Regional Municipality of Halton

New North Oakville Transportation Corridor and Crossing of Sixteen Mile Creek

Appendix B-2: Correspondence

FACSIMILE TRANSMITTAL

engineers
architects
planners

300 Water Street
Whitby, Ontario L1N 9J2
Telephone: (905) 668-9363 Fax: (905) 668-0221
E-Mail: tsh@tsh.ca

No. of Pages Including Cover Sheet: 4

To: Mr. Craig White
Highway Operations
407 ETR

Fax #: 905-264-5374

TSH Project No. 42-80377

From: Sabeen Khokhar

Date 11-25-2004

Originals to Follow X Yes ____ No

By ____ Courier X Mail ____ Hand ____ Please Pick Up

Re:

Dear Mr. White,

Mr. Tibor Szekely of MTO requested we forward the following letter re: New Burhamthorpe Road Transportation Corridor Class Environmental Assessment Study for the Town of Oakville to you for your review.

The originals will also be sent to you via mail for your records. Please advise on the Fax Back form and return to TSH at your convenience.

Thank you in advance,

Sabeen Khokhar, B.E.S
Environmental and Transportation Planner

Document2

engineers
architects
planners

Totten Sims Hubicki Associates
300 Water Street
Whitby, Ontario, Canada L1N 9J2
(905) 668-9363 Fax: (905) 668-0221
E-mail: tsh@tsh.ca www.tsh.ca

November 25, 2004

407 ETR
Highway Operations
6300 Steeles Avenue West
Woodbridge, ON L4H 1J1

Attention: *Mr. Craig White*

Subject: **New Burnhamthorpe Road (Regional Road 27) Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek**
Class Environmental Assessment Study
Regional Road 25 to Ninth Line (Regional Road 13), Town of Oakville

The Region of Halton has recently completed the Halton Transportation Master Plan that was approved by Regional Council in June 2004. One of the recommendations from that study was the requirement to provide additional east/west capacity along Burnhamthorpe Road (Regional Road 27) Transportation Corridor, including a potential future bridge crossing of Sixteen Mile Creek. Based on the Region's assessment of the types of improvement required, the Region proposes to complete this study in compliance with Schedule "C" of the Municipal Engineers Association "Municipal Class Environmental Assessment" (June 2000). Input and advice from local residents, the business community, ratepayers groups, etc. is essential for this project.

As part of the project, the Region is forming a Technical Agencies Committee to provide input to the Project Team as the Study proceeds. The Region intends to meet with the Technical Agencies Committee at three key stages of the study.

The first Technical Agencies Committee meeting will be held at the Region of Halton Administration Building in the Glen Lawson/Mansewood Rooms at 3:00 p.m. on Wednesday December 1, 2004. Please advise the Project Team regarding your agency's involvement in the study using the attached fax back sheet.

Please refer to the attached notice for additional details regarding the Notice of Study Commencement.

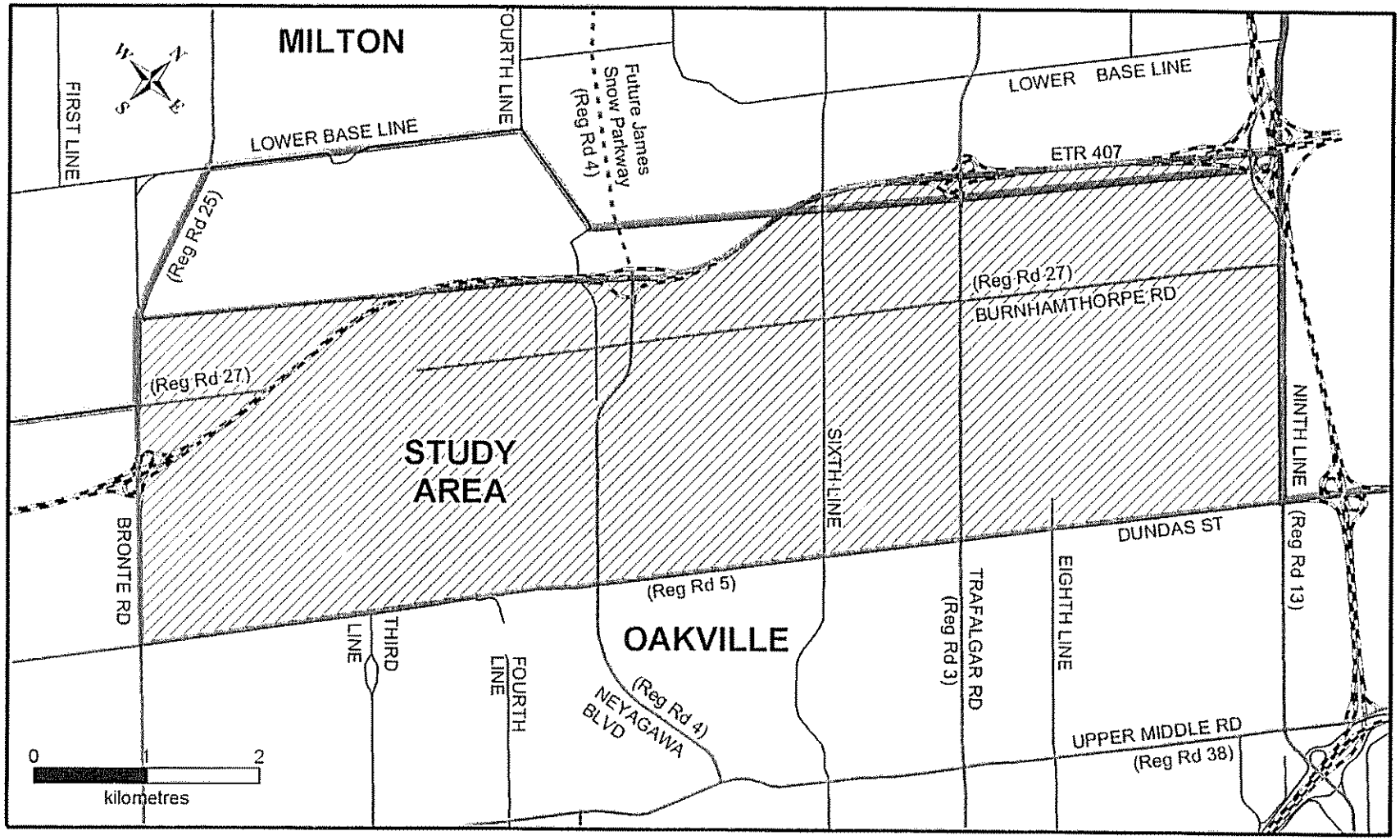
If you have any questions or require additional information, please contact the undersigned. Thank you for your assistance with this project and I look forward to working with you.

Yours very truly,
TSH

Mike Delsey, P.Eng.
Consultant Project Manager

Att

cc: E. Soldo, Region of Halton


MILTON
FIRST LINE
LOWER BASE LINE
FOURTH LINE
Future James Snow Parkway (Reg Rd 4)
LOWER BASE LINE
ETR 407
(Reg Rd 25)
(Reg Rd 27)
BURNHAMTHORPE RD
(Reg Rd 27)
STUDY AREA
SIXTH LINE
NINTH LINE
BRONTE RD
DUNDAS ST
(Reg Rd 13)
(Reg Rd 5)
OAKVILLE
THIRD LINE
FOURTH LINE
(Reg Rd 4)
NEYAGAWA BLVD
TRAFALGAR RD (Reg Rd 3)
EIGHTH LINE
UPPER MIDDLE RD (Reg Rd 38)
0
1
2
kilometres

FAX BACK FORM

To: MIKE DELSEY, TOTTEN SIMS HUBICKI

Fax: (905) 668-0221

RE: New Burnhamthorpe Road (Regional Road 27) Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek
Class Environmental Assessment Study

NAME: _____

TITLE: _____

MUNICIPALITY/AGENCY: _____
ADDRESS: _____

POSTAL CODE: _____

PHONE: _____

FAX: _____

E-MAIL: _____

Please indicate the appropriate response.

Yes	No	My group/agency is interested to participate with the Technical Agencies Committee.
Yes	No	My group/agency is not interested to participate with the Technical Agencies Committee but would like to be kept informed. Please retain on the Region's mailing list for this project.
Yes	No	My group/agency will be attending the Technical Agencies Committee meeting on Wednesday December 1, 2004.
Yes	No	Please take my group/agency off the Region's mailing list.

Agency's areas of interest or concern/preliminary comments:

_____

_____

Ontario

Ministry of the Environment
Central Region
Technical Support Section

Ministère de l'Environnement
Région du Centre
Section d'appui technique

5775 Yonge Street
8th Floor
North York, Ontario
M2M 4J1

Tel. (416) 326-6700
Fax (416) 325-6347

December 10, 2004

Mr. Mike Delsey, P.Eng.
Consultant Project Manager
TSH Engineers, Architects and Planners
300 Water Street
Whitby, ON L1N 9J2

RE: New Burnhamthorpe Road Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek
Class Environmental Assessment
Region of Halton
Notice of Commencement and Technical Agencies Committee Meeting
Our File: EA 05-02-05

Dear Mr. Delsey:

This letter is our response to your notice of study commencement for the above noted project to determine the preferred alternative for a new east-west transportation corridor in the Town of Oakville. This response acknowledges that you have selected to follow the environmental planning process for a **Schedule C** project under the *Municipal Engineers Association Municipal Class Environmental Assessment* (Class EA).

Please note that where proposed projects are likely to result in significant adverse effects to the natural and/or social environment, we encourage proponents to conduct more detailed environmental analysis and evaluation of alternative options than the Class EA may require.

On the basis of our review of the information submitted, we are providing the following general comments to assist you and your project team members in the proposed undertaking:

Study Area

- We note that a portion of the Study Area includes lands owned by the Ontario Realty Corporation, known as the Oakville Land Assembly (OLA). The Ministry of Natural Resources (MNR) recently announced the permanent protection of a majority of these lands to establish a natural heritage system for North Oakville. Any infrastructure development on these lands must ensure the protection and enhancement of sensitive ecosystem features. Contact with the MNR and the Ontario Realty Corporation is advised for more information on the OLA and any potential restrictions that may be placed on infrastructure development, and this should be documented in the Environmental Study Report (ESR).

Ecosystem Protection and Restoration

- The Study Area includes the potential crossings of Sixteen Mile Creek and several other tributaries, which may contain fish habitat. Further, there are several large woodlots which may be impacted by any proposed road construction. Any impacts to these types of ecosystem features should be avoided and the ESR should describe mitigation measures and how project planning will protect and enhance the function of these features.

- Due to the sensitivity of ecosystem features and functions in this area, particular attention to the evaluation of non-structural solutions and alternative routes within the larger Study Area is advised. We also suggest that the optimization of existing infrastructure be thoroughly explored. Analysis of alternative options should be referenced in detail in the ESR. Additional approvals from the MNR, the Department of Fisheries and Oceans (DFO), and Conservation Halton may be necessary.

- Our records indicate that Sixteen Mile Creek Valley Environmentally Sensitive Area and Area of Natural and Scientific Interest is within the Study Area. If the preferred road alternative will result in new crossings of these features, the ESR should demonstrate that there will be no negative impacts on the natural features or ecological functions of the creek, and should identify mitigation measures which will ensure the protection of the creek valley and ecosystem. We recommend consultation with the MNR regarding these significant natural heritage features.

- Our records indicate that the MNR has identified Rare Species of flora and/or fauna adjacent to the Study Area. We recommend further consultation with the MNR to determine if special measures or additional study will be necessary to preserve and protect these significant species.

- Measures should be included in the planning and design process to ensure that the watercourses and wetlands are protected and restored as part of any proposed roadway construction. Opportunities for ecological restoration include activities such as:
  i) reestablishing aquatic ecosystem linkages;
  ii) restoring natural streambanks; and,

iii) reestablishing riparian cover.

- The Region of Halton's and Town of Oakville's Official Plan policies related to ecosystem protection within the Study Area should be referenced in the ESR to ensure that all local environmental protection policies are satisfied. The ESR should also discuss the levels of growth proposed for the area as identified in the Town of Oakville's Official Plan Amendment 198, how this proposal addresses those levels of growth, and how any proposed road improvements (and/or associated transit improvements) will effect local traffic flows. In addition, please identify how this project fits within the Region of Halton's Regional Transportation Master Plan.

Trafalgar Moraine

- Our records also note that a portion of the of the Study Area is located on the Trafalgar Moraine, an environmentally significant feature which is the headwaters for numerous creeks in Halton Region. If construction is necessary on the Moraine, the ESR should discuss how project planning will maintain and enhance the function of this feature. Opportunities to reduce the impact of development on the Moraine should be considered, including minimizing road widths, considering the use of pervious pavements, naturalizing closed roadways, and by using stormwater management practices which improve water quality and maintain water quantity.

Groundwater/Surfacewater

- As the Study Area crosses several watercourses and wetlands, measures should be included in the planning and design process to ensure that sediment discharge from construction activities and roadway operations will be minimized and that there will be no ecological impacts to these watercourses. Construction activities must ensure that groundwater and surface water flows are not adversely affected. In cases where trenching, grading, or cuts will be deep, an assessment of subsequent impact on wells, streams, and wetlands should be carried out. The MOE *Guidelines for Evaluating Construction Activities Impacting on Water Resources* should be utilized during planning and construction phase of this project, with particular emphasis placed on Section 9 of the document. This document and other MOE guidelines are available at www.ene.gov.on.ca under the publications link. In addition, we recommend preparing a Contingency Plan for dealing with potential adverse effects on surface water and groundwater, and suggest consultation with Conservation Halton to determine if there are any additional approvals necessary.

- Strategies to address potential water quantity and erosion impacts related to stormwater from sheet flow into streams and wetlands should be incorporated into the ESR, and these measures should ensure that adequate water quality is maintained. We recommend a Stormwater Management Plan/Report be prepared as part of the project planning and included in the ESR. This report should integrate existing background information including sub-watershed information, existing drainage conditions, future drainage conditions, stormwater management options, information on

erosion and sediment control during construction, and include information on maintenance and monitoring commitments. The MOE's *Stormwater Management Planning and Design Manual* should be referred to in the ESR and utilized when designing stormwater control methods.

- Our records indicate that there are a number of water wells in the Study Area. Care should be taken to ensure that those water supplies and/or monitoring activities will not be adversely affected by construction activities. The primary concerns include the contamination and potential disruption of groundwater movement, particularly in the case of shallow wells. Background data should be obtained to define existing water quality and quantity, and this information should be included in the ESR.

- If de-watering is undertaken as part of the construction activities, a temporary Permit to Take Water (PTTW) will be required should the taking exceed 50,000 litres per day. Any water discharge must be planned to avoid adverse effects on the receiving watercourses, and a Certificate of Approval may be required. Please consult with the *Guide for Applying for Approval of Permit to Take Water*, and identify in the ESR if a PTTW or any other approvals are expected to be necessary.

Dust and Noise

- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the Study Area are not adversely affected during construction activities. If dust suppressants are proposed to be used, we recommend the use of non-chloride based compounds to protect water quality.

- The impact of noise levels from higher traffic volumes in the Study Area should be considered if the preferred routing will be in proximity to sensitive land uses, as increased noise levels can result in adverse effects. Please consider undertaking a noise impact assessment as part of this study, and consult with the appropriate MOE guidelines including the *MTO/MOE Noise Protocol* and *Noise Assessment Criteria in Land Use Planning*.

Contaminated Soils

- Our records indicate that the former Oakville Landfill Site is located within the Study Area. Any infrastructure development in proximity to the landfill should be consistent with the minimum separation distances identified in our guideline, *Land Use on or Near Landfills and Dumps*, and the ESR should identify how project planning will ensure that there will be no adverse effects due to construction in proximity to this landfill.

- Since the removal and/or movement of soils maybe required, they should be tested for contaminants resulting from previous land uses or dumping. If the soils are contaminated, the Region of York must decide how and where they are to be disposed of, consistent with our Ministry's *Guidelines for Use at Contaminated Sites in Ontario*. If

contaminated sites are identified in or adjacent to the Study Area, the MOE District Office for Halton-Peel in Burlington should be contacted.

Mitigation and Monitoring

- Design and construction report(s) and plans should be based on an best management approach that centres on the prevention of impacts, protection of existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.

- All waste generated during construction activities must receive proper disposal in accordance with MOE requirements.

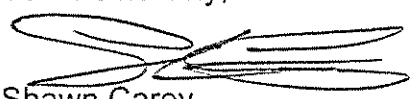
- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation work are met. Mitigation measures should be clearly referenced in the ESR and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.

For your records, please note that the Study Area is located entirely within MOE's Central Region, and future correspondence need not be forwarded to our West Central office. In addition, Ms. Marja Gates is no longer with the Ministry and future correspondence on this and other Class EA's can be forwarded to the undersigned.

Thank you for the invitation to participate in the December 1, 2004 Technical Agencies Committee (TAC) meeting. While we were not able to participate in that meeting, we would like to participate in future meetings where possible. Please forward us information available at the TAC meeting for our records.

Please keep us advised as the study progresses, including when Public Information Centres are held. In addition, we would appreciate receiving a draft copy of the ESR at least 30 days in advance of issuing the notice of project completion so that we have sufficient time to review the document and provide further input if required. Should you or any members of your project team have any questions regarding the above, please feel free to contact Ross Lashbrook at (416) 326-4839 or myself at (416) 326-4886.

Yours sincerely,



Shawn Carey
Environmental Assessment and Planning Coordinator
Air, Pesticides and Environmental Planning

c. J. Budz
E. Hartt
A & P File

Ministry of Culture
400 University Ave, 4th Fl.
Toronto, ON M7A 2R9

Ministère de la Culture
400 Ave. University, 4. étage
Toronto, ON M7A 2R9

Heritage & Libraries Branch, Heritage Operations Unit

Tel:(416) 314-7143 Fax:(416) 314-7175

Ontario

December 21, 2004

Mike Delsey
Totten Sims Hubicki Associates
300 Water Street
Whitby, Ontario
L1N 9J2

Dear Mr. Delsey,

Re: New Burnhamthorpe (Regional Road 27) Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek, Class Environmental Assessment Study, Regional Road 25 to Ninth Line (Regional Road 13), Town of Oakville, MCL File 24RD031

A principal concern of this office is the adverse effects that undertakings such as the above mentioned might have on cultural heritage resources. If areas of heritage potential will be impacted by this project, then our office would recommend that a heritage assessment be conducted as part of the EA. If any significant heritage or archaeological resources are identified, then any negative impacts will have to be mitigated by either avoidance or excavation.

Consequently, our office would wish to continue to be involved in this project. In particular, it would be useful to be provided with detailed information and maps, outlining the extent and type of land disturbance anticipated and the extent of previous disturbance within the study area. With this information we will be able to determine what portions of the project, if any, may exhibit potential for impacting heritage resources, and thus would require an assessment to inventory all heritage resources present, and determine what mitigation, if any, may be required.

I trust that this is of assistance. Please do not hesitate to contact me if you require further information.

Sincerely,

Shari Prowse
Heritage Planner

cc. Edward Soldo, Transportation Services, Regional Municipality of Halton

engineers
architects
planners

Totten Sims Hubicki Associates
300 Water Street
Whitby, Ontario, Canada L1N 9J2
(905) 668-9363 Fax: (905) 668-0221
E-mail: tsh@tsh.ca www.tsh.ca

January 3, 2005

Ms. Shari Prowse
Heritage Planner
Heritage & Libraries Branch
Ministry of Culture
400 University Avenue, 4th Floor
Toronto, ON M7A 2R9

Dear Ms. Prowse:

Re: New Burnhamthorpe Road (Regional Road 27) Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek, Class Environmental Assessment Study Bronte Road (Regional Road 25) to Ninth Line (Regional Road 13), Town of Oakville TSH Project No. 42-80377

Thank you for your letter dated December 21, 2004 regarding the above-mentioned project. At this time, the Project Team is in the process of completing Phases 1 and 2 (Problem or Opportunity and Alternative Solutions) of the Class EA. During Phase 3 of the Class EA (Alternative Design Concepts), a heritage assessment will be completed by Unterman McPhail Associates. The results of this assessment will be used to assess and evaluate the potential impacts of the design alternatives to heritage resources.

Please find enclosed our preliminary inventory of cultural landscape units and built heritage resources within the Study Area that was completed by Unterman McPhail Associates in November 2004. Our complete heritage report will be forwarded to you at the next stage of the Study.

Your will remain on our Agency Contact List. Notices regarding Public Information Centres and the Notice of Study Completion will be forwarded to you over the course of the project.

If you have any further questions, please do not hesitate to contact me.

Yours very truly,

Mike Delsey, P.Eng.
Consultant Project Manager

MJD/cg
K:\PROJECTS\42-80___\80377 Burnhamthorpe\1-Correspondence\A\GENCY\2005-01-03 Ministry of Culture.doc

Encl.
pc: Edward Soldo, Region of Halton
Richard Unterman, Unterman McPhail Associates
File

TABLE 1: IDENTIFIED CULTURAL HERITAGE LANDSCAPES (CLU)

Site #	Feature type	Feature Category	Location/Description
1.	CLU	Agricultural land	Throughout study area comprising active and former farm complexes with fencerows, fence lines and treelines defining field patterns.
2.	CLU	Roadscape	Burnhamthorpe Road East and Burnhamthorpe Road West from Ninth Line to Regional Road 25.
3.	CLU	Farm Complex	No. 1288 Burnhamthorpe Rd. E., south side. Comprises a 19th century farmhouse, large barn and a modern farmhouse.
4.	CLU	Farm Complex	No. 1265 Burnhamthorpe Rd. E., north side. Comprises a 19th century farmhouse, large gambrel barn and frame outbuildings.
5.	CLU	Farm Complex	No. 1158 Burnhamthorpe Rd. E., south side. Comprises a 19th century farmhouse and gable barn. Listed on Oakville's Heritage Inventory, Rank 2, Bowbeer Property.
6.	CLU	Farm Complex	No. 1141 Burnhamthorpe Rd. E., north side. Comprises 19th century farmhouse, gambrel barn, concrete silo.
7.	CLU	Farm Complex	No. 1086 Burnhamthorpe Rd. E., south side. Comprises a 19th century farmhouse, barn, silo and outbuildings. Property designated under Part IV *OHA*.
8.	CLU	Former right-of-way	Eighth Line, north and south of Burnhamthorpe Rd. E. Closed, delineated in landscape by distinctive treelines and fencing.
9.	CLU	Roadscape	Eighth Line, open section extends north from Dundas St. W.
10.	CLU	Farm Complex	No. 3444 Trafalgar Road, west side. Comprises a 19th C. farmhouse, gambrel barn, and outbuildings. Listed on Town of Oakville Heritage Inventory, Rank 1, James Morrison Property.
11.	CLU	Farm Complex	No. 3437 Trafalgar Road, east side. Comprises a 19th century farmhouse, gable barn. Listed on Town of Oakville Heritage Inventory, Rank 2, with Clements Family.

TABLE 1: IDENTIFIED CULTURAL HERITAGE LANDSCAPES (CLU) (continued)

Site #	Feature type	Feature Category	Location/Description
12.	CLU	Farm Complex	No. 489 Burnhamthorpe Rd. E, north side. Comprises a 19th century farmhouse and barn to north behind house. Property designated under Part IV *OHA*.
13.	CLU	Farm Complex	No. 273 Burnhamthorpe Rd. E., north side. Comprises a 19th century farmhouse, 20th C. farmhouse, 20th century gambrel barn and farm outbuildings.
14.	CLU	Farm Complex	No. 191 Burnhamthorpe Rd. W., north side. Comprises a modern farmhouse with an older 19th century frame house behind, 10th century barn complex and outbuildings.
15.	CLU	Farm Complex	No. 4243 Sixth Line east side. Comprises a farmhouse, gambrel barn, outbuildings, silo. Documented for the Highway 407 West Extension (SLF Joint Venture, March 2001).
16.	CLU	Farm Complex	No. 3369 Sixth Line, east side. Comprises a 19th century dichromatic brick farmhouse, barn and outbuildings. Listed on Town of Oakville Heritage Inventory, Rank 2.
17.	CLU	Farm Complex	No. 160 Burnhamthorpe Rd. W., south side. Comprises a 19th century farmhouse (moved to site in 1930s), 20th century barn and various outbuildings.
18.	CLU	Farm Complex	No. 185 Burnhamthorpe Rd. W., north side. Comprises a restored 19th C. farmhouse, barn and outbuildings. Designated under Part IV of the *OHA*.
19.	CLU	Roadscape	Fourth Line, north and south of Burnhamthorpe Rd. West and north of Highway 407 to Lower Base Line Road.
20.	CLU	Farm Complex	No. 4278 Fourth Line, west side. Comprises a modern farmhouse and a gambrel barn set close to roadside.

TABLE 1: IDENTIFIED CULTURAL HERITAGE LANDSCAPES (CLU) (continued)

Site #	Feature type	Feature Category	Location/Description
21.	CLU	Farm Complex	No. 1354 Burnhamthorpe Rd. W., south side. Oakridge Equestrian Centre. Comprises a 19th century farmhouse, modern barn and older gambrel barn.
22.	CLU	Farm Complex	No. 2381 Burnhamthorpe Road West, north side. Comprises a 19th C. farmhouse and barn/stable complex.
23.	CLU	Farm Complex	No. 2483 Burnhamthorpe Road West, north side. Comprises an early 20th C. farmhouse and agricultural buildings.
24.	CLU	Historical Settlement	Munn's Corners, former crossroads settlement at Dundas Street and Sixth Line. Includes Munn's Church, residences on west side Sixth Line and north side of Dundas Street. W., some noted as BHFs.
25.	CLU	Farm Complex	No. 257 Dundas St. W., north side. Comprises 19th C. farmhouse, abandoned barn, silo and modern house off driveway (No. 271). Designated under Part IV *OHA*.
26.	CLU	Historical Settlement	Trafalgar, former crossroads settlement of at Dundas Street and Trafalgar Road including Nos. 3040 and 3048 listed on the Town of Oakville Heritage Inventory, both Rank 2.
27.	CLU	Farm Complex	No. 1297 Dundas St. W., north side. Comprises a 19th century farmhouse, gambrel barn with large modern addition and outbuildings.
28.	CLU	Farm Complex	No. 2403 Dundas Street W. Comprises farmhouse, barn and outbuildings.
29.	CLU	Historical Settlement	Palermo, mid 19th c. settlement of importance to Trafalgar Township history. Located at the Reg. Rd. 25 and Dundas Street West, it includes 19th and 20th century buildings, several of which have been listed or designated. Listed properties include: Nos. 2527 and 3015 Dundas Street W. and No. 3017 Bronte Road. Nos. 2507 and 2521 (Palermo Church) Dundas St. W. are designated under Part IV of *OHA*. Other associated heritage buildings listed or designated are found south of Dundas St. W. outside of the study area.

TABLE 1: IDENTIFIED CULTURAL HERITAGE LANDSCAPES (CLU) (continued)

Site #	Feature type	Feature Category	Location/Description
30.	CLU	Farm Complex	No. 3271 Dundas St. W. Comprises a modern and 19th C. farmhouse, gambrel barn and outbuildings.
31.	CLU	Farm Complex	No. 3367 Dundas Street W. Comprises *circa* 1900 red brick farmhouse, barn and outbuildings.
32.	CLU	Farm Complex	No. 3445 Dundas Street W. Comprises a late 19th C., red brick farmhouse, barn complex. Listed on Town of Oakville Inventory of Buildings, Group 2, James Van Sickle property.
33.	CLU	Farm Complex	No. 2410 Lower Base Line Road, south side at Regional Road 25. Comprises a 20th C. farmhouse and barn (datestone 1891).
34.	CLU	Lower Base Line Road	Between Regional Road 25 to Fourth Line. Scenic and winding and hilly rural gravel road, two-lane with narrow to no shoulders, grassy and deep ditches, treelines, hedgerows. Descends into two deep creek valleys and crosses watercourses on wooden deck bone bridges.
35.	CLU	Former Farm Complex	No. 2252 Lower Base Line Road, no number, south side. Building, possibly vacant, visible through trees on a high ridge. Set well back from road.
36.	CLU	Waterscape	Oakville Creek, Lower Base Line Road crosses the creek in two locations, both in scenic deep valleys. Wooden deck bridges cross the watercourses.
37.	CLU	Farm Complex	No. 1566 Lower Base Line Road, south side. Comprises an early 20th C. farmhouse and a gambrel barn. Listed on Town of Oakville Inventory of Buildings, Group 2, Robert Fox/Post family property.

TABLE 2: IDENTIFIED BUILT HERITAGE FEATURES (BHF)

Site #	Feature type	Feature Category	Location/Description
1.	BHF	Residence	No. 3480 Ninth Line, west side. 19th century 1 1/2 story, vernacular brick residence. Listed in Town of Oakville Heritage Inventory, Rank 2, Ephraim Post/F. M. Brown Farmhouse.
2.	BHF	Residence	No. 1536 Burnhamthorpe Rd. E., south side at corner of Ninth Line. Set close to road. Residence onsite of older schoolhouse.
3.	BHF	Residence	No. 1481 Burnhamthorpe Rd. E., north side. 19th century frame building known as "James Snider Farmhouse", designated under Part IV *OHA*. Location of former hamlet of Snider.
4.	BHF	Residence	No. 1187 Burnhamthorpe Rd. E., north side. 19th century frame vernacular house.
5.	BHF	Residence	No. 1055 Burnhamthorpe Road East, north side. 19th century frame residence. Listed in Town of Oakville Heritage Inventory, Rank 2, Fish House.
6.	BHF	Residence	No. 4233 Trafalgar Road, west side. 19th century frame residence. Not included on the Town of Oakville's Inventory List. Documented for Highway 407 West Extension (SLF Joint Venture, March 2001).
7.	BHF	Residence	No. 4182 Sixth Line, west side. Late 19th century brick residence. Not included on the Town of Oakville's Inventory List. Documented for Highway 407 West Extension (SLF Joint Venture, March 2001).
8.	BHF	Barn	No. 263 Burnhamthorpe Rd. E., north side.
9.	BHF	Residence	No. 4022 Fourth Line, west side. 19th century frame house.
10.	BHF	Residence	Fourth Line, no number, west side on Oakville Executive Golf Course. Vacant mid 19th C. vernacular Classical Revival house.
11.	BHF	Residence	No. 4279 Fourth Line, east side. Early 19th C. former farmhouse with hip roof.

TABLE 2: IDENTIFIED BUILT HERITAGE FEATURES (BHF) (continued)

Site #	Feature type	Feature Category	Location/Description
12.	BHF	Residence	No. 2346 Lower Base Line Road, south side. 19th C., side gable residence with clapboard siding.
13.	BHF	Residence	No. 1430 Lower Base Line Road on Oakville Executive Golf Course lands, south side. 19th C., vernacular gable house.
14.	BHF	Residence	No. 1495 Burnhamthorpe Rd. W., at end of road before Sixteen Mile Creek. 19th century log house. Listed in Town of Oakville Heritage Inventory, Rank 2, Slater [Slacer?] Log Cabin.
15.	BHF	Residence	No. 2282 Burnhamthorpe Road West, south side, at the end of Burnhamthorpe Road west of Highway 407.
16.	BHF	Residence	No. 3079 Neyagawa Blvd, east side. 19th century frame residence.
17.	BHF	Residence	No. 87 Dundas St. W., north side. 19th century frame house.
18.	BHF	Barn ruin	Barn foundation, north side Dundas St. west of Eighth Line.
19.	BHF	Residence	No. 41 Dundas St. E., north side. 19th century brick house. Associated with Munn's Corners. Listed on Town of Oakville's Heritage Inventory, Rank 2, William Perkins property.
20.	BHF	Church	No. 5 Dundas St. E., northeast corner of Sixth Line and Dundas Associated with Munn's Pioneer Cemetery on south side of Dundas St. Church designated under Part IV *OHA*.
21.	BHF	Residence	No. 3060 Sixth Line, west side. 19th century frame house. Associated with Munn's Corners.
22.	BHF	Residence	No. 21 Dundas St. W., north side. Early 20th century brick veneer house associated with Munn's Corners.
23.	BHF	Residence	No. 103 Dundas St. W., north side. *Circa* 1900 frame house. Associated with Munn's Corners.

TABLE 2: IDENTIFIED BUILT HERITAGE FEATURES (BHF) (continued)

Site #	Feature type	Feature Category	Location/Description
24.	BHF	Barn Foundation	Behind Nos. 103 and 113 Dundas St. W., north side.
25.	BHF	Residence	No. 237 Dundas St. W., north side. 19th century brick farmhouse. Listed on Town of Oakville's Heritage Inventory, Rank 1, Kaitting Property.
26.	BHF	Barn Ruin	Behind Nos. 393 and 399 Dundas St. W., north side. Foundation remnants of a barn.
27.	BHF	Residence	No. 2431 Dundas W. Former Schoolhouse S. S. No. 2, datestone of 1912. Listed on Town of Oakville Inventory of Buildings, Group 2.
28.	BHF	Residence	No. 2307 Dundas Street W., a vernacular mid 19th C. residence with Classical Revival detailing.
29.	BHF	Residence	No. 2135 Dundas Street W., vernacular one storey brick house, much altered, construction date undetermined, probably 40 years and older.
30.	BHF	Residence	No. 3040 Trafalgar Rd., west side. 19th century stucco house associated with historical settlement of Trafalgar. Listed on the Town of Oakville Heritage Inventory, Rank 2, Dr. J. A. Johnstone Property.
31.	BHF	Residence	No. 3048 Trafalgar Rd., west side. Late 19th century frame house associated with historical settlement of Trafalgar. Listed on the Town of Oakville Heritage Inventory, Rank 2, Dr. J. A. Johnstone Property.
32.	BHF	Barn ruin	Trafalgar Rd., east side, north of Dundas St. Gambrel roof.
33.	BHF	Residence	No. 3371 Trafalgar Rd. east side, behind modern bungalow. 19th century frame house, abandoned. Listed on Town of Oakville Inventory, Rank 1, Matthew Clements Property.
34.	BHF	Residence	Trafalgar Rd. north of No. 3437 in a field. Abandoned frame residence. Probably moved to site.

