Appendix B.2
Agency Correspondence

February 17, 2012
Project No. 09-4390

Mr. Johnson Chan, Managing Director
Best Choice Express and Delivery Limited
11339 Albion Vaughan Road
Kleinburg, ON L0J 1C0

Mr. Dario Muscillo
Bulk Transfer Systems Inc.
11339 Albion Vaughan
Kleinburg, ON L0J 1C0

Dear Mr. Chan and Mr. Muscillo:

Re: **Class Environmental Assessment Study, Highway 50 from Castlemore Road/Rutherford Road to Mayfield Road/Albion Vaughan Road; and Mayfield Road, from Hwy 50 to Coleraine Drive**

Further to the November 30, 2011 letter from Mr. Harvey Capp regarding access for both of your properties, the Region of Peel is proposing the following design changes:

Access:

The proposed location for the access to your properties is 75 metres east of the intersection of Highway 50 and Albion Vaughan Road. We understand this location for a right in/right out access was previously negotiated between yourselves, the City of Vaughan and the Region of Peel's previous consultant, Chisholm Fleming and Associates.

The entrance's design (copy attached) has been created using truck movement simulation software, and will allow large trucks to turn right into your property from either the Highway 50 or Mayfield Road direction. Details will be finalized in the detailed design phase for this project.

Daylight Triangle:

The proposed daylight triangle has been designed with property requirement of 30m x 30m at the east corner of Albion-Vaughan Road to provide adequate sight lines and accommodate gateway features. This gateway feature will be a landmark sign of some sort denoting the entrance to Bolton/Caledon and Vaughan. This daylighting triangle is necessary to meet the requirements as per the *Geometric Design Guidelines for Canadian Roads*, York Region's *Sight Triangle Manual* and York Region's Streetscape Policy.

Preliminary property negotiations will commence once the detailed design is complete. Detailed design stage is tentatively scheduled to commence in 2012, following successful approval of the Environmental Assessment Study by the Ministry of Environment.

Please review the attached drawings illustrating the Region's proposed design for your access onto Albion Vaughan Road.

We hope this resolves your concerns. If you wish to discuss further, please contact me.

Yours sincerely,

Solmaz Zia, P.Eng.
Project Manager
Transportation Program Planning
solmaz.zia@peelregion.ca
Phone: 905-791-7800 x7845
Fax: 905-791-1442

Attachment: Design Drawing

Copy: Steve Ganesh, MCIP, RPP, Manager, Region of Peel
Edward Chiu, P.Eng., Senior Project Manager, Region of York
Colin Cassar, C.E.T., Senior Engineering Assistant, City of Vaughan
Stephen Keen, P. Eng., Senior Project Manager, HDR iTrans
Harvey Capp, Q.C., Capp, Shupak, Barristers and Solicitors

Ontario Realty Corporation
Société immobilière de l'Ontario

One Dundas Street West, Suite 2000, Toronto, ON M5G 2L5
1, rue Dundas Ouest, bureau 2000, Toronto, ON M5G 2L5

June 7, 2010

To Ms. Somaz Zia, Mr. Nick Colarusso, & Mr. Stephen Keen

RE: **NOTICE of PIC: Class Environmental Assessment Study Highway 50 from Castlemore Road/Rutherford Road to Mayfield Road/Albion Vaughan; and Mayfield Road, from Highway 50 to Coleraine Drive**

Thank you for circulating Ontario Realty Corporation (ORC) on your Notice of Public Information Centre. The ORC is the strategic manager of the government's real property with a mandate of maintaining and optimizing value of the portfolio, while ensuring real estate decisions reflect public policy objectives of the government.

As you may be aware, ORC is responsible for managing real property that is owned by the Ministry of Energy and Infrastructure (MEI). Our preliminary review of your notice and supporting information indicates that ORC-managed property is directly in the study area. As a result, your proposal may have the potential to impact this property and/or the activities of tenants present on ORC-managed lands. Please note that lands managed by Hydro One, on behalf of ORC are in the study area. These lands could be subject to the following requirements.

Potential Negative Impacts to ORC Tenants and Lands

General Impacts

Negative environmental impacts associated with the project design and construction, such as the potential for dewatering, dust, noise and vibration impacts, and impacts to natural heritage features/habitat and functions, should be avoided and/or appropriately mitigated in accordance with applicable regulations best practices and Ministry of Natural Resources (MNR) and Ministry of the Environment (MOE) standards. Avoidance and mitigation options that characterize baseline conditions and quantify the potential impacts should be present as part of the EA project file. Details of appropriate mitigation, contingency plans and triggers for implementing contingency plans should also be present.

Impacts to Land holdings

Negative impacts to land holdings, such as the taking of developable parcels of ORC managed land or fragmentation of utility or transportation corridors, should be avoided. If the potential for such impacts is present as part of this undertaking, you should contact the undersigned to discuss these issues at the earliest possible stage of your study.

If takings are suggested as part of any alternative these should be appropriately mapped and quantified within EA report documentation. In addition, details of appropriate mitigation and or next steps related to compensation for any required takings should be

present. ORC requests circulation of the draft EA report prior to finalization if potential impacts to ORC-managed lands are present as part of this study.

Heritage Management Process & Class Environmental Assessment (EA) Process

Should the proposed activities impact cultural heritage features, on ORC managed lands, a request to examine cultural heritage issues which can include the cultural landscape, archaeology and places of sacred and secular value could be required. The Ontario Realty Corporation Heritage Management Process should be used for identifying and conserving heritage properties in the provincial portfolio (this document can be downloaded from the Heritage section of our website: http://www.ontariorealty.ca/What-We-Do/Heritage.htm). Through this process, ORC identifies, communicates and conserves the values of its heritage places. In addition, the Class EA ensures that ORC considers the potential effects of proposed undertakings on the environment, including cultural heritage.

Potential Triggers Related to MEI's Class EA

The ORC is required to follow the MEI Class Environmental Assessment Process for Realty Activities Not Related to Electricity Projects (MEI Class EA). The MEI Class EA applies to a wide range of realty and planning activities including leasing or letting, planning approvals, dispostion, granting of easements, demolition and property maintenance/repair. For details on the ORC Class EA please visit the Environment and Heritage page of our website found at http://www.ontariorealty.ca/AssetFactory.aspx?did=2240

If the MEI Class EA is triggered, and deferral to another ministry's or agency's Class EA or individual EA is requested, the alternative EA will be subject to a critical review prior to approval for any signoff of a deferral by the proponent. The alternative EA needs to fulfill the minimum criteria of the MEI Class EA. When evaluating an alternative EA there must be explicit reference to the corresponding undertaking in the MEI Class EA (*e.g.*, if the proponent identifies the need to acquire land owned by MEI, then "acquisition of MEI-owned land", or similar statement, must be referenced in the EA document). Furthermore, sufficient levels of consultation with MEI's/ORC's specific stakeholders, such as the Ontario Ministry of Natural Resources, must be documented with the relevant information corresponding to MEI's/ORC's undertaking and the associated maps. In addition to archaeological and heritage reports, a Phase I Environmental Site Assessment (ESA), on ORC lands should also be incorporated into the alternative EA study. Deficiencies in any of these requirements could result in an inability to defer to the alternative EA study and require completing MEI's Class EA prior to commencement of the proposed undertaking.

In summary, the purchase of MEI-owned/ORC-managed lands or disposal of rights and responsibilities (e.g. easement) for ORC-managed lands triggers the application of the

MEI Class EA. If any of these realty activities affecting ORC-managed lands are being proposed as part of any alternative, please contact the Sales and Marketing Group through ORC's main line (Phone: 416-327-3937, Toll Free: 1-877-863-9672), and contact the undersigned at your earliest convenience to discuss next steps.

Specific Comments

If an EA for this project is currently being undertaken and the undertaking directly affects all or in part any ORC-managed property, please send the undersigned a copy of the DRAFT EA report and allow sufficient time (minimum of 30 calendar days) for comments and discussion prior to finalizing the report to ensure that all MEI Class EA requirements can be met through the EA study.

Concluding Comments

Thank you for the opportunity to provide initial comments on this undertaking. If you have any questions on the above I can be reached at the contacts below.

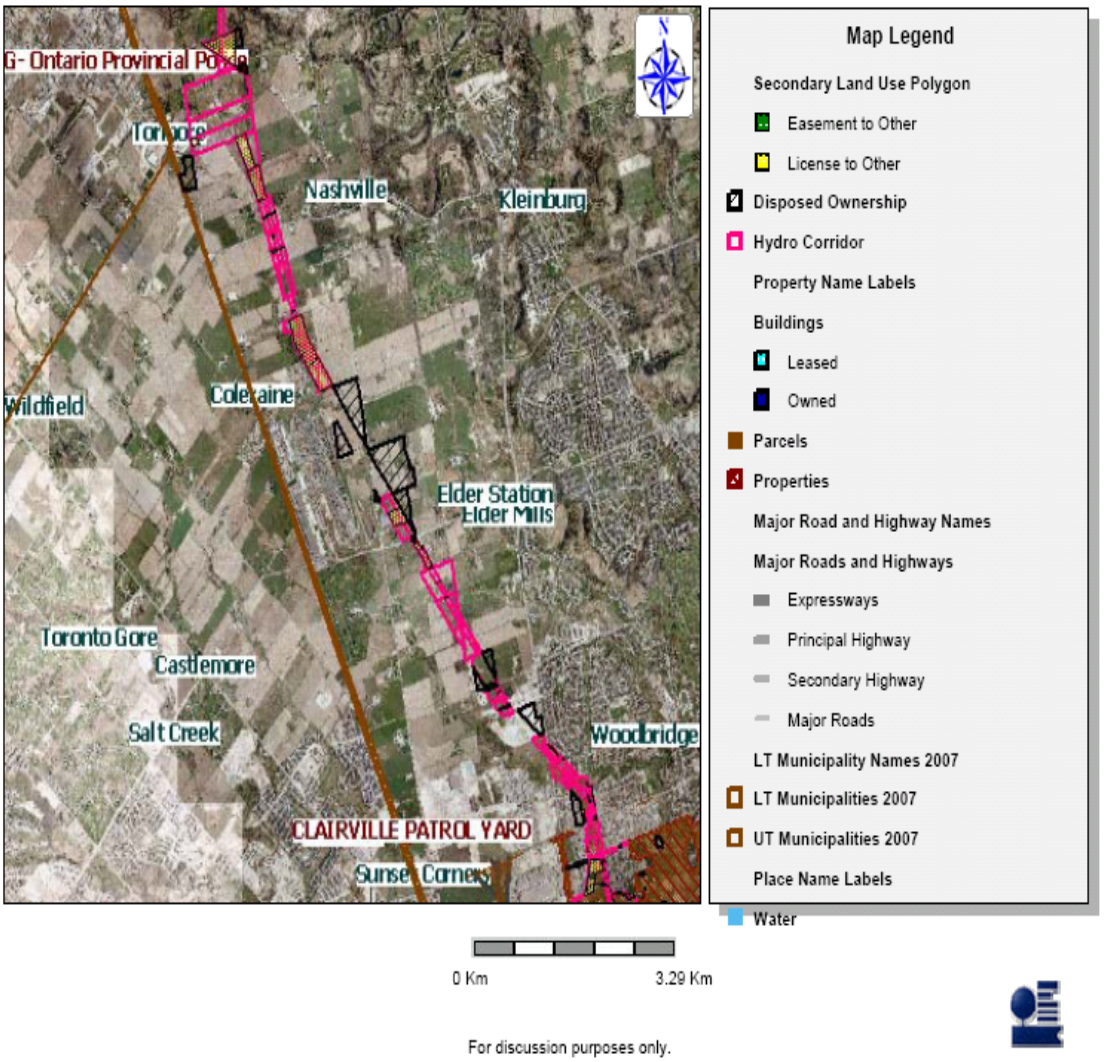
Sincerely,

Lisa Myslicki
Environmental Coordinator
Ontario Realty Corporation - Professional Services
1 Dundas Street West,
Suite 2000, Toronto, Ontario
M5G 2L5
(416) 212-3768
lisa.myslicki@ontariorealty.ca

Ontario Realty Corporation
Société immobilière de l'Ontario

One Dundas Street West, Suite 2000, Toronto, ON M5G 2L5
1, rue Dundas Ouest, bureau 2000, Toronto, ON M5G 2L5

Appendix 1: Location of ORC property



Ministry of Aboriginal Affairs

160 Bloor St. East, 9th Floor
Toronto, ON M7A 2E6
Tel: (416) 326-4740
Fax: (416) 325-1066
www.aboriginalaffairs.gov.on.ca

Ministère des Affaires Autochtones

160, rue Bloor Est, 9e étage
Toronto ON M7A 2E6
Tél. : (416) 326-4740
Téléc. : (416) 325-1066
www.aboriginalaffairs.gov.on.ca

Ontario

Reference : 229

AUG - 5 2011

Mr. Richard J. Sparham,
Project Manager
Region of Peel
9445 Airport Road, 3rd Flr.
Brampton, ON, L6S 4J3

Re: Notice of Public Information Centre #2 Class EA Study Highway 50 from Castlemore Road/ Rutherford Road To Mayfield Road/ Albion Vaughan; and Mayfield Road, from Highway 50 to Coleraine Drive

Dear Mr. Sparham:

Thank you for your inquiry dated April 15, 2011 regarding the above-noted project.

As a member of the government review team, the Ministry of Aboriginal Affairs (MAA) identifies First Nation and Métis communities who may have the following interests in the area of your project:

- reserves;
- land claims or claims in litigation against Ontario;
- existing or asserted Aboriginal or treaty rights, such as harvesting rights; or
- an interest in your project's potential environmental impacts.

MAA is not the approval or regulatory authority for your project, and receives very limited information about projects in the early stages of their development. In circumstances where a Crown-approved project may negatively impact a claimed Aboriginal or treaty right, the Crown may have a duty to consult the Aboriginal community advancing the claim. The Crown often delegates procedural aspects of its duty to consult to proponents. Please note that the information in this letter should not be relied on as advice about whether the Crown owes a duty to consult in respect of your project, or what consultation may be appropriate. Should you have any questions about your consultation obligations, please contact the appropriate ministry.

You should be aware that many First Nations and Métis communities either have or assert rights to hunt and fish in their traditional territories. For First Nations, these territories typically include lands and waters outside of their reserves.

In some instances, project work may impact aboriginal archaeological resources. If any Aboriginal archaeological resources could be impacted by your project, you should contact your regulating or approving Ministry to inquire about whether any additional Aboriginal communities should be contacted. Aboriginal communities with an interest in archaeological resources may include communities who are not presently located in the vicinity of the proposed project.

With respect to your project, and based on the brief materials you have provided, we can advise that the project appears to be located in an area where First Nations may have existing or asserted rights or claims in MAA's land claims process or litigation, that could be impacted by your project. Contact information is below:

Mississaugas of the New Credit First Nation 2789 Mississauga Rd., R.R. #6 HAGERSVILLE, Ontario NOA 1HO	Chief Bryan LaForme (905) 768-1133 (Fax) 768-1225 bryanlaforme@newcreditfirstnation.com

The Government of Canada sometimes receives claims that Ontario does not receive, or with which Ontario does not become involved. For information about possible claims in the area, MAA recommends you contact the following federal contacts:

Ms. Janet Townson Claims Analyst, Ontario Team Specific Claims Branch Indian and Northern Affairs Canada 1310-10 Wellington St. Gatineau, QC K1A 0H4 Tel: (819) 953-4667 Fax: (819) 997-9873	Mr. Sean Darcy Manager Assessment and Historical Research Indian and Northern Affairs Canada 10 Wellington St. Gatineau, QC K1A 0H4 Tel: (819) 997-8155 Fax: (819) 997-1366

For federal information on litigation contact:

Mr. Marc-André Millaire
Litigation Team Leader for Ontario
Litigation Management and Resolutions Branch
Indian and Northern Affairs Canada
10 Wellington St.
Gatineau, QC K1A 0H4
Tel: (819) 994-1947
Fax: (819) 953-1139

Additional details about your project or changes to it that suggest impacts beyond what you have provided to date may necessitate further consideration of which Aboriginal communities may be affected by or interested in your undertaking. If you think that further consideration may be required, please bring your inquiry to whatever government body oversees the regulatory process for your project.

The information upon which the above comments are based is subject to change. First Nation or Métis communities can make claims at any time, and other developments can occur that could result in additional communities being affected by or interested in your undertaking.

Yours truly,

Jennifer Cooney on behalf of Heather Levecque

Heather Levecque
Manager, Consultation Unit
Aboriginal Relations and Ministry Partnerships Division

Without Prejudice

November 14, 2011

Stephen Keen
Consultant Project Officer
HDR Corp.
144 Front Street W., Suite 655
Toronto, Ontario, M5J 2L7
Stephen.keen@hdrinc.com

Dear Mr. Keen,

Thank you for your letter of October 27, 2011 regarding your request for baseline information held by Aboriginal Affairs and Northern Development Canada (AANDC) on established or potential Aboriginal and treaty rights in the vicinity of the Highway 50 improvements project in the Municipalities of Peel and York, Ontario.

As you may know, consulting with Canadians on matters of interest or concern to them is an important part of good governance, sound policy development and decision-making. In addition to good governance objectives, section 35 of the *Constitution Act, 1982*, provides statutory, contractual and common law obligations to consult with First Nations, Métis and Inuit people when conduct that might adversely impact rights (established or potential) is contemplated.

It is important to note that the information held by AANDC, which is provided as contextual information, may or may not pertain to established or potential Aboriginal or treaty rights. In most cases, the Aboriginal community remains best placed to explain their traditional use of land, their practices or claims that may fall under section 35.

The Department has recently developed a new information system, the Aboriginal and Treaty Rights Information System (ATRIS), which brings together information regarding Aboriginal groups such as their location, related treaty information, claims (specific, comprehensive and special) and litigation. Using ATRIS and a 100 radius surrounding the project location, information regarding potentially affected Aboriginal communities is presented in the attached report in the following sections for each community:

Aboriginal Community Information includes key contact information and any other information such as Tribal Council affiliation.

Treaties, Claims and Negotiations includes Historic Treaties, Specific, Comprehensive and Special Claims. Self-Government may be part of Comprehensive claims or stand-alone negotiations.

Litigation usually refers to litigation between the Aboriginal Group and the Crown, often pertaining to section 35 rights assertions or consultation matters.

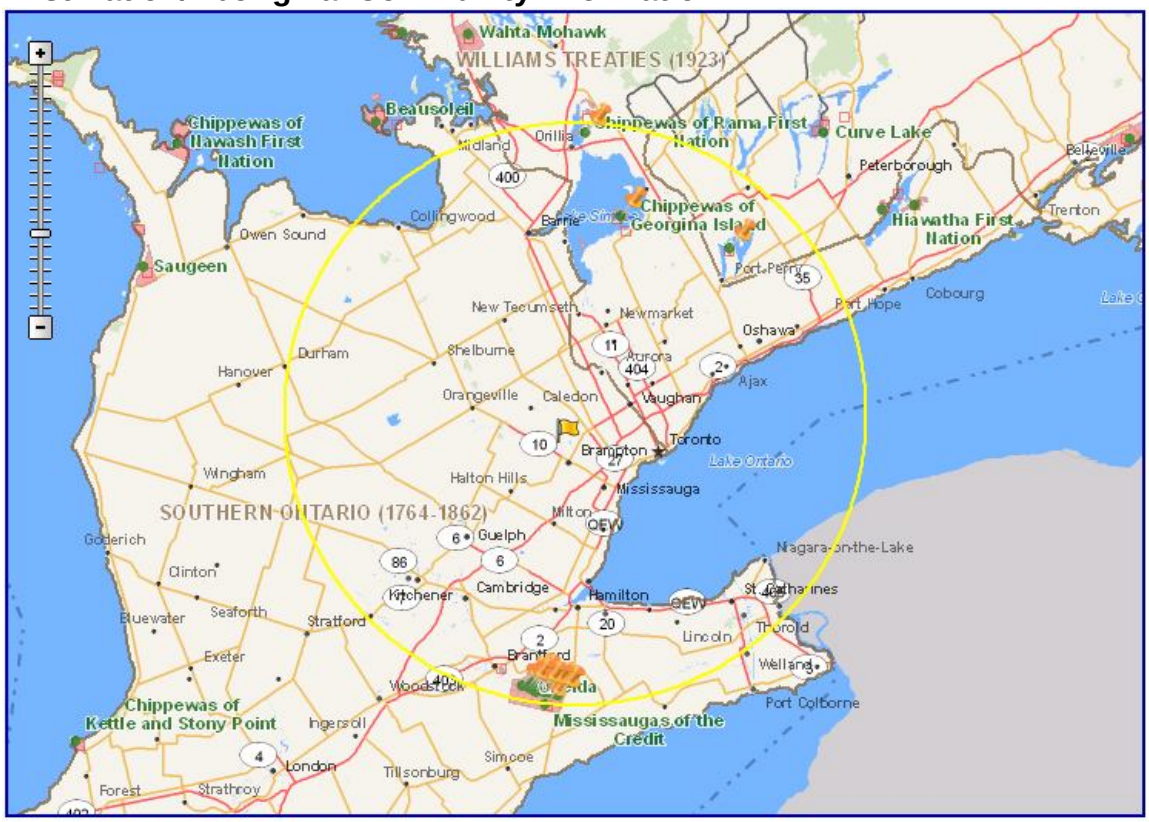
Also included, where available, is a section entitled **Other Considerations**. This may include additional relevant information such as membership or consultation-related protocols or agreements.

Should you require further assistance regarding the information provided, or if you would prefer that a smaller or greater buffer be used to gather information, please do not hesitate to contact me.

Regards,

Allison Berman
Regional Subject Expert for Ontario
Consultation and Accommodation Unit
Aboriginal Affairs and Northern Development Canada
300 Sparks Street, Ottawa
Tel: 613-943-5488

First Nation/Aboriginal Community Information



Within the 100 km radius of your project, ATRIS has identified 17 First Nations with potential interests in the area. The following information should assist you in planning any consultation that may be required.

In general, where historic treaties have been signed, the rights of signatory First Nation's are defined by the terms of the Treaty. In many cases, however, there are divergent views between First Nations and the Crown as to what the treaty provisions imply or signify. For each First Nation below, the relevant treaty area is provided.

Aboriginal rights tend to be site-specific and are generally defined by the *Van der Peet* "test" of the Supreme Court of Canada decision of 1993. Rights that some Aboriginal peoples hold as part of a community which derive from their ancestors' long-standing use and occupancy of Canada are recognized. These include the right to hunt, trap, fish and gather, and are associated with customs, practices and traditions which existed prior to European settlement.

Specific claims are those based upon either the alleged failure of the federal government to meet the terms of an existing agreement, or its fiduciary obligations with respect to the administration of First Nation's treaties, lands and assets under the Indian Act. The below response provides summaries of relevant claims that are current to the date of the response. As the claims progress regularly, it is recommended that the status of each claim be reviewed through the Reporting Centre on Specific Claims at: http://pse4-esd4.ainc-inac.gc.ca/SCBRI/CASCC/CascLoginPage.aspx?ReturnUrl=%2fSCBRI%2fMain%2fReportingCentre%2fIndexExternal.aspx%3flang%3deng&lang=eng

Self-government agreements set out arrangements for Aboriginal groups to govern their internal affairs and assume greater responsibility and control over the decision making that affects their communities. Many comprehensive claims settlements also include various self-government arrangements. Self-government agreements address: the structure and accountability of Aboriginal governments, their law-making powers, financial arrangements and their responsibilities for providing programs and services to their members. Self-government enables Aboriginal governments to work in partnership with other governments and the private sector to promote economic development and improve social conditions.

Chippewas of Georgina Island First Nation
Chief Donna Big Canoe
RR 2, PO Box 13
Sutton West, Ontario, L0E 1R0
Phone: (705) 437-1337
Fax: (705) 437-4597
www.georginaisland.com

Treaty Area - Williams Treaties of 1923
For more information on the treaties, see "Other Considerations" below.

Membership
Chippewa Tri-Council
Union of Ontario Indians
Ogemawahj Tribal Council
Chiefs of Ontario
See "Other Considerations" below for more information.

Specific Claims
Name: Coldwater Narrows
Status: active negotiation
Description: The Chippewa Tri-Council alleged the illegal taking of reserve lands in 1836 and inadequate compensation.

Name: 1815 Treaty Payments
Status: concluded- no lawful obligation found
Description: The Chippewa Tri-Council alleged Canada failed to honour terms of treaty regarding compensation for lands.

Name: 1923 Williams Treaties
Status: closed
Description: The United Indian Council alleged that the Williams Treaty was invalid. They state that compensation has been inadequate for land taken, along with a failure to provide reserves. The First Nations involved are: Alderville, Beausoleil, Chippewas of Georgina Island, Chippewas of Mnjikaning, Curve Lake, Hiawatha, Mississauga of Scugog Island.

Name: Penetanguishene and Matchedash Bays

Status: concluded- no lawful obligation found
Description: The Chippewa Tri-Council alleged that lands covered by the Penetanguishene & Matchedash Bays treaty of 1798 were never properly ceded. In addition, the lands were wrongfully included in the Robinson Huron treaty of 1850, and the Chippewa Nation was never adequately compensated.

Name: Awenda
Status: concluded- no lawful obligation found
Description: The Chippewa Tri-Council alleged that a 50,000 acre tract in Simcoe County was not included in the Penetanguishene Treaty of 1798, yet was taken without consent by the provisional agreement of 1811. They state it should remain in the control of the First Nation.

Name: Notawasaga
Status: concluded- no lawful obligation found
Description: The Chippewa Tri-Council alleged there has been improper cession of lands in Simcoe County by the Notawasaga treaty of 1815, and inadequate compensation provided.

Self-Government Agreement negotiations
Anishinabek Nation Final Agreement negotiations on Governance and Education
Please see "Other Considerations" below for more details.

Litigation
No relevant cases to report.

Chippewas of Mnjikaning (Rama)
Chief Sharon Stinson Henry
5884 Rama Road, Suite 200
Rama, Ontario, L0K 1T0
Phone: (705) 325-3611
Fax: (705) 325-0879
www.mnjikaning.ca

Treaty Area - Williams Treaties of 1923
For more information on the treaties, see "Other Considerations" below.

Membership
Chippewa Tri-Council
Ogemawahj Tribal Council
Chiefs of Ontario
See "Other Considerations" below for more information.

Specific Claims
Name: Coldwater Narrows
Status: active negotiations
Description: See Chippewa of Georgina Island First Nation for more information.

Name: 1815 Treaty Payments
Status: concluded- no lawful obligation found
Description: See The Chippewa of Georgina Island for more information.

Name: 1923 Williams Treaties
Status: closed
Description: The United Indian Council alleges that the Williams Treaty was invalid, and inadequate compensation has been received for land taken. There has also been a failure to provide reserves. The First Nations involved are: Alderville, Beausoleil, Chippewas of Georgina Island, Chippewas of Mnjikaning, Curve Lake, Hiawatha, Mississauga of Scugog Island.

Name: Notawasaga
Status: concluded- no lawful obligation found
Description: See Chippewa of Georgina Island for more information.

Name: Awenda
Status: concluded- no lawful obligation found
Description: The Chippewa Tri-Council alleged that a 50,000 acre tract in Simcoe County was not included in the Penetanguishene Treaty of 1798, yet was taken without consent by the provisional agreement of 1811. They state it should remain in the control of the First Nation.

Name: Penetanguishene and Matchedash Bays
Status: concluded- no lawful obligation found
Description: The Chippewa Tri-Council alleged that lands covered by the Penetanguishene & Matchedash Bays treaty of 1798 were never properly ceded. In addition, the lands were wrongfully included in the Robinson Huron treaty of 1850, and the Chippewa Nation was never adequately compensated.

Litigation
No relevant cases to report.

Mississauga's of Scugog Island First Nation
Chief Tracy Gauthier
22521 Island Road, Port Perry, ON, L9L 1B6
Phone (905) 985-3337
Fax (905) 985-8828

Treaty Area - Southern Ontario treaties to open the interior: 1815 to 1862
For more information on the treaties, see "Other Considerations" below.

Membership
Union of Ontario Indians
Ogemawahj Tribal Council
Chiefs of Ontario
See "Other Considerations" below for more information.

Specific Claims

Name: 1923 Williams Treaties
Status: closed
Description: The United Indian Council alleged that the Williams Treaty was invalid. They state that compensation has been inadequate for land taken, along with a failure to provide reserves. The First Nations involved are: Alderville, Beausoleil, Chippewas of Georgina Island, Chippewas of Mnjikaning, Curve Lake, Hiawatha, Mississauga's of Scugog Island.

Name: Brant Tract Purchase
Status: settled through negotiations - October 2010
Description: The First Nation alleged that the 1797 treaty for cession of lands at Burlington Bay was illegal, and that the Mississauga Nation retained rights and title to lakeshore at Burlington Bay and 200 acres at Burlington Heights. The other First Nations involved in this claim are: Curve Lake, New Credit, Alderville, Mississauga's of Scugog Island and Hiawatha.

Name: Crawford Purchase
Status: concluded- no lawful obligation found
Description: The First Nation alleged that the purchase of 1783-1784 covering lands in Frontenac, Prince Edward and Hastings counties and United county of Lennox Addington was illegal.

Name: Damages to Wild Rice
Status: concluded- no lawful obligation found
Description: The First Nation alleged that Mississauga title to wild rice, traditional economy, waters and lands beneath the waters. They state there has been destruction of the wild rice and traditional economy due to flooding by the Trent canal.

Name: Gunshot Treaty
Status: concluded- no lawful obligation found
Description: The First Nation alleged the Gunshot Treaty of 1788 covering lands in Prince Edward and Northumberland counties and regional municipality of Durham was illegal.

Name: Lake Ontario Lakeshore
Status: concluded- no lawful obligation found
Description: The Mississauga Tribal Claims Council alleged that part of the lakeshore in the townships of Oakville Burlington, Mississauga and Etobicoke were never ceded by treaty or otherwise. The First Nations involved are: Curve Lake, New Credit, Alderville, Scugog and Hiawatha.

Name: Navy Island
Status: concluded- no lawful obligation found
Description: The Mississauga Tribal Claims Council alleged that islands were never ceded in the Niagara treaty of 1781.

Name: Niagara Treaty Lands
Status: concluded- no lawful obligation found
Description: The Mississauga Tribal Claims Council (MTCC) alleged that lands covered by the Niagara treaty of 1781 in the Regional Municipality of Niagara were never properly ceded & that the Mississauga were not compensated for them. This claim was originally submitted in 1986 by the MTCC as a component of the Williams Treaty claim & was subsequently hived off as a separate claim in 1990.

Name: Toronto Purchase
Status: settled in 2010
Description: The First Nation alleged that the Toronto Purchase (1787 & 1805) covering lands in the regional municipality of York, was illegal.

Self-Government Negotiations
Anishinabek Nation (Union of Ontario Indians) Final Agreement negotiations on Governance and Education
Please see "Other Considerations" below for more details.

Litigation
No relevant litigation to report.

Mississaugas of the Credit
Chief M. Bryan Laforme (appointment expires December 15, 2011)
2789 Mississauga Road
RR 6
Hagersville, Ontario, N0A 1H0
Phone: (905) 768-1133
Fax: (905) 768-1225
www.newcreditfirstnation.com

Treaty Area – Southern Ontario treaties for Settlement: 1783 -1815
For more information on the treaties, see "Other Considerations" below.

Membership
Association of Iroquois and Allied Indians
Chiefs of Ontario
See "Other Considerations" below for more information.

Specific Claims
Name: Brant Tract Purchase
Status: settled through negotiations
Description: The First Nation alleged that the 1797 treaty for cession of lands at Burlington Bay was illegal, and that the Mississauga Nation retained rights and title to lakeshore at Burlington Bay and 200 acres at Burlington Heights. The other First Nations involved in this claim are: Curve Lake, New Credit, Alderville, Scugog and Hiawatha. Note: this claim was settled on October 29, 2010.

Name: Crawford Purchase
Status: concluded- no lawful obligation found
Description: The First Nation alleged that the purchase of 1783-1784 covering lands in Frontenac, Prince Edward, Hastings counties and United county of Lennox Addington was illegal.

Name: Damages to Wild Rice

Status: concluded- no lawful obligation found
Description: The First Nation alleged that Mississauga title to wild rice, traditional economy, waters and lands beneath the waters. They claim that flooding by the Trent canal has destroyed the wild rice and hence their traditional economy.

Name: Gunshot Treaty
Status: concluded- no lawful obligation found
Description: The First Nation alleged that the Gunshot Treaty of 1788 covering lands in Prince Edward and Northumberland counties and regional municipality of Durham was illegal. The First Nations involved are: Curve Lake, New Credit, Alderville, Scugog and Hiawatha.

Name: Lake Ontario Lakeshore
Status: concluded- no lawful obligation found
Description: The Mississauga Tribal Claims Council alleged that part of the lakeshore in the townships of Oakville Burlington, Mississauga and Etobicoke were never ceded by treaty or otherwise. The First Nations involved are: Curve Lake, New Credit, Alderville, Scugog and Hiawatha.

Name: Navy Island
Status: concluded- no lawful obligation found
Description: The Mississauga Tribal Claims Council alleged that islands were never ceded in the Niagara treaty of 1781.

Name: Niagara Treaty Lands
Status: concluded- no lawful obligation found
Description: The Mississauga Tribal Claims Council (MTCC) alleged that lands covered by the Niagara treaty of 1781 in the Regional Municipality of Niagara were never properly ceded & that the Mississauga were not compensated for them. This claim was originally submitted in 1986 by the MTCC as a component of the Williams Treaty claim & was subsequently hived off as a separate claim in 1990.

Name: 200 Acre
Status: settled through negotiations
Description: The First Nation alleged that there was an invalid surrender in 1820, of 200 acres of land on the north shore of the Credit River.

Name: Railway Claim – Loss of Use
Status: settled through negotiation
Description: The First Nation alleged that there was an invalid expropriation of land for railway purposes in 1876, and failure to compensate for interest in lands taken.

Name: Toronto Purchase
Status: settled through negotiation in 2010
Description: Non-fulfilment of the terms of the 1805 Surrender.

Litigation
No relevant litigation.

Six Nations of the Grand River
Chief William (Bill) Kenneth Montour
1695 Chiefswood Road
PO Box 5000
Ohsweken, Ontario, N0A 1M0
Phone: (519) 445-2201
Fax: (519) 445-4208
www.sixnations.ca

The main reserve is the Six Nations of the Grand River, and is an 18,000 hectare land base located 25 km southwest of the city of Hamilton, between the cities of Brantford, Caledonia and Hagersville, Ontario. Their ancestral homeland is located in the Mohawk River Valley (Ontario and Quebec) and present day states of New York and Vermont.

The Six Nations of the Grand River is the contact point for the following local individual First Nation communities which fall under the Six Nations and/or Haudenosaunee leadership.

Mohawks of the Bay of Quinte
Delaware
Lower Cayuga
Niharondasa Seneca
Onondaga Clear Sky
Upper Cayuga
Walker Mohawk
Bearfoot Onondago
Konadaha Seneca
Lower Mohawk
Oneida
Tuscarora
Upper Mohawk

The Haudenosaunee Grand Council of Chiefs, also known as the Six Nations Confederacy Council, considers itself to be the central government of the Iroquois Confederacy. They contend that they represent the fifty Chiefs of the Six Nations Confederacy, and assert traditional rights in the southern Ontario region based on the text of the Nanfan treaty. In the past, federal officials have included them in their notification and consultation, however, they are not legally recognized as the official Canadian leadership of the Iroquois.

There is also an American component of the Haudenosaunee Grand Council. It exercises its sovereignty by issuing passports to its citizens travelling abroad. As the territory crosses the Canada/ USA border, many Haudenosaunee citizens work and live on opposite sides and may not recognize either a Canadian or American identity. They also may not view the international border in their territory in the same way that the federal governments of either country do.

Treaty Areas
Southern Ontario pre-Confederation treaties to open the interior: 1815 to 1862 and other pre-Confederation treaties
For more information on the treaties, see “Other Considerations” below for more information.

History of Claims and Negotiations with the Six Nations
Prior to 2006, the Government of Canada and the Province of Ontario held discussions with the Elected Chief and Council of the Six Nations in an attempt to achieve out-of-court resolution on various claims. However, this process was interrupted in February of 2006 when a group of Six Nations protesters took occupation in a residential building site in Caledonia know as the

Douglas Creed Estates. When the situation escalated, the discussion table was extended to include the Haudenosaunee Confederacy Council (HCC), In addition, a Special Federal Representative and Senior Federal Negotiatior were appointed.

The Elected Chief and Council (who are elected under the Indian Act) delegated the lead on resolving matters tied to the Douglas Creek Estates to the Haudenosaunee Confederacy Council. Negotiations on other claims continued to include the HCC, who has retained the lead the negotiating tables. The Elected Chief and Council are also represented at the negotiations by a member or members of the Council.

With regard to the litigation process, the Six Nations and Haudenosaunee Grand Council are well informed and have an established capacity. Assertions of rights and title in the past have received high profile in the media. It is recommended that any consultation proceed with respect for their negotiating experience, as well as their consultation knowledge and capacity.

Specific Claims and Negotiations

Six Nations of the Grand River have many specific claims filed with Canada, not all of which are currently active. From the 1980s to the mid-1990s, Six Nations submitted 28 specific claims to Canada. The most relevant claims pertain to the following areas:

The Haldimand Tract

In general, Six Nations' claims deal with past grievances that relate to lands known as the Haldimand Tract. These lands were set aside for Six Nations when they came from New York to Canada in 1784 as allies of the Crown after the American Revolution. While this Tract does not intersect with your project location, the link to a map and information on is included for your information. http://www.sixnations.ca/LandsResources/HaldProc.htm

Canada's negotiation of Six Nations' claims is an out-of-court process. In 1999, 2000 and 2001, all three parties-Six Nations, the Province of Ontario and the Government of Canada-turned from active litigation to talks to find common ground upon which to proceed with some form of out-of-court resolution. While these efforts did not produce results, other efforts have been made since 2004. The Government of Canada began exploratory discussions with the Six Nations' Elected Chief and Council and the Province of Ontario to address the claims. These discussions were interrupted when a group of Six Nations protesters occupied the then privately owned Douglas Creek Estates site in Caledonia.

There have been no formal negotiation sessions since October 8, 2009. Canada continues to engage in bilateral and trilateral exploratory discussions with representatives from Ontario and Six Nations (both elected and Haudenosaunee councils). The purpose of these discussions has been to explore means to redefine the negotiation process.

The Culbertson Tract Claim

This claim concerns the easterly most First Nation, the Mohawk of the Bay of Quinte. The Culbertson Tract claim relates to a land transaction that took place in 1793. In recognition of military alliance of the Mohawk people during the American Revolution, a tract of land the size of a township was set aside for the Six Nations under a formal treaty issued by Lt.-Gov. John Graves Simcoe.

Under the terms of the treaty, if the lands were to fall into the hands of non-Six Nations interests, the Crown promised to "dispossess and evict" the trespassers from the lands and restore the occupied lands to Six Nations possession.

The Mohawk of the Bay of Quinte's claim alleges that approximately 827 acres, now located in the townships of Desoronto and Tyendinaga, was improperly taken from the First Nation in 1837. Specific claim negotiations with Canada closed in 2008, and the issue is now in litigation with the Ontario Federal Court since 2010. However, the Mohawk are not asking the court to determine the validity of their claim to the Tract, but rather they are seeking an order that Canada is in breach of fiduciary duty and other legal duties to negotiate in good faith under the Specific Claims Branch Policy. If the Mohawk choose to claim title to the land, they can do so through AANDC's Special Claims process.

