500 Consumers Road
North York, Ontario M2J 1P8
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**Edith Chin**
Manager Upstream Regulatory Strategy &
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Email: edith.chin@enbridge.com

ENBRIDGE

December 17, 2010

**VIA RESS AND COURIER**

Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, Suite 2700
Toronto, ON M4P 1E4

Dear Ms Walli:

**Re: Enbridge Gas Distribution Inc. ("Enbridge")**
**Leave to Construct – Dow Moore, Corunna and Seckerton Pipeline Project ("Project")**
**Board File No.: EB-2010-0302 – Application and Evidence**

Enbridge is submitting to the Ontario Energy Board (the "Board"), an application for leave to construct four segments of pipe totaling approximately 3500 metres and related facilities. These facilities are part of a project to enable the expansion of Enbridge's Tecumseh storage.

The Environmental Screening Report ("ER") for the Project was submitted to the Ontario Pipeline Coordinating Committee ("OPCC") on November 29, 2010. To date Enbridge has not received inquiries from the OPCC membership regarding this Project. The ER is enclosed within the Application at Exhibit B, Tab 2, Schedule 2.

This submission has been filed through the Board's RESS, with two copies being delivered to the Board by courier. Enbridge's Dow Moore, Corunna and Seckerton Pipeline Project Application will be available on the Enbridge website at www.enbridgegas.com, on December 22, 2010.

Sincerely,

Edith Chin

cc: Scott Stoll, Aird & Berlis
OPCC Members (via email)

**A-GENERAL**

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**ONTARIO ENERGY BOARD**

**IN THE MATTER OF** the *Ontario Energy Board Act, 1998,* S.O. 1998, c. 15 (Schedule B);

**AND IN THE MATTER OF** an application by Enbridge Gas Distribution Inc. for an order or orders granting leave to construct natural gas pipelines in Concession 9, Lot 21 and Concession 10, Lots 19, 20 and 21 in the former Township of Moore, in the Township of St. Clair, in the County of Lambton.

# DOW MOORE, CORUNNA AND SECKERTON PIPELINE PROJECT
# LEAVE TO CONSTRUCT
# APPLICATION

1. The Applicant, Enbridge Gas Distribution Inc. ("**Enbridge**" or the "**Company**"), is an Ontario corporation with its head office in the City of Toronto. It carries on the business of selling, distributing, transmitting and storing natural gas within Ontario.

2. Enbridge is seeking leave to construct four segments of extra high pressure pipelines in existing designated storage areas to enhance the storage service. A map showing the proposed pipelines may be found at Exhibit B, Tab 2, Schedule 2, Figure No. 4.

3. The first segment of pipeline is approximately 1900 metres of NPS 20 steel pipeline (**"Interconnect Pipeline**") with a maximum operating pressure of 1 700 psig (11 730 kPa). The Interconnect Pipeline will connect to the existing Dow Moore Pool Line via a new metering station ("Dow Moore Metering Station"), and then to two metering stations at the Seckerton and Corunna storage reservoir sites ("Seckerton Metering Station" and "Corunna Metering Station", respectively).

4. The second segment of pipeline is approximately 1500 metres of NPS 20 steel pipeline ("**Seckerton Gathering Line**") with a maximum operating pressure of 1 700 psig (11 730 kPa). This pipeline will connect to the gas wells in the Seckerton storage reservoir through new lateral connections, and the pipeline will tie-in to the Seckerton Metering Station.

5. The third segment of pipeline is approximately 50 metres of NPS 20 steel pipeline ("**Seckerton Pool Line Station Tie-In**"), with a maximum operating pressure of 1 700 psig (11 730 kPa). The Seckerton Pool Line Station Tie-In will connect the existing NPS 20 steel Seckerton pool line to the Seckerton Metering Station.

6. The fourth segment of pipeline is approximately 50 metres of NPS 16 steel pipeline ("**Corunna Pool Line Station Tie-In**") with a maximum operating

pressure of 1 350 psig (9 310 kPa). The Corunna pool line Station Tie-In will connect the existing NPS 16 steel Corunna pool line to the Corunna Metering Station.

7. Together, the pipelines and related station connections comprise the proposed Project that is the subject of this Application.

8. Enbridge hereby applies to the Board pursuant to section 90 of the *Ontario Energy Board Act, 1998*, S.O. 1998, c-15, Sched. B., for an order granting leave to construct the proposed Project. The Project is being completed within lands over which Enbridge currently has land rights and, as such, no new lands are required to complete the Project.

9. Enbridge requests the Board render a decision by March 15, 2011 in order to meet a condition precedent stipulated in a storage contract that underpins this project.

10. The list of interested parties is provided in Exhibit A, Tab 2, Schedule 2.

11. Enbridge requests that copies of all documents filed with the Board in connection with this proceeding be served on it and on its counsel, as follows:

a) The Applicant: Regulatory Affairs
Enbridge Gas Distribution Inc.

Address: 500 Consumers Road
Toronto, Ontario M2J 1P8

Mailing Address P.O. Box 650
Scarborough, Ontario M1K 5E3

Telephone: (416) 495-5499 or 1-888-659-0685
Fax: (416) 495-6072
Email: EGDRegulatoryProceedings@enbridge.com

b) The Applicant's counsel: Scott Stoll
Aird & Berlis LLP

Address: Suite 1800, Box 754
Brookfield Place, 181 Bay Street
Toronto, Ontario M5J 2T9

Telephone: (416) 865-4703
Fax: (416) 863-1515
Email: sstoll@airdberlis.com

DATED: December 17, 2010 at Toronto, Ontario

**ENBRIDGE GAS DISTRIBUTION INC.**
By its counsel

**AIRD & BERLIS LLP**

Scott Stoll

# LIST OF INTERESTED PARTIES

## Landowners, Tenants, and Encumbrancers

| Party | Role |
|---|---|
| 1031052 Ontario Limited<br>c/o James R. Elliott<br>1918 LaSalle Road<br>Sarnia, ON N7T 7H5 | Landowner<br>Lot 19, Concession 8<br>PIN 43298-0068 |
| Blackburn Radio Inc.<br>1415 London Road<br>Sarnia, ON N7S 1P6 | Landowner<br>Lot 22, Concession 9<br>PIN 43295-0101 |
| James William DeGurse and<br>Stephanie Phyllis DeGurse<br>1421 Petrolia Line, R.R. 1<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 21, Concession 8<br>PIN 43298-0065 |
| Matthew Philip Hergott<br>1685 Petrolia Line<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 19, Concession 10<br>PIN 434295-0092 |
| Antonio Fracalanza and Carla Fracalanza<br>1366 Blackwell Road<br>Sarnia, ON N7S 5M4 | Landowner<br>Lot 21, Concession 8<br>PIN 43298-0064 |
| Bruce Floyd Knight and<br>Kathleen Sarah Knight<br>1163 Petrolia Line, R.R. 1<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 19, Concession 10<br>PIN 43295-0091 |
| Robert Large and Gail Elizabeth Large<br>1025 Petrolia Line, R.R. 1<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 20, Concession 10<br>PIN 43295-0087 |
| Jeffrey Kent Larsen and<br>Tracey Ann Larsen<br>3765 Ladysmith Road, R.R. 1<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 22, Concession 8<br>PIN 43298-0063 |

| | |
|---|---|
| Clifford Wayne Lennan<br>3263 Petrolia Line<br>Petrolia, ON N0N 1R0 | Landowner<br>Lot 22, Concession 8<br>PIN 43298-0061 |
| Lori Jeannette Maidment<br>1171 Rokeby Line<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 19, Concession 8<br>PIN 43298-0070 |
| Robert James McClemens and<br>Mary Patrice McClemens<br>944 Rokeby Line, R.R. 1<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 19, Concession 8<br>PIN 43295-0098 &<br>PIN 43295-0099 |
| Joseph William Wellington,<br>Margaret Ruth Wellington and<br>Richard James Wellington<br>1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Landowner (Surface Rights)<br>Lot 20, Concession 10<br>PIN 43295-0088 |
| Henry Edwin Wellington,<br>Joseph William Wellington,<br>Margaret Ruth Wellington and<br>Richard James Wellington<br>1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Landowner (Mineral Rights)<br>Lot 20, Concession 10<br>PIN 43295-0089 |
| Ann McLaughlin and<br>Thomas Edward McLaughlin<br>620 Secretariate Drive, Paddock Green<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 19, Concession 8<br>PIN 43298-0067 |
| Thomas Joseph McLaughlin and<br>Joyce Elaine McLaughlin<br>855 Petrolia Line<br>Corunna, ON N0N 1G0 | Landowner / Tenant Farmer<br>Lot 22, Concession 10<br>PIN 43298-0083 |
| James Moore Jr.<br>1148 Rokeby Line, R.R. 1<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 19, Concession 9<br>PIN 43398-0066 |
| 1375525 Ontario Limited,<br>c/o Allan and Diane Murray<br>1067 Rokeby Line<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 20, Concession 8<br>PIN 43298-0066 |

| | |
|---|---|
| Nova Chemicals (Canada) Ltd.<br>c/o Doug Mathany<br>201 North Front Street<br>P.O. Box 3054<br>Sarnia, ON N8T 7V1 | Landowner<br>Lot 21, Concession 10<br>(Surface Rights),<br>Lot 22, Concession 10 &<br>Lot 22, Concession 9<br>PIN 43295-0107 &<br>PIN 43295-0082<br>and<br>Encumbrancer |
| Virginia Reutiman<br>305 East Rice Street<br>P.O. Box 367<br>Wayzata, MN 55391 U.S.A | Landowner<br>Lot 20, Concession 9<br>PIN 43295-0096 |
| Linda Louise Valline<br>11719 S700E,<br>Draper, UT 84020 U.S.A. | Landowner<br>Lot 20, Concession 9<br>PIN 43295-0096 |
| Garry Arthur Robbins and<br>Mary Patricia Robbins<br>855 Rokeby Line, R.R. 1<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 22, Concession 8<br>PIN 43298-0062 |
| Gary Scott Robinson and<br>Rebecca Lynn Campbell<br>823 Rokeby Line,<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 22, Concession 8<br>PIN 43298-0060 |
| Kenneth W. Smith and Dorothy Smith<br>1191 Rokeby Line<br>Mooretown, ON N0N 1M0 | Landowner (Life Interest)<br>Lot 19, Concession 8<br>PIN 43298-0071 |
| Harold Walter Taylor and<br>Gail Diane Taylor<br>904 Rokeby Line<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 21, Concession 9<br>PIN 43295-0100 |
| Joseph William Wellington,<br>Margaret Ruth Wellington and<br>Robert Scott Wellington<br>1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Landowner (Mineral Rights)<br>Lot 21, Concession 10<br>PIN 43298-0086 |

| | |
|---|---|
| Pauline Mary Wellington<br>1020 Petrolia Line, R.R. 1<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 21, Concession 10<br>PIN 43295-0085 |
| Keith William Wilson,<br>Charlotte Irene Wilson and<br>Thomas William Wilson<br>894 Petrolia Line<br>Corunna, ON N0N 1G0 | Landowner / Tenant Farmer<br>Lot 22, Concession 10<br>PIN 43295-0084 |
| 912176 Ontario Limited<br>c/o Enbridge Gas Distribution Inc.<br>3595 Tecumseh Road<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 19, Concession 8<br>PIN 43295-0071 &<br>PIN 43295-0097<br>And Encumbrancer |
| Robert Young and Gertrude Young<br>790 Tudor Close<br>Sarnia, ON N7V 2Z5 | Landowner<br>Lot 19, Concession 9<br>PIN 43295-0093 |
| Union Gas Limited<br>Attn: Lands Department<br>50 Keil Drive North<br>Chatham, ON N7M 5M1 | Landowner<br>Lot 19, Concession 9<br>PIN 43295-0095<br>And Encumbrancer |
| 923726 ON Limited<br>c/o Enbridge Gas Distribution Inc.<br>3595 Tecumseh Road<br>Mooretown, ON N0N 1M0 | Encumbrancer |
| The Corporation of the County of Lambton<br>789 Broadways Street,<br>P.O.Box 3000,<br>Wyoming, ON N0N 1T0 | Landowner Roads |
| 3305911 Canada Inc.<br>c/o Fraser & Beatty (Attn Victor Y. Hum)<br>P.O.Box 100, 1 First Canadian Place,<br>100 King Street West,<br>Toronto, ON M5X 1B2 | Encumbrancer |

| | |
|---|---|
| Helen Margaret Wellington<br>c/o 1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Life Interest in Lot 21,<br>Concession 10<br>PIN 43295-0086 &<br>PIN 43295-0107 |
| Dome NGL Pipeline Ltd.<br>A Subsidiary of BP Canada Energy Resources<br>Attn: Tim McQuire<br>1182 Plank Road, P.O. Box 216<br>Sarnia, ON N7T 7H9 | Encumbrancer |
| Interprovincial Pipe Line Inc.<br>c/o Eastern Division, Box 128,<br>Sarnia, ON N7T 7H8 | Encumbrancer |
| Dancy Broadcasting Limited<br>c/o Blackburn Radio Inc.<br>1415 London Road<br>Sarnia, ON N7S 1P6 | Encumbrancer |
| Patricia Newell<br>1143 Petrolia Line<br>Corunna, ON N0N 1G0 | Encumbrancer |
| Arthur Battle and Jeanette Battle,<br>c/o 1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Life Interest in Lot 21,<br>Concession 10<br>PIN 43295-0086 &<br>PIN 43295-0107 |
| The Corporation of the Township of St. Clair<br>1155 Emily Street,<br>Mooretown, ON N0N 1M0 | Landowner Roads<br>And Encumbrancer |
| Hydro One Networks<br>Attn. Mr. Tony Lerullo<br>483 Bay Street, North Tower, 15th Floor<br>Toronto, ON M5G 2P5 | Encumbrancer |
| Joe Walsh<br>R.R. 1<br>Mooretown, ON N0N 1M0 | Tenant Farmer<br>Lot 21, Concession 8 |

| | |
|---|---|
| Jeff Robbins<br>2968 Tecumseh Road<br>Courtright, ON N0N 1H0 | Tenant Farmer<br>Lot 22, Concession 8 |
| Brian Bruton<br>777 Rokeby Line, R.R. 1<br>Mooretown, ON N0N 1M0 | Tenant Farmer<br>Lot 22, Concession 8 |
| Tim Barkhouse<br>5208 Telfer Side Road<br>Sarnia, ON N0N 1M0 | Tenant Farmer<br>Lot 19, Concession 9 |
| Ollie Smith<br>3782 Tecumseh Road<br>Mooretown, ON N0N 1M0 | Tenant Farmer |
| David Kells<br>1417 Moore Line<br>Mooretown, ON N0N 1M0 | Tenant Farmer |
| J-Line Contractors Inc.<br>60 French Line<br>Port Lambton, ON N0P 2B0 | Tenant Farmer |
| John Grigg<br>R.R. 1<br>Mooretown, ON N0N 1M0 | Tenant Farmer |

First Nations

| |
|---|
| Aamjiwnaang First Nation<br>Attention: Chief Christopher Plain<br>978 Tashmoo Avenue<br>Sarnia, ON N7T 7H5 |
| Chippewas of Kettle and Stony Point<br>Attention: Chief Elizabeth J. Cloud<br>6247 Indian Lane<br>R.R.# 2<br>Forest, ON N0N 1J0 |
| Walpole Island First Nation<br>Attention: Chief Joseph B. Gilbert<br>R.R.# 3<br>Wallaceburg, ON N8A 4K9 |