Sin 301

FILE

engineers
architects
planners

Totten Sims Hubicki Associates
300 Water Street
Whitby, Ontario, Canada L1N 9J2
(905) 668-9363 Fax: (905) 668-0221
E-mail: tsh@tsh.ca www.tsh.ca

February 24, 2005

Mr. Enzo Greco
Mapping Team Lead
Union Gas
360 Strathearne Avenue North
Oakville, ON L8N 3A5

Dear Mr. Greco:

Re: New Burnhamthorpe Road (Regional Road 27) Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek
TSH Project No. 42-80377

Thank you very much for returning the "fax back form" for the above mentioned project. I appreciate you identifying that Union Gas does have major plan in the vicinity of the Study Area.

Attached are both a hard copy and digital copy of our EA Study Area drawing. Please provide mark-ups of your services for use as the study proceeds.

Yours very truly,

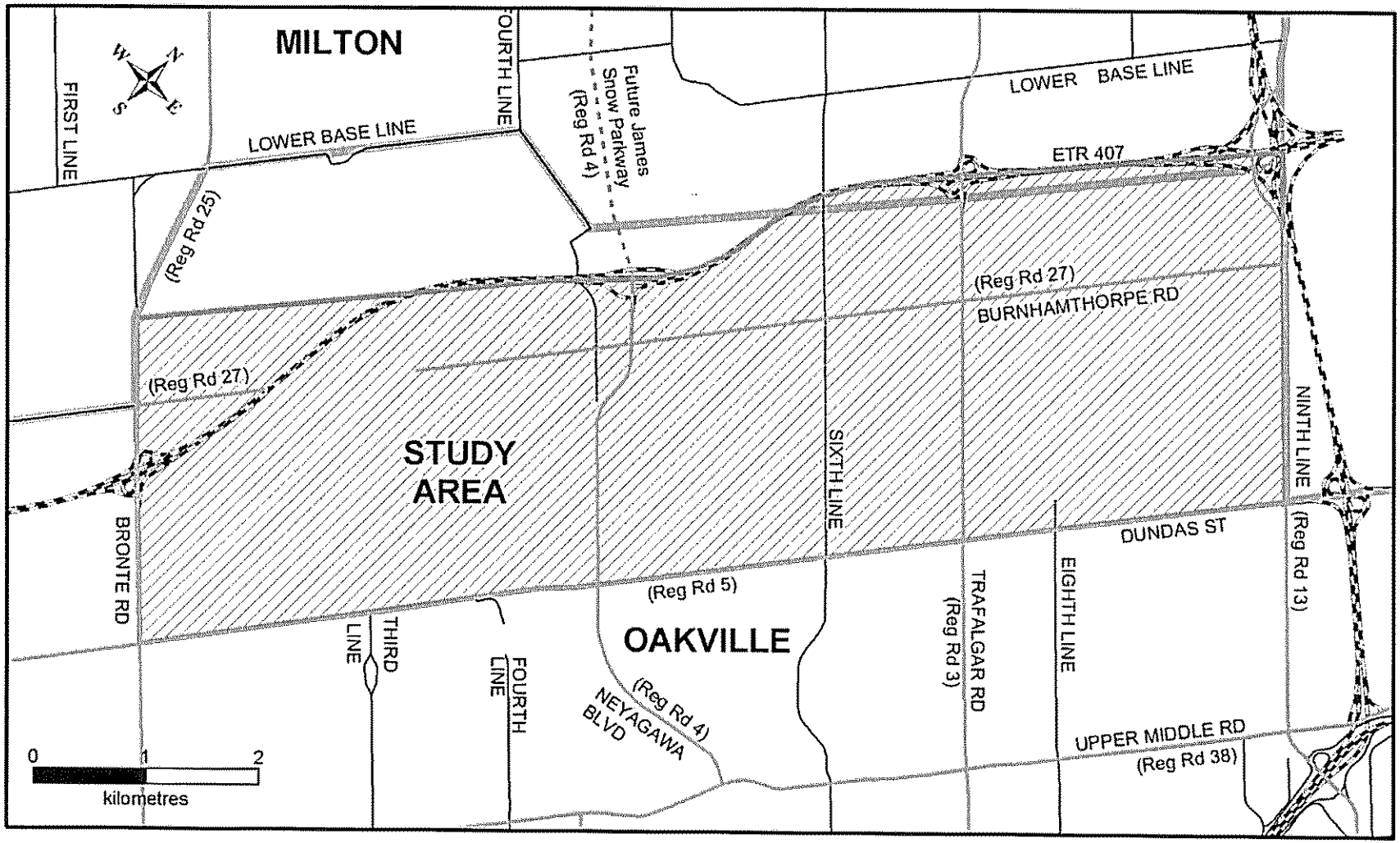
TSH

Colleen Goodchild, B.E.S.
Environmental Planning Co-ordinator

cg
K:\PROJECTS\42-80___\80377 Burnhamthorpe\1-Correspondence\AGENCY\2005-02-24 Union Gas.doc

Att: Study Area map
Study Area map on CD

pc:


MILTON
FIRST LINE
LOWER BASE LINE
FOURTH LINE
Future James Snow Parkway (Reg Rd 4)
LOWER BASE LINE
ETR 407
(Reg Rd 25)
(Reg Rd 27)
BURNHAMTHORPE RD
(Reg Rd 27)
STUDY AREA
SIXTH LINE
NINTH LINE
BRONTE RD
DUNDAS ST
(Reg Rd 13)
(Reg Rd 5)
OAKVILLE
THIRD LINE
FOURTH LINE
(Reg Rd 4)
NEYAGAWA BLVD
TRAFALGAR RD (Reg Rd 3)
EIGHTH LINE
UPPER MIDDLE RD (Reg Rd 38)
0
1
2
kilometres

Ministry of Health and Long-Term Care

Ministère de la Santé et des Soins de longue durée

Ontario

Infectious Diseases Branch
8th Floor, 5700 Yonge Street
Toronto ON M2M 4K5

Direction de la lutte contre les maladies infectieuses
5700, rue Yonge, 8e étage
Toronto ON M2M 4K5

Telephone/Téléphone: (416) 326-1474
Facsimile/Télécopieur: (416) 327-0984
e-mail: paul.mccue@moh.gov.on.ca

June 2, 2005

Mr. Edward Soldo, P. Eng.
Manager, Transportation Services
Regional Municipality of Halton
1151 Bronte Road
Oakville ON L6M 3L1

Dear Mr. Soldo:

Re: New Burnhamthorpe Road (Regional Road 27) transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek, Town of Oakville

Thank you for your letter and report with regard to the above Environmental Assessment (EA).

Although, the Public Health Division is interested in the public health aspects of this EA and wishes to be kept informed of any further developments; we recommend that you request input from the local Medical Officer of Health for the health unit in which the EA is located. Your request should be directed to:

Dr. Robert Nosal
Medical Officer of Health
Halton Region Health Department
1151 Bronte Road
Oakville ON L6M 3L1
Telephone: (905) 825 –6060, ext. 7806

We appreciate you taking the time to bring these EA to our attention.

Yours truly,

Paul W. McCue, C.P.H.I.(C)
Senior Public Health Inspector
Environmental Health and Toxicology,
Food Safety and Safe Water Unit

c: Dr. Robert Nosal, Medical Officer of Health, Halton Region Health Department

P05-00604

Transport Canada
Marine

Transports Canada
Maritime

100 S. Front Street
Sarnia, Ontario
N7T 2M4

Your file Votre référence

Our file Notre référence
8200-13-1

June 27, 2005

Regional Municipality of Halton
1151 Bronte Road
Oakville, ON
L6M 3L1

Attention: Edward Soldo, P.Eng

Dear Sir:

Re: New Burnhamthorpe Road (Regional Road 27) Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek, Town of Oakville

Reference is made to correspondence received May 31, 2005 relating to the aforementioned proposed works.

Please note this department is responsible for the administration of the Navigable Waters Protection Act, which prohibits the construction or placement of any "works" in navigable waters without first obtaining approval from this office. Enclosed is an application Guide which will assist you in making an application under the Navigable Waters Protection Act.

You are advised that no construction shall take place without approval under the Act.

Should you have any further questions, please contact this office at (519) 383-1866.

Yours truly,

Suzanne Shea

Suzanne Shea
A/Navigable Waters Protection Officer
Navigable Waters Protection

SS/jd

Encl.

Ontario

Ministry of
Natural Resources

Ministère des
Richesses naturelles

Aurora District Office
50 Bloomington Road W
Aurora, Ontario
L4G 3G8

August 5, 2005

Mike Delsey P.Eng.
Consultant Project Manager
TSH Engineers, Architects, and Planners
300 Water Street
Whitby, ON
L1N 9J2

Edward Soldo P.Eng
Manager Transportation Services
Regional Municipality of Halton
1151 Bronte Road
Oakville, ON
L6M 3L1

Re: New Burnhamthorpe Road Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek Class Environmental Assessment Study

At the conclusion of the last TAC meeting for the Burnhamthorpe Road EA held at the Halton Region offices, committee members were requested to provide comments on the three potential routes for a proposed bridge crossing of the Sixteen Mike Creek Valley. As stated during the meeting, MNR is opposed to any proposed route / alignment that crosses Sixteen Mile Creek valley through the mid portion of the ANSI. Notwithstanding the narrowness of the valley at that location, and possible associated engineering advantages for bridge construction, this alignment would bisect the ANSI causing maximum fragmentation of the area. This would be contrary to the protection and maintenance of the priority conservation values for this ANSI which includes its large size and interior forest conditions and function. In addition, a road alignment crossing the mid portion of the ANSI would be inconsistent with the core protection status assigned to this area as part of the ongoing North Oakville Natural Heritage System planning process.

MNR will to continue to participate in discussions evaluating the other two potential alignments for the road and bridge (i.e. the existing Burnhamthorpe Road alignment and the proposed alignment between Burnhamthorpe and the 407). MNR advises that the evaluation criteria for any proposed alignment and design will need to include; impacts on interior forest function, regional corridor function for wildlife passage, fisheries issues, in-stream timing windows, valley access for construction and restoration, and impacts on adjacent tablelands.

MNR also advises that at the appropriate time, there will need to be some level of coordination or harmonization between the North Oakville planning process and the Burnhamthorpe EA team. One of the main issues to be addressed is the evaluation of alternative bridge and road alignments in relation to planned core protection areas and linkages as part of the North Oakville Natural Heritage System.

I trust these comments are of assistance to you at this time.

Sincerely,

John Pisapio
Biologist
Ministry of Natural Resources
Aurora District
(905) 713 - 7387

Ontario Realty Corporation
Société immobilière de l'Ontario

Ferguson Block
Queen's Park
Toronto, Ontario
M7A 2G3
Tel: 416-327-3797

Edifice Ferguson
Queen's Park
Toronto, Ontario
M7A 2G3
Fax: 416-212-1131

BY MAIL

September 1, 2005

Mr. Edward Soldo
Manager, Transportation Services
Regional Municipality of Halton
1151 Bronte Road
Oakville, Ontario
L6M 3L1

RE: Ontario Realty Corporation Comments on Class EA Study for Burnhamthorpe Road Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek

With respect to the Region of Halton's Class EA Study for the aforementioned transportation undertaking, Ontario Realty Corporation (ORC) would like to provide some comments for consideration and inclusion in your EA project file.

For your information, 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.

Potential Negative Impacts to ORC Tenants and Lands

Our preliminary review of your notice and supporting information indicates that ORC managed lands are present in your study area. As a result, your proposal may have the potential to impact these lands and/or the activities of tenants present on ORC managed lands. Attached please see maps identifying ORC managed lands within your study area to assist you in identifying and avoiding potential impacts.

Negative environmental impacts associated with the project design and construction, such as the potential for dewatering, dust, noise 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 MNR and 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.

Negative impacts to land holdings, such as 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.

Cultural Heritage Issues

If proposed alternatives may impact cultural heritage features on ORC managed lands, we would request that the examination of cultural heritage features be enhanced to include issues such as cultural landscapes and places of sacred and secular value.

Potential Triggers Related to ORC's Class EA

The ORC Class Environmental Assessment (ORC Class EA) applies to a range of realty and planning activities that may be triggered as part of environmental assessment (EA) undertakings. The range of activities includes leasing or letting, planning approvals, selling, demolition and property maintenance/repair, all of which could be triggered if an EA undertaking involves land takings or work on ORC managed lands. If the potential to trigger the ORC Class EA is present as part of this undertaking you should contact ORC's General Manager of Environment and Heritage to discuss these issues at the earliest possible stage of your study. For details on the ORC Class EA please visit the Environment and Heritage page of our website found at http://www.orc.gov.on.ca/english/environmental.html. If the ORC Class EA is triggered consideration should be given to explicitly referring to the ORC's undertaking in your EA study.

Specific Comments

It is ORC's understanding that there have been several opportunities for participation in the Municipal Class EA process, including several meetings of the Technical Agencies Group and the Stakeholder Group, as well as one Public Information Centre meeting. It is also our understanding that several transportation improvement alternatives have been considered, but that the focus is now on the Burnhamthorpe Road alternative and developing/assessing location and design options for said alternative. We would like to participate in the development of these options, particularly as the provincial government has made a commitment to protect 750 acres of land located in the Oakville Land Assembly as green space. In addition, depending on the options that are selected, there may be opportunities for future connection to those parcels within the Land Assembly (approximately 262 acres) that ORC has tentatively decided to market. As well, ORC owns other lands within the study area that are outside of the Land Assembly and may be potentially affected by improvements to Burnhamthorpe Road.

Concluding Comments

The proposed Burnhamthorpe Road transportation corridor alternative is of particular interest to ORC as it could potentially affect provincially owned lands in the vicinity, in particular, the Oakville Land Assembly. Now that the preferred solution has been identified and work towards identifying a preferred location and design have commenced, ORC would request permission to become an active participant as part of the Technical Agencies Group. If this were agreeable to the Region, we would request notification of any future meetings of this group so that we may attend and provide input into the EA process.

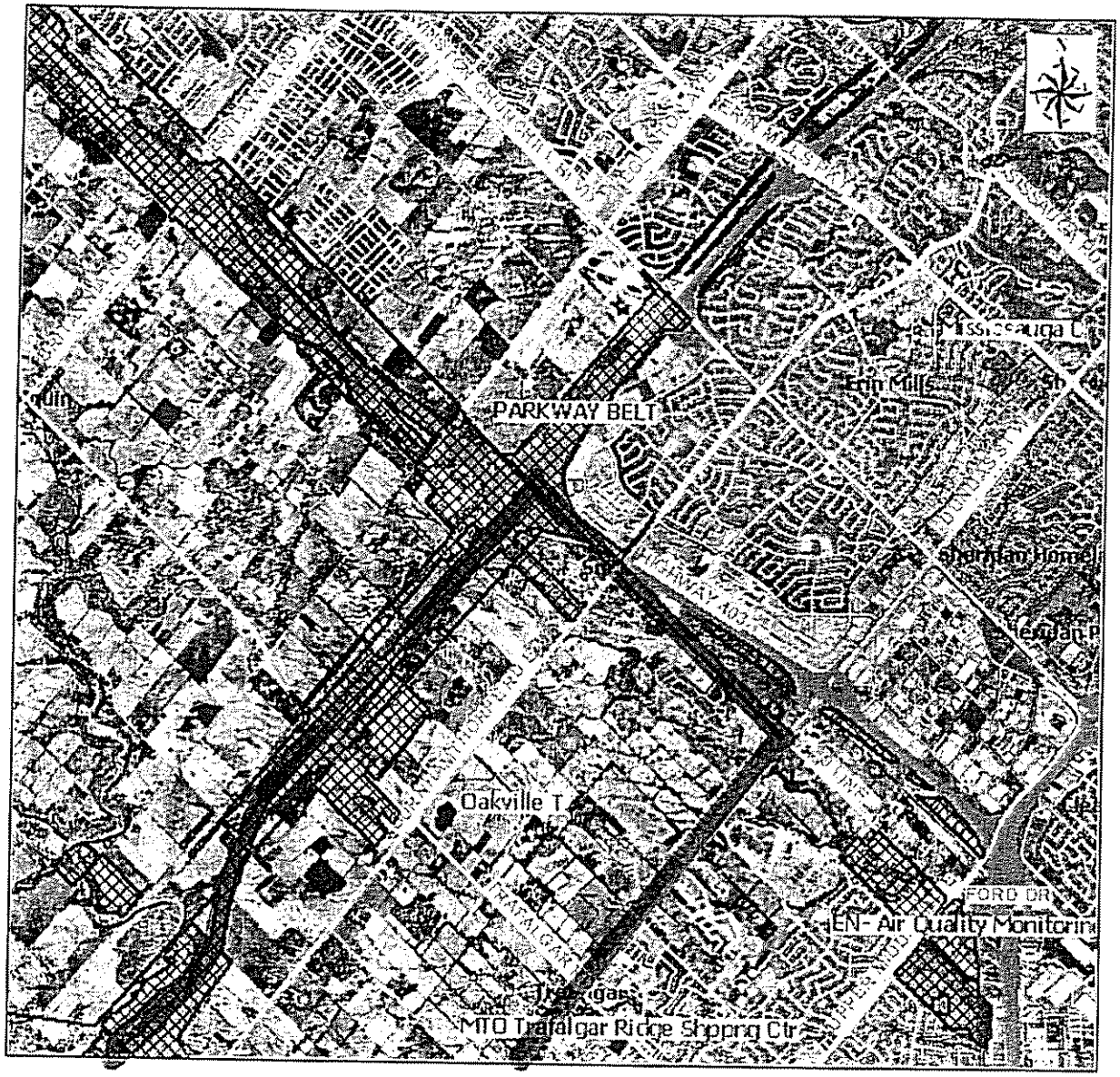
Thank you for the opportunity to provide comments on this undertaking, and should you have any questions on the above I can be reached at (416) 327-3797 or by e-mail at Michael.Coakley@orc.gov.on.ca.

Sincerely,

Michael Coakley

Michael Coakley, MCIP, RPP
Senior Planner, Planning Services
Asset Review Section
Portfolio Strategy and Asset Management Department

CC: Anton Pojasak General Manager, Environment and Heritage Services, ORC
John MacKenzie, General Manager, Planning Services, ORC



Map L

- Property Name Lal
- Buildings
  - ☐ Leased
  - ☐ Owned
  - ☐ Unknown
- ☑ Properties
- Major Road and Hi
- Major Roads and H
  - Expressways
  - Principal Highway
  - Secondary Highw
  - Major Roads
- Lower Tier Municip
- ☐ LowerTier Municia
- Place Name Labels
- Medium Resolutior
- Medium Resolutior
- OBM 1017
- Water

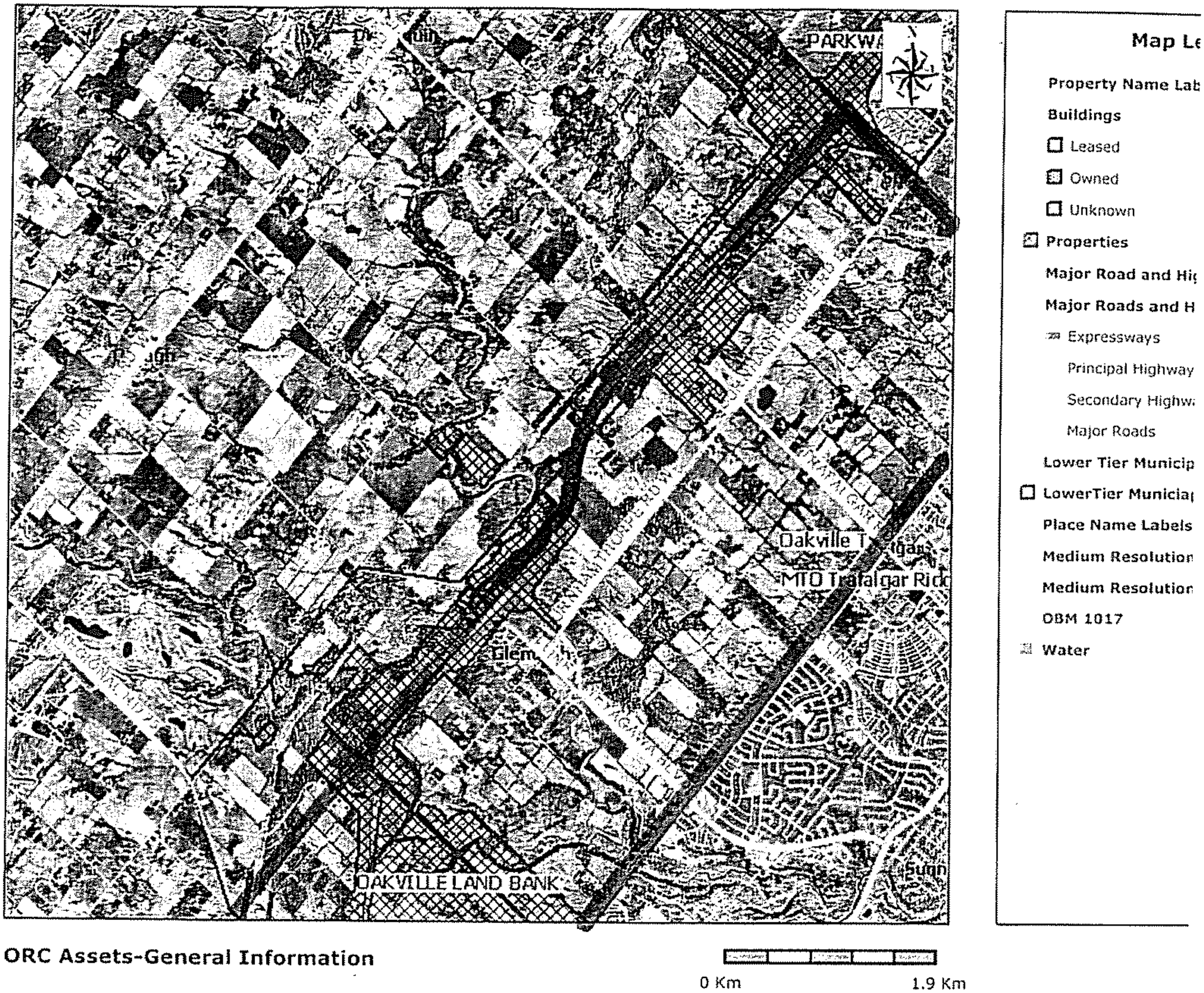
ORC Assets-General Information

0 Km 1.9 Km

Date: 9/1/2005 3:20:03 PM

For discussion purposes only.

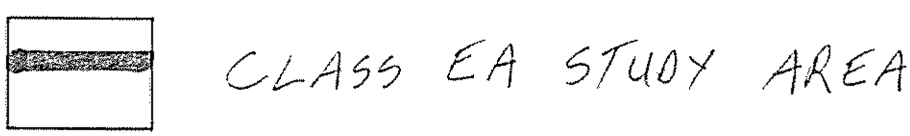
CLASS EA STUDY AREA

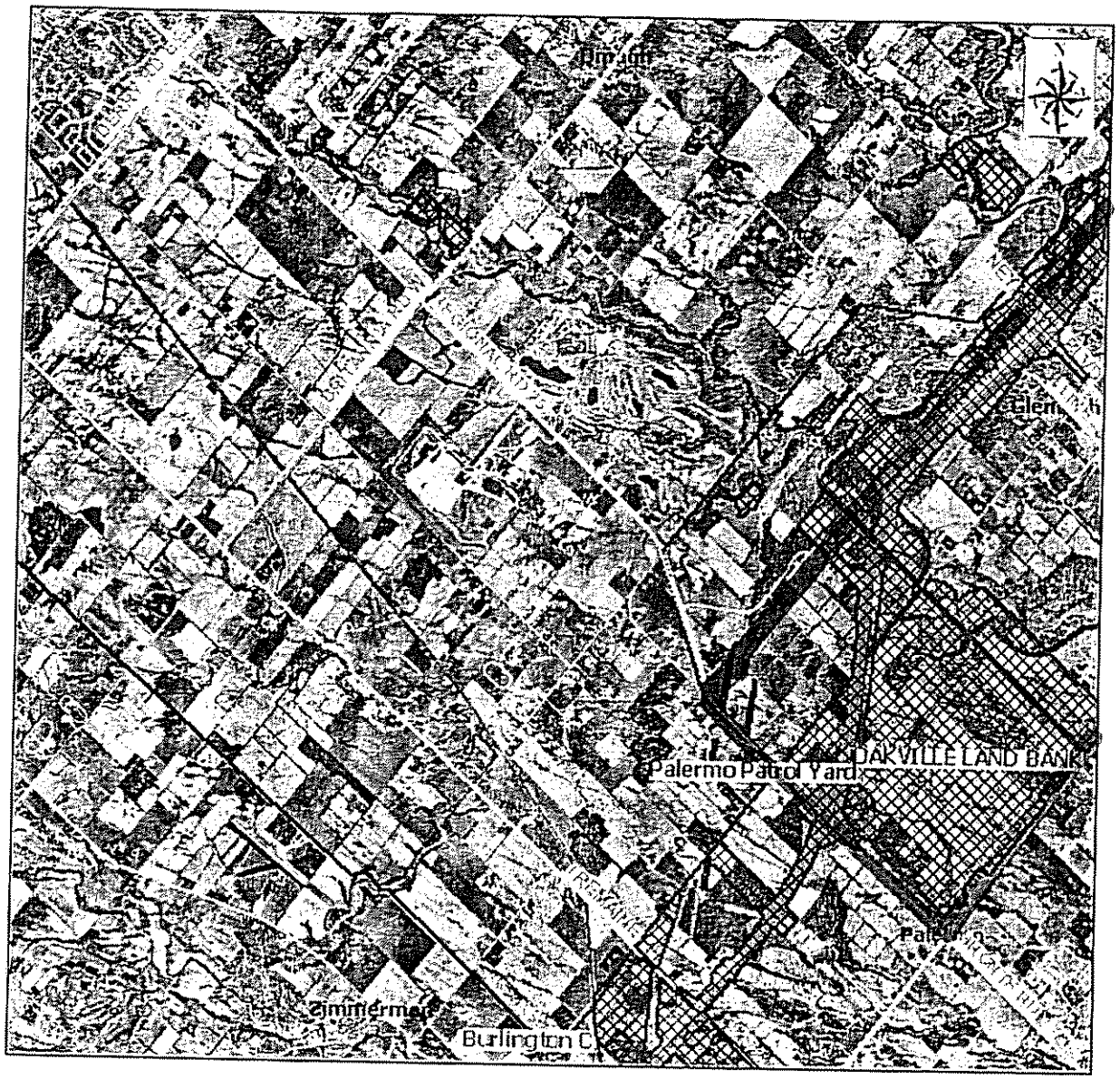


ORC Assets-General Information

Date: 9/1/2005 3:20:51 PM

For discussion purposes only.





Map I

- Property Name La
- Buildings
- Leased
- Owned
- Unknown
- Properties
- Major Road and H
- Major Roads and I
- Expressways
- Principal Highwa
- Secondary Highv
- Major Roads
- Lower Tier Munici
- LowerTier Municia
- Place Name Label
- Medium Resolutio
- Medium Resolutio
- OBM 1017
- Water

ORC Assets-General Information

0 Km 1.9 Km

Date: 9/1/2005 3:21:20 PM

For discussion purposes only.

CLASS EA STUDY AREA

engineers
architects
planners

Project:	New Burnhamthorpe Road Transportation Corridor and Potential Future Bridge Crossing of 16 Mile Creek Class Environmental Assessment
TSH No.	42-80377
Meeting Date:	Thursday December 15, 2005
Meeting Time:	2:00 p.m. to 3:15 p.m.
Report Date:	Wednesday December 21, 2005
Recorder:	Brenda Jamieson
Page 1 of 4	

EXTERNAL AGENCY MEETING

Note: If any of the contents of this meeting report differ in any respect from your own recollection of the points discussed or decisions reached, please notify us immediately. In the meantime, we will proceed in accordance with the understanding described herein.

LOCATION: Town of Oakville – Oakville Room

PRESENT:

Peter Cheatley	Town of Oakville
Rob Thun	Town of Oakville
Dave Bloomer	Town of Oakville
Bob Edmondson	Conservation Halton
Jennifer Lawrence	Conservation Halton
Darryl Lyons	Ministry of Municipal Affairs and Housing
Tibor Szekely	Ministry of Transportation
Craig White	407ETR
John MacKenzie	Ontario Realty Corporation
Michael Coakley	Ontario Realty Corporation
Adam Carr	Ontario Realty Corporation
Liz Howson	Macaulay Shiomi Howson
Claudio Covelli	Dillon
Jane Clohecy	Halton Region
Doug Corbett	Halton Region
Edward Soldo	Halton Region
Chris Duyvestyn	Halton Region
Christen Audet	Gartner Lee Limited
Mike Delsey	TSH
Brenda Jamieson	TSH

PURPOSE: To provide an update on the status of the project and to review the short-listed route alternatives and discuss issues to be resolved to confirm the viability of the short-listed route alternatives

Action By

1.0 Project Overview

Mike Delsey provided an overview of the study activities to date and presented the short list of route alternatives, the 16 Mile Creek crossing alternatives and bridge options, and the issues requiring resolution, specifically the Highway 407/Transitway crossing and the ORC Land Assembly and Green Space Protection Area. — Info

Action By

2.0 Short List of Route Alternatives

The short-list of route alternatives was reviewed. The following comments were noted:

- The proposed right-of-way width for the new Burnhamthorpe Road corridor will be 38 to 42 m. — Info
- The new Burnhamthorpe Road corridor will serve planned urban development in North Oakville. The Region has plans to extend Neyagawa Boulevard north of Highway 407. — Info
- The Highway 407 right-of-way width is 100-120 m and a 60 m right-of-way width is proposed for the 407 Transitway corridor to protect for a future rail facility. It was noted that a narrower right-of-way width (as low as 30 m) has been carried through the York Region area due to property constraints. — Info
- The objective of the 407 Transitway Functional Planning Study is to protect the corridor for a future transit facility not to design the facility. The initial service will likely consist of buses on a dedicated roadway, with consideration being given to the implementation of a rail facility in the future. The study is nearly complete. The final report is not yet available for distribution. — Info
- The feasibility of shifting the new Burnhamthorpe Road crossing at 16 Mile Creek into the Highway 407 or 407 Transitway corridors was discussed, with the following points noted: — Info
  - MTO sold the Highway 407 facility to 407ETR but retained the ownership of the lands. The land has been leased to 407ETR.
  - MTO has some rights regarding the operation and maintenance of Highway 407 but 407ETR has the majority of the control. The Legal Agreement dictates who has what responsibilities. MTO and 407ETR to review the agreement and determine any issues that would need to be addressed. — MTO/ 407ETR
  - No development is permitted within the Highway 407 controlled access corridor. Even shifting the transitway crossing to the north, in close proximity to the 407 structures, would require the limits of the controlled access corridor to be redefined which would require approval by the Provincial Legislature.
  - MTO is prepared to consider the two additional crossings of 16 Mile Creek (i.e. the transitway crossing and the new Burnhamthorpe Road crossing) situated in close proximity to the 407 crossing location. However, concept design drawings would need to be submitted to the Ministry's Corridor Control Section for review, demonstrating that the proposed design would not disturb Highway 407 operations or preclude the 407 Transitway. Grading and drainage requirements for each facility would also need to be addressed. Given the fact that alternate route alignments are being considered and recognizing the potential challenges associated with co-location of the structures for the three facilities, the preparation of concept drawings for Ministry review at this time is considered premature, particularly if the 407 crossing location is not identified as the preferred route through the assessment and evaluation process.