Litigation

Name: Six Nations Elected Council on its own behalf and on behalf of the Six Nations of the Grand River v. The Corporation of the City of Brantford
Status: active
Court No: CV-08-361454
Description: The Plaintiffs seek various declarations pertaining to Ontario and/or the City of Brantford's constitutional duty to consult with and accommodate the Six Nations of the Grand River before considering or undertaking any planning activities and disposition of lands which could potentially affect the interests of the Six Nations of the Grand River.

Name: Six Nations of the Grand River Band of Indians et al. – Superior Court of Justice
Status: active
Court No.: 406/95
Description: The Plaintiffs claims that an accounting of all Six Nations' assets including money and real property that was to be held in trust by the Crown for the benefit of the Six Nations since 1784. The Plaintiff seeks a declaration by the Court that the Defendants are in breached of their fiduciary duties towards the Plaintiff, and are liable for replacing all assets or the value of all assets found to be missing, with compound interest.

Name: Aaron Detlor; The Haudenosaunee Development Institute v. The Corporation of the City of Brantford – Superior Court of Justice
Status: active
Court No.: CV-08-356782
Description: The Applicants Aaron Detlor and the Haudenosaunee Development Institute intend to question the constitutional validity and applicability of By-laws 63-2008 and 64-2008 of the City of Brantford Municipal Code, made under the Municipal Act, 2001, S.O. 2001, c. 25.

Name: King Chief ah'she hodeeheehonto v. Her Majesty the Queen in Right of Canada
Status: active
Court No.: 10-20244 JR
Description: This is a Notice of Constitutional Question which seems to involve an argument involving Six Nations that among other things relies on the Two Row Wampum Treaty and other Aboriginal and treaty rights, as protection from the jurisdictional obligation to follow Canada's laws and other obligatory requirements.

Six Nations of the Grand River Land Use Consultation and Accommodation Policy

The Six Nations of the Grand River published a consultation and accommodation policy in 2009. The Six Nations request that the Crown, developers and municipalities consult in good faith to obtain free and informed consent prior to approval of any projects affecting their interests. It is recommended that this protocol be reviewed in advance of consultation to better understand

First Nation expectations. However, the federal government does not endorse its content. The link to the protocol is: http://www.sixnations.ca/admConsultationAccomodationPolicy.pdf

Métis Consultation

In 2003, the Supreme Court of Canada affirmed Métis rights under s.35 of the Constitution Act, 1982 in the Sault St. Marie area, in the *Powley* decision. The inclusion of the Métis in s.35 represents Canada's commitment to recognize and value their distinctive cultures, which can only survive if they are protected along with other Aboriginal communities. It is important to recognize that the Métis have asserted rights throughout most of Ontario. The best source of information on the nature of these assertions, is from the Métis themselves, who can be contacted via their provincial or national organization.

An interim agreement (2004) between the Métis Nation of Ontario (MNO) and the Ministry of Natural Resources (MNR) recognizes the MNO's Harvest Card system. This means that Harvester's Certificate holders engage in traditional Métis harvest activities. For a map of Métis traditional harvesting territories visit the MNO website.

The provincial government has accommodated Métis rights on a regional basis within Métis harvesting territories identified by the MNO. These accommodations are based on credible Métis rights assertions.

The Office of the Federal Interlocutor for Métis and Non-Status Indians (OFI) is aware that the Métis Nation of Ontario (MNO), its Regions and community councils, have asserted a Métis right to harvest in a large section of the province. However, the best source of information on the nature of these assertions, is from the Métis themselves, who can be contacted via their provincial or national organization.

In partnership with Community Councils MNO has established a consultation process. The Métis Consultation Unit is located within the MNO head office.
Métis Nation of Ontario Head Office
500 Old St. Patrick Street, Unit D
Ottawa, Ontario, K1N 9G4
Phone: (613) 798-1488
Fax: (613) 725-4225
www.metisnation.org/home.aspx

As the MNO may not fully represent all Métis in Ontario, it is recommended that the National Council also be contacted.
Métis National Council
350 Sparks Street, Suite 201
Ottawa, Ontario, K1R 7S8
Phone: (613) 232-3216
Fax: (613) 232-4262
info@metisnation.ca

Other Considerations

Membership

First Nations may or may not delegate certain authority and/or powers to tribal councils to administer programs, funding and/or services on their behalf. The best source of information with respect to consultation is though individual First Nations themselves.

Association of Iroquois and Allied Indians

This is a political organization which advocates the interests of its eight members. Using political lines the members form a collective to protect their Aboriginal and treaty rights.

387 Princess Avenue
London, Ontario, N6B 2A7
Phone: (519) 434-2761
www.aiai.on.ca

Chippewa Tri-Council

This council is an alliance of three First Nation communities composed of the:

- Beausoleil First Nation- located on Christina Island in Georgian Bay
- Georgina Island First Nation- located on Georgina Island in Lake Simcoe
- Rama Mnjikanning First Nation-located near Orillia

There is not an official location for this council. Please contact the Chief of each First Nation individually.

Chiefs of Ontario

The Chiefs of Ontario is a coordinating body for 133 First Nation communities in Ontario. The main objective of this body is to facilitate the discussion, planning, implementation and evaluation of all local, regional and national matters affecting its members.
www.chiefs-of-ontario.org

Administrative Office:
111 Peter Street, Suite 804
Toronto, Ontario, M5V 2H1
Phone: (416) 597-1266
Fax: (416) 597-8365

Political Office:
Fort William First Nation
RR 4, Suite 101, 9- Anemki Drive
Thunder Bay, Ontario, P7J 1A5
Phone: (807) 626-9339
Fax: (807) 626-9404

The Union of Ontario Indians (UOI)

The UOI is a political advocate for 40 member First Nations across Ontario. Its headquarters is located on Nipissing First Nation, just outside of North Bay Ontario, and has satellite offices in Thunder Bay, Curve Lake First Nation and Munsee-Delaware First Nation. The UOI delivers a variety of programs and services. The Anishinabek Nation incorporated the Union of Ontario Indians (UOI) as its secretariat in 1949.

Ottawa
222 Queen Street
Ottawa, Ontario, K1P5V9
Phone: (613) 563-0178

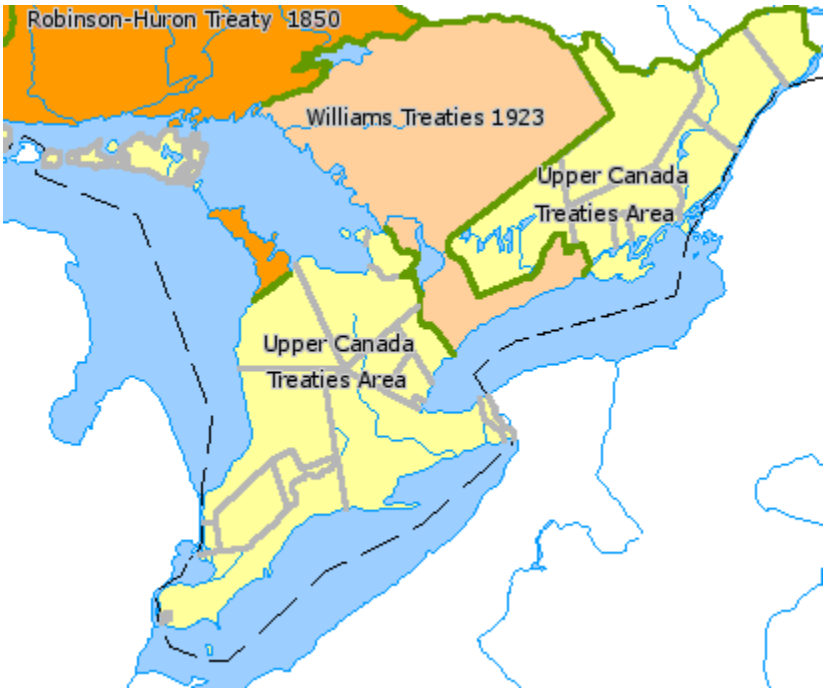
North Bay
1 Miigizi Mikan
North Bay, Ontario, P1B 8J8
Phone: (705) 497-9127
Fax: (705) 497-9135

Ogemawahj Tribal Council

The Council provides professional services through the pooling of six First Nation member's resources.
5984 Rama Road
P.O. Box 46 Rama, Ontario, L0K 1T0
Phone: (705) 329-2511
Fax: (705) 329-2509
www.ogemawahj.on.ca

Treaties of Southern Ontario- The Upper Canada Treaties

There are several treaty making eras which impact the province of Ontario. These eras are known as the Upper Canada Land Surrenders from 1764 to 1862 and the Williams Treaties of 1923. The Upper Canada Land Surrenders are seen as treaties which transfer all Aboriginal rights and title to the Crown in exchange for one-time payments. In light of some recent court decisions, this position may not be as clear as believed. There may be residual rights remaining especially relating to hunting and fishing. Debate on the interpretation of the Williams Treaties continues as well.



*Atlas of Canada

1764-1782 – Early Land Surrenders

The Royal Proclamation of 1763 established the protection from encroachment of an Aboriginal territory outside of the colonial boundaries. Rules and protocols for the acquisition of Aboriginal lands by Crown officials were set out and became the basis for all future land treaties. In response to military and defensive needs around the Great Lakes, the Indian Department negotiated several land surrender treaties in the Niagara region.

1783-1815- Treaties for Settlement
As part of the plan to resettle some 30,000 United Empire Loyalists who refused to accept American rule, and fled to Montreal, the Indian Department undertook a series of land surrenders west of the Ottawa River with the Mississauga and the Chippewa of the southern Great Lakes.

1815-1862- Treaties to Open the Interior
After the war of 1812, the colonial administration of Upper Canada focused on greater settlement of the colony. The Indian Department completed the last of the over 30 Upper Canada Land Surrenders around the Kawartha, Georgian Bay, and the Rideau and Ottawa Rivers. All of this land which today is known as Southern Ontario, was ceded to the Crown.

Southern Ontario Treaty Making After the Upper Canada Land Surrenders
While the protocols for surrenders established in 1763 by the Royal Proclamation, were largely followed by the Indian Department, several were problematic due to unsigned documents, vague descriptions or non-existent payments. In response, the province of Ontario and Canada enlisted a commission in 1916 to examine these issues. The Commission recommended that new treaties be made, and appointed A.S. Williams who negotiated with the Ojibway in 1923.

Contrary to the terms of the Robinson Treaties in Ontario (1850) and the more recent numbered treaties in the west, the Williams Treaties were cash for land deals. Aboriginal (Ojibway) signatories surrendered all of their rights and benefits to the Crown on lands in central Ontario and the northern shore of Lake Ontario. The Potawatomi and the Mississaugas of the New Credit were not involved in these negotiations.

Since the signing of these treaties, the surrender of the rights to hunt and fish has been debated. In 1994, the Supreme Court of Canada, in *R.* v. *Howard*, decided that the seven First Nations had knowingly surrendered their traditional right to fish for food when they had agreed to the Williams Treaties.

However, an overlapping of the Williams Treaty with other treaties that did not extinguish rights to hunt and fish continues to be problematic. For example, when negotiating the Rice Lake Treaty of 1818, the Deputy Superintendent General agreed to pass on to the King a request for **"an equal right to fish and hunt" on ceded lands**. While the surrender itself has not been found, documentation exists that the Crown accepted the agreement. Currently, First Nations have entered litigation arguing that the Crown negotiated the William's Treaties in bad faith. The Alderville First Nation along with Curve Lake First Nation and the Mississauga launched litigation in 2009, and it is scheduled to continue in 2012.

*Atlas of Canada Map - The treaty boundaries on the above maps for Southern Ontario are approximate. The treaty areas listed for each Aboriginal community are based on the geographic location of the each First Nation.

Pre-Confederation Treaties and the Six Nations

Between the Lakes Treaty of 1784 and 1792

This treaty was a land purchase signed by the Mississauga for a tract of land on either side of the Grand River. Governor Haldimand purchased this land for the Six Nations to enhance the original purchase made for them. This treaty is one of over 30 land purchases and treaties known as the Upper Canada Treaties.

Haldimand Proclamation of 1784

The Six Nations and their descendants were granted lands six miles deep from each side of the Grand River as compensation for their loss of territory as a result of their alliance with the British during the American War of Independence.

Simcoe Patent of 1793

This patent confirms the lands granted to the Six Nations by the Haldimand Proclamation. It specifies that the Six Nations can surrender and dispose of their land only to the Crown. Any other leases, sales or grants to people other than Six Nations shall be unlawful and such intruders evicted.

Nanfan Treaty of 1701

This Treaty, also known as the Treaty of Albany, covers a land base of 800 by 400 miles around the Lake Erie, Huron and Ontario area, as well as a portion of the United States. The Treaty states that the five nations (Mohawks, Onondagas, Oneida, Seneca and Cayuga) are to have free hunting for the signatories and their descendants forever. It also states that the signatories would be free of all disturbances, and enjoy protection from the Crown of England. The Province of Ontario (*R. v. Ireland (1990)* decision) recognizes the hunting rights under the

Nanfan Treaty. Presently, Canada does not have a position concerning the legitimacy of the Nanfan Treaty.

Self Government Agreement Negotiations

Anishinabek Nation (Union of Ontario Indians) Final Agreement Negotiations on Governance and Education

In 1995, the Anishinabek Nation's Grand Council authorized its secretariat arm, the Union of Ontario Indians (UOI), to begin self-government negotiations with Canada. Negotiations toward agreements in the areas of education and governance began in 1998.

An agreement-in-principle (AIP) on education was signed in November 2002. In February 2007, the parties signed the AIP with respect to governance. Final agreement negotiations are proceeding in parallel, and together these agreements would mark important steps toward the Anishinabek Nation's long-term objective of supporting participating First Nations to achieve greater autonomy.

The governance final agreement will provide the framework for the establishment of the Anishinabek Nation government and for the recognition of participating First nation lawmaking authority in four core governance areas: leadership selection, citizenship, culture and language, and management and operations of government.

The education final agreement (which is nearing conclusion) authorized the parties to negotiate a final agreement with respect to lawmaking authority for primary, elementary and secondary education for on-reserve members, and to administer AANDC's post-secondary education assistance program. The Province of Ontario is not a party to these negotiations but is engaged in tripartite discussions on particular issues that would assist in the implementation of the final agreement.

Provincial guidelines

Under its responsibility to promote stronger Aboriginal relationships, the Ontario Ministry of Aboriginal Affairs has produced *Draft Guidelines on Consultation with Aboriginal Peoples Related to Aboriginal Rights and Treaty Rights.* These guidelines are for use by ministries who seek input from key First Nations and Métis organizations, all Ontario First Nations and selected non-Aboriginal stakeholders. To review the guidelines, visit: http://www.aboriginalaffairs.gov.on.ca/english/policy/draftconsultjune2006.pdf

HDR | iTRANS

October 27 2011

Project # 4956

Mr. Marc-André Millaire
Litigation Team Leader for Ontario
Litigation Management and Resolutions Branch
Indian and Northern Affairs Canada
10 Wellington Street
Gatineau, QC K1A 0H4

Dear Mr. Millaire:

Re: Highway 50 / Mayfield Road Class EA
Peel and York Region

The Regional Municipality of Peel and the Regional Municipality of York initiated a Class Environmental Assessment Study of Highway 50 from Castlemore Road/Rutherford Road to Mayfield Road/Albion-Vaughan Road, and Mayfield Road from Highway 50 to Coleraine Drive. A network study carried out for Peel and York Regions identified the need for improvements to both roads, which are significant arterial roadways in each Region's overall road network.

The study is being carried out in accordance with the Municipal Engineers Association guidelines for a Schedule 'C' Class Environmental Assessment for Municipal Road Projects.

In order to best address operational deficiencies and the need for additional capacity in the area, a number of improvement alternatives were considered as part of this study, including the overall impacts of such improvements on the socio-economic and natural environments. The preferred design alternative is a widening of Highway 50 to 6 lanes and a widening of Mayfield Road to 4 lanes.

We want to ensure that everyone with an interest in the area has been consulted and has the opportunity to provide input. Could you please advise whether there is any litigation that would apply to our study area (map attached)?

For additional details regarding the study, please refer to the project website:

HDR | iTRANS
HDR Corporation

144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada

Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

http://www.peelregion.ca/pw/roads/environ-assess/highway-50.htm

Thank you for your assistance. It is much appreciated.

Yours truly,

HDR Corporation

Stephen Keen, P. Eng.
Consultant Project Manager

Encl. Study area map

cc: Solmaz Zia – Peel Region Project Manager


PARR BLVD
KIRBY RD
MAYFIELD RD
COLERAINE DR
COLD CREEK RD
NASHVILLE RD
HWY 50
Project Limit
CLARKWAY DR
HUNTINGTON RD
MAJOR MACKENZIE DR W
TEMORE
UTHERFORD RD

HDR | iTRANS

October 27 2011

Project # 4956

Ms. Janet Townsend
Claims Analyst, Ontario Team
Specific Claims Branch
Indian and Northern Affairs Canada
1310 – 10 Wellington Street
Gatineau, QC K1A 0H4

Dear Ms. Townsend:

Re: Highway 50 / Mayfield Road Class EA
Peel and York Region

The Regional Municipality of Peel and the Regional Municipality of York initiated a Class Environmental Assessment Study of Highway 50 from Castlemore Road/Rutherford Road to Mayfield Road/Albion-Vaughan Road, and Mayfield Road from Highway 50 to Coleraine Drive. A network study carried out for Peel and York Regions identified the need for improvements to both roads, which are significant arterial roadways in each Region's overall road network.

The study is being carried out in accordance with the Municipal Engineers Association guidelines for a Schedule 'C' Class Environmental Assessment for Municipal Road Projects.

In order to best address operational deficiencies and the need for additional capacity in the area, a number of improvement alternatives were considered as part of this study, including the overall impacts of such improvements on the socio-economic and natural environments. The preferred design alternative is a widening of Highway 50 to 6 lanes and a widening of Mayfield Road to 4 lanes.

We want to ensure that everyone with an interest in the area has been consulted and has the opportunity to provide input. Could you please advise whether there are any claims in our study area (map attached)?

For additional details regarding the study, please refer to the project website:

HDR | iTRANS
HDR Corporation

144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada

Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

http://www.peelregion.ca/pw/roads/environ-assess/highway-50.htm

Thank you for your assistance. It is much appreciated.

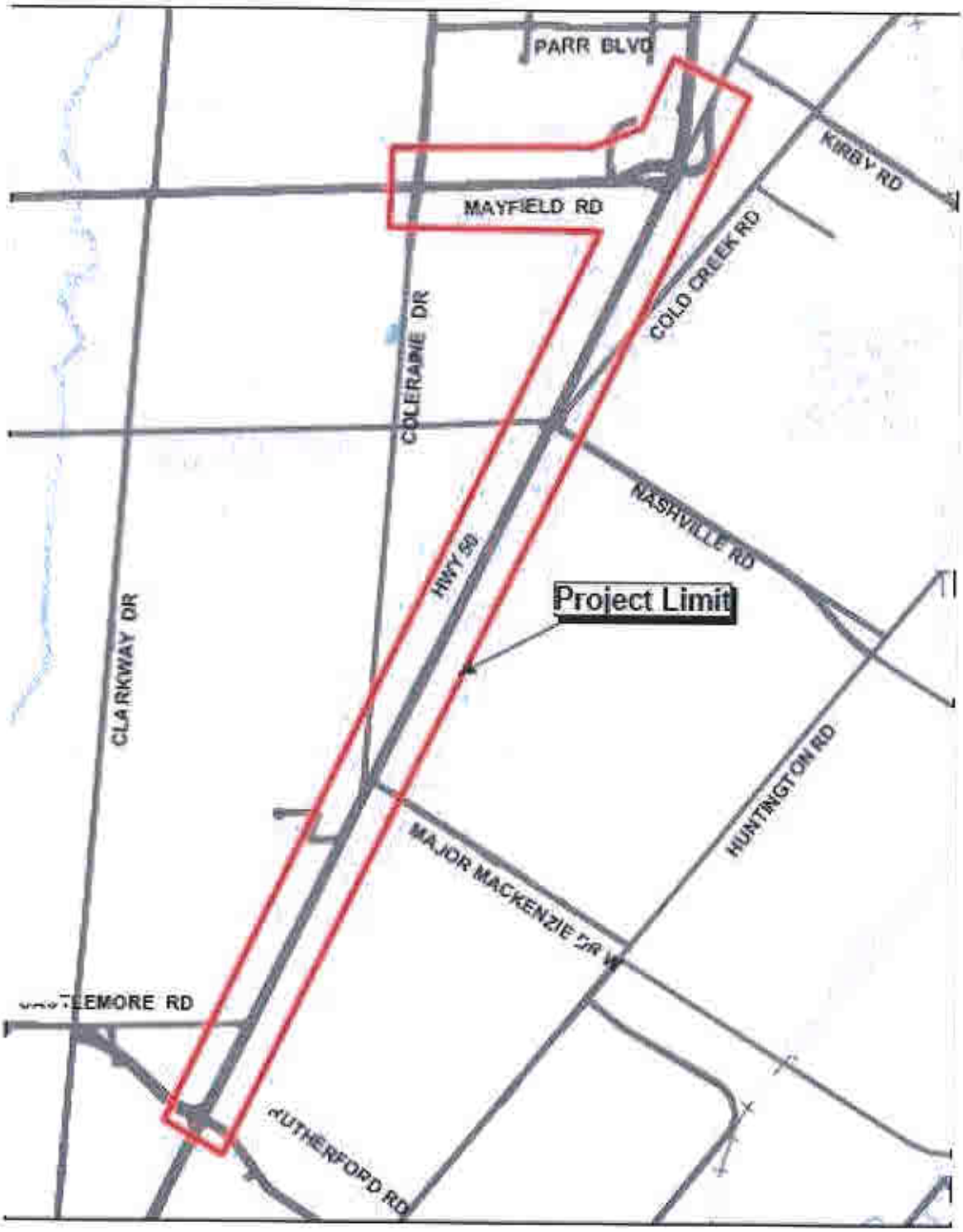
Yours truly,

HDR Corporation

Stephen Keen, P. Eng.
Consultant Project Manager

Encl. Study area map

cc: Solmaz Zia – Peel Region Project Manager


PARR BLVD
KIRBY RD
MAYFIELD RD
COLD CREEK RD
COLERAINE DR
HWY 50
NASHVILLE RD
Project Limit
CLARKWAY DR
HUNTINGTON RD
MAJOR MACKENZIE DR W
TEMORE RD
RUTHERFORD RD

HDR | iTRANS

October 27 2011

Project # 4956

Mr. Sean Darcy
Manager
Assessment and Historical Research
Indian and Northern Affairs Canada
10 Wellington Street
Gatineau, QC K1A 0H4

Dear Mr. Darcy:

Re: Highway 50 / Mayfield Road Class EA
Peel and York Region

The Regional Municipality of Peel and the Regional Municipality of York initiated a Class Environmental Assessment Study of Highway 50 from Castlemore Road/Rutherford Road to Mayfield Road/Albion-Vaughan Road, and Mayfield Road from Highway 50 to Coleraine Drive. A network study carried out for Peel and York Regions identified the need for improvements to both roads, which are significant arterial roadways in each Region's overall road network.

The study is being carried out in accordance with the Municipal Engineers Association guidelines for a Schedule 'C' Class Environmental Assessment for Municipal Road Projects.

In order to best address operational deficiencies and the need for additional capacity in the area, a number of improvement alternatives were considered as part of this study, including the overall impacts of such improvements on the socio-economic and natural environments. The preferred design alternative is a widening of Highway 50 to 6 lanes and a widening of Mayfield Road to 4 lanes.

We want to ensure that everyone with an interest in the area has been consulted and has the opportunity to provide input. Could you please advise whether there are any aboriginal communities with an interest in archaeological resources for our study area (map attached)? For additional details regarding the study, please refer to the project website:

HDR | iTRANS
Corporation

144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada

Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

http://www.peelregion.ca/pw/roads/environ-assess/highway-50.htm

Thank you for your assistance. It is much appreciated.

Yours truly,

HDR Corporation

Stephen Keen, P. Eng.
Consultant Project Manager

Encl. Study area map

cc: Solmaz Zia – Peel Region Project Manager


PARR BLVD
KIRBY RD
MAYFIELD RD
COLD CREEK RD
COLERAINE DR
NASHVILLE RD
HWY 50
Project Limit
CLARKWAY DR
HUNTINGTON RD
MAJOR MACKENZIE DR W
TEMORE

Katherine Mitchell

From: Dave Smith [davesmithlgl@rogers.com]
Sent: Thursday, March 24, 2011 1:40 PM
To: Thompson-Black, Melinda (MNR)
Cc: Katherine Mitchell
Subject: Bobolink Data Request

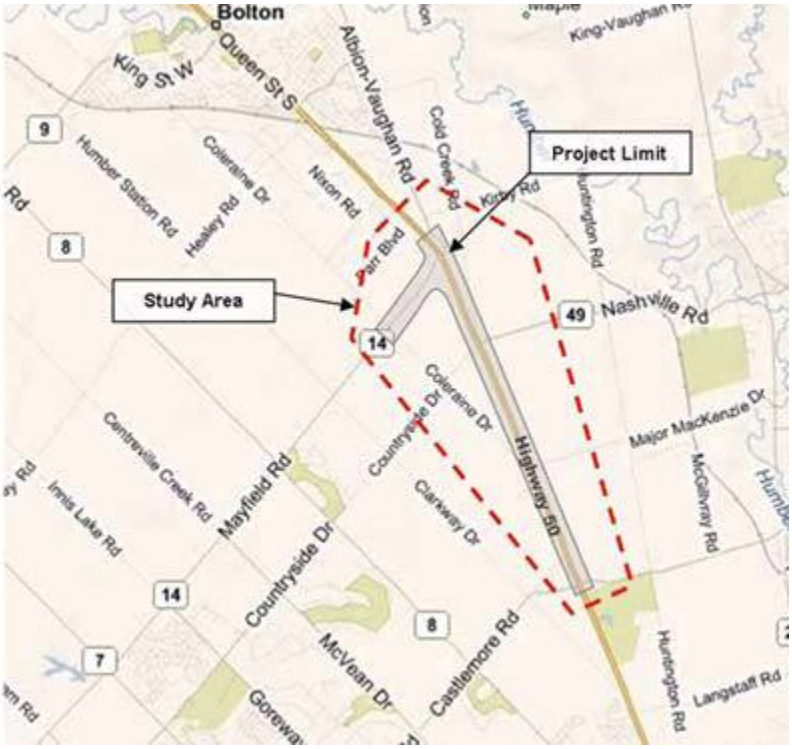
Hi Melinda,

LGL is proving natural sciences services for the Regional Municipalities of Peel and York Class Environmental Assessment for Highway 50 from Castlemore Road/Rutherford Road to Mayfield Road/Albion Vaughan Road
and Mayfield Road from Highway 50 to Coleraine Drive.

I am wondering if you can provide any background data for Bobolink occurrences within this study area. Any location records you could provide within the vicinity of this study area would be very much appreciated. I've provided a key plan of the study area below.

Thanks

Dave



_____ Information from ESET NOD32 Antivirus, version of virus signature database 5983 (20110324)
_____

The message was checked by ESET NOD32 Antivirus.

http://www.eset.com

Southern Region
Aurora District Office
50 Bloomington Road West
Aurora, ON L4G 0L8

Ontario

Ministry of Natural Resources | **Ministere des Richesses Naturelles**

March 24, 2011

Dave Smith
LGL Limited Environmental Research Associates
22 Fischer St, King City ON, P.O. Box 208
L7B 1A6
Phone: (905) 833-1422
Fax: (905) 833-1255
Email: dsmith@lgl.com

Re: Species at Risk Information Request – Regional Municipalites of York and Peel Class Environmental Assessment

Dear Mr. Smith,

In your email dated March 24, 2011 you requested information on natural heritage features and element occurrences occurring on or adjacent to the above mentioned location.

There are Species at Risk recorded from your study area. The MNR has records of Bobolink and Butternut. These species may receive protection under the *Endangered Species Act 2007* and thus, a permit may be required if the work you are proposing could cause harm to these species or their habitat.

Natural heritage features recorded for your area include several identified wetlands.

This species at risk information is highly sensitive and is not intended for any person or project unrelated to this undertaking. Please do not include any specific information in reports that will be available for public record. As you complete your fieldwork in these areas, please report all information related to any species at risk to the NHIC and to our office. This will assist with updating our database.

If you have any questions or comments, please do not hesitate to contact me at 905-713-7425.

Sincerely,

Melinda Thompson-Black

Melinda Thompson-Black
Species at Risk Biologist
Ontario Ministry of Natural Resources, Aurora District

Species at Risk Survey Memo

LGL LIMITED
environmental research associates

LGL Limited
22 Fisher Street, P.O. Box 280
King City, Ontario CANADA L7B 1A6
Tel: (905) 833-1244 Fax: (905) 833-1255
Email: kingcity@lgl.com web: www.lgl.com

To: Melinda Thompson-Black, Species at Risk Biologist, Ministry of Natural Resources

From: Ross Harris, Biologist, LGL Limited

CC: Katherine Mitchell, Environmental Planner, LGL Limited

Stephen Keen, Project Manager, HDR | iTRANS

Date: Thursday August 11, 2011

Re: **Bobolink Survey Conducted for the Highway 50 Improvements from Castlemore Road to Mayfield Road, and Mayfield Road from Coleraine Drive to Highway 50, Municipal Class Environmental Assessment Study.**

The Regional Municipality of Peel is undertaking a Schedule 'C' Municipal Class Environmental Assessment (Class EA) for improvements to Highway 50 from Rutherford Road/Castlemore Road to Mayfield Road, and improvements to Mayfield Road from Highway 50 to Coleraine Drive. The study limits are presented on **Figure 1**.

A number of alternatives were considered and evaluated to address future transportation needs, and a preferred alternative was selected. The preferred alternative includes the widening of the Highway 50 corridor to six lanes with a flush median centre left turn lane, and widening of the Mayfield Road corridor to four lanes with a flush median centre left turn lane.

The centreline will remain on the existing alignment, with some exceptions, to avoid sensitive features. The Highway 50 alignment has been shifted slightly to avoid impacting the cemetery on the west side of the right-of-way. The Mayfield Road alignment has been shifted at the intersection of Pillsworth Road to minimize impacts to residents located along Mayfield Road. Given the sensitivity of the fish community on the east side of Highway 50 just north of Mayfield Road, widening has been shifted to the west side, to minimize impacts to fish and fish habitat.

In a letter dated March 24, 2011, the MNR identified the potential for Bobolink (*Dolichonyx oryzivorus*) and Butternut (*Juglans cinerea*) to be present within the study area.

During the Class EA Study, a tree inventory was conducted by a Certified Arborist throughout the Highway 50 and Mayfield Road study area. No Butternut were identified within the study area.

Bobolink is regulated as 'Threatened' under the Ontario *Endangered Species Act*. To address any potential impacts of the preferred alignment on Bobolink, field surveys were undertaken during the spring of 2011. The purpose of this Species at Risk Survey Memo is to present the results of those field surveys, to confirm whether Bobolink are using the study area, and to describe the potential impacts associated with the preferred alternative to Bobolink.

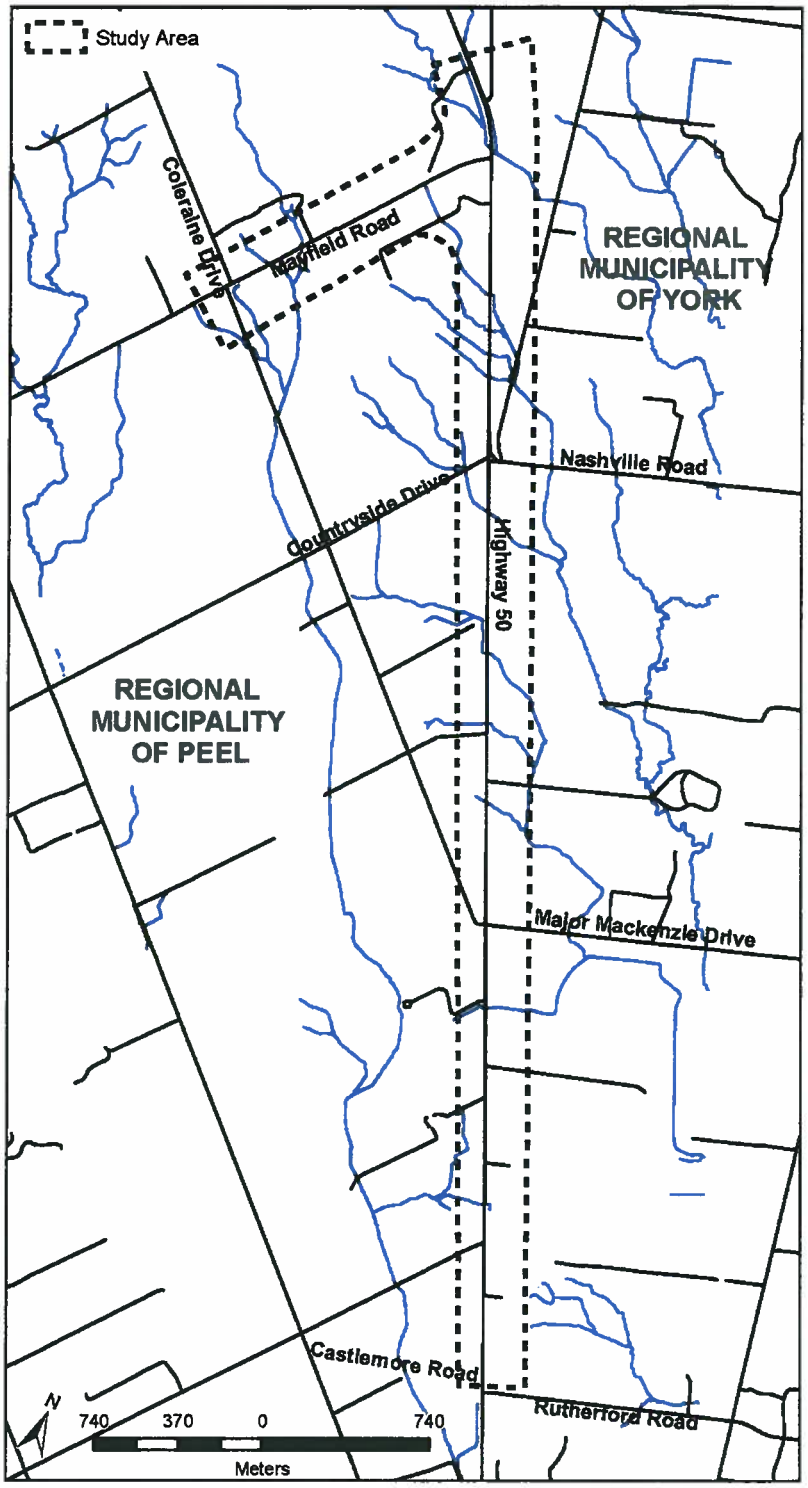


FIGURE 1. KEY PLAN

SURVEY METHODOLOGY

Surveys for Bobolink were conducted along Highway 50 and along Mayfield Road, within the study area, on three dates within the breeding bird window: May 31, June 12, and June 26, 2011. Observations were made during the early to mid-morning hours (approximately 0600 to 1000 h), when Bobolinks are more readily detectable because they typically are more active and sing more frequently. The weather conditions were sunny to cloudy, with light to moderate winds and cool to moderate temperatures (approximate 15° C to 20° C); there was no precipitation during any of the surveys.

Survey methodology consisted of driving and stopping along each shoulder of Highway 50 and Mayfield Road where field habitat existed. Most of the habitat adjacent to those two roads was field habitat. Each stop lasted at least 5 minutes, during which the field was scanned several times using 10x binoculars and the naked eye, and Bobolink songs and calls were listened for. All Bobolink observations were recorded, and the locations marked on a map. Notes also were made describing in a general way the type of habitat at each survey stop (e.g., bare earth, scattered low vegetation, tall grasses and weeds, wheat field).

SUMMARY OF FINDINGS

Bobolinks were found during each of the three surveys: 3 adult males at one location on May 31, 10 adult males scattered at five locations on June 12, and 6 adult males/1 adult female distributed at three locations on June 26, 2011. The locations where the Bobolinks were observed (Site Numbers A to F) are described in **Table 1** and presented on **Figure 2**.

Overall, Bobolinks were found at six different locations during the study, all along Highway 50 (**Table 1, Figure 2**). No Bobolinks were recorded along Mayfield Road.

Table 1. Summary of the locations, dates, and descriptions of Bobolink observations recorded during surveys along Highway 50 and along Mayfield Road.

Site	Location	Survey Results		
		May 31	June 12	June 26
A	[redacted]	No Bobolinks observed	No Bobolinks observed	1 male: flight songs
B	[redacted]	No Bobolinks observed	3 males: flight songs	4 males and 1 female: flight songs and chases
C	[redacted]	No Bobolinks observed	1 male: perched and singing	No Bobolinks observed
D	[redacted]	No Bobolinks observed	2 males: perched and singing	No Bobolinks observed
E	[redacted]	3 males: perched and flight songs	1 male: perched and singing	No Bobolinks observed
F	[redacted]	No Bobolinks observed	3 males: flight songs; 1 land on roadside fence	1 male: perched and flight song

The observations made during these field investigations indicate that the territories of Bobolinks observed at most locations were not adjacent to Highway 50 (**Figure 2**). In all but one case the Bobolinks were >100 m from Highway 50, and in several cases >200 m. The one exception was of a male Bobolink in a field adjacent to the east side of Highway 50 approximately 400 m south of Mayfield Road (Site F). That Bobolink was >100 m from Highway 50 for most of the period it was being observed, during both June 12 and June 26, but it did fly to and perch momentarily on the roadside fence on June 12. Part of the territory of that bird likely was adjacent to Highway 50.

Most observations of Bobolinks were of adult males perched atop weed or grass stalks, and/or performing flight songs, sometimes in small groups of three to four individuals. During June 26, one male was seen chasing a female (Site B). While those observations do not confirm nesting, they do suggest that Bobolinks were possibly nesting. Bobolinks were observed on two surveys at three of the six locations (**Table 1**), which suggests that nesting was probable at those sites (Sites B, E, and F). No Bobolinks were seen at any site during all three surveys. The number of nests that these observations correlate to is not known. Bobolinks are strongly polygynous, so each observed male may have mated with several females. It is also possible that some males were unmated.

PRESENCE OF BOBOLINK WITHIN THE IMPACT ZONE OF HIGHWAY 50 IMPROVEMENTS

The impact zone within which Bobolinks may be affected includes the actual area of road widening, and potentially also a larger area of temporary disturbance associated with construction activities. Bobolinks were observed adjacent to Highway 50 only at Site F, along the east side of Highway 50 south of Mayfield Road (**Figure 2**). All other sites where Bobolink were observed were well outside the road-widening zone (>100 m). The zone of potential temporary disturbance is not known but is expected to be in the order of a few tens of metres. The size of the disturbance zone would vary with the time of year, and the location and extent of construction activities. For example, there would be no or minimal disturbance effects if construction activities were conducted outside of the Bobolink nesting period.

In this study area, Bobolink were observed in field habitats altered by man — agricultural and fallow fields. The locations of these habitats vary from year to year as farmers rotate their crops. Consequently, it is difficult to predict where Bobolinks may nest within the study area in future years, and thus where impacts may occur. Bobolinks will move to suitable habitat, if necessary.

CONCLUSION

Based on the results of the 2011 field surveys, potential impacts associated with the proposed road improvements to Highway 50 and Mayfield Road, to nesting Bobolinks, would occur only at Site F. The extent of potential impacts to nesting Bobolinks at that site would depend on the location of construction activities and road widening there, and to what extent those overlap with Bobolink nesting territories.