OPCC Members

| |
|---|
| Ms. Zora Crnojacki<br>Ontario Energy Board<br>P.O. Box 2319<br>2300 Yonge Street, 26th Floor<br>Toronto, ON M4P 1E4<br>Tel: (416) 440-8104<br>Fax: (416) 440-7656<br>Email: zora.crnojacki@oeb.gov.on.ca |
| Mr. Oscar Alonso<br>Technical Standards and Safety Authority<br>3300 Bloor St. W., 14th Floor, Centre Tower<br>Toronto, ON M8X 2X4<br>Tel: (416) 734-3353<br>Fax: (416) 231-7525<br>Email: oalonso@tssa.org |
| Ms. Donna Mundie<br>Ministry of Agriculture, Food and Rural Affairs<br>1 Stone Road West, 3rd Floor<br>Guelph ON N1G 4Y2<br>Tel: (519) 826-3120<br>Fax: (519) 826-3109<br>Email: donna.mundie@omafra.gov.on.ca |
| Mr. Doug Peeling<br>Ministry of Transportation<br>301 St. Paul Street, 2nd floor<br>Garden City Tower<br>St. Catharines ON L2R 7R4<br>Tel: (905) 704-2916<br>Fax: (905) 704-2481<br>Email: doug.peeling@ontario.ca |

| |
|---|
| Mr. Goran Ciric<br>Provincial Planning Policy Branch<br>Ministry of Municipal Affairs and Housing<br>777 Bay Street, 14th floor<br>Toronto ON M5G 2E5<br>Tel: (416) 585-6246<br>Fax: (416) 585-4245<br>Email: goran.ciric@ontario.ca |
| Ms. Renée Bowler<br>Ministry of Natural Resources<br>Team Leader – Environmental Planning Unit<br>300 Water Street, 5th Floor<br>Peterborough ON K9J 3C7<br>Tel: (705) 755-5870<br>Fax: (705) 755-1971<br>Email: renee.bowler@ontario.ca |
| Mr. Chris Schiller<br>Manager, Culture Services Unit<br>Ministry of Tourism and Culture<br>401 Bay Street, Suite 1700<br>Toronto ON M7A 0A7<br>Tel: (416) 314-7144<br>Fax: (416) 314-7175<br>Email: chris.schiller@ontario.ca |
| Mr. Martin Graham<br>Director, Real Estate Development Economic Development<br>Real Estate Development Planning<br>1 Dundas Street West<br>Toronto ON M5G 2L5<br>Tel: (416) 326-9792<br>Email: graham.martin@ontariorealty.ca |

| |
|---|
| Mr. Mike Parker<br>Supervisor, APEP<br>Ministry of the Environment – Southwestern Region<br>733 Exeter Road<br>London ON N6E 1L3<br>Tel: (519) 873-5043<br>Email: mike.parker@ontario.ca<br><br>and/or<br><br>Mr. Trevor Robak<br>Supervisor, APEP (Acting)<br>Ministry of the Environment – Southwestern Region<br>733 Exeter Road<br>London ON N6E 1L3<br>Tel: (519) 873-5115<br>Email: trevor.robak@ontario.ca |
| Mr. Dan Panko<br>Supervisor, APEP (Acting)<br>Ministry of the Environment – Central Region<br>5775 Yonge Street, 9th Floor<br>North York ON M2M 4J1<br>Tel: (416) 326-3477<br>Fax: (416) 325-6345<br>Email: dan.panko@ontario.ca |
| Ms. Penny Stewart<br>Supervisor, APEP<br>Ministry of the Environment – Eastern Region<br>1259 Gardiners Road, Unit 3<br>P.O. Box 22032<br>Kingston ON K7M 8S5<br>Tel: (613) 548-6931<br>Email: penny.stewart@ontario.ca |

| |
|---|
| Attention: Supervisor, APEP<br>Ministry of the Environment - West Central Region<br>119 King Street West, 12th Floor<br>Hamilton ON L8P 4Y7 |
| Ms. Paula Allen<br>Supervisor, APEP<br>Ministry of the Environment – Northern Region<br>199 Larch Street, 12th Floor<br>Sudbury ON P3E 5P9<br>Tel: (705) 564-3273<br>Fax: (705) 564-4180<br>Email: paula.allen@ontario.ca |

# PROJECT DESCRIPTION AND JUSTIFICATION

1. Enbridge is planning a series of storage enhancement projects which may culminate in an increase of storage capacity of approximately 17.5 BCF. The first phase of this expansion, targeted for completion in 2011, will enable Enbridge to offer approximately 4.5 BCF of incremental storage service.

2. New storage services are discussed in the OEB's Natural Gas Electricity Interface Review ("NGEIR") proceeding, EB-2005-0551. In the Decision, the OEB indicated that it "will refrain from regulating the rates or approving the contracts for new storage services offered by Union and Enbridge".[1]

3. Enbridge held open seasons in March and November 2010. Enbridge is in the process of finalizing commercial terms for contract(s) for the approximate 4.5 BCF of storage services commencing in 2011.

4. Future open seasons will be held to support development of future capacity.

5. Consistent with the NGEIR Decision, these projects are being funded by Enbridge's shareholders and will not become part of Enbridge's regulated rate base. All costs associated with these projects are being captured in the unregulated accounts and no costs of the project are charged to regulated utility accounts. As such, this Application does not include an economic feasibility analysis and Enbridge is not seeking a finding from the Board related to the financial feasibility of these projects.

[1] Decision with Reason, NGEIR, EB-2005-0551, page 74, November 7, 2006.

6. Enbridge is currently preparing a report on the cost allocation between regulated and unregulated storage services. This report will be filed with the Earnings Sharing Mechanism proceeding scheduled to be filed in March 2011.

7. The first phase of the enhancement project, targeted to be completed in 2011, is comprised of:
   a) the construction of four segments of pipe totaling approximately 3500 metres and related facilities (see Exhibit A, Tab 3, Schedule 2), which is the subject of this application;
   b) the construction of the replacement of the Corunna Gathering Line, which does not require a Leave To Construct application; and
   c) the first stage of delta pressuring of the Corunna and Seckerton natural gas storage pools, which does not require an application.

Dow Moore, Corunna and Seckerton Pipeline Project

8. The Dow Moore, Corunna and Seckerton Pipeline Project is a Leave to Construct Application comprising the addition of four short segments of pipeline.

9. The first segment of pipeline Enbridge is applying for Leave to Construct is approximately 1900 metres of NPS 20 steel pipeline ("Interconnect Pipeline") with a maximum operating pressure of 1 700 psig (11 730 kPa). The Interconnect Pipeline will connect to the existing Dow Moore Pool Line via a new metering station ("Dow Moore Metering Station"), and then to two metering stations at the Seckerton and Corunna storage reservoir sites ("Seckerton Metering Station" and "Corunna Metering Station", respectively). This pipeline is required to deliver and take away gas in the operating pressure range of between 325 to 1 600 psig (2 240 to 11 030 kPa), to and from the Seckerton, Corunna or Dow Moore storage reservoirs, and the Corunna Compressor Station.

10. The second segment of pipeline Enbridge is applying for Leave to Construct is approximately 1500 metres of NPS 20 steel pipeline ("Seckerton Gathering Line") with a maximum operating pressure of 1 700 psig (11 730 kPa). This pipeline will connect to the gas wells in the Seckerton storage reservoir through new lateral connections, and the pipeline will tie-in to the Seckerton Metering Station. This pipeline is required to deliver and take away gas in the operating pressure range of between 325 to 1 600 psig (2 240 to 11 030 kPa) to and from the Seckerton, Corunna or Dow Moore storage reservoirs, and the Corunna Compressor Station.

11. The third segment of pipeline Enbridge is applying for Leave to Construct is approximately 50 metres of NPS 20 steel pipeline ("Seckerton Pool Line Station Tie-In"), with a maximum operating pressure of 1 700 psig (11 730 kPa). The Seckerton Pool Line Station Tie-In will connect the existing NPS 20 steel Seckerton pool line to the Seckerton Metering Station. This pipeline is required to deliver and take away gas in the operating pressure range of between 325 to 1 600 psig (2 240 to 11 030 kPa) to and from the Seckerton, Corunna or Dow Moore storage reservoirs, and the Corunna Compressor Station.

12. The fourth segment of pipeline Enbridge is applying for Leave to Construct is approximately 50 metres of NPS 16 steel pipeline ("Corunna Pool Line Station Tie-In") with a maximum operating pressure of 1 350 psig (9 310 kPa). The Corunna pool line Station Tie-In will connect the existing NPS 16 steel Corunna pool line to the Corunna Metering Station. This pipeline is required to deliver and take away gas in the operating pressure range of between 325 to 1 200 psig (2 240 to 8 270 kPa) to and from the Corunna, Seckerton and Dow Moore storage reservoirs, and the Corunna Compressor Station.

13. In 2010, an Environmental and Socio-Economic Impact Assessment ("ER") was completed by an independent environmental consultant, Stantec Consulting Ltd. ("Stantec") for the proposed pipeline segments.

14. The proposed routes and locations for the proposed facilities for the Dow Moore, Corunna and Seckerton Pipeline Project are on lands either owned by Enbridge or where Enbridge holds gas storage leases; or on lands subject to gas storage rights as provided by OEB Order E.B.O. 5, December 2, 1963. These routes and locations were recommended by Stantec.

15. Due to the short length of the proposed pipeline segments, there are a limited number of affected landowners and thus, no formal public information sessions have been held. Enbridge has met and will continue to engage the affected landowners as appropriate throughout the project.

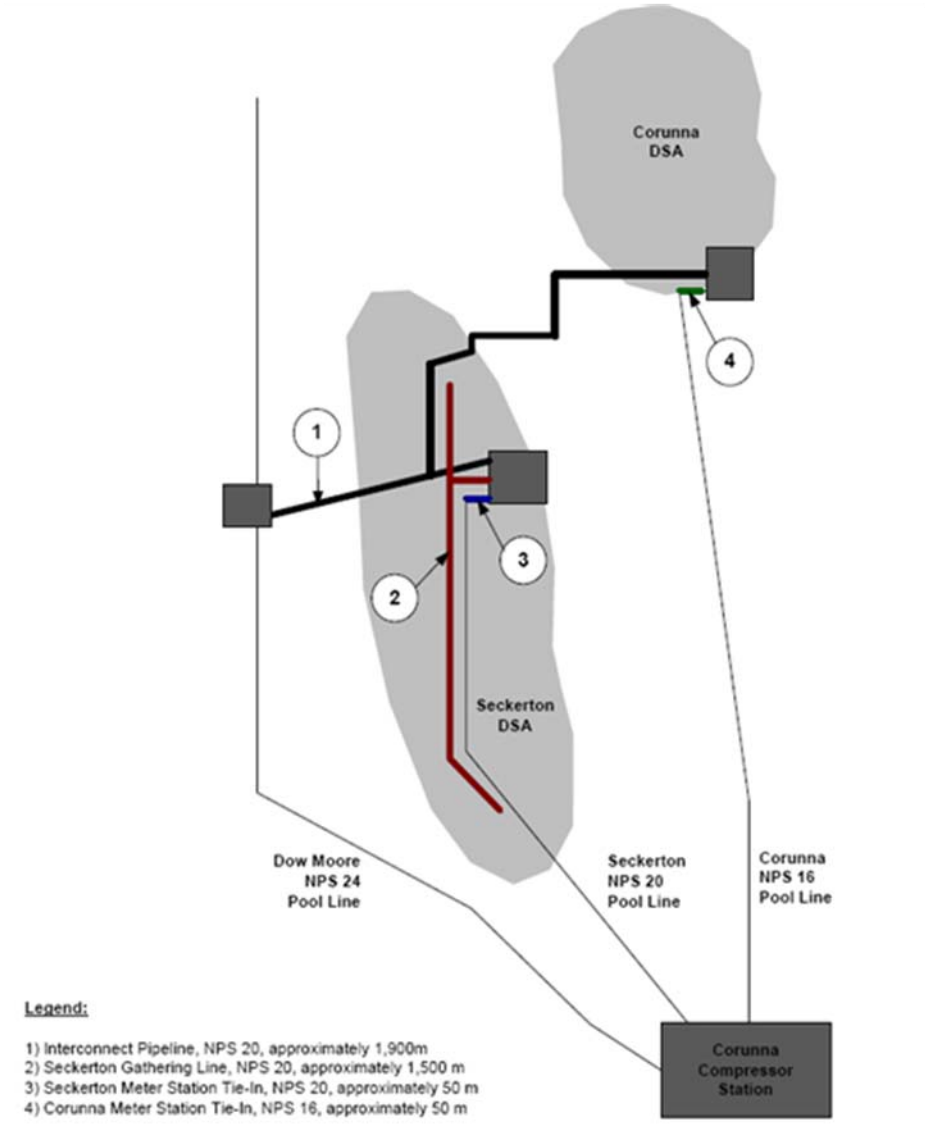
16. Stantec's ER report has been issued to the Ontario Pipeline Coordinating Committee ("OPCC") for their review as part of the Board's Leave to Construct process. An addendum will be filed with the OPCC and is included in this Application.

17. A schematic drawing of the Dow Moore, Corunna and Seckerton Pipeline Project is shown below in Figure 1.

18. The Aerial Photograph, in the ER, Exhibit B, Tab 2, Schedule 2, Figure 4, illustrates the Dow Moore, Corunna and Seckerton Pipeline Project.

## Figure 1

## DOWMOORE, CORUNNA AND SECKERTON PIPELINE PROJECT SCHEMATIC DRAWING



**B-ROUTING AND ENVIRONMENTAL**

1

# ROUTE SELECTION

1. The project involves approximately:
   a) 1,900 metres of NPS 20 of Interconnect Pipeline;
   b) 1,500 metres of NPS 20 Seckerton Gathering Line;
   c) 50 metres of NPS 20 Seckerton Pool Line Station Tie-In; and
   d) 50 metres of NPS 16 Corunna Pool Line Station Tie-In.

2. Stantec conducted a detailed route selection for the Interconnect Pipeline which is documented in the Preferred Route Description below. For the Seckerton Gathering Line the installation will be on lands owned by Enbridge or where Enbridge has gas storage rights as provided by OEB Order E.B.O. 5, December 2, 1963. Due to the directness of the alignments in the existing corridor, Stantec did not identify comparable alternatives other than within or adjacent to the existing corridor route. Also, a detailed route selection was not required for the Seckerton Pool Line Station Tie-In or the Corunna Pool Line Station Tie-In due to the short length and limited routing options.

## Preferred Route Description of the Interconnect Pipeline

3. In determining the preferred route for the Interconnect Pipeline, Stantec assessed two distinct routes. These route alternatives, referenced as route 1A and 1B, are described in the ER found in Exhibit B, Tab 2, Schedule 2, specifically in Figure No. 4 and the literature that follows.

4. Of the routes examined, route 1A was identified by Stantec as the Preferred Route for the Interconnect Pipeline. Route 1A was selected as it does not travel adjacent to, or within, the existing Hydro One corridor that also contains other existing utilities.

Hydro One communicated its requirements for pipeline construction and operation to Stantec in an email dated October 26, 2010, copied here as Attachment 1. Enbridge supports and adopts the findings made by Stantec and has accordingly approved route 1A as the Preferred Route for the Interconnect Pipeline.