	Action By
• ORC advised that the footprint of the ORC Green Space lands has not changed since the government's announcement in November 2004.	Info
• ORC advised that the Green Space lands must be protected. They are in the process of resolving who will manage the Green Space lands and how the lands will be managed. They hope to have this resolved early in the new year. ORC currently has no policy positions on linear corridors through the ORC lands.	Info
• The Class EA Study currently being undertaken by ORC pertains to the disposal of lands adjacent to the Dundas Street corridor. It was noted that the lands to be disposed of will likely be designated as employment lands and disposal will be through a tendered process. Access to the lands would likely be via the new Burnhamthorpe corridor since opportunities to provide direct access to the lands from Dundas Street will be limited. The Region requested that they be added to ORC's contact/circulation list for the study.	ORC
• Conservation Halton advised that the mid-point crossing of 16 Mile Creek is the least desirable due to the impacts on the natural environment. There are less concerns with the south crossing given the previously disturbed nature of the area and the reduced impacts on the ORC lands.	Info
• The south crossing of 16 Mile Creek impacts the cemetery lands on the east side of 16 Mile Creek (i.e. planned expansion area at the north end of the site). TSH will contact Chris Mark, Director of Parks for the Town of Oakville, to discuss future plans for the cemetery and the potential impacts associated with the south route alignment alternative.	TSH
• Conservation Halton advised that they have reviewed the detailed work plan submitted for the environmental field work. Their comments will be available shortly.	Cons. Halton
• A minimum separation of 400 m is required between the new Burnhamthorpe Road crossing and the 407 Interchange ramp terminal intersections on Bronte Road. A maintenance yard is also planned in the vicinity of the Bronte Road Interchange.	Info
• The potential Burnhamthorpe Road connection to Bronte Road between the Highway 407 northbound on-ramp and Dundas Street has been located to line up with a potential future roadway to the west of Bronte Road. The proposed location avoids the identified woodlot and sensitive areas.	Info
• MNR was unable to attend the meeting but they advised Halton Region that their preference is for the new route to cross 16 Mile Creek either in the vicinity of Highway 407 or at the south crossing location.	Info

3.0 Next Steps / Planned Meetings

Next steps will include finalizing the short list of alternatives to present to stakeholders and undertaking the assessment and evaluation of the short listed alternatives.	Info
A meeting has been scheduled with stakeholders for late January 2006.	Info

	Action By
The next PIC for the project will be scheduled for the Spring of 2006.	Info
The study is scheduled to be completed in the Fall of 2006.	Info

END OF MEETING REPORT

Distribution: Attendees

K:\PROJECTS\42-80___\80377 Burnhamthorpe\1-Correspondence\Minutes\Minutes Mtg Dec15-05_final.doc

New Burnhamthorpe (Regional Road 27)

Transportation Corridor and Potential Future Bridge Crossing of Sixteen Mile Creek

Class EA

Meeting with External Agencies

December 15, 2005

Halton
a World Class Place To Be

engineers
architects
planners

Agenda Overview

- Project Status Report
- Issues To Be Resolved
- Next Steps

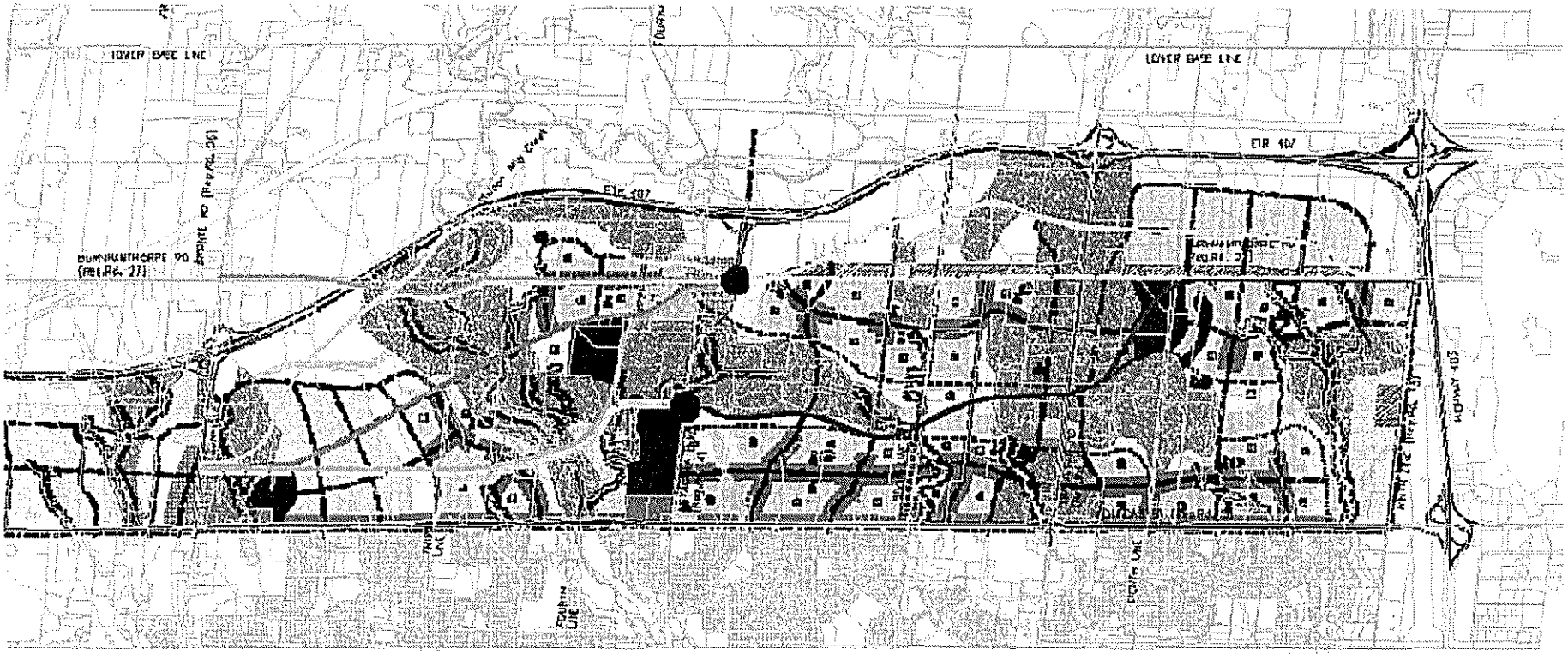
Halton
A World Class Place To Be

engineers
architects
planners

Study Activities to Date

- Completed Phases 1 and 2 of Class EA, confirming need for a four lane Burnhamthorpe Road corridor from 9th Line to Bronte Road, including a new crossing of 16 Mile Creek
- Developed Long List of Route Alternatives in consultation with agencies and stakeholders
- Screened Long List to obtain Short List for more detailed review

Short List of Alternatives
Context – North Oakville Secondary Plan



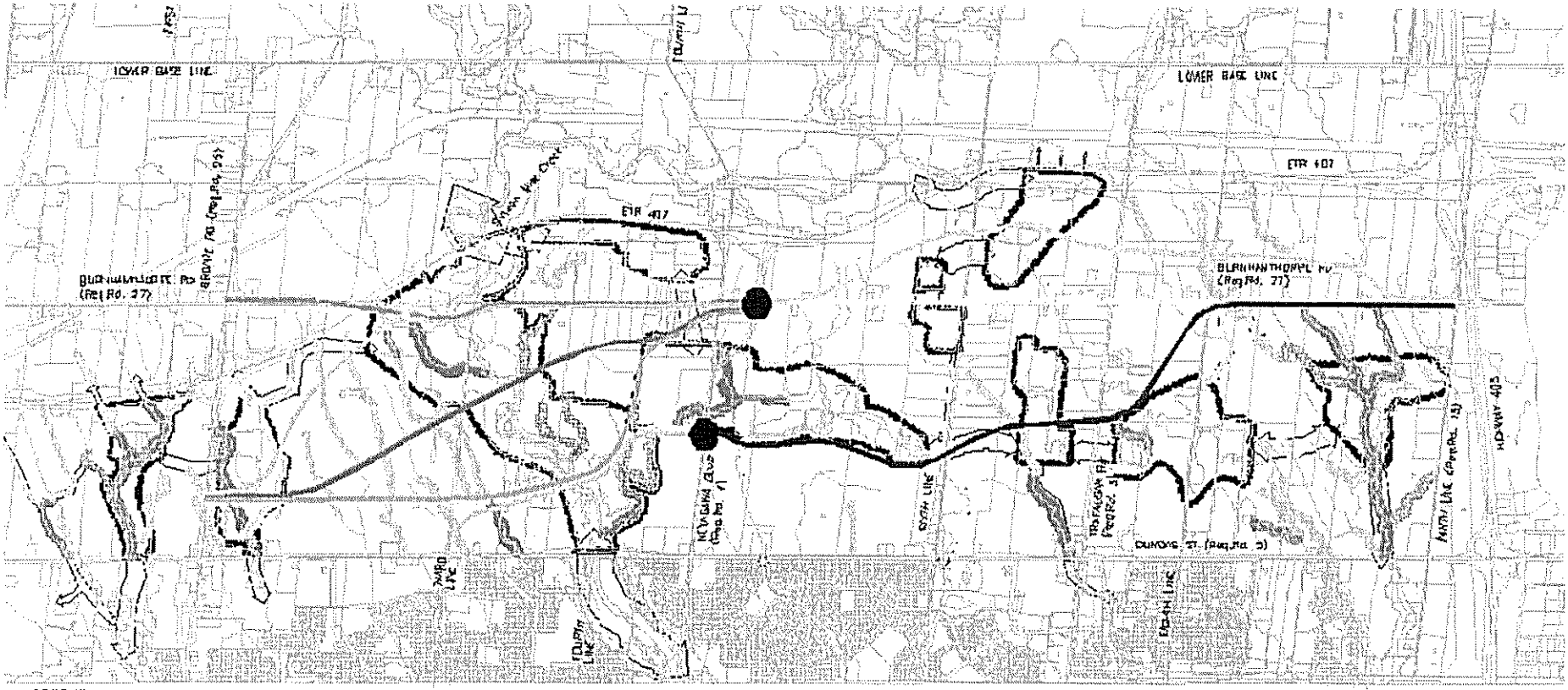
LEGEND

BRONTE ROAD TO NEYAGAWA BOULEVARD	NEYAGAWA BOULEVARD TO NINTH LINE
ALTERNATIVE W1	ALTERNATIVE E1
ALTERNATIVE W2	ALTERNATIVE E2
ALTERNATIVE W3	ALTERNATIVE E3
ALTERNATIVE W4	
ALTERNATIVE W5	
ALTERNATIVE W6	
ALTERNATIVE W7	
LINK W2-W6	

SOURCE: LAND USE PLAN-NORTH OAKVILLE SECONDARY PLAN

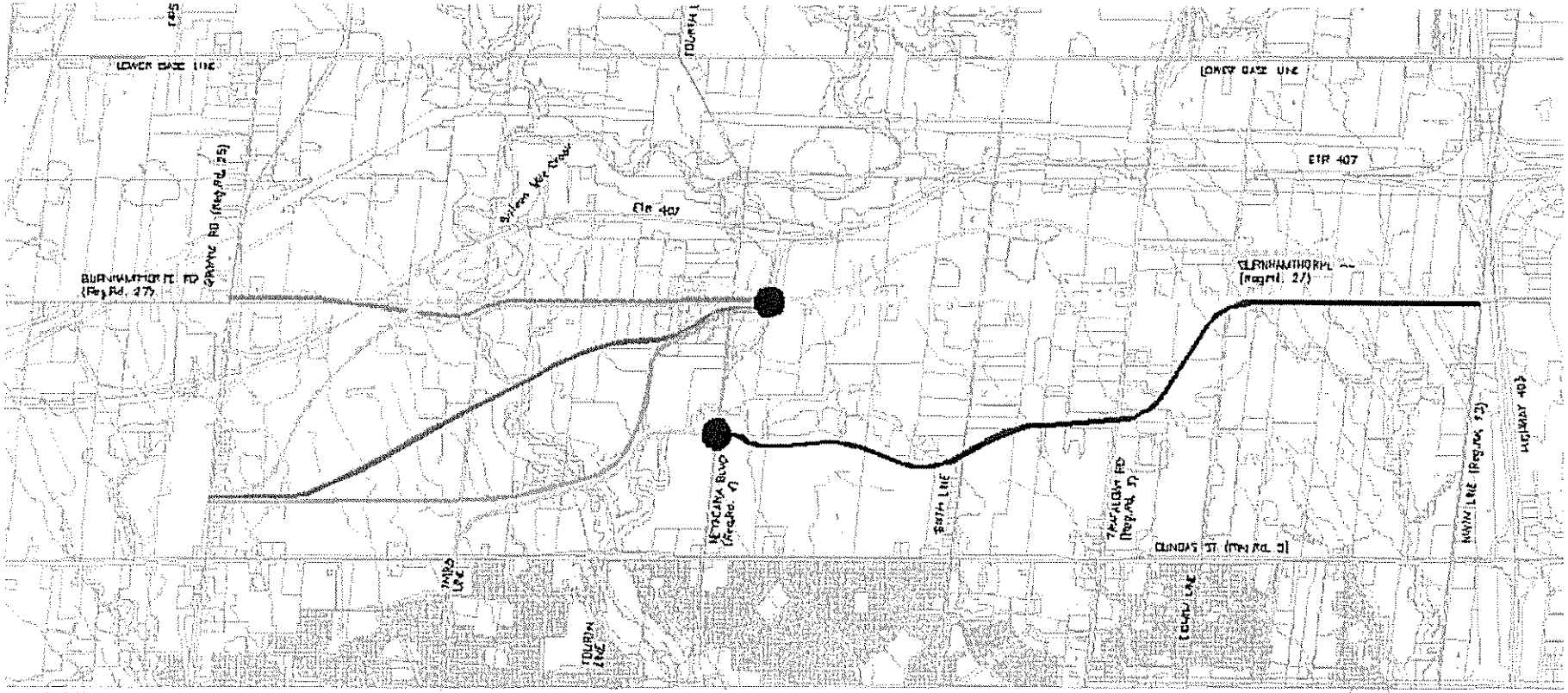
Short List Alternatives

Context – Subwatershed Study



List of Route Alternatives

Context - Green Space Protection

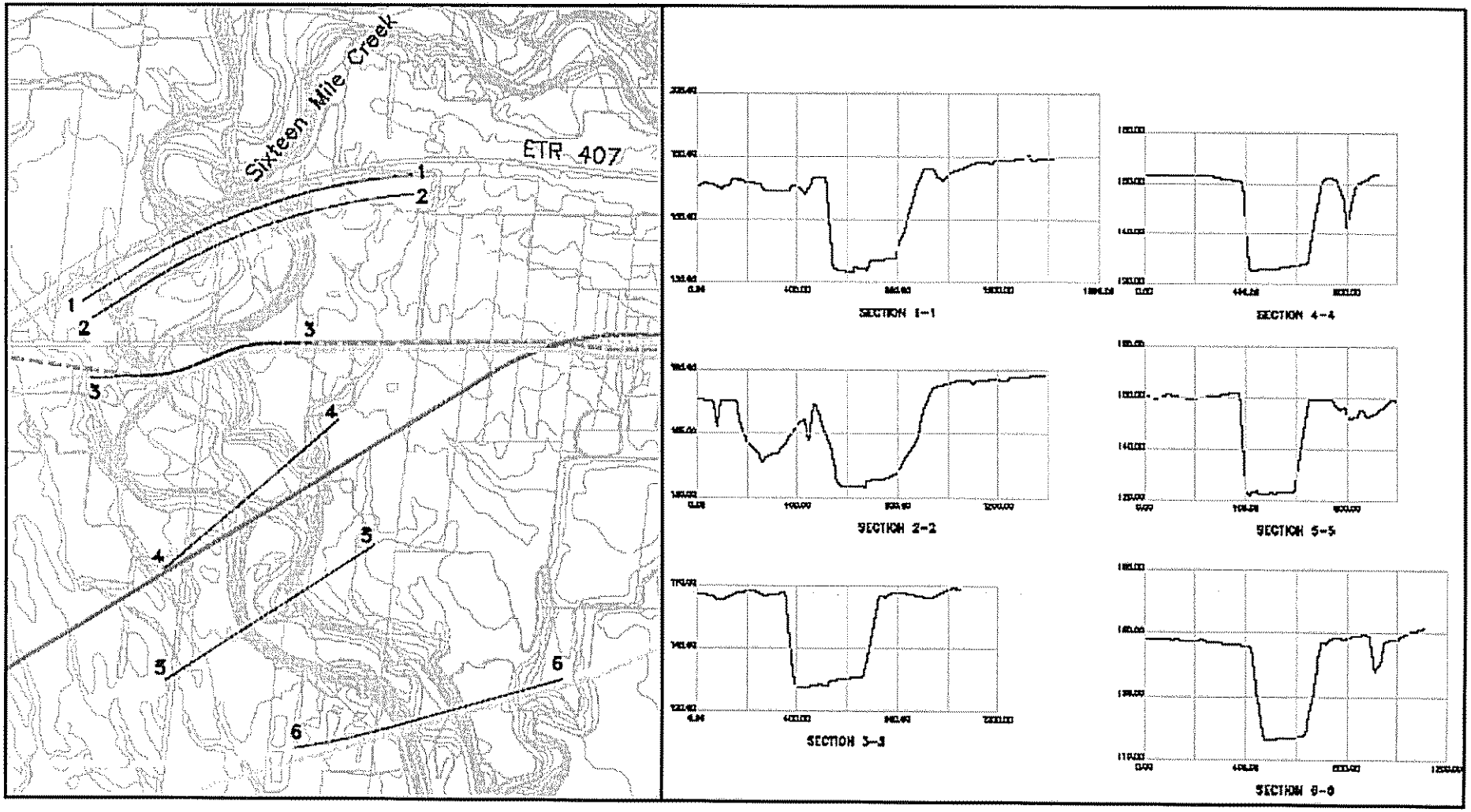


LEGEND

GREENTE ROAD TO NEYAGAWA BOULEVARD	NEYAGAWA BOULEVARD TO NINTH LINE
ALTERNATIVE W1	ALTERNATIVE E1
ALTERNATIVE W2	ALTERNATIVE E2
ALTERNATIVE W3	ALTERNATIVE E3
ALTERNATIVE W4	
ALTERNATIVE W5	
ALTERNATIVE W6	
ALTERNATIVE W7	
LINK W2–W6	

SOURCE: TOWNPRINT SF ORC LANDS-MNR NOVEMBER 5, 2004

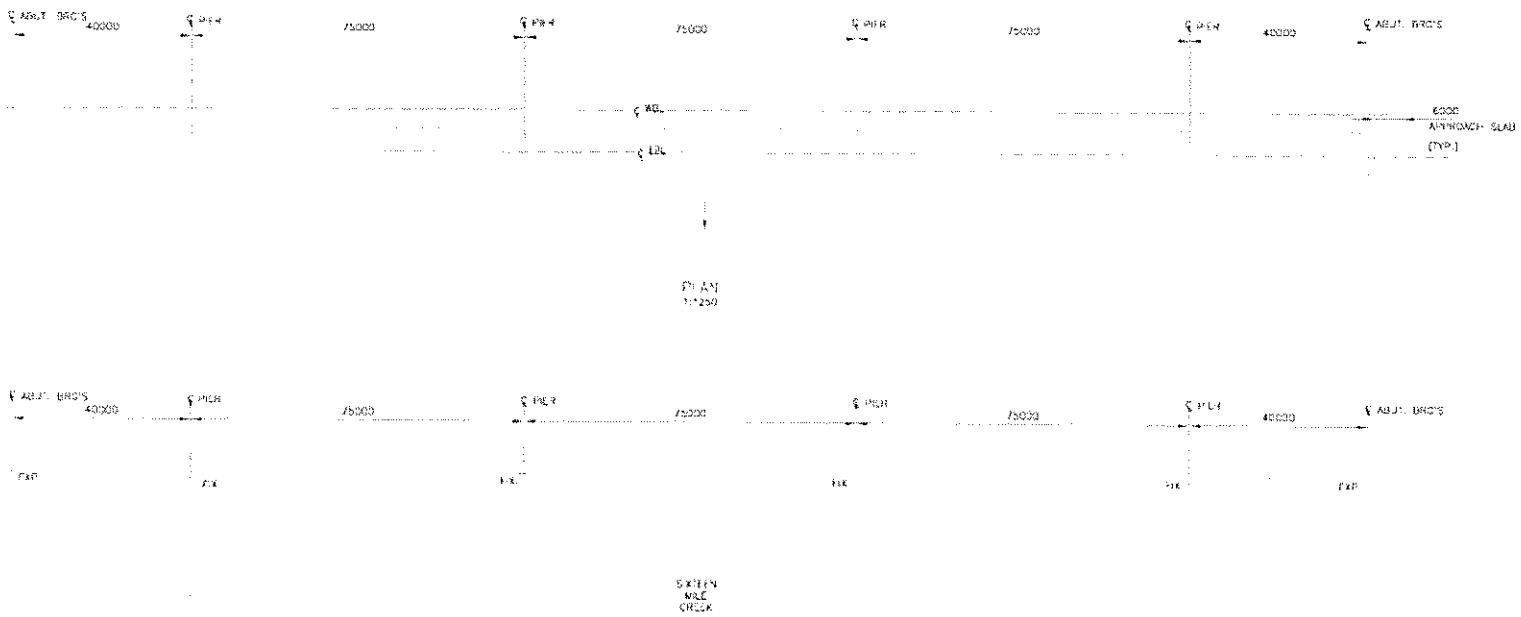
16 Mile Creek Crossing Alternatives



Bridge Options

- Crossing spans range from 300m to 800m, depending on location.
- Different bridge options were identified for both 300m and 500m crossing lengths to determine feasibility:
  - Conventional Girder Bridge
    - Similar to 407 bridge type at creek crossing
    - 4 to 6 piers in valley
  - Cable Stayed
    - 2 towers in valley
    - 40% higher cost than conventional bridge
  - Suspension
    - no in-valley work
    - Twice the cost of conventional bridge

Typical Bridge Arrangement Plans
300m Span

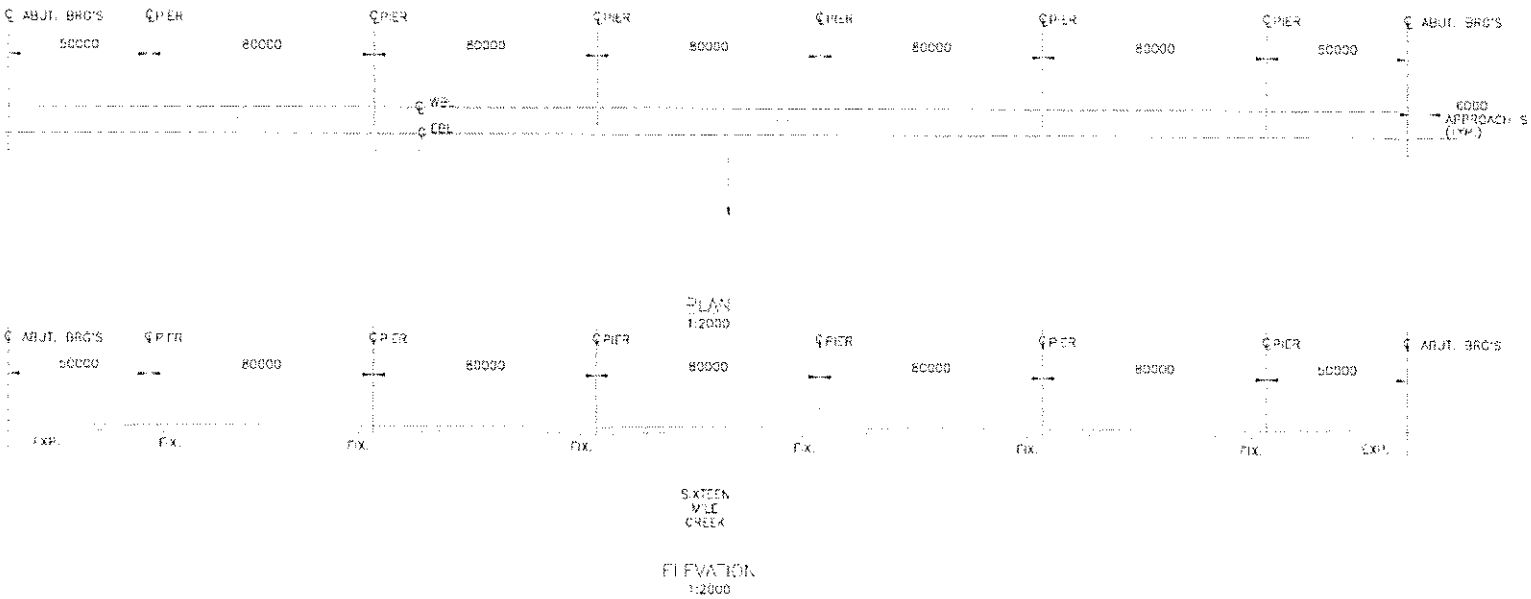


ALTERNATIVE 1 - 5 SPAN 300m LONG

Halton
a World Class Place To Be

TSH
engineers
architects
planners

Typical Bridge Arrangement Plans
500m Span



ALTERNATIVE 2 – 7 SPAN 500m LONG

Halton
A World Class Place To Be

TSH
engineers
architects
planners

Issues

- Need to confirm viability of route alternatives at agency level prior to reviewing with stakeholders and public. If not considered viable, a route should be screened out.
- What are determinants of viability?
  - Cost – Long span Creek crossings not financially viable
  - 407/Transitway - Unless Burnhamthorpe Road bridge can be co-located with 407/transitway bridges to reduce crossing span, then this crossing location not viable
  - Green Space – Are any alternatives considered unacceptable in context of Green Space lands?

Hwy 407/Transitway Crossing

- Context:
  - Located at disturbed area of creek valley
  - Stated preference of MNR, NOMI and other stakeholders
  - Bridge location south of 60 m transitway corridor requires a span of 800 m – not financially viable
  - 400+ m span possible if all bridges coincident

Halton
A World Class Place To Be

TSH
engineers
architects
planners

ORC Land Assembly and Green Space Protection Area

- Context:
  - Definition of Green Space area ongoing
  - ORC Class EA initiated for disposal of excess lands
  - Constraints/opportunities for linear transportation corridor

Questions/Discussion Items

- 407/Transitway
  - Will MTO & 407 consider a shared ROW to co-locate bridges?
  - Is a grade separation of 407 west of 16 Mile Creek acceptable?

- Green Space Protection
  - What are opportunities for new road corridor through Green Space lands?
  - How to provide access to ORC excess lands to maximize utility/value?

- Other

Next Steps

- Finalize Short List of Alternatives
- Finalize Assessment and Evaluation of Short List
- Select Recommended Route Alternative for further review and input from Stakeholders and the Public

Halton
a World Class Place To Be

TSH
engineers
architects
planners

CONSERVATION HALTON
celebrating 50 YEARS
PROTECTING THE NATURAL ENVIRONMENT FROM LAKE TO ESCARPMENT

December 20, 2005

Mr. Edward Soldo
Region of Halton
1151 Bronte Road
Oakville, ON
L6M 3L1

Dear Mr. Soldo:

Re: Burnhamthorpe Road Transportation Corridor
Environmental Assessment
Region of Halton
Conservation Halton File: MPR 337

Staff of Conservation Halton have reviewed the memorandum entitled "Detailed Ecological Study Plan for the Sixteen Mile Creek Valleyland", November 16, 2005, prepared by Gartner Lee and offer the following comments:

Section 1

Second paragraph, staff note that the Sixteen Mile Creek valleyland is an Environmentally *Sensitive* Area.

Section 2.1

Staff also suggest using:

- Sixteen Mile Creek Watershed Study Document
- 1991 Ecological Services Planning Study on 403 Corridor
- Halton Region ESA Consolidation Report, Halton Region and North-South Environmental, 2005
- Region of Halton Wastewater Treatment Plant Reports (station at Lower Baseline Road)
- Halton Natural Areas Inventory (once the report has been completed)

With respect to significant species, staff recommend that this component also include nationally significant species. Butternut, a federally a provincially endangered tree, was noted within the ESA (in the draft Halton NAI) however staff are unsure of the exact location. The presence of this tree may trigger CEAA

requirements for a cumulative impact assessment. Staff have previously advised of this and it has been documented in the July 29, 2005 meeting minutes. Staff recommend Environment Canada be contacted for further information.

Section 2.2

Breeding Amphibians

- Staff recommend three visits, rather than two. The first visit would be early-late April, the second early-late May and the third early-late June.

Breeding Birds

- Staff recommend this be revised to read "Surveys will occur two times during spring (May 24-July 10) during appropriate time and weather conditions, at crossings of short list of alternative routes..". Staff assume that a centre point count will be utilized . If so, staff recommend that the survey take place as close to the potential right of way as possible.

Vegetation Communities

- Staff question what is the rationale for 100 metres. Please provide clarification.

Vegetation Species

- Similarly, staff question the rationale for 30 metres.

Fish Community Inventory

- Staff suggest additional spawning surveys should occur in the fall and spring to document spawning habitat for species including but not limited to rainbow trout, pacific salmon, brown trout, large mouth and small mouth bass.

- Given the size of the creek, backpack electrofishing is often ineffective. Staff suggest additional seine netting or other means of fish capture should be considered.

- Please include ALL documentation of the OSAP protocol including original field sheets. In many cases, it is our experience that these studies utilize modified versions of the protocol rendering them incompatible with the original OSAP database.

- Please ensure a photo inventory is included in the fisheries assessment.

- The habitat assessment should also include an instream habitat mapping exercise detailing pools riffles, groundwater discharge, fluvial analysis, riparian vegetation and other instream and adjacent habitat features in each of the proposed crossing areas.

- Please consider stormwater management in the review.

Staff question what inventories will be done for reptiles, salamanders, odonates, butterflies, mammals (especially with regard to movement corridors for the mammals)? Eastern milk snake (a federal and provincial species at risk is known to be within the ESA. Is there any possibility of hibernacula, or other specialized wildlife habitat as per the Ministry of Natural Resources Significant Wildlife Habitat Technical Guide?

Staff request that the field work be recorded in a table as shown below:

Date	Time/Duration	Staff	Reason for Visit	Weather	Area Covered	Comments

Section 2.4.1

- Fifth bullet, please add "special concern" after "rare".

Section 2.4.2

- Third bullet, please add "species and" after "significant flora".
- Fourth bullet, please add "special concern" after "rare".
- Staff request the following additional items in this section: Significant Wildlife Habitat; Significant Woodlands; Significant Valleylands; and, Diversity, Connectivity, Long-Term Ecological Function.

Table, Page 6

- Please add additional field study days for spawning surveys based on comments above
- Please clarify that "1 visit" for fish and aquatic habitat assessment will cover the field work for 4 potential crossing sites. It is our experience that sampling utilizing the complete OSAP protocol for a site may take between half to a full day per site.
- Fish sampling could be moved to early summer in addition to fall to identify and potentially capture species that are utilizing the creek during spring flows.
- Staff assume that the numbers in the chart represent the number of visits per site under consideration for the crossing. Please confirm.
- Please revise chart as per the comments on Section 2.2.

We trust the above is of assistance. If you require additional information please contact the undersigned at extension 266.

Yours truly,

Jennifer Lawrence
Coordinator, Environmental Planning

cc: Mr. Mike Delsey, TSH, fax: 1-905-668-0221

jl/c:\jensplanning\ea\halton\burnhamthorpe road\comments on ecological study plan.doc

Ontario Realty Corporation
Société immobilière de l'Ontario

Ferguson Block
Queen's Park
Toronto, Ontario
M7A 2G3
Tel: 416-212-6456

Edifice Ferguson
Queen's Park
Toronto, Ontario
M7A 2G3
Fax: 416-212-1131

June 27, 2006

To Mike Delsey and Edward Soldo,

RE: ORC Initial Comments on Class EA for New North Oakville Transportation Corridor and Crossing of the Sixteen Mile Creek – Town of Oakville

Thank you for circulating Ontario Realty Corporation (ORC) on your notice related to your environmental assessment undertaking.

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.

We are writing to provide you with the following initial comments for consideration and inclusion in your EA project file.

Potential Negative Impacts to ORC Tenants and Lands

Our preliminary review of your notice and supporting information indicates that ORC managed lands are present in your study area. As a result, your proposal may have the potential to impact these lands and/or the activities of tenants present on ORC managed lands. Attached please see a map that identifies ORC managed lands within your study area to assist you in identifying and avoiding potential impacts.

Negative environmental impacts associated with the project design and construction, such as the potential for dust, noise 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 MNR and 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.

Negative impacts to land holdings, such as 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.

Cultural Heritage Issues

If proposed alternatives may impact cultural heritage features on ORC managed lands, we would request that the examination of cultural heritage features be enhanced to include issues such as cultural landscapes, archaeology and places of sacred and secular value.

Potential Triggers Related to ORC's Class EA

The ORC Class Environmental Assessment (ORC Class EA) applies to a range of realty and planning activities that may be triggered as part of environmental assessment (EA) undertakings. The range of activities includes leasing or letting, planning approvals, selling, demolition and property maintenance/repair, all of which could be triggered if an EA undertaking involves land takings or work on ORC managed lands. If the potential to trigger the ORC Class EA is present as part of this undertaking you should contact ORC's General Manager of Environment and Heritage to discuss these issues at the earliest possible stage of your study. For details on the ORC Class EA please visit the Environment and Heritage page of our website found at http://www.orc.on.ca/Page133.aspx. If the ORC Class EA is triggered consideration should be given to explicitly referring to the ORC's undertaking in your EA study.

Specific Comments

Please see attached map. The property marked in red is ORC managed land. The property marked in brown with orange icons is Hydro land also managed by ORC. Significant ORC properties in your study area include the Oakville Land Bank and the Parkway Belt. Should any proposed transportation improvements impact these parcels ORC requests further circulation and involvement with the EA process. Should sale or easement of ORC land be required, ORC has due diligence requirements that should be coordinated with your EA efforts.