There may also be impacts to Bobolink nesting habitat associated with the proposed road improvements. However, given the narrow width of road widening, the potential loss of nesting habitat is expected to be very small and not biologically significant. The loss of habitat associated with the road improvements will be irrelevant in comparison to the future development that is likely to occur along Highway 50 following road improvements.

Please advise of any requirements for permits under the Ontario *Endangered Species Act*, based on the above findings. You may contact me directly at rharris@lgl.com, or by phoning me or Katherine Mitchell, Environmental Planner at 905-833-1244.

Noss, Melissa

From: Katherine Mitchell [kmitchell@lgl.com]
Sent: Tuesday, September 13, 2011 4:22 PM
To: melinda.thompson-black@ontario.ca
Cc: Baudais, Nathalie; Keen, Stephen; 'Ross Harris'
Subject: Bobolink Memo - Highway 50 from Castlemore Road to Mayfield Road, and Mayfield Road from Coleraine Drive to Highway 50
Attachments: Final Bobolink Memo 11Aug11.pdf

Hello Melinda:

I hope you are doing well. I have attached a digital version of the letter that we mailed to you on August 11, 2011. Could you please let me know that you have received our correspondence?

It would be appreciated if you could provide advice regarding any requirements under the Ontario *Endangered Species Act*.

Kind regards,
Katherine

Katherine Mitchell, MCIP, RPP
Environmental Planner

LGL Limited *environmental research associates*
22 Fisher Street, P.O. Box 280
King City, Ontario Canada
L7B 1A6
Tel: (905) 833-1244
Fax: (905) 833-1255
email: kmitchell@lgl.com

MNR File # AU-LOA-053-11

Ontario

Ministry of Natural Resources | **Ministere des Richesses Naturelles**

Southern Region
Aurora District Office
50 Bloomington Road West
Aurora, ON L4G OL8

October 17, 2011

Katherine Mitchell, MCIP, RPP
Environmental Planner, LGL Limited
22 Fisher Street, P.O. Box 280
King City, Ontario Canada L7B 1A6
Tel: (905) 833-1244
email: kmitchell@lgl.com

RE: Highway 50 from Castlemore Road to Mayfield Road, and Mayfield Road from Coleraine Drive to Highway 50

Dear Ms. Mitchell,

The Ministry of Natural Resources has reviewed the information that you provided on your proposed project to assess the potential impacts of the proposal on Redside Dace. From the information provided, it is our understanding that the proposed project falls within the following parameters:

- All observations of Bobolink made by your firm were outside of the area in which the road widening will occur
- Minimal work will occur in the habitat of Bobolink during the widening of the road
- No Butternuts were identified within the study area

Based on a review of the above information, Ministry staff have determined that the activities associated with the project, as currently proposed, **will not adversely effect** Bobolink **provided the following conditions are implemented:**

1) All works will be conducted outside of the breeding season for Bobolink
2) All disturbed areas will be restored immediately after construction is complete

If these conditions are implemented, the activity would not be prohibited under Section 9 (species protection) or Section 10 (habitat protection)] of the *Endangered Species Act, 2007*. Failure to carry out these projects as described above could result in contravention of the *Endangered Species Act 2007*.

Please be advised that it is your responsibility to comply with all other relevant provincial or federal legislation, municipal by-laws, other MNR approvals or required approvals from other agencies. Should any of the project parameters change, please notify the MNR Aurora District office immediately to obtain advice on whether the changes may require authorization under the *Endangered Species Act 2007*.

MNR File # AU-LOA-053-11

Ontario

Ministry of Natural Resources | **Ministere des Richesses Naturelles**

Southern Region
Aurora District Office
50 Bloomington Road West
Aurora, ON L4G OL8

If you have any concerns or questions please contact me at 905-713-7425 or at melinda.thompson-black@ontario.ca.

Sincerely,

Melinda Thompson-Black

Melinda Thompson-Black, Species at Risk Biologist
Aurora District, Ontario Ministry of Natural Resources

CC: Mark Heaton, Area Biologist, Aurora District OMNR

March 3, 2009 CFN 42023
x ref CFN

38366
BY MAIL AND EMAIL (solmaz.zia@peelregion.ca)

Ms. Solmaz Zia
Regional Municipality of Peel
11 Indell Lane, 1st Floor
Brampton, ON L6T 3Y3

Dear Ms. Zia:

Re: Response to Request for Proposal (RFP)
Improvements to Highway 50 from Castlemore Road to Mayfield Road and Mayfield Road from Highway 50 to Coleraine Drive
Municipal Class Environmental Assessment - Schedule C
Humber River Watershed; Regional Municipality of Peel; Regional Municipality of York

Toronto and Region Conservation Authority (TRCA) staff received the draft Request for Proposal (RFP) for the above noted Environmental Assessment (EA) on February 17, 2009. Staff has reviewed the draft RFP and comments are provided in Appendix A.

It is our understanding that this undertaking involves a review and evaluation of current and future levels of service on Highway 50 from Castlemore Road to Mayfield Road and from Mayfield Road to Coleraine Drive. The EA will also include a review of the intersections at Highway 50 and Castlemore Road, Mayfield Road and Highway 50, and Mayfield Road and Coleraine Drive. In addition, the locations for a 975 mm diameter and 825 mm diameter sanitary sewer will be reviewed along with a possible parking lot expansion on the southwest corner of Mayfield Road and Highway 50, and right-in/right-out access.

TRCA Areas of Interest

Staff has identified the following Areas of Interest within the study area:

Regulated Areas

- Regulation Limit
- Meander Belt
- Regulatory Flood Plain
- Watercourses

TRCA Program and Policy Areas

- Aquifers and Hydrogeological Features
- Terrestrial Natural Heritage Strategy
- Terrestrial Species and Habitat

Available mapping and program information regarding these Areas of Interest will be sent under separate cover for your reference. Please ensure that the status, potential impacts and opportunities for enhancement related to these Areas of Interest are documented and assessed through a review of background material, technical study, field assessment and detailed evaluation, as appropriate.

Selection of Alternatives

In consideration of TRCA's *Valley and Stream Corridor Management Program*, Ontario Regulation 166/06, and TRCA's other programs and policies, staff requires that the preferred alternative meets the following criteria:

1. Prevents the risk associated with flooding, erosion or slope instability.

2. Protects and rehabilitates existing landforms, features and functions.
3. Provides for aquatic, terrestrial and human access.
4. Minimizes water/energy consumption and pollution.
5. Addresses TRCA property and heritage resource concerns.

TRCA Review

Prior to selecting the preferred alternative solution and design, please arrange a meeting to discuss issues that relate to our program and policy concerns. In addition, please add TRCA's Humber River Watershed Specialist, Gary Wilkins, to the project mailing list to receive any public information updates.

A copy of the TRCA Environmental Assessment Review Program Service Delivery Standards, and a summary chart are enclosed for your reference. We recommend you refer to these submission standards during the study to facilitate TRCA review. Please provide the following submissions to expedite TRCA review.

- Notices of public meetings and display material and handouts
- Four hard copies of the Phases 1 and 2 Report
- Four hard copies of the Phase 3 Report
- Four hard copies of the Draft EA Document, and
- One hard copy and one digital copy of the Final EA Document.

Should you have any questions, please contact me at extension 5717 or by email at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat
Planner II, Environmental Assessment Planning
Planning and Development

Encl.: TRCA Areas of Interest Summary Table
Service Delivery Standards - Recommended TRCA Contact Points
Service Delivery Standards – Part 2: Notice of Commencement
Service Delivery Standards – Part 4: Environmental Assessment Document
TRCA comments – Letter dated February 20, 2008
TRCA Guidelines – Hydrogeological Submissions for Municipal Class EA Projects

BY EMAIL

cc: York: Nick Colarusso (Nick.Colarusso@york.ca)
TRCA: Beth Williston, Manager, Environmental Assessments
Quentin Hanchard, Manager, Development, Planning Review
Gary Wilkins, Humber River Watershed Specialist
June Murphy, Planner II

G:\Home\Public\Development Services\EA\Letters for Mailing\42023 - RFP.doc

APPENDIX A

1. The Activity Schedule in Appendix B includes a Natural Features Assessment (Phase 2). This is not clearly reflected in Section 3.2 of the RFP. Please clearly include the requirement for a natural features identification and impact assessment.

2. TRCA staff will need to be consulted at the EA stage for confirmation of all potential natural features, including watercourse features. Please note that the TRCA watercourse layer and regulation mapping may not include headwater drainage features that may qualify as watercourses and direct or indirect fish habitat. A separate site visit with TRCA staff will be required at the initial stages of the EA to identify watercourse crossings. Please revise Section 2, Highway 50 and Mayfield Road information to state that watercourse crossings will be confirmed by TRCA staff early in the EA process during a site visit with the consultant and Peel Region staff. Please also revise Section 3.6, to note that at least one site visit will be required to identify watercourse features.

3. Current overtopping of roadways, intersections, etc., cannot be made worse as a result of the improvement. Hydraulic modeling will need to be included as part of the review to demonstrate flood elevations have not been increased.

4. Please add to the RFP that TRCA's Stormwater Management criteria will need to be adopted (i.e., water quality, water quantity, and erosion controls).

5. If a structure is proposed to be increased, replaced, etc., the TRCA ***Watercourse Crossing Design and Submission Requirements (including new and replacement structures and extensions), September 2007*** will need to be followed. These requirements can be found on the TRCA website (www.trca.on.ca) in the appendix of the ***Planning and Development, Procedural Manual, September 2007***.

6. Please note that the preferred sanitary sewer route(s) must minimize the number of watercourse crossings.

7. A 2 m depth of cover between the invert of the creek and the obvert of the sewer, under watercourses, must be achieved.

8. Regarding the re-channelization of West Robinson Creek, this may not be an option if TRCA staff deems the proposed re-alignment to be unnecessary with no environmental or ecological benefits or does not follow the MESP for the area. However, if the realignment is acceptable the following guideline needs to be referenced: ***Channel Modification Design and Submission Requirements, September 2007***. These requirements can be found on the TRCA website (www.trca.on.ca) in the appendix of the ***Planning and Development, Procedural Manual, September 2007***.

9. For the carpool lot on the southwest corner of Highway 50 and Mayfield Road, current Stormwater Management criteria (quality, quantity and erosion control) will need to be obtained from TRCA, and current water balance strategies followed. Please note that a permit has not yet been issued for the parking lot, as a final submission addressing TRCA comments remains outstanding.

10. A flood study may be necessary to delineate the existing Regional flood line in the proximity of the carpool lot. Currently, staff only has estimation modeling for the watercourse associated with the carpool lot. Please contact the TRCA Project Manager for further information or to obtain the modeling.

11. Please reference the ***The Erosion and Sediment Control Guideline for Urban Construction, December 2006***. This document will need to be used to complete the EA with respect to erosion and sediment controls. The most up to date guideline can be found at www.sustainabletechnologies.ca.

12. Attached please find the TRCA Guidelines with respect to Hydrogeological Submissions for Municipal Class EA Projects. The guideline is of a generic nature and can be applied in context of individual study requirements.

13. Section 3.2 discusses the Geotechnical investigation. Site contamination assessment is included as part of the geotechnical study requirement. This study should not be included as part of the

geotechnical study, but rather as part of the hydrogeology study.

14. Page 2, Key Issues, states that Peel Region has completed a Regional Road 50/Highway 427 Extension Area Transportation Master Plan. Please note that TRCA staff has not reviewed or received a copy of the Master Plan. As a result, TRCA areas of interest have not been identified for that area.

15. TRCA comments on the draft Environmental Study Report for the Mayfield Road/Albion-Vaughan Road and Highway 50 Intersection Improvement, dated November 2007, were provided in a letter dated February 20, 2008. Staff had several concerns including flooding and stormwater management which were never addressed. Although this new EA now covers a larger study area, please ensure that the comments provided in the February 20, 2008 letter are addressed in this EA.

16. Sections 3 and 5 discusses the consultant setting up a work plan and project schedule. Please refer to the attached Service Delivery Standards for TRCA submission requirements and review timelines.

17. There are several development applications under review for this area. Please ensure future development is considered within the study area when preparing the EA.

18. In Section 3.3, please ensure the EA includes clear discussion and rationale for the preferred solution and design, the EA should also discuss restoration, mitigation and monitoring.

19. The RFP discusses the submission of Progress Reports. Please ensure TRCA staff is provided 4 copies of the Progress Reports for review and comment.

20. In Section 3.4, please ensure 1 hard copy of the final ESR is sent to TRCA.

21. Figure 1 – Study Area should be revised so that it extends further south to Castlemore Road at Highway 50.

EA Requirements

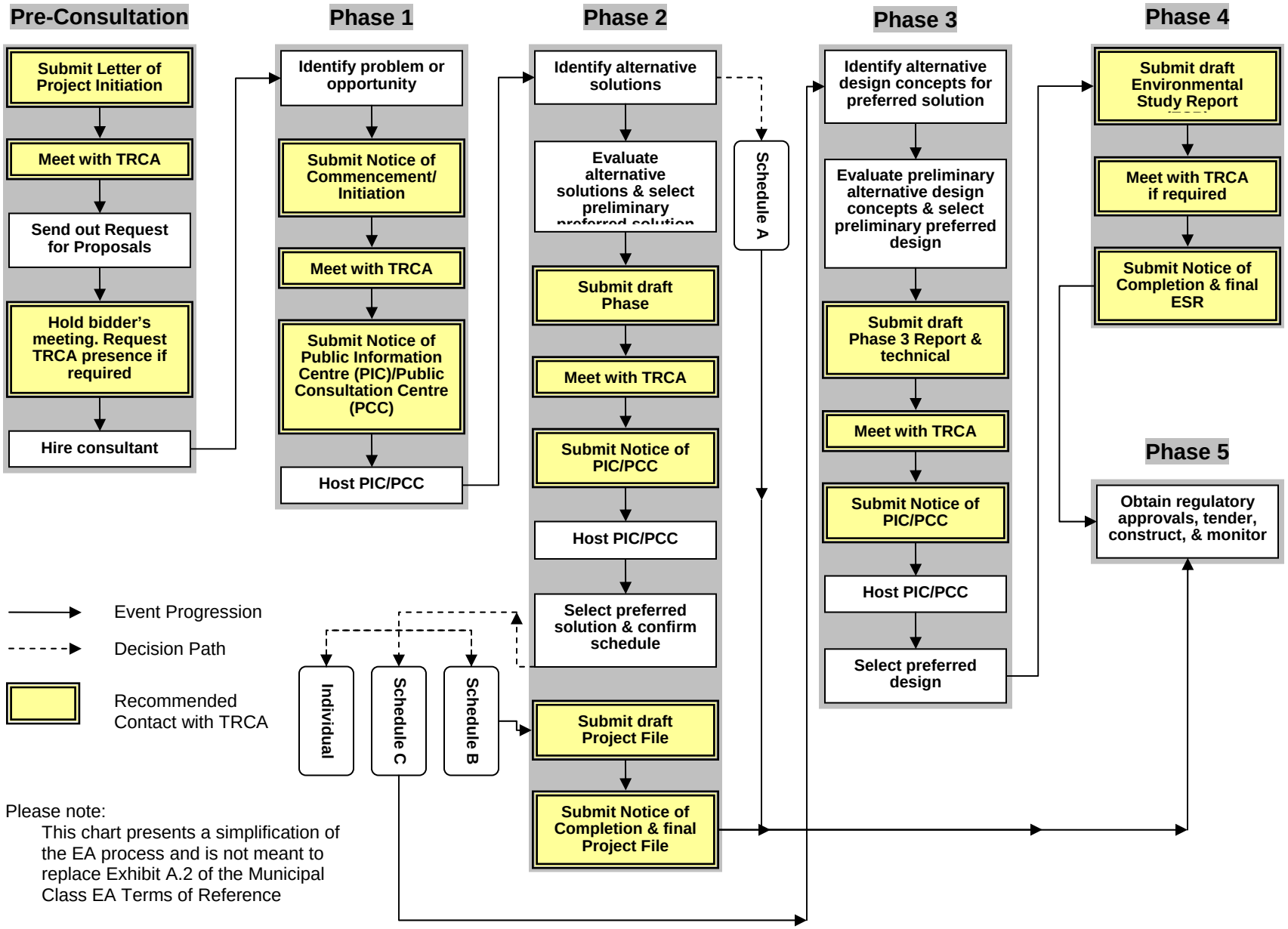
Document and assess the status, potential impacts and opportunities for enhancement that relate to the following Areas of Interest through a review of background material, technical study, field assessment and detailed evaluation, as appropriate. Make reference to the applicable Program and Policy documents. Include in the EA Document appendices any minutes, structure summary sheets for watercourses or wetlands, or other material collected through meetings with TRCA staff. Natural features may need to be confirmed on site by TRCA staff.

Area of Interest / Data Availability	Program and Policy Concerns
TRCA REGULATED AREAS	
Regulation Limit	In accordance with Ontario Regulation 166/06 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses), a permit is required from the TRCA prior to any development (e.g. construction) if, in the opinion of TRCA, the control of flooding, erosion, dynamic beaches or pollution or the conservation of land may be affected. The Regulation Limit defines the greater of the natural hazards associated with Ontario Regulation 166/06 (listed below). NOTE: The Regulation Limit provides a geographical screening tool for determining if Ontario Regulation 166/06 will apply to a given proposal. Through site assessment or other investigation, it may be determined that areas outside of the defined Regulation Limit require permits under Ontario Regulation 166/06. Any development within the Regulation Limit must comply with the applicable sections of TRCA's *Valley and Stream Corridor Management Program*.
Meander Belt	Channel migration has a significant impact on infrastructure, structures and property located near river systems. Determining channel stability is important to ensure that damage from erosion, down-cutting or other natural channel processes is avoided. TRCA may require a meander belt delineation study or fluvial geomorphology analysis to confirm that any development does not conflict with natural channel processes.
Regulatory Flood Plain	The Regulatory Flood Plain is the approved standard used in a particular watershed to define the limit of the flood plain for regulatory purposes. Within TRCA's jurisdiction, the Regulatory Flood Plain is based on the greater of the regional storm, Hurricane Hazel, and the 100 year flood. Any development or alterations to existing structures within the Regulatory Flood Plain may introduce risk to life or property, and may not be compatible with existing natural features. TRCA's framework for Flood Plain Management is the *Valley and Stream Corridor Management Program*. TRCA may require a flood study or hydraulic update to confirm that there will be no impacts to the storage or conveyance of flood waters.
Watercourses	Typically, watercourses are associated with aquatic species and habitat. Any alteration or interference to a watercourse (e.g. straightening, diverting, realigning, altering baseflow) has the potential to impact fish communities, but may also affect the Regulatory Flood Plain, erosion or other natural channel processes.
TRCA PROGRAM AND POLICY AREAS *Note: Additional program and policy information may be available at www.trca.on.ca, or by request.*	
Aquatic Species and Habitat	Under the *Fisheries Act*, the Harmful Alteration, Disruption or Destruction (HADD) of fish habitat is prohibited, unless authorized by Fisheries and Oceans Canada (DFO). TRCA reviews projects under the *Fisheries Act* based on our Level III Agreement with DFO to ensure that any potential impacts to fish habitat are appropriately mitigated, or that adequate compensation is provided where a HADD is unavoidable. Alternatives should be designed with appropriate mitigation measures to avoid a HADD. If a HADD is unavoidable, a suitable compensation plan must be developed, and Authorization from DFO will be required.

Area of Interest / Data Availability	Program and Policy Concerns
	TRCA may require a quantification and assessment of existing conditions and proposed changes to fish habitat and communities to confirm impacts to these resources.
Aquifers and Hydrogeological Features	The extraction and discharge of groundwater has the potential to negatively impact surrounding natural features. Even small amounts of groundwater extraction may reduce contributions to groundwater dependent features such as wetlands, springs, or fish spawning habitat. In addition, the discharge of groundwater must be controlled to avoid impacts to watercourses and fish habitat from erosion, sedimentation and water quality concerns. TRCA may require geotechnical or hydrogeological investigations to confirm dewatering and discharge requirements, and to identify appropriate mitigation measures.
Terrestrial Natural Heritage Strategy	TRCA has identified the need to improve both the quality and quantity of terrestrial habitat. TRCA's *Terrestrial Natural Heritage Strategy* sets measurable targets for attaining a healthier natural system by creating an expanded and targeted land base. It includes strategic directions for stewardship and securement of the land base, a land use policy framework to help achieve the target system, and other implementation mechanisms.
Terrestrial Species and Habitat	The terrestrial system includes landscape features, vegetation communities and flora and fauna species. Terrestrial species and habitat should be assessed based on their conservation status according to sensitivity to disturbance and specialized ecological needs, as well as rarity. TRCA may require a site assessment and terrestrial inventory to confirm impacts to these resources. TRCA's *Terrestrial Natural Heritage Strategy* may be applicable to any work that impacts terrestrial species and habitat. In addition, relevant legislation (e.g. *Migratory Bird Convention Act*, *Species at Risk Act*) should be applied.

Service Delivery Standards

Recommended TRCA Contact Points in the Municipal Class EA Planning & Design Process



Please note:

This chart presents a simplification of the EA process and is not meant to replace Exhibit A.2 of the Municipal Class EA Terms of Reference

TORONTO AND REGION Conservation
for The Living City

December 16, 2009 CFN 42023

BY MAIL AND EMAIL (solmaz.zia@peelregion.ca)

Ms. Solmaz Zia
Regional Municipality of Peel
9445 Airport Road, 3rd Floor
Brampton, ON L6S 4J3

Dear Ms. Zia:

Re: Response to Notice of Study Commencement
Improvements to Highway 50 from Castlemore Road to Mayfield Road and Mayfield Road from Highway 50 to Coleraine Drive
Municipal Class Environmental Assessment (EA) - Schedule C
Humber River Watershed; Regional Municipality of Peel; Regional Municipality of York

Toronto and Region Conservation Authority (TRCA) staff received the Notice of Commencement for the above noted Environmental Assessment (EA) on November 13, 2009. It is our understanding that this EA involves a review and evaluation of current and future levels of service on Highway 50 and Mayfield Road.

A site visit was conducted with TRCA, Peel Region, HDR/iTRANS and LGL staff on December 3, 2009 to identify watercourse crossings along Highway 50 and Mayfield Road. The results of our site visit are summarized in the enclosed Watercourse Crossing Table, and a map showing the locations of each watercourse is also enclosed for your reference. Please also refer to our letter dated March 3, 2009 regarding TRCA areas of interest (enclosed).

In order to expedite TRCA review please submit the following.

- Notices of public meetings and display material and handouts
- Four hard copies of the Phases 1 and 2 Report
- Four hard copies of the Phase 3 Report
- Four hard copies of the Draft EA Document, and
- One hard copy and one digital copy of the Final EA Document.

Should you have any questions or require any additional information, please contact me at extension 5717 or via email at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat

Sharon Lingertat
Planner II, Environmental Assessment Planning
Planning and Development

SL\

Encl: Watercourse Crossing Table
Regulation Map
TRCA letter dated March 3, 2009

BY MAIL

cc: York Region: Nick Colarusso (nick.colarusso@york.ca)
HDR: Stephen Keen (stephen.keen@hdrinc.com)
Anthony Reitmeier (Anthony.Reitmeier@hdrinc.com)
LGL: Judson Venier (jvenier@lgl.com)
TRCA: Beth Williston, Manager, Environmental Assessments
Carolyn Woodland, Director, Planning and Development
Quentin Hanchard, Manager, Development, Planning and Regulation
Gary Wilkins, Humber River Watershed Specialist
June Murphy, Planner II

TORONTO AND REGION Conservation for The Living City

WATERCOURSE CROSSING TABLE

DATE CHART LAST REVISED: Tuesday, December 15, 2009
DATE OF SITE VISIT: Thursday, December 03, 2009
PROJECT NAME: **Highway 50/Mayfield Road Improvements - EA**
PROPONENT: Region of Peel
MUNICIPAL PROJECT MANAGER: Solmaz Zia
TRCA PROJECT MANAGER: Sharon Lingertat
TRCA FILE # CFN 42023

		Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9
GEOGRAPHIC AREA	Location	Hwy 50 north of Castlemore Rd	Hwy 50 south of Major Mackenzie Dr	Hwy 50 just north of Major Mackenzie Dr	Hwy 50 - north of Site 3	Trib of Rainbow Creek - between Countryside Dr and Major Mackenzie Dr	Trib of Robinson Creek - just south of Countryside Dr	Trib of Robinson Creek - just north of Countryside Dr	Trib of Robinson Creek - north of Site 7	Trib of Robinson Creek - north of Site 8
	TRCA Property in the vicinity?	No	No	No	No	No	No	No	No	No
ONTARIO REG. 97/04 - "DEVELOPMENT, INTERFERENCE WITH WETLANDS & ALTERATI										
	Within a Regulated Area	No	No	No	No	No	No	No	No	Yes
	Within a Wetland/Area of Interference ?	No	No	No	No	No	No	No	No	No
	Within a Watercourse?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Within a Regional Storm Floodplain*?	No	No	No	No	No	No	No	No	Yes
	(<50 ha upstream drainage/>50ha upstream drainage)*									
	*= Regional Storm Floodplain									
FISHERIES REVIEW										
	Fish Habitat	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Fish Passage Within Culvert/Structure	No	No	Yes	Yes	Yes	Yes	No	No	Yes
	Timing Window	Warm	RSD	RSD	RSD	RSD	RSD	RSD	RSD	RSD
EXISTING STRUCTURE DETAILS										
Proponent will fill in	Existing Structure *(L x W x H and type)*									
	Open or Closed Footed?									
	Structural Integrity of Existing Culvert?									
	Hydraulic Capacity of existing structure is *(adequate/inadequate)* to convey Regional Storm?									
PROPOSED STRUCTURE DETAILS										
Proponent will fill in	Proposed Structure *(L x W x H and type)*									
	Open or Closed Footed?									
	Extension only proposed? *(Y/N)*									
	Removal, Replacement only proposed?									
REQUIREMENTS										
	Hydraulic Analysis Required?	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
	Meander Belt Analysis Required?	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
	100-year Erosion Limit Required?	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
	Groundwater Upwellings *(will dictate open footed culvert*	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
	Geotechnical Report Required	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Terrestrial Passage Required	No	No	No	No	No	No	No	No	No
	Embedment and substrates for Aquatic Passage Require	No	No	TBD	TBD	TBD	TBD	No	No	TBD
SUMMARY OF APPROVALS REQUIRED										
	"Development" permit required? *(Y/N)*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	HADD (Y/N/TBD)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Proponent will fill in	MNR contacted? (PROPONENT WILL FILL IN)Y? N?									
Proponent will fill in	Transport Canada contacted for navigable waterway?									
ADDITIONAL NOTES										
Hydraulic, meander belt and 100-year erosion limit studies will be determined once further details are provided on this project (i.e., culvert replacements versus culvert extensions)		Watercourse on the west side only						Watercourse on the east side only	Watercourse on the east side only	

Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18
Trib of Robinson Creek - north of Site 9	SW corner of Hwy 50 and Mayfield Rd	NE corner of Hwy 50 and Mayfield Rd	West of Hwy 50, north of Mayfield Rd	NW corner of Hwy 50 and Mayfield Rd	Mayfield Rd west of Hwy 50	Mayfield Rd between Coleraine and Hwy 50	Mayfield Rd west of Site 16	Mayfield Rd just east of Coleraine Dr
No	No	No	No	No	No	No	No	No
Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
No	No	No	No	No	No	No	No	No
Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
Yes	Yes	Yes	No	No	No	No	No	No
Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	No
Yes	Yes	Yes	No	N/A	No	Yes	Yes	No
RSD	RSD	RSD	RSD	N/A	RSD	Warm	Warm	N/A
TBD	TBD	TBD	TBD	N/A	TBD	TBD	TBD	No
TBD	TBD	TBD	TBD	N/A	TBD	TBD	TBD	No
TBD	TBD	TBD	TBD	N/A	TBD	TBD	TBD	No
TBD	TBD	TBD	TBD	N/A	TBD	TBD	TBD	No
Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	No
No	No	No	No	N/A	No	No	No	N/A
TBD	TBD	TBD	No	N/A	No	TBD	TBD	N/A
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
TBD	TBD	TBD	TBD	N/A	TBD	TBD	TBD	N/A

	General location of a proposed parking lot			Main watercourse has been eliminated however a new feature has been created parallel to Mayfield Road which is considered fish habitat	Watercourse on the south side of Mayfield Rd only		Watercourse on the south side of Mayfield Rd only	

Hwy 50 / Mayfield Road widening

1:14,800

Legend

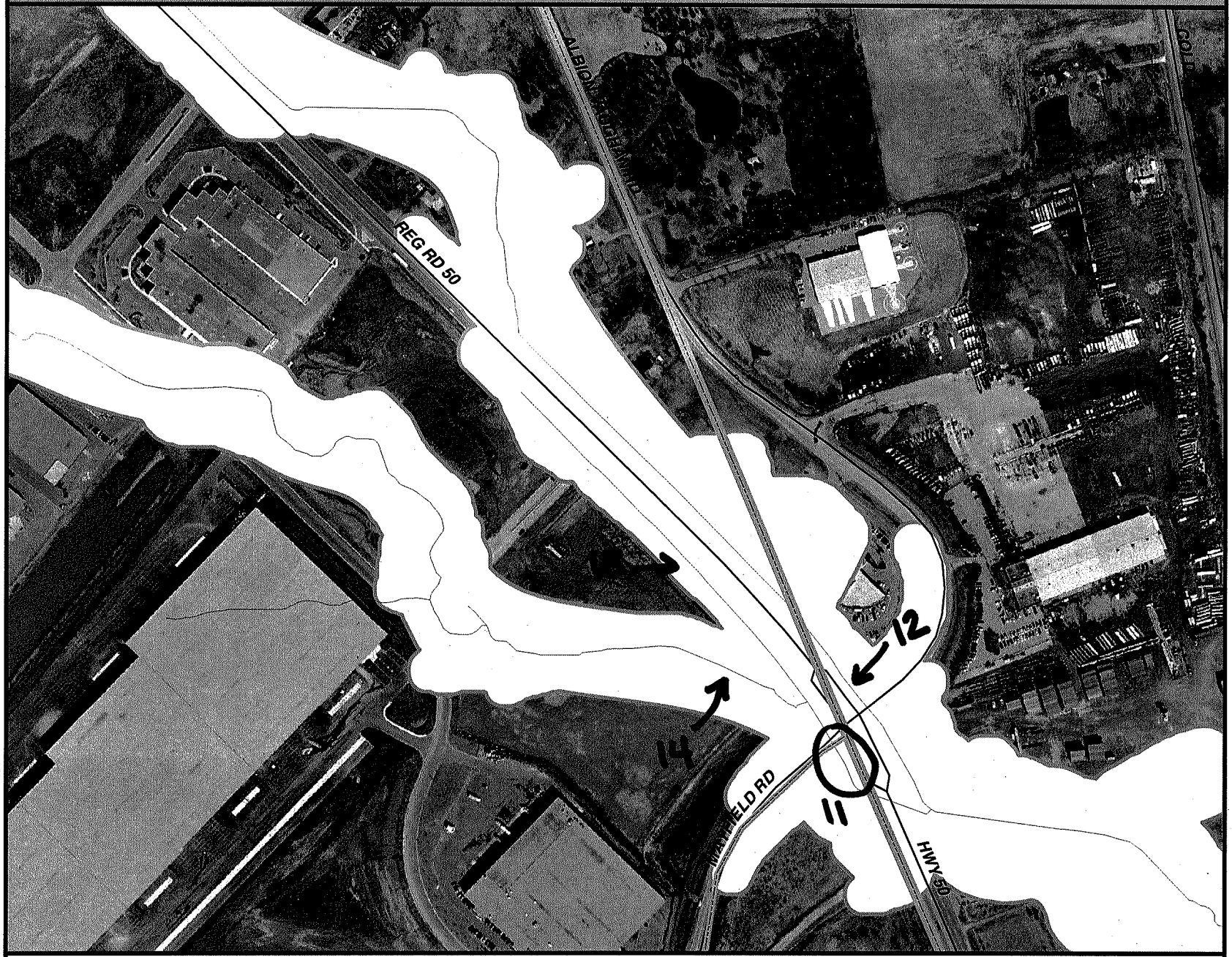
- Watershed Boundary
- Local Boundary
- Regional Boundary
- Watercourses_TRCA
- Regulation Limit

Disclaimer:
The Data used to create this map was compiled from a variety sources & dates. The T.R.C.A. takes no responsibility for errors or omissions in the data and retains the right to make changes & corrections at anytime without notice. For further information about the data on this map, please contact the T.R.C.A. GIS Department. (416) 661-6600

Ortho-photography: First Base Solutions

TORONTO AND REGION Conservation for The Living City

Hwy 50 / Mayfield Road widening



1:4,613

Legend

- Watershed Boundary
- Local Boundary
- Regional Boundary
- Watercourses_TRCA
- Regulation Limit

Disclaimer:
The Data used to create this map was compiled from a variety sources & dates. The T.R.C.A. takes no responsibility for errors or omissions in the data and retains the right to make changes & corrections at anytime without notice. For further information about the data on this map, please contact the T.R.C.A. GIS Department. (416) 661-6600

Ortho-photography: First Base Solutions

Toronto and Region Conservation for The Living City

Hwy 50 / Mayfield Road widening

1:16,500

Legend

- Watershed Boundary
- Local Boundary
- Regional Boundary
- Watercourses_TRCA
- Regulation Limit

Disclaimer:
The Data used to create this map was compiled from a variety sources & dates. The T.R.C.A. takes no responsibility for errors or omissions in the data and retains the right to make changes & corrections at anytime without notice. For further information about the data on this map, please contact the T.R.C.A. GIS Department. (416) 661-6600

Ortho-photography: First Base Solutions

TORONTO AND REGION Conservation for The Living City

TORONTO AND REGION Conservation
for The Living City

March 17, 2010 CFN 42023

BY MAIL AND EMAIL (solmaz.zia@peelregion.ca)

Ms. Solmaz Zia
Region of Peel
9445 Airport Road, 3rd Floor
Brampton, ON L6S 4J3

Dear Ms. Zia:

Re: Response to Public Information Centre #1 Boards, Car Pool Roundabout and Future Road Needs Memo
Highway 50 (Mayfield Road to Castlemore Road) and Mayfield Road (Highway 50 to Coleraine Drive)
Municipal Class Environmental Assessment (EA) - Schedule C
Humber River Watershed; City of Brampton, City of Vaughan, Town of Caledon
Regional Municipality of Peel and Regional Municipality of York

Toronto and Region Conservation Authority (TRCA) staff received the draft Public Information Centre (PIC) boards, Mayfield-Pillsworth Car Pool Roundabout memo and the Future Road Needs memo on February 18, 2010. Staff has reviewed this information and comments are provided in Appendix A.

Should you have any questions please contact me at extension 5717 or by email at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat
Planner II, Environmental Assessments
Planning and Development

BY EMAIL

cc: iTRANS: Stephen Keen (skeen@itransconsulting.com)
TRCA: Carolyn Woodland, Director, Planning and Development
Beth Williston, Manager, Environmental Assessments
Quentin Hanchard, Manager, Development, Planning and Regulation
Gary Wilkins, Humber River Watershed Specialist

F:\Letters for Mailing\42023 – PIC info

APPENDIX A

Mayfield-Pillsworth Car Pool Roundabout

1. It is noted that a car pool lot is being designed to have its access via a new fourth leg at the Pillsworth/Mayfield intersection. A watercourse was identified on the south side of Mayfield Road during our site visit on December 3, 2009, in the general location of this car pool lot and proposed roundabout. Please ensure all watercourses are considered when developing the EA such that impacts to these features are minimized.

PIC Boards

2. Page 7 shows the proposed Highway 427 connection as proposed in the Highway 427 Master Plan. While this board appears to correctly depict what was shown in the Master Plan, please be advised that TRCA staff provided comments on the Highway 427 Extension Area Master Plan in a letter dated January 21, 2010. Details regarding the A2 alignment and other proposed road widenings and extensions within this study area will need to be determined through the EA process, and through the review process for Secondary Plan (SP) Area 47. It was also our understanding that neither the new arterial road, as proposed on the PIC board, nor the road connections to support the development of SP 47 have yet been reviewed or approved.

3. It is suggested that all figures showing the study area (i.e. Current Land Uses, page 11 of the PIC boards) have the major roads labeled, such as Highway 50.

4. The Natural Heritage Conditions board on page 10 shows the study area along Highway 50, but is missing the section along Coleraine Drive, which includes one regulated area and 3 watercourse crossings. It is recommended that the entire study area be shown on this board.

5. Under the Problems section on page 15 it is identified that there are stormwater drainage problems along the corridor, particularly at the Mayfield Road and Highway 50 intersection. It is suggested that this be identified on a board as a "constraints" figure or something similar. The floodplain should also be illustrated on this information board.

6. Under the Opportunities section, page 15, in addition to improved streetscaping there will also be an opportunity to enhance the natural corridors.

7. On page 18, Natural Environment, Alternative 2, potential impacts to watercourses are not limited to West Robinson Creek. There will also be potential impacts to Rainbow Creek and all of the headwater drainage features identified for both of these watercourses. It is recommended that this be clearly shown on the board.

8. Page 4, Class Environmental Assessment Process, suggests that a natural features inventory has been completed and that this, along with the social and economic studies, has been used to determine the preliminary preferred alternative solution. Please provide copies of the studies (i.e., natural features report, stormwater management report) once completed for our review.

TORONTO AND REGION Conservation
for The Living City

April 23, 2010 CFN 42023

BY MAIL AND EMAIL (solmaz.zia@peelregion.ca)

Ms. Solmaz Zia
Region of Peel
9445 Airport Road, 3rd Floor
Brampton, ON L6S 4J3

Dear Ms. Zia:

Re: Response to Draft Natural Heritage Report – Existing Conditions
Highway 50 (Mayfield Road to Castlemore Road) and Mayfield Road (Highway 50 to Coleraine Drive)
Municipal Class Environmental Assessment (EA) - Schedule C
Humber River Watershed; City of Brampton, City of Vaughan, Town of Caledon
Regional Municipality of Peel and Regional Municipality of York

Toronto and Region Conservation Authority (TRCA) staff received the draft Natural Heritage Report – Existing Conditions, dated January 2010 on March 23, 2010. It is our understanding that the Natural Heritage Report documents the data collected and analyzed in the fall of 2009 and that the potential impacts of the road improvements project on the natural heritage, including environmental protection, will be presented in the final Natural Heritage Report.

With respect to the fisheries timing window, staff would like to confirm that all watercourse crossings are currently classified as being warmwater. Presently, none of the watercourses within the study area have been identified as redside dace habitat by the Ministry of Natural Resources (MNR). As a result, the watercourse chart has been revised to indicate that all watercourses are warmwater (enclosed).

Staff has reviewed the draft document and the existing conditions provided in the report are well documented. Minor comments are provided in Appendix A. Should you have any questions please contact me at extension 5717 or by email at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat
Planner II, Environmental Assessments
Planning and Development

Encl: Watercourse Crossing Table

BY EMAIL

cc: iTRANS: Stephen Keen (skeen@itransconsulting.com)
LGL: Judson Venier (jvenier@lgl.com)
TRCA: Carolyn Woodland, Director, Planning and Development
Beth Williston, Manager, Environmental Assessments
Quentin Hanchard, Manager, Development, Planning and Regulation
Gary Wilkins, Humber River Watershed Specialist

F:\Letters for Mailing\42023 – Natural Heritage

APPENDIX A

1. Please note that all watercourses identified during our site visit, including those located outside of TRCA's Regulation limit, are regulated by TRCA as indicated on the watercourse crossing table.

2. Please revise section 2.2.19 as MNR is the authority that manages aquatic habitats, in concert with TRCA through the Fisheries Management Plans, and provides direction on the classification of watercourses (i.e., warmwater, coldwater, redside dace habitat).