5. The Preferred Route for the Interconnect Pipeline is described as follows:
    - The west end point of the Interconnect Pipeline is the connection to the existing Dow Moore Pool Line via a tie-in to the Dow Moore Metering Station;
    - The pipeline would then proceed easterly to connect to the Seckerton storage reservoir via a tie-in to the Seckerton Metering Station, a distance of approximately 460 meters;
    - The pipeline would then proceed with multiple northerly and easterly jogs to connect to the Corunna storage reservoir via a tie-in to the Corunna Metering Station, a total distance of approximately 1,440 metres to the easterly end point of the Interconnect Pipeline.

6. The preferred route presented through the agency contact letter released on October 14, 2010, included in the ER as found in Exhibit B, Schedule 2, Tab 2, is route 1A.

7. The Interconnect Pipeline will be installed on agricultural lands and woodlots either owned by Enbridge; or where Enbridge holds gas storage leases; or where Enbridge has gas storage rights as provided by OEB Order E.B.O. 5, December 2, 1963, in coordination with the following entities:

    - St. Clair Regional Conservation Authority
    - Ministry of Environment
    - Ministry of Culture

- Ministry of Transportation
- Ministry of Natural Resources
- Former Township of Moore in the Township of St. Clair
- Hydro One
- Bell

**Edwin Makkinga**

**From:** Thurtell, Steve [steve.thurtell@stantec.com]
**Sent:** Monday, December 06, 2010 10:37 AM
**To:** Edwin Makkinga
**Subject:** FW: Dow Morre, Seckerton and Corunna Interconnect Pipeline Project Class EA

Hi

---

**From:** HanmengJen.Long@HydroOne.com [mailto:HanmengJen.Long@HydroOne.com]
**Sent:** Tuesday, October 26, 2010 10:44 AM
**To:** Thurtell, Steve
**Cc:** Leslie.Koch@HydroOne.com; ierullo@HydroOne.com
**Subject:** Dow Morre, Seckerton and Corunna Interconnect Pipeline Project Class EA

Dear Mr. Thurtell,

In our initial review, we have confirmed that Hydro One Transmission facilities are located within immediate vicinity of the proposed site in your study area. Please allow appropriate lead-time in your project schedule in the event that proposed development impacts Hydro One infrastructure which requires relocation or modifications, or needs an outage, that may not be readily available.

In planning, please note that developments should not reduce line clearances and limit access to our facilities at any time in the study area of your Proposal. Any construction activities must maintain the electrical clearance from the transmission line conductors as specified in the Ontario Health and Safety Act for the respective line voltage.

The integrity of the structure foundations must be maintained at all times, with no disturbance of the earth around the poles, guy wires and tower footings. There must not be any grading, excavating, filling or other civil work close to the structures.

Note that existing rights of ways may have provisions for future lines or already contain secondary land uses (i.e. pipelines, water mains, parking, etc). Please take this into consideration in your planning.

Once details are known and it is established that your development will affect Hydro One facilities including the rights of way, please submit plans that detail your development and the affected Hydro One facilities to:

Kent Taylor, Hydro One Real Estate Management
185 Clegg Road, Markham L6G 1B7
Phone: (905) 946-6230, Fax: (905) 946-6287
kent.taylor@hydroone.com

Please note that the proponent will be responsible for costs associated with modification or relocation of Hydro One facilities, as well as any added costs that may be incurred due to increase efforts to maintain our facilities.

Regards,

*Jen Long*
Transmission Lines Sustainment
System Investment, Asset Management
**Hydro One Networks Inc.**
Tel: 416-345-4421
HanmengJen.Long@HydroOne.com

# ALTERNATIVE ROUTE

1. As indicated in Exhibit B, Tab 1, Schedule 1, an alternative route has been established for the Interconnect Pipeline only.

2. In addition to the Preferred Route for the Interconnect Pipeline, Stantec assessed one distinct route alternative denoted route 1B in the ER, which is filed at Exhibit B, Tab 2, Schedule 2. A map showing the route of the location of the alternative route 1B is provided in Figure 4, Section 4.1 of the ER. The final route for the Interconnect Pipeline was selected as the preferred route over the alternative because it does not travel adjacent to the Hydro One corridor or other existing utilities within that corridor. Correspondence between Hydro One and Stantec detailing this preference is filed as Attachment 1 in Exhibit B, Tab 1, Schedule 1.

3. Alternative route 1B proceeds east from the existing Dow Moore Gathering Pool Line for approximately 1,150 metres along the edge of an existing woodlot and then heads north for approximately 700 metres to tie-in to the existing Corunna Gathering Line.

# ENVIRONMENTAL IMPLEMENTATION PLAN

1. Construction will be conducted in accordance with the Enbridge Contract Specifications, the Enbridge Construction Manual, and the recommendations in the Environmental Report: Dow Moore, Corunna and Seckerton Pipeline Project. This 2010 study was prepared by Stantec Consulting Ltd. ("Stantec") and can be found in Exhibit B, Tab 2, Schedule 2. An addendum dated December 16, 2010, from Stantec has been added and can be found in Exhibit B, Tab 2, Schedule 3. Any additional requirements resulting from the final permitting, discussion with the Ministry of Natural Resources, or the Board's Conditions of Approval will be incorporated into the Environmental Implementation Plan where necessary.

2. The Environmental Implementation Plan will incorporate recommended mitigation measures for the environmental issues and concerns associated with the proposed works. This will be communicated to the construction contractor prior to the start of construction. A qualified Environmental Inspector will be available to assist the Project Manager in ensuring that environmental conditions contained in the Board's Conditions of Approval are followed, and that commitments made to the agencies are honoured. The Environmental Inspector and contractor will also ensure that unforeseen environmental circumstances that arise before and during construction are appropriately addressed.

3. Through the use of the procedures outlined above, it is expected that environmental impacts resulting from construction of the proposed works will be negligible.

# DOW MOORE, CORUNNA AND SECKERTON PIPELINE PROJECT

ENVIRONMENTAL REPORT

File No 160960611
November 2010

Prepared for:

**Enbridge Gas Distribution Inc.**
500 Consumers Road
North York, ON, M2J 1P8

Prepared by:

**Stantec Consulting Ltd.**
Suite 1 - 70 Southgate Drive
Guelph, ON N1G 4P5

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# Table of Contents

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# 1.0 Introduction

Stantec Consulting Ltd. (“Stantec”) has been retained by Enbridge Gas Distribution Inc. (EGDI), to prepare an Environmental and Socio-Economic Assessment Report (ER) for a Project involving approximately 3, 500 meters (m) of buried natural gas pipelines south of Sarnia, Ontario. The construction project proposed by EGDI is named the Dow Moore, Corunna and Seckerton Pipeline Project (“the Project”). The Project is part of the ongoing expansion of the natural gas storage system in St. Clair Township, and is required to meet increasing demand for natural gas storage service in the area. In preparing this report, Stantec consulted with EGDI staff.

The Project comprises two pipelines and two small tie-in sections of pipe. The first pipeline involves a gathering pipeline, approximately 1,500 m long and 20 inch (508 millimeter; mm) in diameter within the Seckerton pool. The second pipeline involves approximately 1,900 m of 20 inch diameter steel pipeline to connect the existing Dow Moore pool line to two metering stations at the Corunna and Seckerton natural gas storage pools. Also, the first small section is approximately 50 m of 20 inch diameter steel pipeline to tie-in the Seckerton pool line to the metering station at the Seckerton natural gas storage pool. Finally, the second short section is approximately 50 m of 16 inch diameter steel pipeline to tie-in the Corunna pool line to the metering station at the Corunna natural gas storage pool. This ER was created to meet the requirements of the Ontario Energy Board’s (“OEB”) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon pipelines and facilities in Ontario (May 2003).

A Study Area surrounding the Project has been identified within the area west of Tecumseh Road, south of Petrolia Line, and contained with the area approximately 600 m south of Rokeby Line, and 500 m west of Ladysmith Road, as shown on Figure 1. The properties screened to locate existing environmental features are within Lambton County in Moore Township, on Lots 19, 20, 21 and 22 in Concessions 8, 9 and 10.

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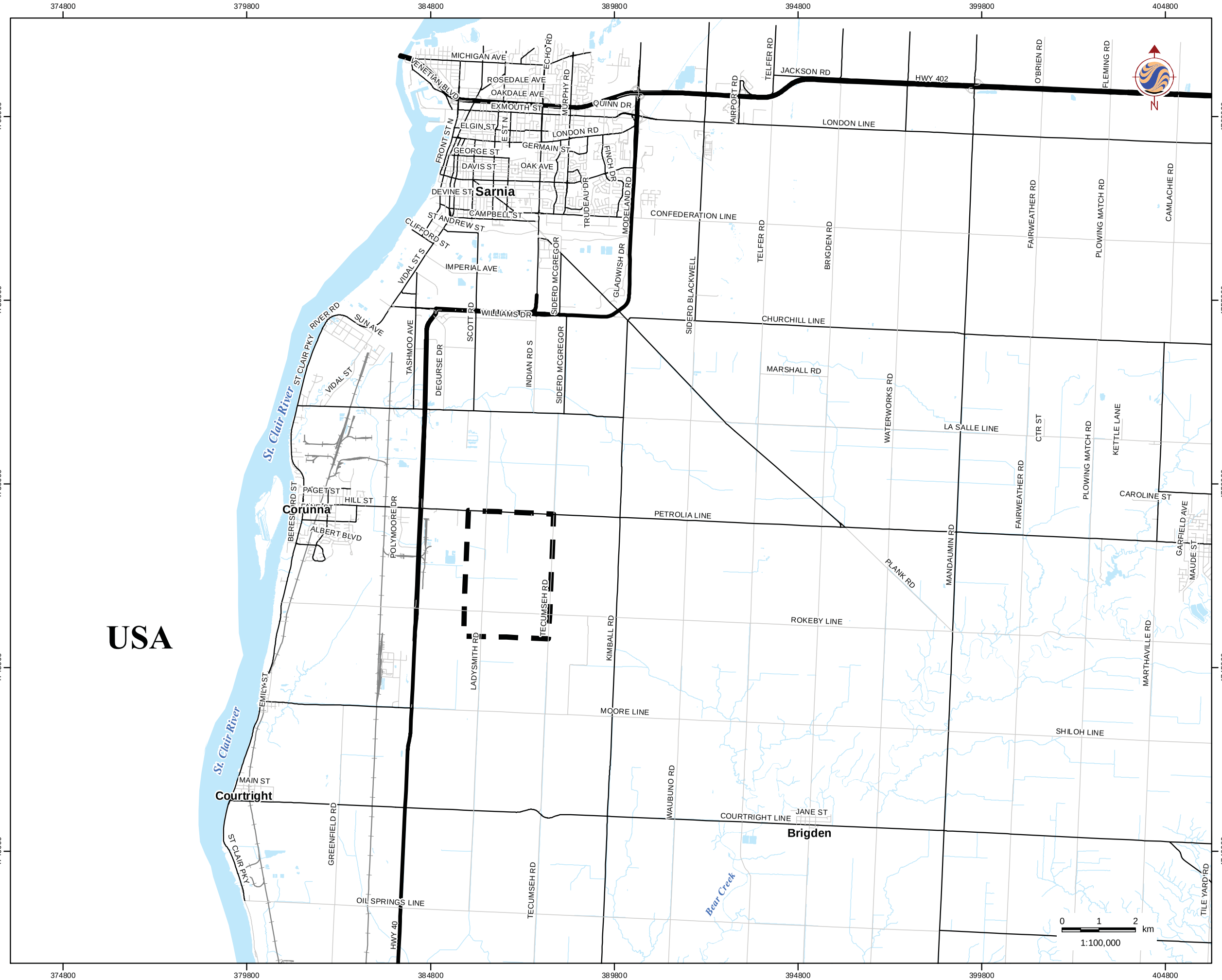
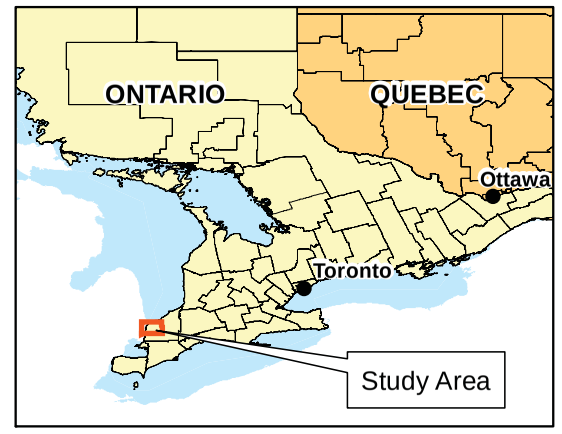



## Legend

- Study Area
- Highway
- Major Road
- Local Road
- Waterbody
- Railway
- Watercourse




## Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © ESRI, 2008.
3. Image Sources: © St. Clair Region Conservation Authority, 2006 - Imagery Date: 2006.

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November 2010
160960611

Client/Project
ENBRIDGE GAS DISTRIBUTION INC.
DOW MOORE, CORUNNA AND SECKERTON
PIPELINE PROJECT

Figure No.
1

Title
**PROJECT LOCATION**

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## 1.1 PURPOSE AND ORGANIZATION OF THE REPORT

Companies planning to construct and operate natural gas pipelines in Ontario must comply with the guidelines established by the Ontario Energy Board (OEB) when seeking Leave to Construct approval. Companies may apply for a Leave to Construct, or make a *Request for Exemption* to the OEB under the appropriate sections of the *Ontario Energy Board Act, 1998*. Applications to the OEB must include information that allows the OEB to make an informed decision, including:

- Engineering design and construction plans for proposed pipelines;
- An Environmental Report (ER) including a route evaluation study and mitigation plans in support of the Application; and,
- Easement acquisition, and landowner and tenant relations considerations.

In order to fulfill these criteria the information presented in this ER has relied on technically sound and consistently applied procedures that are replicable and transparent.

This report provides documentation of the environmental activities undertaken for development of the proposed buried pipelines. The report is organized into seven sections:

- Section 1 describes the proposed facilities, the approval process and the role of the ER;
- Section 2 describes the study methodology and landowner activities;
- A description of the Study Area and an overview of the environmental and socio-economic features and conditions is provided in Section 3;
- The net environmental and socio-economic effects and proposed construction practices, timing and mitigation methods for the proposed project are described in Section 4;
- Cumulative effects of the proposed project are addressed in Section 5;
- Section 6 presents overall study conclusions;
- Section 7 presents the Bibliography;
- Landowner contacts are provided in Appendix A;
- Agency contacts are provided in Appendix B; and
- Stage 1 Archaeology is provided in Appendix C.

## 1.2 OBJECTIVES OF THE ENVIRONMENTAL REPORT

The primary objective of this ER is to ensure environmental protection during construction and operation of the proposed pipelines, and at the same time meet the intent of the OEB's *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, Fifth Edition* (2003) (the OEB Environmental Guidelines). To meet these objectives, the ER:

- Identifies existing environmental features that could be affected by the Project;
- Identifies environmentally acceptable routes for the proposed pipelines;
- Identifies stakeholder interests (including regulatory and landowner issues) and appropriate mitigation measures to ensure concerns raised by interested parties are addressed; and,
- Establishes the mitigative and/or protective measures required to avoid or minimize potential environmental effects associated with construction and operation of the Project.