Concluding Comments

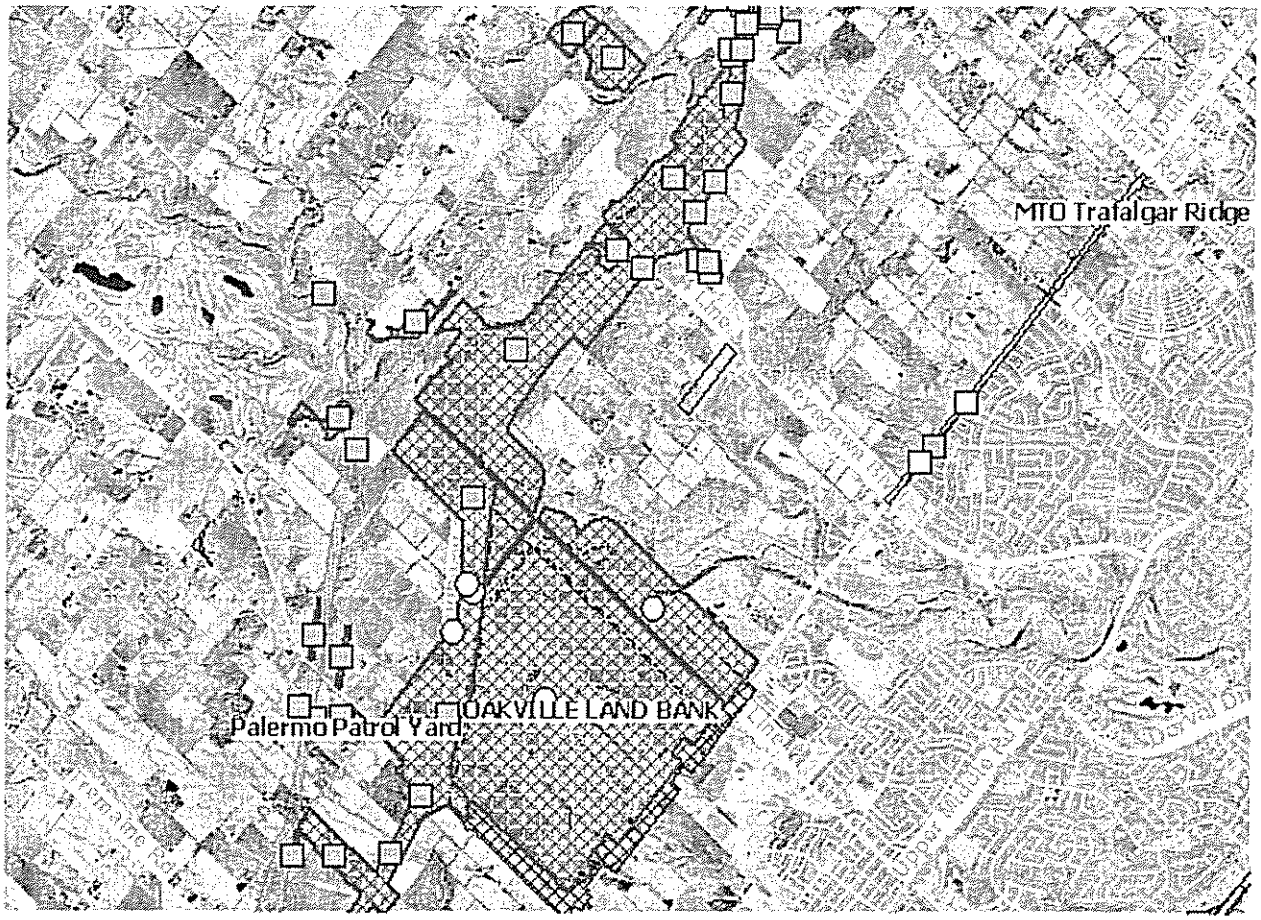
Thank you for the opportunity to provide initial comments on this undertaking. If you have any questions on the above I can be reached at 519-837-6379 or by email at alan.sawyer@orc.gov.on.ca.

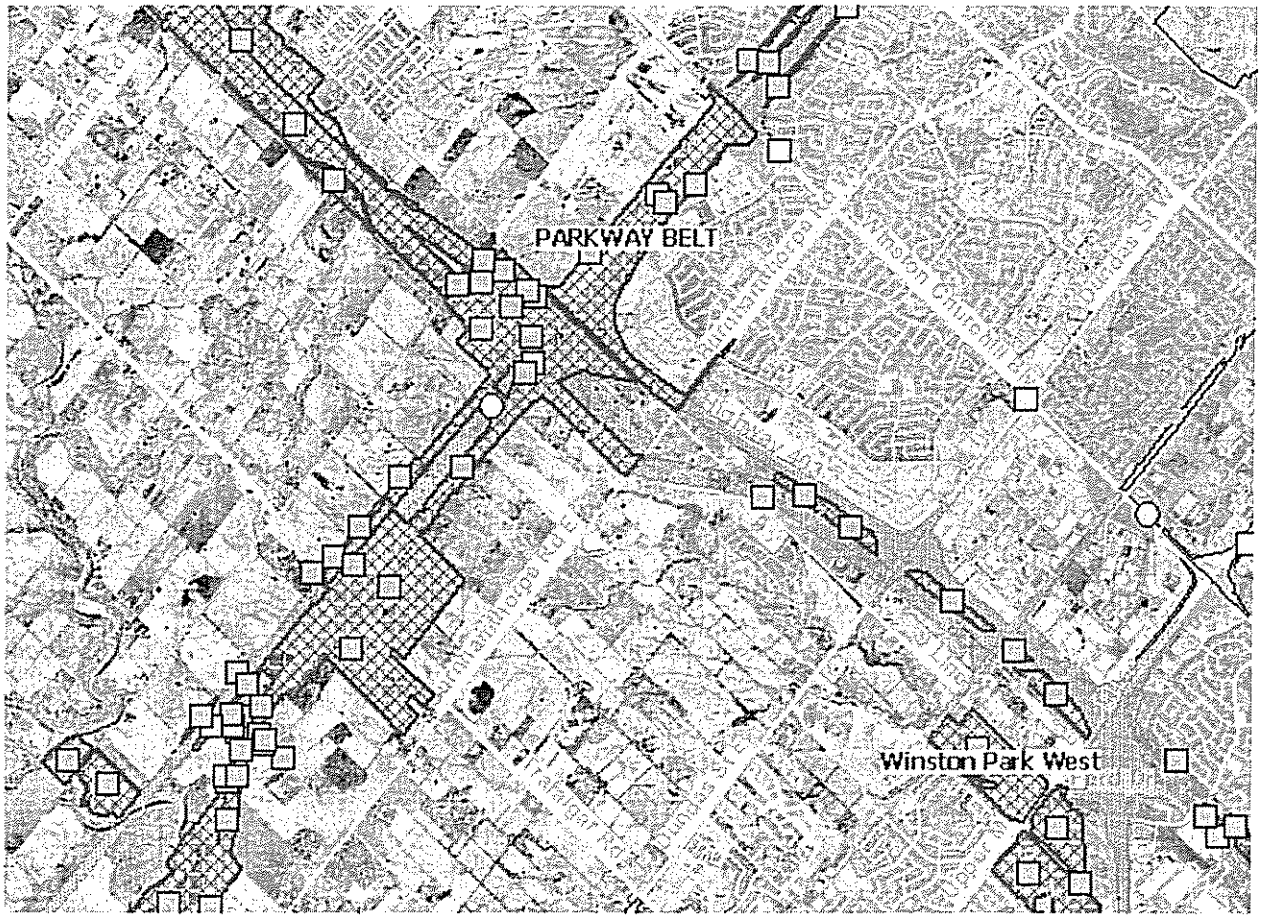
Sincerely,

A. Sawyer

Alan Sawyer, B.Sc.(Env.)
Environmental Assessment Facilitator
Portfolio Strategy and Asset Management Department
Ontario Realty Corporation

Appendix 1


MTO Trafalgar Ridge
OAKVILLE LAND BANK
Palermo Patrol Yard


PARKWAY BELT
Winston Park West

THE REGIONAL MUNICIPALITY OF HALTON
1151 BRONTE ROAD
OAKVILLE, ONTARIO, CANADA L6M 3L1

PLANNING & PUBLIC WORKS DEPARTMENT
PLANNING AND TRANSPORTATION SERVICES
Tel: 905-825-6000 Fax: 905-825-8822
Toll free: 1-866-4HALTON (1-866-442-5866)

January 31, 2007

Alan Sawyer, B.Sc. (Env.)
Environmental Assessment Facilitator
Portfolio Strategy and Asset Management Department
Ontario Realty Corporation
Ferguson Block
Queen's Park
Toronto, Ontario
M7A 2G3

Dear Mr. Sawyer

Re: New North Oakville Transportation Corridor and Crossing of the Sixteen Mile Creek Class Environmental Assessment, Town of Oakville

---

The Region is in receipt of your letter dated June 27, 2006 with respect to the above noted study. The Region apologizes for the delay in responding to your organization's comments/concerns. The issues and concerns identified in your letter are presented in the format and order contained in your letter followed by the Region's response to each issue.

Comment:

Potential Negative Impacts to ORC Tenants and Lands

Our preliminary review of your notice and supporting information indicates that ORC managed lands are present in your study area. As a result, your proposal may have the potential to impact these lands and/or the activities of tenants present on ORC managed lands. Attached please see a map that identifies ORC managed lands within your study area to assist you in identifying and avoiding potential impacts.

Negative environmental impacts associated with the project design and construction, such as the potential for dust, noise 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 MNR and 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.

Negative impacts to land holdings, such as 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.

Response:
Through the course of the Region's consultation to date we have held numerous meetings with agencies, stakeholders and the public. Staff from ORC attended technical agency meetings on two occasions: December 21, 2005 (Mr. John McKenzie, Mr. Michael Coakley and Mr. Adam Carr) and January 26, 2006 (Mr. Michael Coakley). At these meetings alternative solutions and route planning alternatives were presented and discussed in the context of the ORC managed lands.

The technically preferred route for a New North Oakville Transportation Corridor is illustrated in the attached plan. The route passes through ORC managed lands that are part of the current Class EA for disposal of ORC lands adjacent to the Dundas Street corridor (288 hectares) as well as lands that are planned to be retained in public ownership as Green Space. The route assessment process rigorously examined numerous corridors through the North Oakville Secondary Plan Area and the preferred corridor represents the best balance of impact avoidance and mitigation opportunities.

The evaluation and assessment of impacts to natural heritage features/habitat and functions, and the potential for dust, noise vibration impacts were taken into consideration during the assessment of alternative solutions and route alternatives. The assessment documentation is being refined during preparation of the Environmental Study Report and your comments will be addressed through that process.

Comment:
Cultural Heritage Issues
If proposed alternatives may impact cultural heritage features on ORC managed lands, we would request that the examination of cultural heritage features be enhanced to include issues such as cultural landscapes, archaeology and places of sacred and secular value.

Response:
The Class EA for this Study included an assessment of cultural heritage features by the projects sub-consultant, Unterman McPhail Associates. Existing cultural heritage features within the Study Area were identified and assessed in the evaluation of route alternatives. The assessment documentation is being refined during preparation of the Environmental Study Report and your comments will be addressed through that process.

Comment:
Potential Triggers Related to ORC's Class EA
The ORC Class Environmental Assessment (ORC Class EA) applies to a range of realty and planning activities that may be triggered as part of environmental assessment (EA) undertakings. The range of activities includes leasing or letting, planning approvals, selling, demolition and property maintenance/repair, all of which could be triggered if an EA undertaking involves land takings or work on ORC managed lands. If the potential to trigger the ORC Class EA is present as part of this undertaking you should contact ORC's General Manager of Environment and Heritage to discuss these issues at the earliest possible stage of your study. For details on the

ORC Class EA please visit the Environment and Heritage page of our website found at http://www.orc.on.ca/Page133.aspx. If the ORC Class EA is triggered consideration should be given to explicitly referring to the ORC's undertaking in your EA study.

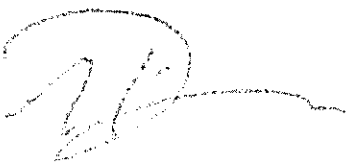
Response:
Based on our study recommendations to date, we would expect to trigger the ORC Class EA through our undertaking. Reference to the ORC's undertaking would therefore be explicitly referenced in our EA documentation. The Region will contact ORC's General Manager of Environment and Heritage to discuss.

Comment:
Specific Comments
Please see attached map. The property marked in red is ORC managed land. The property marked in brown with orange icons is Hydro land also managed by ORC. Significant ORC properties in your study area include the Oakville Land Bank and the Parkway Belt. Should any proposed transportation improvements impact these parcels ORC requests further circulation and involvement with the EA process. Should sale or easement of ORC land be required, ORC has due diligence requirements that should be coordinated with your EA efforts.

Response:
Property impacts were considered in the assessment of alternative solutions and route alternatives. ORC managed lands will be affected by the preferred design as noted above.

The Region appreciates the comments and concerns recorded in your letter and we would be pleased to meet with appropriate staff from ORC to discuss these matters further. If you have any further questions, please do not hesitate to contact the undersigned at 905-825-6000, ext. 7632 or nick.zervos@halton.ca.

Yours very truly,



Nick Zervos
Acting Manager of Transportation Services

cc: M. Delsey, TSH

Ministry of Culture

Programs and Services Branch
400 University Avenue
4th Floor
Toronto ON M7A 2R9

Ministère de la Culture

Direction des programmes et des services
400, avenue University
4e étage
Toronto (ON) M7A 2R9

Ontario

Heritage Operations Unit
Tel: 416-314-7143
Fax: 416-314-7175

February 22, 2007

Kim Slocki
Archeoworks Inc.
16715-12 Yonge Street
Suite #1029
Newmarket, ON
L3X 1X4
Fax: 416-676-5810

RE: Concurrence with Report Entitled, "Stage 1 Archaeological Assessment for The New Burnhamthorpe Road Study Area: Bounded by Bronte Road, Dundas Street, Ninth Line and Burnhamthorpe Road/Highway 407, Town of Oakville, Regional Municipality of Halton, Ontario" MCL File 24RD031

Dear Ms. Slocki:

This Ministry has reviewed the above entitled report prepared by your firm (Licence/PIF # P029-164). The report indicates that portions of the subject lands exhibit potential for archaeological resources. Consequently, a Stage 2 archaeological field assessment is recommended for these areas. In addition, should there be construction impacts adjacent to the Palermo Cemetery grounds, the potential to impact marked or unmarked burials should be addressed. This Ministry concurs with this recommendation.

Given the above, the subject lands must undergo a Stage 2 archaeological assessment prior to any soil disturbing activities. If any significant archaeological resources are discovered during the assessment, they must be mitigated by either avoidance or excavation.

Should you wish to discuss this matter further, please do not hesitate to contact me.

Sincerely,

Daniela Cortinovis
for Shari Prowse
Heritage Planner / Archaeologist

cc. MCL Archaeology Licence Office
Totten Sims Hubicki Associates

hydro one

Distribution
Technician
Services

913 Crawford Drive
Peterborourgh, Ont
K9J 3X1
Fax: (905)713-6927

June 7, 2007

THS Engineers, Architects, and Planners
300 Water Street
Whitby, On
L1N 9J2
Attention Debbie Clayton, B.E.S.

RE: New North Oakville Transportation Corridor
Class Environmental Assessment Study

Dear Ms.Clayton:

Thanks for your letter and plans dated May 7, 2007.

Hydro One Networks (low voltage) has equipment on the outer edges of the Study Area. There are also no major conflicts that we have foreseen, however, if there are any changes in the plan please contact Hydro One Networks (low voltage).

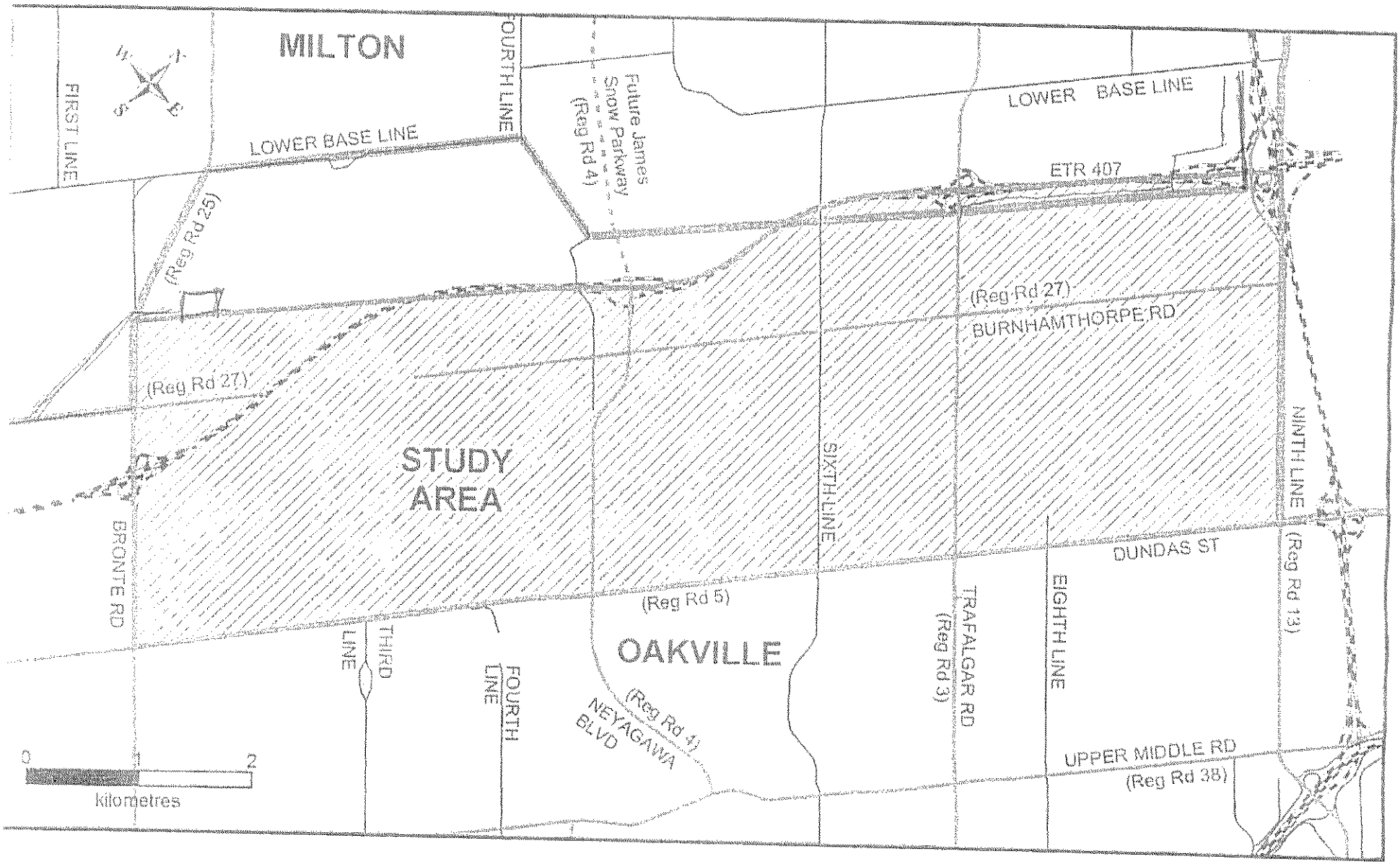
Any questions or concerns may be addressed to the undersigned.

Please forward any future initial inquires to:

Hydro One Networks Inc.
Attention: Scheduling Department
913 Crawford Drive
Peterborough, Ontario
K9J 3X1
Zone3scheduling@HydroOne.com
Phone: 1-888-871-3514
Fax: 1-705-743-9890

Sincerely,

B. Jamie Bignell
Area Distribution Engineering Technician
j.bignell@HydroOne.com


MILTON
OAKVILLE
STUDY AREA
FIRST LINE
FOURTH LINE
SIXTH LINE
NINTH LINE
BRONTE RD
THIRD LINE
FOURTH LINE
LOWER BASE LINE
LOWER BASE LINE
Future James Snow Parkway (Reg Rd 4)
ETR 407
(Reg Rd 25)
(Reg Rd 27)
(Reg Rd 27)
BURNHAMTHORPE RD
DUNDAS ST
(Reg Rd 13)
(Reg Rd 5)
(Reg Rd 4)
NEYAGAWA BLVD
TRAFALGAR RD (Reg Rd 3)
EIGHTH LINE
UPPER MIDDLE RD (Reg Rd 38)
0
1
2
kilometres

8 - Trans-Northern Facilities Email Response (may not be needed)

From: Walter Watt [mailto:WWATT@tnpi.ca]
Sent: Monday, May 07, 2007 12:19 PM
To: Debbie Clayton
Subject: Re: New North Oakville Transportation Corridor and Crossing of16 Mile Creek Environmental Assessmen

Dear Ms. Clayton,

Thank you for advising of your environmental study.

I confirm that all of Trans-Northern's facilities between Ninth Line (R.R. 13) and Bronte Road (R.R. 25) lie south of the QEW, well south of your study area. Consequently, Trans-Northern need participate no further in the present study.

For future studies which may in fact implicate Trans-Northern's NEB-regulated petroleum products transmission pipeline, I would be the appropriate contact for issues involving land rights, route and site selection, or planning approvals. For design questions or facilities crossings approvals, the appropriate contact would be Mr. Satish Korpal, Coordinator, Facilities and Crossings (905) 770-3353, Ext. 211.

Again, thank you for contacting Trans-Northern in the early stages of your study. Please don't hesitate if we may be of assistance in a pipeline-related matter.

Sincerely,

Walter H. Watt
Property Administrator

Tel.: (905) 770-3353, Ext. 223
Fax: (905) 770-8675

wwatt@tnpi.ca

Regional Engineering
Engineering Services

Canadian National Railway
1 Administration Road
P.O. Box 1000
Concord, Ontario
L4K 1B9
Tel.: 905-669-3155
Fax: 905-760-3406

May 16, 2007

Facimile: 905-668-0221
1 page

Debbie Clayton, BES
TSH
300 Water Street
Whitby, Ontario
L1N 9J2

Dear Ms Clayton:

Re: New North Oakville Transportation Corridor
Class Environmental Assessment

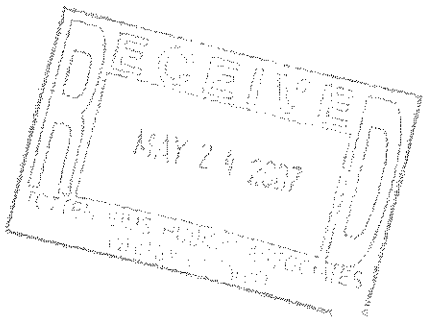
Thank you for the plan and profile drawings, received May 14, 2007, requesting confirmation of utility conflicts in relation to the preferred alignment.

CN Rail has no concerns or comments regarding this project. Please remove CN from the project mailing list.

Sincerely,

John F. MacTaggart, P.Eng. for
Senior Engineering Services Officer

Enbridge Pipelines Inc.
891 Upper Canada Drive
P.O. Box 128
Sarnia, Ontario
N7T 7H8
(Courier N7W 1A3)



ENBRIDGE

May 18, 2007
File No. 73.11 Halton/Oakville

TSH
300 Water Street
Whitby, ON L1N 9J2

Attention: Ms. Debbie Clayton

Re: New North Oakville Transportation Corridor
Class Environmental Assessment Study

Dear Ms. Clayton,

Enbridge Pipelines Inc. (Enbridge) operates one 6190mm diameter high pressure pipeline contained in a 3.048m wide right-of-way/easement crossing the proposed corridor at Lot 7 Concessions 1 & 2, NDS, Town of Oakville, Region of Halton. See enclosed drawing D-1.773-11971-250 for more details.

Enbridge has no objections to the proposed development providing the following conditions are adhered to:

- No permanent structures are permitted within the right-of-way area.
- Enbridge must have the ability to access its' right-of-way at all times for maintenance, inspection and alteration of the pipeline(s). Therefore, the Enbridge right-of-way shall be maintained as green space, park belt or open space.
- Any proposed crossings of the right-of-way by roads, laneways, bike/walking paths, services and utilities are permitted in accordance with the regulations of the National Energy Board (NEB) Act and subject to approval by Enbridge's Crossings Co-ordinator, Ann Newman at (519) 339-0503. The applicant will be required to enter Enbridge's Standard Crossing Agreement.
- Enbridge is regulated by the National Energy Board (NEB) Act. Section 112 of the Act requires any excavation within 30 meter of Enbridge's right-of-way to be approved by Enbridge.
- No grading or placing fill on Enbridge's right-of-way will be permitted without prior approval of Enbridge.
- No work shall take place on Enbridge's right-of-way without the presence of an Enbridge inspector.
- No heavy machinery will be permitted to cross Enbridge's right-of-way without prior approval.

cont'd.../2

Direct Line: 519-339-0503
e-mail: ann.newman@enbridge.com
Website: www.enbridge.com
Office: 519-339-0500
Fax: 519-339-0510

- No landscaping shall take place on Enbridge's right-of-way without Enbridge's approval.

To obtain locates of our facilities please contact (905) 659-7236 and Ontario One Call at 1-800-400-2255. Request to meet "Enbridge Pipelines Inc." onsite at the specified address. Three working days notice is required to arrange for an onsite meeting.

Please call if you have any questions.

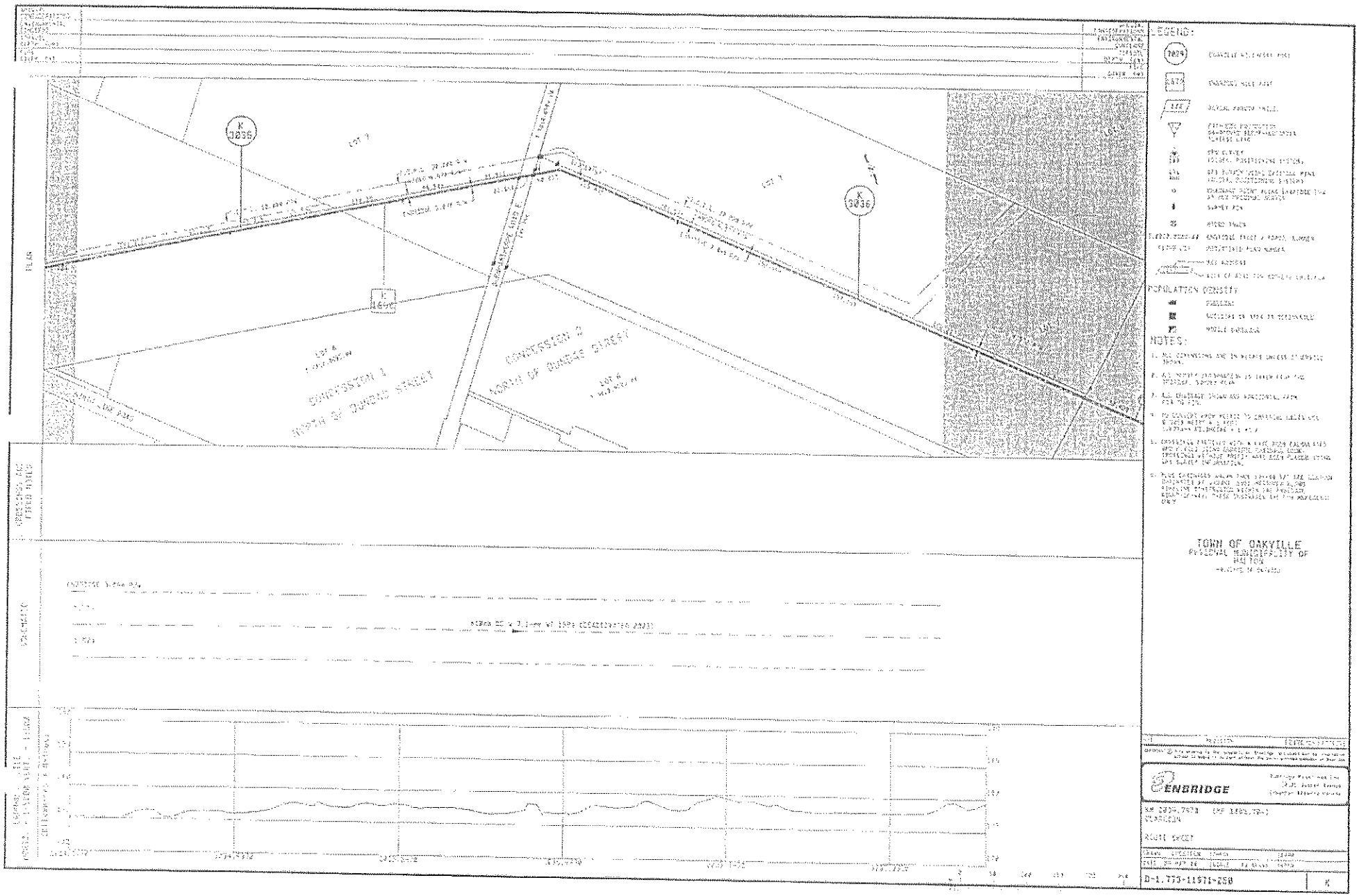
Yours truly,

Ann Newman

Ann Newman CET
Crossings Co-ordinator, Eastern Region

encl.

Cc: John Blakely


LEGEND:
POPULATION DENSITY
NOTES:
TOWN OF OAKVILLE
ENBRIDGE
B-1.775-11971-258
K

AECOM

Conservation Halton Meeting Minutes

AECOM

AECOM
300 Water Street, Whitby, ON, Canada L1N 9J2
T 905.668.9363 F 905.668.0221 www.aecom.com

Minutes of Meeting

Date of Meeting: December 10, 2008 Start Time: 2:30 pm

Location: Halton Region - 1075 North Service Road

Regarding: Review of Comments Received on the Draft NNOTC ESR

Attendees:
Janette Brenner, Conservation Halton
Samantha Mason, Conservation Halton
Lesley Matich, Conservation Halton
Leah Smith, Conservation Halton
Dave Blommer, Town of Oakville
Chalie McConnell, Town of Oakville
Rob Thun, Town of Oakville
Melissa Green-Battiston, Halton Region
Matt Krusto, Halton Region
Nick Zervos, Halton Region
Mike Delsey, AECOM
Sean Spisani, AECOM
Paula Neto, AECOM

Mike Delsey provided an overview of the comments received on the draft NNOTC ESR with particular attention to alignment adjustments. The following issues were discussed in detail:

Alignment Adjustments

- Adjustments to the alignment in the area of JC-10A, JC-14, 16WA-1A, 14E-2A were discussed in detail. It was determined that there were numerous constraints at each of the creek crossing locations making it difficult to accommodate any adjustments to the alignment. Conservation Halton will review each of the crossings in light of the meeting discussions and provide additional comments.
- Conservation Halton suggested that additional commitments with respect to the individual channels will be required. The "table of commitments" to be included in the final ESR will include the suggested commitments once received from Conservation Halton.

North Oakville Creeks Subwatershed Study

- Conservation Halton requested that the mitigation measures from the North Oakville Subwatershed Study be added to the final ESR.
- Conservation Halton requested that information regarding ecopassages as discussed in the North Oakville Creeks Subwatershed Study be added to the final ESR. Two areas in particular were noted: 1) large mammal crossing near Sixteen Mile Creek and 2) an amphibian crossing east of Sixth Line.

Thermal Status

- Thermal status designations obtained through temperature loggers will be required prior to detailed design. It was identified that if the crossing is 'open bottom' this work is not required. The information may be derived from other sources as long as current which may eliminate some of the crossings needing temperature loggers.

Meander Belt Width

- Conservation Halton requested information on the meander belt width beyond the 100 year time frame provided. The concern relates to the future need for bank hardening due to erosion.

Other Comments

- Conservation Halton will review the summary table of comments and responses and provide feedback in early January 2009.
- It was committed that minutes would be issued to Conservation Halton.

Meeting Adjourned At: 3:30 pm Notes Taken By: Paula Neto

New North Oakville Transportation Corridor and Crossing of Sixteen Mile Creek Class EA Study

Meeting with Conservation Halton

Draft Environmental Study Report Comments

December 10, 2008

Halton REGION

Purpose of meeting:

- Highlight issues that will be addressed in the final ESR
- Discuss issues requiring further dialogue or where no change is proposed

Agenda

- Review comments
- Discuss next steps

Alignment of the NNOTC

- Requested alignment changes at Watercourse JC-10A (19+300 on Sheets 15 and 16) - crossing of Joshua's Creek
  - The separation distance from 407 ETR ramp of 450 m must be maintained
  - A new transit station is planned south of the 407 ETR ramp on the west side of Trafalgar Road. Access to the station is approximately 250m to the south
  - The locations of stream delineations are approximate and have not been field checked (by others)
  - An alignment change would have a bearing on land use plans (NOESP)

Alignment of the NNOTC

- Requested alignment changes at Watercourse 16WA-1A (12+400 Sheets 5 and 6) - crossing of a Sixteen Mile Creek tributary
  - An alignment shift to the north at this location would require the same shift north as far west as 10+500
  - This results in impacts to the alignment negotiated with Conservation Halton to avoid other natural environment features
  - An alignment change would have a bearing on land use plans including ORC and the Halton Healthcare Services new hospital site west of Third Line

Alignment of the NNOTC

- Requested alignment changes at Watercourse JC-14 (20+400 on Sheets 17 and 18)
  - The alignment would require a shift to the north and a shift of 4 proposed intersections (as per NOESP) further west
  - The resulting intersection spacing would not meet Regional standards (i.e. <320 m spacing at 2 intersections and <400m to Trafalgar Road)
  - A route change would have a bearing on land use plans (NOESP)

Alignment of the NNOTC

- Requested alignment changes at Watercourse 14E-2A (10+700 Sheets 1 and 2) - Fourteen Mile Creek
  - An alignment shift to the north at this location would require the same shift north as far east as 12+400 and would impact the connection to Bronte Road
  - This results in impacts to the alignment negotiated with Conservation Halton to avoid other natural environment features
  - A route change would have a bearing on land use plans including ORC and the Halton Healthcare Services new hospital site west of Third Line

Sixteen Mile Creek Bridge

- Geotechnical - A site visit has been conducted by Golder Associates. Consideration of construction disturbances and slope stability impacts from the loss of vegetation and construction access will be discussed further in the ESR and addressed at detailed design.
- Bridge Structure/Construction – extensive public and agency consultation occurred during the route and structure selection process. The alignment was located to accommodate the best crossing of the Sixteen Mile Creek with the lowest impact.
  - The cost of the options that spanned the valley would be $40-80 million more than the recommended structural alternative.
  - The piers for the preferred structure are planned within the valley and would be located outside the meander belt width.
  - Specific issues regarding girder delivery into the valley will be dealt with at detailed design.

Mitigation Measures

- Edits/additions to the mitigation section will be made such as:
  - Clarify impacts to riparian cover and permanent losses of vegetation
  - A discussion of wet features and depressions will be added
  - A water quantity section will be added to the mitigation table (Exhibit 8-2)
  - Use of upgraded silt fencing
  - Local well survey and road salt impacts along Dundas
  - Construction mitigation measures to be added for the protection of fish habitat
- A summary of mitigation/monitoring commitments will be included in the final ESR.