WATERCOURSE CROSSING TABLE

', April 23, 2010
day, December 03, 2009
vay 50/Mayfield Road Improvements - EA
n of Peel .
az Zia
on Lingertat
12023

ion	Site 1 Hwy 50 north of Castlemore Rd	Site 2 Hwy 50 south of Major Mackenzie Dr	Site 3 Hwy 50 just north of Major Mackenzie Dr	Site 4 Hwy 50 - north of Site 3	Site 5 Trib of Rainbow Creek - between Countryside Dr and Major Mackenzie Dr	Site 6 Trib of Robinson Creek - just south of Countryside Dr	Site 7 Trib of Robinson Creek - just north of Countryside Dr	Site 8 Trib of Robinson Creek - north of Site 7	Site 9 Trib of Robinson Creek - north of Site 8
Property in the vicinity?	No	No	No	No	No	No	No	No	No
NTERFERENCE WITH WETLANDS & ALTERATI									
a Regulated Area	No	No	No	No	No	No	No	No	Yes
a Wetland/Area of Interference ?	No	No	No	No	No	No	No	No	No
a Watercourse?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
a Regional Storm Floodplain*?	No	No	No	No	No	No	No	No	Yes
ha upstream drainage/>50ha upstream drainage)*									
egional Storm Floodplain									
Habitat	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Passage Within Culvert/Structure	No	No	Yes	Yes	Yes	Yes	No	No	Yes
g Window	Warm	Warm	Warm	Warm	Warm	Warm	Warm	Warm	Warm
ng Structure *(L x W x H and type)*									
or Closed Footed?									
tural Integrity of Existing Culvert?									
aulic Capacity of existing structure is *quate/inadequate)* to convey Regional Storm?									
osed Structure *(L x W x H and type)*									
or Closed Footed?									
sion only proposed? *(Y/N)*									
oval, Replacement only proposed?									
aulic Analysis Required?	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
der Belt Analysis Required?	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
ear Erosion Limit Required?	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
ndwater Upwellings *(will dictate open footed culvert*	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
echnical Report Required	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
strial Passage Required	No	No	No	No	No	No	No	No	No
edment and substrates for Aquatic Passage Require	No	No	TBD	TBD	TBD	TBD	No	No	TBD
elopment" permit required? *(Y/N)*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
D (Y/N/TBD)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
contacted? (PROPONENT WILL FILL IN)Y? N?									
sport Canada contacted for navigable waterway?									
limit studies will be determined once further details ements versus culvert extensions)	Watercourse on the west side only						Watercourse on the east side only	Watercourse on the east side only	

Site 10	Site 11	Site 12	Site 13	Site 14	Site 15	Site 16	Site 17	Site 18
Trib of Robinson Creek - north of Site 9	SW corner of Hwy 50 and Mayfield Rd	NE corner of Hwy 50 and Mayfield Rd	West of Hwy 50, north of Mayfield Rd	NW corner of Hwy 50 and Mayfield Rd	Mayfield Rd west of Hwy 50	Mayfield Rd between Coleraine and Hwy 50	Mayfield Rd west of Site 16	Mayfield Rd just east of Coleraine Dr
No	No	No	No	No	No	No	No	No
Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
No	No	No	No	No	No	No	No	No
Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
Yes	Yes	Yes	No	No	No	No	No	No
Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	No
Yes	Yes	Yes	No	N/A	No	Yes	Yes	No
Warm	Warm	Warm	Warm	N/A	Warm	Warm	Warm	N/A
TBD	TBD	TBD	TBD	N/A	TBD	TBD	TBD	No
TBD	TBD	TBD	TBD	N/A	TBD	TBD	TBD	No
TBD	TBD	TBD	TBD	N/A	TBD	TBD	TBD	No
TBD	TBD	TBD	TBD	N/A	TBD	TBD	TBD	No
Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	No
No	No	No	No	N/A	No	No	No	N/A
TBD	TBD	TBD	No	N/A	No	TBD	TBD	N/A
Yes	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**No**
TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	N/A

	General location of a proposed parking lot			Main watercourse has been eliminated however a new feature has been created parallel to Mayfield Road which is considered fish habitat	Watercourse on the south side of Mayfield Rd only		Watercourse on the south side of Mayfield Rd only	

TORONTO AND REGION Conservation
for The Living City

May 20, 2010 42023

BY MAIL AND EMAIL (solmaz.zia@peelregion.ca)

Ms. Solmaz Zia
Region of Peel
9445 Airport Road, 3rd Floor
Brampton, ON L6S 4J3

Dear Ms. Zia:

Re: Response to Notice of Public Information Centre #1
Highway 50 (Mayfield Road to Castlemore Road) and Mayfield Road (Highway 50 to Coleraine Drive)
Municipal Class Environmental Assessment (EA) - Schedule C
Humber River Watershed; City of Brampton, Town of Caledon, City of Vaughan, Regional Municipality of Peel, Regional Municipality of York

Toronto and Region Conservation Authority (TRCA) staff received notice of the upcoming Public Information Centre (PIC) scheduled for June 3, 2010. Further to TRCA correspondence dated April 23, 2010, staff has expressed interest in this project. While staff is unable to attend the meeting, please forward one copy of any handouts or display materials from this meeting for our files. Please include a digital copy of all materials as part of your submission.

Yours truly,

Sharon Lingertat

Sharon Lingertat
Planner II, Environmental Assessments
Planning and Development

/db

BY EMAIL
cc: TRCA: Carolyn Woodland, Director, Planning and Development
Beth Williston, Manager, Environmental Assessments
Quentin Hanchard, Manager, Development, Planning and Regulation
Gary Wilkins, Humber River Watershed Specialist

F:\Home\Public\Development Services\EA\Letters for Mailing\42023 PIC May 20 2010.doc

HDR | iTRANS
144 Front Street West, Suite 655
Toronto, ON M5J 2L7
Tel: (416) 847-0005
Fax: (905) 882-1557
www.hdrinc.com
www.itransconsulting.com

File: 2.9
Project # 4956

Meeting Minutes

Project:	Highway 50 / Mayfield Road Class EA
Subject:	TRCA Liaison Meeting SWM/Drainage Design Alternatives Review
Meeting Date:	2:30 p.m., Monday, November 22, 2010
Location:	TRCA Office, 5 Shoreham Drive
Prepared by:	Stephen Keen – HDR|iTRANS
Attendees:	Solmaz Zia – Peel Region Sally Rook, Peel Region Sharon Lingertat, TRCA Alison Edwards, TRCA Judson Venier, LGL Ltd. Stephen Keen – HDR|iTRANS Tony Reitmeier – HDR|iTRANS
Distribution:	Solmaz Zia, Sharon Lingertat

	Item	Action
1.0	**Introductions**	
1.1	Solmaz Zia and Steve Keen provided a brief overview of the project status. Traffic report identified the need for 6 lanes on Highway 50 and 4 lanes on Mayfield Road. TRCA have received a draft copy of the Phase 1/2 Report – this does not contain much information relating to SWM or drainage, the next phase of the project will focus on these issues with an anticipated PIC#2 by January 11, 2011.	
2.0	**Environmental Inventory**	
2.1	Judson Venier provided an overview of the inventory of watercourses and fish habitat in the study area. Approximately 17 water crossings providing mainly indirect fish habitat. These are mainly headwater drainage channels comprised of intermittent agricultural swales. Emphasized that function (water conveyance) would be maintained. The importance of the watercourse running along the east side of Hwy 50 at the Mayfield Road intersection was discussed as this is the only watercourse in the study area, with exception of the small 30 m long	

	section in the SW quadrant of the intersection, that provided direct fish habitat and permanent flows.	
3.0	**Hydraulics Report**	
3.1	Tony Reitmeier provided an overview of the draft hydraulics report for the project. This report had previously been forwarded to the TRCA for review/comment; comments will be provided shortly (Maria reviewing). Tony summarized that the culverts meet all relevant criteria, except for freeboard over Mayfield Road immediately west of Hwy. 50, which is being addressed by raising the profile of the road in that area.	
4.0	**Drainage Options**	
4.1	Steve Keen provided an overview of the preliminary (draft) design and also the alternative cross-section being considered. ▪ Rural – Not compatible with future land use which will be urban on both sides of the road. ▪ Full urban (curb and gutter) – with temporary ditches either side of the road (as needed) picking up flow from adjacent fields (until development takes place, at which time the road drainage will be directed into future SWM ponds (a preliminary plan for SWM ponds was shown to the meeting). Tony Reitmeier outlined an initial plan to provide Oil Grit Separators (OGS) at each of the culvert crossings that are considered to allow fish passage. Alison stated that all the water ends up in fish habitat eventually; therefore, OGS should be located at each of the culvert crossings regardless of fish passage. A treatment train should also be considered to enhance treatment opportunities. The project team will review applicable treatment options (e.g. infiltration) and determine their technical feasibility in light of the proposed widening design.	HDR
5.0	**Further Actions**	
5.1	Sharon Lingertat will check with Ecology and get back to the project team on potential approvals and HAD issues with respect to the proposed impacts. HDR will send HEC-RAS model to TRCA.	TRCA HDR
	Meeting adjourned at 3:45 PM	

TORONTO AND REGION Conservation
for The Living City

January 18, 2011 CFN 42023

BY MAIL AND EMAIL (skeen@itransconsulting.com)

Mr. Stephen Keen
HDR/iTRANS
144 Front Street West, Suite 655
Toronto, ON M5J 2L7

Dear Mr. Keen:

Re: Response to Draft Drainage and Stormwater Management Report
Highway 50 and Mayfield Road
Municipal Class Environmental Assessment (EA) - Schedule C
Humber River Watershed; City of Brampton, Town of Caledon; Region of Peel

Toronto and Region Conservation Authority (TRCA) staff has reviewed the Highway 50 and Mayfield Road Class EA Draft Drainage and Stormwater Management Report dated November 2010, received on November 5, 2010. It is our understanding that the Region of Peel is currently undertaking a Class Environmental Assessment for the Highway 50 widening from Castlemore Road to Mayfield Road, and Mayfield Road from Highway 50 to Coleraine Drive. Road improvement investigations include widening Highway 50 to three lanes in each direction with a raised median, and widening Mayfield Road to two lanes in each direction with a centre median. The existing Highway 50 and Mayfield Road drainage system consists primarily of open roadside ditches, cross culverts and local storm sewer systems that convey runoff from receiving watercourses.

Staff was unable to conduct a thorough review of the report at this stage as sections 4, 5 and 6 are incomplete, and additional information is required before specific comments can be provided for section 3. However, although greater detail is required for Section 3, staff has provided preliminary comments in Appendix A.

Should you have any questions, please contact me at extension 5717 or by email at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat

Sharon Lingertat
Planner II, Environmental Assessment Planning
Planning and Development
SL/

BY EMAIL

cc: Peel: Solmaz Zia (solmaz.zia@peelregion.ca)
iTRANS: Anthony Reitmeier (Anthony.Reitmeier@hdrinc.com)
TRCA: Beth Williston, Manager, Environmental Assessment Planning
Quentin Hanchard Manager, Development, Planning and Regulation
Gary Wilkins, Humber River Watershed Specialist

F:\Letters for Mailing\42023 – Drainage Report

APPENDIX A

1. As indicated in Table 3-1, some crossings may not have adequate capacity to meet design standards. One of the proposed migration options is to reduce subcatchment areas by diverting flows. TRCA staff does not support the redistribution of flood water between tributaries. Please consider other mitigation options.

2. The base mapping used to delineate external drainage areas has a relatively coarse scale of 1:10,000. Please note that all of the external drainage areas are relatively small and, therefore, may be sensitive to the marginal errors caused by the mapping scale. If possible, please use a finer scale for base mapping. However, TRCA staff will defer this concern to the Region of Peel to determine the appropriate scale for this project.

3. Please provide more detail on the existing and proposed drainage systems (e.g., minor and major drainage systems). Please also identify existing flooding problems, if any, and recommend mitigation measures.

4. The proposed improvement should not create or increase flood hazards upstream and downstream of the road. Please revise Section 3.3.2 to include results for the Regional storm event.

5. On page 24, please add the Regional flows.

6. Please conduct a fluvial geomorphic study for the proposed road improvement.

7. Please provide inventory sheets, if available, for the existing crossing structures.

8. Please include all of the excerpts in the appendix.

9. Please provide digital copies of hydrologic and hydraulic modeling files. Detailed comments on hydrologic and hydraulic assessments will be provided once the modeling files are fully reviewed.

10. Comments on Section 4, 5 and 6 will be provided once these sections are complete.

TORONTO AND REGION Conservation
for The Living City

March 17, 2011 CFN 42023

BY MAIL AND EMAIL (Nathalie.Baudais@hdrinc.com)

Ms. Nathalie Baudais
HDR/iTRANS
144 Front Street W., Suite 655
Toronto, ON M5J 2L7

Dear Ms. Baudais:

Re: Response to Draft Public Information Centre #2 Boards
Highway 50/Mayfield Road
Municipal Class Environmental Assessment (EA) - Schedule C
Humber River Watershed; City of Brampton, Town of Caledon; Regional Municipality of Peel

Toronto and Region Conservation Authority (TRCA) staff received the draft Public Information Centre (PIC) boards for the above-noted project on February 28, 2011. It is our understanding that the Region of Peel is currently working on an Environmental Assessment (EA) for the future widening of Highway 50 to a 6-lane cross-section from Castlemore Road to Mayfield Road by 2014, and Mayfield Road to a 4-lane cross section from Highway 50 west to Coleraine Drive by 2014 with a 6-lane cross-section by 2031.

Staff has reviewed the draft PIC material and detailed comments are provided in Appendix A. Should you have any questions please contact me at extension 5717 or by email at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat

Sharon Lingertat
Acting Senior Planner, Environmental Assessment Planning
Planning and Development

BY EMAIL

cc: Peel: Solmaz Zia (Solmaz.Zia@peelregion.ca)
iTRANS: Stephen Keen (Stephen.Keen@hdrinc.com)
TRCA: Beth Williston, Manager, Environmental Assessment Planning
Quentin Hanchard, Manager, Development, Planning and Regulation
Gary Wilkins, Humber River Watershed Specialist

F:\Home\Public\Development Services\EA\Letters for Mailing\43023 - PIC#2.doc

APPENDIX A

Background Information Package

1. A geotechnical, drainage and stormwater management report, fluvial geomorphologic study and possibly a hydrogeology report will be required as part of the EA. Please ensure these reports are mentioned in the "Study Reports" section. Mitigation measures for the preferred design option will be required to address the potential increase in risk and to address potential impacts on downstream water quality, erosion and flooding for the road works.

2. The "Alternative Design Concepts" identifies a shift in the road alignment to the south. Please note that a watercourse is located in this area and that mitigation of any impacts as a result of the road alignment and proposed roundabout will be required.

3. The "Impacts and Mitigation Measures" board, Soils and Fish and Aquatic Habitat sections, notes that an erosion and sediment control (ESC) plan will be prepare and implemented before construction. Please note that the ESC plan will need to be prepared and approved as part of the TRCA permitting process at the detail design stage.

4. Please revise the "Impacts and Mitigation Measures" board, Fish and Aquatic Habitat, to read, "...will be applied to construction at or near watercourses."

5. Please revise the "Impacts and Mitigation Measures" board, Wildlife and Wildlife Communities to read, "...The potential presence of this species should be further investigated at the EA stage in order to identify any constraints."

6. The Impacts and Mitigation Measures board does not address impacts to water quality as a result of the road widening. Stormwater management should also be included as part of this analysis.

Widening Highway 50 Package

7. The evaluation table only evaluates Option 1 (widen equally on both sides based on centerline) and Option 2 (widen equally on both sides with easterly shift in vicinity of cemetery). It would seem that there are more than 2 possible options for these road improvement works (i.e., widen west, widen completely to the east). All alternative alignments need to be reviewed and analyzed as part of the EA process.

8. The Natural Heritage section ranks the two options equally. However, it is unclear how this is the case if the easterly alignment will have a greater impact on vegetation, and has the potential to alter additional watercourse crossings. Please clarify.

9. The "Costs" section should also include costs for restoration.

Section 1.1.1 Cross-Sections Package

10. The evaluation table under "Stormwater/Drainage" indicates that water quality treatment is by oil/grit separators only. It should be noted that further discussions with TRCA will be required regarding water quality treatment.

Section 1.1 Widening Mayfield Road Package

11. The table appears to be missing Option 2. In addition, please include all possible options, such as widening to the north.

12. Please update Table 1 to evaluate the potential impacts (e.g., water quality, erosion and flooding) for each design option.

13. The "Costs" section should also include costs for restoration.

HDR ONE COMPANY | *Many Solutions*

HDR | iTRANS

May 13, 2011

Project # 4956

Ms. Sharon Lingertat
Planner II, Environmental Assessments
Toronto Region Conservation Authority
5 Shoreham Drive
Downsview, ON M3N 1S4

Dear Ms. Lingertat:

Re: Highway 50 and Mayfield Road
Municipal Class EA, Schedule C
CFN 42023
Humber River Watershed
City of Brampton, Town of Caledon, Regional Municipality of Peel; City of Vaughan, York Region

We have received your request (dated May 9, 2011) for a copy of the information presented at Public Information Centre #2 (PIC2) held on April 27, 2011.

We are providing a hard copy of the PIC2 display panels and evaluation tables. We are also providing these in electronic format on the enclosed CD. The CD also includes the pdf of all the design alternatives.

We trust that this satisfies your information request. Please let us know if you require anything further. We appreciate your cooperation throughout this process.

HDR | iTRANS
HDR Corporation

144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada

Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

Yours truly,

HDR Corporation

Nathalie Baudais

Nathalie Baudais, P.Eng.
Project Coordinator

Encl.

cc: Stephen Keen, HDR | iTRANS Project Manager
Richard Sparham, Regional Municipality of Peel
Liz Brock, Regional Municipality of Peel
Edward Chiu, York Region

TORONTO AND REGION Conservation
for The Living City

May 30, 2011

CFN 42023

BY MAIL AND EMAIL (skeen@itransconsulting.com)

Mr. Stephen Keen
HDR/iTRANS
144 Front Street West, Suite 655
Toronto, ON M5J 2L7

Dear Mr. Keen:

Re: Response to Revised Draft Drainage and Stormwater Management Report (March 2011)
Highway 50 and Mayfield Road
Municipal Class Environmental Assessment (EA) - Schedule C
Humber River Watershed; City of Brampton, Town of Caledon
Region of Peel and Region of York

Toronto and Region Conservation Authority (TRCA) staff received the Highway 50 and Mayfield Road Class EA Draft Drainage and Stormwater Management Report dated March 2011 on March 11, 2011, a response to our January 18, 2011 comments and the digital Hec-Ras modeling on April 8, 2011.

It is our understanding that three culverts will need to be replaced (culvert crossings 10, 11 and 16), existing culvert crossings will need to be extended to accommodate the roadway widening and that flooding conditions at Highway 50 and Mayfield Road will be improved as a result of the vertical profile adjustment. Staff has reviewed the above-noted report and comments are provided in Appendix A.

Should you have any questions, please contact me at extension 5717 or by email at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat

Sharon Lingertat
Acting Senior Planner, Environmental Assessment Planning
Planning and Development
SL/

BY EMAIL

cc: Peel: Richard Sparham (richard.sparham@peelregion.ca)
Liz Brock (liz.brock@peelregion.ca)
iTRANS: Anthony Reitmeier (Anthony.Reitmeier@hdrinc.com)
TRCA: Beth Williston, Manager, Environmental Assessment Planning
Quentin Hanchard, Manager, Development, Planning and Regulation
Gary Wilkins, Humber River Watershed Specialist

F:\Letters for Mailing\42023 – Drainage Report (revised)

October 4, 2011

Project # 4956

Ms. Sharon Lingertat
Acting Senior Planner
Environmental Assessment Planning
Toronto Region Conservation Authority
5 Shoreham Drive
Downsview, ON M3N 1S4

Dear Ms. Lingertat:

Re: Highway 50 and Mayfield Road
Municipal Class EA, Schedule C
CFN 42023
Humber River Watershed
City of Brampton, Town of Caledon, Regional Municipality of Peel; City of Vaughan, York Region

We have received your comments on the Draft Drainage and Stormwater Management Report and HEC-RAS modelling files dated May 30, 2011. We are providing the following formal responses to your comments in Table 1 found in the attached Appendix A. We trust that this information is sufficient for you to circulate the revised report for review.

We are also submitting the Draft Natural Heritage Report for your review and comment. In addition, we are submitting a summary of the additional field surveys undertaken to address any potential impacts of the preferred alignment on Bobolink, as suggested in your comments on the PIC#2 boards, dated March 17, 2011, (Appendix A, comment #5: potential presence of this species should be investigated at the EA stage in order to identify any constraints).

We appreciate your cooperation throughout this process.

HDR | iTRANS
HDR Corporation

144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada

Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

Yours truly,

HDR Corporation

Stephen Keen, P.Eng.
Project Manager

Encl.

cc: Richard Sparham, Regional Municipality of Peel
Liz Brock, Regional Municipality of Peel
Anthony Reitmeier, HDR | iTRANS

Appendix A

Table 1: TRCA Comments and Responses on the Draft Drainage and Stormwater Management Report

Comment (January 18, 2011)	HDR Response (March 2011)	TRCA Comment (May 30, 2011)	HDR Response (August 2011)
1. As indicated in Table 3-1, some crossings may not have adequate capacity to meet design standards. One of the proposed migration options is to reduce subcatchment areas by diverting flows. TRCA staff does not support the redistribution of flood water between tributaries. Please consider other mitigation options.	Noted. The option of flow diversion has been included in the context of future development requirements, and is not proposed as an alternative for the EA study.	Addressed. The option of flow diversion is not proposed as an alternative for the study.	No further action required.
2. The base mapping used to delineate external drainage areas has a relatively coarse scale of 1:10,000. Please note that all of the external drainage areas are relatively small and therefore, may be sensitive to the marginal errors caused by the mapping scale. If possible, please use a finer scale for base mapping. However, TRCA staff will defer this concern to the Region of Peel to determine the appropriate scale for this project.	The scale of base mapping utilized (Ontario Base Map 1:10,000) is acceptable to the Region of Peel. There is no available base mapping for external lands at a finer scale.	a) Exhibits 3-10 to 3-13 provide drainage delineation for most of the crossings. As commented in TRCA's letter dated January 18, 2011, the 1:10,000 scale base mapping used the delineation provides a coarse resolution and, therefore, may have impacts on small catchments. For example, drainage areas for Crossings 1 and 2 may be sensitive to the chosen mapping scale and therefore, may have impacts on the hydraulic analysis. b) Drainage boundaries for Crossings 9, 10, 11 and 12 are not consistent with the flow pattern shown on Exhibits 3-1 to 3-9. Please clarify.	a) Comment noted. During detail design, drainage catchments to be verified/adjusted based on more detailed topographic information and/or mapping. b) Exhibits 3-6 and 3-7 have been corrected to be consistent with the drainage boundaries shown on Exhibits 3-12 and 3-13.
3. Please provide more detail on the existing and proposed drainage systems (e.g., minor and major drainage systems). Please also identify existing flooding problems, if any, and recommend mitigation measures.	Section 2 of the report provides a detailed description of drainage patterns along the study corridor, including flow direction in all roadside ditch systems. Based on discussions with the Region, no significant flooding problems exist within the study corridor.	Addressed. Minor and major flow systems are provided in Section 2.	No further action required.

4. The proposed improvement should not create or increase flood hazards upstream and downstream of the road. Please revise Section 3.3.2 to include results for the Regional storm event.	Noted. The Regional storm criteria will be included in the culvert criteria.	Please assess the potential increase in flooding risk as a result of the proposed road improvement. The assessment will include hydrological and hydraulic analyses. Comments for each component are provided below. **Hydrological Analysis** a) Table 3-3 shows parameters that are used to calculate peak flows. Please provide additional details on how the Time of Concentration and weighted runoff coefficient values are derived. b) Please provide additional details on how the 50 year, 100 year and the Regional peak flows are calculated (for existing and proposed conditions), such as supporting files for Rational Method and hydrologic modeling. c) Please add the Regional flows in Tables 3-3 to 3-5. d) Table 3-4 indicates that parameters for Culverts 15, 16 and 17 are obtained from the 1999 MESP. Please note that the Humber River Hydrology Update was completed in 2002. As a result of the update, peak flows may have changed at Crossings 15, 16 and 17. Please revise the flows so that they are consistent with the updated hydrological model for the Humber River watershed. e) Please note that TRCA has estimated floodplain mapping for Robinson Creek tributaries at the Highway 50 and Mayfield Road intersection. The Regional flow for Crossing 19 is 15.46 cms as per TRCA's floodplain mapping estimation project, which is higher than what is used in the model submitted. (13.4 cms). Please clarify.	a) Section 3.4.1 of the report has been revised to include additional details related to the calculations of the time of concentration used in the hydrologic analysis. b) As described in Section 3.4.1, Rational Method calculations are summarized in Table 3-3 including all relevant parameters used in the Rational method calculations. c) Regional Storm flows have been included on Tables 3-3 and 3-5. d) It is noted that the application of hydrologic parameters from the 1999 MESP was previously agreed upon by TRCA for use in the Highway 50 EA. It is also recognized that these parameters may change in the future as land development proceeds in the Town of Caledon. As such, the hydrologic and hydraulic analysis of Culverts 15 to 17, as well as the remainder of the culverts along the Highway 50 and Mayfield Road corridors will need to be updated/revised during detail design to reflect any land-use changes which may have taken place after completion of the EA. e) The Regional flow for the Robinson Creek tributary on the east side of Highway 50 has been revised in the HEC-RAS model to 15.46 cms.

		Hydraulic Analysis f) Page 31 of the report indicates that an opening of 3.0m x 1.5m has been modeled in the future condition model for the west tributary. This opening represents an average opening size of Crossings 14 and 18. Please not that Crossing 18 has a smaller opening, which limits the capacity of the combined crossing and, therefore should be used in the model. g) Please revise Tables 3-4 and 3-5 to include results for the Regional storm event. h) The Culvert Master Model outputs are provided in Appendix A. It is noticed that for some crossings the input data provided in the appendix are not consistent with Table 3-4. For example, the appendix shows a diameter of 300mm for Crossings 2 and 3. However, based on the tables and exhibits, both crossings are 800mm. Please check all of the input data provided in Appendix A and ensure that they are consistent with the report. i) Please revise the HEC-RAS model to meet TRCA's standards for floodplain mapping. Please contact TRCA staff if a copy of the standards is required. j) The HEC-RAS model submitted uses a Manning's n of 0.035 for the entire floodplain. This roughness is lower than the typical roughness used in TRCA's watersheds. Please clarify. k) Please use appropriate contraction and expansion factors for sections at the crossing locations. l) Please clarify how ineffective areas were determined in the HEC-RAS model. m) Please clarify how entrance loss at the crossings was determined in the HEC-RAS model, along with the supporting design drawings.	f) The HEC-RAS model has been revised to include a 2.5m x 1.5m opening for culvert 14/18, based on the smaller opening size associated with Culvert 18. g) Table 3-5 has been revised to include the Regional storm flows. Table 3-4 summarizes only the 50 and 100 year events as this table is intended to highlight the culvert performance in meeting the Freeboard criteria only. h) The Culvert Master model outputs have been revised to be consistent with the data provided on Table 3-4. i) The HEC-RAS model has been updated to reflect TRCA's floodplain mapping standards (mannings coefficients, expansion/contraction coefficients). j) The Mannings value along the Robinson Creek tributary has been revised back to the original value of 0.08 across the entire floodplain including two sections near Albion-Vaughan Road with a 0.05 Mannings value. We note that the original HEC-RAS file obtained from TRCA was modelled in this way. k) Expansion/contraction coefficients have been revised at each of the crossing locations within the Highway 50/Mayfield Road intersection area. l) Ineffective areas are based on standard practice whereby they are applied at all stream crossing locations to an elevation corresponding to top-of-roadway at culvert entrances and midway between top-of-road and top of culvert at culvert exit locations. m) Entrance loss coefficients used in the HEC-RAS model reflect a 0.5 entrance and 1.0 exit loss coefficient. During detailed design, these coefficients will need to be updated to reflect the final, physical configuration of the culvert inlet/outlet.

		n) Please clarify if the proposed improvement will increase flood elevation on properties upstream and downstream of the road. o) As shown on Table 3-5, Crossings 1 and 2 will be replaced with storm sewers. Please clarify how external runoff will be conveyed.	n) The results of the HEC-EAS analysis indicate that there will be no increase in floodlevels upstream of Mayfield Road along the "West" tributary. On the "East" tributary there will be a slight increase in Regional floodlevels immediately upstream of Mayfield Road (7 cm). A 2 cm increase results under the 50 yr and 100 year events. o) The catchment area corresponding to Crossing 1 drains only Highway 50 right-of-way with no external drainage. At Crossing 2, the existing culvert will be replaced by a ditch inlet catchbasin to capture the 1.61 hectare external catchment into the proposed storm sewer system.
5. On page 24, please add the Regional flows.	Section 3.5.2 of the report summarizes the results of the Regional storm impacts at the Robinson Creek tributary crossings at Highway 50 and Mayfield Road. Regional Storm flows are included in the HEC-RAS model.	Please refer to Comment 4.	Please refer to responses in Comment 4.
6. Please conduct a fluvial geomorphic study for the proposed road improvement.	The proposed improvements along the Highway 50 and Mayfield Road corridor will not result in any watercourse alterations or new culvert crossings that would necessitate the requirement to conduct a fluvial geomorphologic assessment. The majority of the drainage crossings will require extensions to the existing culverts to accommodate the roadway widening, including the Robinson Creek tributary on the west side of Highway 50. The enclosure of this watercourse is necessitated by the requirement to minimize any impact to the Robinson Creek tributary on the east side of Highway 50, as previously discussed and agreed to by TRCA. In the future as development takes place, many of these culvert road crossings will likely be removed and replaced with SWM ponds and other drainage infrastructure as part of the urbanization of the area. In conclusion, carrying out a fluvial geomorphologic assessment would not be useful at this time given the negligible impact we are making to the watercourses.	As shown on Tables 3-4 and 3-5, some crossings do not have adequate hydraulic capacity to meet Region's design standards. Please clarify if these crossings will be replaced and, if so, a fluvial geomorphic study is required for the watercourse.	As noted in the report, only 3 crossings are proposed for replacement including Culverts 10, 11 and 16. Culverts 10 and 11 convey small external catchments (<20 ha) through non-defined, altered agricultural drainage courses. Geomorphologic assessments are not recommended at these crossings. Crossing 16 drains an external catchment area of 91 ha along a poorly defined watercourse. It is recommended that during detailed design, further assessment of crossing 16 be undertaken, including morphology, to determine the type/size of crossing required at this location.
7. Please provide inventory sheets, if available, for the existing crossing structures.	Inventory sheets are not available for the existing crossing structures.	It is indicated that inventory sheets are not available.	No further action required.
8. Please include all of the excerpts in the appendix.	The appendix provides all summary excerpts of the Culvertmaster and HEC-RAS analyses.	Addressed.	No further action required.

9. Please provide digital copies of hydrologic and hydraulic modeling files. Detailed comments on hydrologic and hydraulic assessments will be provided once the modeling files are fully reviewed.	Digital copy of the HEC-RAS modelling files are attached.	Please provide digital copies of hydrological analysis and modeling files required in Comment 4.	Digital copies of the hydrologic files are provided with this submission.
10. Comments on Section 4, 5 and 6 will be provided once these sections are complete.	Noted.	a) Please note that TRCA staff will require quantity controls for a site smaller than 5 ha, unless the proponent can clearly demonstrate that the increase in impervious areas will have negligible impacts on peak flows. b) Please note that TRCA staff has taken a position parallel to the City of Toronto where by OGS units, regardless of manufacturer, as a stand alone measure can achieve up to a 50% TSS removal. As staff requires 80% TSS removal, please explore additional measures to achieve the required level of treatment. For example, enhanced swales and plantings could be implemented downstream of the OGS unit before flows enter the watercourse.	a) See response to (b) below. b) We have included additional text in Section 5.5 of the report noting that the proposed water quality control strategy (use of OGS systems) are to be incorporated if the widening of Highway 50/Mayfield road occurs prior to the development of the SP47 lands. Even if development does not occur prior to the roadway widening, it is recommended that the storm drainage system on the roadway be designed to divert drainage to future storm systems within the development lands. In this way, drainage from Highway 50/Mayfield Road will receive water quality/quantity control through future SWM facilities situated within the SP47 lands.
11.		Please revise Sections 2.4.1 and 2.4.2 as the crossings at Rainbow Creek and Robinson Creek within this study area are not occupied reaches for redside dace. As a result, the warmwater fisheries timing window is applied.	These sections have been revised.

Edgcumbe, Kaylan

From: Baudais, Nathalie
Sent: November-21-11 11:51 AM
To: Sharon Lingertat
Cc: Reitmeier, Anthony; Brock, Liz; Keen, Stephen; Zia, Solmaz
Subject: RE: CFN 42023 Highway 50 / Mayfield Road Class EA
Attachments: Slingshot.txt

HDR Employees:
Use the "Download Attachments" button after opening this message in Outlook to download attached files.

Non-HDR Recipients:
If you are not an HDR employee and this is your first time using Slingshot click here and follow the prompts to set your password.

Returning users click here to Download (files: HumberRiverributaries.g01; Backup.g01; HumberRiverributaries.p01; HumberRiverributaries.O01; HumberRiverributaries.f05; HumberRiverributaries.r29; HumberRiverributaries.p26.comp_msgs.txt; HumberRiverributaries.p01.comp_msgs.txt; HumberRiverributaries.p29; HumberRiverributaries.rep; HumberRiverributaries.p26; HumberRiverributaries.g12; HumberRiverributaries.r01; HumberRiverributaries.r26; HumberRiverributaries.prj; HumberRiverributaries.O29; HumberRiverributaries.r02; HumberRiverributaries.p02; HumberRiverributaries.p02.comp_msgs.txt; HumberRiverributaries.p29.comp_msgs.txt; HumberRiverributaries.O26; HumberRiverributaries.f01; HumberRiverributaries.O02; HumberRiverributaries.g09;)

Notice: The link in this email will only work for up to 30 days (as set by the sender). If you need access to these files for longer, please download and save a copy locally. Recipients of forwarded emails WILL NOT have access to the files using this link.

Hello Sharon,

Here are all of the HEC-RAS files used for our analysis. You will need to download each of the files from our Slingshot service since some of them are too large to email. If you have difficulty with the download, please let me know and I could prepare a CD submission.

We are still working on the updated Key Plan and will forward that once it's updated.

Regards,
Nathalie

NATHALIE BAUDAIS
P.ENG., P.E.

HDR Corporation
Transportation Engineer

144 Front Street W, Suite 655 | Toronto, ON M5J 2L7
416 847-0005 ext. 5582
Nathalie.Baudais@hdrinc.com | hdrinc.com

Follow Us – Architizer | Facebook | Twitter | YouTube | Flickr

---

From: Sharon Lingertat [mailto:SLingertat@trca.on.ca]
Sent: Tuesday, November 15, 2011 2:35 PM
To: Baudais, Nathalie

Cc: Reitmeier, Anthony; Brock, Liz; Sparham, Richard; Keen, Stephen
Subject: Re: CFN 42023 Highway 50 / Mayfield Road Class EA

Hi Nathalie,

Our engineer is reviewing this file and is unable to complete the review without the revised HecRas model. Can you please provide the model? It would also aid in our review if the watercourse crossing IDs could be added to the Key Plan (Exhibit 1-1) so that it's clear which ones are watercourses and which are drainage features.

Thank you,
Sharon Lingertat
Acting Senior Planner, Environmental Assessment Planning
Toronto and Region Conservation Authority
5 Shoreham Drive, Toronto, ON M3N 1S4
Ph: 416 661-6600 ext. 5717
Fax: 416-661-6898
Web: www.trca.on.ca

"Baudais, Nathalie" <Nathalie.Baudais@hdrinc.com>

10/04/2011 12:31 PM

To Sharon Lingertat <SLingertat@trca.on.ca>
cc "Keen, Stephen" <Stephen.Keen@hdrinc.com>, "Sparham, Richard" <Richard.Sparham@peelregion.ca>, "Reitmeier, Anthony" <Anthony.Reitmeier@hdrinc.com>, "Brock, Liz" <Liz.Brock@peelregion.ca>
Subject CFN 42023 Highway 50 / Mayfield Road Class EA

HDR Employees:
Use the "Download Attachments" button after opening this message in Outlook to download attached files.

Non-HDR Recipients:
If you are not an HDR employee and this is your first time using Slingshot click here and follow the prompts to set your password.

Returning users click here to Download (files: HumberRiverributaries.g12; Response to TRCA comments draft stormwater report October 2011.pdf; HumberRiverributaries.O26; HumberRiverributaries.r29; HumberRiverributaries.p26.comp_msgs.txt; HumberRiverributaries.O29; HWY 50 SWM Report Sept 2011.pdf; HumberRiverributaries.O01; HumberRiverributaries.f05; HumberRiverributaries.r02; HumberRiverributaries.p29; HumberRiverributaries.p02; HumberRiverributaries.r26; Draft Natural Heritage Report Highway 50 11Mar11 - sent to client - reduced file size.pdf; HumberRiverributaries.p29.comp_msgs.txt; HumberRiverributaries.g09; HumberRiverributaries.g01; Table 3-3 Peak Flow Summary.xlsx; HumberRiverributaries.p02.comp_msgs.txt; HumberRiverributaries.p01.comp_msgs.txt; HumberRiverributaries.p01; HumberRiverributaries.f01; HumberRiverributaries.r01; HumberRiverributaries.O02; HumberRiverributaries.prj; Species at risk survey August 11-2011.pdf; HumberRiverributaries.p26; HumberRiverributaries.rep; Backup.g01;)

Notice: The link in this email will only work for up to 30 days (as set by the sender). If you need access to these files for longer, please download and save a copy locally. Recipients of forwarded emails WILL NOT have access to the files using this link.

Hi Sharon,

Please find the attached documents regarding CFN 42023, the Highway 50/Mayfield Road Class EA:

- Letter from Stephen Keen;
- Updated Stormwater Management Report, responding to previous TRCA comments, including HEC-RAS files;
- Draft Natural Heritage Report; and
- Species at Risk Survey Memo to MNR.

We will be sending out hard copies of the documents, which will follow in a few days.

Regards,
Nathalie

Nathalie Baudais P.Eng., P.E.	**HDR Corporation** Transportation Engineer
	144 Front Street W, Suite 655 | Toronto, ON M5J 2L7 416 847-0005 ext. 5582 Nathalie.Baudais@hdrinc.com | hdrinc.com Follow Us – Architizer | Facebook | Twitter | YouTube | Flickr

[attachment "Slingshot.txt" deleted by Sharon Lingertat/MTRCA]

TORONTO AND REGION Conservation
for The Living City

December 1, 2011 CFN 42023

BY MAIL AND EMAIL (somaz.zia@peelregion.ca)

Ms. Solmaz Zia
Regional Municipality of Peel
10 Peel Centre Drive, Suite B, 4th Floor
Brampton, ON L6T 4B9

Dear Ms. Zia:

Re: Response to Revised Draft Drainage and Stormwater Management Report (September 2011), Species at Risk Survey Memo and Draft Natural Heritage Report
Highway 50 and Mayfield Road Widening
Municipal Class Environmental Assessment (EA) - Schedule C
Humber River Watershed; Region of Peel and Region of York

Toronto and Region Conservation Authority (TRCA) staff received the revised Highway 50 and Mayfield Road Class EA Draft Drainage and Stormwater Management (SWM) Report dated September 2011, the Draft Natural Heritage Report dated March 2011 and the Species at Risk Survey Memo dated August 11, 2011 on October 12, 2011. Staff also received the Hec-Ras model on November 21, 2011 for the above-noted file.