In addition, this environmental study considered relevant municipal and provincial guidelines and regulations. The documents reviewed included:

- The Ontario Ministry of Natural Resources (MNR) Provincial Policy Statement, which include interests in wetlands, mineral aggregate resources, and preservation of agricultural lands;
- The Ministry of the Environment's technical mandate derived from the Environmental Protection Act, and the Ontario Water Resources Act;
- The St. Clair Region Conservation Authority's jurisdiction under the Conservation Authorities Act (CAA) pertaining to the *Fill, Construction and Alteration of Waterways* regulation.

Appendix A contains an Agency Contact List and a Summary Table of Agency Correspondence undertaken by Stantec.

## 1.3 APPROVAL PROCESS AND REGULATORY REQUIREMENTS

In order to obtain approval to construct a pipeline, proponents must submit an application to the OEB that establishes that the Project is in the public interest. As a regulatory body, the OEB must be assured that the Project sponsors meet all standards and regulations relating to both the protection of the environment and public health and safety.

This ER is consistent with the OEB Environmental Guidelines, which should be considered when applicants, such as EGDI, seek approval from the OEB. The OEB Environmental Guidelines are applicable to transmission pipelines, underground storage pools and ancillary facilities. The OEB Environmental Guidelines provide direction as to the content of the ER with respect to the Project description, environmental and socio-economic descriptions, environmental impact assessment, and mitigation. Other requirements of the OEB Environmental Guidelines include compliance and effects monitoring programs, specific mitigation and contingency plans for implementation during construction, and public participation throughout the planning process.

Once completed, the ER is circulated or made available to the Ontario Pipeline Coordinating Committee (OPCC), other federal and municipal government agencies, interest groups, landowners, and other interested parties for their review and comment prior to a hearing before the OEB.

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# 2.0 Environmental Study and Public Participation Process

## 2.1 ENVIRONMENTAL STUDY PROCESS

The study was initiated by EGDI during the summer of 2010. The report was completed in November 2010. Subsequently, the ER will be submitted to the OPCC and filed with the OEB as part of EGDI's application.

### 2.1.1 Public Involvement

Throughout the Project, including the planning and construction phases, inquiries from the general public have been and will continue to be adressed by EGDI in a timely manner. EGDI will implement a complaint tracking system to ensure that all communications are logged and addressed.

The activities of this pipeline Project are confined to a few privately owned properties. As such, no formal public information sessions have been held. All of the directly affected landowners within the Study Area have been and will continue to be informed by EGDI; the remaining landowners have been contacted by EGDI previous to and will be contacted throughout the Project. Also, the landowners within the Study Area have been consulted by Stantec during the collection of environmental information for the Environmental Assessment (EA), the results of which are presented and discussed in Section 2.1.2 of this ER.

During the proposal presentation to landlowners and construction phase of the Project, all landowners within the Study Area have and will continue to have an open communication with EGDI including opportunities to comment. Communications with the Study Area landowners regarding development of the Project commenced with the onset of the Project in 2010 and will continue into the Operation phase of the Project.

The Study Area landowners and the greater public will also have access to review of Environmental Reports and OEB application components. Issues will be included in the implementation of EGDI's complaint tracking system.

### 2.1.2 Directly Affected Landowner Input

Communication activities conducted in 2010 include personal contacts between EGDI staff and directly affected landowners, and written communication including an information collecting questionnaire from Stantec to all landowners within the Study Area.

EGDI has met and will continue to meet with the landowners directly affected by the Project. EGDI has communicated and will continue to communicate with other landowners who are adjacent to the work area to inform them of the Project.

EGDI has met with the directly affected landowners to inform them of the proposed activities and will discuss the construction activities associated with access roads, transmission lines and gathering lines now that the preferred route has been identified. The landowners had the opportunity to comment on EGDI's proposal and any concerns identified have been addressed in the mitigation section of this report. Examples of concerns raised at these meetings include: the routing of pipelines, construction scheduling, access roads, field tiles, topsoil stripping, compensation and procedure for abandoning pipelines. EGDI will address these issues by hiring a tile consultant to meet with the landowners, prepare tile plans if necessary and stripping topsoil as requested by the landowner.

Stantec requested environment related input from all landowners in the Study Area through an introductory letter and questionnaire. Thirty packages were mailed and to-date nine responses have been received. Five of those returned indicated that they did not want their comments to be on the public record. Concerns raised in the other four returned questionnaires include: tile drains, woodlots, location and size of metering stations, compensation and the long-term plans of EGDI. Each comment was appropriately addressed and responses were logged as displayed in Appendix A.

Interested Parties will be informed of the application to the OEB and will have the opportunity to participate in the hearing as directed by the OEB.

To ensure that all landowner issues are dealt with appropriately, the owners of directly affected lands as well as adjacent landowners will have contact information for EGDI personnel in the event there are concerns or complaints. EGDI will also have a complaint tracking system to ensure that complaints are documented and resolved as quickly as possible.

### 2.1.3 Agency and Interest Group Contacts

Initially, Government Agencies and interest groups were provided the opportunity to comment on the development of the ER via a project introduction letter. Both the Agency Contact List and the letter are provided in Appendix B. Communications with agencies and stakeholders are summarized in a table in Appendix B. Where appropriate, communications with Agencies were continued by telephone correspondence, email, and facsimile to gather and/or clarify information regarding the Project.

### 2.1.4 On-Going Consultation Activities

It is recommended that public consultation be continued throughout the planning and development phases of this Project. EGDI will continue to consult with affected landowners throughout the construction and operation phases of the Project and implement a complaint tracking system. EGDI should continue to meet with government agencies, members of the public, and landowners as appropriate.

# 3.0 Environmental Features

## 3.1 HISTORY AND DESCRIPTION OF AREA

One of the native bands common to Ontario is the Chippewa First Nation. The people of the Chippewa First Nation that live around Sarnia, Ontario are the Aamjiwnaang First Nation. Historically, they lived along the St. Clair River and continue to live near Corunna, Ontario.

Europeans settled in Corunna, the closest town to the Study Area, in the early 1820's and an agricultural community became established. East of Corunna are the Towns of Petrolia and Oil Springs, Ontario. That is where the world's oil industry started when the first commercial oil well was established in 1858. Ontario's first commercial natural gas well was drilled in Essex County near Leamington, Ontario in 1889 and natural gas was realized in Lambton County soon after. During World War II, the Sarnia area became a large processing centre for oil from Alberta. This petrochemical industry continues in the area. Lambton also possesses a large share of the Province's underground storage capacity for natural gas and other hydrocarbons in the underlying pools.

Today, with 125,000 residents, the County of Lambton continues to be dominated by rural land uses. There are also local communities and a significant industry presence in the petrochemical and other industrial sectors.

The woodlots in the area are small remnants of the northern limit of Canada's Carolinian forest and are scattered across the relatively flat landscape typical for this area of south western Ontario. The larger woodlots comprise several of the natural areas. The Lambton County Official Plan (OP) identifies ten Significant Natural Areas in the former Township of Moore:

1. Bear Creek Woodlot #3
2. Bickford Woods
3. Burton Drain Woodlot
4. Clay Creek Woodland
5. Crown Game Reserve
6. Plum Creek #1
7. Plum Creek Woods Heronry
8. Stag Island
9. Vulture Woods
10. Waubuno Woodlot.

The Significant Natural Area closest to the Study Area is the Burton Drain Woodlot. It is a provincially significant wetland (PSW) approximately 2 km from the Study Area. The wetland is formed by isolated pockets of standing water that are not connected to the Study Area. The next closest Significant Natural Area is approximately 5 km from the Study Area it is the Crown Game Reserve. Due to the separation distance between the PSW, the game reserve and the Study Area, the shallow nature of excavations common to pipeline construction and the presence of numerous intercepting road ditches between them, no impacts to these Significant Natural Areas are anticipated.

The properties west of the Study Area are identified in the OP as Petrochemical Industrial Land. Approximately 1 km west of the Study Area is a Nova Chemicals Bulk Terminal. As well, there are numerous other industrial facilities in the greater area.

## 3.2 THE STUDY AREA

The boundaries of the Study Area were established by considering the location of the tie-in points for the Dow Moore gathering pipeline and the Corunna storage pool and those of the two other pipelines in this project. The start and finish tie-in points for the proposed pipelines are within the Study Area. It is located approximately 3.5 km east of the Town of Corunna, Ontario. The Study Area for the EA of the proposed pipeline project is located on Lots 22, 21, 20 and 19, Concessions 8, 9 and 10 in St. Clair Township, Lambton County.

The Study Area is located within the Lake Erie Counties Climatic Region. Lands within the Study Area are predominantly utilized for agriculture. Non-agricultural land uses include natural gas and/or oil infrastructure.

Many of the farms in the area have woodlots at the back, along the middle of the concession blocks. The OP states that the Significant Woodlots are those located in a Primary Corridor or Significant Natural Area designations, or any contiguous forested area that is 4 hectares, or greater in size. In the OP, the woodlots in the Study Area are not along Primary Corridors or Significant Natural Areas. They are divided by clearings along lot lines and existing corridors. The OP identifies Natural Heritage Systems. There is a Natural Heritage Corridor listed as a Primary Corridor in the Study Area. It is along the municipal drain, McClemmens Drain, which can be seen on the Environmental features Map Figure 2.

The St. Clair Region Conservation Authority (SCRCA) has identified the drains and rivers in the area as Regulated lands under the ‘Development, Interference with Wetlands and Alterations to Shorelines and Watercourses” Regulation passed pursuant to Section 28 of the Conservation Authorities Act, R.S.O. 1990, Ch. 27. That Regulation prohibits the placement or dumping of fill, construction of a building or structure in the floodplain or alteration to a watercourse without prior written approval of that Authority. This is discussed further in Section 4.3.5.1.

Surficial geological deposits within the Study Area have been mapped as glaciolacustrine deep-water silt and clay deposits. Poorly drained Brookston and Caistor clay soils have developed on these glaciolacustrine deposits. The location of the soils are shown on the Agricultural features Map, Figure 3

The Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC) database search identified a number a species that could potentially be found living in or crossing through the Study Area. To refine this list it was forwarded to the MNR for verification of presence of habitat. This is discussed further in Section 4.5.6

A Stage 1 Archaeological Assessment was conducted along the proposed routes. It is discussed in Section 4.5.5 and provided in Appendix C.

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384800

389800

4750000

4745000

HILL ST

PETROLIA LINE

HWY 40

LADYSMITH RD

TECUMSEH RD

KIMBALL RD

POLYMOORE DR

ROKEBY LINE

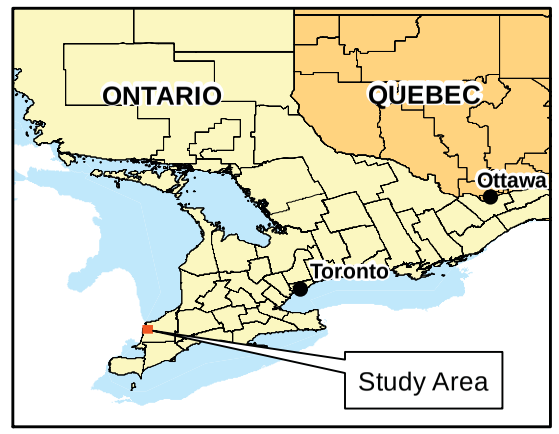
McClemen's Drain

3401714
3401713
3401712
3401711
3401710
3408397
3404549
3408273
3408288
3401675
3401674
3404550
3403266
3403675
3407038
3404962
3401590
3401589
3401588
7143791

N

## Legend

- Study Area
- Railway
- Watercourse
- Water Well Borehole (MOE)
- Waterbody
- Provincially Significant Wetland
- Wood Lot
- SCRCA- Regulation Limit

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1:24,000

## Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © ESRI, 2008.
3. Image Sources: © St. Clair Region Conservation Authority, 2006 - Imagery Date: 2006.

Stantec

November 2010
160960611

Client/Project

ENBRIDGE GAS DISTRIBUTION INC.
DOW MOORE, CORUNNA AND SECKERTON
PIPELINE PROJECT

Figure No.

2

Title

# ENVIRONMENTAL FEATURES MAP

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## 3.3 DATA SOURCES AND MAPPING

Information provided by Agencies, landowners, and other stakeholders was considered to identify the affects of sensitive or unique environmental and socio-economic features. Information provided by interested parties was also considered to develop potential protective and mitigative measures for implementation during construction of the Project.

The base for the Study Area maps (Figures 2, 3 and 4), has been generated from SCRCA imagery , 2006.

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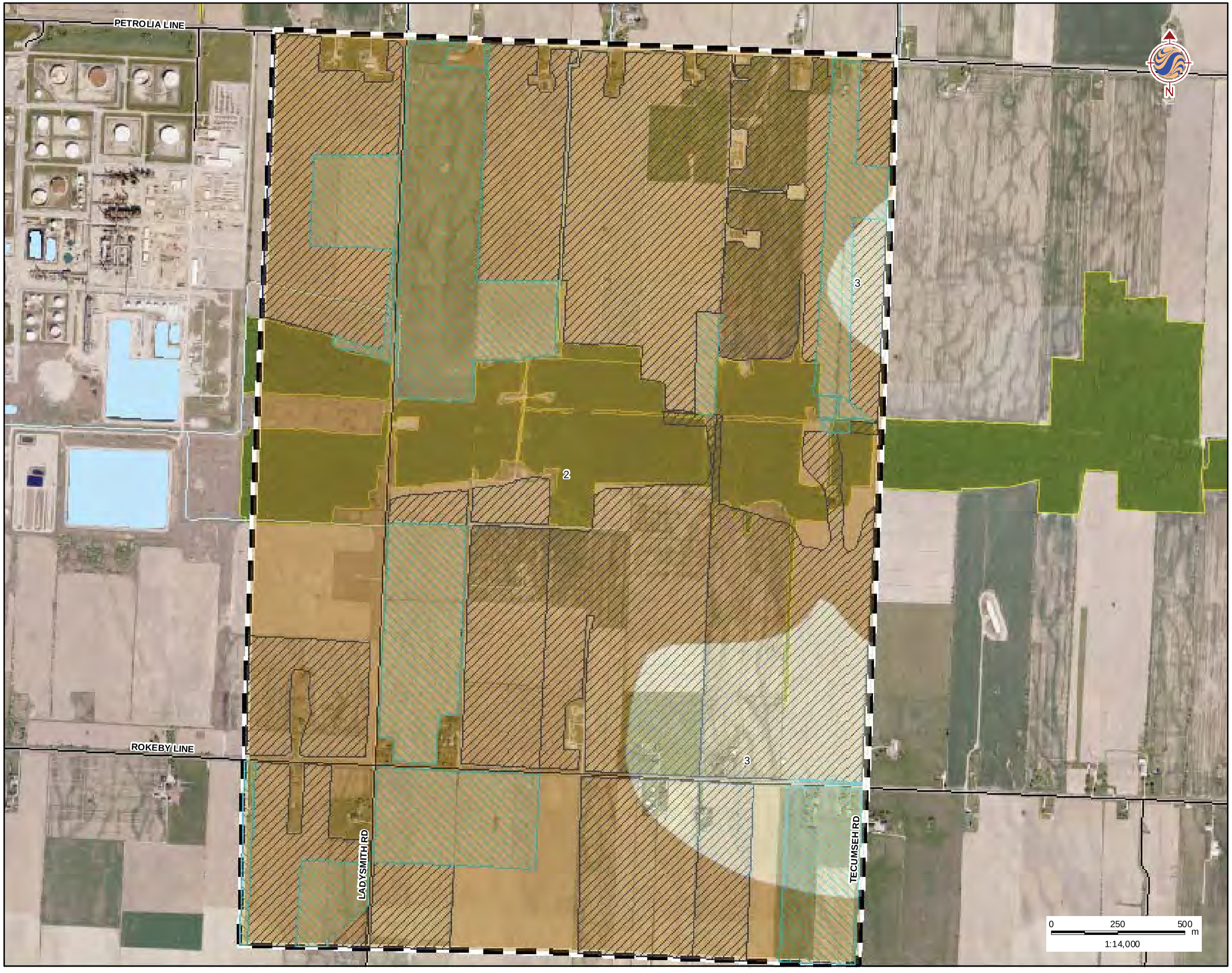