Natural Environment Report

- The following edits will be made to the Natural Environment report/ESR:
  - Constraint map will be produced with all natural heritage features and the NNOTC alignment
  - NOCSS will be referenced for fisheries information
  - Fourteen Mile Creek will be added to the discussion
  - Add provincially rare or uncommon vegetation communities
  - Use Halton Natural Areas Inventory (2006) to update Varga for plant and wildlife species
  - Discussion of the North Oakville-Milton East Wetland PSW complex to be added
  - Discussion of thermal status designations and the need to preserve natural temperature regime to be added
  - Other general editorial suggestions will be addressed

Issues to be further investigated

- To be provided in the final ESR
  - Culvert sizing at 25 crossings based on review of meander belt width and/or bank full width compared to hydraulic capacity (no detailed hydraulic modeling – defer to detailed design).
  - Close up mapping of individual culvert crossings with orthoimagery and meander belt and bank full widths labeled.
  - In lieu of detailed development SWM Plan (not yet available), each watercourse outfall will be reviewed on a conceptual basis to identify preferable SWM measures or techniques appropriate or feasible for each location on an interim and long term basis.
  - Selection of proposed SWM measures will be based on satisfying SWM objectives/requirements as per NOCSS.
  - Ecopassages and other treatments.

Issues for Detailed Design Stage

- The following issues will be dealt with at detailed design however, a general discussion of the following will be included in the final ESR:
  - Lighting
  - Tree preservation plan
  - Compensation plantings

PROTECTING THE NATURAL ENVIRONMENT FROM LAKE TO ESCARPMENT

2596 Britannia Road West
RR2, Milton, Ontario L9T 2X6
905.336.1158 Fax 905.336.7014
www.conservationhalton.on.ca

September 12, 2008

Mrs. Melissa Green-Battiston
Region of Halton
1151 Bronte Road
Oakville, ON
L6J 5A6

Dear Mrs. Green-Battiston:

Re: North Oakville Transportation Corridor EA
Draft ESR
June 2008
CH File: MPR 337

Staff of Conservation Halton have reviewed the above noted draft and appreciate the opportunity to provide comments prior to the finalization of the document. Based on our review we offer the following comments. **Please note that these comments do not include aquatic ecology comments.** Staff will provide aquatic ecology comments as soon as possible. The comments are provided in numerical order and it would be helpful if, upon submission of the final EA, a cover letter was provided by the consultants to advise as to how each comment has or has not been addressed in the final report.

Environmental Study Report – Part I

1. **Section 4.2, Natural Environment** – Staff note that the final preferred alignment from the main report (Part I) does not appear to be the same as the proposed alignment in the Natural Environment Report prepared by Gartner Lee Limited (Appendix E). While the preferred alignment of the corridor will have considerable impacts on the natural heritage system, we do acknowledge the amount of pre-consultation that was undertaken to reach the present alignment. Given the impact, the need for mitigation measures is warranted however, those presented in Exhibit 8-1 are general in nature and do not include those presented within the Natural Environment Report. Therefore, we offer the following additional mitigation measures that should be implemented as per the North Oakville Creeks Subwatershed Study (NOCSS) and the Natural Environment Report:

   - Servicing should be installed under the road to limit the size of the right of way (RoW). The RoW should be as narrow as possible to limit the impact of the road on natural features;
   - If possible, when the road is located within the Cores, staff recommend that sidewalks be limited to one side of the street to decrease the footprint;

- When the road is situated within a natural heritage feature, lighting should be directed at the road to limit the amount of light pollution and its impacts on the natural feature;
- As per Section 7.4.2.7 of the NOCSS (Wildlife Crossings), there is need for the installation of ecopassages in the Sixteen Mile Creek, associated contiguous woodlands and neighbouring Cores due to the high potential for wildlife crossing collisions. There are a variety of ecopassages outlined in the NOCSS that should be discussed in the EA to direct the features incorporated at detailed design such as dry culverts to allow for the movement of mammals and herpetofauna, creating appropriate sight lines and installing signage as well as ensuring at grade crossings are incorporated into design;
- Speed limits in the Core areas should be reduced to limit the potential collisions with wildlife;
- A tree preservation plan in vegetated areas should be submitted for review at detailed design;
- Restoration works should be limited to include only locally native, non-invasive species;
- Noise impacts to wildlife resulting from the new road should be assessed and mitigated where possible. As the new road will be intersecting interior forest habitat there will potentially be impacts on area sensitive species of birds as well as other wildlife within the valley. Mitigation measures such as smooth surfaces should be looked at to decrease the impact from noise;
- Given the level of vegetation clearing required, staff recommend that compensational plantings be established to offset the impacts of two large sections of Core being removed as well as the removal of linkages and a provincially rare vegetation community will have on wildlife habitat. This will replicate the function that these areas provide for wildlife. Staff would be willing to discuss suitable locations with the Region to determine where this compensation would be best situated. Please refer to the comment below on the mitigation measures of the Natural Environment Report;
- All mitigation measures from the Natural Environment Report should be included in the main report and incorporated into the detailed design stage.

In addition, to the above, staff recommend that the Study Area's Natural Hazards be identified within this section under one of the existing subsections or as a separate subsection. Natural hazards are typically those hazards associated with erosion, flooding, unstable bedrock and unstable soils. Information on natural hazards and required setback requirements can be obtained from the North Oakville Creeks Subwatershed Study and Conservation Halton. Staff also recommend that all wet features and depressions, as identified within the North Oakville Creeks Subwatershed Study, should be discussed within this section, again either within an existing subsection or as a separate subsection.

2. **Section 4.2.1, Fisheries and Aquatic Habitat, page 63-64**, while staff appreciate the discussion with respect to fish habitat within this section, we note that the previous studies

that are referenced are often more than 8 years old. We recommend reference be made to the North Oakville Creeks Subwatershed Study for more recent fisheries information.

In addition, under the heading 'Fourteen Mile Creek', it is stated that the Fourteen Mile Creek lies entirely outside of the Study Area however, a tributary of Fourteen Mile Creek is in fact within the Study Area on the east side of Regional Road 25.

3. **Section 4.2.2, Vegetation and Terrestrial Habitat, Exhibit 4-4 (Existing Natural Environmental Conditions – Valley Lands, Woodlands, Natural Corridor and Wildlife Habitat), Page 66** –Staff recommend that this figure be revised to illustrate all watercourses identified by the North Oakville Creeks Subwatershed Study. In addition, please see comments below with respect to Sheets 7 and 8.

4. **Section 4.2.3, Wetlands and Environmentally Sensitive Areas, Exhibit 4-5 (Existing Natural Environmental Conditions – ESAs, Wetlands, ANSIs), Page 68** – Staff recommend that this exhibit be revised to remove Floodplains from the legend and the figure as floodplains are not applicable to the discussion provided in this section. If floodplains are added to this section, the figure should be updated to illustrate all floodplains as identified by the North Oakville Creeks Subwatershed Study.

5. **Section 4.2.4, Surface Water, page 68 –** As noted above, Fourteen Mile Creek is within the Study Area. As such, some discussion of this watercourse should be included in this section.

6. **Section 5.3, Assessment of the Short List of Alternative Solutions, Page 86 & Exhibit 5.2** – Staff recommend that Natural Hazards should be one of the criteria utilized to assess the short list of Alternative Solutions. Staff further recommend that all wet features and depressions, as identified within the North Oakville Creeks Subwatershed Study, should be considered as part of the assessment though it is recognized that a higher priority would be given to the protection of wetlands.

7. **Section 6.3, Assessment of the Short List of Route Alternatives, Page 106 and Exhibits 6.9 and 6.10** - Staff recommend that Natural Hazards should be one of the criteria utilized to assess the short list of Route Alternatives. Staff further recommend that all wet features and depressions, as identified within the North Oakville Creeks Subwatershed Study, be considered as part of the assessment though it is recognized that a higher priority would be given to the protection of wetlands.

   The number of new and modified watercourse crossings appear to be incorrectly identified within Exhibit 6-9, Page 110.

8. **Section 6.6, Anticipated Impacts and Proposed Mitigation Measures, Page 148** – Further to our comments under Section 4.2, staff also recommend that this section be expanded to outline impacts and mitigation measures associated with Natural Hazards and all wet features and depressions. Staff anticipate that stormwater management measures would be included within this discussion, addressing conditions during construction as well as the interim/ultimate measures that would be implemented depending on the timing of the project relative to the overall development of the study area.

9. **Section 6.0 and/or Section 7.0** – Conservation Halton staff recommend that the ESR outline how the Region anticipates the project will proceed relative to the overall development of North Oakville. This outline would include items such as how the project's timing may relate to the preparation of Environmental Implementation Reports and whether or not there is any flexibility with respect to the proposed road right-of-way alignment at future planning/design stages. Staff have assumed that the road design and construction may either proceed in conjunction with future development applications or may proceed prior to development applications and the preparation of the associated Environmental Implementation Reports. Staff note that the level of analysis that we would expect within the ESR would vary depending on whether or not the alignment is fixed at this stage in the planning process.

10. **Section 7.1, Description of the Recommended Design, Page 154** – While the report provides details regarding the Sixteen Mile Creek crossing, the report does not provide any details/requirements regarding the other watercourse crossings. Staff recommend that the report outline design criteria for each of the crossings in order to ensure that the cost estimates for each crossing are relatively accurate. Engineering staff require that watercourse crossings have no negative impacts on flooding and erosion (which includes slope stability) hazards. Staff recommend from a fluvial geomorphological perspective, that all culverts/bridges should at a minimum clear span a watercourse's bankfull width but preferably should span at least two times the bankfull width. Staff note that an even larger width may be required depending on a watercourse's or a site's specific conditions.

11. **Section 7.1.2, Drainage and Stormwater Management Requirements, Page 156** – This section should outline the stormwater management quality, erosion or quantity controls required as per the North Oakville Creeks Subwatershed Study. The ESR indicates that stormwater management ponds will be implemented in conjunction with planned development but it does not discuss what stormwater management controls will be provided in the event that the corridor construction proceeds prior to the adjacent land development. This issue should be addressed within the ESR not only to ensure that the project can obtain all necessary approvals and protect riparian rights but also to ensure that cost estimates are accurate. For those issues that can only be addressed during detailed design, the ESR should outline the Region of Halton's commitments in this regard to ensure that there will be no

negative water quality or stream flooding/erosion impacts associated with the proposed works.

12. **Section 7.1.2, Exhibits 7.6 and 7.7** – Staff noted that there are a number of water crossings proposed at the upstream end of medium (Blue) or high (Red) constraint streams (North Oakville Creeks Subwatershed Study's 16WA-1A, JC-10A, JC-14). Staff recommend that consideration should be given to adjusting the alignment slightly so that the roadway is located within the low constraint watercourses located immediately upstream of these reaches, if possible.

13. **Section 7.1.3, Sixteen Mile Creek Bridge** – We note that Exhibit 7-9 shows the at-grade cross-section however, it would be helpful to have a cross-section of the crossing as seen through the valley.

14. **Section 7.2, Geotechnical/Foundation Requirements, Page 167 and Appendix I**– It is the understanding of staff from the report that the geotechnical review consisted only of a desktop exercise and no site work was completed. Staff are of the opinion that the scope of the proposed Sixteen Mile Creek crossing warrants, at a minimum, a site inspection by the geotechnical engineering consultant. Staff note that the geotechnical assessment is an important aspect of the proposed crossing construction not only from a feasibility perspective but also to ensure that the ESR identifies a relatively accurate description and assessment of the extent of disturbance that will occur during and after construction. Staff also note that the geotechnical assessment should account for potential slope stability impacts resulting from loss of vegetation arising from the crossing's construction. Geotechnical input should also be provided with respect to the proposed construction access including remediation requirements.

15. **Section 8, Monitoring During and After Construction, Exhibit 8.1 (Potential Short Term Construction-Related Environmental Impacts and Proposed Mitigation Measures)** – Staff would recommend that the last mitigation measure listed for Factor No. 3 (Erosion and Sedimentation) be revised to read "Include restoration of disturbed areas *and removal of erosion and sediment controls* as contract requirements." Staff recommend this inclusion because of the frequency that we observe silt fencing and other controls remaining within or adjacent to natural areas well past their required use.

16. **Section 8, Monitoring During and After Construction, Exhibit 8.2 (Potential Long Term Environmental Impacts and Proposed Mitigation Measures)** – Staff were unclear why "reduced seepage into groundwater" was listed under 'Water Quality' and not a separate 'Water Quantity' section. Staff recommend that this table should include a 'Water Quantity' section that addresses both groundwater and surface water. With respect to surface water consideration should be given to low/base flows, erosive flows and flood flows.

Environmental Study Report – Part II

17. Staff recommend that all high, medium and low constraint watercourses be indicated and labelled on the profile view of the proposed corridor alignment.

18. **Sheets 1 and 2** – Staff noted that the tributary of Fourteen Mile Creek that crosses at Chainage 10+700 is shown to be entering and existing the proposed crossing at relatively sharp angles, which frequently results in erosion concerns. Staff also noted that based on the topographical information available in our office and on the profile view provided within the Part II report that this is the only location where there may be a valley slope in this area (the remainder of the subject reach appears to be unconfined). Staff however noted that this reach has been designated as a Medium Constraint (Blue) stream within the North Oakville Creeks Subwatershed Study and as such could be realigned. Staff would therefore not object to the proposed crossing location with the understanding that alterations to the watercourse beyond the illustrated road right-of-way may be required to allow for the construction of an acceptable crossing at this location and as such costs (including land access) associated with these additional works should be included within the project's cost estimates.

19. **Sheets 5 and 6** – The proposed road alignment crosses a tributary of Sixteen Mile Creek within the upper end of a high constraint reach. The stream is designated as a low constraint immediately upstream of the proposed crossing location. Staff recommend that consideration be given to realigning the road alignment, if possible, slightly to the north to avoid the high constraint watercourse.

20. **Sheets 7 and 8** – there may be a regulated watercourse located within the woodlot whose ultimate status needs to be assessed based on a site inspection.

21. **Sheets 15 and 16** – The proposed road alignment crosses a tributary of Joshua's Creek within the upper end of a medium constraint reach. The stream is designated as a low constraint slightly upstream of the proposed crossing location. Staff recommend that consideration be given to realigning the road alignment, if possible, slightly to the north to avoid the medium constraint watercourse

22. **Sheets 17 - 20** – Staff recommend that consideration should be given to locating the roadway to the north to avoid the medium constraint reach JC-14. In the event that the roadway is not located to the north, staff have concerns with respect to the potential intersection located in this area due to the length of culvert and the amount of the disturbance to the watercourse/valley feature that would likely be required to facilitate the construction of the intersection.

Appendices

Appendix E - Natural Environment Report

23. A constraint map that indicates what natural heritage features will be impacted by the construction of the roadway should be included in the report. This should include the road RoW as well as the Cores, species at risk and any other natural heritage features discussed within the report.

24. Table 1 outlines the field investigations that were completed as part of this study. This table should be revised to include the time of survey and weather conditions during the survey. This information is not contained within the report and is required to determine if the proper protocols were used. Please note that all field data sheets should be included for review. These should be included as an appendix to the report.

25. Section 2.3.3 (Amphibians) outlines that the methodology used for the amphibian surveys was based on Marsh Monitoring Protocol however only two visits were completed as part of the amphibian survey. Marsh Monitoring Protocol stipulates that three surveys should be completed at the appropriate time of year. The protocol's initial visit in April was not completed. Please provide further information on why the protocol was not followed.

26. Figure 2 (Ecological Land Classification) lists the vegetation communities identified within the study area and the NOCSS. We note that not all of the communities within the study area were assessed to the vegetation type level, e.g., BLT1 and SWD4. No further discussion on these communities exists within the text of the report. Please clarify why not all communities were classed to the vegetation type level even though they are located within the study area.

    In addition, while this figure is useful in determining vegetation communities in the surrounding area, discussion within the text of the report regarding the vegetation communities within the study area should be included. For example, the figure lists several provincially rare vegetation communities and it is unclear if any will be impacted and by what degree. Discussion is warranted to determine what communities are in the study area.

27. Section 3.3.2 (Flora) identifies that there are provincially rare species in the study area as well as Regionally rare and rare to Halton, however no source of this rarity is discussed. For regionally rare species and based on the appendix, it appears that Varga et al (2000) was used however it is unclear for the Halton Region status. Staff recommend that the Halton Natural Areas Inventory (2006) be used for local rarity status.

28. While Figure 3 is helpful in determining the location of the notable flora and fauna, it would be beneficial to have the alignment overlaid on this figure to assess which species will be impacted by the road construction. Please refer to our previous comment regarding a full constraint map.

29. Table 3 summarizes the wildlife data from the study area, however it does not provide a source that the rarity is based on. Staff recommend that local rarity be confirmed with the Halton Natural Areas Inventory (2006). Please confirm what source was used for rarity.

30. Figure 5, while listing wetlands in the legend, there are no wetlands illustrated on the map. This may be a layering error within GIS as there are several wetlands within the North Oakville subwatershed including PSWs that should be illustrated on the map.

31. Section 3.5.1.7 (Summary of Terrestrial Habitat Features and Functions) – Table 5 outlines the vegetation cover information from the previous sections, however it is unclear by what is meant by "11% of the entire study area is currently covered in forest, exceeding the required 25 to 30% threshold to support high flora and fauna richness attributes associated with historical forest cover". Is this referring to Environment Canada's How Much Habitat Is Enough with respect to achieving 30% forest cover for a watershed? If this is this case, then this 11% vegetation cover would have to be looked at with respect to the entire Urban Watershed not just the North Oakville Subwatershed. Also, 11% is much lower than 30% and it is not clear how this achieves this goal. Please clarify what this statement means.

    The wetland discussion within this table notes that the significance status of the wetlands is pending review, however this has been completed as of September 2006. This should be revised.

32. Section 4 (Significant Natural Heritage Features) – This section outlines the various significant features within the study area, however in Section 4.1.2 only the ANSI has been considered. It should be noted that the North Oakville – Milton East Wetland PSW Complex is also present in the study area and should be discussed separate of the ANSI as the ANSI boundary is not restricted to just the PSW boundary as the description implies.

33. Staff agree with the recommendation that restoration of the exact amount of vegetation removed should be completed within an appropriate location within the study area (Table 14 Natural Environment Impact Assessment of Preferred Alternative and Proposed Mitigation Measures). This should be included as a mitigation measure within the main report. This is especially important given that a portion of a provincially rare vegetation community (FOD2-3) is being removed as well as interior forest habitat, portions of Core Area and designated linkages.

Staff agree with and support the mitigation measures outlined in Table 14.

34. Section 6.1.1.2 (Vegetation Protection and Restoration) - Staff recommend that, in sensitive areas, higher quality tree protection fencing be used given the potential impact to these areas. We also recommend that a certified arborist and ecologist be on site while any vegetation removal occurs in these areas.

    Native plants are proposed for restoration activities and staff recommend that these be locally native, non-invasive species. Guidance for these species can be found in Conservation Halton's landscaping guidelines and associated appendices (available online at: http://www.conservationhalton.on.ca/ShowCategory.cfm?subCatID=898).

35. Section 6.1.3 (Monitoring and Maintenance) should note that restoration plantings should be monitored for two years and any dead species replaced at this time.

36. Appendix B of Natural Heritage Report:

    - The NOSS Habitat Unit map should use the numbers consistent with the NOCSS.
    - Staff assume that the 'h' used in the Secondary Source Significant Vascular Plant Species by Habitat Unit is the same as 'H' listed in the legend. Please revise.
    - It should be noted that Vulnerable is a term no longer used by COSEWIC or the MNR. It should be replaced with Special Concern.

37. Appendix F of Natural Heritage Report - Monarch (*Danaus plexippus*) should be listed as Special Concern in the Lepidoptera table.

38. Staff recommends that the report outline in a list or tabular form all commitments that would be carried forward by the Region in conjunction with the detailed design of the proposed corridor. This would include, but may not be limited to, fluvial geomorphological, geotechnical, hydrogeological, stormwater management and setback commitments.

We trust the above is of assistance. If you require additional information please contact the undersigned at extension 266.

Yours truly,

Jennifer Lawrence
Manager, Environmental Planning

cc: Ms Rita Juliao, Town of Oakville, Planning, fax
Mr. Rob Thun, Town of Oakville, Planning, fax
Mr. Dave Bloomer, Town of Oakville, Engineering, fax
Mr. Andrew Head, Region of Halton, Planning, email

jl/devl planning\ea\Halton\Burnhamthorpe\draft esr.doc

PROTECTING THE NATURAL ENVIRONMENT FROM LAKE TO ESCARPMENT

2596 Britannia Road West
RR2, Milton, Ontario L9T 2X6
905.336.1158 Fax 905.336.7014
www.conservationhalton.on.ca

September 16, 2008

Mrs. Melissa Green-Battiston
Region of Halton
1151 Bronte Road
Oakville, ON
L6J 5A6

Dear Mrs. Green-Battiston:

Re: North Oakville Transportation Corridor EA
Draft ESR
June 2008
CH File: MPR 337

Further to Conservation Halton's letter of September 12, 2008, the following comments relate to aquatic ecology.

Environmental Study Report – Part I

1. Please indicate what hydrological design standard the crossings will adhere to in designing this new road. For example, will each of the crossings be required to pass a 50 year flow for the applicable watercourse?

2. Riparian trees (trees located within 30 metres of any watercourse) slated for removal should be properly inventoried at the detailed design stage. All restoration plantings should be chosen from Conservation Halton's Landscaping Guidelines and should be an appropriate species for the growing conditions at the site.

3. **Section 6.6.1, Authorization and Mitigation for In Water Work, page 150, subsection (d)** - Please include the following text after the word "planted": "according to Conservation Halton's Landscaping and Tree Preservation Guidelines".

4. The final ESR should provide a measure of the bankfull channel widths and meander belt widths of all watercourses to be crossed by the proposed road. The lengths, widths and heights of all existing crossings to be upgraded/lengthened/replaced should be included in the final document. See Table 6.3.4a in the North Oakville Creeks Subwatershed Study.

5. **Section 7.1.2, Drainage and Stormwater Management Requirements, page 157** - please reiterate the list of creeks named on this page with reference to a map showing the watercourses in this list.

6. **Exhibit 7-7 Drainage Management Requirements, page 159** - Please cross reference all crossing codes (e.g. JC-20A) with high resolution mapping that includes road names, creek names, an air photo layer, stream constraint ratings from the North Oakville Creeks Subwatershed Study. A description of the permanency of these streams and the drainage area of the streams is also requested. It would also be helpful to provide the bankfull channel width and the meander belt width of the creeks at the proposed stream crossing locations for the preferred route alignments as well.

7. **Section 7.1.3 Sixteen Mile Creek Bridge, page 160** - Please make reference to Exhibit 7-7: Drainage Management Requirements. This Table states that the bridge is required to span the Sixteen Mile Creek Valley. As such, the only viable option provided at the bottom of page 161 is option 5, the arch bridge. Any of the other options will involve intrusions into the valley, bank disturbance, long term fluvial geomorphological disturbances presented by piers in or adjacent to the creek, and a significant loss of trees in the valley. The Sixteen Mile Creek Valley at this location is considered to be a Life Science Area of Natural and Scientific Interest. It has a number of important riparian tree species that should be protected from disturbance. The steep, high banks present a difficult environment for staging a construction operation within. It is extremely difficult to mitigate the disturbance that could be created by this type of proposal in this environment. Long term bank stability and the stability of the creek morphology would be an ongoing concern with the introduction of a superstructure into this valley. As such, it is requested that the arch bridge (Option 5) be selected as the preferred stream crossing approach. Alternatively, a bridge structure with a single pier (Option 3) would be the next most appropriate crossing technique.

   Although the upfront costs may be higher, there is considerable savings by not having to mitigate a large array of environmental disturbances. The construction of piers and abutments in the valley will require the removal of vegetation on the high, steep valley walls and valley floor, and necessitate their subsequent rehabilitation. As such, it is requested that a bridge design be selected that does not require piers within the Sixteen Mile Creek Valley.

   The Sixteen Mile Creek valley is a Life Science ANSI containing fish habitat, a number of rare species and interior forest habitat. Because of the sensitivity of the valley it is necessary to ensure that there is minimal impact on the valley as a result of construction access. Therefore, the bridge design that requires the least intrusion into the valley is the most preferred. Construction access from Lions Valley Park is required with no access being permitted down the valley walls in the vicinity of the bridge crossing. The third paragraph on page 165 states that it will be difficult to deliver the girders to the bridge location due to the steep ramp that will be required from Dundas Street. Therefore, launching the girders is the more appropriate technique and will have the least amount of environmental impact. It may be appropriate to commit to launching the girders in the ESR rather than waiting until detailed design as it has been our experience that the budget for the project is set based on the outcome of the ESR.

8. **Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Blvd. to Bronte Rd.** - Because most of the watercourse crossings associated

with the route alternative options, including the preferred and selected routes, display characteristics of channel instability, it is important that the crossing designs be sized and designed to accommodate the unstable nature of the watercourses they are crossing. Specifically, it would be ideal if the crossing designs selected for these crossings were to span the meander belt width of the watercourses.

9. **Section 7.3, Utilities and Services, page 169** - It is requested that all utilities be accommodated on the underside of the bridge across Sixteen Mile Creek to eliminate the need for any underground implementation of cables or pipes.

10. **Exhibit 8-1, Potential Short Term Construction Related Environmental Impacts and Proposed Mitigation, Row # 4** - It is requested that all plantings be undertaken in areas of viable top soil otherwise, top soil should be introduced to the site, to increase the success of all rehabilitative plantings. Fertilization should not be undertaken for any plantings within 50 metres of the watercourse to eliminate the risk of introduction of additional nutrients to the watercourse.

Appendix E - Natural Environment Report

11. **Section 3.4, Aquatic Resources, page 21** - Since drought conditions may have influenced fish community data collections for McCraney Creek, it is requested that the fish community surveys be collected between May 30 and July 15th prior to detailed design. Any evidence of fish spawning during these collections is requested to be included in the inventory results.

12. **Section 3.4.2, Fish Habitat, page 22** - Site 1 Alternate Alignment Crossing W6 - This is the Study Team's preferred route alignment for the crossing of Sixteen Mile Creek. The information collected at this site includes reports of the presence of a number of groundwater seeps originating along the valley walls. The presence of these seeps will make construction in the valley more difficult. The contribution of the seeps to fish habitat must be taken into consideration as part of the bridge design and construction access. The fish habitat assessment also states this site "provides permanent refuge, spawning, feeding, rearing and nursery habitat for fish species and serves as a major migratory pathway for fish ascending from Lake Ontario at various times of the year".

13. **Table 6, Summary of Thermal Status Designations, page 31** - No data is available for Fourteen Mile Creek, Sixteen Mile Creek, or Joshua's Creek. It is requested that existing data for these creeks (including metadata – such as data collection methodologies) be collected from available sources. If this is not possible, it is requested that data loggers be deployed at each of the preferred route alignment's intersections with the watercourses listed above.

14. **Table 8, Summary of Aquatic Habitat Features and Functions, page 32** - Given the presence of two provincially and federally rare species in Sixteen Mile Creek, it is Conservation Halton staff's preference that the watercourse crossing design be located entirely outside of the valley. The appropriate location for the abutments from top of

bank would need to be determined in consultation with a geotechnical engineer. If piers are deemed necessary, they should be located outside of the meander belt width.

15. **Table 14, Natural Environment Impact Assessment of Preferred Alternative and Proposed Mitigation Measures, page 39** - It will be impossible to fully retain riparian cover within the valley with the construction of piers, abutments, temporary bridge crossing(s), and temporary access roads. These construction related impacts will result in the loss of mature riparian forest cover, however this has not been properly identified as a construction impact in the Natural Environment Report.

    Please indicate on a map where shallow groundwater conditions may make dewatering necessary during the construction process.

16. **Section 6.1.2.1, Riparian Zone Protection, page 43** - This section recommends the use of standard erosion and sediment control protection. Where rare species, demonstrated to be sensitive to turbidity, are located (Sixteen Mile Creek) it is necessary to use best possible sediment and erosion control protection. Daily inspections, particular scrutiny after rain events and repairs as necessary (as described in the report) are concurred with by CH Aquatic Ecology staff.

17. **Section 6.1.2.2, Authorization and Mitigation for In Water Work, page 43, subsection (a)** - It is requested that silt fencing be upgraded to heavy duty paige wire silt fence at crossing locations where rare species are present (e.g. Sixteen Mile Creek).

    Page 44: Item (f) - Any in-water work that is necessary must be conducted in dry conditions within the appropriate fisheries timing window.

18. **Section 6.1.3 Monitoring and Maintenance, page 44, subsection (a)** - Sediment and erosion control measures shall be undertaken daily (as indicated previously on page 43 of the Natural Environment Report). Please include the daily sediment and erosion control inspections in Section 6.1.3 as well.

    It is requested that an independent on site environmental inspector be hired to ensure that sediment and erosion control measures are adequate and functioning during the construction phase of this project.

Appendix F - Hydrogeological Assessment

19. The recommendation made in the letter to Mr. Mike Delsey From Steven Usher (Gartner Lee) dated May 1, 2008 regarding groundwater and drilling monitoring to confirm the geology and groundwater conditions in the area are concurred with by CH Aquatic Ecology staff. These monitoring programs are requested (as they were recommended in the report) to be undertaken at least one year prior to site alteration to assess needs for dewatering, potential impacts to fish communities and fish habitat, and to plan mitigation measures where necessary.

20. CH Aquatic Ecology staff concur with recommendation (b) in the same letter regarding a field inspection of the kettle feature with an assessment of its environmental significance.

21. CH Aquatic Ecology staff concur with the third recommendation in the Hydrogeology report, which recommends a local well survey and water quality assessment to address potential road salt impacts. It is requested that this survey address the impacts that the additional road salt will have (if any) on nearby fish communities.

Appendix H – Fluvial Geomorphological

22. This report suggests that the lateral channel migration rate for R1 (where the preferred alternative is situated) is 0.14 metres per year (Sixteen Mile Creek). After an 80 year lifespan of the bridge structure, the channel will have moved 11.2 metres from where it currently exists. Once the channel migrates close enough to the bridge piers, it will be necessary to harden the banks of the watercourse to protect the bridge from the force of the water flowing down the creek. Hardening of creek banks is a detrimental approach to the management of fish habitat and should be avoided wherever possible. Because there are both Redside Dace and Silver Shiners in this watercourse, which are both listed as federally and provincially rare species, it is requested that a span bridge option be selected as the preferred crossing design to prevent the need for stream bank hardening following construction of the bridge.

We trust the above is of assistance. If you require additional information please contact the undersigned at extension 266.

Yours truly,

Jennifer Lawrence
Manager, Environmental Planning

cc: Ms Rita Juliao, Town of Oakville, Planning, fax
Mr. Rob Thun, Town of Oakville, Planning, fax
Mr. Dave Bloomer, Town of Oakville, Engineering, fax
Mr. Andrew Head, Region of Halton, Planning, email

jl/devl planning\ea\Halton\Burnhamthorpe\aquatic draft esr.doc

PROTECTING THE NATURAL ENVIRONMENT FROM LAKE TO ESCARPMENT

2596 Britannia Road West
RR2, Milton, Ontario L9T 2X6
905.336.1158 Fax 905.336.7014
www.conservationhalton.on.ca

January 27, 2009

Mrs. Melissa Green-Battiston
Region of Halton
1151 Bronte Road
Oakville, ON
L6J 5A6

Dear Mrs. Green-Battiston:

Re: North Oakville Transportation Corridor EA
Draft ESR
Region of Halton response to Conservation Halton Comments – December 10, 2008
CH File: MPR 337

Staff of Conservation Halton has reviewed the draft response table prepared by the Region of Halton. We note that the Table submitted for review is considered Draft in nature; therefore staff will confirm that our comments have been addressed when the revised EA is reviewed.

Staff's comments have been provided in numerical order, corresponding to the consultant's response (and our previous comments dated September 12, 2008 and September 16, 2008).

1. Staff note that the Natural Environment Report will be updated include the various mitigation measures discussed in this section. With respect to the speed limit mitigation measure that staff proposed, we recommend that this be incorporated into the ecopassages mitigation measure, such that speed limits be lowered in areas were wildlife are known to cross. We note the Region's response that a 60km/h speed limit is appropriate for this corridor, which for the majority of the road is suitable; however a lower speed limit in these areas is warranted in conjunction with the creation of ecopassages. If is our understanding that the Region/Town are currently in discussions with the Ministry of Natural Resources regarding the creation of ecopassages and we look forward to reviewing the proposed passages at detailed design.

2. Staff looks forward to reviewing the additional information to be provided within the ESR.

3. It is our understanding that our recommendations will not be incorporated into the ESR as the proposal is to utilize only the information provided within the Town of Oakville's Official Plan in this section of the report and not the information provided within the North Oakville Creeks Subwatershed Study. As such, depending on whether or not all watercourses are represented appropriately elsewhere within the document, this item may remain as an issue of concern.

4. It is our understanding that our recommendations will not be incorporated into the ESR as the proposal is to utilize only the information provided within the Town of Oakville's Official Plan in this section of the report and not the information provided within the North Oakville Creeks Subwatershed Study. As such, depending on whether or not all floodplains are represented appropriately elsewhere within the document, this item may remain as an issue of concern.

5. Staff looks forward to reviewing the additional information to be provided within the ESR.

6. Staff apologize for not raising earlier the issue of utilizing Natural Hazards as one of the evaluation criteria to assess the short list of Alternative Solutions. We understand that the Region would not wish to revise the criteria at this stage of the EA process in light of the past extensive public consultation. As such, we withdraw our previous recommendation in this regard. We appreciate your proposal to include a discussion of hazard lands within the ESR. Staff notes that for future EAs/ESRs we do recommend that Natural Hazards should be used as one of the evaluation criteria in light of their potential risks to life and property. We look forward to reviewing how wet features and depressions identified in the NOCSS are incorporated into the ESR.

7. See Comments #6 regarding Natural Hazards. Thank-you for providing the proposed corrections to Exhibit 6-9. The 'Change to document' column doesn't discuss wet features and depressions, however, in light of the response to #6 above and #8 below, we look forward to reviewing how these features are incorporated into the ESR.

8. See comments #6 regarding Natural Hazards and wet features and depressions. Staff are supportive of utilizing the NOCSS SWM objectives and requirements and look forward to reviewing the SWM measures selected/proposed in the ESR.