Staff has reviewed the reports and has no concerns at this time with the Natural Heritage Report and Species at Risk Survey. Regarding the drainage and SWM report, it is our understanding that all culverts will require an extension to accommodate the road works, with the exception of culverts 10, 11 and 16 which will need to be replaced. The road widening near the intersection of Mayfield Road and Highway 50 will be concentrated on the west side to avoid disruption to the habitat along the Robinson Creek tributary. As a result, the short piece of tributary on the west side of Highway 50 will be enclosed, as agreed upon through previous discussions with TRCA and Regional staff. The report notes that culverts 1 and 2 will be abandoned or removed.

At this time staff does not have concerns with the proposed culvert extensions or replacements from a hydraulic perspective. However, based on the number system provided, it is difficult to determine which culverts were identified by TRCA staff as watercourses, and which are drainage features. Please add the TRCA watercourse crossing ID numbers to the SWM report and ensure that the EA includes a map that clearly depicts the watercourse crossings. The EA should also include a table that identifies the existing culvert sizing and the proposed culvert sizing/extension length. Detailed comments on the drainage report are provided in Appendix A.

Please ensure that TRCA staff receives four (4) hard copies and one (1) digital copy, in .pdf form, of the draft EA. The draft EA document should be accompanied by a covering letter which uses the numbering scheme provided in this letter and identifies how these comments have been addressed.

Should you have any questions, please contact me at extension 5717 or by email at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat

Sharon Lingertat
Acting Senior Planner, Environmental Assessment Planning
Planning and Development

BY EMAIL

cc: Peel: Liz Brock (Liz.Brock@peelregion.ca)
iTRANS: Anthony Reitmeier (Anthony.Reitmeier@hdrinc.com)
Nathalie Baudais (Nathalie.Baudais@hdrinc.com)
Stephen Keen (Stephen.Keen@hdrinc.com)
TRCA: Beth Williston, Senior Manager, Environmental Assessment Planning
Quentin Hanchard, Senior Manager, Development, Planning and Regulation
Gary Wilkins, Humber River Watershed Specialist

F:\Letters for Mailing\42023 – Drainage Report (revised Sept)

APPENDIX A

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)
1.	As indicated in Table 3-1, some crossings may not have adequate capacity to meet design standards. One of the proposed migration options is to reduce subcatchment areas by diverting flows. TRCA staff does not support the redistribution of flood water between tributaries. Please consider other mitigation options.	Noted. The option of flow diversion has been included in the context of future development requirements, and is not proposed as an alternative for the EA study.	Addressed. The option of flow diversion is not proposed as an alternative for the study
2.	The base mapping used to delineate external drainage areas has a relatively coarse scale of 1:10,000. Please note that all of the external drainage areas are relatively small and, therefore, may be sensitive to the marginal errors caused by the mapping scale. If possible, please use a finer scale for base mapping. However, TRCA staff will defer this concern to the Region of Peel to determine the appropriate scale for this project.	The scale of base mapping utilized (Ontario Base Map 1:10,000) is acceptable to the Region of Peel. There is no available base mapping for external lands at a finer scale.	a) Exhibits 3-10 to 3-13 provide drainage delineation for most of the crossings. As commented in TRCA's letter dated January 18, 2011, the 1:10,000 scale base mapping used the delineation provides a coarse resolution and, therefore, may have impacts on small catchments. For example, drainage areas for Crossings 1 and 2 may be sensitive to the chosen mapping scale and, therefore, may have impacts on the hydraulic analysis. b) Drainage boundaries for Crossings 9, 10, 11 and 12 are not consistent with the flow pattern shown on Exhibits 3-1 to 3-9. Please clarify.
3.	Please provide more detail on the existing and proposed drainage systems (e.g., minor and major drainage systems). Please also identify existing flooding problems, if any, and recommend mitigation measures.	Section 2 of the report provides a detailed description of drainage patterns along the study corridor, including flow direction in all roadside ditch systems. Based on discussions with the Region, no significant flooding problems exist within the study corridor.	Addressed. Minor and major flow systems are provided in Section 2.
4.	The proposed improvement should not create or increase flood hazards upstream and downstream of the road. Please revise Section 3.3.2 to include results for the Regional storm event.	Noted. The Regional storm criteria will be included in the culvert criteria.	Please assess the potential increase in flooding risk as a result of the proposed road improvement. The assessment will include hydrological and hydraulic analyses. Comments for each component are provided below. **Hydrological Analysis** a) Table 3-3 shows parameters that are used to calculate peak flows. Please provide additional details on how the Time of Concentration and weighted runoff coefficient values are derived. b) Please provide additional details on how the 50 year, 100 year and the Regional peak flows are calculated (for existing and proposed conditions), such as supporting files for Rational Method and hydrological modeling. c) Please add the Regional flows in Tables 3-3 to 3-5.

APPENDIX A

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)
1.	As indicated in Table 3-1, some crossings may not have adequate capacity to meet design standards. One of the proposed migration options is to reduce subcatchment areas by diverting flows. TRCA staff does not support the redistribution of flood water between tributaries. Please consider other mitigation options.	Noted. The option of flow diversion has been included in the context of future development requirements, and is not proposed as an alternative for the EA study.	Addressed. The option of flow diversion is not proposed as an alternative for the study	No further action required.	-
2.	The base mapping used to delineate external drainage areas has a relatively coarse scale of 1:10,000. Please note that all of the external drainage areas are relatively small and, therefore, may be sensitive to the marginal errors caused by the mapping scale. If possible, please use a finer scale for base mapping. However, TRCA staff will defer this concern to the Region of Peel to determine the appropriate scale for this project.	The scale of base mapping utilized (Ontario Base Map 1:10,000) is acceptable to the Region of Peel. There is no available base mapping for external lands at a finer scale.	a) Exhibits 3-10 to 3-13 provide drainage delineation for most of the crossings. As commented in TRCA's letter dated January 18, 2011, the 1:10,000 scale base mapping used the delineation provides a coarse resolution and, therefore, may have impacts on small catchments. For example, drainage areas for Crossings 1 and 2 may be sensitive to the chosen mapping scale and, therefore, may have impacts on the hydraulic analysis. b) Drainage boundaries for Crossings 9, 10, 11 and 12 are not consistent with the flow pattern shown on Exhibits 3-1 to 3-9. Please clarify.	a) Comment noted. During detail design, drainage catchments to be verified/adjusted based on more detailed topographic information and/or mapping. b) Exhibits 3-6 and 3-7 have been corrected to be consistent with the drainage boundaries shown on Exhibits 3-12 and 3-13.	a) Comment deferred to the detailed design stage which is acceptable. No further information is required at this time. b) Exhibits 3-6 and 3-7 have been corrected for consistency with Exhibits 3-12 and 3-13. No further information is required.
3.	Please provide more detail on the existing and proposed drainage systems (e.g., minor and major drainage systems). Please also identify existing flooding problems, if any, and recommend mitigation measures.	Section 2 of the report provides a detailed description of drainage patterns along the study corridor, including flow direction in all roadside ditch systems. Based on discussions with the Region, no significant flooding problems exist within the study corridor.	Addressed. Minor and major flow systems are provided in Section 2.	No further action required.	-
4.	The proposed improvement should not create or increase flood hazards	Noted. The Regional storm criteria will be included in the culvert criteria.	Please assess the potential increase in	a) Section 3.4.1 of the report has	a) No further action required.

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)
	upstream and downstream of the road. Please revise Section 3.3.2 to include results for the Regional storm event.		flooding risk as a result of the proposed road improvement. The assessment will include hydrological and hydraulic analyses. Comments for each component are provided below. **Hydrological Analysis** a) Table 3-3 shows parameters that are used to calculate peak flows. Please provide additional details on how the Time of Concentration and weighted runoff coefficient values are derived. b) Please provide additional details on how the 50 year, 100 year and the Regional peak flows are calculated (for existing and proposed conditions), such as supporting files for Rational Method and hydrological modeling. c) Please add the Regional flows in Tables 3-3 to 3-5. d) Table 3-4 indicates that parameters for Culverts 15, 16 and 17 are obtained from the 1999 MESP. Please note that the Humber River Hydrology Update was completed in 2002. As a result of the update, peak flows may have changed at Crossings 15, 16 and 17. Please revise the flows so that they are consistent with the updated hydrological model for the Humber River watershed. e) Please note that TRCA has estimated floodplain mapping for Robinson	been revised to include additional details related to the calculations of the time of concentration used in the hydrologic analysis. b) As described in Section 3.4.1, Rational method calculations are summarized in Table 3-3 including all relevant parameters used in the Rational method calculations. c) Regional Storm flows have been included on Tables 3-3 and 3-5. d) It is noted that the application of hydrologic parameters from the 1999 MESP was previously agreed upon by TRCA for use in the Highway 50 EA. It is also recognized that these parameters may change in the future as land development proceeds in the Town of Caledon. As such, the hydrologic and hydraulic analysis of Culverts 15 to 17, as well as the remainder of the culverts along the Highway 50 and Mayfield Road corridors will need to be updated/revised during detail design to reflect any land-use changes which may have taken place after completion of the EA. e) The Regional flow for the Robinson Creek tributary on the west side of Highway 50 has been revised in the HEC-RAS model to 15.46 cms. f) The HEC-RAS model has been	b) The 50-year, 100-year and Regional peak flows were calculated using the Rational Method which is acceptable. Relevant parameters were also provided within the SWM report. c) No further action required d) As indicated in the SWM report, hydrologic parameters from the 1999 MESP were previously agreed upon by the Authority, to be used in the Highway 50 EA. As some changes of land use may occur after the completion of the EA the consultant recommends updating/revising the hydrologic analysis for culverts 15 to 17 and the remainder of the culverts at Highway 50, at the detailed design stage. e) The regional flow was revised in the Hec Ras Model to 15.46m3/s as per TRCA's estimated flood plain mapping. No further action required. f) The HEC-RAS model was

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)
			Creek tributaries at the Highway 50 and Mayfield Road intersection. The Regional flow for Crossing 19 is 15.46 cms as per TRCA's floodplain mapping estimation project, which is higher than what is used in the model submitted (13.4 cms). Please clarify. **Hydraulic Analysis** f) Page 31 of the report indicates that an opening of 3.0 m x 1.5 m has been modeled in the future condition model for the west tributary. This opening represents an average opening size of Crossings 14 and 18. Please note that Crossing 18 has a smaller opening, which limits the capacity of the combined crossing and, therefore should be used in the model. g) Please revise Tables 3-4 and 3-5 to include results for the Regional storm event. h) The Culvert Master Model outputs are provided in Appendix A. It is noticed that for some crossings the input data provided in the appendix are not consistent with Table 3-4. For example, the appendix shows a diameter of 300 mm for Crossings 2 and 3. However, based on the tables and exhibits, both crossings are 800 mm. Please check all of the input data provided in Appendix A and ensure that they are consistent with the report.	revised to include a 2.5m x 1.5 m opening for culvert 14/18, based on the smaller opening size associated with Culvert 18. g) Table 3-5 has been revised to include the Regional storm flows. Table 3-4 summarizes only the 50 and 100 year events as this table is intended to highlight the culvert performance in meeting the Freeboard criteria only. h) The Culvert Master model outputs have been revised to be consistent with the data provided on Table 3-4. i) The HEC-RAS model has been updated to reflect TRCA's floodplain mapping standards (mannings coefficients, expansion/contraction coefficients). j) The Mannings value along the Robinson Creek tributary has been revised back to the original value of 0.08 across the entire floodplain including two sections near Albion-Vaughan Road with a 0.05 Mannings value. We note that the original HEC-RAS file obtained from TRCA was modeled in this way. k) Expansion/contraction coefficients have been revised at each of the crossing locations within the	revised to include a 2.5m x1.5m opening for culvert 14/18 based on the smaller opening size associated with Culvert 18, as recommended by TRCA staff. g) No further action required. h) No further action required. i-m) Comments on items 4 i) to 4 m) are related to the hydraulic modeling submitted by the consultant on November 22, 2011. Contraction/expansion, loss and roughness coefficients along with ineffective flow area are now consistent with the Hec Ras model provided, and are considered to be reasonable for this type of analysis. No further action is required. n) Addressed. There is not expected to be an adverse impact on upstream or downstream levels as a result of the proposed works. Maximum increase on water surface elevations (0.07 m) will be on the east tributary associated with the Regional storm flow. o) Addressed. External runoff from

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)
			i) Please revise the Hec-Ras model to meet TRCA's standards for floodplain mapping. Please contact TRCA staff if a copy of the standards is required. j) The Hec-Ras model submitted uses a Manning's n of 0.035 for the entire floodplain. This roughness is lower than the typical roughness used in TRCA's watersheds. Please clarify. k) Please use appropriate contraction and expansion factors for sections at the crossing locations. l) Please clarify how ineffective areas were determined in the Hec-Ras model. m) Please clarify how entrance loss at the crossings was determined in the Hec-Ras model, along with supporting design drawings. n) Please clarify if the proposed improvement will increase flood elevations on properties upstream and downstream of the road. o) As shown on Table 3-5, Crossings 1 and 2 will be replaced with storm sewers. Please clarify how external runoff will be conveyed.	Highway 50/Mayfield Road intersection area. l) Ineffective areas are based on standard practice whereby they are applied at all stream crossing locations to an elevation corresponding to top-of-roadway at culvert entrances and midway between top-of-road and top of culvert at culvert exit locations. m) Entrance loss coefficients used in the HEC-RAS model reflect a 0.5 entrance and 1.0 exit loss coefficient. During detailed design, these coefficients will need to be updated to reflect the final, physical configuration of the culvert inlet/outlet. n) The results of the HEC-RAS analysis indicate that there will be no increase in floodlevels upstream of Mayfield Road along the "West" tributary. On the "East" tributary there will be a slight increase in Regional floodlevels immediately upstream of Mayfield Road (7 cm). A 2 cm increase results under the 50 yr and 100 yr events. o) The catchment area corresponding to Crossing 1 drains only Highway 50 right-of-way with no external drainage. At Crossing 2, the existing culvert will be replaced by a ditch inlet	the 1.61 hectare external catchment will be picked up by the proposed storm sewer system. It is noted that Crossing 2 will be removed along with Crossing 1 which only drains the Highway 50 right-of-way with no external drainage.

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)
				catchbasin to capture the 1.61 hectare external catchment into the proposed storm sewer system.	
5.	On page 24, please add the Regional flows.	Section 3.5.2 of the report summarizes the results of the Regional storm impacts at the Robinson Creek tributary crossings at Highway 50 and Mayfield Road. Regional Storm flows are included in the HEC-RAS model.	Please refer to Comment 4.	Please refer to responses in Comment 4.	Refer to comment 4 above.
6.	Please conduct a fluvial geomorphic study for the proposed road improvement.	The proposed improvements along the Highway 50 and Mayfield Road corridor will not result in any watercourse alterations or new culvert crossings that would necessitate the requirement to conduct a fluvial geomorphologic assessment. The majority of the drainage crossings will require extensions to the existing culverts to accommodate the roadway widening, including the Robinson Creek tributary on the west side of Highway 50. The enclosure of this watercourse is necessitated by the requirement to minimize any impact to the Robinson Creek tributary on the east side of Highway 50, as previously discussed and agreed to by TRCA. In the future as development takes place, many of these culvert road crossings will likely be removed and replaced with SWM ponds and other drainage infrastructure as part of the urbanization of the area. In conclusion, carrying out a fluvial geomorphologic assessment would not be useful at this time given the	As shown on Tables 3-4 and 3-5, some crossings do not have adequate hydraulic capacity to meet Region's design standards. Please clarify if these crossings will be replaced and, if so, a fluvial geomorphic study is required for the watercourse.	As noted in the report, only 3 crossings are proposed for replacement including Culverts 10, 11 and 16. Culverts 10 and 11 convey small external catchments (<20 ha) through non-defined, altered agricultural drainage courses. Geomorphologic assessments are not recommended at these crossings. Crossing 16 drains an external catchment area of 91 ha along a poorly defined watercourse. It is recommended that during detailed design, further assessment of crossing 16 be undertaken, including morphology, to determine the type/size of crossing required at this location.	A further assessment of crossing 16 will take place at the detailed design stage.

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)
		negligible impact we are making to the watercourses.			
7.	Please provide inventory sheets, if available, for the existing crossing structures.	Inventory sheets are not available for the existing crossing structures.	It is indicated that the inventory sheets are not available.	No further action required.	-
8.	Please include all of the excerpts in the appendix.	The appendix provides all summary excerpts of the Culvertmaster and HEC-RAS analyses.	Addressed.	No further action required.	-
9.	Please provide digital copies of hydrologic and hydraulic modeling files. Detailed comments on hydrologic and hydraulic assessments will be provided once the modeling files are fully reviewed.	Digital copy of the HEC-RAS modeling files are attached.	Please provide digital copies of hydrological analysis and modeling files required in Comment 4.	Digital copies of the hydrologic files are provided with this submission.	Hydrologic analysis was not performed for Culverts 14, 18 and 19 as design flows were taken from the existing West Robinson Creek Hec Ras model, which is acceptable. A digital copy of the Hec Ras modeling was provided by the consultant. TRCA staff noted that all scenarios, (including obsolete or superseded scenarios) are contained in a single file which makes the reviewing process tedious and prone to produce different results. Please provide each scenario/plan (existing or proposed) on a separate file along with a summary table within the SWM report, showing increase/decrease in water surface elevations for crossing 14, 18 and 19 as a result of the proposed road improvements. Please remove superseded scenarios from the submitted Hec Ras modeling files and resend a copy with final results for review.
10.	Comments on Section 4, 5 and 6 will be provided once these sections are complete.	Noted.	a) Please note that TRCA staff will require quantity controls for a site smaller than 5 ha, unless the proponent can clearly demonstrate that the increase in impervious areas will have negligible impacts	a) See response to (b) below. b) We have included additional text in Section 5.5 of the report noting that the proposed water quality control strategy (use of OGS systems) are	A total of 24 OGS are proposed throughout the project limits. However, only three of those OGS units will provide quality treatment to areas larger than 2.0 hectares (to a maximum of 2.6 hectares). In the

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)
			on peak flows. b) Please note that TRCA staff has taken a position parallel to the City of Toronto where by OGS units, regardless of manufacturer, as a stand alone measure can achieve up to a 50% TSS removal. As staff requires 80% TSS removal, please explore additional measures to achieve the required level of treatment. For example, enhanced swales and plantings could be implemented downstream of the OGS unit before flows enter the watercourse.	to be incorporated if the widening of Highway 50/Mayfield road occurs prior to the development of the SP47 lands. Even if development does not occur prior to the roadway widening, it is recommended that the storm drainage system on the roadway be designed to divert drainage to future storm systems within the development lands. In this way, drainage from Highway 50/Mayfield Road will receive water quality/quantity control through future SWM facilities situated within the SP47 lands.	future some of these areas may be redirected to SWM ponds, which will be required as a result of future development of the Secondary Plan 47 lands. Supporting calculations for the sizing of the OGS unit are deferred to the detailed design stage which is acceptable.
11.	-	-	Please revise Sections 2.4.1 and 2.4.2 as the crossings at Rainbow Creek and Robinson Creek within this study area are not occupied reaches for redside dace. As a result, the warmwater fisheries timing window is being applied.	These sections have been revised.	No further action required.
12.	-	-	-	-	On section 6.1 of the SWM report, please make reference to the TRCA's Erosion and Sediment Control Guidelines for Urban construction (www.sustainabletechnolgies.ca) and indicate that the criteria contained within that guideline will be applied.
13.	-	-	-	-	Please add the TRCA crossing IDs to the SWM report and EA. Please also include in the EA a map and table showing the watercourse crossing locations, the existing culvert sizing and proposed culvert sizing.

TORONTO AND REGION Conservation
for The Living City

May 28, 2012

CFN 42023

BY MAIL AND EMAIL (solmaz.zia@peelregion.ca)

Ms. Solmaz Zia
Regional Municipality of Peel
10 Peel Centre Drive, Suite B, 4th Floor
Brampton, ON L6T 4B9

Dear Ms. Zia:

Re: Response to Draft Environmental Study Report (April 2012)
Highway 50 and Mayfield Road
Municipal Class Environmental Assessment (EA) - Schedule C
Humber River Watershed; Region of Peel and Region of York

Toronto and Region Conservation Authority (TRCA) staff received the Draft Environmental Study Report (ESR) Volume 1 and Volume 2 dated April 2012, on April 24, 2012. It is our understanding that the preferred alternative is to widen Highway 50 from 4 to 6 lanes and widen Mayfield Road from 2 to 4 lanes, with a round-about at Pillsworth Road. A full urban cross-section is proposed for both roads. It is also our understanding that all culverts will require an extension to accommodate the road widening, with the exception of culverts 10, 11 and 16 which will need to be replaced. The road widening near the intersection of Mayfield Road and Highway 50 will be concentrated on the west side to avoid disruption to the habitat along the Robinson Creek tributary. As a result, the short piece of tributary on the west side of Highway 50 will be enclosed, as agreed upon through previous discussions with TRCA and Region of Peel staff.

Proposed works at each of the watercourse crossings (i.e., culvert replacement, culvert extension, culvert removal) should be coordinated to ensure consistency between the Stormwater Management (SWM) report, Natural Heritage Report (NHR) and the ESR. Staff also recommends completing the necessary studies at the EA stage to ensure work at each of the watercourse crossings will not have any negative impacts to flood elevations on private lands. Detailed comments are provided in Appendix A.

Please ensure that the TRCA receives a copy of the Notice of Study Completion and two (2) hard copies and one (1) digital copy, in pdf form, of the final ESR. The final document should be accompanied by a covering letter which uses the numbering scheme provided in this letter and identifies how these comments have been addressed.

Should you have any questions, please contact me at extension 5717 or by email at slingertat@trca.on.ca.

Yours truly,

Sharon Lingertat

Sharon Lingertat
Senior Planner, Environmental Assessment Planning
Planning and Development

Encl: Hec Ras Crossing Sample

BY EMAIL

cc: Peel: Liz Brock (Liz.Brock@peelregion.ca)
iTRANS: Anthony Reitmeier (Anthony.Reitmeier@hdrinc.com)
Nathalie Baudais (Nathalie.Baudais@hdrinc.com)
Stephen Keen (Stephen.Keen@hdrinc.com)
TRCA: Beth Williston, Senior Manager, Environmental Assessment Planning
Quentin Hanchard, Senior Manager, Development, Planning and Regulation
Gary Wilkins, Humber River Watershed Specialist

F:\Letters for Mailing\42023 – Draft ESR

APPENDIX A

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)	HDR Response (April 20, 2012)	TRCA COMMENTS (May 28, 2012)
1.	As indicated in Table 3-1, some crossings may not have adequate capacity to meet design standards. One of the proposed migration options is to reduce subcatchment areas by diverting flows. TRCA staff does not support the redistribution of flood water between tributaries. Please consider other mitigation options.	Noted. The option of flow diversion has been included in the context of future development requirements, and is not proposed as an alternative for the EA study.	Addressed. The option of flow diversion is not proposed as an alternative for the study	No further action required.	-	-	-
2.	The base mapping used to delineate external drainage areas has a relatively coarse scale of 1:10,000. Please note that all of the external drainage areas are relatively small and, therefore, may be sensitive to the marginal errors caused by the mapping scale. If possible, please use a finer scale for base mapping. However, TRCA staff will defer this concern to the Region of Peel to determine the appropriate scale for this project.	The scale of base mapping utilized (Ontario Base Map 1:10,000) is acceptable to the Region of Peel. There is no available base mapping for external lands at a finer scale.	a) Exhibits 3-10 to 3-13 provide drainage delineation for most of the crossings. As commented in TRCA's letter dated January 18, 2011, the 1:10,000 scale base mapping used the delineation provides a coarse resolution and, therefore, may have impacts on small catchments. For example, drainage areas for Crossings 1 and 2 may be sensitive to the chosen mapping scale and, therefore, may have impacts on the hydraulic analysis. b) Drainage boundaries for Crossings 9, 10, 11 and 12 are not consistent with the flow pattern shown on Exhibits 3-1 to 3-9. Please clarify.	a) Comment noted. During detail design, drainage catchments to be verified/adjusted based on more detailed topographic information and/or mapping. b) Exhibits 3-6 and 3-7 have been corrected to be consistent with the drainage boundaries shown on Exhibits 3-12 and 3-13.	a) Comment deferred to the detailed design stage which is acceptable. No further information is required at this time. b) Exhibits 3-6 and 3-7 have been corrected for consistency with Exhibits 3-12 and 3-13. No further information is required.	a) Region to verify/adjust drainage catchments during detailed design. b) No further action required.	a) Comment deferred to the detailed design stage which is acceptable. No further information is required at this time.
3.	Please provide more detail on the existing and proposed drainage systems (e.g., minor and major drainage systems). Please also identify existing flooding problems, if any, and recommend mitigation measures.	Section 2 of the report provides a detailed description of drainage patterns along the study corridor, including flow direction in all roadside ditch systems. Based on discussions with the Region, no significant flooding problems exist within the study corridor.	Addressed. Minor and major flow systems are provided in Section 2.	No further action required.	-	-	-
4.	The proposed improvement should not create or increase flood hazards upstream and downstream of the road. Please revise Section 3.3.2 to include results for the Regional storm event.	Noted. The Regional storm criteria will be included in the culvert criteria.	Please assess the potential increase in flooding risk as a result of the proposed road improvement. The assessment will include hydrological and hydraulic analyses. Comments for each component are provided below. **Hydrological Analysis** a) Table 3-3 shows parameters that are used to calculate peak flows. Please provide additional details on how the Time of	a) Section 3.4.1 of the report has been revised to include additional details related to the calculations of the time of concentration used in the hydrologic analysis. b) As described in Section 3.4.1, Rational method calculations are summarized in Table 3-3 including all relevant	a) No further action required. b) The 50-year, 100-year and Regional peak flows were calculated using the Rational Method which is acceptable. Relevant parameters were also provided within the SWM report.	- b) No further action required.	

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)	HDR Response (April 20, 2012)	TRCA COMMENTS (May 28, 2012)
			Concentration and weighted runoff coefficient values are derived. b) Please provide additional details on how the 50 year, 100 year and the Regional peak flows are calculated (for existing and proposed conditions), such as supporting files for Rational Method and hydrological modeling. c) Please add the Regional flows in Tables 3-3 to 3-5. d) Table 3-4 indicates that parameters for Culverts 15, 16 and 17 are obtained from the 1999 MESP. Please note that the Humber River Hydrology Update was completed in 2002. As a result of the update, peak flows may have changed at Crossings 15, 16 and 17. Please revise the flows so that they are consistent with the updated hydrological model for the Humber River watershed. e) Please note that TRCA has estimated floodplain mapping for Robinson Creek tributaries at the Highway 50 and Mayfield Road intersection. The Regional flow for Crossing 19 is 15.46 cms as per TRCA's floodplain mapping estimation project, which is higher than what is used in the model submitted (13.4 cms). Please clarify. **Hydraulic Analysis** f) Page 31 of the report indicates that an opening of 3.0 m x 1.5 m has been modeled in the future condition model for the west tributary. This opening represents an average opening size of Crossings 14 and 18. Please note that Crossing 18 has a smaller opening, which limits the capacity of the combined crossing and,	parameters used in the Rational method calculations. c) Regional Storm flows have been included on Tables 3-3 and 3-5. d) It is noted that the application of hydrologic parameters from the 1999 MESP was previously agreed upon by TRCA for use in the Highway 50 EA. It is also recognized that these parameters may change in the future as land development proceeds in the Town of Caledon. As such, the hydrologic and hydraulic analysis of Culverts 15 to 17, as well as the remainder of the culverts along the Highway 50 and Mayfield Road corridors will need to be updated/revised during detail design to reflect any land-use changes which may have taken place after completion of the EA. e) The Regional flow for the Robinson Creek tributary on the west side of Highway 50 has been revised in the HEC-RAS model to 15.46 cms. f) The HEC-RAS model has been revised to include a 2.5m x 1.5 m opening for culvert 14/18, based on the smaller opening size associated with Culvert 18. g) Table 3-5 has been revised to include the Regional storm flows. Table 3-4 summarizes only the 50 and 100 year events as this table is intended to highlight the culvert	c) No further action required d) As indicated in the SWM report, hydrologic parameters from the 1999 MESP were previously agreed upon by the Authority, to be used in the Highway 50 EA. As some changes of land use may occur after the completion of the EA the consultant recommends updating/revising the hydrologic analysis for culverts 15 to 17 and the remainder of the culverts at Highway 50, at the detailed design stage. e) The regional flow was revised in the Hec Ras Model to 15.46m3/s as per TRCA's estimated flood plain mapping. No further action required. f) The HEC-RAS model was revised to include a 2.5m x1.5m opening for culvert 14/18 based on the smaller opening size associated with Culvert 18, as recommended by TRCA staff. g) No further action required. h) No further action required. i-m) Comments on items 4 i) to 4 m) are related to the hydraulic modeling submitted by the consultant on November 22, 2011. Contraction/expansion, loss	d) Region to update/revise the hydrologic analysis for culverts 15 to 17 and the remainder of the culverts at Highway 50 during detailed design if changes in land use have occurred. e) No further action required. f) No further action required.	d) Deferred to detailed design to be updated/revised by the Region of Peel h) The Culvert Master output was revised and is now consistent with Table 4. i-m) Comments on items **4 i)** to **4 m)** are related to the hydraulic modeling submitted by the consultant on November 22, 2011. Contraction/expansion, loss and

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)	HDR Response (April 20, 2012)	TRCA COMMENTS (May 28, 2012)
			therefore should be used in the model. g) Please revise Tables 3-4 and 3-5 to include results for the Regional storm event. h) The Culvert Master Model outputs are provided in Appendix A. It is noticed that for some crossings the input data provided in the appendix are not consistent with Table 3-4. For example, the appendix shows a diameter of 300 mm for Crossings 2 and 3. However, based on the tables and exhibits, both crossings are 800 mm. Please check all of the input data provided in Appendix A and ensure that they are consistent with the report. i) Please revise the Hec-Ras model to meet TRCA's standards for floodplain mapping. Please contact TRCA staff if a copy of the standards is required. j) The Hec-Ras model submitted uses a Manning's n of 0.035 for the entire floodplain. This roughness is lower than the typical roughness used in TRCA's watersheds. Please clarify. k) Please use appropriate contraction and expansion factors for sections at the crossing locations. l) Please clarify how ineffective areas were determined in the Hec-Ras model. m) Please clarify how entrance loss at the crossings was determined in the Hec-Ras model, along with supporting design drawings. n) Please clarify if the proposed	performance in meeting the Freeboard criteria only. h) The Culvert Master model outputs have been revised to be consistent with the data provided on Table 3-4. i) The HEC-RAS model has been updated to reflect TRCA's floodplain mapping standards (mannings coefficients, expansion/contraction coefficients). j) The Mannings value along the Robinson Creek tributary has been revised back to the original value of 0.08 across the entire floodplain including two sections near Albion-Vaughan Road with a 0.05 Mannings value. We note that the original HEC-RAS file obtained from TRCA was modeled in this way. k) Expansion/contraction coefficients have been revised at each of the crossing locations within the Highway 50/Mayfield Road intersection area. l) Ineffective areas are based on standard practice whereby they are applied at all stream crossing locations to an elevation corresponding to top-of-roadway at culvert entrances and midway between top-of-road and top of culvert at culvert exit locations. m) Entrance loss coefficients used in the HEC-RAS model reflect a 0.5 entrance and 1.0 exit loss coefficient. During	and roughness coefficients along with ineffective flow area are now consistent with the Hec Ras model provided, and are considered to be reasonable for this type of analysis. No further action is required. n) Addressed. There is not expected to be an adverse impact on upstream or downstream levels as a result of the proposed works. Maximum increase on water surface elevations (0.07 m) will be on the east tributary associated with the Regional storm flow. o) Addressed. External runoff from the 1.61 hectare external catchment will be picked up by the proposed storm sewer system. It is noted that Crossing 2 will be removed along with Crossing 1 which only drains the Highway 50 right-of-way with no external drainage.	n) No further action required. o) No further action required.	roughness coefficients along with ineffective flow area are now consistent with the Hec Ras model provided, and considered to be reasonable for this type of analysis. No further information is required. p) Previous TRCA comments from December 2011 noted that the Manning's roughness coefficients along with the ineffective flow areas were established in accordance with TRCA standard modeling practices. However, after carefully reviewing the digital copy of the Hec Ras model, TRCA staff noticed that this is not always the case. For instance none of the cross sections along the Rainbow_22_north reach (Crossing 19) used TRCA standard roughness values (0.035 on the channel and 0.08 on the overbanks). On cross sections 202 and 203 (Rainbow_22_south) the roughness coefficient on the main channel and the overbanks should also be changed to TRCA standards. q) Please change the ineffective flow area from "permanent" to "normal" on the upstream and downstream section of culvert 19. The ineffective flow area should be set as close as possible to the opening on both sides, and to an elevation close to the top of the road at the upstream section and half the way between the soffit and the top of the road at the downstream section. Please refer to the enclosed figure. r) Please adjust the coding of crossings 14 and 18 (combined) under future conditions to match the roadway embankment under existing conditions. In the Hec Ras model provided by the consultant it appears that there is

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)	HDR Response (April 20, 2012)	TRCA COMMENTS (May 28, 2012)
			improvement will increase flood elevations on properties upstream and downstream of the road. o) As shown on Table 3-5, Crossings 1 and 2 will be replaced with storm sewers. Please clarify how external runoff will be conveyed.	detailed design, these coefficients will need to be updated to reflect the final, physical configuration of the culvert inlet/outlet. n) The results of the HEC-RAS analysis indicate that there will be no increase in floodlevels upstream of Mayfield Road along the "West" tributary. On the "East" tributary there will be a slight increase in Regional floodlevels immediately upstream of Mayfield Road (7 cm). A 2 cm increase results under the 50 yr and 100 yr events. o) The catchment area corresponding to Crossing 1 drains only Highway 50 right-of-way with no external drainage. At Crossing 2, the existing culvert will be replaced by a ditch inlet catchbasin to capture the 1.61 hectare external catchment into the proposed storm sewer system.			an opening between the road embankment and the adjacent cross sections. Please refer to the enclosed figure. s) The way that crossings 14 and 18 were modeled under proposed conditions indicates that there will be 29 metres of exposed 2.5 x 1.25 m concrete culvert downstream of the crossing. The deck width is 120 m while the culvert length is 150 m. The same situation applies to crossing 19 under existing (deck width=22 m, culvert length=57 m) and proposed conditions (deck width=40 m, culvert length=72.25 m). Please confirm existing culvert conditions and adjust the Hec Ras model under future conditions, or provide details on the selected modeling approach. t) Please revise the Hec Ras model considering the above and provide a digital copy with the final results for each scenario. u) It is noted that for the design storm (50-year), culvert 18 provides a freeboard of only 0.34 m which may be aggravated when combining culverts 14 and 18 in the future. Please provide details on the recommended hydraulic improvements or vertical adjustments at this stage and incorporate them into the hydraulic model. The proposed improvements may create an impact on the culvert hydraulics under the Regional storm event (13.33 m^3/s) in future conditions. It may be demonstrated that no adverse impacts on water surface elevations will occur on properties upstream or downstream of the crossing as a result of the proposed works.
5.	On page 24, please add the Regional flows.	Section 3.5.2 of the report summarizes the results of the Regional storm impacts at the	Please refer to Comment 4.	Please refer to responses in Comment 4.	Refer to comment 4 above.	-	The consultant has deferred this comment to the detailed design stage.

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)	HDR Response (April 20, 2012)	TRCA COMMENTS (May 28, 2012)
		Robinson Creek tributary crossings at Highway 50 and Mayfield Road. Regional Storm flows are included in the HEC-RAS model.					
6.	Please conduct a fluvial geomorphic study for the proposed road improvement.	The proposed improvements along the Highway 50 and Mayfield Road corridor will not result in any watercourse alterations or new culvert crossings that would necessitate the requirement to conduct a fluvial geomorphologic assessment. The majority of the drainage crossings will require extensions to the existing culverts to accommodate the roadway widening, including the Robinson Creek tributary on the west side of Highway 50. The enclosure of this watercourse is necessitated by the requirement to minimize any impact to the Robinson Creek tributary on the east side of Highway 50, as previously discussed and agreed to by TRCA. In the future as development takes place, many of these culvert road crossings will likely be removed and replaced with SWM ponds and other drainage infrastructure as part of the urbanization of the area. In conclusion, carrying out a fluvial geomorphologic assessment would not be useful at this time given the negligible impact we are making to the watercourses.	As shown on Tables 3-4 and 3-5, some crossings do not have adequate hydraulic capacity to meet Region's design standards. Please clarify if these crossings will be replaced and, if so, a fluvial geomorphic study is required for the watercourse.	As noted in the report, only 3 crossings are proposed for replacement including Culverts 10, 11 and 16. Culverts 10 and 11 convey small external catchments (<20 ha) through non-defined, altered agricultural drainage courses. Geomorphologic assessments are not recommended at these crossings. Crossing 16 drains an external catchment area of 91 ha along a poorly defined watercourse. It is recommended that during detailed design, further assessment of crossing 16 be undertaken, including morphology, to determine the type/size of crossing required at this location.	A further assessment of crossing 16 will take place at the detailed design stage.	Region to undertake further assessment of crossing 16, during detailed design, including morphology, to determine the type/size of crossing required at this location.	Deferred to detailed design.
7.	Please provide inventory sheets, if available, for the existing crossing structures.	Inventory sheets are not available for the existing crossing structures.	It is indicated that the inventory sheets are not available.	No further action required.	-	-	-
8.	Please include all of the excerpts in the appendix.	The appendix provides all summary excerpts of the Culvertmaster and HEC-RAS analyses.	Addressed.	No further action required.	-	-	-
9.	Please provide digital copies of hydrologic and hydraulic modeling files. Detailed comments on hydrologic and hydraulic assessments will be provided once the modeling files are fully reviewed.	Digital copy of the HEC-RAS modeling files are attached.	Please provide digital copies of hydrological analysis and modeling files required in Comment 4.	Digital copies of the hydrologic files are provided with this submission.	Hydrologic analysis was not performed for Culverts 14, 18 and 19 as design flows were taken from the existing West Robinson Creek Hec Ras model, which is acceptable. A digital copy of the Hec Ras modeling was provided by the consultant. TRCA staff noted that all	Table 3-7 in the final Drainage and Stormwater Management Report included in Section 3.5.2, summarizes the existing and proposed scenarios for Culverts 14, 18 and 19. Separate HEC-RAS files for each scenario have also been saved and are included with this submission.	Hec Ras files for each scenario have been submitted. Please refer to new comments above (Item 4p-u).

ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)	HDR Response (April 20, 2012)	TRCA COMMENTS (May 28, 2012)
					scenarios, (including obsolete or superseded scenarios) are contained in a single file which makes the reviewing process tedious and prone to produce different results. Please provide each scenario/plan (existing or proposed) on a separate file along with a summary table within the SWM report, showing increase/decrease in water surface elevations for crossing 14, 18 and 19 as a result of the proposed road improvements. Please remove superseded scenarios from the submitted Hec Ras modeling files and resend a copy with final results for review.		
10.	Comments on Section 4, 5 and 6 will be provided once these sections are complete.	Noted.	a) Please note that TRCA staff will require quantity controls for a site smaller than 5 ha, unless the proponent can clearly demonstrate that the increase in impervious areas will have negligible impacts on peak flows. b) Please note that TRCA staff has taken a position parallel to the City of Toronto where by OGS units, regardless of manufacturer, as a stand alone measure can achieve up to a 50% TSS removal. As staff requires 80% TSS removal, please explore additional measures to achieve the required level of treatment. For example, enhanced swales and plantings could be implemented downstream of the OGS unit before flows enter the watercourse.	a) See response to (b) below. b) We have included additional text in Section 5.5 of the report noting that the proposed water quality control strategy (use of OGS systems) are to be incorporated if the widening of Highway 50/Mayfield road occurs prior to the development of the SP47 lands. Even if development does not occur prior to the roadway widening, it is recommended that the storm drainage system on the roadway be designed to divert drainage to future storm systems within the development lands. In this way, drainage from Highway 50/Mayfield Road will receive water quality/quantity control through future SWM facilities situated within the SP47 lands.	A total of 24 OGS are proposed throughout the project limits. However, only three of those OGS units will provide quality treatment to areas larger than 2.0 hectares (to a maximum of 2.6 hectares). In the future some of these areas may be redirected to SWM ponds, which will be required as a result of future development of the Secondary Plan 47 lands. Supporting calculations for the sizing of the OGS unit are deferred to the detailed design stage which is acceptable.	Region to undertake calculations for the sizing of the OGS units during detailed design.	Supporting calculations for the sizing of the OGS to be undertaken by the Region of Peel and deferred to the detailed design stage which is acceptable.
11.	-	-	Please revise Sections 2.4.1 and 2.4.2 as the crossings at Rainbow Creek and Robinson Creek within this study area are not occupied reaches for redside dace. As a result, the warmwater fisheries timing window is being applied.	These sections have been revised.	No further action required.	-	-

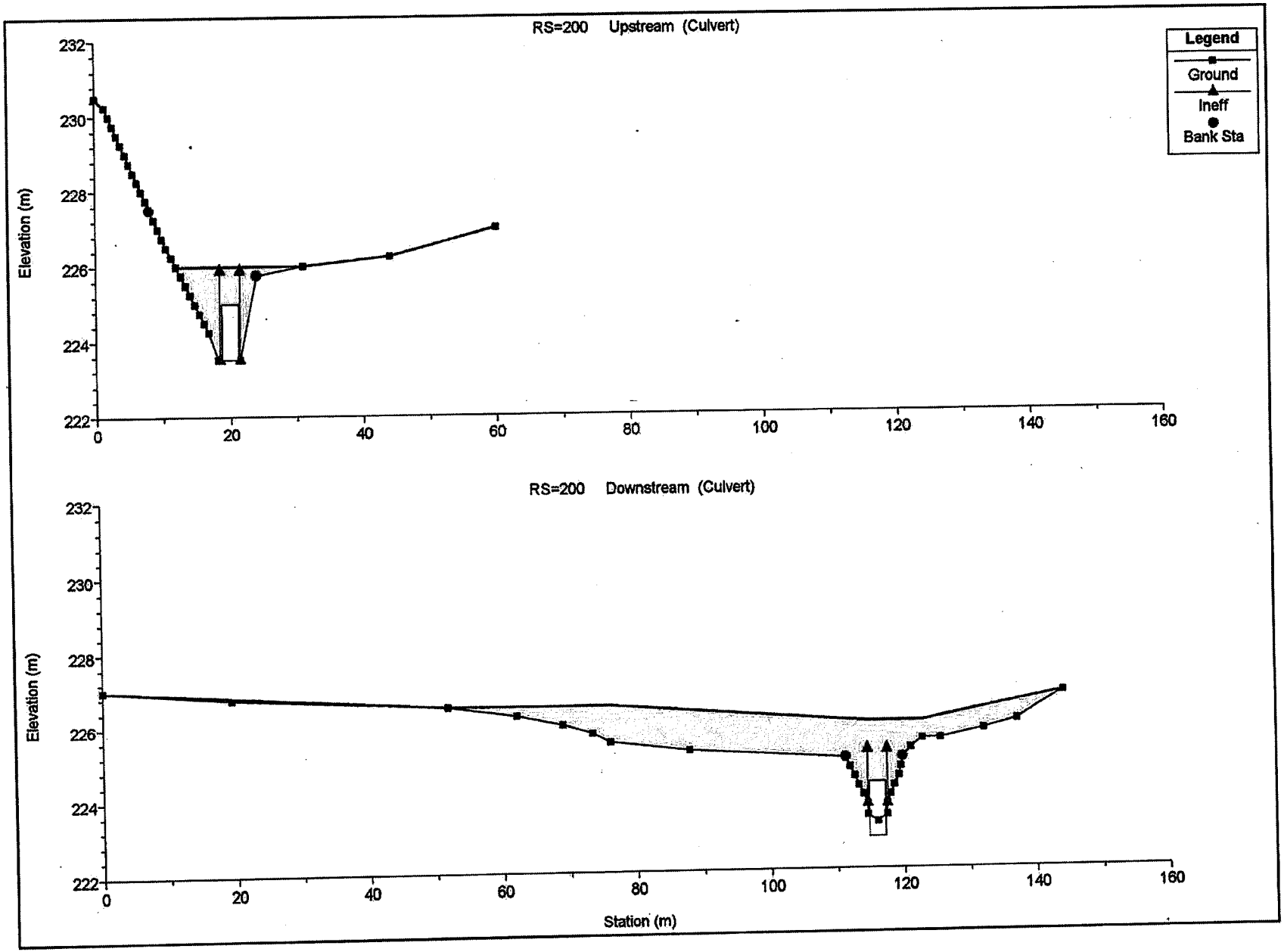
ITEM	TRCA COMMENTS (January 18, 2011)	HDR RESPONSE	TRCA COMMENTS (May 30, 2011)	HDR RESPONSE	TRCA COMMENTS (December 1, 2011)	HDR Response (April 20, 2012)	TRCA COMMENTS (May 28, 2012)
12.	-	-	-	-	On section 6.1 of the SWM report, please make reference to the TRCA's Erosion and Sediment Control Guidelines for Urban construction (www.sustainabletechnolgies.ca) and indicate that the criteria contained within that guideline will be applied.	Section 6.1 of SWM revised accordingly. Reference to the TRCA Erosion and Sediment Control Guidelines for Urban Construction has also been included in Chapter 7 of the ESR.	Reference to the Erosion and Sediment Control guidelines are made on the SWM report and Chapter 7 of the Environmental Servicing Report. No further information is required.
13.	-	-	-	-	Please add the TRCA crossing IDs to the SWM report and EA. Please also include in the EA a map and table showing the watercourse crossing locations, the existing culvert sizing and proposed culvert sizing.	Exhibit 3-10: Watercourse/Culvert Crossing Locations has been added to the SWM and Exhibit 2-1: Watercourse/Culvert Crossing Locations has been added to the ESR to identify the drainage crossings and includes a cross reference for the TRCA watercourse ID numbers. Table 6-5 of the ESR includes a summary of the existing and proposed culvert sizing.	-

**Additional comments based on the draft ESR

ITEM	TRCA COMMENTS (May 28, 2012)	HDR RESPONSE
Stormwater Management		
14.	Table 2-6 indicates that culvert 1 should be upgraded and ends reshaped and culvert 2 cleaned/flushed and ends reshaped. However, table 3-6 of the SWM report shows that these two culverts will be removed and replaced with a storm sewer. This should be clarified and text on table 2-6 adjusted accordingly. Crossings 1 and 2 were identified on site as watercourses and should therefore not be removed. Please provide an air photo outlining which watercourses require culvert replacements, extensions, and minor channel realignments, as currently this is unclear. In addition, section 6.4.12 Culverts and Structures indicated that culverts 1 and 2 will be abandoned, but they are associated with watercourses. Please clarify how the environmental effects will be mitigated. Currently, it is unclear how the watercourses are to be conveyed through the Hwy 50 right-of-way if the culverts are removed.	
15.	As per the SWM strategy culverts 3, 8, 15, 17 and 18 do not meet the 1.0 m freeboard criteria. However the consultant recommends not replacing these culverts as they provide more than 0.5 m freeboard under the 50-year storm event. Text indicating replacement of culverts 15 and 17 should be removed from table 2-6, if this is the case. Staff defers to the Region of Peel regarding the acceptance of a freeboard of less than 1.0 m.	
Natural Features		
16.	The Natural Heritage Report (NHR) prepared by LGL (Appendix E.2) was very thorough, and well laid out. It contained all the relevant data on the natural heritage features and functions within the study area that TRCA normally requires.	
17.	The ESR should confirm all fisheries timing windows with the MNR, since many of the tributaries drain into downstream redside dace habitat. It should be noted that MNR continues to revise, and update watercourse classifications based on new data. As a result, the 2010 watercourse classification information (particularly fish timing windows) may need to be updated. As a result, we recommend that MNR be asked to confirm the watercourse classifications, and the applicable timing windows for both in-water and near water works, including all intermittent tributaries. All correspondence from MNR should be contained within the ESR.	
18.	Since Appendix E.5 Hydrogeological Investigation confirmed that the construction dewatering will require an MOE PTTW, the proposed dewatering needs to be discussed in detail within the ESR, and Natural Heritage Report (NHR). A review of potential environmental impacts to possible environmental receptors is required for the dewatering. The Zone of Influence for the dewatering should be mapped on an air photo, with all potential environmental receptors such as watercourses clearly identified. All potential ecological effects and mitigation measures should be discussed within the report. The Hydrological Investigation mentioned that there is to be a surface water monitoring proposal, which also needs to be outlined within both the ESR and NHR. The dewatering discussion and potential environmental effects should also include methods of treating and disposing of the water, and potential environmental effects to the receiving watercourse(s).	
19.	The figures depicting the watercourses (Exhibit 2-1 ESR, Figures 2A and 2B NHR, and others) need to be updated to clearly outline existing conditions in the northwest quadrant of Highway 50 and Mayfield Road. Currently, these figures indicate that watercourses still exist in this area, when the current air photos indicate their removal, or conversion to a large SWM pond. As confirmed on site, TRCA site 14 has been removed and shifted so that it is now considered a SWM pond.	

ITEM	TRCA COMMENTS (May 28, 2012)	HDR RESPONSE
20.	For tree removals, please note that as a minimum, TRCA staff requires a replacement ratio of 3:1, which should be included in the ESR.	
21.	We understand that the Proposed Designs are very preliminary at this stage, but the ESR should clearly detail how the recommendations in the NHR will be transferred to the detailed design plans.	
Geotechnical/Hydrogeology		
22.	The preliminary geotechnical investigation meant for proposed municipal works has revealed localized subsoil conditions. However, upon excavation operations, more specific or changed conditions may become apparent, which may differ from the initial ones. Please ensure the original geotechnical information is validated by a geotechnical consultant during such excavation operations, in order to ensure that those potentially changed conditions do not affect the design and implementation.	
23.	Staff does not anticipate any significant hydrogeology related issues. Some dewatering is expected at the crossings where new culverts or extensions to existing culverts are proposed. Staff will work with the Region of Peel at the detailed design stage to address potential concerns. It is our understanding that impacts to any existing water supply wells will be taken care of by the Region of Peel.	
Design Plans		
24.	All watercourse crossings should be clearly labeled on the proposed design plans, according to the crossing numbers in the NHR. Currently, it is unclear where these crossings are located. All crossings should include the existing culvert sizing and proposed culvert sizing (replacement or extension).	
25.	All natural heritage features need to be identified on the plans so that TRCA staff can evaluate the proposed protection measures. Our review is undermined in the absence of this information. As a minimum, all watercourses, ditches, and topography need to be included on the plans.	
26.	For future submission of the detailed design plans, please also include the elevations for watercourse beds, banks, and thalwegs for each watercourse, including intermittent channels. Existing and proposed topography/elevations will also be required, to properly evaluate proposed ESC's. Tree protection plans will also be required.	
27.	For the detailed design, please note that detailed ESC plans will be required, which outline all stages and phasing of ESC's to protect environmental features. Please ensure that the ESC plans comply with the TRCA ESC Guidelines for Urban Construction (2006). It is strongly recommended that the consultants from LGL assist in the development of the ESC plans, as they have taken a number of the TRCA ESC training courses, and have provided effective ESC plans on other projects. These consultants should review all ESC plans prior to submission to the TRCA to ensure a high level of quality control.	
28.	TRCA staff will require detailed plans for the relocation of floral and faunal species, as recommended in the NHR. Please ensure they are included in the detailed designs.	
29.	At the detailed design stage, please ensure the detailed design plans are consistent with the NHR recommendations. If possible, please provide sign off from the consultants that the plans are consistent with their recommendations in the NHR.	
30.	Please ensure work along Mayfield Road is also coordinated with the Town of Caledon for the Simpson Road connection/extension, proposed to meet at Mayfield Road, east of Coleraine Drive.	

Hare Pass Crossing Sample



June 26, 2012

Project # 4956

Ms. Sharon Lingertat
Acting Senior Planner
Environmental Assessment Planning
Toronto Region Conservation Authority
5 Shoreham Drive
Downsview, ON M3N 1S4

Dear Ms. Lingertat:

Re: Highway 50 and Mayfield Road
Municipal Class EA, Schedule C
CFN 42023
Humber River Watershed
City of Brampton, Town of Caledon, Regional Municipality of Peel; City of Vaughan, York Region

We have received your comments on the draft Environmental Study Report (April 2012). We have provided the formal responses to your detailed comments in Table 1 found in the attached Appendix A.

We are preparing the Final Environmental Study Report and will provide you with a copy of the ESR and Notice of Study Completion when it is filed for public review. We appreciate your cooperation through this process and trust that these responses have adequately addressed your concerns.

We appreciate your cooperation throughout this process.

Yours truly,

HDR Corporation

Stephen Keen, P.Eng.
Project Manager

cc: Solmaz Zia, Regional Municipality of Peel
Anthony Reitmeier, HDR Corporation

HDR Corporation
144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada
Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

Appendix A

Table 1: TRCA Comments and Responses on the Draft Drainage and Stormwater Management Report

Comment (January 18, 2011)	HDR Response (March 2011)	TRCA Comment (May 30, 2011)	HDR Response (August 2011)	TRCA Comment (December 1, 2011)	HDR Response (April 20, 2012)	TRCA Comment (May 18, 2012)	HDR Response (June 2012)
1. As indicated in Table 3-1, some crossings may not have adequate capacity to meet design standards. One of the proposed migration options is to reduce subcatchment areas by diverting flows. TRCA staff does not support the redistribution of flood water between tributaries. Please consider other mitigation options.	Noted. The option of flow diversion has been included in the context of future development requirements, and is not proposed as an alternative for the EA study.	Addressed. The option of flow diversion is not proposed as an alternative for the study.	No further action required.				
2. The base mapping used to delineate external drainage areas has a relatively coarse scale of 1:10,000. Please note that all of the external drainage areas are relatively small and therefore, may be sensitive to the marginal errors caused by the mapping scale. If possible, please use a finer scale for base mapping. However, TRCA staff will defer this concern to the Region of Peel to determine the appropriate scale for this project.	The scale of base mapping utilized (Ontario Base Map 1:10,000) is acceptable to the Region of Peel. There is no available base mapping for external lands at a finer scale.	a) Exhibits 3-10 to 3-13 provide drainage delineation for most of the crossings. As commented in TRCA's letter dated January 18, 2011, the 1:10,000 scale base mapping used the delineation provides a coarse resolution and, therefore, may have impacts on small catchments. For example, drainage areas for Crossings 1 and 2 may be sensitive to the chosen mapping scale and therefore, may have impacts on the hydraulic analysis. b) Drainage boundaries for Crossings 9, 10, 11 and 12 are not consistent with the flow pattern shown on Exhibits 3-1 to 3-9. Please clarify.	a) Comment noted. During detailed design, drainage catchments to be verified/adjusted based on more detailed topographic information and/or mapping. b) Exhibits 3-6 and 3-7 have been corrected to be consistent with the drainage boundaries shown on Exhibits 3-12 and 3-13.	a) Comment deferred to the detailed design stage which is acceptable. No further information is required at this time. b) Exhibits 3-7 and 3-7 have been corrected for consistency with Exhibits 3-12 and 3-13. No further information is required.	a) Region to verify/adjust drainage catchments during detailed design. b) No further action required.	a) Comment deferred to the detailed design stage which is acceptable. No further information is required at this time.	a) Region to verify/adjust drainage catchments during detailed design.
3. Please provide more detail on the existing and proposed drainage systems (e.g., minor and major drainage systems). Please also identify existing flooding problems, if any, and recommend mitigation measures.	Section 2 of the report provides a detailed description of drainage patterns along the study corridor, including flow direction in all roadside ditch systems. Based on discussions with the Region, no significant flooding problems exist within the study corridor.	Addressed. Minor and major flow systems are provided in Section 2.	No further action required.				

4. The proposed improvement should not create or increase flood hazards upstream and downstream of the road. Please revise Section 3.3.2 to include results for the Regional storm event.	Noted. The Regional storm criteria will be included in the culvert criteria.	Please assess the potential increase in flooding risk as a result of the proposed road improvement. The assessment will include hydrological and hydraulic analyses. Comments for each component are provided below. **Hydrological Analysis** a) Table 3-3 shows parameters that are used to calculate peak flows. Please provide additional details on how the Time of Concentration and weighted runoff coefficient values are derived. b) Please provide additional details on how the 50 year, 100 year and the Regional peak flows are calculated (for existing and proposed conditions), such as supporting files for Rational Method and hydrologic modeling. c) Please add the Regional flows in Tables 3-3 to 3-5. d) Table 3-4 indicates that parameters for Culverts 15, 16 and 17 are obtained from the 1999 MESP. Please note that the Humber River Hydrology Update was completed in 2002. As a result of the update, peak flows may have changed at Crossings 15, 16 and 17. Please revise the flows so that they are consistent with the updated hydrological model for the Humber River watershed. e) Please note that TRCA has estimated floodplain mapping for Robinson Creek tributaries at the Highway 50 and Mayfield Road intersection. The Regional flow for Crossing 19 is 15.46 cms as per TRCA's floodplain mapping estimation project, which is higher than what is used in the model submitted. (13.4 cms). Please clarify.	a) Section 3.4.1 of the report has been revised to include additional details related to the calculations of the time of concentration used in the hydrologic analysis. b) As described in Section 3.4.1, Rational Method calculations are summarized in Table 3-3 including all relevant parameters used in the Rational method calculations. c) Regional Storm flows have been included on Tables 3-3 and 3-5. d) It is noted that the application of hydrologic parameters from the 1999 MESP was previously agreed upon by TRCA for use in the Highway 50 EA. It is also recognized that these parameters may change in the future as land development proceeds in the Town of Caledon. As such, the hydrologic and hydraulic analysis of Culverts 15 to 17, as well as the remainder of the culverts along the Highway 50 and Mayfield Road corridors will need to be updated/revised during detail design to reflect any land-use changes which may have taken place after completion of the EA. e) The Regional flow for the Robinson Creek tributary on the east side of Highway 50 has been revised in the HEC-RAS model to 15.46 cms.	a) No further action required. b) The 50-year, 100-year and Regional peak flows were calculated using the Rational Method which is acceptable. Relevant parameters were also provided within the SWM report. c) No further action is required. d) As indicated in the SWM report, hydrologic parameters from the 1999 MESP were previously agreed upon by the Authority to be used in the Highway 50 EA. As some changes of land use may occur after the completion of the EA the consultant recommends updating/revising the hydrologic analysis for culverts 15 to 17 and the remainder of the culverts at Highway 50, at the detailed design stage. e) The regional flow was revised in the HEC-RAS model to 15.46m3/s as per TRCA's estimated flood plain mapping. No further action required.	b) No further action required. d) Region to update/revise the hydrologic analysis for culverts 15 to 17 and the remainder of the culverts at Highway 50 during detailed design if changes in land use have occurred. e) No further action required.	d) Deferred for the detailed design to be updated/revised by the Region of Peel	d) Region to update/revise the hydrologic analysis for culverts 15 to 17 and the remainder of the culverts at Highway 50 during detailed design if changes in land use have occurred.

		Hydraulic Analysis f) Page 31 of the report indicates that an opening of 3.0m x 1.5m has been modeled in the future condition model for the west tributary. This opening represents an average opening size of Crossings 14 and 18. Please not that Crossing 18 has a smaller opening, which limits the capacity of the combined crossing and, therefore should be used in the model. g) Please revise Tables 3-4 and 3-5 to include results for the Regional storm event. h) The Culvert Master Model outputs are provided in Appendix A. It is noticed that for some crossings the input data provided in the appendix are not consistent with Table 3-4. For example, the appendix shows a diameter of 300mm for Crossings 2 and 3. However, based on the tables and exhibits, both crossings are 800mm. Please check all of the input data provided in Appendix A and ensure that they are consistent with the report. i) Please revise the HEC-RAS model to meet TRCA's standards for floodplain mapping. Please contact TRCA staff if a copy of the standards is required. j) The HEC-RAS model submitted uses a Manning's n of 0.035 for the entire floodplain. This roughness is lower than the typical roughness used in TRCA's watersheds. Please clarify. k) Please use appropriate contraction and expansion factors for sections at the crossing locations.	f) The HEC-RAS model has been revised to include a 2.5m x 1.5m opening for culvert 14/18, based on the smaller opening size associated with Culvert 18. g) Table 3-5 has been revised to include the Regional storm flows. Table 3-4 summarizes only the 50 and 100 year events as this table is intended to highlight the culvert performance in meeting the Freeboard criteria only. h) The Culvert Master model outputs have been revised to be consistent with the data provided on Table 3-4. i) The HEC-RAS model has been updated to reflect TRCA's floodplain mapping standards (mannings coefficients, expansion/contraction coefficients). j) The Mannings value along the Robinson Creek tributary has been revised back to the original value of 0.08 across the entire floodplain including two sections near Albion-Vaughan Road with a 0.05 Mannings value. We note that the original HEC-RAS file obtained from TRCA was modelled in this way. k) Expansion/contraction coefficients have been revised at each of the crossing locations within the Highway 50/Mayfield Road intersection area.	f) The HEC-RAS model was revised to include a 2.5mx1.5m opening for culvert 14/18 based on the smaller opening size associated with Culvert 18, as recommended by TRCA staff. g) No further action required. h) No further action required. i-m) Comments on items 4i) to 4m) are related to the hydraulic modelling submitted by the consultant on November 22, 2011. Contraction/expansion, loss and roughness coefficients along with ineffective flow area are now consistent with the HEC-RAS model provided and are considered to be reasonable for this type of analysis. No further action is required.	f) No further action required.	h) The Culvert Master output was revised and is now consistent with Table 4. i) – m) Comments on items 4 i) to 4 m) are related to the hydraulic modeling submitted by the consultant on November 22, 2011. Contraction/expansion, loss and roughness coefficients along with ineffective flow area are now consistent with the Hec Ras model provided, and considered to be reasonable for this type of analysis. No further information is required.	h) No further action required. i) –m) No further action required.

		l) Please clarify how ineffective areas were determined in the HEC-RAS model. m) Please clarify how entrance loss at the crossings was determined in the HEC-RAS model, along with the supporting design drawings. n) Please clarify if the proposed improvement will increase flood elevation on properties upstream and downstream of the road.	l) Ineffective areas are based on standard practice whereby they are applied at all stream crossing locations to an elevation corresponding to top-of-roadway at culvert entrances and midway between top-of-road and top of culvert at culvert exit locations. m) Entrance loss coefficients used in the HEC-RAS model reflect a 0.5 entrance and 1.0 exit loss coefficient. During detailed design, these coefficients will need to be updated to reflect the final, physical configuration of the culvert inlet/outlet. n) The results of the HEC-EAS analysis indicate that there will be no increase in floodlevels upstream of Mayfield Road along the “West” tributary. On the “East” tributary there will be a slight increase in Regional floodlevels immediately upstream of Mayfield Road (7 cm). A 2 cm increase results under the 50 yr and 100 year events.	n) Addressed. There is not expected to be an adverse impact on upstream or downstream levels as a result of the proposed works. Maximum increase on water surface elevations (0.07m) will be on the east tributary associated with the Regional storm flow.	n) No further action required.		

		o) As shown on Table 3-5, Crossings 1 and 2 will be replaced with storm sewers. Please clarify how external runoff will be conveyed.	o) The catchment area corresponding to Crossing 1 drains only Highway 50 right-of-way with no external drainage. At Crossing 2, the existing culvert will be replaced by a ditch inlet catchbasin to capture the 1.61 hectare external catchment into the proposed storm sewer system.	o) Addressed. External runoff from the 1.61 hectare external catchment will be picked up by the proposed storm sewer system. It is noted that Crossing 2 will be removed along with Crossing 1 which only drains the Highway 50 right-of-way with no external drainage.	o) No further action required.	p) Previous TRCA comments from December 2011 noted that the Manning's roughness coefficients along with the ineffective flow areas were established in accordance with TRCA standard modeling practices. However, after carefully reviewing the digital copy of the Hec Ras model, TRCA staff noticed that this is not always the case. For instance none of the cross sections along the Rainbow_22_north reach (Crossing 19) used TRCA standard roughness values (0.035 on the channel and 0.08 on the overbanks). On cross sections 202 and 203 (Rainbow_22_ south) the roughness coefficient on the main channel and the overbanks should also be changed to TRCA standards.	p) A Manning's coefficient of 0.035 on the channel and 0.08 on the overbank, in accordance with the TRCA standard, has been incorporated into the model for all cross sections along the Rainbow_22_north (from Cross sections 35.77466 to 1929.146). The channel left and right bank distance has been added into the model, which was in blank in the TRCA provided model. The existing condition has also been accordingly revised by applying the same Manning's values to the channel and overbank such that a comparison can be made between the existing and proposed conditions. Rainbow_22_south reach Cross sections 202 and 203 have been applied the TRCA standard Manning's coefficient, 0.035 on the channel and 0.08 on the overbank.

						q) Please change the ineffective flow are from “permanent” to “normal” on the upstream and downstream section of culvert 19. The ineffective flow area should be set as close as possible to the opening on both sides, and to an elevation close to the top of the road at the upstream section and half the way between the soffit and the top of the road at the downstream section. Please refer to the enclosed figure. r) Please adjust the coding of crossings 14 and 18 (combined) under future conditions to match the roadway embankment under existing conditions. In the Hec Ras model provided by the consultant it appears that there is an opening between the road embankment and the adjacent cross sections. Please refer to the enclosed figure.	q) The ineffective area has been changed from “permanent” to “normal”. The ineffective area has also been set to be as close as possible to the culvert opening on both sides, and the elevation has been set close to the top of the road at the upstream and half the way between the sofit and the top of the road at the downstream section. r) Coding for Crossings 14 and 18 (combined) under future conditions has been adjusted so an opening between the road embankment and the adjacent cross section does not appear any more.

						s) The way that crossings 14 and 18 were modeled under proposed conditions indicates that there will be 29 metres of exposed 2.5 x 1.25 m concrete culvert downstream of the crossing. The deck width is 120m while the culvert length is 150m. The same situation applies to crossing 19 under existing (deck width = 22m, culvert length=57m) and proposed conditions (deck width=40m, culvert length=72.25m) Please confirm existing culvert conditions and adjust the Hec Ras model under future conditions, or provide details on the selected modeling approach.	s) For Crossings 14 and 18 (combined), the deck width is defined from the back of curb to back of curb along the combined culvert alignment and was coded in the HECRAS model. As a result, the total deck width is approximately 120m which leaves approximate 29m of the culvert exposed on the roadway embankment fill. This approach in determining the deck width is considered to be representative and realistic, which is used in the model as the weir length when the flow overtops the road. Therefore, in the resubmitted model, the same approach coding the deck width was still used. However, the deck location has been adjusted towards the centre of the culvert profile so that the exposed portion on each end is about 14.5 meters that represent the embankment fill. We have verified that the culvert length is 150m with no change from the previously model.

							For Crossing 19, in the existing condition model, a culvert length of 40m was modeled which matches the surveyed length. The deck width of 22m in the previously submitted HECRAS model has also been verified according to the existing survey. However, under future conditions, the deck width has been revised to 54m (from 40m in the previous submitted model) and the culvert length revised to 76m from 72m. The revision made is based on the latest plan and profile dated April 20, 2012. The same coding approach for the deck width as for Crossings 14 and 18 has been adopted in modeling Crossing 19. t) The HECRAS model has been revised to incorporate the comments received and the digital file is attached to this e-mail.
						t) Please revise the Hed Ras model considering the above and provide a digital copy with the final results for each scenario.	

						u) It is noted that for the design storm (50-year), culvert 18 provides a freeboard of only 0.34m which may be aggravated when combining culverts 14 and 18 in the future. Please provide details on the recommended hydraulic improvements or vertical adjustments at this stage and incorporate them into the hydraulic model. The proposed improvements may create and impact on the culvert hydraulics under the Regional storm event (13.33 m3/s) in future conditions. It may be demonstrated that no adverse impacts on water surface elevations will occur on properties upstream or downstream of the crossing as a result of the proposed works.	u) Under existing conditions, the Mayfield Road profile is in a sag at the culvert location (Crossing 18) which only provided a freeboard of 0.34m. In the proposed Mayfield Road roadway profile, the edge of pavement where the culvert is located has been raised to 226.67m from the existing elevation of 224.77m. As a result, a freeboard of 1.96m for the 50year storm event has been determined under the proposed condition. The proposed elevation at the edge of pavement was coded in the HECRAS and also used to determine the freeboard.
5. On page 24, please add the Regional flows.	Section 3.5.2 of the report summarizes the results of the Regional storm impacts at the Robinson Creek tributary crossings at Highway 50 and Mayfield Road. Regional Storm flows are included in the HEC-RAS model.	Please refer to Comment 4.	Please refer to responses in Comment 4.	Refer to comment 4 above.	Please refer to responses in Comment 4.	The consultant has deferred this comment to the detailed design stage.	Please refer to responses in Comment 4.

6. Please conduct a fluvial geomorphic study for the proposed road improvement.	The proposed improvements along the Highway 50 and Mayfield Road corridor will not result in any watercourse alterations or new culvert crossings that would necessitate the requirement to conduct a fluvial geomorphologic assessment. The majority of the drainage crossings will require extensions to the existing culverts to accommodate the roadway widening, including the Robinson Creek tributary on the west side of Highway 50. The enclosure of this watercourse is necessitated by the requirement to minimize any impact to the Robinson Creek tributary on the east side of Highway 50, as previously discussed and agreed to by TRCA. In the future as development takes place, many of these culvert road crossings will likely be removed and replaced with SWM ponds and other drainage infrastructure as part of the urbanization of the area. In conclusion, carrying out a fluvial geomorphologic assessment would not be useful at this time given the negligible impact we are making to the watercourses.	As shown on Tables 3-4 and 3-5, some crossings do not have adequate hydraulic capacity to meet Region's design standards. Please clarify if these crossings will be replaced and, if so, a fluvial geomorphic study is required for the watercourse.	As noted in the report, only 3 crossings are proposed for replacement including Culverts 10, 11 and 16. Culverts 10 and 11 convey small external catchments (<20 ha) through non-defined, altered agricultural drainage courses. Geomorphologic assessments are not recommended at these crossings. Crossing 16 drains an external catchment area of 91 ha along a poorly defined watercourse. It is recommended that during detailed design, further assessment of crossing 16 be undertaken, including morphology, to determine the type/size of crossing required at this location.	A further assessment of crossing 16 will take place at the detailed design stage	Region to undertake further assessment of crossing 16, during detailed design, including morphology, to determine the type/size of crossing required at this location.	Deferred to detailed design.	Region to undertake further assessment of crossing 16, during detailed design, including morphology, to determine the type/size of crossing required at this location.
7. Please provide inventory sheets, if available, for the existing crossing structures.	Inventory sheets are not available for the existing crossing structures.	It is indicated that inventory sheets are not available.	No further action required.				
8. Please include all of the excerpts in the appendix.	The appendix provides all summary excerpts of the Culvertmaster and HEC-RAS analyses.	Addressed.	No further action required.				

9. Please provide digital copies of hydrologic and hydraulic modeling files. Detailed comments on hydrologic and hydraulic assessments will be provided once the modeling files are fully reviewed.	Digital copy of the HEC-RAS modelling files are attached.	Please provide digital copies of hydrological analysis and modeling files required in Comment 4.	Digital copies of the hydrologic files are provided with this submission.	Hydrologic analysis was not performed for Culverts 14, 18 and 19 as design flows were takend from the existing West Robinson Creek HEC-RAS model, which is acceptable. A digital copy of the HEC-RAS modeling was provided by the consultant. TRCA staff noted that all scenarios, (including obsolete or superseded scenarios) are contained in a single file which makes the reviewing process tedious and prone to produce different results. Please provide each scenario/plan (existing or proposed) on a separate file along with a summary table within the SWM report, showing increase/decrease in water surface elevations for crossing 14, 18 and 19 as a result of the proposed road improvements. Please remove superseded scenarios from the submitted HEC-RAS modeling files and resend a copy with final results for review.	Table 3-7 in the final Drainage and Stormwater Management Report included in Section 3.5.2, summarizes the existing and proposed scenarios for Culverts 14, 18 and 19. Separate HEC-RAS files for each scenario have also been saved and are included with this submission.	Hec Ras files for each scenario have been submitted. Please refer to new comments above (Item 4p-u).	Please refer to responses to comments (Item 4p-u) above.
10. Comments on Section 4, 5 and 6 will be provided once these sections are complete.	Noted.	a) Please note that TRCA staff will require quantity controls for a site smaller than 5 ha, unless the proponent can clearly demonstrate that the increase in impervious areas will have negligible impacts on peak flows. b) Please note that TRCA staff has taken a position parallel to the City of Toronto where by OGS units, regardless of manufacturer, as a stand alone measure can achieve up to a 50% TSS removal. As staff requires 80% TSS removal, please explore additional measures to achieve the required level of treatment. For example, enhanced swales and plantings could be implemented downstream of the OGS unit before flows enter the watercourse.	a) See response to (b) below. b) We have included additional text in Section 5.5 of the report noting that the proposed water quality control strategy (use of OGS systems) are to be incorporated if the widening of Highway 50/Mayfield road occurs prior to the development of the SP47 lands. Even if development does not occur prior to the roadway widening, it is recommended that the storm drainage system on the roadway be designed to divert drainage to future storm systems within the development lands. In this way, drainage from Highway 50/Mayfield Road will receive water quality/quantity control through future SWM facilities situated within the SP47 lands.	A total of 24 OGS are proposed throughout the project limits. However, only three of those OGS units will provide quality treatment to areas larger than 2.0 hectares (to a maximum of 2.6 hectares). In the future some of these areas may be redirected to SWM ponds, which will be required as a result of future development of the Secondary Plan 47 lands. Supporting calculations for the sizing of the OGS unit are deferred to the detailed design stage which is acceptable.	Region to undertake calculations for the sizing of the OGS units during detailed design.	Supporting calculations for the sizing of the OGS to be undertaken by the Region of Peel and deferred to the detailed design stage which is acceptable.	Region to undertake calculations for the sizing of the OGS units during detailed design.

11.		Please revise Sections 2.4.1 and 2.4.2 as the crossings at Rainbow Creek and Robinson Creek within this study area are not occupied reaches for redside dace. As a result, the warmwater fisheries timing window is applied.	These sections have been revised.	No further action is required.			
12.				On section 6.1 of the SWM report, please make reference to the TRCA's Erosion and Sediment Control Guidelines for Urban construction (www.sustainabletechnologies.ca) and indicate that the criteria contained within the guideline will be applied.	Section 6.1 of SWM revised accordingly. Reference to the TRCA Erosion and Sediment Control Guidelines for Urban Construction has also been included in Chapter 7 of the ESR.	Reference to the Erosion and Sediment Control guidelines are made on the SWM report and Chapter 7 of the Environmental Study Report. No further information is required.	No further action is required.
13.				Please add the TRCA crossing IDs to the SWM report and EA. Please also include in the EA a map and table showing the watercourse crossing locations, the existing culvert sizing and proposed culvert sizing.	Exhibit 3-10: Watercourse/Culvert Crossing Locations has been added to the SWM and Exhibit 2-1: Watercourse/Culvert Crossing Locations has been added to the ESR to identify the drainage crossings and includes a cross reference for the TRCA watercourse ID numbers. Table 6-5 of the ESR includes a summary of the existing and proposed culvert sizing.		No further action is required.

Additional comments based on the draft ESR

ITEM	TRCA Comments (May 28, 2012)	HDR Response
Stormwater Management		
14.	Table 2-6 indicates that culvert 1 should be upgraded and ends reshaped and culvert 2 cleaned/flushed and ends reshaped. However, table 3.6 of the SWM report shows that these two culverts will be removed and replaced with a storm sewer. This should be clarified and text on table 2-6 adjusted accordingly. Crossings 1 and 2 were identified on site as watercourses and should therefore not be removed. Please provide an air photo outlining which watercourses require culvert replacements, extensions and minor channel realignments, as currently this is unclear. In addition, section 6.4.12 Culverts and Structures indicated that culverts 1 and 2 will be abandoned, but they are associated with watercourses. Please clarify how the environmental effects will be mitigated. Currently, it is unclear how the watercourses are to be conveyed through the Hwy 50 right-of-way if the culverts are removed.	Table 2-6 indicates the measures that should be taken based on existing conditions alone. This information was determined based on the initial site assessments, prior to a preferred alternative (widening) being identified. As such, no revisions have been made to Table 2-6. As shown in Exhibit 2-1 of the ESR or Exhibit 3-12 of the SWM, Crossing 1 correlates to Culvert 1. As stated in the NHR, the drainage feature at Crossing 1 is considered a watercourse on the downstream (west) side only. Upstream (east), it consists of a roadside ditch adjacent to the landscaped property of an industrial facility. The removal of Culvert 1 won't have any impact to the watercourse since it does not affect the watercourse (downstream side). As shown in Exhibit 2-1 of the ESR or Exhibit 3-10 of the SWM, Crossing 2 correlates to Culvert 3 which will be extended. Culvert 2 does not correlate to a watercourse.
15.	As per the SWM strategy culverts 3, 8, 15, 17 and 18 do not meet the 1.0m freeboard criteria. However the consultant recommends not replacing these culverts as they provide more than 0.5m freeboard under the 50-year storm event. Text indicating replacement of culverts 15 and 17 should be removed from table 2-6, if this is the case. Staff defers to the Region of Peel regarding the acceptance of a freeboard of less than 1.0m.	Table 2-6 indicates the measures that should be taken based on existing conditions to match the established criteria. This information was revisited during the analysis of the drainage system and it was found that it is not necessary to replace these culverts since they are in fair condition and provide more than 0.5 m freeboard.

