5	5	3	n/a
	1 h	690	900	3	4	4	2	22
	24 h	275	300	0.9	0.5	0.5	0.8	
	annual	55	60	0.1	<0.1	<0.1	<0.1	
CO	½h (POI)	6000	-	112	153	167	72	
	1 h	-	35000	94	128	139	60	916
	8 h	36200	15000	12	10	11	9	
	24 h	15700	-	7	4	4	6	
	annual	-	-	0.9	0.3	0.2	0.4	
PM ₁₀	24 h	50 (interim)	-	2	0.9	0.9	1	
SPM	½h (POI)	100	-	7	6	2	0.2	n/a
	24 h	120	120	2	0.9	0.9	1	62/53 ⁵
	annual	60	60	0.2	<0.1	<0.1	<0.1	
PM _{2.5}	24 h	-	30 (by 2010)	2	0.9	0.9	1	-

Note: ¹ ½h (POI) are O.Reg 3468 criteria for facility by itself (independent of background).
² AAQC are applicable for ambient conditions (facility plus background).
³ annual average ambient concentrations (average of data presented in Section 3.2).
⁴ MAL (Maximum Acceptable Level) is for NO_x – modelled results are for NO_x (NO_x plus NO).
⁵ annual Windsor / site measurements.