9. Thank-you for providing the clarification within the table and during the December meeting. This has helped us to understand the larger timing context and to frame our comments.

10. We look forward to reviewing the additional information to be provided within the ESR. We trust that the design criteria utilized to determine each crossing's sizing will be included within the report and will demonstrate how it meets our regulatory requirements (in addition to MTO requirements).

11. Staff are supportive of the proposed changes and look forward to reviewing the more detailed information to be provided within the ESR.

12. Based on the more detailed information provided in the December 2008 meeting, staff are satisfied that due consideration has been given to the possibility of a minor alignment change at this location and we are satisfied that no change to the design is required. Staff would however like to note that we do not agree with the statement within the response table that the minor alignment changes that we asked to be considered would contradict the North Oakville East Secondary Plan. It is our understanding that minor alignment changes would not contradict the Secondary Plan, and only major changes would require an Official Plan Amendment. Please note that authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.

13. Thank-you for the clarification.

14. Staff looks forward to reviewing the additional information to be provided within the ESR.

15. Thank-you for incorporating our recommendation.

16. Staff looks forward to reviewing the additional information to be provided within the ESR.

17. Thank-you for incorporating our recommendation.

18. As noted during the December 2008 meeting, we had not requested that an alignment change be considered at this location but rather that it be recognized that creek realignment beyond the limits of the road right-of-way may be required due to the existing site conditions and that the costs (including land access requirements) associated with these additional works should be included within the project's cost estimates. We continue to make this recommendation. Authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.

19. Staff are satisfied that due consideration has been given to the possibility of a minor alignment change at this location and we are satisfied that no change to the design is required. Authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.

20. A site inspection is still required to determine the ultimate status of the watercourse located within the woodlot between Chainage 13+600 and 13+750, however, current site conditions (i.e. snow cover) would prevent a proper investigation at this point in time. In light of the timelines associated with this project, Conservation Halton's previous involvement in this project, the predicted relative minor nature of the watercourse and given the road alignment in this location will be largely fixed by the location of the Main Sixteen Mile Creek valley crossing, engineering staff would not require that further assessment of this crossing be provided at this time. However, staff would recommend that the ESR should identify this as an additional new watercourse crossing to be

addressed in a similar fashion to the other watercourse crossings. We note that additional assessment is warranted to determine final requirements at the detailed design stage.

21. Staff is satisfied that due consideration has been given to the possibility of a minor alignment change at this location and we are satisfied that no change to the design is required. Authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.

22. Staff is satisfied that due consideration has been given to the possibility of a minor alignment change at this location and we are satisfied that no change to the design is required. As discussed during the December 2008 meeting, staff recommends that creek realignment beyond the limits of the road right-of-way and interim drainage measures may be required due to the existing site conditions. We also recommend that the costs associated with these additional works (including land access requirements) should be included within the project's cost estimates. Authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.

23. Staff looks forward to reviewing the additional information to be provided within the ESR.

24. It is unclear if the fieldwork table will be revised or if just the field data sheets will be provided. Staff recommends that both the fieldwork table be updated to include the time of survey and the weather conditions as well as including the field data sheets in the report. Please note that to date we have not received field data sheets, and therefore staff is unable to confirm if the fieldwork completed is acceptable.

25. While staff appreciates that there will be a discussion outlining the modified protocol used for the amphibian surveys, discussion regarding why the accepted protocols were not adhered to is outstanding.

26. The response table makes note of SWD2-4 as the only provincially rare vegetation community within the Study Area, however Figure 2 lists FOD6-2 Fresh Moist Sugar Maple – Black Maple Deciduous Forest Type (designated as S3? or rare to uncommon) and FOD 7-4 Fresh Moist Black Walnut Lowland Deciduous Forest Type (designated as S2S3 or very rare) as occurring in the Study Area. Please confirm if these vegetation communities will be impacted by the project and revise the document to include a discussion of all of the rare vegetation communities within the Study Area.

27. to 38. Staff looks forward to reviewing the additional information to be provided within the ESR. Thank you for incorporating our comments and recommendations.

39. Staff would just like to clarify that the 50 year capacity referenced in our previous comments are related to aquatic ecology requirements and that there are additional hydrologic requirements from a flooding perspective as outlined in our Comment #10. We trust that the table's response that the ESR will be revised to include hydrological design standards means all hydrological criteria.

40. to 49. Staff looks forward to reviewing the additional information to be provided within the ESR.

50. With respect to the DFO Risk Management Framework, one pathway of effects between the proposed piers, abutments and footings could likely be an interruption in groundwater contribution to Sixteen Mile Creek. As such, in order to assess what appropriate mitigation techniques may be necessary to address this pathway of effect, it is requested that groundwater levels be assessed in the area where the piers, abutments and footings are to be constructed. It is also requested that groundwater levels be assessed in the area between where these structures are to be constructed and the adjacent edge of the creek. It is suggested that boreholes be dug to not only provide groundwater level information, but also to provide details on the soil types in these areas, to get a sense of the degree of connection (in terms of groundwater flow) between the location where the structures are to be installed and where groundwater is entering the creek.

51. to 52. Staff looks forward to reviewing the additional information to be provided within the ESR.

53. It is requested that replacement riparian areas disturbed due to construction staging and access routes be restored using ecologically appropriate restoration approaches. For example, the use of locally native species, species selected may need to be salt tolerant, species and planting layout should blend well with existing adjacent flora.

54. to 60. Staff looks forward to reviewing the additional information to be provided within the ESR.

Staff would like to thank the consultant on the format of their response. We found that this submission in combination with our December meeting greatly facilitated our review.

We trust the above is of assistance. If you require additional information please contact the undersigned at extension 283.

Yours truly,

Leah Smith
Environmental Planner
LS/

cc: Ms Rita Juliao, Town of Oakville, Planning
Mr. Rob Thun, Town of Oakville, Planning
Mr. Dave Bloomer, Town of Oakville, Engineering
Mr. Andrew Head, Region of Halton, Planning

Town of Oakville Meeting Minutes

AECOM
300 Water Street, Whitby, ON, Canada L1N 9J2
T 905.668.9363 F 905.668.0221 www.aecom.com

Minutes of Meeting

Date of Meeting:	December 1, 2008	Start Time: 1:00 pm
Location:	Halton Region - 1075 North Service Road	
Regarding:	Review of Comments Received on the Draft NNOTC ESR	
Attendees:	Darnell Lambert, Town of Oakville Dave Bloomer, Town of Oakville Rob Thun, Town of Oakville Melissa Green-Battiston, Halton Region Matt Krusto, Halton Region Nick Zervos, Halton Region Mike Delsey, AECOM Paula Neto, AECOM	

Mike Delsey provided an overview of the comments received on the draft NNOTC ESR. A hand-out was provided to the Town of Oakville that provided details of how their specific comments will be addressed in the final ESR. The Town of Oakville agreed to review the table and direct any additional questions or comments to the Halton Region.

The following issues were discussed in detail:

North Park

- The Town agreed with indicating the general location of the pedestrian grade separation on the plan at 13+850. The Town requested that we consider adding a footnote to the evaluation tables which advises that impacts to the North Park are discussed in a separate section of the ESR.

Old Bronte Road

- The Town suggested that a legal review is required for the access to Old Bronte Road from the NNOTC and the potential for injurious affection to the Town of Oakville.

Sixteen Mile Creek Structure

- The width of the pedestrian facility should be shown as a range (2.0 - 4.2m) and the bridge costs should reflect the maximum.

- The multi-use sidewalk will remain at 3m.

Existing Burnhamthorpe Road

- The ESR should include some discussion regarding the transfer of Existing Burnhamthorpe Road where not utilized by the NNOTC to the Town of Oakville. Future negotiations between the Region and Town will be required.
- The ESR should note the implications to the ROW. The following is wording to be used in the ESR with respect to the future transfer of existing Burnhamthorpe Road to the Town of Oakville:

  "Subsequent to the construction of the New North Oakville Transportation Corridor, the sections of existing Burnhamthorpe Road that are not utilized as part of the new corridor will be transferred to the Town of Oakville. The road would be transferred to the Town of Oakville in a reasonable state of repair representing existing conditions, however, future negotiations/agreement will be required between the Region and Town.

  In the interim, the Region will continue to maintain existing Burnhamthorpe Road and if development proceeds adjacent to the corridor prior to transfer of the road the Region will require dedication of the Regional right-of-way as per the Regional Official Plan or as identified in the New North Oakville Transportation Corridor and Crossing of the Sixteen Mile Creek Class Environmental Assessment Study Environmental Study Report."
- The Town is requested to provide comments on the wording above.

Alignment of the NNOTC

- Provide details regarding the constraints around alignment adjustments

General Comments

- Review the document with respect to the reference to safety.
- Clarify the CEAA requirements and First Nations section.
- Text regarding ecopassages should be added to the ESR based on the NOCSS.

Next Meeting: December 10, 2008 with MNR/MOE (10:00 – 12:00 pm)
December 10, 2008 with Conservation Halton (2:30 – 5:00 pm)
Region of Halton - 1075 North Service Road

Meeting Adjourned At: 2:30 pm Notes Taken By: Paula Neto

New North Oakville Transportation Corridor and Crossing of Sixteen Mile Creek Class EA Study

Meeting with Town of Oakville

Draft Environmental Study Report Comments

December 1, 2008

Halton REGION

Purpose of meeting:

- Highlight issues that will be addressed in the final ESR
- Discuss issues requiring further dialogue or where no change is proposed

Agenda

- Review agency comments:
  - Town of Oakville
  - Conservation Halton
  - Ministry of the Environment
  - Ministry of Natural Resources
- Discuss next steps

Town of Oakville Comments

Alignment of the NNOTC

- Addressed in final ESR:
  - Turning lanes will be shown at existing road intersections
  - High and medium constraint streams requiring crossings/culverts will be shown on the plans
  - Potential future intersections will be shown as per the North Oakville East Secondary Plan (January 2008) and the Draft North Oakville West Secondary Plan (October 2007)

Alignment of the NNOTC

- No change to the final ESR:
  - North Park
    - The impact to North Park has been minimized by locating the route adjacent to the landfill.
    - The park existed only as a concept at the time of the alignment evaluation and the park location and shape have evolved through the secondary plan process.
    - The evaluation tables will not be revised due to the extensive public consultation that was involved in their development, however text will be added to the report regarding the park.
    - The location of a pedestrian grade separation will be indicated on the plan (13+850) with a note that the location and additional property requirements for a pedestrian grade separation are to be determined by the Town of Oakville.
    - Shifting the alignment to the east closer to the landfill cannot be accommodated due to the proximity to SMA-7 watercourse.

Bronte Road Connection (Alternative 4) Concern with 2 Intersections

- The reference to a second intersection at Bronte Road presumably refers to the NNOTC access to the 4 private residences immediately to the north of the NNOTC intersection.
- The residential access road in not considered in the same context as a full road intersection. Traffic in/out will be minimal. The reduced spacing is therefore not considered to be an issue.
- Regarding access from Old Bronte Rd. to Dundas St. E., the study has assumed that a new north-south connection between NNOTC and Dundas St. would be in place when the NNOTC is extended to Bronte Rd. Footnote has been added to report Exhibit 6-15.

Sixteen Mile Creek Bridge

- Addressed in final ESR:
  - PA-1 will be updated to be consistent with text (i.e. height of pedestrian railing on structure, travel lane widths)
  - If the width of pedestrian facilities were increased from 2-3m to 4.2m, the bridge cost would increase by approximately $3.7M to $6.8M.
  - Notes have been added to the plans indicating that pedestrian facilities are the responsibility of the Town of Oakville and requirements will be determined at detailed design.

Editorial Comments

- Addressed in final ESR:
  - A discussion of transit along Burnhamthorpe Rd. has been added to Section 3.6
  - General editorial comments have been addressed such as:
    - dates of the NOESP/ Draft NOWSP
    - discussion of dust suppressants under mitigation
    - Exhibits 4-4 and 4-5 (natural environment maps) added
    - added Joshua's Creek to stream impacts list
    - Transport Canada's involvement
    - base map for Exhibit 7-6 (Watercourses by Category) added

Conservation Halton

Alignment of the NNOTC

- CH requested alignment changes at:
  - Watercourse JC-10A (19+300 on Sheets 15 and 16) - crossing of Joshua's Creek
  - Watercourse 16WA-1A (12+400 Sheets 5 and 6) - crossing of a Sixteen Mile Creek tributary
  - JC-14 (20+400)
  - Watercourse 14E-2A (10+700 Sheets 1 and 2) - Fourteen Mile Creek
- No changes are proposed to the alignment given the NOESP approval and draft NOWSP

Sixteen Mile Creek Bridge

- Geotechnical - A site visit has been conducted by Golder Associates. Consideration of construction disturbances and slope stability impacts from the loss of vegetation and construction access will be discussed further in the ESR.
- Bridge Structure/Construction – extensive public and agency consultation occurred during the route and structure selection process. The route was changed to accommodate the best crossing of the Sixteen Mile Creek with the lowest impact.
  - The cost of the options that spanned the valley would be $40-80 million more than the recommended structural alternative.
  - The piers for the preferred structure are planned within the valley and would be located outside the meander belt width.
  - Specific issues regarding girder delivery into the valley will be dealt with at detailed design.

Mitigation Measures

- Edits/additions to the mitigation section will be made such as:
  - Clarify impacts to riparian cover and permanent losses of vegetation
  - A discussion of wet features and depressions will be added
  - A water quantity section will be added to the mitigation table (Exhibit 8-2)
  - Use of upgraded silt fencing
  - Local well survey and road salt impacts along Dundas
  - Construction mitigation measures to be added for the protection of fish habitat
- A summary of mitigation/monitoring commitments will be included in the final ESR.

Natural Environment Report

- The following edits will be made to the Natural Environment report/ESR:
  - Constraint map will be produced with all natural heritage features and the NNOTC alignment
  - NOCSS will be referenced for fisheries information
  - Fourteen Mile Creek will be added to the discussion
  - Add provincially rare or uncommon vegetation communities
  - Use Halton Natural Areas Inventory (2006) to update Varga for plant and wildlife species
  - Discussion of the North Oakville-Milton East Wetland PSW complex to be added
  - Discussion of thermal status designations and the need to preserve natural temperature regime to be added
  - Other general editorial suggestions will be addressed

Issues to be further investigated

- To be provided in the final ESR
  - Culvert sizing at 25 crossings based on review of meander belt width and/or bank full width compared to hydraulic capacity (no detailed hydraulic modeling – defer to detailed design).
  - Close up mapping of individual culvert crossings with orthoimagery and meander belt and bank full widths labeled.
  - In lieu of Secondary Plan phasing information (Secondary Plan SWM Plan not yet available), each watercourse outfall will be reviewed on conceptual basis to identify preferable SWM measures or techniques appropriate or feasible for each location on an interim and long term basis.
  - Selection of proposed SWM measures will be based on satisfying SWM objectives/requirements as per NOCSS.

Issues for Detailed Design Stage

- The following issues will be dealt with at detailed design and not specifically detailed in the final ESR:
  - Lighting
  - Ecopassages and other treatments
  - Tree preservation plan
  - Compensation plantings
- A general discussion of the above will be included in the final ESR

Ministry of the Environment

Editorial Comments

- General edits to the ESR will be made including:
  - Clarification of kettle features
  - Rural vs urban cross section references
- Stormwater discussion to be provided in Section 7 of ESR
- Noise Assessment - clarification of methodology will be provided including:
  - Noise receptors considered
  - Future status of receptors
  - Discussion of feasibility of other measures to mitigate noise

Ministry of Natural Resources

Alignment of the NNOTC

- MNR concerned with impacts of recommended route (E1) (bisects core areas) and suggested E3 route as an alternative.
- Alternative E1 follows that of the NOESP. A route change would have a bearing on land use plans. The description and justification for the selection of E1 will be clarified in the final ESR to ensure MNR comments are reflected in text.
- No route change recommended

MOE/MNR Meeting Minutes

AECOM

AECOM
300 Water Street, Whitby, ON, Canada L1N 9J2
T 905.668.9363 F 905.668.0221 www.aecom.com

Minutes of Meeting

Date of Meeting:	December 10, 2008	Start Time:	10:00 am
Location:	Halton Region - 1075 North Service Road		
Regarding:	Review of Comments Received on the Draft NNOTC ESR		
Attendees:	John Pispasio, MNR Shannon McNeill, MOE (via teleconference) Rob Thun, Town of Oakville Melissa Green-Battiston, Halton Region Matt Krusto, Halton Region Mike Delsey, AECOM Paula Neto, AECOM		

Melissa Green-Battiston and Mike Delsey provided an overview of the comments received on the draft NNOTC ESR. The following issues were discussed in detail:

<u>Wildlife Crossings</u>

- MNR discussed concerns with respect to the north-south section of the corridor adjacent to the landfill site (North Park area) and the ability for wildlife crossings, particularly deer. MNR has requested that crossings for large and small mammals be provided.
- Ecopassages for large mammals typically require strategic fencing, extensive signing and a possible grade separated passage. It was suggested that there are no set standards for underpasses although literature suggests 3-4 m high and 7-9 m wide for large mammals such as deer.
- MNR requested clarification of the Region's long term commitments for the landfill site including the use of the landfill site (i.e. recreation) and whether or not the site would be fenced in the future. MNR understood that the landfill site would not be fenced to allow for the movement of wildlife. AECOM to review applications in western Canada.

<u>Amphibian Crossings</u>

- MNR indicated that an amphibian crossing is required where the alignment crosses the core east of Sixth Line (between 18+200 and 18+400). This item will be added to the "table of commitments" which will form part of the final ESR.

Pitted Depressions

- Kettle Features as documented in the ESR are to be referred to as Pitted Depressions. The ESR will be reviewed to change the reference. Ray Tufgar should be consulted with respect to additional information of the Pitted Depressions. MNR can provide additional information on the Pitted Depressions. Additional information should be included in the ESR and further reviewed at detailed design.

Stormwater Ponds

- MNR advised that stormwater ponds as well as stormwater criteria outlined in the North Oakville Creek Subwatershed Study must be adhered to.

Other Comments

- MOE requested that formal confirmation be obtained from ORC with respect to meeting their EA requirements.
- It was committed that minutes and subsequent letter on all issues discussed would be issued to both MNR and MOE.

Meeting Adjourned At: 11:15 am Notes Taken By: Paula Neto

New North Oakville Transportation Corridor and Crossing of Sixteen Mile Creek Class EA Study

Meeting with MOE and MNR
Draft Environmental Study Report Comments
December 10, 2008

Halton REGION

Purpose of meeting:

- Highlight issues that will be addressed in the final ESR
- Discuss issues requiring further dialogue or where no change is proposed

Agenda

- Review agency comments:
  - Ministry of the Environment
  - Ministry of Natural Resources
- Discuss next steps

Ministry of the Environment

Editorial Comments

- General edits to the ESR will be made including:
  - Clarification of kettle features
  - Rural vs urban cross section references
- Stormwater discussion to be provided in Section 7 of ESR
- Noise Assessment - clarification of methodology will be provided including:
  - Noise receptors considered
  - Future status of receptors
  - Discussion of feasibility of other measures to mitigate noise

Ministry of Natural Resources

Rationale for Selection of Route E1

MNR concerned with impacts of recommended route (E1) (bisects core areas) and suggested E3 route as an alternative

- E1 allows for better access control limiting potential conflict points
- E1 supports future development/redevelopment and future recreational opportunities
- The rural character of the existing roadway could be maintained with no impact to existing "character" buildings
- The majority of properties fronting Burnhamthorpe Road can be avoided
- There would be relatively minor impacts and disruption to existing residences and businesses, existing utilities and services
- There is potential for property to be designated to Halton Region through development applications

Rationale for Elimination of Route E3

- E3 was the least compatible with the Region's Transportation Master Plan
- E3 had the greatest impacts to natural heritage system connectivity, groundwater and surface water and moderate impacts to wetlands, marsh areas and fluvial geomorphology conditions
- E3 is inconsistent with the NOESP and impacts future recreational opportunities
- E3 has the greatest relative impacts on properties
- There would be moderate impacts and disruption to existing residences and business and existing utilities and services

MG-B.

Ministry of the Environment

Central Region
Technical Support Section

5775 Yonge Street, 8th Floor
North York, OntarioM2M 4J1

Tel.: (416) 326-6700
Fax: (416) 325-6347

Ministère de l'Environnement

Région du Centre
Section d'appui technique

5775, rue Yonge, 8ième étage
North York, Ontario M2M 4J1

Tél. : (416) 326-6700
Téléc. : (416) 325-6347

Ontario

September 8, 2008

File: 05-02-05

Melissa Green-Battison, P.Eng.
Planning & Public Works
The Regional Municipality of Halton
1151 Bronte Road
Oakville, Ontario, L6M 3L1

RE: New North Oakville Transportation Corridor and Crossing of Sixteen Mile Creek
The Regional Municipality of Halton
Municipal Class Environmental Assessment - Schedule C
Response to Draft Environmental Study Report - Technical Support Section Comments

Dear Ms. Green-Battison:

The Ministry of the Environment (MOE), Central Region Technical Support Section has received your draft Environmental Study Report (ESR) for the above noted environmental assessment.

It is our understanding that the Recommended Route for the New North Oakville Transportation Corridor includes a western segment from Bronte Road to Neyagawa Boulevard (Alternative W6), and an eastern segment from Neyagawa Boulevard to Ninth Line (Alternative E1). The Recommended Design includes a 4-lane roadway with 2 through lanes per direction, on-road bike lanes, a 3 metre multi-use pathway on both sides of the roadway, and a new bridge crossing of Sixteen Mile Creek.

We provide the following comments on the draft ESR:

1. Please revise Section 6.6.1 under Kettle Features to clarify that only warm kettles are expected to exist in the study area, however a survey to identify the locations of both warm and cold kettle features will be undertaken. In addition, please revise the section to commit to mitigating any potential impacts to warm or cold kettle features that may be identified.

2. It is understood that a basic 4-lane urban cross-section will be provided throughout the corridor. Please revise Section 6.6.1 under Well Water Quality to remove the reference to a rural cross-section. Please confirm if the discussion regarding the vulnerability of well water quality is still valid, and revise as necessary. In addition, we suggest that the identified water quality assessment should be completed prior to detailed design to ensure that mitigating any impacts will not result in any financial or scheduling conflicts with construction.

3. It is understood that details regarding the management of stormwater runoff for the proposed transportation corridor will be addressed as part of the North Oakville Secondary Plan. Please provide at least a preliminary summary of the stormwater management plan in Section 7, including:
    a. Phasing for construction of the road works and adjacent development.
    b. General sewer routes and potential locations for ponds or other facilities.
    c. Treatment objectives and proposed methods.
    d. Any proposed interim measures to control stormwater, if there will be a lag between the construction of the road and the implementation of the Secondary Plan.

4. Please provide some additional justification for the methodology used to assess noise impacts in Appendix G. In particular please address the following:
    a. Clarify why only two receptors were selected to assess noise impacts (e.g. are these two characteristic of the other receptors, were they selected as the receptors that would experience the highest impact, etc.).
    b. It is understood that certain receptors used in the noise assessment are houses that have been identified for removal. Please indicate which receptors are proposed to be removed.
    c. A number of potential noise mitigation measures (berms, vertical and horizontal alignment shifts, road cuts and the use of quieter pavement surfaces) were identified, however only the construction of noise barriers was assessed for feasibility. Please discuss the feasibility and effectiveness of these other measures. If some of these measures will be incorporated into the corridor as basic design principles, please indicate this.

5. We defer any comments on the assessment, impacts and mitigation of natural features including surface water, wetlands and environmentally sensitive areas to the Ministry of Natural Resources (MNR). Please ensure that comments from MNR are incorporated into the final ESR.

6. Please ensure that you consult with the MOE Central Region Permit to Take Water (PTTW) Coordinator prior to detailed design to confirm any approval requirements for water takings during construction or operation. This includes groundwater or surface water extraction, and the active diversion of surface water flows by pumping.

7. Please ensure that you consult with the MOE Environmental Assessment and Approvals Branch prior to detailed design to confirm any Certificate of Approval requirements for the proposed works.

Thank you for the opportunity to comment on this project. Please provide a response letter outlining how the preceding comments have been addressed, and a copy of the final ESR for our file.

Should you or any members of your project team have any questions, please feel free to contact me at 416-326-4839.

Yours truly,

Alex Blasko
Environmental Resource Planner and EA Coordinator
Air, Pesticides and Environmental Planning

c. John Pisapio, MNR
Central Region EA File
A & P File

From: Green-Battiston, Melissa [Melissa.Green-Battiston@halton.ca]
Sent: Friday, September 12, 2008 3:03 PM
To: Mike Delsey; Paula Neto
Cc: Zervos, Nick; Krusto, Matt
Subject: FW: New North Oakville Transportation Corridor Draft ESR

Please see attached comments from Ministry of Natural Resources.

Melissa Green-Battiston, P. Eng.

Transportation Engineer
Transportation Services
Regional Municipality of Halton
1151 Bronte Road
Oakville, ON L6M 3L1

Tel: (905) 825-6000 ext 7623
Fax: (905) 825-8822
Email: melissa.green-battiston@halton.ca

From: Pisapio, John (MNR) [mailto:john.pisapio@ontario.ca]
Sent: Friday, September 12, 2008 2:20 PM
To: Green-Battiston, Melissa
Cc: Farrell, Tom (MNR)
Subject: RE: New North Oakville Transportation Corridor Draft ESR
Melissa,

Re: New North Oakville Transportation Corridor Class (EA) – Natural Environment Report

MNR has reviewed the above noted report and offers the following comments.

On page 3 of the report “Agency Correspondence and Meetings” MNR’s letter of August 5, 2005 to Mike Delsey of THS and Edward Soldo of Halton Region is absent from the list of correspondence; and should be included. In our letter, MNR emphasizes that it would not support a bridge crossing of Sixteen Mile Creek through the central portion of the Sixteen Mile Creek ANSI / ESA and North Oakville core area because any such routes would result in maximum fragmentation of this regionally significant forested area. Therefore, MNR is pleased to note that the preferred alternative, identified in the EA report as W6, crosses the valley at the north end of Lions Valley Park, thereby avoiding substantial fragmentation of the area. The portion of the W6 route extending west of the Sixteen Mile Creek valley is also supported by MNR because it follows the northern boundary of developable lands north of Dundas, thereby avoiding additional fragmentation of lands included as part of the North Oakville Natural Heritage System.

However, the portion of the W6 route extending east of the Sixteen Mile Creek valley and connecting the ‘E’ routes is of concern to MNR. The E1 option identified as the preferred alternative bisects the major east – west connection between the Sixteen Mile Creek core area

and the Neyagawa core area. In our August 5, 2005 letter, MNR also advised that the evaluation criteria for any proposed transportation corridor alignment needed to include consideration of " regional corridor function for wildlife passage". This criterion does not appear to have been addressed as part of the EA report. The E1 route west of Neyagawa Blvd creates an additional north – south crossing of the Natural Heritage System that can be expected to result in the additional disruption of wildlife passage as well as creating a concentration point for deer / vehicle collisions.

Extending further east, E1 also segregates woodlots west of Sixth Line and Trafalgar Road. These woodlots support a high number of provincially significant wetlands that are habitat for regionally rare breeding amphibians such as chorus frogs and spring peepers. The crossing of the NHS linkage between these woodlots can be expected to result in substantial amphibian road mortality and effectively divides and the existing populations of breeding frogs utilizing this area.

In light of the impacts on natural heritage values and NHS function resulting from the E1 route, MNR would request that additional consideration be given to the E3 route which extends primarily to the south of the NHS.

Please don't hesitate to contact me directly if any further information of clarification is required.

Sincerely,

John Pisapio
Biologist
Ministry of Natural Resources
Aurora District
(905) 713 - 7387

From: Green-Battiston, Melissa [mailto:Melissa.Green-Battiston@halton.ca]
Sent: Friday, September 12, 2008 11:52 AM
To: Pisapio, John (MNR)
Subject: New North Oakville Transportation Corridor Draft ESR

John,
A copy of the Draft ESR for the New North Oakville Transportation Corridor and Crossing of the Sixteen Mile Creek was sent to the Ministry of Natural Resources on July 14, 2008 for review and comment. As part of the covering letter, it was requested that comments be provided by no later than Friday, September 12th. If you could provide your comment as soon as possible that would be greatly appreciated.
If you have any questions or require additional information, please do not hesitate to me.

Melissa Green-Battiston, P. Eng.
Transportation Engineer
Transportation Services
Regional Municipality of Halton
1151 Bronte Road
Oakville, ON L6M 3L1

Tel: (905) 825-6000 ext 7623
Fax: (905) 825-8822
Email: melissa.green-battiston@halton.ca

Public Works
Transportation Services
1151 Bronte Road
Oakville ON L6M 3L1
Fax: 905-847-2192

April 30, 2010

Ms. Jennifer Lawrence
Manager, Environmental Planning
Conservation Halton
2596 Britannia Road West
Burlington ON
L7P 0G3

Dear Ms. Lawrence:

RE: New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment Study

The project team would like to thank Conservation Halton for their involvement in the New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment (EA) Study and for the comments submitted on the draft Environmental Study Report.

The study process as set out in the Municipal Engineers Association Municipal Class Environmental Assessment document for a Schedule "C" project has been applied to this study. The Environmental Study Report has been completed and by this letter and attached Notice of Study Completion is being placed in the public record for review until **June 7, 2010**.

Three hard copies of the Environmental Study Report and Appendices are provided for your review and records. The field data sheets from the natural environment review team have been attached as requested. In addition, we have included the following previously provided documents for your records:

- Minutes and presentation slides from the December 10, 2008 meeting
- Comments submitted by Conservation Halton and responses in tabular format

If you have any questions or require additional information, please contact the undersigned at 905-825-6000, ext. 7623.

Sincerely,

Melissa Green-Battiston

Melissa Green-Battiston, P. Eng.
Transportation Engineer
melissa.green-battiston@halton.ca

AECOM
300 Water Street, Whitby, ON, Canada L1N 9J2
T 905.668.9363 F 905.668.0221 www.aecom.com

Minutes of Meeting

Date of Meeting: December 10, 2008 Start Time: 2:30 pm

Location: Halton Region - 1075 North Service Road

Regarding: Review of Comments Received on the Draft NNOTC ESR

Attendees:
Janette Brenner, Conservation Halton
Samantha Mason, Conservation Halton
Lesley Matich, Conservation Halton
Leah Smith, Conservation Halton
Dave Blommer, Town of Oakville
Chalie McConnell, Town of Oakville
Rob Thun, Town of Oakville
Melissa Green-Battiston, Halton Region
Matt Krusto, Halton Region
Nick Zervos, Halton Region
Mike Delsey, AECOM
Sean Spisani, AECOM
Paula Neto, AECOM

Mike Delsey provided an overview of the comments received on the draft NNOTC ESR with particular attention to alignment adjustments. The following issues were discussed in detail:

Alignment Adjustments

- Adjustments to the alignment in the area of JC-10A, JC-14, 16WA-1A, 14E-2A were discussed in detail. It was determined that there were numerous constraints at each of the creek crossing locations making it difficult to accommodate any adjustments to the alignment. Conservation Halton will review each of the crossings in light of the meeting discussions and provide additional comments.
- Conservation Halton suggested that additional commitments with respect to the individual channels will be required. The “table of commitments” to be included in the final ESR will include the suggested commitments once received from Conservation Halton.

North Oakville Creeks Subwatershed Study

- Conservation Halton requested that the mitigation measures from the North Oakville Subwatershed Study be added to the final ESR.
- Conservation Halton requested that information regarding ecopassages as discussed in the North Oakville Creeks Subwatershed Study be added to the final ESR. Two areas in particular were noted: 1) large mammal crossing near Sixteen Mile Creek and 2) an amphibian crossing east of Sixth Line.

Thermal Status

- Thermal status designations obtained through temperature loggers will be required prior to detailed design. It was identified that if the crossing is 'open bottom' this work is not required. The information may be derived from other sources as long as current which may eliminate some of the crossings needing temperature loggers.

Meander Belt Width

- Conservation Halton requested information on the meander belt width beyond the 100 year time frame provided. The concern relates to the future need for bank hardening due to erosion.

Other Comments

- Conservation Halton will review the summary table of comments and responses and provide feedback in early January 2009.
- It was committed that minutes would be issued to Conservation Halton.