		Regional storm flows at all these crossing locations will be less than the design event that we used to calculate the freeboard (i.e. 50 and 100 year). This is because the external drainage areas are relatively small (less than 50 hectares). As such, Highway 50 will not experience any overtopping under Regional storm conditions.
Natural Features		
16.	The Natural Heritage Report (NHR) prepared by LGL (Appendix E.2) was very thorough, and well laid out. It contained all the relevant data on the natural heritage features and functions within the study area that TRCA normally requires.	Noted.
17.	The ESR should confirm all fisheries timing windows with the MNR, since many of the tributaries drain into downstream redside dace habitat. It should be noted that MNR continues to revise, and update watercourse classifications based on new data. As a result, the 2010 watercourse classification information (particularly fish timing windows) may need to be updated. As a result, we recommend that MNR be asked to confirm the watercourse classifications, and the applicable timing windows for both in-water and near water works, including all intermittent tributaries. All correspondence from MNR should be contained within the ESR.	The following has been added to Section 7.1.2.1: • an in-water construction timing restriction should will be implemented to protect spawning fish, incubating eggs and fry emergence; based on the fish communities present and information provided by the TRCA no in-water work should be permitted from April 1 to June 30; since MNR continues to revise, and update watercourse classifications based on new data, MNR will be consulted to confirm the watercourse classifications, and the applicable timing windows for both in-water and near water works, including all intermittent tributaries during detailed design.
18.	Since Appendix E.5 Hydrogeological Investigation confirmed that the construction dewatering will require an MOE PTTW, the proposed dewatering needs to be discussed in detail within the ESR, and Natural Heritage Report (NHR). A review of potential environmental impacts to possible environmental receptors such as watercourses clearly identified. All potential ecological effects and mitigation measures should be discussed within the report. The Hydrological Investigation mentioned that there is to be a surface water monitoring proposal, which also needs to be outlined within both the ESR and NHR. The dewatering discussion and potential environmental effects should also include methods of treating and disposing of the water, and potential environmental effects to the receiving watercourse(s).	As noted in the ESR, the construction methodology could be modified to trench less than 25m sections at a time to reduce the dewatering rate. As such the need for a dewatering PTTW will be confirmed during detailed design.
19.	The figures depicting the watercourses (Exhibit 2-1 ESR, Figures 2A and 2B NHR and others) need to be updated to clearly outline existing conditions in the northwest quadrants of Highway 50 and Mayfield Road. Currently, these figures indicate that watercourses still exist in this area, when the current air photos indicate their removal or conversion to a large SWM pond. As confirmed on site, TRCA side 14 has been removed and shifted so that it is now considered a SWM pond.	The mapping used in the NHR was based on GIS information, not air photos; however, as stated in the NHR, Site 14 no longer exists in its mapped form. Instead, a new linear pond north of Mayfield Road was observed that likely receives the flows that comprised the old watercourse.
20.	For tree removals, please note that as a minimum, TRCA staff requires a replacement ratio of 3:1, which should be included in the ESR.	The following has been added to Section 7.1.3.1 and Section 7.1.4: “Compensation for tree removals will comply with TRCA replacement ratio requirement of 3:1.”
21.	We understand that the Proposed Designs are very preliminary at this stage, but the ESR should clearly detail how the recommendations in the NHR will be transferred to the detailed design plans.	The Region will ensure that the mitigation measures outlined in Chapter 7 will be carried forward to the detailed design stage.
Geotechnical/Hydrogeology		
22.	The preliminary geotechnical investigation meant for proposed municipal works has revealed localized subsoil conditions. However, upon excavation operations, more specific or changed conditions may become apparent, which may differ from the initial ones. Please ensure the original geotechnical is validated by a geotechnical consultant during such excavation operations, in order to ensure that those potentially changed conditions do not affect the design and implementation.	During detailed design, the Region of Peel will undertake further geotechnical assessment. The Region will have geotechnical experts available during detailed design and construction if it is found that subsoil conditions differ from those found in the geotechnical assessment.
23.	Staff does not anticipate any significant hydrogeology related issues. Some dewatering is expected at the crossings where new culverts or extensions to existing culverts are proposed. Staff will work with the Region of Peel at the detailed design stage to address potential concerns. It is our understanding that impacts to any existing water supply wells will be taken care of by the Region of Peel.	Noted. Any impacts to existing water supply wells will be taken care of by the Region of Peel.
Design Plans		
24.	All watercourse crossings should be clearly labeled on the proposed design plans, according to the crossing numbers in the NHR. Currently, it is unclear where these crossings are located. All crossings should include the existing culvert sizing and proposed culvert sizing (replacement or extension).	Exhibit 2-1 of the ESR correlates the watercourse crossing numbers to the culvert ID numbers which are shown on the preliminary design plans. The preliminary design plans show existing and proposed culvert sizing and identify where replacement or extensions are required.
25.	All natural heritage features need to be identified on the plans so that TRCA staff can evaluate the proposed protection measures. Our review is undermined in the absence of this information. As a minimum, all watercourses, ditches and topography need to be included on the plans.	Watercourse crossing information is included on the preliminary design plans. The watercourse information beyond the culvert was not included since the limits shown on the plans do not extend much further beyond the culverts.

		Existing ditches are shown in gray on the preliminary design plans. The proposed ditches are shown on the preliminary design plans in plan and profile. The plans are too crowded to include the existing topography information; however the profile includes elevations.
26.	For future submission of the detailed design plans, please also include the elevations for watercourse beds, banks, and thalwegs for each watercourse, including intermittent channels. Existing and proposed topography/elevations will also be required, to properly evaluate proposed ESC's. Tree protection plans will also be required.	The Region will carry this forward for detailed design.
27.	For the detailed design, please note that detailed ESC plans will be required, which outline all stages and phasing of ESC's to protect environmental features. Please ensure that the ESC plans comply with the TRCA ESC Guidelines for Urban Construction (2006). It is strongly recommended that the consultants from LGL assist in the development of the ESC plans, as they have taken a number of the TRCA ESC training courses, and have provided effective ESC plans on other projects. These consultants should review all ESC plans prior to submission to the TRCA to ensure a high level of quality control.	The Region will carry this forward for detailed design.
28.	TRCA staff will require detailed plans for the relocation of floral and fauna species, as recommended in the NHR. Please ensure they are included in the detailed designs.	The Region will carry this forward for detailed design.
29.	At the detailed design stage, please ensure the detailed design plans are consistent with the NHR recommendations. If possible, please provide sign off from the consultants that the plans are consistent with their recommendations in the NHR.	The Region will carry this forward for detailed design.
30.	Please ensure work along Mayfield Road is also coordinated with the Town of Caledon for the Simpson Road connection/extension, proposed to meet at Mayfield Road, east of Coleraine Drive.	The Region will carry this forward for detailed design.

Ministry of Tourism and Culture

Culture Services Unit
Programs and Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Tel. 416 314-7159
Fax: 416 314 7175

Ministère du Tourisme et de la Culture

Unité des services culturels
Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto ON M7A 0A7
Tél. : 416 314-7159
Téléc. : 416 314 7175

Ontario

June 15, 2011

Mr. Stephen Keen (By email)
Consultant Project Manager
HDR| iTRANS
144 Front Street West, Suite 655
Toronto, ON

Dear Mr. Keen,

Project: Highway 50 from Castlemore Road/Rutherford Road to Mayfield Road AND Mayfield Road from Hwy 50 to Coleraine Drive – Municipal Class EA
Location: Peel and York Regions
MTC File: 00EA054

On April 27, 2011 the Ministry of Tourism and Culture (MTC) received a Notice of Public Information #2 for the project mentioned above. As part of the Class Environmental Assessment process, the MTC has an interest in the conservation of cultural heritage resources including:

- archaeological resources,
- built heritage resources, and
- cultural heritage landscapes.

Could you advise us whether archaeology assessments and/or built heritage/cultural heritage landscapes assessments are being completed as part of the EA planning process? For your information I attach our Ministry's checklists for *Criteria for Determining Archaeological Potential* **and** *Screening for Impacts to Built Heritage and Cultural Heritage Landscapes*.

MTC would be interested in remaining on the circulation list and being informed of the project as it proceeds through the EA process. We would ask that you update your contact list to remove the names of Tamara Anson-Cartwright and Michael Johnson and send future notices to **Rosi Zirger A/Heritage Planner at our new address indicated above**.

Please do not hesitate to contact me if you have any questions.

Best Regards
Rosi Zirger
A/Heritage Planner
416-314-7159
rosi.zirger@ontario.ca

copy to:
Richard Sparham, Project Manager, Region of Peel
Edward Chui, Project Manager, York Region

Archaeological Services Inc.

June 17, 2011

Stefanie Folgado
Ministry of Tourism and Culture
Culture Programs Unit
401 Bay St., Ste. 1700
Toronto, ON M7A 0A7

Dear Ms. Folgado

Re: Stage 1 Archaeological Assessment (Background Research and Property Inspection) Highway 50 and Mayfield Road Class Environmental Assessment, City of Brampton, Region of Peel, Ontario

ASI FILE #09EA-219
MCL PIF P057-590-2010

Please find enclosed three (3) copies of our report for the above-cited project. Two are being submitted to fulfil the licensing requirements per the Ontario Heritage Act, and one (1) is for your review/clearance.

If you have any questions or require any further information, please do not hesitate to contact me at the telephone number or address indicated below.

Sincerely,

ARCHAEOLOGICAL SERVICES INC.

Robert H. Pihl
Partner & Senior Archaeologist
Manager, Environmental Assessment Division

RHP/sj
Encl: 3 reports

HDR | iTRANS

June 20 2011

Project # 4956

Rosi Zirger
A/Heritage Planner
Ministry of Tourism and Culture
Culture Services Unit
Programs and Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Dear M. Zirger:

Re: Highway 50 / Mayfield Road Class EA
Peel and York Region
MTC File: 00EA054

We have received your letter, dated June 15, 2011, regarding the above mentioned project. As such, we have updated our circulation list to reflect you as the appropriate contact.

The Highway 50 / Mayfield Road Class EA study includes a Stage 1 Archaeological Assessment and a Built Heritage Resources and Cultural Heritage Landscapes Assessment. I have attached a draft of each of the reports for your review. Our subconsultant, ASI, has also submitted the Stage 1 Archaeological Assessment to Stefanie Folgado of your offices on Friday June 17, 2011.

The recommendations of the Stage 1 Archaeological Assessment include:

- Stage 2 Archaeological Assessment of locations where the construction will extend beyond the disturbed ROW and where there is potential for archaeological sites.
- Stage 3 Archaeological Assessment adjacent to Shiloh Cemetery to confirm the presence or absence of unmarked graves within the ROW.

The Stage 2 and 3 Archaeological Assessments are currently underway as part of the Highway 50 / Mayfield Road Class Environmental Assessment. We will provide you with a copy of the draft reports when they are available.

HDR | iTRANS
HDR Corporation

144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada

Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

The recommendations of the Built Heritage Resources and Cultural Heritage Landscapes Assessment include:

- Where any identified, above ground, cultural heritage resources are to be affected by direct or indirect impacts, further research should be undertaken to identify the specific heritage significance of the affected cultural heritage resources and appropriate mitigation measures should be adopted.

Once the preliminary preferred design was complete, the potential for direct or indirect impacts to Built Heritage Resources and Cultural Heritage Landscapes were identified at the following locations:

- 10980 Highway 50 – CHL5 Cameron House
- 10951 Highway 50 – BHR4 Farmhouse

To further examine the specific heritage significance of these heritage resources and to identify appropriate mitigation measures, Peel Region is undertaking a Heritage Impact Assessment of these two properties as part of the Highway 50 / Mayfield Road Class Environmental Assessment Study. The Heritage Impact Assessments are underway and we will provide you with a copy of the draft reports when they are available.

Yours truly,

HDR Corporation

Nathalie Baudais

for Stephen Keen, P. Eng.
Consultant Project Manager

Encl.

cc: Richard Sparham – Peel Region Project Manager

HDR | iTRANS

June 20, 2011

Project # 4956

Ms. Suzanne Shea
Transport Canada
Navigable Waters Protection Officer
100 Front Street S.
Sarnia, ON N7T 2M4

Dear Ms. Shea:

Re: Highway 50 / Mayfield Road
Class Environmental Assessment
Navigable Waters Protection Act

The Regional Municipality of Peel and the Regional Municipality of York initiated a Class Environmental Assessment Study of Highway 50 from Castlemore Road/Rutherford Road to Mayfield Road/Albion-Vaughan Road, and Mayfield Road from Highway 50 to Coleraine Drive. A network study carried out for Peel and York Regions identified the need for improvements to both roads, which are significant arterial roadways in each Region's overall road network.

The study is being carried out in accordance with the Municipal Engineers Association guidelines for a Schedule 'C' Class Environmental Assessment for Municipal Road Projects. The first Public Information Centre (PIC) was held on June 3, 2010 and presented: the need and justification for possible improvements to the existing corridors; an inventory of the natural, social and economic environments; evaluation of the planning alternatives; and identification of a preferred planning alternative. The second Public Information Centre (PIC) was held on April 27, 2011 and presented: alternative designs being considered, evaluation of the alternative designs, identification of a preliminary recommended alternative design, potential impacts and mitigation measures of the preliminary recommended alternative design. The PIC materials are available at the project website: http://www.peelregion.ca/pw/roads/environ-assess/highway-50.htm

HDR | iTRANS
HDR Corporation

144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada

Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

Watershed Descriptions

The study area is located in the Humber River watershed (Main Humber River subwatershed, Rainbow Creek and Robinson Creek secondary subwatersheds; TRCA 2008). The watercourses within the study limits are tributaries of Robinson Creek and Rainbow Creek which fall under the jurisdiction of the Toronto and Region Conservation Authority (TRCA) and the Ministry of Natural Resources (MNR) Aurora District.

Rainbow Creek

The Rainbow Creek Watershed is located within the Regional Municipalities of Peel and York, and is within the jurisdiction of the TRCA.

West Rainbow Creek originates in the Mayfield Road / Coleraine Drive area. The watercourse is a culturally influenced, second order tributary of Rainbow Creek that flows across primarily agricultural lands. Woody riparian cover is sparse and scattered. Substrates tend to include larger materials such as gravel and cobble.

East Rainbow Creek originates in the Coleraine Drive area just south of Countryside Drive. It is a culturally influenced, second order tributary of Rainbow Creek that flows across primarily agricultural lands. The watercourse appears to have been modified (straightened) in some reaches, and has been significantly realigned and straightened around the CPR Vaughan Intermodal Facility south of Major Mackenzie Drive. Woody riparian cover is sparse and scattered.

Robinson Creek

The Robinson Creek Watershed is primarily located within York Region whereas the upper part of West Robinson Creek originates in the Region of Peel, and is within the jurisdiction of the TRCA. This watercourse has numerous first order headwater streams that generally coalesce between Nashville Road and Major Mackenzie Drive to form West Robinson Creek. Robinson Creek merges with Rainbow Creek at Rainbow Creek Park in Woodbridge, north of Regional Road 7 and east of Martin Grove Road. According to the mapping presented in the Humber River Fisheries Management Plan (OMNR & TRCA 2005), three first order streams cross Mayfield Road on either side of the Highway 50 intersection (two in the northwest and one in the northeast) and converge approximately 75 m to the south where the watercourse flows in a generally south-easterly direction.

Could you please confirm whether there are any watercourses in the study area that are subject to the navigable waters act?

Yours truly,

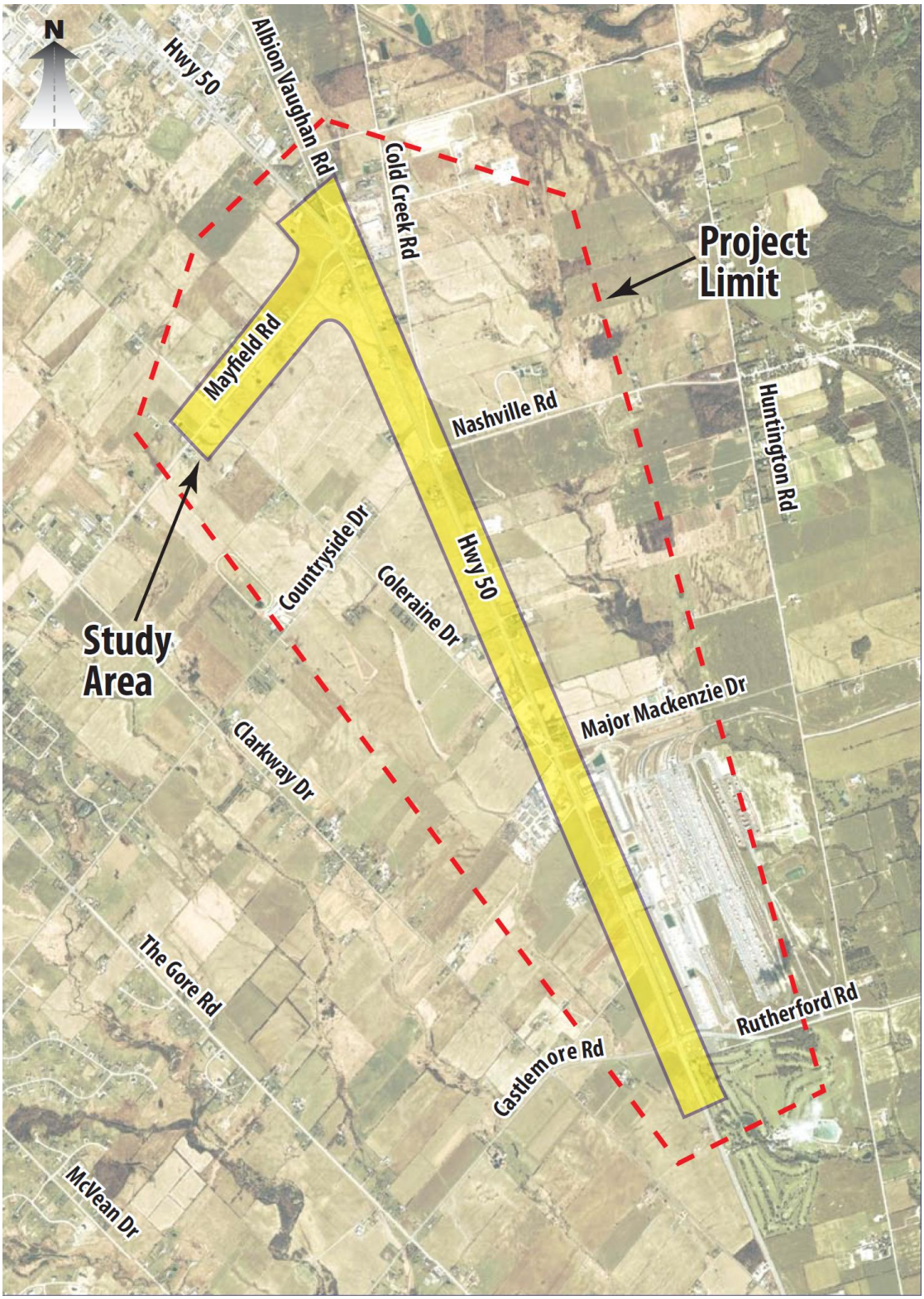
HDR Corporation

Nathalie Bandaï

for Stephen Keen, P.Eng.
Consultant Project Manager

Encl.

cc: Richard Sparham – Peel Region Project Manager
Jeremy Craigs – Transport Canada – Environmental Officer


N
Hwy 50
Albion Vaughan Rd
Cold Creek Rd
Project Limit
Mayfield Rd
Nashville Rd
Huntington Rd
Countryside Dr
Coleraine Dr
Hwy 50
Study Area
Major Mackenzie Dr
Clarkway Dr
The Gore Rd
Rutherford Rd
Castlemore Rd
McVean Dr

Transport Canada
Marine

Transports Canada
Maritime

100 S. Front Street
Sarnia, Ontario
N7T 2M4

Your file Votre référence

Our file Notre référence
8200-2011-400273

June 30, 2011

Regional Municipality of Peel
C/O HDR Corporation
144 Front Street West, Suite 655
Toronto, ON M5J 2L7

Attention: Stephen Keen, P. Eng.

Dear Sir:

Re: Navigability of Rainbow Creek, Highway 50, Regional Municipality of Peel, Province of Ontario

Transport Canada has received your request for navigability of the above noted waterway.

On April 22, 2009, *Minor Works and Waters (Navigable Waters Protection Act) Orders* came into effect. These Orders can be found at:
http://www.gazette.gc.ca/rp-pr/p1/2009/2009-05-09/html/notice-avis-eng.html

From the information provided it is the opinion of Transport Canada that these waterways at the specified locations may meet the criteria outlined in the *Minor Works and Waters (Navigable Waters Protection Act) Orders* and therefore any work done at this site may not be subject to Application for Approval under the NWPA.

If after a *self-assessment* you determine that these locations do not meet the criteria you will be required to re-submit your request to this office.

Should you have any questions, please do not hesitate to contact our office in Sarnia at (866)821-6631.

Sincerely,

Sue MacDonald-Simcox
Navigable Waters Protection Program Officer

SMS/rw

Enclosure

Canada

DEPARTMENT OF TRANSPORT

NAVIGABLE WATERS PROTECTION ACT

Minor Works and Waters (Navigable Waters Protection Act) Order

The Minister of Transport, Infrastructure and Communities, pursuant to subsection 13(1) (see footnote d) of the *Navigable Waters Protection Act* (see footnote e), hereby makes the annexed *Minor Works and Waters (Navigable Waters Protection Act) Order*.

Ottawa, April 22, 2009

JOHN BAIRD
Minister of Transport, Infrastructure and Communities

MINOR WORKS AND WATERS (NAVIGABLE WATERS PROTECTION ACT) ORDER

INTERPRETATION

Definitions

1. The following definitions apply in this Order.

"Act" « *Loi* »

"Act" means the *Navigable Waters Protection Act*.

"berm" « *berme* »

"berm" means a temporary earth-filled structure serving as a work platform or vehicle access to permit the construction of works in navigable waters.

"charted navigable waters" ~~« *plan d'eau navigable* cartographié »~~

"charted navigable waters" means navigable waters for which navigation charts are produced by the Canadian Hydrographic Service.

"dock" « *petit quai* »

"dock" includes a wharf, a pier and a jetty.

"high-water mark" « *laisse des hautes eaux* »

"high-water mark" means the mark left on the landscape by the highest level reached by navigable waters that has been maintained for a sufficient period to leave the mark on the landscape.

"navigation channel" « *chenal de navigation* »

"navigation channel" means a charted channel, a buoyed channel or a channel that, based on local knowledge, exists for navigation purposes.

EROSION PROTECTION WORKS

Definitions

2. (1) The following definitions apply in this section.

"erosion protection works" « *ouvrages de protection contre l'érosion* »

"erosion protection works" means shoreline-stabilization, riprap or bank-protection works.

"groyne or spur" « *épi ou éperon* »

"groyne or spur" means a structure built out from the bank of navigable waters in a direction transverse to the current in order to prevent erosion of the bank.

"riprap" « *enrochement* »

"riprap" means a layer of stones or rocks placed irregularly on a slope or a bank of navigable waters in order to protect it against scouring or erosion.

"shoreline stabilization" « *stabilisation des rives* »

"shoreline stabilization" means stones, rocks, concrete, tree trunks or other materials placed in order to protect the shores of navigable waters from erosion.

Class established

(2) Erosion protection works are established as a class of works for the purposes of subsection 5.1(1) of the Act if

(*a*) the works are integrated with and parallel to the existing or natural shoreline or bank;

(*b*) the base of the works is 5 m or less from the high-water mark;

(*c*) the vertical to horizontal slope of the works from the navigable waters is greater than 33%;

(*d*) the works are not associated with an existing or proposed structure, including a bridge, a boom, a dam or a road, across the navigable waters; and

(*e*) the works do not include groynes or spurs or other devices to deflect the current.

Terms and conditions — during construction or placement

(3) The following terms and conditions are imposed during the construction or placement of the works:

(*a*) vessels shall be allowed safe access through the work site at all times, and shall be assisted as necessary; and

(*b*) if the works are in, on or under a river, a stream, a creek or similar navigable waters of a width set out in column 1 of the table to this subsection, signs stating "Warning — Construction Ahead" and "Attention — Travaux de construction" that are legible from at least 50 m shall be in place, upstream and downstream from the work site, at the minimum distance set out in column 2.

TABLE

Item	Column 1 Width of navigable waters	Column 2 Minimum distance
1.	Less than 10 m	25 m
2.	10 m or more but less than 20 m	50 m
3.	20 m or more but less than 50 m	100 m
4.	50 m or more	200 m

DOCKS AND BOATHOUSES

Class established

3. Docks and boathouses are established as a class of works for the purposes of subsection 5.1(1) of the Act if

(*a*) the works are at least 5 m from the adjacent property boundaries and property line extensions;

(*b*) the works are at least 10 m from any dock, boathouse or other structure that is fully or partially in, on or over the navigable waters;

(*c*) the extremity of the works that is furthest from the land is at least 30 m away from any navigation channel;

(*d*) the works do not extend further in, on or over the navigable waters than any adjacent docks;

(*e*) the works are not associated with any other proposed works, such a: launch ramps, breakwaters, landfill, dredging and marinas; and

(*f*) the works are not used for float planes or other aircraft equipped witl floats.

WINTER CROSSINGS

Definitions

4. (1) The following definitions apply in this section.

"crossing" « *traversée* »

"crossing" means a temporary bridge, ice bridge or similar structure intended to facilitate the movement of vehicles and equipment.

"ice breaker" « *brise-glace* »

"ice breaker" means a vessel specially designed and constructed for the purpose of navigating through ice.

Class established

(2) Crossings built or placed on, over or across navigable waters that are frozen to such an extent that navigating by a vessel other than an ice breaker is not possible are established as a class of works for the purposes of subsection 5.1(1) of the Act.

Terms and conditions

(3) The following terms and conditions are imposed:

(*a*) before spring break-up commences, all parts of the works, including piers, abutments, log fills and debris, shall be completely removed from the navigable waters, including the area from the waters' edge to the high-water mark; and

---

(*b*) before the navigable waters are thawed to such an extent that navigating by a vessel other than an ice breaker is possible, the bed of the navigable waters shall be restored to its natural contours if the works disturbed it.

AERIAL CABLES — POWER AND COMMUNICATION

Class established

5. (1) Aerial cables that consist only of power lines and communication cables, and the associated structures and equipment, are established as a class of works for the purposes of subsection 5.1(1) of the Act if

(*a*) the width of the navigable waters that the cables are over or across is less than 15 m when measured from the high-water mark on one side to the high-water mark on the other side of the waters;

(*b*) the works meet the design and construction requirements of *Overhead Systems*, CAN/CSA-C22.3 No. 1-06, as amended from time to time;

(*c*) the works are more than 1 000 m from any lake or tidal waters;

(*d*) the works are not over or across charted navigable waters;

(*e*) the works are not over or across a canal that is accessible to the public; and

(*f*) the works do not include towers or poles within the navigable waters, including within the area from the waters' edge to the high-water mark.

Terms and conditions — during construction or

(2) The following terms and conditions are imposed during the construction or placement of the works:

placement

(*a*) if the works are over or across a river, a stream, a creek or similar navigable waters, signs stating "Warning – Construction Ahead" and "Attention – Travaux de construction" that are legible from at least 50 m shall be in place 50 m upstream and downstream from the work site;

(*b*) vessels shall be allowed safe access through the work site at all times, and shall be assisted as necessary;

(*c*) any cables intended to be part of the works, and any temporary cables, that do not meet the design and construction requirements of the standard referred to in paragraph (1)(*b*) shall not be left unattended or unsupervised; and

(*d*) any temporarily submerged cables that are not lying on the bed of the navigable waters shall not be left unattended or unsupervised.

Term and condition — maintenance and operation

(3) A term and condition is that the works shall be maintained and operated in accordance with the requirements of the standard referred to in paragraph (1)(*b*).

SUBMARINE CABLES — POWER AND COMMUNICATION

Class established

6. Submarine cables that consist only of power lines and communication cables are established as a class of works for the purposes of subsection 5.1(1) of the Act if

(*a*) the works lie on or under the natural contours of the bed of the navigable waters;

(*b*) the works are more than 10 m from any dock or boat launch;

(*c*) the works are not in or under charted navigable waters; and

(*d*) the works are not across the entrance to any port, including any marina or yacht club.

PIPELINE CROSSINGS

Class established

7. (1) Pipelines that are buried beneath the bed of navigable waters are established as a class of works for the purposes of subsection 5.1(1) of the Act unless

(*a*) the works are regulated under the *National Energy Board Act*;

(*b*) the works are under charted navigable waters;

(*c*) the works require the placement of temporary cables not lying on the bed of the waters, to facilitate the construction, placement, testing, alteration or repair of the works; or

(*d*) the width of the waters at the crossing location exceeds 50 m.

Terms and conditions — during construction or placement

(2) The following terms and conditions are imposed during the construction or placement of the works:

(*a*) vessels shall be allowed safe access through the work site at all

times, and shall be assisted as necessary; and

(*b*) if the works — unless they are directionally drilled pipelines — are under a river, a stream, a creek or similar navigable waters of a width set out in column 1 of the table to this subsection, signs stating "Warning — Construction Ahead" and "Attention — Travaux de construction" that are legible from at least 50 m shall be in place, upstream and downstream from the work site, at the minimum distance set out in column 2.

TABLE

Item	Column 1 Width of navigable waters	Column 2 Minimum distance
1.	Less than 10 m	25 m
2.	10 m or more but less than 20 m	50 m
3.	20 m or more but less than 50 m	100 m
4.	50 m or more	200 m

Term and condition — on completion of construction

(3) A term and condition is that the bed of the navigable waters shall be restored to its natural contours on completion of the construction of the works.

WATER INTAKES

Definitions
"crib"
« *encoffrement* »
"headpond"
« *bassin d'amont* »
"weir"
« *déversoir* »

8. (1) The following definitions apply in this section.

"crib" means pieces of timber affixed together to form bays or cells that are filled with stones or concrete.

"headpond" means a reservoir of water created by the construction of a dam or weir.

"weir" means a low dam or barrier that raises the level or diverts the flow of navigable waters.

Class established

(2) Water intakes are established as a class of works for the purposes of subsection 5.1(1) of the Act if

(*a*) the intake pipe is less than 10 cm in diameter and lies on the bed of the navigable waters;

(*b*) the intake end of the works is

(i) in waters more than 2.5 m in depth, in the case of uncharted navigable waters, or

(ii) in waters less than 0.5 m, according to chart datum, in the case of charted navigable waters;

(*c*) the works are more than 50 m from a navigation channel;

(*d*) the works do not include a crib or other intake structure, such as an anchor, a collar or a weight, that extends more than 50 cm

above the bed of the navigable waters; and

(*e*) the works are not associated with a dam, a weir or a headpond, including a proposed dam, weir or headpond.

Term and condition

(3) A term and condition is that no floating pipes shall be left unattended or unsupervised during the construction or placement of the works.

DREDGING

Class established

9. (1) Dredging is established as a class of works for the purposes of subsection 5.1(1) of the Act if

(*a*) the works consist of regular maintenance around docks, retaining walls, marina basins or other structures;

(*b*) the works and associated marine equipment are more than 30 *m from a navigation channel;*

(*c*) all dredged materials are disposed of

(i) above the high-water mark, or

(ii) in waters where the disposal is authorized by or under an Act of Parliament and where there are more than 20 fathoms (36.576 m) of water at all times;

(*d*) no suction dredging that includes any floating or submerged pipes is used;

(*e*) the works have no cables that cross on, over or through any portion of the navigable waters; and

(*f*) the works do not include blasting.

Terms and conditions

(2) The following terms and conditions are imposed:

(*a*) if the works are in charted navigable waters, before commencing the works, the owner shall request the Canadian Coast Guard to issue a Notice to Shipping; and

(*b*) vessels shall be allowed safe access through the work site at all times, and shall be assisted as necessary.

TEMPORARY WORKS

Class established

10. (1) Temporary works that are required for the construction or placement of works of a class established by any of sections 2 to 9 are established as a class of works for the purposes of subsection 5.1(1) of the Act unless the temporary works

(*a*) are roads, bridges, dams, cofferdams, berms or booms;

(*b*) change the course of the navigation channel in the navigable waters;

(*c*) cross more than halfway from one side of the navigable waters to the other side; or

(*d*) are in, on, over, under, through or across a navigation channel.

Terms and conditions — during construction or placement

(2) The following terms and conditions are imposed during the construction or placement of the temporary works:

(*a*) vessels shall be allowed safe access through the work site at all times, and shall be assisted as necessary;

(*b*) in the case of temporary works that are on, over or across navigable waters, the temporary works shall, from dusk to dawn and during periods of restricted visibility, be marked with yellow flashing lights that are

(i) located on the end of the works furthest from the nearest bank or shore of the waters, if the works are not more than 3 m in length,

(ii) located on each end of the works, if the works are more than 3 m in length but not more than 30 m in length, or

(iii) located on each end of the works and on any other location on the works so that the lights are spaced not more than 30 m apart, if the works are more than 30 m in length; and

(*c*) in the case of temporary works that are in or through navigable waters, the temporary works shall be marked with cautionary buoys that meet the requirements of the *Private Buoy Regulations*, are lighted from dusk to dawn and during periods of restricted visibility, and are

(i) located on the end of the works furthest from the nearest bank or shore of the waters, if the works are not more than 3 m in length,

(ii) located on each end of the works, if the works are more than 3 m in length but not more than 30 m in length, or

(iii) located on each end of the works and on any other location on the works so that the buoys are spaced not more than 30 m apart, if the works are more than 30 m in length.

Term and condition — on completion of construction or placement

(3) The following terms and conditions are imposed on completion of the construction or placement of the other works for which the temporary works were required:

(*a*) the temporary works shall be completely removed; and

(*b*) if the temporary works disturbed the bed of the navigable waters, it shall be restored to its natural contours.

MINOR NAVIGABLE WATERS

Definitions

11. (1) The following definitions apply in this section.

"natural obstacle" « *obstacle naturel* »	"natural obstacle" means a natural physical obstruction in navigable waters, such as a beaver dam, a deadfall, a steep drop or thick vegetation, that prevents the passage of a vessel.
"high-water level" « *laisse des hautes eaux* »	"high-water level" means the level at which navigable waters begin to overflow their natural banks.
"sections of navigable waters" « *sections des eaux navigables* »	"sections of navigable waters" means 200 m long sections of navigable waters.
Class established — width or depth of navigable waters	(2) Sections of navigable waters are established as a class of navigable waters for the purposes of subsection 5.1(1) of the Act if (*a*) the average width of the navigable waters measured at the high-water level is less than 1.20 m; or (*b*) the average depth of the navigable waters measured at the high-water level is less than 0.30 m.
Class established — width of navigable waters and other criteria	(3) Sections of navigable waters are established as a class of navigable waters for the purposes of subsection 5.1(1) of the Act if the average width of the navigable waters measured at the high-water level is 1.20 m or more but not more than 3.00 m and

---

	(*a*) the average depth of the navigable waters measured at the high-water level is 0.30 m or more but not more than 0.60 m; (*b*) the slope of the navigable waters measured at the high-water level is greater than 4%; (*c*) the sinuosity ratio is greater than 2; or (*d*) there are more than two natural obstacles in the navigable waters, at least one of which is upstream and another of which is downstream from the midpoint of the centre line of the navigable waters.
Slope and sinuosity ratio	(4) For the purposes of subsection (3), (*a*) the slope of the navigable waters is the differential elevation of the water surface from the upstream end of the centre line of the navigable waters to the downstream end of that line; and (*b*) the sinuosity ratio is the ratio of the length of the centre line of the navigable waters to the length of a straight line that starts and ends at the same points as the centre line.
Term and condition	(5) With respect to any work built or placed in, on, over, under, through or across navigable waters of a class established by subsection (2) or (3), a term and condition is that the midpoint of the work shall be built or placed 100 m from each end of navigable waters of that class.
Non-application	(6) Subsection (5) does not apply to

(*a*) works of a class established by any of sections 2 to 10; or

(*b*) temporary works that are required for the construction or placement of a work that meets the term and condition referred to in that subsection, unless the temporary works

(i) are roads, bridges, dams, cofferdams, berms or booms,

(ii) change the course of the navigation channel in the navigable waters, or

(iii) cross more than halfway from one side of the navigable waters to the other side, or

(iv) are in, on, over, under, through or across a navigation channel.

ARTIFICIAL IRRIGATION CHANNELS AND DRAINAGE DITCHES

Class established

12. Artificial irrigation channels and drainage ditches, other than ones created or built in whole or in part from a natural body of water, that have an average width of less than 3.00 m are established as a class of navigable waters for the purposes of subsection 5.1(1) of the Act.

PRIVATE LAKES

Class established

13. Lakes that are 5 hectares or less in area are established as a class of navigable waters for the purposes of subsection 5.1(1) of the Act if

(*a*) one person, other than Her Majesty in right of Canada or a province, is the registered owner of all of the land abutting the lake;

(*b*) there are no navigable waters that enter into or exit from the lake;

(*c*) there is no current or past public access to the lake; and

(*d*) there are no easements or servitudes that allow access to the lake.

COMING INTO FORCE

Date of coming into force

14. This Order comes into force 30 days after the day on which it is published in the *Canada Gazette*, Part I.

Transport Canada
Marine

Transports Canada
Maritime

Nathalie

100 S. Front Street
Sarnia, Ontario
N7T 2M4

Your file Votre référence

Our file Notre référence
8200-2011-400270

July 4, 2011

Regional Municipality of Peel
C/O HDR Corporation
144 Front Street West, Suite 655
Toronto, ON M5J 2L7

Attention: Stephen Keen, P. Eng

Dear Sir:

Re: Navigability Request, Robinson Creek, Highway 50, Regional Municipality of Peel, Province of Ontario

Receipt is acknowledged of your correspondence dated June 20th, 2011 in connection with the above noted work.

Should our review disclose the need for additional information, you will be notified. For a status of our review of this project, please contact our office at 866-821-6631 or by facsimile transmission at 519-383-1989 or by e-mail at NWPontario-PENontario@tc.gc.ca.

Please refer to our file number with any future correspondence.

Sincerely,

Donna Patterson
Information Management Supervisor
Navigable Waters Protection

DP/ rw

Canada

Transport Canada
Marine

Transports Canada
Maritime

100 S. Front Street
Sarnia, Ontario
N7T 2M4

Your file Votre référence

Our file Notre référence
8200-2011-400270

July 13, 2011

Regional Municipality of Peel
C/O HDR Corporation
144 Front Street West, Suite 655
Toronto, ON M5J 2L7

Attention: Stephen Keen, P. Eng.

Dear Sir:

Re: Navigability of Robinson Creek, Highway 50, Regional Municipality of Peel, Province of Ontario

Transport Canada has received your request for navigability of the above noted waterway.

On April 22, 2009, *Minor Works and Waters (Navigable Waters Protection Act) Orders* came into effect. These Orders can be found at:
http://www.gazette.gc.ca/rp-pr/p1/2009/2009-05-09/html/notice-avis-eng.html

From the information provided it is the opinion of Transport Canada that these waterways at the specified locations may meet the criteria outlined in the *Minor Works and Waters (Navigable Waters Protection Act) Orders* and therefore any work done at this site may not be subject to Application for Approval under the NWPA.

If after a *self-assessment* you determine that these locations do not meet the criteria you will be required to re-submit your request to this office.

Should you have any questions, please do not hesitate to contact our office in Sarnia at (866)821-6631.

Sincerely,

Kelly Thompson
Navigable Waters Protection Program

KT/km

Enclosure

Canada

Transport Canada **Transports Canada**
Marine **Maritime**

Navigable Waters Protection Program
Programme de protection des eaux navigables
100 Front Street South
Sarnia, Ontario N7T 2M4

Your File Votre référence

Our File Notre référence
2011-400273 & 2011-400270

August 3, 2011

Regional Municipality of Peel
C/O HDR Corporation
144 Front Street West, Suite 655
Toronto, ON M5J 2L7

Attention: Stephen Keen, P. Eng.

Dear Sir:

Re.: Review under the *Navigable Waters Protection Act* for:

- **File 2011-400273, Rainbow Creek at approximately 43° 49' 57.15" N – 079° 42' 46.69" W, Highway 50, Regional Municipality of Peel, in the Province of Ontario**

- **File 2011-400270, Robinson Creek at approximately 43° 49' 56.93" N – 079° 42' 46.53" W, Highway 50, Regional Municipality of York, in the Province of Ontario**

Reference is made to your correspondence received on June 22, 2011.

Transport Canada officials have determined that the provisions of the *Navigable Waters Protection Act* (*NWPA*) **do not apply** to your project and, therefore, an Approval is not required.

This determination relates to navigation only and does not relieve you of your responsibility to obtain any other forms of approval under any applicable laws.

Should you have any questions, please do not hesitate to contact our office at (866) 821-6631 or by facsimile transmission at (519) 383-1989 or by e-mail at NWPontario-PENontario@tc.gc.ca.