**Legend**

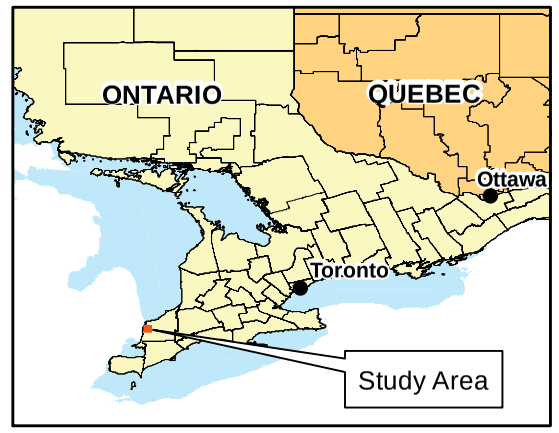
- Study Area
- Highway
- Road
- Railway
- Watercourse
- Waterbody
- Wood Lot

**Tile Drainage**

- Random
- Systematic

**Soil Types**

- 2 BKN- Brookston Clay (CLI2)
- 3 CTR- Caistor Clay (CLI3)




**Notes**

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160960611

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ENBRIDGE GAS DISTRIBUTION INC.
DOW MOORE, CORUNNA AND SECKERTON
PIPELINE PROJECT

Figure No.
3

Title
**AGRICULTURAL FEATURES MAP**

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# 4.0 Pipeline Environmental Management Plan

This section provides discussion on the selection of the routes and an overview of the proposed construction. It discusses the physical, agricultural, socio-economic and biophysical features that occur relating to the potential routes; describes the potential impacts of construction and operation of the proposed pipelines on those features; and recommends mitigation measures to minimize potential negative effects. This section also identifies opportunities to minimize potential impacts to environmental and socio-economic features along, or in close proximity to, the proposed pipeline routes. Specific construction methods and timing are also recommended to minimize potential impacts.

## 4.1 ROUTE SELECTION

The purposes of the proposed pipelines are 1) to construct an interconnect line (1,900 m) to link the existing Dow Moore gathering pipeline with the Seckerton and Corunna natural gas gathering pipelines and metering facilities and 2) to construct a new gathering line for the Seckerton Pool (1,500 m). In order to determine the most suitable locations for the proposed pipelines the following factors were considered: length of pipeline route; and the presence of existing environmental or agricultural features which may pose a constraint; and the potential for environmental or agricultural impacts. The primary method of mitigation used against identified constraints was avoidance. Environmental features identified during this EA have been avoided where possible. Where avoidance was not feasible, mitigation measures have been developed to the extent possible. In order to minimize the impact on agricultural fields, agricultural infrastructure and disruptions to cropping patterns, the preferred routes have been located, within existing corridors, adjacent to field edges and/or away from existing infrastructure on agricultural lands. The location of the proposed pipeline routes are illustrated on Figure 4.

To determine the environmentally preferred route for the interconnect pipeline that joins the Dow Moore pool pipeline with the Seckerton and Corunna gathering pipelines and metering stations, two potentially viable routes were identified, 1A and 1B of Figure 4. Each route, 1A and 1B, was assessed considering the potential for impacts to the surrounding features. The Project also includes two small joining segments, approximately 50 m long, to tie-in the Seckerton pool line to the metering station at the Seckerton natural gas storage pool, and to connect the Corunna pool line to the metering station at the Corunna natural gas storage pools.

The lengths of routes 1A and 1B are the same approximate length, 1.9 km long. Both routes avoid the municipal drainage systems as identified by the SCRCA and the Primary Corridor – Natural Heritage Corridor as identified by the County of Lambton. The routing length within woodlots is less than a 5% difference, 1A = 435 m and route 1B = 458 m. As well, both routes have been located along field edges or other topographical features.

A preference for Route 1A has been identified, based on the facts that route 1B travels adjacent to an existing Hydro One corridor and Hydro One has stated that there must not be any grading, excavating, filling or other civil work close to their poles, guy wires and tower footings. As well, it is known that there are other existing utilities along that corridor. In order to avoid these potential conflicts and with the other factors considered being equal the Preferred Route is Route 1A.

The other proposed pipeline, the new gathering line (Route 2 in Figure 4) for the Seckerton Pool was assessed for potentially viable alternative routes. Due to the directness of the alignments in the existing corridor, no comparable routing alternatives were identified other than within or adjacent to the existing corridor route. In that, working within and adjacent to the existing corridor will have the least potential for impacts to the surrounding environmental and agricultural features. The crossing of Rokeby Line is unavoidable and will be accomplished through consultation with and direction from the Township of St. Clair.

384800

389800

HILL ST

HWY 40

LADYSMITH RD

TECUMSEH RD

PETROLIA LINE

Existing Dow Moore Gathering Line

Corunna Tie-in

Existing Corunna Gathering Line

Dow Moore Tie-in

Seckerton Tie-in

Existing Seckerton Gathering Line

ROKEBY LINE

KIMBALL RD

0 250 500 m

1:17,000

N

## Legend

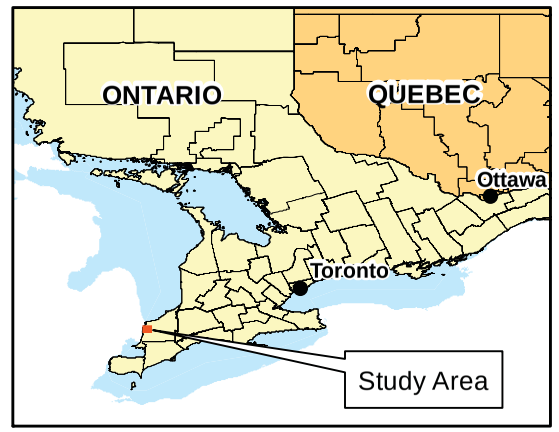
- Study Area
- Tie-in Points
- Existing Gathering Line*
- Highway
- Road
- Railway
- Watercourse
- Waterbody

**Well Mode (Gas/ Oil)**

- Active Well
- Plugged back and Whipstocked

**Proposed Routes**

- Potential Route 1A
- Potential Route 1B
- Proposed Route 2




## Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © ESRI, 2008.
3. Image Sources: © St. Clair Region Conservation Authority, 2006 - Imagery Date: 2006.

* Locations of existing and proposed pipelines are approximate

Stantec

November 2010
160960611

Client/Project
ENBRIDGE GAS DISTRIBUTION INC.
DOW MOORE, CORUNNA AND SECKERTON PIPELINE PROJECT

Figure No.
4

Title
**POTENTIAL ROUTES MAP**

384800

389800

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## 4.2 CONSTRUCTION OVERVIEW

Surveying and clearing will be among the first construction activities undertaken. Since much of the proposed routes are along field edges or adjacent to existing access roads, limited clearing will be required. Where necessary, clearing will be completed at the same time as any required work on access roads. Clearing involves removal of vegetation within woodlots to facilitate construction or widening of the access roads. Existing cleared areas may require additional brush-cutting and/or tree pruning to facilitate construction. To avoid nesting activity of migrating birds, clearing activity should not occur between April 15 and August 15. If unavoidable, clearing during this time of the year may be undertaken providing a nesting survey is completed by qualified persons prior to tree removal. Tree removal compensation is discussed in Section 4.5.3.

Construction of a pipeline across agricultural lands that will be returned to agriculture requires a temporary access rights and an access road if necessary. The proposed location of the temporary road is within the right-of-way (ROW) and is designed to be removed at the completion of construction. For this project, much of the preferred routes have been located along existing access roads that will remain after construction.

The common procedure for construction of temporary access roads follows: once the specific details of the access road within the ROW have been determined, the topsoil is stripped and stored on the ROW, geotextile material is laid down and granular material is placed on the geotextile material to a depth of approximately 0.35 m. The geotextile should extend beyond the sides of the gravel to help to avoid mixing. Following construction, the gravel and geotextile underlying the temporary access road are removed, the disturbed area is chisel ploughed, the topsoil is replaced to the area and the land is returned to its original use.

Minor grading may be required to facilitate construction. Topsoil stripping is undertaken prior to grading to ensure the effects of construction on the topsoil are minimized. Once topsoil stripping and grading are completed, pipe is strung or positioned adjacent to the location where it will be welded and buried.

Excavating the trenches, welding the pipes, lowering in the pipelines, and backfilling the trenches are the next activities to be completed. The trenches will be dug by excavator, including the crossing of the municipal drain. The crossing of Rokeby Line is unavoidable and will be accomplished through consultation with and direction from the Township of St. Clair.

To ensure the integrity of the pipelines, hydrostatic tests are then conducted. Where required, soil compaction is then relieved by subsoiling. Finally, topsoil is replaced, after which the area disturbed by construction is restored by various means such as chisel ploughing, discing or further subsoiling.

EGDI shall follow their Wet Weather Shutdown policy, as detailed in their Construction Manual 2010, when construction directly affects agricultural lands where soils are susceptible to rutting and compaction because of saturated soil conditions. Where the pipeline traverses agricultural land, and an access road does not exist, EGDI's Wet Weather Shutdown policy will be implemented as described in their Construction Manual, 2010. Wet weather shutdown will not apply to any construction activity on gravel surfaces, where compaction rutting or flooding are not a concern. Construction may recommence once soil moisture has lowered to suitable levels as determined by the Company.

## 4.3 PHYSICAL FEATURES OF THE STUDY AREA

### 4.3.1 Physiography

Potential Impacts

The Study Area is located in the St. Clair Clay Plains physiographic region of Southern Ontario (Chapman and Putnam, 1984). This clay plain has developed under historical glacial lakes and contains some sandy till but is mainly the finer textured silt and clay (Barnett et al., 1991). Topography around the Study Area is level to nearly level. Subsequently, slope stabilization and erosion are not anticipated. Surface deposits in the area are generally deeper than 35 meters.

Mitigative/Protective Measures

Due to the levelness of the Study Area and deep depth of sediments, mitigation measures are not required.

### 4.3.2 Bedrock Geology

Potential Impacts

The Paleozoic geography of the Study Area indicates that the bedrock underlying the Study Area is from the Kettle Point Formation (Hewitt, 1972). It is black fissile, bituminous shale generally found between 40-50 m below grade and surface outcrops are uncommon in the area. No outcrops have been identified in the Study Area. Consequently, bedrock is not expected to be encountered during construction of the pipelines or access roads.

Mitigative/Protective Measures

The proposed construction project will involve excavations less that 10 m deep. Contact with bedrock is not expected therefore impacts relating to the bedrock are not anticipated. Mitigative measures for bedrock are not required.

### 4.3.3 Mineral, Aggregate and Petroleum Resources

#### Potential Impacts

The Lambton County Official Plan displays that there are no significant mineral aggregate resources identified within the Study Area or Township of St. Clair as a whole. Construction and operation of the proposed pipelines will not sterilize any mineral resources or aggregate deposits.

Aggregate resources, which may be required during construction of the proposed pipelines, are available from sand and gravel operators that supply aggregate throughout Lambton County.

The proposed pipelines do not have any impact on other petroleum resources.

#### Mitigative/Protective Measures

The lack of reported granular aggregate and mineral deposits within the Township of St. Clair indicates that there is no potential for the Project to affect mineral and/or aggregate resources. Consequently, impacts associated with sterilization of mineral resources are not anticipated to occur as a result of construction or operation of the proposed pipelines.

Since aggregate and petroleum resources will not be affected by the proposed project, mitigative/protective measures are not required.

### 4.3.4 Climate

#### Potential Impacts

Climatic conditions require special consideration during the planning, and construction of pipelines. The movement of heavy equipment directly on wet soil may cause deep rutting, severe compaction and mixing of topsoil with subsoil. These potential impacts may break down soil structure and affect soil fertility thereby reducing the potential for agricultural productivity. In particular, accessing the routes during wet periods could have negative impacts on water infiltration and tile drainage if the access roads are not properly constructed or maintained.

A period of heavy rainfall may cause a significant increase in the water level and flow velocity of municipal drains and natural watercourses. When the topsoil is stripped and stockpiled, runoff drainage patterns are temporarily altered. High water levels and rapid flows may result in flooding of the trench lines and subsequent flooding of adjacent lands.

In addition, high winds during a dry summer may erode loose soil material, including topsoil, away from the area of construction. Erosion by wind results in permanent loss of topsoil and creates dust that is a nuisance to residential and agricultural properties located in close proximity to the area of construction.

**Mitigative/Protective Measures**

To minimize the potential for impacts associated with wet climatic conditions, construction of the temporary access roads, as well as the initial and final stages of pipeline construction are recommended to occur during dry soil conditions. These conditions typically occur in the late spring and summer when evapotranspiration is greatest. If construction cannot be completed during drier periods, strict adherence to the EGDI Wet Weather Shutdown policy is recommended which limits access to constructed roadways. This approach to construction of the proposed pipelines will help to ensure that impacts to soil are minimal.

Drainage ditches in the Study Area are deep to facilitate the extensive tile drainage systems in the area. However, when the topsoil is removed, runoff drainage patterns are temporarily altered and water can accumulate on the ROW. If excessive rainfall causes water to pond on the ROW it should be pumped to an acceptable location to facilitate drying of the soils.

The potential for soil erosion should be monitored and mitigated as appropriate to protect the agricultural capability of the lands. In severe conditions, covering windrows that are expected to remain for extended periods with vegetation or straw can help to stabilize them. Standard topsoil management practices should be employed to ensure that soil windrows are not degraded by wind.

If the mitigation measures recommended to reduce the impact of the inclement weather are followed, no adverse environmental effects from climatic events are anticipated to occur during construction and operation of the proposed pipelines.

### 4.3.5 Hydrology

#### 4.3.5.1 Surficial Watercourses

**Potential Impacts**

Due to the relatively level topography of lands crossed by the proposed pipelines, ditches, including the McClemmens Drain, have been dug to drain low areas and accept rain and tile drained water. The SCRCA has indicated that the surface ditches are covered within the ‘Development, Interference with Wetlands and Alterations to Shorelines and Watercourses” Regulation passed pursuant to Section 28 of the Conservation Authorities Act, R.S.O. 1990, Ch. 27. That Regulation prohibits the placement or dumping of fill, construction of a building or structure in the floodplain or alteration to a watercourse without prior written approval of that Authority.

During a site visit on September 17, 2010, when approximately 22 mm of rain had fallen the day before, almost all ditches and drains within the Study Area were dry although a few had shallow pockets of trapped water. No drains in the Study Area were noted to be flowing. However, it is expected that the ditches have water flowing during rainfall events and during the spring runoff.