Meeting Adjourned At: 3:30 pm Notes Taken By: Paula Neto

New North Oakville Transportation Corridor and Crossing of Sixteen Mile Creek Class EA Study

Meeting with Conservation Halton
Draft Environmental Study Report Comments
December 10, 2008

Halton REGION

Purpose of meeting:

- Highlight issues that will be addressed in the final ESR
- Discuss issues requiring further dialogue or where no change is proposed

Agenda

- Review comments
- Discuss next steps

Alignment of the NNOTC

- Requested alignment changes at Watercourse JC-10A (19+300 on Sheets 15 and 16) - crossing of Joshua's Creek
  - The separation distance from 407 ETR ramp of 450 m must be maintained
  - A new transit station is planned south of the 407 ETR ramp on the west side of Trafalgar Road. Access to the station is approximately 250m to the south
  - The locations of stream delineations are approximate and have not been field checked (by others)
  - An alignment change would have a bearing on land use plans (NOESP)

Alignment of the NNOTC

- Requested alignment changes at Watercourse 16WA-1A (12+400 Sheets 5 and 6) - crossing of a Sixteen Mile Creek tributary
  - An alignment shift to the north at this location would require the same shift north as far west as 10+500
  - This results in impacts to the alignment negotiated with Conservation Halton to avoid other natural environment features
  - An alignment change would have a bearing on land use plans including ORC and the Halton Healthcare Services new hospital site west of Third Line

Alignment of the NNOTC

- Requested alignment changes at Watercourse JC-14 (20+400 on Sheets 17 and 18)
  - The alignment would require a shift to the north and a shift of 4 proposed intersections (as per NOESP) further west
  - The resulting intersection spacing would not meet Regional standards (i.e. <320 m spacing at 2 intersections and <400m to Trafalgar Road)
  - A route change would have a bearing on land use plans (NOESP)

Alignment of the NNOTC

- Requested alignment changes at Watercourse 14E-2A (10+700 Sheets 1 and 2) - Fourteen Mile Creek
  - An alignment shift to the north at this location would require the same shift north as far east as 12+400 and would impact the connection to Bronte Road
  - This results in impacts to the alignment negotiated with Conservation Halton to avoid other natural environment features
  - A route change would have a bearing on land use plans including ORC and the Halton Healthcare Services new hospital site west of Third Line

Sixteen Mile Creek Bridge

- Geotechnical - A site visit has been conducted by Golder Associates. Consideration of construction disturbances and slope stability impacts from the loss of vegetation and construction access will be discussed further in the ESR and addressed at detailed design.
- Bridge Structure/Construction – extensive public and agency consultation occurred during the route and structure selection process. The alignment was located to accommodate the best crossing of the Sixteen Mile Creek with the lowest impact.
  - The cost of the options that spanned the valley would be $40-80 million more than the recommended structural alternative.
  - The piers for the preferred structure are planned within the valley and would be located outside the meander belt width.
  - Specific issues regarding girder delivery into the valley will be dealt with at detailed design.

Mitigation Measures

- Edits/additions to the mitigation section will be made such as:
  - Clarify impacts to riparian cover and permanent losses of vegetation
  - A discussion of wet features and depressions will be added
  - A water quantity section will be added to the mitigation table (Exhibit 8-2)
  - Use of upgraded silt fencing
  - Local well survey and road salt impacts along Dundas
  - Construction mitigation measures to be added for the protection of fish habitat
- A summary of mitigation/monitoring commitments will be included in the final ESR.

Natural Environment Report

- The following edits will be made to the Natural Environment report/ESR:
  - Constraint map will be produced with all natural heritage features and the NNOTC alignment
  - NOCSS will be referenced for fisheries information
  - Fourteen Mile Creek will be added to the discussion
  - Add provincially rare or uncommon vegetation communities
  - Use Halton Natural Areas Inventory (2006) to update Varga for plant and wildlife species
  - Discussion of the North Oakville-Milton East Wetland PSW complex to be added
  - Discussion of thermal status designations and the need to preserve natural temperature regime to be added
  - Other general editorial suggestions will be addressed

Issues to be further investigated

- To be provided in the final ESR
  - Culvert sizing at 25 crossings based on review of meander belt width and/or bank full width compared to hydraulic capacity (no detailed hydraulic modeling – defer to detailed design).
  - Close up mapping of individual culvert crossings with orthoimagery and meander belt and bank full widths labeled.
  - In lieu of detailed development SWM Plan (not yet available), each watercourse outfall will be reviewed on a conceptual basis to identify preferable SWM measures or techniques appropriate or feasible for each location on an interim and long term basis.
  - Selection of proposed SWM measures will be based on satisfying SWM objectives/requirements as per NOCSS.
  - Ecopassages and other treatments.

Issues for Detailed Design Stage

- The following issues will be dealt with at detailed design however, a general discussion of the following will be included in the final ESR:
  - Lighting
  - Tree preservation plan
  - Compensation plantings

Comments received from Conservation Halton
September 12 & 16, 2008
January 27, 2009

Comment #	Agency comments	Response and Action Taken
Letter dated September 12, 2008 from Conservation Halton		
1.	Section 4.2, Natural Environment – Staff note that the final preferred alignment from the main report (Part I) does not appear to be the same as the proposed alignment in the Natural Environment Report prepared by Gartner Lee Limited (Appendix E). While the preferred alignment of the corridor will have considerable impacts on the natural heritage system, we do acknowledge the amount of pre-consultation that was undertaken to reach the present alignment. Given the impact, the need for mitigation measures is warranted however, those presented in Exhibit 8-1 are general in nature and do not include those presented within the Natural Environment Report. Therefore, we offer the following additional mitigation measures that should be implemented as per the North Oakville Creeks Subwatershed Study (NOCSS) and the Natural Environment Report:	The Natural Environment report has been updated to reflect the preferred alignment, including the addition of the preferred alignment to all exhibits.
	• Servicing should be installed under the road to limit the size of the right of way (RoW). The RoW should be as narrow as possible to limit the impact of the road on natural features;	A 35m road ROW is required as per the Regional Official Plan.
	• If possible, when the road is located within the Cores, staff recommend that sidewalks be limited to one side of the street to decrease the footprint;	Location of sidewalks to be reviewed with the Town of Oakville during detailed design in consideration of the North Oakville Creeks Subwatershed Study.
	• When the road is situated within a natural heritage feature, lighting should be directed at the road to limit the amount of light pollution and its impacts on the natural feature;	Item has been added to Exhibit 8-1: Detailed Design Commitments (#26).
	• As per Section 7.4.2.7 of the NOCSS (Wildlife Crossings), there is need for the installation of ecopassages in the Sixteen Mile Creek, associated contiguous woodlands and neighbouring Cores due to the high potential for wildlife crossing collisions. There are a variety of ecopassages outlined in the NOCSS that should be discussed in the EA to direct the features incorporated at detailed design such as dry culverts to allow for the movement of mammals and herpetofauna, creating appropriate sight lines and installing signage as well as ensuring at grade crossings are incorporated into design;	A section regarding wildlife crossings/ecopassages as per the NOCSS has been added to Section 6.6.1 of the ESR and Exhibit 8-1: Detailed Design Commitments (#27 and #29).
	• Speed limits in the Core areas should be reduced to limit the potential collisions with wildlife;	Warning signs with an advisory speed tab will be implemented through core area crossings. This item has been added to Exhibit 8-1: Detailed Design Commitments (#28). The current speed limit of 60km/hr is appropriate for this corridor.
	• A tree preservation plan in vegetated areas should be submitted for review at detailed design;	
	• Restoration works should be limited to include only locally native, non-invasive species;	Section 6.6.1 of the ESR includes this requirement and Exhibit 8-1: Detailed Design Commitments (#24).
	• Noise impacts to wildlife resulting from the new road should be assessed and mitigated where possible. As the new road has been intersecting interior forest habitat there will potentially be impacts on area sensitive species of birds as well as other wildlife within the valley. Mitigation measures such as smooth surfaces should be looked at to decrease the impact from noise;	Potential impact noted. The noise assessment was completed following the methodology of the MTO Noise Manual, MOE/MTO Noise Protocol, and MTO Directive A1. Under the provisions of the MTO/MOE Noise Protocol, mitigation is to be considered for the receiver locations with a greater than 5 dBA increase. However, due to the location and orientation of the noise sensitive areas, noise mitigation was not considered to be technically, economically and administratively feasible; however, smooth surfaces will be used for the new road.
	• Given the level of vegetation clearing required, staff recommend that compensational plantings be established to offset the impacts of two large sections of Core being removed as well as the removal of linkages and a provincially rare vegetation community will	Section 6.6.1 of the ESR includes this requirement and Exhibit 8-1: Detailed Design

Comment #	Agency comments	Response and Action Taken
	have on wildlife habitat. This will replicate the function that these areas provide for wildlife. Staff would be willing to discuss suitable locations with the Region to determine where this compensation would be best situated. Please refer to the comment below on the mitigation measures of the Natural Environment Report; • All mitigation measures from the Natural Environment Report should be included in the main report and incorporated into the detailed design stage. In addition, to the above, staff recommend that the Study Area's Natural Hazards be identified within this section under one of the existing subsections or as a separate subsection. Natural hazards are typically those hazards associated with erosion, flooding, unstable bedrock and unstable soils. Information on natural hazards and required setback requirements can be obtained from the North Oakville Creeks Subwatershed Study and Conservation Halton. Staff also recommend that all wet features and depressions, as identified within the North Oakville Creeks Subwatershed Study, should be discussed within this section, again either within an existing subsection or as a separate subsection.	Commitments (#24). The mitigation measures from the Natural Environment report were included in the ESR. A discussion of natural hazards has been added to Section 6.6.1 of the ESR. A discussion of wet features has been added to Sections 4.3.3 and 6.6.1 of the ESR and to Exhibit 8-1: Detailed Design Commitments (#17-19).
	Letter dated January 27, 2009 from Conservation Halton	
	Staff note that the Natural Environment Report has been updated include the various mitigation measures discussed in this section. With respect to the speed limit mitigation measure that staff proposed, we recommend that this be incorporated into the ecopassages mitigation measure, such that speed limits be lowered in areas were wildlife are known to cross. We note the Region's response that a 60km/h speed limit is appropriate for this corridor, which for the majority of the road is suitable; however a lower speed limit in these areas is warranted in conjunction with the creation of ecopassages. If is our understanding that the Region/Town are currently in discussions with the Ministry of Natural Resources regarding the creation of ecopassages and we look forward to reviewing the proposed passages at detailed design.	Commitments have been included in Exhibit 8-1: Detailed Design Commitments (#27 - 29) of the ESR to ensure that amphibian crossing/passageways are provided east of Sixth Line, warning signs with an advisory speed table in core area crossings are posted, and a wildlife crossing at North Park will be implemented.
2.	Section 4.2.1, Fisheries and Aquatic Habitat, page 63-64, while staff appreciate the discussion with respect to fish habitat within this section, we note that the previous studies that are referenced are often more than 8 years old. We recommend reference be made to the North Oakville Creeks Subwatershed Study for more recent fisheries information. In addition, under the heading 'Fourteen Mile Creek', it is stated that the Fourteen Mile Creek lies entirely outside of the Study Area however, a tributary of Fourteen Mile Creek is in fact within the Study Area on the east side of Regional Road 25. Staff looks forward to reviewing the additional information to be provided within the ESR (**Letter dated January 27, 2009 from Conservation Halton)**.	Section 4.2.1 of the ESR was updated.
3.	Section 4.2.2, Vegetation and Terrestrial Habitat, Exhibit 4-4 (Existing Natural Environmental Conditions – Valley Lands, Woodlands, Natural Corridor and Wildlife Habitat), Page 66 –Staff recommend that this figure be revised to illustrate all watercourses identified by the North Oakville Creeks Subwatershed Study. In addition, please see comments below with respect to Sheets 7 and 8.	A new exhibit (Exhibit 4-4: Ecological Land Classification) has been added to the ESR that includes vegetation communities and watercourses. This exhibit uses information provided within the NOCSS.
	Letter dated January 27, 2009 from Conservation Halton	
	It is our understanding that our recommendations will not be incorporated into the ESR as the proposal is to utilize only the information provided within the Town of Oakville's Official Plan in this section of the report and not the information provided within the North Oakville Creeks Subwatershed Study. As such, depending on whether or not all watercourses are represented appropriately elsewhere within the document, this item may remain as an issue of concern.	See above comments.
4.	Section 4.2.3, Wetlands and Environmentally Sensitive Areas, Exhibit 4-5 (Existing Natural Environmental Conditions – ESAs, Wetlands, and ANSIs), Page 68 – Staff recommend that this exhibit be revised to remove Floodplains from the legend and the figure as floodplains are not applicable to the discussion provided in this section. If floodplains are added to this section, the figure should be updated to	Updated ESR and the Natural Environment report as required.

Comment #	Agency comments	Response and Action Taken
	illustrate all floodplains as identified by the North Oakville Creeks Subwatershed Study.	
	Letter dated January 27, 2009 from Conservation Halton	
	It is our understanding that our recommendations will not be incorporated into the ESR as the proposal is to utilize only the information provided within the Town of Oakville's Official Plan in this section of the report and not the information provided within the North Oakville Creeks Subwatershed Study. As such, depending on whether or not all floodplains are represented appropriately elsewhere within the document, this item may remain as an issue of concern.	Updated as noted above.
5.	Section 4.2.4, Surface Water, page 68 – As noted above, Fourteen Mile Creek is within the Study Area. As such, some discussion of this watercourse should be included in this section.	Section 4.2.1 of the ESR has been revised.
6.	Section 5.3, Assessment of the Short List of Alternative Solutions, Page 86 & Exhibit 5.2 – Staff recommend that Natural Hazards should be one of the criteria utilized to assess the short list of Alternative Solutions. Staff further recommend that all wet features and depressions, as identified within the North Oakville Creeks Subwatershed Study, should be considered as part of the assessment though it is recognized that a higher priority would be given to the protection of wetlands.	No more than 6 wet features and depressions (as identified by the NOCSS) were crossed in each alignment (primarily pits). These depression areas are not picked up by MNR (2006a) PSW or ELC mapping of the subject area (Section 3.3.1 of the Natural Environment Report). The NOCSS (2006) Management Report (Section 6.3.4.4) indicates this feature mapping includes "a number of relatively small depressions …some of these depressions are in areas that are currently used for other purposes (i.e. recreational ponds and agriculture) and have been significantly modified from their original form and function." Consideration of these features on a route vs. route basis does not change the outcome of the ecological evaluation of alternatives. These features may contribute to depression storage as described in the above noted section of the NOCSS and exact losses have been quantified for the preferred route during detailed design. A discussion of natural hazards has been added to Section 6.6.1 of the ESR. A discussion of wet features has been added to Sections 4.3.3 and 6.6.1 of the ESR and to Exhibit 8-1: Detailed Design Commitments (#17-19).
	Letter dated January 27, 2009 from Conservation Halton	
	Staff apologize for not raising earlier the issue of utilizing Natural Hazards as one of the evaluation criteria to assess the short list of Alternative Solutions. We understand that the Region would not wish to revise the criteria at this stage of the EA process in light of the past extensive public consultation. As such, we withdraw our previous recommendation in this regard. We appreciate your proposal to include a discussion of hazard lands within the ESR. Staff notes that for future EAs/ESRs we do recommend that Natural Hazards should be used as one of the evaluation criteria in light of their potential risks to life and property. We look forward to reviewing how wet features and depressions identified in the NOCSS are incorporated into the ESR.	A discussion of natural hazards has been added to Section 6.6.1 of the ESR. A discussion of wet features has been added to Sections 4.3.3 and 6.6.1 of the ESR and to Exhibit 8-1: Detailed Design Commitments (#17-19).
7.	Section 6.3, Assessment of the Short List of Route Alternatives, Page 106 and Exhibits 6.9 and 6.10 - Staff recommend that Natural Hazards should be one of the criteria utilized to assess the short list of Route Alternatives. Staff further recommend that all wet features and depressions, as identified within the North Oakville Creeks Subwatershed Study, be considered as part of the assessment though it is recognized that a higher priority would be given to the protection of wetlands. The number of new and modified watercourse crossings appear to be incorrectly identified within Exhibit 6-9, Page 110.	See comment above. Exhibit 6-9 of the ESR has been reviewed and revised as required.
	Letter dated January 27, 2009 from Conservation Halton	

Comment #	Agency comments	Response and Action Taken
	See Comments #6 regarding Natural Hazards. Thank-you for providing the proposed corrections to Exhibit 6-9. The 'Change to document' column doesn't discuss wet features and depressions, however, in light of the response to #6 above and #8 below, we look forward to reviewing how these features are incorporated into the ESR.	See comment above.
8.	Section 6.6, Anticipated Impacts and Proposed Mitigation Measures, Page 148 – Further to our comments under Section 4.2, staff also recommend that this section be expanded to outline impacts and mitigation measures associated with Natural Hazards and all wet features and depressions. Staff anticipate that stormwater management measures would be included within this discussion, addressing conditions during construction as well as the interim/ultimate measures that would be implemented depending on the timing of the project relative to the overall development of the study area.	See comment above. Section 7.1.4 of the ESR has been updated to address interim/ultimate SWM conditions.
	Letter dated January 27, 2009 from Conservation Halton	
	See comments #6 regarding Natural Hazards and wet features and depressions. Staff are supportive of utilizing the NOCSS SWM objectives and requirements and look forward to reviewing the SWM measures selected/proposed in the ESR.	Comment noted.
9.	Section 6.0 and/or Section 7.0 – Conservation Halton staff recommend that the ESR outline how the Region anticipates the project will proceed relative to the overall development of North Oakville. This outline would include items such as how the project's timing may relate to the preparation of Environmental Implementation Reports and whether or not there is any flexibility with respect to the proposed road right-of-way alignment at future planning/design stages. Staff have assumed that the road design and construction may either proceed in conjunction with future development applications or may proceed prior to development applications and the preparation of the associated Environmental Implementation Reports. Staff note that the level of analysis that we would expect within the ESR would vary depending on whether or not the alignment is fixed at this stage in the planning process. Thank-you for providing the clarification within the table and during the December meeting. This has helped us to understand the larger timing context and to frame our comments (Letter dated January 27, 2009 from Conservation Halton).	A copy of the ESR will be provided upon request to developers for their information. Section 7.4 addresses construction implementation. Subject to necessary approvals Halton Region intends to proceed with detail design and construction as documented in the ESR.
10.	Section 7.1, Description of the Recommended Design, Page 154 – While the report provides details regarding the Sixteen Mile Creek crossing, the report does not provide any details/requirements regarding the other watercourse crossings. Staff recommend that the report outline design criteria for each of the crossings in order to ensure that the cost estimates for each crossing are relatively accurate. Engineering staff require that watercourse crossings have no negative impacts on flooding and erosion (which includes slope stability) hazards. Staff recommend from a fluvial geomorphological perspective, that all culverts/bridges should at a minimum clear span a watercourse's bankfull width but preferably should span at least two times the bankfull width. Staff note that an even larger width may be required depending on a watercourse's or a site's specific conditions.	Culvert sizing at 25 crossings and close-up mapping of culvert crossings with meander belt and bank full widths has been included in the final ESR in Section 7.1.4. Please also refer to Part II of the ESR for the detailed stormwater management plans.
	Letter dated January 27, 2009 from Conservation Halton	
	We look forward to reviewing the additional information to be provided within the ESR. We trust that the design criteria utilized to determine each crossing's sizing has been included within the report and will demonstrate how it meets our regulatory requirements (in addition to MTO requirements).	Comment noted.
11.	Section 7.1.2, Drainage and Stormwater Management Requirements, Page 156 – This section should outline the stormwater management quality, erosion or quantity controls required as per the North Oakville Creeks Subwatershed Study. The ESR indicates that stormwater management ponds has been implemented in conjunction with planned development but it does not discuss what stormwater management controls has been provided in the event that the corridor construction proceeds prior to the adjacent land development. This issue should be addressed within the ESR not only to ensure that the project can obtain all necessary approvals and protect riparian rights but also to ensure that cost estimates are accurate. For those issues that can only be addressed during detailed design, the ESR should outline the Region of Halton's commitments in this regard to ensure that there has been no negative water quality or stream flooding/erosion impacts associated with the proposed works.	Culvert sizing at 25 crossings and close-up mapping of culvert crossings with meander belt and bank full widths are included in the final ESR in Section 7.1.4. Both interim and ultimate conditions were addressed.
12.	Section 7.1.2, Exhibits 7.6 and 7.7 – Staff noted that there are a number of water crossings proposed at the upstream end of medium	No changes are proposed to the alignment given the surrounding constraints. A

Comment #	Agency comments	Response and Action Taken
	(Blue) or high (Red) constraint streams (North Oakville Creeks Subwatershed Study's 16WA-1A, JC-10A, JC-14). Staff recommend that consideration should be given to adjusting the alignment slightly so that the roadway is located within the low constraint watercourses located immediately upstream of these reaches, if possible.	discussion of route refinements near watercourses is provided in Section 6.4.1 of the ESR.
	Letter dated January 27, 2009 from Conservation Halton	
	Based on the more detailed information provided in the December 2008 meeting, staff are satisfied that due consideration has been given to the possibility of a minor alignment change at this location and we are satisfied that no change to the design is required. Staff would however like to note that we do not agree with the statement within the response table that the minor alignment changes that we asked to be considered would contradict the North Oakville East Secondary Plan. It is our understanding that minor alignment changes would not contradict the Secondary Plan, and only major changes would require an Official Plan Amendment. Please note that authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.	Section 6.6.1 of the ESR has been updated to include potential requirements for authorizations under Federal Fisheries Act Legislation.
13.	Section 7.1.3, Sixteen Mile Creek Bridge – We note that Exhibit 7-9 shows the at-grade cross-section however, it would be helpful to have a cross-section of the crossing as seen through the valley.	This cross section is provided in ESR Part II, PA-1.
14.	Section 7.2, Geotechnical/Foundation Requirements, Page 167 and Appendix I – It is the understanding of staff from the report that the geotechnical review consisted only of a desktop exercise and no site work was completed. Staff are of the opinion that the scope of the proposed Sixteen Mile Creek crossing warrants, at a minimum, a site inspection by the geotechnical engineering consultant. Staff notes that the geotechnical assessment is an important aspect of the proposed crossing construction not only from a feasibility perspective but also to ensure that the ESR identifies a relatively accurate description and assessment of the extent of disturbance that will occur during and after construction. Staff also notes that the geotechnical assessment should account for potential slope stability impacts resulting from loss of vegetation arising from the crossing's construction. Geotechnical input should also be provided with respect to the proposed construction access including remediation requirements.	Additional discussion regarding the site inspection review has been added to the text of the ESR in Section 7.2. Please also refer to Appendix H of the ESR.
15.	Section 8, Monitoring During and After Construction, Exhibit 8.1 (Potential Short Term Construction-Related Environmental Impacts and Proposed Mitigation Measures) – Staff would recommend that the last mitigation measure listed for Factor No. 3 (Erosion and Sedimentation) be revised to read "Include restoration of disturbed areas and removal of erosion and sediment controls as contract requirements." Staff recommend this inclusion because of the frequency that we observe silt fencing and other controls remaining within or adjacent to natural areas well past their required use.	Section 6.6.1 of the ESR indicates that this fencing should be maintained and remain in place until final grading and landscaping has been completed.
16.	Section 8, Monitoring During and After Construction, Exhibit 8.2 (Potential Long Term Environmental Impacts and Proposed Mitigation Measures) – Staff were unclear why "reduced seepage into groundwater" was listed under 'Water Quality' and not a separate 'Water Quantity' section. Staff recommend that this table should include a 'Water Quantity' section that addresses both groundwater and surface water. With respect to surface water consideration should be given to low/base flows, erosive flows and flood flows.	Section 7.1.4 of the ESR has been revised to address these concerns.
17.	Staff recommend that all high, medium and low constraint watercourses be indicated and labeled on the profile view of the proposed corridor alignment.	Profile plans (Part II of ESR) were updated to reflect low, medium and high constraint watercourses.
18.	Sheets 1 and 2 – Staff noted that the tributary of Fourteen Mile Creek that crosses at Chainage 10+700 is shown to be entering and existing the proposed crossing at relatively sharp angles, which frequently results in erosion concerns. Staff also noted that based on the topographical information available in our office and on the profile view provided within the Part II report that this is the only location where there may be a valley slope in this area (the remainder of the subject reach appears to be unconfined). Staff however noted that this reach has been designated as a Medium Constraint (Blue) stream within the North Oakville Creeks Subwatershed Study and as such could be realigned. Staff would therefore not object to the proposed crossing location with the understanding that alterations to the watercourse beyond the illustrated road right-of-way may be required to allow for the construction of an acceptable crossing at this location and as such costs (including land access) associated with these additional works should be included within the project's cost estimates.	Crossing 14E-2, a medium constraint crossing at 10+700, has a meander belt width of 40 metres and an undefined bankfull width. The preliminary proposed culvert size is 1650 mm (@ 0.25% slope). A temporary CSP culvert is not required. It was determined that it should be possible to install a permanent culvert as per the ultimate design conditions prior to adjacent development taking place. Section 7.1.4 of the ESR provides a discussion of the requirements for the Fourteen Mile Creek (14E-2A). The cost for this work is included within the project's cost estimates.
	Letter dated January 27, 2009 from Conservation Halton	

Comment #	Agency comments	Response and Action Taken
	As noted during the December 2008 meeting, we had not requested that an alignment change be considered at this location but rather that it be recognized that creek realignment beyond the limits of the road right-of-way may be required due to the existing site conditions and that the costs (including land access requirements) associated with these additional works should be included within the project's cost estimates. We continue to make this recommendation. Authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.	Comments noted. The report indicates that authorizations will be explored at detailed design.
19.	Sheets 5 and 6 – The proposed road alignment crosses a tributary of Sixteen Mile Creek within the upper end of a high constraint reach. The stream is designated as a low constraint immediately upstream of the proposed crossing location. Staff recommend that consideration be given to realigning the road alignment, if possible, slightly to the north to avoid the high constraint watercourse.	A discussion of route refinements near watercourses is provided in Section 6.4.1 of the ESR.
	Letter dated January 27, 2009 from Conservation Halton	
	Staff are satisfied that due consideration has been given to the possibility of a minor alignment change at this location and we are satisfied that no change to the design is required. Authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.	Comment noted.
20.	Sheets 7 and 8 – there may be a regulated watercourse located within the woodlot whose ultimate status needs to be assessed based on a site inspection.	Comment noted.
	Letter dated January 27, 2009 from Conservation Halton	
	A site inspection is still required to determine the ultimate status of the watercourse located within the woodlot between Chainage 13+600 and 13+750, however, current site conditions (i.e. snow cover) would prevent a proper investigation at this point in time. In light of the timelines associated with this project, Conservation Halton's previous involvement in this project, the predicted relative minor nature of the watercourse and given the road alignment in this location has been largely fixed by the location of the Main Sixteen Mile Creek valley crossing, engineering staff would not require that further assessment of this crossing be provided at this time. However, staff would recommend that the ESR should identify this as an additional new watercourse crossing to be addressed in a similar fashion to the other watercourse crossings. We note that additional assessment is warranted to determine final requirements at the detailed design stage.	The requirement of a site inspection by Conservation Halton prior to detailed design to determine the ultimate status of the watercourse located within the woodlot between Chainage 13+600 and 13+750 has been added to Exhibit 8-1: Detailed Design Commitments (#9) of the ESR.
21.	Sheets 15 and 16 – The proposed road alignment crosses a tributary of Joshua's Creek within the upper end of a medium constraint reach. The stream is designated as a low constraint slightly upstream of the proposed crossing location. Staff recommend that consideration be given to realigning the road alignment, if possible, slightly to the north to avoid the medium constraint watercourse	A discussion of route refinements near watercourses is provided in Section 6.4.1 of the ESR.
	Letter dated January 27, 2009 from Conservation Halton	
	Staff is satisfied that due consideration has been given to the possibility of a minor alignment change at this location and we are satisfied that no change to the design is required. Authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.	Comment noted. A discussion of route refinements near watercourses is provided in Section 6.4.1 of the ESR.
22.	Sheets 17 - 20 – Staff recommend that consideration should be given to locating the roadway to the north to avoid the medium constraint reach JC-14. In the event that the roadway is not located to the north, staff have concerns with respect to the potential intersection located in this area due to the length of culvert and the amount of the disturbance to the watercourse/valley feature that would likely be required to facilitate the construction of the intersection.	A discussion of route refinements near watercourses is provided in Section 6.4.1 of the ESR.
	Letter dated January 27, 2009 from Conservation Halton	
	Staff is satisfied that due consideration has been given to the possibility of a minor alignment change at this location and we are satisfied that no change to the design is required. As discussed during the December 2008 meeting, staff recommends that creek realignment beyond the limits of the road right-of-way and interim drainage measures may be required due to the existing site conditions. We also	Comment noted. A discussion of route refinements near watercourses is provided in Section 6.4.1 of the ESR.

Comment #	Agency comments	Response and Action Taken
	recommend that the costs associated with these additional works (including land access requirements) should be included within the project's cost estimates. Authorizations under federal Fisheries Act Legislation may be necessary for a new road crossing at this location given the proposed alignment.	
23.	A constraint map that indicates what natural heritage features has been impacted by the construction of the roadway should be included in the report. This should include the road RoW as well as the Cores, species at risk and any other natural heritage features discussed within the report.	The Natural Environment Report has been updated to ensure that the preferred alignment appears on all maps.
24.	Table 1 outlines the field investigations that were completed as part of this study. This table should be revised to include the time of survey and weather conditions during the survey. This information is not contained within the report and is required to determine if the proper protocols were used. Please note that all field data sheets should be included for review. These should be included as an appendix to the report.	Field data cards are attached.
	Letter dated January 27, 2009 from Conservation Halton	
	It is unclear if the fieldwork table has been revised or if just the field data sheets has been provided. Staff recommends that both the fieldwork table be updated to include the time of survey and the weather conditions as well as including the field data sheets in the report. Please note that to date we have not received field data sheets, and therefore staff is unable to confirm if the fieldwork completed is acceptable.	The field work table (Table 1) of the Natural Environment Report has been updated to include time of survey and weather conditions. Field data cards have been included in the ESR package provided to Conservation Halton (see attached).
25.	Section 2.3.3 (Amphibians) outlines that the methodology used for the amphibian surveys was based on Marsh Monitoring Protocol however only two visits were completed as part of the amphibian survey. Marsh Monitoring Protocol stipulates that three surveys should be completed at the appropriate time of year. The protocol's initial visit in April was not completed. Please provide further information on why the protocol was not followed.	Section 2.3.3 of the Natural Environment report has been modified to reflect differences in protocols.
	Letter dated January 27, 2009 from Conservation Halton	
	While staff appreciates that there has been a discussion outlining the modified protocol used for the amphibian surveys, discussion regarding why the accepted protocols were not adhered to is outstanding.	All early season breeders were captured during the first visit, therefore there was no need for a second early season visit as recommended by Gartshore. The Natural Environment report has been updated with a discussion on amphibian protocols.
26.	Figure 2 (Ecological Land Classification) lists the vegetation communities identified within the study area and the NOCSS. We note that not all of the communities within the study area were assessed to the vegetation type level, e.g., BLT1 and SWD4. No further discussion on these communities exists within the text of the report. Please clarify why not all communities were classed to the vegetation type level even though they are located within the study area. In addition, while this figure is useful in determining vegetation communities in the surrounding area, discussion within the text of the report regarding the vegetation communities within the study area should be included. For example, the figure lists several provincially rare vegetation communities and it is unclear if any has been impacted and by what degree. Discussion is warranted to determine what communities are in the study area.	Where existing vegetation composition did not fit an ELC description for vegetation type, the broader ecosite code was applied as directed by the ELC system.
	Letter dated January 27, 2009 from Conservation Halton	
	The response table makes note of SWD2-4 as the only provincially rare vegetation community within the Study Area, however Figure 2 lists FOD6-2 Fresh Moist Sugar Maple – Black Maple Deciduous Forest Type (designated as S3? or rare to uncommon) and FOD 7-4 Fresh Moist Black Walnut Lowland Deciduous Forest Type (designated as S2S3 or very rare) as occurring in the Study Area. Please confirm if these vegetation communities has been impacted by the project and revise the document to include a discussion of all of the rare vegetation communities within the Study Area.	Section 3.5.1.2 (Significant Vegetation Communities) of the Natural Environment report has been revised to include all rare vegetation communities. Figure 2 has been revised to overlay the preferred alignment on vegetation community mapping to illustrate impacts to significant vegetation communities. The preferred alignment crosses one significant unit (FOD2-3) east of Trafalgar Road. Table 14 discusses mitigation requirements for removal of the hickory woodland.

Comment #	Agency comments	Response and Action Taken
27.	Section 3.3.2 (Flora) identifies that there are provincially rare species in the study area as well as Regionally rare and rare to Halton, however no source of this rarity is discussed. For regionally rare species and based on the appendix, it appears that Varga et al (2000) was used however it is unclear for the Halton Region status. Staff recommend that the Halton Natural Areas Inventory (2006) be used for local rarity status.	The plant species list has been checked against status rankings provided in the HNAI to update Varga's rankings. Appendix C of the Natural Environment report has been updated. Section 4.2, including Table 9 has been updated.
28.	While Figure 3 is helpful in determining the location of the notable flora and fauna, it would be beneficial to have the alignment overlaid on this figure to assess which species has been impacted by the road construction. Please refer to our previous comment regarding a full constraint map.	The Natural Environment report has been updated to ensure that the preferred alignment is on all maps.
29.	Table 3 summarizes the wildlife data from the study area, however it does not provide a source that the rarity is based on. Staff recommend that local rarity be confirmed with the Halton Natural Areas Inventory (2006). Please confirm what source was used for rarity.	Wildlife species list has been checked against NHAI. Appendix D-F of the Natural Environment report has been updated to reflect HNAI status rankings.
30.	Figure 5, while listing wetlands in the legend, there are no wetlands illustrated on the map. This may be a layering error within GIS as there are several wetlands within the North Oakville subwatershed including PSWs that should be illustrated on the map.	The intent of Figure 5 in the Natural Environment report is to demonstrate interior forest habitat. Wetlands are not intended to be mapped on Figure 2 therefore the symbol has been removed.
31.	Section 3.5.1.7 (Summary of Terrestrial Habitat Features and Functions) – Table 5 outlines the vegetation cover information from the previous sections, however it is unclear by what is meant by "11% of the entire study area is currently covered in forest, exceeding the required 25 to 30% threshold to support high flora and fauna richness attributes associated with historical forest cover". Is this referring to Environment Canada's How Much Habitat Is Enough with respect to achieving 30% forest cover for a watershed? If this is this case, then this 11% vegetation cover would have to be looked at with respect to the entire Urban Watershed not just the North Oakville Subwatershed. Also, 11% is much lower than 30% and it is not clear how this achieves this goal. Please clarify what this statement means. The wetland discussion within this table notes that the significance status of the wetlands is pending review, however this has been completed as of September 2006. This should be revised.	References to % cover thresholds does not add value to the evaluation of alternates and has been removed from text in Table 5 (Section 3.5.1.7). The wetland evaluation review was completed in 2006 and the Natural Environment report has been updated to reflect this.
32.	Section 4 (Significant Natural Heritage Features) – This section outlines the various significant features within the study area, however in Section 4.1.2 only the ANSI has been considered. It should be noted that the North Oakville – Milton East Wetland PSW Complex is also present in the study area and should be discussed separate of the ANSI as the ANSI boundary is not restricted to just the PSW boundary as the description implies.	Section 3.6 of the Natural Environment report has been updated.
33.	Staff agree with the recommendation that restoration of the exact amount of vegetation removed should be completed within an appropriate location within the study area (Table 14 Natural Environment Impact Assessment of Preferred Alternative and Proposed Mitigation Measures). This should be included as a mitigation measure within the main report. This is especially important given that a portion of a provincially rare vegetation community (FOD2-3) is being removed as well as interior forest habitat, portions of Core Area and designated linkages. Staff agree with and support the mitigation measures outlined in Table 14.	Exhibit 8-1: Detailed Design Commitments (# 24) in the ESR addresses this item.
34.	Section 6.1.1.2 (Vegetation Protection and Restoration) - Staff recommend that, in sensitive areas, higher quality tree protection fencing be used given the potential impact to these areas. We also recommend that a certified arborist and ecologist be on site while any vegetation removal occurs in these areas. Native plants are proposed for restoration activities and staff recommend that these be locally native, non-invasive species. Guidance for these species can be found in Conservation Halton's landscaping guidelines and associated appendices (available online at:	Exhibit 8-1: Detailed Design Commitments (#24) in the ESR addresses this item. Recommendation for a certified arborist and ecologist has been noted and will be considered at detail design.