Sincerely,

for
Barry Putt
Manager
Navigable Waters Protection Program
Transport Canada, Marine Safety
Ontario

BP/rw

Canada

Region of Peel
Working for you

Leadership
2008 Public Sector Leadership Awards IPAC•Deloitte
2008 Prix de leadership dans le secteur public IAPC•Deloitte

CANADA AWARDS FOR EXCELLENCE
GOLD RECIPIENT QUALITY 2006

March 17, 2010
File #: 09-4390

York Region Transit
50 High Tech Road
Richmond Hill, Ontario
L4B 4N7

Attention: Robert Di Profio, Service Planner

Re: Class Environmental Assessment Study Highway 50 from Castlemore Road to Mayfield Road and Mayfield Road from Highway 50 to Coleraine Drive, Region of Peel – Transit Requirements

Dear Mr. Di Profio,

In association with York Region, the Region of Peel is conducting a Class Environmental Assessment (EA) Study to investigate transportation needs and issues for Highway 50 from Castlemore Road to Mayfield Road, and Mayfield Road from Highway 50 to Coleraine Drive.

One of the key issues for the project is to ensure the corridor is planned appropriately for future transit purposes.

Currently, there is limited transit service (GO Bus) along the corridor. Recent area Transportation Master Plan studies have shown little emphasis for transit along the Highway 50 corridor or Mayfield Road.

We note there are future plans for a GO Train station in Bolton in the Metrolinx plan 'Big Move' plan.

We have sent this letter to GO Transit, York Transit and Brampton Transit. The key questions we would like transit authorities to consider are:

1. Do you foresee using (or increasing use in the case of GO Transit) of either the Highway 50 or Mayfield Road corridors for bus transit service in the future?

2. If so, what sort of service do you envisage (express, local, frequency, etc.)?

3. Would transit priority measures at intersections be an appropriate design feature in order to aid reliability of service?

COPY

Public Works
9445 Airport Road, 3rd Floor, Brampton, ON. L6S 4J3
Telephone: 905-791-7800 / www.peelregion.ca

Region of Peel
Working for you

Leadership
2008 Public Sector Leadership Awards IPAC•Deloitte
2008 Prix de leadership dans le secteur public IAPC•Deloitte

CANADA AWARDS FOR EXCELLENCE
GOLD RECIPIENT QUALITY 2006

March 17, 2010
File #: 09-4390

GO Planning
Suite 600, 20 Bay Street, Toronto
Ontario, M5J 2W3

Attention: Malcolm Mackay, Transportation Planner

Re: Class Environmental Assessment Study Highway 50 from Castlemore Road to Mayfield Road and Mayfield Road from Highway 50 to Coleraine Drive, Region of Peel – Transit Requirements

Dear Mr. Mackay,

In association with York Region, the Region of Peel is conducting a Class Environmental Assessment (EA) Study to investigate transportation needs and issues for Highway 50 from Castlemore Road to Mayfield Road, and Mayfield Road from Highway 50 to Coleraine Drive.

One of the key issues for the project is to ensure the corridor is planned appropriately for future transit purposes.

Currently, there is limited transit service (GO Bus) along the corridor. Recent area Transportation Master Plan studies have shown little emphasis for transit along the Highway 50 corridor or Mayfield Road.

We note there are future plans for a GO Train station in Bolton in the Metrolinx plan 'Big Move' plan.

We have sent this letter to GO Transit, York Transit and Brampton Transit. The key questions we would like transit authorities to consider are:

1. Do you foresee using (or increasing use in the case of GO Transit) of either the Highway 50 or Mayfield Road corridors for bus transit service in the future?

2. If so, what sort of service do you envisage (express, local, frequency, etc.)?

3. Would transit priority measures at intersections be an appropriate design feature in order to aid reliability of service?

Public Works
9445 Airport Road, 3rd Floor, Brampton, ON. L6S 4J3
Telephone: 905-791-7800 / www.peelregion.ca

Region of Peel
Working for you

Leadership
2008 Public Sector Leadership Awards IPAC•Deloitte
2008 Prix de leadership dans le secteur public IAPC•Deloitte

CANADA AWARDS FOR EXCELLENCE
GOLD RECIPIENT QUALITY 2006

March 17, 2010
File #: 09-4390

City of Brampton
8850 McLaughlin Road, Unit 2,
Brampton, ON. L6Y 5T1

Attention: Bishnu Parajuli, P. Eng. – Project Engineer

Re: Class Environmental Assessment Study Highway 50 from Castlemore Road to Mayfield Road and Mayfield Road from Highway 50 to Coleraine Drive, Region of Peel – Transit Requirements

Dear Mr. Parajuli,

In association with York Region, the Region of Peel is conducting a Class Environmental Assessment (EA) Study to investigate transportation needs and issues for Highway 50 from Castlemore Road to Mayfield Road, and Mayfield Road from Highway 50 to Coleraine Drive.

One of the key issues for the project is to ensure the corridor is planned appropriately for future transit purposes.

Currently, there is limited transit service (GO Bus) along the corridor. Recent area Transportation Master Plan studies have shown little emphasis for transit along the Highway 50 corridor or Mayfield Road.

We note there are future plans for a GO Train station in Bolton in the Metrolinx plan 'Big Move' plan.

We have sent this letter to GO Transit, York Transit and Brampton Transit. The key questions we would like transit authorities to consider are:

1. Do you foresee using (or increasing use in the case of GO Transit) of either the Highway 50 or Mayfield Road corridors for bus transit service in the future?

2. If so, what sort of service do you envisage (express, local, frequency, etc.)?

3. Would transit priority measures at intersections be an appropriate design feature in order to aid reliability of service?

COPY

Public Works
9445 Airport Road, 3rd Floor, Brampton, ON. L6S 4J3
Telephone: 905-791-7800 / www.peelregion.ca

June 26, 2012

Project # 4956

Mr. Compton Bobb
City of Brampton
8850 McLaughlin Road Unit 2
Brampton, ON L6Y 5T1

Dear Mr. Bobb:

Re: Highway 50 and Mayfield Road
Class Environmental Assessment Study
Final Environmental Study Report

We have received the City's comments on the Draft ESR provided on May 18, 2012 via email. We have responded to the comments in Appendix A, included below.

We are preparing the Final Environmental Study Report and will provide you with a copy of the ESR and Notice of Study Completion when it is filed for public review. We appreciate your cooperation through this process and trust that these responses have adequately addressed your concerns.

Yours truly,

HDR Corporation

Stephen Keen, P.Eng.
Project Manager

cc: Solmaz Zia, Regional Municipality of Peel

HDR Corporation
144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada
Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

Appendix A

Comment	Response
6.4.9 & 6.4.10 are to state: Landscape plans are to be provided by a qualified OALA Landscape Architect during detailed design and should be designed in accordance with the most current approved Region of Peels "Streetscape Tool Box"	Incorporated.
For both 'Table 7-1: Summary of Anticipated Impacts and Proposed Mitigation' and '7.4.2 Built and Cultural Heritage Features' add a recommendation for CHL 5 (10980 Hwy 50) that states that the property should comply with the 'City of Brampton Guidelines for Securing Vacant Built Heritage Resource' and all applicable by-laws (a Vacant Building By-law is being prepared and will be going before Council for approval shortly).	The following has been added to Table 7-1 and 7.4.2.2: The property should comply with the 'City of Brampton Guidelines for Securing Vacant Built Heritage Resource' and all applicable by-laws.
The provisions for active transportation (sidewalk, multi-use path, and slightly narrowed travel lanes) and transit (space for bus pads) in the proposed cross-section are appreciated. It would also be appreciated if there were some mention of this accommodation in Section 3.3.5 (Potential Safety Measures): "Increase number of traffic lanes. This measure has a crash reduction factor of between 38% and 53% for approaching collisions." Nothing is said in this section about the potential impacts on crossing pedestrians.	There are a few measures that could improve the safety for crossing pedestrians, including: • Implement a leading pedestrian interval (modify signal phasing) (37% reduction in vehicle-pedestrian collisions, paper attached) • Restrict right turn on red (43% reduction in vehicle-pedestrian collisions) Since these recommendations are not physical measures for the corridors, they were not included.

Page 16 contains an ERROR in the 'delay' cell (some delay numbers seem unreasonably high). The table needs to be reviewed, along with some of the text (for example, the Cadetta/Nashville intersection is described as unsignalized).	Although some of the delay numbers are quite high, existing signal timing and count data were used. We did not attempt to optimize the signal timings to reduce the delays. The ERROR on page 16 is due to the high v/c ratio (7.66) for the eastbound left turn movement. Although only 4 vehicles want to make the left turn, there is such a high NB and SB volume that the EBL turning vehicles must wait a significant amount of time for an acceptable gap. The Synchro outputs have been included in Appendix E.1.
On page 37 (3.1.2 Transit), the first paragraph ends with "GO Transit would like to see transit priority measures in place through the corridor including queue jump and signal priority measures." There is also a statement that the City of Brampton requires transit priority measures on Mayfield Road and Highway 50. Are there specific plans to install these transit improvements (it says in the fourth paragraph that they are to be considered in Phase 3 of the study)? Page 87 appears to indicate there are, but perhaps the Transit section should be updated.	Section 3.1.2 has been revised to state: As such additions to the roadway may well cause the need for a larger property envelope, appropriate protection for transit priority measures were considered in this study. A summary of the recommendations for transit priority measures is provided in Section 6.4.6

Top of page 39: the PathWays Routing Plan was updated in 2010. More up-to-date information can be found in the recently approved Peel Active Transportation Plan. The Peel ATP report has been posted on the Walk and Roll Peel website at http://www.walkandrollpeel.ca/projects/2010pats.htm#reports From the Brampton section of the Report (7.2.6), Brampton has 138 km of multi-use trails and 3 km of bike lanes on City streets (Rutherford Road and Birchbank Road). The Peel ATP recommends the addition of 264 km of active transportation facilities in Brampton over the three phases, including 16 km of bike lanes (12 km segregated) in the third phase (beyond 20 years). Note that projects involving area municipalities in future years are subject to further discussion and annual budget review.	The following has been added to Section 3.1.3 Active Transportation: "Peel Regional Council approved the Peel Region's first Active Transportation Plan (February 2012). The Plan provides a framework for how the Region will increase the share of trips by walking and cycling, linking with transit, and creating a pedestrian and cycling friendly environment. The Plan sets out policies that direct the practices of the Region to support more walking and cycling; recommends active transportation improvements to the existing cycling and pedestrian networks, and recommends strategies/programs to shift travel behaviour. The Peel Active Transportation Study identifies a sidewalk on one side and a multi-use pathway on the other side of Highway 50 within the study area. The Peel Active Transportation Study identifies a sidewalk on one side and a multi-use pathway on the other side of Mayfield Road within the study area."
Page 40: Exhibit 3-1 should be updated to show the Preliminary Route Planning Study Area that is in MTO's GTA West Transportation Development Strategy, and is more refined than the indicated shaded area.	Incorporated.

AM traffic was created using the accepted practice of reversing the turning movements from PM and multiplying by a factor of 0.9 to get a flow and volume of traffic for the AM. Where is this practice from? There are existing counts that could probably be used (and they show the reverse pattern). In addition, some locations (such as Mayfield & Highway 50, or near a proposed truck centre at 10901 Highway 50 in Vaughan) see heavy truck movement, and will likely see growth in this type of traffic that is not reflected in the analysis. It would be helpful to have the source (Synchro worksheet) for some of the intersection results (nearly a 10-minute delay at one intersection?).	The forecasted volumes used Brampton's PM peak model. The AM forecasts were calculated from the PM peak model. The Synchro outputs have been included in Appendix E.1.
Please ensure that work on Highway 50 is consistent with the current Works & Transportation Satellite Yards EA. One of the yards is proposed at Highway 50 & Cadetta Road, with entrances from each. On page 41, this report indicates no future intersection at this location, but on page 84, it shows provision for both entrances to the yard. The same applies for Old Castlemore Road in this paragraph: "Note that the unsignalized intersections of Cadetta Road and Highway 50, and Old Castlemore Road and Highway 50 will not exist in the future street network and have been removed for analysis of all future horizons."	The statement on page 41 has been revised to: "Note that the unsignalized intersections of Cadetta Road and Highway 50, and Old Castlemore Road and Highway 50 will not be signalized in the future street network and have therefore been removed for analysis of all future horizons."
Throughout the document, the only clear travel demand management (TDM) measures proposed relate to transit service and improvements. Perhaps it makes more sense in the recommendations (including the Conclusion on page 124) to refer simply to transit improvements as the final measure (rather than TDM and then transit priority measures).	We have left the "Supporting Travel Demand Management (e.g. carpool options, transit usage)" in the ESR since the design of Mayfield Road has accommodated the carpool lot at the Highway 50 / Mayfield Road intersection.

It should be noted in the report (and has hopefully been included in the analysis) that there are plans in the TTMP, the Peel Highway 427 Extension Area TMP, and the developing Secondary Plan 47 for a new north-south arterial road ('A2') as an extension of Major Mackenzie Drive to Mayfield Road.	The arterial extension of Major Mackenzie Drive is discussed in Section 3.1.1 Roads: "The Peel-427 Extension Area TMP was undertaken to assess future roadway requirements and evaluate alternatives to serve the Highway 427 transportation corridor. A variety of options were considered including connections from the extension to Mayfield Road, Countryside Drive / Nashville Road, and Major Mackenzie. These options included various alignments as well as with, and without, the widening of local arterials. The option chosen in the end was a Major Mackenzie connection as well as a new arterial extension of Major Mackenzie northwest up to Mayfield Road, and the widening of a number of major arterials. This will draw a large volume of east-west traffic through the study area, connecting the end of Highway 427 to Brampton and north western parts of Peel Region. This large flow must cross Highway 50 to do so."
Other studies:	
The Regional Roads Characterization Study is now underway, and the Strategic Goods Movement Network Study is about to begin. While it is likely too late for significant changes, there should be enough flexibility if possible to include minor changes consistent with the context recommended in both studies. The RCS is likely to result in several standard road types and cross-sections, and will provide recommendations on how to accommodate pedestrians, cyclists, and transit.	The preliminary design included with the Environmental Study Report is subject to minor revision during detailed design. Peel Region will monitor the progress of the study and its recommendations and apply any necessary revisions during detailed design.

Secondary Plan 47 (both land uses and road network) is currently being developed at the City of Brampton. Eventual construction of Highway 50 and Mayfield Road will have to be coordinated and consistent with the planned SP 47 road network, which will likely include a new arterial and several collector roads.	The Environmental Assessment Study was cognizant of Secondary Plan 47 and other future developments in the vicinity of the study area. The recommendation and preliminary design does not preclude the road works necessary to support the development.

METROLINX
An agency of the Government of Ontario

A Division of Metrolinx

20 Bay Street, Suite 600
Toronto, ON M5J 2W3

20 rue Bay, bureau 600
Toronto, ON M5J 2W3

www.metrolinx.com www.gotransit.com

Phone: (416) 869-3600 ext. 5548
Fax: (416) 869-1794
Email: Malcolm.Mackay@gotransit.com

April 8, 2010

Solmaz Zia, P.Eng.
Project Manager, Transportation Program Planning
Peel Region Public Works
9445 Airport Road, 3rd Floor
Brampton, ON L6S 4J3

Dear Ms. Zia:

Subject: Class EA Study for Highway 50 from Castlemore Road to Mayfield Road

Thank you for including Metrolinx in your review of transit requirements for Highway 50 between Castlemore Road and Mayfield Road, and Mayfield Road between Highway 50 and Coleraine Drive. Please find below the response to the questions referenced in your letter of March 17, 2010.

1. We presently operate GO Bus Route 38, the Bolton - Highway 50 GO Bus, between Bolton and the Malton GO Station. This bus route includes the section of Highway 50 between Castlemore Road and Mayfield Road. The Bolton - Highway 50 GO Bus will continue to operate on Highway 50 for the foreseeable future.

   The service runs weekdays and includes six southbound and seven northbound bus trips. To encourage ridership along this corridor, Metrolinx recently entered into an agreement to lease parking at the Region of Peel's new park-and-ride/carpool facility at Mayfield Road and Highway 50 and fund the construction of bus infrastructure at this location. Additional bus services could be added to this route as demand warrants.

2. GO Transit is the GTHA's inter-regional transit agency. Our mandate is to provide fast, convenient travel between municipalities throughout our service area. To maintain travel speeds, we generally offer express or limited-stop services.

   The current Bolton - Highway 50 GO Bus runs every 60 to 70 minutes in the peak period, peak direction, and every two hours in the midday. There are no current plans to increase service on the route; however, it would not be unreasonable to design for a peak frequency of 30 minutes and an off-peak frequency of 60 minutes as a "best case".

3. Transit priority measures such as queue jump lanes and signal priority would aid the reliability of our service. Design plans for the section of Highway 50 between Queen Street East (former Highway 7) and Castlemore Road indicate that queue jump lanes will be provided for both northbound and southbound buses. Continuing this treatment north to Mayfield Road would help increase travel speed and reliability, making the service

more attractive to potential users. It would also provide a level of consistency for bus travel in the Highway 50 corridor.

I hope the above answer provide sufficient detail as to our plans for the corridor. If you have any additional questions or concerns, please feel free to contact me.

Sincerely,

Malcolm Mackay
Transportation Planner, GO Planning

Edgcumbe, Kaylan

From: Anthony Louie [Anthony.Louie@gotransit.com]
Sent: May-19-10 8:55 AM
To: McLaughlin, Barry
Cc: Dan Francey; Jeff Bateman
Subject: RE: Highway 50 & Mayfield Road EA Announcement
Attachments: ALouie.pdf

Barry,

I assumed you got my name from Peel Region Staff. Please be advised that Metrolinx contact for projects of this nature is through our Planning Office and they will determine what involvements are needed from our end.

I have re-directed your notice to the Metrolinx Staff by copy of this email and I suggest you follow up with them.

regards,

Anthony Louie
Senior Project Engineer
Bus Infrastructure
Off (416) 869-3600 x5404
Fax (416) 869-1563

From: McLaughlin, Barry [mailto:Barry.McLaughlin@hdrinc.com]
Sent: Wednesday, May 19, 2010 8:26 AM
To: Anthony Louie
Subject: Highway 50 & Mayfield Road EA Announcement

Good Morning Anthony,

You have expressed interest in being added to our contact list for the Highway 50 and Mayfield Road Environmental Assessment and this message is to inform you that we have reached an important milestone in the project. Your name is on the list of people wish o be contact via email.

Please find attached a letter and notice for the first Public Information Centre for this project to be held at the beginning of June.

Thanks for your interest in this project.

Barry

Barry McLaughlin, MA

Transportation Planner

HDR | iTRANS

HDR | iTRANS

144 Front Street W, Suite 655 | Toronto, ON | M5J 2L7
Phone: 416.847.0005 x 5550 | Fax: 416.597.3127 | Email: Barry.McLaughlin@hdrinc.com

www.hdrinc.com

Ontario Realty Corporation
Société immobilière de l'Ontario

One Dundas Street West, Suite 2000, Toronto, ON M5G 2L5
1, rue Dundas Ouest, bureau 2000, Toronto, ON M5G 2L5

May 30, 2011

To Mr. Edward Chiu and Mr. Richard J. Sparham

RE: Class Environmental Assessment Study: *Highway 50 (Peel Regional Road 50, York Regional Road 24) from Castlemore Road / Rutherford Road to Mayfield Road/Albion Vaughan Road; and Mayfield Road (Peel Regional Road 14) from Highway 50 to Coleraine Drive*

Thank you for circulating Ontario Realty Corporation (ORC) on your Notice of a Public Information Centre (#2). The ORC is the strategic manager of the government's real property with a mandate of maintaining and optimizing value of the portfolio, while ensuring real estate decisions reflect public policy objectives of the government.

Our preliminary review of your notice and supporting information indicates that ORC-managed property is not within your study area. We have no other concerns with this undertaking. Please remove ORC from your circulation list with rCespect to this project.

Thank you for the opportunity to provide initial comments on this undertaking. If you have any questions I can be reached at the contacts below.

Sincerely,

L. Myslicki

Lisa Myslicki
Environmental Coordinator
Ontario Realty Corporation - Professional Services
1 Dundas Street West,
Suite 2000, Toronto, Ontario
M5G 2L5
(416) 212-3768
lisa.myslicki@ontariorealty.ca

5.0	**Other Issues/Further Actions**	
5.1	HOB would like to know where the exact municipal boundary is in relation to Mayfield Road.	Solmaz Zia
5.2	HOB may require a permanent easement for cable supports for the poles. Locations of poles will need to be determined by HOB once a plan of the 30% design is received. This will take HOB approximately 4 to 6 weeks to provide this information.	HDR R. Evangelista
5.3	For the tight cross-section adjacent to the watercourse at Mayfield Road, the pole could be placed behind the proposed barrier which would then need a 4m space behind the barrier to accommodate both the sidewalk and pole.	HDR
	Meeting adjourned at 3:45 PM	

HDR | iTRANS
144 Front Street West, Suite 655
Toronto, ON M5J 2L7
Tel: (416) 847-0005
Fax: (905) 882-1557
www.hdrinc.com
www.itransconsulting.com

File: 2.9
Project # 4956

Meeting Minutes

Project: Highway 50 / Mayfield Road Class EA
Subject: Hydro One Brampton Liaison Meeting

Meeting Date: 2:30 p.m., Monday, November 22, 2010
Location: TRCA Office, 5 Shoreham Drive
Prepared by: Stephen Keen – HDR|iTRANS
Attendees: Solmaz Zia – Peel Region
Robert Evangelista, Hydro One Brampton

Distribution: Solmaz Zia
Robert Evangelista

	Item	Action
1.0	**Background**	
1.1	Robert provided a plan with hydro utility locations (mainly west side of Hwy. 50) to HDR and will forward a CAD file of same. Closer to Mayfield Road, Hydro One Network, Power Stream (Vaughan) and Hydro One Brampton (HOB) all use the same poles.	R. Evangelista
2.0	**Expansion**	
2.1	HOB has no current plans for expansion – future development will change that of course.	
3.0	**Clear Zone**	
	HOB requires a 5 m clear zone behind the poles. The current cross-section shows 2.25 m of ROW available resulting in a potential 2.75 aerial easement. This easement is usually obtained in the City's requirement for a 4.5 m buffer strip in front of any future development.	
4.0	**Illumination**	
	Illumination brackets need to be 0.15 m below the neutral line i.e. no more than 7.45 m above ground.	

peel District School Board

5650 Hurontario Street
Mississauga, ON, Canada L5R 1C6
t 905.890.1010 1.800.668.1146
f 905.890.6747
www.peelschools.org

May 21, 2010

Ms. Solmaz Zia, P.Eng
Project Manager
Region of Peel
9445 Airport Road, 3rd Floor
Brampton, ON L6S 4J3

Dear Ms. Zia:

RE: **Highway 50 – Castlemore Road/Rutherford Road to Mayfield Road/Albion Vaughan Road and Mayfield Road from Highway 450 to Coleraine Drive**
Public Information Centre #1
Region of Peel and City of Brampton

Thank you for your letter dated May 19, 2010 informing us of the PIC #1 To be held on June 3, 2010 for the above noted study. While the Board has no comments on this study at this time, please continue to provide us with any information that is available and keep us informed of the status of this project so that we may monitor its progress and provide comments as necessary.

If you require any further information please contact me at 905-890-1010, ext. 2217.

Yours truly,

Paul Mountford, MCIP RPP
Intermediate Planning Officer
Planning and Accommodation Department

c. S. Hare, Peel District School Board
S. Keen, HDR Corporation (HDR/iTRANS)

Hwy 50 May PIC1.doc

Noss, Melissa

From: Zia, Solmaz [Solmaz.Zia@peelregion.ca]
Sent: Monday, June 21, 2010 1:49 PM
To: Keen, Stephen
Cc: McLaughlin, Barry
Subject: FW: EA (Hwy 50 - Castlemore to Mayfield etc)

To be filed in the ESR

Thanks,

Solmaz Zia, P.Eng.
Project Manager
Transportation Program Planning
Public Works, Region of Peel
Tel: (905) 791-7800 ext. 7845
Solmaz.Zia@peelregion.ca

From: Afonso, Jason [mailto:Jason.Afonso@dpcdsb.org]
Sent: June 16, 2010 4:25 PM
To: Zia, Solmaz
Subject: EA (Hwy 50 - Castlemore to Mayfield etc)

Solmaz,

The Dufferin-Peel Catholic District School Board has no comments with regards to the Class Environmental Assessment Study Highway 50 from Castlemore Road / Rutherford Road to Mayfield Road/Albion Vaughan; and Mayfield Road from Highway 50 to Coleraine Drive.

The Board would like to continue to be notified of any progress with regards to this project.

Jason Afonso | Planner
Dufferin-Peel Catholic District School Board
t: 905 890 0708 x.24407
f: 905 890 1557

peel District School Board

5650 Hurontario Street
Mississauga, ON, Canada L5R 1C6
t 905.890.1010 1.800.668.1146
f 905.890.6747
www.peelschools.org

April 27, 2011

Mr. Richard Sparham
Project Manager
Region of Peel
9445 Airport Road, 3rd Floor
Brampton, ON L6S 4J3

Dear Mr. Sparham:

RE: **Highway 50 – Castlemore Road/Rutherford Road to Mayfield Road/Albion Vaughan Road and Mayfield Road from Highway 450 to Coleraine Drive**
Public Information Centre #2
Region of Peel and City of Brampton

Thank you for your letter dated April 15, 2011 informing us of the PIC #2 to be held on April 27, 2011 for the above noted study. While the Board has no comments on this study at this time, please continue to provide us with any information that is available and keep us informed of the status of this project so that we may monitor its progress and provide comments as necessary.

If you require any further information please contact me at 905-890-1010, ext. 2217.

Yours truly,

Paul Mountford, MCIP RPP
Intermediate Planning Officer
Planning and Accommodation Department

c. S. Hare. Peel District School Board
S. Keen. HDR Corporation (HDR/iTRANS)

Hwy 50 May PIC2.doc

ONE COMPANY | *Many Solutions*℠

June 26, 2012

Project # 4956

Mr. Colin Cassar
City of Vaughan
10401 Dufferin Street
Vaughan ON L6A 1S2

Dear Mr. Cassar:

Re: Highway 50 and Mayfield Road
Class Environmental Assessment Study
Final Environmental Study Report

We have received the City's comments on the Draft ESR provided on May 29, 2012 via email. We have responded to the comments in Appendix A, included below.

We are preparing the Final Environmental Study Report and will provide you with a copy of the ESR and Notice of Study Completion when it is filed for public review. We appreciate your cooperation through this process and trust that these responses have adequately addressed your concerns.

Yours truly,

HDR Corporation

Stephen Keen, P.Eng.
Project Manager

cc: Solmaz Zia, Regional Municipality of Peel

HDR Corporation
144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada
Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

Appendix A

Comment	Response
There is a development application that has been circulated in relation to this property (10951 Highway 50). There is already a Clearance approved to demolish the house, but the Archaeological Clearance has not been received from the Ministry yet, therefore Archaeological Clearance is still pending.	Noted.
Archaeology: The properties abutting the entire strip along Highway 50, from Mayfield to Major Mackenzie on the Vaughan side, contains areas of High Archeological potential that should be assessed and clearance obtained from the Ministry of Tourism, Culture and Sport. Please see attached map, the areas are shaded in red.	A Stage I Archaeological Assessment was completed for the study and is included in Appendix E.3 of the Environmental Study Report. A Stage II Archaeological Assessment is currently in progress for the Highway 50 corridor. The report will be circulated to the City of Vaughan for review and comment once it is completed.
Built Heritage /Archeology: The following is a list of properties along the noted stretch that are included in the Vaughan Heritage Inventory as properties with Cultural Heritage Value: 1. 7230 Nashville Road (located at fork with Highway 50, Cold Creek Road and Nashville Road). It is Registered under the Ontario Heritage Act and Identified as a Cultural Heritage Landscape in the Cultural Study related to the new OP. 2. 10535 Highway 50 3. 10335 Highway 50 - It is Registered under the Ontario Heritage Act and Identified as a Cultural Heritage Landscape in the Cultural Study related to the new OP.	A Cultural Heritage Report was completed for the study and is included in Appendix E.4 of the Environmental Study Report. These three properties were identified as cultural heritage landscapes during the Cultural Heritage Assessment (CHL6, CHL8 and CHL10); however, no impacts were identified, therefore, no mitigation measures were recommended.

ONE COMPANY | *Many Solutions*℠

June 26, 2012

Project # 4956

Mr. Edward Chiu
Project Manager
York Region
17250 Yonge Street
Newmarket, ON L3Y 6Z1

Dear Mr. Chiu:

Re: Highway 50 and Mayfield Road
Class Environmental Assessment Study
Final Environmental Study Report

We have received the Region's comments on the Draft ESR provided on May 23, 2012 via email. We have responded to the comments in Appendix A, included below.

We are preparing the Final Environmental Study Report and will provide you with a copy of the ESR and Notice of Study Completion when it is filed for public review. We appreciate your cooperation through this process and trust that these responses have adequately addressed your concerns.

Yours truly,

HDR Corporation

Stephen Keen, P.Eng.
Project Manager

Encl.

cc: Solmaz Zia, Regional Municipality of Peel

HDR Corporation

144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada

Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

Appendix A

Comment	Response
Page 6, 3rd Paragraph Consider adding York Region and City of Vaughan's Office as well as the closest public library in Vaughan where the ESR may be reviewed by the public.	These locations were added.
Page 18, 2.4 Utilities and Page 93, 6.6 Utilities On Page 18, it is mentioned that correspondence with Utility Agencies is included in Appendix B and existing utility plans are included in Appendix F. However, some of the correspondences are provided in Appendix F as well.	The utility correspondences were included in Appendix F for easier access while reviewing the conflict plans. The ESR reference on page 18 has been revised to: "Correspondence with the Utility Agencies and the existing utility plans are included in **Appendix F**."
On page 93 it is mentioned that utility conflict plans are provided in Appendix G, Appendix G is currently for cost estimate. Existing utility plans are provided in Appendix F but we cannot find the utility conflict plans.	The ESR text has been revised to: "The existing plans received from the utility agencies are included in **Appendix F**."
The plans provided in Appendix F are not readable due to smaller font size and yellow color. Folded plate (11x17 size) has no name or legend, as such, it is not clear what is this plan.	The plans will be printed in black and white for the final ESR to improve the legibility. The folded plate was for the Bell utility plan. It will be printed to a larger scale to improve legibility.
Page 35, last paragraph, and Page 117, 7.3.2.1 Noise Controls During Construction On pages 35 and 117, it is mentioned that the complete Noise Study can be found in Appendix E.8, but it is actually in Appendix E.9. Also, Appendix E.9 has been named as Bobolink Investigation and not Noise Study.	The Noise Study will be included in Appendix E.8 and the Bobolink Investigation will be included in Appendix E.9.
Page 49 Table 3.3 has typo in the numbers provided as compared to the Table 2 under Safety & Collision Assessment Memo of Appendix E: Study Reports.	These were corrected.
Page 89, 6.4.11 Pavement Structure Design Under Table 6-4: New Pavement Structures	The Region has decided to design the pavement with Marshall Mixes, rather than the Superpave that was

shows Pavement Components have HDBC which is not consistent with Appendix E.6 Geotechnical Report Page 18, Table 10 where it shows Pavement Components have Superpave.	recommended in the Geotechnical report. As such, references to Superpave asphalt have been removed from the ESR text; however, the Geotechnical report was not revised. Those are the recommendations of the subconsultant; the Region is free to implement the pavement design that they want but the subconsultant doesn't need to change their recommendations.
Page 99, 6.8 Preliminary Cost Estimate Cost estimates are not provided. Appendix G has no attachment.	The Region is reviewing the cost estimates and they will be included in the text and Appendix G once finalized.
Appendix A.1 Plan and Profile Plates	
1. Sheet 7 Major Mackenzie Drive intersection, based on the preliminary profile this intersection will be raised approximately 1.0m above the existing road profile. If this is the recommendation, impacts (property, drainage, driveways, etc.) on Major Mackenzie Drive need to be identified.	1. Impacts on Major Mackenzie Drive have been assessed and are now included on the plans (Sheet 7).
2. Sheet 8 Nashville Road intersection, based on the preliminary profile this intersection will be raised approximately 0.8m above the existing road profile. If this is the recommendation, impacts (property, drainage, driveways, gas station at southeast corner, Cold Creek Road, etc.) on Nashville Road need to be identified.	2. Impacts on Nashville Road have been assessed and are now included on the plans (Sheets 13 and 14).
3. Plates are missing from Sheet 1 of 26 to Sheet 15 of 26 in the set we received. Please ensure final ESR contain the entire drawing set.	3. We apologize for the missing plates in your draft hard copy of the ESR. Please note that the electronic version has the entire set. The final ESR will also include the entire set.
4. Sheet 7 Sta. 8+330 box culvert, confirm this angled extension is acceptable. Typically this is not done due to the potential of clogging at the bends. Consider replacing the culvert entirely instead of extending.	4. Typically, an angle of 20 to 30 degrees should be acceptable; however, the Region may consider culvert replacement during detailed design.
5. Sheets from 21 of 26 to 23 of 26 show pavement widths are 3.8m which is not consistent with the Design Criteria provided in page 81.	5. These now reflect Design criteria lane widths.

6. Sheets from 21 of 26 to 23 of 26 and Sheet 26 of 26 show two North Ditch line (blue colour) in profile view, it should only be one line. 7. Sheet 18, confirm property and easement is not required on the west side of Hwy. 50 from Sta. 11+745 to Sta. 11+800. 8. Sheet 19, confirm property and easement is not required in the southwest corner of Hwy. 50 and Mayfield Road. 9. Sheet 26, confirm property and easement is not required along Albion-Vaughan Road. Some of the grading appears to be beyond the existing ROW. 10. Future sidewalk on the east side of Hwy. 50, consider moving the sidewalk closer to the property line to provide more separation between vehicular and pedestrian traffic.	6. Corrected. 7. Property and easement have been added. 8. Property and easement have been added. However, the property will require a rededication from carpool lot to road right-of-way rather than an acquisition. 9. Drainage easements have been added. 10. The sidewalk location may be revisited during detailed design. It will likely only be provided once the area to the east of Highway 50 is developed.
Appendix A.2 Typical X-Section for Mayfield Road does not show Curb and Gutter.	The Mayfield Road cross-section included now shows curb and gutter.

ONE COMPANY | *Many Solutions*℠

June 26, 2012

Project # 4956

Ms. Dorothy Moszynski
Ministry of Environment
5775 Yonge Street, 9th Floor
Toronto, ON M2M 4J1

Dear Ms. Moszynski:

Re: Highway 50 and Mayfield Road
Class Environmental Assessment Study
Final Environmental Study Report

We have received comments from MOE on the Draft ESR provided on May 29, 2012 via email. We have responded to the comments in Appendix A, included below.

We are preparing the Final Environmental Study Report and will provide you with a copy of the ESR and Notice of Study Completion when it is filed for public review. We appreciate your cooperation through this process and trust that these responses have adequately addressed your concerns.

Yours truly,

HDR Corporation

Stephen Keen, P.Eng.
Project Manager

cc: Solmaz Zia, Regional Municipality of Peel

HDR Corporation

144 Front Street W
Suite 655
Toronto, ON M5J 2L7
Canada

Phone: (416) 847-0005
Fax: (416) 597-3127
www.hdrinc.com

Appendix A

Comment	Response
Surface Water/Stormwater Management	
It is acknowledged that "Enhanced Level" water quality protection has been adopted in the stormwater management plan. Based on the Drainage and Stormwater Management Report, the stormwater generated from the proposed pavement areas is to be collected via storm sewers, and the stormwater quality will be controlled using Oil Grit Separators (OGSs) and Enhanced Grassed Swales. The OGS is to be installed at each stormwater sewer outlet. It should be noted that the design of the OGSs should be based on the ministry's Stormwater Management Manual (2003). The manual recommends that OGSs are sized to capture and treat at least 90% of the runoff volume that occurs for a site on a long term basis for water quality objectives of the enhanced level. Detailed calculations should be provided in the final report to demonstrate, for each drainage area/catchment, how the proposed OGSs are designed for the proposed water quality protection level. The ministry's Water Resources Unit will provide further comments when the detailed information becomes available.	Noted. During detailed design, detailed calculations will be provided to ensure MOE water quality control objectives have been met for each proposed OGS unit.
A performance assessment report/certificate of the proposed type of OGSs should be attached to the final report to confirm whether the OGSs alone can function effectively to achieve the proposed water quality objectives (i.e. 80% TSS removal). In addition, it is recommended that a detailed maintenance plan be prepared by the proponent at detailed design to ensure that the OGSs will work properly as per design.	A performance assessment report will be provided at detailed design for each OGS unit to meet the MOE water quality control objectives.

It is noted that the watercourses downstream of the site support Redside Dace. Dissolved road salts entering the watercourses through the crossing culverts are of concern. When road salts are washed away into roadside ditches or stormwater sewers that discharge directly into the surface watercourses, they may greatly harm the fish habitats located downstream. As the proposed project implies an increase in salt load during snowmelt seasons, the proponent should evaluate the potential impacts on the watercourses and fish habitats from the salt load. Every measure should be considered to prevent any contaminants from entering the watercourses both during construction and operation.	The Region of Peel has taken a proactive approach to reducing the use of salt by becoming an active member of the Ontario Road Salt Management Group (ORSMG). The Region's Public Works Operations & Maintenance Division has formulated a Road Salt Management Plan to research innovative salt reduction strategies. The Region of Peel is continually evaluating and employing techniques to minimize salt usage to maintain a safe bare pavement policy. The Region is confident that these measures are sufficient to reduce the salt load adequately.
The ESR states that the opportunity exists to direct stormwater from Mayfield Road and Highway 50 to stormwater management facilities associated with future development west of Highway 50 and south of Mayfield Road. This option would be a more effective way to achieve the proposed enhanced level of stormwater quality protection. The Region should consider pursuing this option.	Noted.

Permit to Take Water- Further Information	
The ESR states that a Permit to Take Water (PTTW) may be required for this project. Please note that if a PTTW is required, a guideline document and the PTTW application package can be downloaded directly from the Ministry of Environment website. If the construction includes the discharge of any collected water from the dewatering activities into a surface watercourse, or a stormwater sewer that directly discharges into a surface watercourse, appropriate treatment and control/ mitigation measures shall be provided to ensure that the proposed discharge will not result in any undesirable impact on the receiving waters. If this is the case, the ministry's further detailed review of the construction monitoring and mitigation plant will be required during the PTTW application process when all the detailed information, including the dewatering and discharge plan, as well as the monitoring, contingency and erosion control plans developed for the proposed construction, becomes available.	Thank you for the additional information.
Groundwater	
All the monitoring wells have been installed in a layer with low permeability. While the presented borehole logs show a more permeable layer at a shallower depth (around a 1m) the ministry has noted that the installation of all monitoring wells was completed in February, so the ground at shallow depth could have been frozen at this time. Therefore, the zone of influence may have been underestimated because of the frozen soil. Re-estimation of the zone of influence under the worst-case scenario is highly recommended.	The Region will confirm the zone of influence during detailed design, if deemed necessary.
Since the proposed project may involve dewatering activities, further assessment of the impact from contaminated sites is recommended during the design of the dewatering practice.	The assessment of the impact from contaminated sites will be assessed further during detailed design.

General	
There are several statements in the report where the language only indicates a recommendation, and not a firm commitment, to undertaking further studies/mitigation for the proposed project. This may be an error generated by the consultant copying and pasting recommendations from the sub consultants' reports. Please ensure that in the ESR where mitigation measures are proposed, the Region of Peel's commitment to undertaking these measures is clear. For example, Table 7-1 on page 102, under the Wildlife and Wildlife Communities section, states "a bird nest survey should be carried out"; whereas the wording "a bird nest survey will be carried out" would clearly denote a commitment by the proponent.	The wording in the mitigation measures section of the ESR has been revisited to ensure that the commitments are clearly made.