Water quality may potentially be affected during construction of the pipelines as a result of:

- Open cutting the municipal drain;
- Erosion or sediment release due to inappropriate dewatering techniques;
- Removal of stabilizing vegetative cover; and,
- Accidental spills due to inappropriate handling or storage of fuel, dust suppressants, lubricants or other potential contaminants and from construction vehicles working in or adjacent to the ditch.

**Mitigative/Protective Measures**

If there is no flow in the McClemmens Drain at the time of construction the drain will be dry, open cut and rehabilitated during one day. If it is flowing at the time of construction, the drain will be sealed by an acceptable method such as with steel plates, the construction area will be drained and the ditch will be open cut. Working in the dry will effectively minimize the potential for water quality issues downstream. If the drain is flowing at the time of construction, the construction area will be isolated by sealing the drain with an acceptable method such as steel plates and a pump around technique will be employed to maintain downstream flows.

Pumping water can increase the potential for erosion and sedimentation. To minimize the potential for impact to surficial watercourses, pumping water should be done with appropriately sized filter bags used to release water into vegetated areas.

Lands should be rehabilitated as construction is completed. Disturbed slopes should be stabilized and re-vegetated as soon as practicable to avoid erosion.

Fuelling and lubrication of construction equipment should be carried out in a manner that minimizes the possibility of spills. On-site fuel tanks and generators should be situated in a designated area that has been bermed and lined with an impermeable barrier. Refueling activities should be monitored at all times; vehicles should never be left unattended while being refueled. All containers, hoses and nozzles should be free of leaks. All fuel nozzles should be equipped with functional automatic shut-offs. Fuel remaining in hoses should be returned to the fuel storage facility. Appropriate spill management equipment must be readily available and maintained within the refueling area.

Spills that are determined to have an impact upon the environment must be reported to the MOE Spills Action Centre at 1-800-268-6060.

#### 4.3.5.2 Groundwater

**Potential Impacts**

There are approximately 20 homes within the Study Area. While many of these rural dwellings have MOE records of drilled water wells for domestic and agricultural purposes, it is understood that most are on municipal water sources. The MOE water well logs report that there are 20 water wells in the Study Area. The average static level of these wells is approximately 9.8 m below the surface. There are five wells within 500 m to the three proposed routes and two of them are owned by EGDI. The water wells are mapped on The Environmental Features Map, Figure 2.

Standard pipeline construction practices do not involve excavation down to 9.0 m. Therefore, during construction and operation of the proposed pipelines the water table is not expected to be breached. No impact to groundwater is anticipated during the construction or operation of the proposed pipelines. However, there are three privately owned wells within 500 m of the proposed construction.

**Mitigative/Protective Measures**

The MOE has no standard policy for the assessment of water wells proximal to natural gas developments. EGDI may implement its Water Well Monitoring program if wells are identified that are potentially affected by the proposed work. Water Well Monitoring allows the causes of any change in well water or well performance to be determined if there are complaints about water quality or quantity. If deemed necessary by EGDI, prior to construction, an independent hydrogeologist will review local hydrological conditions, and determine the need for monitoring of the wells close to the development.

## 4.4 AGRICULTURAL FEATURES

### 4.4.1 Surficial Soils

**Potential Impacts**

The proposed project includes access roads and two pipeline lengths and two tie-in segments. This infrastructure will require construction on agricultural lands, and therefore there is the potential to impact agricultural soils found onsite. Excessive passes with heavy equipment can damage topsoil to the point of greatly diminished productivity. Soil characteristics relating to the potential for damage include: moisture content, texture, organic matter content.

The majority of the Study Area is covered with Brookston Clay and the remainder is Caister Clay (see Figure 3). Clay soils can be susceptible to rutting and compaction which can severely reduce agricultural productivity. An increase in moisture levels in these soils further increases the susceptibility to compaction damage. Additionally, careless topsoil stripping, topsoil storage and topsoil replacement can result in unnecessary mixing of topsoil and subsoil that can also reduce agricultural productivity.

During construction, soils with no vegetative cover are more prone to erode. This can result in soil erosion from water and wind. Soil susceptibility to water erosion depends on a number of variables, including; intensity and duration of rainfall events, antecedent soil moisture, surface soil cover, slope, soil texture, soil structure and organic matter content. Similarly, the susceptibility of soils to wind erosion depends on wind speed, surface soil cover, soil texture, soil structure and organic matter levels. Water and wind erosion both can result in a significant loss of topsoil.

**Mitigative/Protective Measures**

Topsoil from all agricultural lands directly affected by construction of the pipelines and access roads should be stripped. Topsoil from the access road area and pipeline easement should be stripped during dry soil conditions and stockpiled for use during cleanup and rehabilitation. Identification of the topsoil and subsoil interface should be carefully monitored to ensure that all topsoil with limited subsoil is stripped from the easement. To reduce construction impacts associated with wet climatic conditions, the other components of the construction are recommended to occur during dry soil conditions. If construction cannot be completed during the drier summer months when evapotranspiration is greatest, strict adherence to the Construction Manual 2010 is recommended.

Following periods of excessive rainfall or saturated soil conditions, construction activities on agricultural lands should be suspended in accordance to EGDI's Wet Weather Shutdown policy. Wet weather shutdown will not apply to temporary and permanent gravel access roads or within a station site. When wet weather shutdown has been implemented, heavy tracked and rubber-tired vehicles should be restricted from movement on agricultural soils. Usually, construction may continue from gravel work surfaces during wet weather conditions.

Topsoil stripping, handling and storage will be independent from subsoil material to minimize mixing and compaction. Topsoil stripping on the easement should be sufficiently wide to ensure that topsoil will be stockpiled on topsoil and subsoil will be stockpiled on subsoil. EGDI should maintain separation between topsoil storage piles and subsoil storage piles to reduce potential for soil mixing. If topsoil is required to be imported it should be tested for soybean cyst nematode to ensure that it is not contaminated (see Section 4.4.4).

### 4.4.2 Subsurface Soils

**Potential Impacts**

Generally, topsoil has a higher organic matter content that increases its' strength and resilience compared to subsoil. Once the topsoil has been stripped off an area, the subsoil is exposed and becomes more susceptible to the breakdown of its structure and/or tilth. The susceptibility of subsoil to structural degradation depends on soil moisture conditions, soil texture and soil structure.

As stated above, topsoil will be removed from agricultural lands during construction. Once the topsoil is removed and stockpiled, the potential for impacting it is greatly reduced. However, deep compaction of the exposed subsoil may result from the movement of heavy equipment during construction.

On the areas that contain Brookston soils, blue clay is known to be found at depth in the permanently anaerobic part of the soil. Blue clay tends to be structureless and tends to be very hard when dry. It is not anticipated that blue clay will be encountered during the installation of the pipelines, however, if it is encountered, it must be replaced to the depths because it may cause issues with soil productivity if backfilled into the upper layers of the subsoil.

**Mitigative/Protective Measures**

Adherence to the Construction Manual 2010 will help to protect the subsurface soils during construction.

Once construction has been completed, all the areas that will be returned to agricultural production should be subsoiled using an agricultural subsoiler to relieve soil compaction potentially caused during construction. Stone picking should be conducted after subsoiling.

In the event that blue clay is encountered on agricultural lands, the blue clay should be removed and disposed of at an approved location. Subsequently, the trench should be backfilled with suitable replacement material.

### 4.4.3 Artificial Drainage

**Potential Impacts**

Artificial drainage mapping obtained from the Ontario Ministry of Agriculture and Food (OMAF) displays that artificially drained fields, both systematic and random, are found throughout the cultivated portions of the Study Area (see Figure 3). To the extent possible, the impact of the pipeline construction upon artificial drainage systems has been minimized through avoidance during the route selection process and by locating the pipelines along the edge of cultivated fields and along existing corridors or rights-of-way.

Drainage tiles encountered during excavation of the trench will be severed and their operation will be temporarily disrupted. Temporary disruption of drainage and subsurface water flow caused by severed or crushed tiles could result in soil erosion or crop loss due to flooding.

**Mitigative/Protective Measures**

EGDI will repair or install tile to current standards to ensure that drainage of the property is maintained during construction. Existing tile drains severed during trenching will be recorded, flagged, and repaired immediately after backfilling of the trench. If a main drain, header tile, or large diameter tile is severed, a temporary repair shall be made to maintain field drainage and prevent flooding of the trench and adjacent lands. Severed tile drains that are not immediately

repaired should be capped to prevent the entry of soil, debris, or rodents, and avoid flooding of the trench line.

After the repair of each severed tile, and prior to backfilling, landowners should be invited to inspect and approve the repair. In areas where a significant number of tiles are severed, a tile drainage contractor should be retained to assist EGDI and the landowner in developing a tile drainage restoration plan.

In the unlikely event that crop loss or soil damage occurs as a result of field flooding due to a severed drainage tile, the impacted area should be rehabilitated as soon as possible. It is essential to ensure that rehabilitation activities occur when soils are dry.

### 4.4.4 Soybean Cyst Nematode (SCN)

**Potential Impacts**

Construction equipment will be used on the agricultural fields. This construction equipment may have previously worked in areas that were contaminated with Soybean Cyst Nematode (SCN). SCN can be transported within soil stuck to farming implements and heavy equipment. Once a field has been infested, there is significant potential for soybean crop yield reductions (Olechowski, 1990). Therefore it is important to avoid transporting SCN to non-infested fields in soil remaining on construction equipment that is imported from a previous job site. In order to minimize the risk of spreading SCN to unaffected fields, mitigative/protective measures have been established.

**Mitigative/Protective Measures**

Pre-construction soil sampling should be implemented to identify if the fields are infested with SCN. If a field is identified as having SCN, the following mitigation measures should be considered during construction;

Remove soil from equipment before moving to areas that have not been infested by SCN during construction. This may involve thorough washing of equipment before moving equipment from an infested field to non-infested field, especially, if equipment is “floated” (i.e. moved from one section with positive identification of SCN to another with negative identification);

Where possible, start construction activities on non-infested areas first. Equipment from a non-infested field or less-infested field (as determined from soil analysis) could be moved to a more infested field but not vice-versa.

All properties infested with SCN should be recorded and communicated to the Contractor. The landowner should be advised of the infestation and provided with a copy of OMAF “Fact Sheet” - Order #90-119 (Olechowski, 1990). EGDI will work with OMAF to develop and employ best practices protocol to handle SCN.

Any topsoil imported for cleanup activities should be analyzed for SCN by collecting a composite sample, sending it to a lab for analysis and reviewing results before any imported topsoil is placed on the easement. Imported suitable fill (not containing topsoil) or granular materials do not need to be tested for SCN.

With implementation of these recommendations, no significant adverse impacts upon crop yield resulting from SCN infestation are anticipated.

## 4.5 BIOPHYSICAL FEATURES

### 4.5.1 Watercourses and Fisheries

#### Potential Impacts

At the time of the initial site visit, on September 17, 2010, no drainage ways were flowing. There were isolated pockets of standing water found in a few of the perimeter ditches. These pockets were presumably the temporary result of approximately 22 mm rain that fell the day before. One of the proposed pipelines, the Seckerton gathering Line, crosses the McClemmens Drain which runs east to west from the centre of the Study Area. The proposed pipelines do not affect any natural watercourses or open municipal drains capable of supporting fish habitat.

#### Mitigative/Protective Measures

Since no natural watercourses or open municipal drains capable of supporting fish habitat are affected by the proposed pipelines, mitigative/protective measures to protect those are not required. If fish are encountered along the ROW at the time of construction they will be moved to an appropriate location within the same aquatic system.

### 4.5.2 Hydrostatic Testing

#### Potential Impacts

To facilitate the hydrostatic test, all new pipe sections will be filled with water and pressurized to the standard hydrostatic testing procedure to ensure that the construction is sound. As the pipelines for this project do not traverse any natural source capable of providing this volume of water, it will be hauled or pumped from either a natural or municipal source to a designated filling station. The nearest natural source of water capable of supplying the required volume is the St. Clair River. The nearest municipal source is at the Village of Corunna. A Permit to Take Water will be required from the Ontario Ministry of Environment should the volume withdrawn from a natural source exceed 50,000 L/day. The discharge of hydrostatic test water into natural bodies of water has the potential to impact domestic and agricultural downstream users, as well as fish, aquatic and waterfowl habitats. Uncontrolled discharge of dewatering flows from the hydrostatic test could cause downstream flooding, erosion or sedimentation.

**Mitigative/Protective Measures**

To reduce the potential for erosion and scouring where the test water is released, appropriate energy dissipation techniques should be utilized. At all release points, discharge piping should be free of leaks and should be properly anchored to prevent erratic movement. For large flows, an energy diffuser on the outlet pipe can be implemented to address the potential for scour. For lower flows, silt bags on the end of the outlet pipe lying on a vegetated surface can be implemented. If energy dissipation measures are found to be inadequate, the rate of release should be reduced or ceased until satisfactory mitigative measures are in place.

Gas powered water pumps used for testing should be protected against the potential for a spill of fuel or lubrication oil. A technique that may be suitable for this is to contain the equipment within a berm underlain by an impermeable plastic that is designed to contain any potential fuel spill or leak.

A plan for a suitable dissipation location of the test water should be confirmed prior to dewatering the lines.

### 4.5.3 Forestry and Vegetation Cover

**Potential Impacts**

Most of the trees that were originally adjacent to the proposed pipelines have been cleared or previously pruned for agriculture or access road construction and maintenance. Minimizing tree clearing was a routing consideration for the proposed routes and where possible, the routes have been sited adjacent to and/or along the edges of woodlots. Where the routes are through the approximately 400 m of existing woodlot, they have been sited along an existing previously cleared corridor. Approximately 250 m of that corridor is owned by EGDI. As such, minimal tree removal will be required as part of this project.

**Mitigative/Protective Measures**

As taken from the Lambton OP, “where it is unavoidable to remove forest cover, it will be replaced with twice the area of forest cover that is removed at a location specified by the landowner whose forest cover was removed and should that owner not have a suitable location, then the replacement would occur at a location specified by the County or local municipality”.

For this project EGDI proposes that the landowner will be entitled to replacement trees (seedlings) calculated on a 2 for 1 area basis for the tree removal in the woodlot. The tree replacement will be scheduled for spring of 2012.

### 4.5.4 Wetlands and Environmentally Significant Areas

#### Potential Impacts

No wetlands were identified in the Study Area. There is a provincially significant wetland, the Burton Drain Woodlot, approximately 1.8 km east of the Study Area. Construction and operation of the proposed pipelines are not anticipated to affect any natural or constructed wetlands or environmentally significant areas.

#### Mitigative/Protective Measures

Since no wetlands or environmentally significant areas will be affected by development of the pipelines, specific mitigative/protective measures have not been developed.

### 4.5.5 Natural Heritage Features

#### Potential Impacts

A Stage 1 archaeological assessment was conducted along the proposed routes. The report found during the background information collection that no registered archaeological sites were located within a two kilometer radius surrounding the Study Area. However the results of the background study also determined that the lands involved in the Project have a moderate potential for Native and Euro-Canadian archaeological remains based on the presence of the road crossing and the historic agricultural lands. In view of this it is recommended that a Stage 2 survey be conducted prior to construction. The Stage 1 report is provided in Appendix C.