Comment #	Agency comments	Response and Action Taken
	http://www.conservationhalton.on.ca/ShowCategory.cfm?subCatID=898).	
35.	Section 6.1.3 (Monitoring and Maintenance) should note that restoration plantings should be monitored for two years and any dead species replaced at this time.	This recommendation has been included in Section 5.1.3 of the Natural Environment Report which forms part of the commitment package provided to contractors.
36.	Appendix B of Natural Heritage Report: The NOSS Habitat Unit map should use the numbers consistent with the NOCSS. Staff assume that the 'h' used in the Secondary Source Significant Vascular Plant Species by Habitat Unit is the same as 'H' listed in the legend. Please revise. It should be noted that Vulnerable is a term no longer used by COSEWIC or the MNR. It should be replaced with Special Concern.	The habitat unit numbers in Appendix B of the Natural Environment report correspond with Figures 4E.9.1 and 4W.9.1 of the NOCSS (2006) Characterization Report. Appendix B of the Natural Environment report has been updated to address other comments.
37.	Appendix F of Natural Heritage Report - Monarch (Danaus plexippus) should be listed as Special Concern in the Lepidoptera table.	Report revised.
38.	Staff recommends that the report outline in a list or tabular form all commitments that would be carried forward by the Region in conjunction with the detailed design of the proposed corridor. This would include, but may not be limited to, fluvial geomorphological, geotechnical, hydrogeological, stormwater management and setback commitments.	The ESR includes all commitments to be carried forward to detailed design including Exhibit 8-1: Detailed Design Commitments.
Letter dated September 16, 2008 from Conservation Halton		
39.	Please indicate what hydrological design standard the crossings will adhere to in designing this new road. For example, will each of the crossings be required to pass a 50 year flow for the applicable watercourse?	Section 7.1.4 of the ESR has been revised to include all hydrological design standards.
	Letter dated January 27, 2009 from Conservation Halton	
	Staff would just like to clarify that the 50 year capacity referenced in our previous comments are related to aquatic ecology requirements and that there are additional hydrologic requirements from a flooding perspective as outlined in our Comment #10. We trust that the table's response that the ESR has been revised to include hydrological design standards means all hydrological criteria.	Section 7.1.4 of the ESR has been revised to address this comment.
40.	Riparian trees (trees located within 30 metres of any watercourse) slated for removal should be properly inventoried at the detailed design stage. All restoration plantings should be chosen from Conservation Halton's Landscaping Guidelines and should be an appropriate species for the growing conditions at the site.	Section 6.6.1, subsection "Vegetation Protection and Restoration" and Exhibit 8-1: Detailed Design Commitments (# 24) addresses this comment.
41.	Section 6.6.1, Authorization and Mitigation for In Water Work, page 150, subsection (d) - Please include the following text after the word "planted": "according to Conservation Halton's Landscaping and Tree Preservation Guidelines".	Revised as requested.
42.	The final ESR should provide a measure of the bankfull channel widths and meander belt widths of all watercourses to be crossed by the proposed road. The lengths, widths and heights of all existing crossings to be upgraded/lengthened/replaced should be included in the final document. See Table 6.3.4a in the North Oakville Creeks Subwatershed Study.	Comment noted. Culvert sizing at 25 crossings and close-up mapping of culvert crossings with meander belt and bank full widths have been provided in the final ESR in Section 7.1.4.
43.	Section 7.1.2, Drainage and Stormwater Management Requirements, page 157 - please reiterate the list of creeks named on this page with reference to a map showing the watercourses in this list.	The section pertaining to Drainage and Stormwater Management Requirements (Section 7.1.4) has been revised substantially. The following creeks were added to the text: • West Morrison Creek • Munn's Creek • Shannon's Creek
44.	Exhibit 7-7 Drainage Management Requirements, page 159 - Please cross reference all crossing codes (e.g. JC-20A) with high resolution	Part II of the ESR provides stormwater management plans using high resolution mapping and aerial photographs with details as requested. Also, Section 7.1.4 (Drainage and

Comment #	Agency comments	Response and Action Taken
	mapping that includes road names, creek names, an air photo layer, and stream constraint ratings from the North Oakville Creeks Subwatershed Study. A description of the permanency of these streams and the drainage area of the streams is also requested. It would also be helpful to provide the bankfull channel width and the meander belt width of the creeks at the proposed stream crossing locations for the preferred route alignments as well.	Stormwater Management Requirements) of the ESR has been revised substantially.
45.	Section 7.1.3 Sixteen Mile Creek Bridge, page 160 - Please make reference to Exhibit 7-7: Drainage Management Requirements. This Table states that the bridge is required to span the Sixteen Mile Creek Valley. As such, the only viable option provided at the bottom of page 161 is option 5, the arch bridge. Any of the other options will involve intrusions into the valley, bank disturbance, long term fluvial geomorphological disturbances presented by piers in or adjacent to the creek, and a significant loss of trees in the valley. The Sixteen Mile Creek Valley at this location is considered to be a Life Science Area of Natural and Scientific Interest. It has a number of important riparian tree species that should be protected from disturbance. The steep, high banks present a difficult environment for staging a construction operation within. It is extremely difficult to mitigate the disturbance that could be created by this type of proposal in this environment. Long term bank stability and the stability of the creek morphology would be an ongoing concern with the introduction of a superstructure into this valley. As such, it is requested that the arch bridge (Option 5) be selected as the preferred stream crossing approach. Alternatively, a bridge structure with a single pier (Option 3) would be the next most appropriate crossing technique. Although the upfront costs may be higher, there is considerable savings by not having to mitigate a large array of environmental disturbances. The construction of piers and abutments in the valley will require the removal of vegetation on the high, steep valley walls and valley floor, and necessitate their subsequent rehabilitation. As such, it is requested that a bridge design be selected that does not require piers within the Sixteen Mile Creek Valley. The Sixteen Mile Creek valley is a Life Science ANSI containing fish habitat, a number of rare species and interior forest habitat. Because of the sensitivity of the valley it is necessary to ensure that there is minimal impact on the valley as a result of construction access. Therefore, the bridge design that requires the least intrusion into the valley is the most preferred. Construction access from Lions Valley Park is required with no access being permitted down the valley walls in the vicinity of the bridge crossing. The third paragraph on page 165 states that it has been difficult to deliver the girders to the bridge location due to the steep ramp that has been required from Dundas Street. Therefore, launching the girders is the more appropriate technique and will have the least amount of environmental impact. It may be appropriate to commit to launching the girders in the ESR rather than waiting until detailed design as it has been our experience that the budget for the project is set based on the outcome of the ESR.	Extensive public and agency consultation occurred during the route and structure selection. The piers for the preferred structure are planned within the valley and would be located outside the meander belt width. Specific issues regarding girder delivery into the valley will be dealt with at detailed design. Please refer to Section 7.1.5 of the ESR.
46.	Exhibit 6-10: Assessment of Short List of Route Alternatives – Segment B: Neyagawa Blvd. to Bronte Rd. - Because most of the watercourse crossings associated with the route alternative options, including the preferred and selected routes, display characteristics of channel instability, it is important that the crossing designs be sized and designed to accommodate the unstable nature of the watercourses they are crossing. Specifically, it would be ideal if the crossing designs selected for these crossings were to span the meander belt width of the watercourses.	This issue was investigated further and has been discussed in Section 7.1.4 of the ESR.
47.	Section 7.3, Utilities and Services, page 169 - It is requested that all utilities be accommodated on the underside of the bridge across Sixteen Mile Creek to eliminate the need for any underground implementation of cables or pipes.	The Region is not aware of plans at this time to take utilities across the creek in this corridor. Comment noted.
48.	Exhibit 8-1, Potential Short Term Construction Related Environmental Impacts and Proposed Mitigation, Row # 4 - It is requested that all plantings be undertaken in areas of viable top soil otherwise, top soil should be introduced to the site, to increase the success of all rehabilitative plantings. Fertilization should not be undertaken for any plantings within 50 metres of the watercourse to eliminate the risk of introduction of additional nutrients to the watercourse.	Exhibit 8-1: Detailed Design Commitments (#24) in the ESR addresses this comment.
49.	Section 3.4, Aquatic Resources, page 21 - Since drought conditions may have influenced fish community data collections for McCraney Creek, it is requested that the fish community surveys be collected between May 30 and July 15th prior to detailed design. Any evidence of fish spawning during these collections is requested to be included in the inventory results.	Exhibit 8-1: Detailed Design Commitments (#6) in the ESR addresses this comment.
50.	Section 3.4.2, Fish Habitat, page 22 - Site 1 Alternate Alignment Crossing W6 - This is the Study Team's preferred route alignment for the	Section 5.1.2.3 of the Natural Environment report and Section 6.6.1 and Exhibit 8-1:

Comment #	Agency comments	Response and Action Taken
	crossing of Sixteen Mile Creek. The information collected at this site includes reports of the presence of a number of groundwater seeps originating along the valley walls. The presence of these seeps will make construction in the valley more difficult. The contribution of the seeps to fish habitat must be taken into consideration as part of the bridge design and construction access. The fish habitat assessment also states this site "provides permanent refuge, spawning, feeding, rearing and nursery habitat for fish species and serves as a major migratory pathway for fish ascending from Lake Ontario at various times of the year".	Detailed Design Commitments of the ESR have been updated to include the additional construction mitigation measures.
	Letter dated January 27, 2009 from Conservation Halton	
	With respect to the DFO Risk Management Framework, one pathway of effects between the proposed piers, abutments and footings could likely be an interruption in groundwater contribution to Sixteen Mile Creek. As such, in order to assess what appropriate mitigation techniques may be necessary to address this pathway of effect, it is requested that groundwater levels be assessed in the area where the piers, abutments and footings are to be constructed. It is also requested that groundwater levels be assessed in the area between where these structures are to be constructed and the adjacent edge of the creek. It is suggested that boreholes be dug to not only provide groundwater level information, but also to provide details on the soil types in these areas, to get a sense of the degree of connection (in terms of groundwater flow) between the location where the structures are to be installed and where groundwater is entering the creek.	Exhibit 8-1: Detailed Design Commitments (#16) in the ESR addresses this comment.
51.	Table 6, Summary of Thermal Status Designations, page 31 - No data is available for Fourteen Mile Creek, Sixteen Mile Creek, or Joshua's Creek. It is requested that existing data for these creeks (including metadata – such as data collection methodologies) be collected from available sources. If this is not possible, it is requested that data loggers be deployed at each of the preferred route alignment's intersections with the watercourses listed above.	Section 7.1.4 of the ESR was updated to include information from the NOCSS indicating conceptual need to preserve natural temperature regime. Based on NOCSS findings, only East Morrison Creek and 14 Mile Creek had temperature issues/concerns associated with them. With respect to the proposed Burnhamthorpe Road realignment, East Morrison Creek is far enough away not to be detrimentally impacted. Exhibit 8-1: Detailed Design Commitments (#8) in the ESR addresses this comment.
52.	Table 8, Summary of Aquatic Habitat Features and Functions, page 32 - Given the presence of two provincially and federally rare species in Sixteen Mile Creek, it is Conservation Halton staff's preference that the watercourse crossing design be located entirely outside of the valley. The appropriate location for the abutments from top of bank would need to be determined in consultation with a geotechnical engineer. If piers are deemed necessary, they should be located outside of the meander belt width.	Piers are planned within the valley. Piers are located outside of the meander belt width. Comment noted.
53.	Table 14, Natural Environment Impact Assessment of Preferred Alternative and Proposed Mitigation Measures, page 39 - It has been impossible to fully retain riparian cover within the valley with the construction of piers, abutments, temporary bridge crossing(s), and temporary access roads. These construction related impacts will result in the loss of mature riparian forest cover, however this has not been properly identified as a construction impact in the Natural Environment Report. Please indicate on a map where shallow groundwater conditions may make dewatering necessary during the construction process.	The wording in Table 14, Section 4.3 of the Natural Environment report was clarified. Section 5.1 of the Hydrogeological Assessment provides a discussion and reference to Figure 2 where shallow water table conditions exist and may require dewatering during construction of Route E1 if a service trench for the road is proposed to be incised below the local water table.
	Letter dated January 27, 2009 from Conservation Halton	
	It is requested that replacement riparian areas disturbed due to construction staging and access routes be restored using ecologically appropriate restoration approaches. For example, the use of locally native species, species selected may need to be salt tolerant, species and planting layout should blend well with existing adjacent flora.	Section 5.1.1.2 of the Natural Environment Report has been revised to include ecologically appropriate restoration of all areas disturbed during construction.
54.	Section 6.1.2.1, Riparian Zone Protection, page 43 - This section recommends the use of standard erosion and sediment control protection. Where rare species, demonstrated to be sensitive to turbidity, are located (Sixteen Mile Creek) it is necessary to use best possible sediment and erosion control protection. Daily inspections, particular scrutiny after rain events and repairs as necessary (as described in the report) are concurred with by CH Aquatic Ecology staff.	Exhibit 8-1: Detailed Design Commitments (#20) addresses this comment.
55.	Section 6.1.2.2, Authorization and Mitigation for In Water Work, page 43, subsection (a) - It is requested that silt fencing be upgraded to heavy duty paige wire silt fence at crossing locations where rare species are present (e.g. Sixteen Mile Creek).	Exhibit 8-1: Detailed Design Commitments (#20) addresses this comment.

Comment #	Agency comments	Response and Action Taken
	Page 44: Item (f) - Any in-water work that is necessary must be conducted in dry conditions within the appropriate fisheries timing window.	Exhibit 8-1: Detailed Design Commitments (#4) addresses this comment.
56.	Section 6.1.3 Monitoring and Maintenance, page 44, subsection Sediment and erosion control measures shall be undertaken daily (as indicated previously on page 43 of the Natural Environment Report). Please include the daily sediment and erosion control inspections in Section 6.1.3 as well. It is requested that an independent on site environmental inspector be hired to ensure that sediment and erosion control measures are adequate and functioning during the construction phase of this project.	Exhibit 8-1: Detailed Design Commitments (#20) and Section 6.6.1 of the ESR addresses this comment. To be considered in detailed design.
57.	The recommendation made in the letter to Mr. Mike Delsey From Steven Usher (Gartner Lee) dated May 1, 2008 regarding groundwater and drilling monitoring to confirm the geology and groundwater conditions in the area are concurred with by CH Aquatic Ecology staff. These monitoring programs are requested (as they were recommended in the report) to be undertaken at least one year prior to site alteration to assess needs for dewatering, potential impacts to fish communities and fish habitat, and to plan mitigation measures where necessary.	The statement about monitoring programs to be undertaken at least one year prior to site alteration to assess needs for dewatering, potential impacts to fish communities and fish habitat, and to plan mitigation measures where necessary has been added to Exhibit 8-1: Detailed Design Commitments (#7).
58.	CH Aquatic Ecology staff concur with recommendation (b) in the same letter regarding a field inspection of the kettle feature with an assessment of its environmental significance.	Exhibit 8-1: Detailed Design Commitments (#18) addresses this comment. Please note that MNR has requested that the term kettle feature be replaced by pits and depressions as per meeting minutes from December 10, 2008.
59.	CH Aquatic Ecology staff concur with the third recommendation in the Hydrogeology report, which recommends a local well survey and water quality assessment to address potential road salt impacts. It is requested that this survey address the impacts that the additional road salt will have (if any) on nearby fish communities.	This item was added to Exhibit 8-1: Detailed Design Commitments (#15).
60.	This report suggests that the lateral channel migration rate for R1 (where the preferred alternative is situated) is 0.14 metres per year (Sixteen Mile Creek). After an 80 year lifespan of the bridge structure, the channel will have moved 11.2 metres from where it currently exists. Once the channel migrates close enough to the bridge piers, it has been necessary to harden the banks of the watercourse to protect the bridge from the force of the water flowing down the creek. Hardening of creek banks is a detrimental approach to the management of fish habitat and should be avoided wherever possible. Because there are both Redside Dace and Silver Shiners in this watercourse, which are both listed as federally and provincially rare species, it is requested that a span bridge option be selected as the preferred crossing design to prevent the need for stream bank hardening following construction of the bridge.	According to the Geomorphological Report, the creek is migrating from south/west to north/east. The span arrangement was developed to maximize the distance from north/west bank of creek to the pier. A separation of 20m was achieved. Even with an 11.2m migration over 80 years, there will still be a 9+/- metre separation.

Public Works
Transportation Services
1151 Bronte Road
Oakville ON L6M 3L1
Fax: 905-847-2192

April 30, 2010

Mr. Dan Delaquis
Environmental Resource Planner/EA Coordinator
Ministry of the Environment
Central Region
Technical Support Section
5775 Yonge Street, 8th Floor
North York, ON M2M 4J1

Dear Mr. Delaquis:

RE: New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment Study

The project team would like to thank the Ministry of Environment for their involvement in the New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment (EA) Study and for the comments submitted on the draft Environmental Study Report.

The study process as set out in the Municipal Engineers Association Municipal Class Environmental Assessment document for a Schedule "C" project has been applied to this study. The Environmental Study Report has been completed and by this letter and attached Notice of Study Completion is being placed in the public record for review until **June 7, 2010**.

One hard copy of the Environmental Study Report (with appendices on CD) is provided for your review and records. In addition, we have included the following previously provided documents for your convenience:

- Minutes and presentation slides from the December 10, 2008 meeting that your colleague, Ms. Shannon McNeil, attended
- Comments submitted by MOE and responses in tabular format

If you have any questions or require additional information, please contact the undersigned at 905-825-6000, ext 7623.

Sincerely,

Melissa Green-Battiston

Melissa Green-Battiston, P. Eng.
Transportation Engineer
melissa.green-battiston@halton.ca

AECOM
300 Water Street, Whitby, ON, Canada L1N 9J2
T 905.668.9363 F 905.668.0221 www.aecom.com

Minutes of Meeting

Date of Meeting: December 10, 2008 Start Time: 10:00 am

Location: Halton Region - 1075 North Service Road

Regarding: Review of Comments Received on the Draft NNOTC ESR

Attendees: John Pispasio, MNR
Shannon McNeill, MOE (via teleconference)
Rob Thun, Town of Oakville
Melissa Green-Battiston, Halton Region
Matt Krusto, Halton Region
Mike Delsey, AECOM
Paula Neto, AECOM

Melissa Green-Battiston and Mike Delsey provided an overview of the comments received on the draft NNOTC ESR. The following issues were discussed in detail:

Wildlife Crossings

- MNR discussed concerns with respect to the north-south section of the corridor adjacent to the landfill site (North Park area) and the ability for wildlife crossings, particularly deer. MNR has requested that crossings for large and small mammals be provided.
- Ecopassages for large mammals typically require strategic fencing, extensive signing and a possible grade separated passage. It was suggested that there are no set standards for underpasses although literature suggests 3-4 m high and 7-9 m wide for large mammals such as deer.
- MNR requested clarification of the Region's long term commitments for the landfill site including the use of the landfill site (i.e. recreation) and whether or not the site would be fenced in the future. MNR understood that the landfill site would not be fenced to allow for the movement of wildlife. AECOM to review applications in western Canada.

Amphibian Crossings

- MNR indicated that an amphibian crossing is required where the alignment crosses the core east of Sixth Line (between 18+200 and 18+400). This item will be added to the "table of commitments" which will form part of the final ESR.

Pitted Depressions

- Kettle Features as documented in the ESR are to be referred to as Pitted Depressions. The ESR will be reviewed to change the reference. Ray Tufgar should be consulted with respect to additional information of the Pitted Depressions. MNR can provide additional information on the Pitted Depressions. Additional information should be included in the ESR and further reviewed at detailed design.

Stormwater Ponds

- MNR advised that stormwater ponds as well as stormwater criteria outlined in the North Oakville Creek Subwatershed Study must be adhered to.

Other Comments

- MOE requested that formal confirmation be obtained from ORC with respect to meeting their EA requirements.
- It was committed that minutes and subsequent letter on all issues discussed would be issued to both MNR and MOE.

Meeting Adjourned At: 11:15 am Notes Taken By: Paula Neto

New North Oakville Transportation Corridor and Crossing of Sixteen Mile Creek Class EA Study

Meeting with MOE and MNR
Draft Environmental Study Report Comments
December 10, 2008

Halton REGION

Purpose of meeting:

- Highlight issues that will be addressed in the final ESR
- Discuss issues requiring further dialogue or where no change is proposed

Agenda

- Review agency comments:
  - Ministry of the Environment
  - Ministry of Natural Resources
- Discuss next steps

Ministry of the Environment

Editorial Comments

- General edits to the ESR will be made including:
  - Clarification of kettle features
  - Rural vs urban cross section references
- Stormwater discussion to be provided in Section 7 of ESR
- Noise Assessment - clarification of methodology will be provided including:
  - Noise receptors considered
  - Future status of receptors
  - Discussion of feasibility of other measures to mitigate noise

Ministry of Natural Resources

Rationale for Selection of Route E1

MNR concerned with impacts of recommended route (E1) (bisects core areas) and suggested E3 route as an alternative

- E1 allows for better access control limiting potential conflict points
- E1 supports future development/redevelopment and future recreational opportunities
- The rural character of the existing roadway could be maintained with no impact to existing “character” buildings
- The majority of properties fronting Burnhamthorpe Road can be avoided
- There would be relatively minor impacts and disruption to existing residences and businesses, existing utilities and services
- There is potential for property to be designated to Halton Region through development applications

Rationale for Elimination of Route E3

- E3 was the least compatible with the Region's Transportation Master Plan
- E3 had the greatest impacts to natural heritage system connectivity, groundwater and surface water and moderate impacts to wetlands, marsh areas and fluvial geomorphology conditions
- E3 is inconsistent with the NOESP and impacts future recreational opportunities
- E3 has the greatest relative impacts on properties
- There would be moderate impacts and disruption to existing residences and business and existing utilities and services

Comments received from Ministry of Environment

Comment #	Agency comments	Response and Action Taken
Email Received August 26, 2008 from MOE		
1.	I also have some concern about the fact that it is noted that the impacts to the natural environment can be mitigated. Constructing a new road through an ANSI cannot be mitigated by a landscape plan, as there will still be a loss of connectivity, habitat function and quality, etc. It should be clearly identified that impacts will be mitigated to the extent possible, but adverse impacts to the sensitive natural features cannot be wholly avoided. I am awaiting a response from Joe Pisapio (MNR) on this, and I expect that I will defer comments on this issue to him, however I thought I should bring it to you attention for the purpose of our discussion.	Comment noted. Commitment #24 in the ESR addresses Halton Region's commitment to the restoration of the vegetation impacted.
Letter dated September 8, 2008 from MOE		
2.	Please revise Section 6.6.1 under Kettle Features to clarify that only warm kettles are expected to exist in the study area, however a survey to identify the locations of both warm and cold kettle features will be undertaken. In addition, please revise the section to commit to mitigating any potential impacts to warm or cold kettle features that may be identified.	Section 6.6.1 of the ESR has been revised.
3.	It is understood that a basic 4-lane urban cross-section will be provided throughout the corridor. Please revise Section 6.6.1 under Well Water Quality to remove the reference to a rural cross-section. Please confirm if the discussion regarding the vulnerability of well water quality is still valid, and revise as necessary. In addition, we suggest that the identified water quality assessment should be completed prior to detailed design to ensure that mitigating any impacts will not result in any financial or scheduling conflicts with construction.	Section 6.6.1 of the ESR has been revised. Commitment #15 addresses this comment.
4.	It is understood that details regarding the management of stormwater runoff for the proposed transportation corridor will be addressed as part of the North Oakville Secondary Plan. Please provide at least a preliminary summary of the stormwater management plan in Section 7, including: a. Phasing for construction of the road works and adjacent development. b. General sewer routes and potential locations for ponds or other facilities. c. Treatment objectives and proposed methods. d. Any proposed interim measures to control stormwater, if there will be a lag between the construction of the road and the implementation of the Secondary Plan.	Section 7.1.4 of the ESR addresses this comment.
5.	Please provide some additional justification for the methodology used to assess noise impacts in Appendix G. In particular please address the following: a. Clarify why only two receptors were selected to assess noise impacts (e.g. are these two characteristic of the other receptors, were they selected as the receptors that would experience the highest impact, etc.). b. It is understood that certain receptors used in the noise assessment are houses that have been identified for removal. Please indicate which receptors are proposed to be removed. c. A number of potential noise mitigation measures (berms, vertical and horizontal alignment shifts, road cuts and the use of quieter pavement surfaces) were identified, however only the construction of noise barriers was assessed for feasibility. Please discuss the feasibility and effectiveness of these other measures. If some of these measures will be incorporated into the corridor as basic design principles, please indicate this.	Clarification of methodology was provided in the noise assessment report (Appendix K to the ESR) including: • Noise receptors considered • Future status of receptors • Discussion of feasibility of other measures to mitigate noise Section 6.6.2 of the ESR was also revised.
6.	We defer any comments on the assessment, impacts and mitigation of natural features including surface water, wetlands and environmentally sensitive areas to the Ministry of Natural Resources (MNR). Please ensure that comments from MNR are incorporated into the final ESR.	Comment noted.
7.	Please ensure that you consult with the MOE Central Region Permit to Take Water (PTTW) Coordinator prior to detailed design to confirm any approval requirements for water takings during construction or operation. This includes groundwater or surface water extraction, and the active diversion of surface water flows by pumping.	Comment noted.
8.	Please ensure that you consult with the MOE Environmental Assessment and Approvals Branch prior to detailed design to confirm any Certificate of Approval requirements for the proposed works.	Comment noted.

Public Works
Transportation Services
1151 Bronte Road
Oakville ON L6M 3L1
Fax: 905-847-2192

April 30, 2010

Mr. John Pisapio
Biologist, Aurora District
Ministry of Natural Resources
50 Bloomington Road West
RR#2
Aurora, ON L4G 3G8

Dear Mr. Pisapio:

RE: New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment Study

The project team would like to thank the Ministry of Natural Resources for their involvement in the New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment (EA) Study and for the comments submitted on the draft Environmental Study Report.

The study process as set out in the Municipal Engineers Association Municipal Class Environmental Assessment document for a Schedule "C" project has been applied to this study. The Environmental Study Report has been completed and by this letter and attached Notice of Study Completion is being placed in the public record for review until **June 7, 2010**.

One electronic copy of the Environmental Study Report (with appendices) is provided for your review and records. In addition, we have included the following previously provided documents for your records:

- Minutes and presentation slides from the December 10, 2008 meeting
- Comments submitted by MNR and responses in tabular format

If you have any questions or require additional information, please contact the undersigned at 905-825-6000, ext. 7623.

Sincerely,

Melissa Green-Battiston

Melissa Green-Battiston, P. Eng.
Transportation Engineer
melissa.green-battiston@halton.ca

Comments received from Ministry of Natural Resources

Comment #	Agency comments	Response and Action Taken
Email received September 12, 2008 from MNR		
1.	On page 3 of the report "Agency Correspondence and Meetings" MNR's letter of August 5, 2005 to Mike Delsey of TSH and Edward Soldo of Halton Region is absent from the list of correspondence; and should be included. In our letter, MNR emphasizes that it would not support a bridge crossing of Sixteen Mile Creek through the central portion of the Sixteen Mile Creek ANSI / ESA and North Oakville core area because any such routes would result in maximum fragmentation of this regionally significant forested area. Therefore, MNR is pleased to note that the preferred alternative, identified in the EA report as W6, crosses the valley at the north end of Lions Valley Park, thereby avoiding substantial fragmentation of the area. The portion of the W6 route extending west of the Sixteen Mile Creek valley is also supported by MNR because it follows the northern boundary of developable lands north of Dundas, thereby avoiding additional fragmentation of lands included as part of the North Oakville Natural Heritage System.	Comment noted.
2.	However, the portion of the W6 route extending east of the Sixteen Mile Creek valley and connecting the 'E' routes is of concern to MNR. The E1 option identified as the preferred alternative bisects the major east – west connection between the Sixteen Mile Creek core area and the Neyagawa core area. In our August 5, 2005 letter, MNR also advised that the evaluation criteria for any proposed transportation corridor alignment needed to include consideration of "regional corridor function for wildlife passage". This criterion does not appear to have been addressed as part of the EA report. The E1 route west of Neyagawa Blvd creates an additional north – south crossing of the Natural Heritage System that can be expected to result in the additional disruption of wildlife passage as well as creating a concentration point for deer / vehicle collisions. Extending further east, E1 also segregates woodlots west of Sixth Line and Trafalgar Road. These woodlots support a high number of provincially significant wetlands that are habitat for regionally rare breeding amphibians such as chorus frogs and spring peepers. The crossing of the NHS linkage between these woodlots can be expected to result in substantial amphibian road mortality and effectively divides and the existing populations of breeding frogs utilizing this area. In light of the impacts on natural heritage values and NHS function resulting from the E1 route, MNR would request that additional consideration be given to the E3 route which extends primarily to the south of the NHS.	The alignment follows that of the NOESP. An alignment shift will have a bearing on land use plans. Route E3 also bisects core preserve and linkage area. The description and justification for the selection of E1 was clarified in the final ESR to ensure MNR comments are reflected in text. The NNOTC is recognized and illustrated in all key planning documents for Halton Region including the North Oakville East (January 2008) and West Secondary Plans (May 2009) and the Glenorchy Conservation Area Master Plan. Commitments have been included in Exhibit 8-1: Detailed Design Commitments (#27 - 29) of the ESR to ensure that amphibian crossing/passageways are provided east of Sixth Line, warning signs with an advisory speed table in core area crossings are posted, and a wildlife crossing at North Park will be implemented.
Comments received at meeting on December 8, 2008 from MNR		
3.	Requested clarification of the Region's long term commitments for the landfill site including the use of the landfill site (i.e. recreation) and whether or not the site would be fenced in the future. MNR understood that the landfill site would not be fenced to allow for the movement of wildlife. AECOM to review applications in western Canada.	The landfill site west of Neyagawa Boulevard is located within the Natural Heritage System area of North Oakville. Currently there are no recreation related plans for the landfill site.

Public Works
Transportation Services
1151 Bronte Road
Oakville ON L6M 3L1
Fax: 905-847-2192

April 30, 2010

Robert H. Thun
Senior Planner
Planning Services Department
Town of Oakville
P.O. Box 310, 1225 Trafalgar Road
Oakville, ON L6J 5A6

Dear Mr. Thun:

RE: New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment Study

The project team would like to thank the Town of Oakville for their involvement in the New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment (EA) Study and for the comments submitted on the draft Environmental Study Report.

The study process as set out in the Municipal Engineers Association Municipal Class Environmental Assessment document for a Schedule "C" project has been applied to this study. The Environmental Study Report has been completed and by this letter and attached Notice of Study Completion is being placed in the public record for review until **June 7, 2010**.

Six hard copies of the Environmental Study Report as well CDs of Appendices are provided for your review and records. If you have any questions or require additional information, please contact the undersigned at 905-825-6000, ext. 7623.

Sincerely,

Melissa Green-Battiston

Melissa Green-Battiston, P. Eng.
Transportation Engineer
melissa.green-battiston@halton.ca

Public Works
Transportation Services
1151 Bronte Road
Oakville ON L6M 3L1
Fax: 905-847-2192

April 30, 2010

Lisa Myslicki
Environmental Coordinator
Professional Services
Ontario Realty Corporation
1 Dundas Street West, Suite 2000
Toronto, ON M5G 2L5

Dear Ms. Myslicki:

RE: New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment Study

The project team would like to thank the Ontario Realty Corporation for their involvement in the New North Oakville Transportation Corridor & Crossing of the Sixteen Mile Creek Class Environmental Assessment (EA) Study.

The study process as set out in the Municipal Engineers Association Municipal Class Environmental Assessment document for a Schedule "C" project has been applied to this study. The Environmental Study Report has been completed and by this letter and attached Notice of Study Completion is being placed in the public record for review until **June 7, 2010**.

An electronic copy of the Environmental Study Report (with appendices) is provided for your review and records. The 'Procedure for the Application of Client Ministry or Agency's Class EA or Declaration Order' form will be submitted upon completion of the study as per your request.

If you have any questions or require additional information, please contact the undersigned at 905-825-6000, ext. 7623

Sincerely,

Melissa Green-Battiston

Melissa Green-Battiston, P. Eng.
Transportation Engineer
melissa.green-battiston@halton.ca

c: Geoff Woods, Ontario Realty Corporation
John MacKenzie, Ontario Realty Corporation