#### Mitigative/Protective Measures

It is recommended that a Stage 2 survey be conducted prior to construction. If buried archaeological resources are encountered during construction activities, construction in the vicinity of the archaeological resources should cease immediately and Shari Prowse, Ministry of Culture, London Office (519-675-6898, Shari.Prowse@ontario.ca), and Michael D'Mello, Registrar of the Cemeteries Regulation Unit of the Ontario Ministry of Consumer Services (416-326-8404, Michael.D'Mello@ontario.ca) must be notified immediately.

### 4.5.6 Wildlife

#### Potential Impacts

Woodlots, watercourse valleys and fence lines in close proximity to the pipelines may provide small but diverse habitat for a number of birds, mammals, reptiles and amphibians. Species that may be encountered during construction include those characteristic to rural Southwestern Ontario, such as rabbit, white-tailed deer, skunk, raccoon, muskrat, fox, coyote, migratory birds, painted turtle and snapping turtle. A search of the MNR Natural Heritage Information Centre (NHIC) database revealed a number of species that may be living or passing through the Study Area.

To permit the installation of the pipelines, trees will be removed from the edge of the woodlot. This creates the potential of disturbing or destroying the nests of migratory birds.

**Mitigative/Protective Measures**

To minimize the extent of disturbance to wildlife, vehicle movement and equipment storage should be confined to the access roads and pipeline easements/work areas. Every effort should be taken to not harm local wildlife and to minimize any impact to wildlife habitat.

Further, to avoid nesting activity of migrating birds, clearing activity should not occur between April 15 and August 15, as per the Migratory Bird Act. In the event that this timeline is not practicable a migratory bird nesting survey must be conducted by a qualified ornithologist immediately prior to the construction. If the survey results in no active nests being identified then construction could proceed. If an active nest is identified the construction activity in that area would have to wait until the nest is vacated.

## 4.6 PERMITS AND APPROVALS REQUIRED

The following is a list of permits and approvals that may be required in order to construct the proposed pipelines:

- Permission for ‘Leave to Construct’ the proposed pipeline and associated facilities from the OEB;
- Ontario Pipeline Coordinating Committee (OPCC) review and comments;
- ‘Fill, Construction and Alteration to Waterways’ permit from the SCRCA;
- Permit to cross municipal drain from the Township of St. Clair;
- Permit to cross Township road from the Township of St. Clair (Rokeby Line);
- Construction permit under Lakes and Rivers Improvement Act (MNR);
- A permit to take water (PTTW) will be required from the MOE if water is to be pumped from a trench (dewatering) or used for hydrostatic testing in excess of 50, 000 L/day, before any water is removed;
- Fire permit may be required for burning brush (Municipality);
- Tree clearing permit may be required (Municipality);
- Haul routes permit/approval may be required for heavy loads (MTO, Municipality);
- TSSA permit must be granted prior to commissioning the new facilities.

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# 5.0 Cumulative Effects

Policy makers are increasingly seeing Cumulative Effects Assessment ("CEA") as representing a *best practice* for effects assessment (IAIA, 1999). Consequently, the recognition of CEA as a best practice is now reflected in many federal and provincial regulatory documents. With regard to development of hydrocarbon pipelines in Ontario, this best practice principle is reflected in the OEB's 2003 *Guidelines*, Section 4.3.13, which notes that Cumulative Effects ("CE") should be identified and discussed in the Environmental Report as an integral part of the assessment.

## 5.1 METHODOLOGY

This CEA describes the potential CE of the proposed project in combination with the existing environment and the effects of other projects that are planned for implementation in the future. CE's include the temporal and spatial accumulations of change that occur within an area or system due to past, present, and future activities. Change can accumulate within systems in either an additive (*i.e.*, cumulative) or interactive (*i.e.*, synergistic) manner.

Specifically, this CEA is designed to evaluate and manage the additive and interactive effects from the following sources:

- Existing infrastructure, facilities, and activities as determined from available data sets;
- The proposed project and associated infrastructure as described in this Environmental Report; and,
- Future activities where the undertaking will proceed, or has a high probability of proceeding (are known to be within the approval process).

This level of analysis allows the CEA to focus on the issues that are pertinent to the Project and to avoid the generation and evaluation of information that is of little diagnostic value.

## 5.2 STUDY BOUNDARIES

### 5.2.1 Spatial

The spatial study boundaries discussed in this ER were contained within the Study Area. These boundaries are considered to be appropriate when considering the surrounding land uses and the limited length of the proposed pipelines. The CEA used the same boundaries to identify potential effects from the Project.

The Study Area boundary is beyond the *zone of influence* of project construction and operation activities (e.g., dust and noise), and consequently, the identified effects will have diminished to background levels at the edges of the Study Area. The Study Area is also considered conservative in terms of managing both effects and risks.

### 5.2.2 Temporal

The temporal boundaries for this CEA reflect the nature and timing of activities and the availability of information surrounding future projects with a high probability of proceeding. The Project includes the construction and operation of two buried natural gas pipelines and two buried tie-in segments of natural gas pipelines. Fifty years of pipeline operation is used as the operating lifespan for the purpose of this CEA, although the pipelines may be operational beyond fifty years. For the purpose of the CE exercise, three time periods were selected for evaluation in the CEA: 2010, 2011, and 2016.

Existing conditions were considered as those that existed and were identified during the EA process (i.e., 2010). In some cases, published data were not current to 2010 and thus the assessment relied on a combination of best available information, public input, and field investigations. The year 2011 covers construction and post construction clean-up activities. The year 2016 was selected to represent the operation and maintenance period.

Although rare in occurrence, it is plausible that accidental or emergency events may arise due to an unforeseen chain of events during the Project's operational life. Because of the rarity and magnitude of such events, they have not been assessed here, as they are extreme in nature when compared to the effects of normal construction and operation activities, and require their own response plans. Retirement of the Project components is another event that is beyond the temporal boundaries of this CEA and will not be assessed here.

## 5.3 ANALYSIS OF CUMULATIVE EFFECTS

Section 4 of this Environmental Report considered potential effects of the construction and operation of the Project components on specific features and conditions, and proposed mitigation measures to avoid or reduce the potential for effect. This CEA evaluates the significance of residual effects (after mitigation) of the construction and operation of the Project components along with the effects of other Projects. The following definitions, as adopted from the Canadian Environmental Assessment Agency (1999), explains how the significance of residual effects was determined:

**Table 1: Cumulative Effects Definitions**

| | | | |
|---|---|---|---|
| Issues | Derived from public consultation, project design, and Project Team expertise | | |
| Features | Components of the natural and socio-economic environment likely to be affected | | |
| Duration | Short Term | Medium Term | Long Term |
| | effects noticeable for <1 year before recovery to baseline conditions | effects noticeable for 1-10 years before recovery to baseline | effects Noticeable for more than 10 years before recovery to baseline |
| Magnitude | Low | Moderate | |
| | limited or no impairment of the features | noticeable change in feature in the short term, but recovery to baseline conditions should occur | |
| Frequency | Intermittent | Continuous | |
| | spatially and/or temporally dispersed effect on the feature | ongoing effect to the feature | |
| Confidence | Moderate | High | |
| | varied environmental conditions may arise, accumulate, and influence the rankings | sufficient information and experience exist to support rankings | |
| Significance (Cumulative) | None | Low | Moderate |
| | feature capable of returning to baseline condition with no loss of function | feature may be influenced by project activities, but is capable of returning to near baseline conditions | feature is permanently influenced by project activities, with limited capability of returning to near baseline conditions |

### 5.3.1 Year 2010: Baseline Conditions

The primary land-use in the Study Area is rural\agricultural. The environmental and agricultural features identified in the Study Area are shown on Figures 2 and 3 respectively.

The Study Area and the regions surrounding the Study Area have been farmed extensively because of their agricultural potential. This historic farming has led to vegetation removal, alteration of watercourses due to artificial drainage and limitations to residential and urban development in the region. These effects of intensive agriculture have been observed and have been taken into consideration in the establishment of the baseline conditions.

The Study Area falls within the jurisdictions of the SCRCA and is subject to their Regulations. The most significant watercourse in the Study Area is a municipal drain, the McClemmens Drain. There are other ditches along the road sides and drainage swales in the fields.

The forest cover within the Study Area runs east west through the middle of the concession blocks. It consists of woodlots divided by access roads and utility corridors. Most of the natural vegetation was cleared for agricultural purposes. The Study Area is within the Deciduous (Carolinian) Forest Region.

The most significant socio-economic features in the Study Area are the residences.

### 5.3.2 Year 2011: Construction

Construction activities associated with development of the proposed pipelines in 2011 will include:

- Field investigations as required along the preferred route (fall 2010 through spring 2011);
- Widening and construction of access roads (spring 2011);
- Pipe installation, tie-ins, station construction and commissioning (summer and fall 2011); and,
- Post construction clean-up activities (summer and fall 2011).

Agencies were contacted to determine the nature of any other projects planned in the Study Area that are in the final stages of implementation or approval. To date, the agencies contacted did not identify any proposed projects in the area.

Parts of EGDI's ongoing expansion, briefly discussed in Section 1, are included in this EA and parts are not. EDGI confirms that there are plans for construction associated with the project that fall outside of the EA requirement for Leave to Construct approval. Specifically, there are two metering stations and another section of gathering pipeline being built within EGDI lands to replace an existing pipe. The cumulative effects assessment of this ER discusses the effects of the construction and operation of the pipelines proposed in this EA along with the components that fall outside of this EA.

The potential for significant CE to occur as a result of the proposed Project construction and operation was minimized through the route selection process. By constructing adjacent to the access roads, restrictions on urban expansion, disruption to natural features and disruption to

agricultural lands have been minimized for the construction of the pipelines. Steps have been taken to ensure the amount of land disrupted through the construction process is minimized. There still remains the potential for some limited CE to occur, as shown in Table 2.

Table 2 summarizes the relationship between the effect “issue” and the likelihood of whether or not project activities will have a significant CE on a given “feature”. The determination of cumulative significance is explained below for each issue having a low to moderate effect. Terminology is defined in Section 5.3.

The majority of the issues listed in Table 2 are considered to have no cumulative significance. Noise and dust disturbances are short term, localized and can be largely dissipated through mitigation. Once construction is complete, noise and dust will no longer be issues with this project.

There is the potential for the pipelines proposed in this EA to be built at the same time as the lines and stations within the Study Area that fall outside of this EA. Concurrent construction projects may result in increases to road traffic, noise and dust. The CE of these disturbances can be considered short term and will remain localized.

Vegetation removal resulting from this project is anticipated to be a very limited amount. Some clearing along the edge of the woodlots, within the right-of-way, is planned. The other pipeline construction occurring within the Study Area is planned to traverse agricultural lands therefore no woodlot removal is anticipated. The planned construction of valve stations within the Study Area may require very limited woodlot removal. No additional fragmentation of woodlots will result from the proposed project and therefore the CE resulting from the projects in the area is anticipated to be low.

No CE is anticipated concerning archaeological resources since none are anticipated to be associated with the proposed project.

Groundwater is not expected to be disturbed or contaminated by the construction of the Project assuming that necessary mitigative recommendations are adhered to. The installation of temporary or permanent tile drainage in the area is not anticipated to have a significant effect on the groundwater in the area as the agricultural fields within the Study Area are already tile drained.

The McClemmens Drain is a municipal drain that the proposed Seckerton gathering pipeline crosses. The drain was dry at the time of the field assessment; however, the construction method used will be appropriate to the conditions in the drain at the time of construction. If the drain is dry at the time of construction, the drain will be open cut. If the drain is wet but not flowing, the drain will be sealed and then open cut. If the drain is flowing at the time of construction, the construction area will be isolated. The water flow will be maintained using a pump around technique and the ditch will be open cut.

It is assumed that throughout the duration of construction, demand for local goods and services will increase. Construction crews typically have some local staff and those from further away typically stay in local hotels. Either of these scenarios will bring revenue into the area. When construction is complete the additional demand for goods etc. will decline. However, an increase to municipal taxes may increase local revenues in the long term.

#### 5.3.2.1 Low Significance

Issues of low significance include the effects to agricultural land and vegetation removal. The impacts on topsoil compaction are anticipated to be low in magnitude and reversible in the long-term. As long as mitigative measures are taken in the construction of the Project, topsoil compaction is not anticipated to be a concern in the long-term. Effects on artificial drainage are not anticipated to be a long-term concern as long as correct mitigative measures are taken during construction to minimize the effects on these features. The effects on vegetation removal, woodlot edges and terrestrial habitat, are considered to be low in magnitude as a result of the locating the preferred routes along field edges and existing corridors and constructing within the boundaries of the Migratory Bird Act. The potential for an excessive increase to road traffic resulting from the proposed pipeline and those activities that fall outside of this EA is low and will be eliminated once the construction is complete.

#### 5.3.2.2 Moderate Significance

An issue of moderate cumulative significance is the effect of the proposed project on the local economy. For example, construction of the proposed project will result in the demand, both locally and regionally, for labour and project supplies such as food, accommodation, steel, gravel, and equipment. This positive effect will benefit the community during construction and will diminish to background levels upon the completion of the construction phase.

**Table 2: Summary of Potential Cumulative Effects for All Projects to the Year 2011 (Construction)**

| Issue | Feature | Criteria for Determining Cumulative Effects | | | | | |
|---|---|---|---|---|---|---|---|
| | | Duration | Magnitude | Frequency | Permanence | Confidence | Cumulative Significance |
| Noise | People | Short term | Low | Intermittent | Non permanent | High | None |
| Dust | People | Short term | Low | Intermittent | Reversible in short term | High | None |
| Road traffic | People | Short term | Low | Intermittent | Non permanent | High | None |
| Topsoil Compaction | Agricultural land | Long term | Low | Continuous | Reversible in long term | High | Low |
| Artificial Drainage | Agricultural land | Short term | Low | Intermittent | Reversible in short term | High | None |
| Vegetation Removal | Woodlot edges | Long term | Low | Intermittent | Reversible in long term | High | Low |
| | Terrestrial habitat | Medium – long term | Low | Intermittent | Reversible in medium – long term | High | Low |
| Provincially Significant Wetland | N/A | | | | | | |
| Archaeological Resources | People | Short term | Low | Intermittent | Non permanent | High | None |
| Land-Use | Agricultural land | Long term | Moderate | Continuous | Reversible in short term | High | None |
| Economy | Employment, supplies, municipal revenue | Long term | Moderate | Continuous | Permanent | High | Moderate |

### 5.3.3 Year 2016: Operation and Maintenance

Associated project operations and maintenance activities will continue to take place in the future. By 2016, any vegetated areas cleared during 2011 to accommodate pipeline construction will be re-established to baseline conditions potentially in an alternate, appropriate location.

Potential CE to terrestrial fauna will diminish between 2011 and 2016. Dust, noise, increased traffic and other disturbances will be limited to infrequent occurrences of maintenance activities.

Although linear facility corridors serve many purposes, they can lead to the spatial accumulation of effects. One such effect is the repeated disturbance of soil, contributing to compaction and loss of structure resulting in reduced crop yield. Any reduction in crop yield caused by pipeline construction will be compensated as per existing agreements. By 2016, it is expected that crop yields will have returned to about 90% pre-disturbance yield (ESG International, 1999).

#### 5.3.3.1 Low Significance

No significant CE's are anticipated for 2016 as long as appropriate mitigative measures are taken during construction and proper project component maintenance schedules are followed.

#### 5.3.3.2 Moderate Significance

No significant adverse CE is predicted based upon the available data and conservative assumptions made regarding land-use. Table 3 summarizes the potential CE that may be present in 2016.

Effects on the economy from the proposed project may result in cumulative effects of moderate significance. The Project will provide local governments with an additional tax base with limited demand on government services and resources. Periodic demand for supplies and services will also be experienced with operation of the pipelines.

## 5.4 CUMULATIVE EFFECTS SUMMARY

The potential CE of construction and operation of the Project were assessed. The Study Area boundary was used to assess the potential for additive and interactive effects of the proposed pipelines. By determining the location of the facilities in consultation with the affected landowners and implementing site-specific mitigation measures, the overall potential for cumulative effects is considered to be of low significance.

In terms of this CEA, it has identified: key historical land-use alterations, current development activities, proposed future or concurrent projects, and the effects of the proposed project on the natural and socio-economic environment. The magnitude of possible effects can be minimized with proper timing and implementation as well as project-specific mitigative measures. The proponents of the related projects should assess the CE of their respective projects if the timing varies considerably from when this CEA was completed.

**Table 3: Summary of Potential Cumulative Effects for All Projects to the Year 2016 (Operation and Maintenance)**

| Issue | Feature | Criteria for Determining Cumulative Effects | | | | | |
|---|---|---|---|---|---|---|---|
| | | Duration | Magnitude | Frequency | Permanence | Confidence | Cumulative Significance |
| Noise | People | Short term | Low | Intermittent | Permanent | High | None |
| Dust | People | Short term | Low | Intermittent | Reversible in short term | High | None |
| Road Traffic | People | Long term | Low | Intermittent | Permanent | High | None |
| Topsoil Compaction | Agricultural land | Long term | Low | Continuous | Reversible in long term | High | None |
| Artificial Drainage | Agricultural land | Short term | Low | Intermittent | Reversible in short term | High | None |
| Vegetation Removal | Woodlot edges | Long term | Low – moderate | Intermittent | Reversible in long term | High | None |
| | Terrestrial habitat | Medium – long term | Low – moderate | Intermittent | Reversible in medium – long term | High | None |
| Provincially Significant Wetlands | N/A | | | | | | |
| Archaeological Resources | People | Short term | Low | intermittent | Non permanent | High | None |
| Land-Use | Agricultural land | Long term | Moderate | Continuous | Permanent | High | None |
| Economy | Employment, supplies, municipal revenue | Long term | Moderate | Continuous | Permanent | High | Moderate |

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# 6.0 Conclusion and Summary

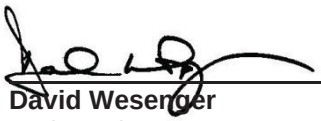
This environmental assessment investigated data on the physical, biological and socio-economic environment within the Study Area, including the proposed pipeline routes. It is Stantec's opinion that the locations of the proposed pipelines have minimal potential for environmental effects and that the mitigation measures proposed will ensure that construction and operation of the pipelines will result in negligible long-term effects.

The first and most important consideration in minimizing the environmental impact of a linear facility is at the route selection stage. Most environmentally sensitive features were avoided by locating the proposed pipeline routes adjacent to previously disturbed rights-of-way or easements and along the edge of cultivated fields. Comments from agencies, stakeholders and the landowners within the Study Area were requested. Those received have been addressed and where appropriate were incorporated into the selection of the pipeline routes.

Construction of the proposed pipelines does not require any unique or complex mitigation techniques since routing has helped to avoid features that are sensitive to disturbance. Mitigation measures identified in the report are considered sufficient to protect the features encountered along the pipeline routes. On site construction inspection will ensure that the commitments made in this report are adhered to.

**STANTEC CONSULTING LTD.**

**Steve Thurtell,**
Project Manager



**David Wesenger**
Project Director

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# Appendix A

## Landowner Contact Letter, Landowner Correspondence

**Stantec Consulting Ltd.**
70 Southgate Drive
Guelph ON N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

October 13, 2010
File: 160960611

Name
Address
Town, Province
Postal Code

**Attention:** **Title. F_Name L_Name**

Dear Title. L_Name:

**Reference:** **Dow Moore, Seckerton and Corunna Interconnect Pipeline Project**

Stantec Consulting Ltd. ("Stantec") has been retained by Enbridge Gas Distribution Inc. (EGDI), to prepare an Environmental and Socio-Economic Assessment Report (ER) for a project involving approximately 3,500 meter (m) of buried natural gas pipeline south of Sarnia, Ontario. This project is part of the ongoing expansion of the natural gas storage system in St. Clair Township.

The project comprises three sections. One section of this pipeline project includes the construction of a gathering pipeline, 1,500 m long and 508 mm (20 inch) in diameter, within the Seckerton pool and another 400 m section of 508 mm (20 inch) diameter pipeline to replace an existing 406 mm (16 inch) section of gathering pipeline in the Seckerton pool. As well, the project includes the construction of approximately 1,500 m of 508 mm (20 inch) diameter steel pipeline to connect the existing Dow Moore gathering pipeline to the proposed gathering pipelines for the Corunna and Seckerton natural gas storage pools. The ER will meet the requirements of the Ontario Energy Board's ("OEB") Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon pipelines and facilities in Ontario ( May 2003).

A Study Area surrounding the project has been identified within the area west of Tecumseh Road, south of Petrolia Line, approximately 600 m south of Rokeby Line, and 500 m west of Ladysmith Road, as shown on the attached map. The properties being screened to locate existing environmental features are listed below.

| COUNTY | TOWNSHIP | CONCESSION | LOT |
|---|---|---|---|
| Lambton | Moore | 10 | Part of Lot 22 |
| Lambton | Moore | 10 | Lot 21 |
| Lambton | Moore | 10 | Lot 20 |
| Lambton | Moore | 10 | Lot 19 |
| Lambton | Moore | 9 | Part of Lot 22 |
| Lambton | Moore | 9 | Lot 21 |
| Lambton | Moore | 9 | Lot 20 |
| Lambton | Moore | 9 | Lot 19 |
| Lambton | Moore | 8 | Part of Lot 22 |
| Lambton | Moore | 8 | Lot 21 |
| Lambton | Moore | 8 | Lot 20 |
| Lambton | Moore | 8 | Lot 19 |

**Reference: Dow Moore, Seckerton and Corunna Interconnect Pipeline Project**

At this time, Stantec is collecting information and compiling an environmental inventory for these associated lands. We ask that you review the parcels potentially affected and complete the Landowner Questionnaire included in this package. This will allow you to provide any relevant environmental information that you have regarding this project. Please note that responses would be appreciated prior to October 22, 2010.

Thank you for your time in responding to our request. If you have any questions concerning the project or the ER please contact the undersigned by phone or email.

Sincerely,

**STANTEC CONSULTING LTD.**

**Steve Thurtell**
Project Manager
Tel: (519) 836-6050
Fax: (519) 836-2493
steve.thurtell@stantec.com

Attachment: Location Map, Questionnaire.

384800

389800

HILL ST

HWY 40

PETROLIA LINE

Existing Dow Moore Gathering Line

Existing Corunna Gathering Line

Corunna Tie-in

Dow Moore Tie-in

Existing Seckerton Gathering Line

Existing Corunna Gathering Line

TECUMSEH RD

ROKEBY LINE

LADYSMITH RD

KIMBALL RD

0 250 500 m

1:17,000

384800

389800

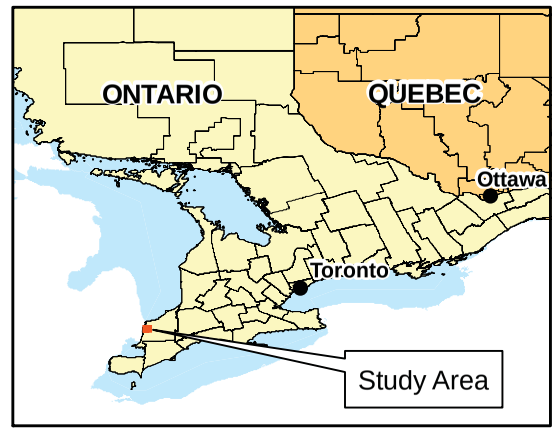
W:\active\60960611\drawing\GIS\MXD\60960611_LocationMap_20100923_DH.mxd

## Legend

- Study Area
- Tie-in Points
- Existing Gathering Line*
- Highway
- Road
- Railway
- Watercourse
- Waterbody
- Provincially Significant Wetland

**Well Mode**

- Abandoned Well
- Active Well
- Plugged back and Whipstocked




## Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © ESRI, 2008.
3. Image Sources: © St. Clair Region Conservation Authority, 2006 - Imagery Date: 2006.

* Locations of existing pipelines are approximate

Stantec

September 2010
160960611

Client/Project
ENBRIDGE GAS DISTRIBUTION INC.
NEXUS PROJECT

Figure No.
1

Title
**LOCATION MAP**

# Dow Moore, Seckerton and Corunna Interconnect Pipeline Project
## Environmental and Socio-Economic Impact Assessment

## Landowner Questionnaire

Please complete this questionnaire and mail it to Stantec Consulting Ltd. at your earliest convenience. A postage paid, self-addressed envelope has been included in this package. Thank you for your assistance.

Please read the information and maps provided before completing this questionnaire. If you require any assistance or clarification while completing the questionnaire please contact a Stantec or Enbridge Gas Distribution Inc. ("EGDI") representative.

1. Please identify any environmental features in the Study Area that you feel are important to consider during the study (please state your reasons).

_____

_____

_____

_____

2. Which factors do you feel are most important to the proposed pipelines (i.e., agricultural capability, artificial drainage, landowner preference, etc.)?

_____

_____

_____

_____

3. Considering the location of the Study Area as shown on the map, please indicate whether there are any potential effects to you, your property, or business that EGDI would need to address prior to construction and operation of the pipelines and project components.

4. Do you have any other concerns about this proposed project that you would like to bring to our attention?

***Thank you for completing this questionnaire.***

***Would you like someone to contact you about any items identified above?_____***

***If 'yes' please provide your contact information below:***

Name: _____

Address: _____

Phone: (home) _____ (work) _____

Email: _____

Convenient time you can be reached: _____

**INFORMATION COLLECTED BY THIS QUESTIONNAIRE COULD BECOME PART OF THE PUBLIC RECORD. IF YOU HAVE PROVIDED YOUR NAME, BUT WISH YOUR ANSWERS TO REMAIN PRIVATE, PLEASE INDICATE SO BY SIGNING BELOW.**

Signature: _____

Date: _____

## Landowner Response Summary Chart

| Landowner<br>Date Received | Comments | Response |
|---|---|---|
| 1.Tom Wilson<br>October 20, 2010 | Comments were outside of scope of ER, regarding compensation, long term plans of EGDI | Comments were forwarded to EGDI<br>No response from Stantec |
| 2.Nova Chemicals<br>October 21, 2010 | A response may or may not be sent | Comments not received to date |
| 3.Bruce Knight<br>October 18, 2010 | Will be interested to see preferred routes | Comments were forwarded to EGDI<br>No response from Stantec |
| 4.No public comments<br>October 19, 2010 | | No response from Stantec |
| 5.No public comments<br>October 19, 2010 | | No response from Stantec |
| 6. No public comments<br>October 19, 2010 | | No response from Stantec |
| 7. No public comments<br>October 20, 2010 | | No response from Stantec |
| 8. No public comments<br>October 26, 2010 | | No response from Stantec |
| 9. Bob McClemmens<br>Nov 15, 2010 | Tile drains and woodlots are most important factors<br>One of the lines is on my property<br>Location and size of the metering station | Comments were forwarded to EGDI<br>Tiles will be repaired and woodlot cutting has been minimized through routing |

# Appendix B

## List of Agencies/Stakeholders Contacted
## Agency Contact Letter and
## Agency Correspondence

**Dow Moore, Seckerton and Corunna Interconnect Pipeline Project, Enbridge Gas Distribution Inc.**
**File No. 160960611**

**AGENCY & ORGANIZATION CONTACTS**

**Commenting / Interested Agencies**

| Title | First Name | Last Name | Agency | Division | Title | Mail address | Town | Pr | Postal | Phone/Fax # |
|---|---|---|---|---|---|---|---|---|---|---|
| Mr. | Ken | Yaraskavitch | Ministry of Natural Resources | Chatham Division | Area Supervisor | Mail address: P.O. Box 1168, N7M 5L8<br><br>Street: 870 Richmond Street W. | Chatham | ON | N7M 5L8 | T: (519) 354-1779<br>F: (519) 354-0313 |
| Mr. | Chris | Hutt | Ministry of Environment | Sarnia District Office | Senior Environmental Officer | 1094 London Rd | Sarnia | ON | N7S 1P1 | T: (519) 383-3784<br>F: (519) 336-4280 |
| Mr. | John | Turvey | Ministry of Agriculture and Food | Southwestern Ontario | Land Use Policy Specialist | 1 Stone Rd. West | Guelph | ON | N1G 4Y2 | T: (519) 826-3555<br>F: (519) 873-4062 |
| Ms. | Cathy | Giesbrecht | Ministry of Transportation | Corridor Management Section West Region | Regional Development Review Coordinator | 659 Exeter Rd. 3rd Floor | London | ON | N6E 1L3 | T: (519) 873-4560<br>F: (519) 873-4228 |
| Ms. | Shari | Prowse | Ministry of Culture | Culture Programs Unit | Archaeology Review Officer | 900 Highbury Ave. | London | ON | N5Y 1A4 | T: (519) 675 6898<br>F: (519) 675-7777 |
| Mr. | Ralph | Coe | St. Clair Region Conservation Authority | | General Manager | 205 Mill Pond Crescent | Strathroy | ON | N7G 3P9 | T: (519) 245-3710<br>F: (519) 245-3348 |
| Mr. | Jeff | Lawrence | St. Clair Region Conservation Authority | | Environmental Planner | 205 Mill Pond Crescent | Strathroy | ON | N7G 3P9 | T: (519) 245-3710<br>F: (519) 245-3348 |
| Mr. | Bill | Bilton | Lambton County | Planning and Development Services Department | Chair | 789 Broadway St., PO Box 3000 | Wyoming | ON | N0N 1T0 | T: (519) 845-0801<br>F: (519) 845-3817 |
| Mr. | Mike | Bradley | City of Sarnia | Mayor's Office | Mayor | City Hall, 255 North Christina St., PO Box 3018 | Sarnia | ON | N7T 7N2 | T: (519) 332-0330<br>Ext. 312 |
| Ms. | Kim | Bresee | City of Sarnia | Planning Department | Director, Planning and Building | City Hall, 255 North Christina St., PO Box 3018 | Sarnia | ON | N7T 7N2 | T: (519) 332-0330<br>Ext. 292 |

**Dow Moore, Seckerton and Corunna Interconnect Pipeline Project, Enbridge Gas Distribution Inc.**
**File No. 160960611**

**AGENCY & ORGANIZATION CONTACTS**

| Title | First Name | Last Name | Agency | Division | Title | Mail address | Town | Pr | Postal | Phone/Fax # |
|---|---|---|---|---|---|---|---|---|---|---|
| Mr. | Dave | Boushy | City of Sarnia | | Councillor | d.boushy@cogeco.ca | | | | |
| Mr. | Andy | Bruziewicz | City of Sarnia | | Councillor | andybruziewicz@hotmail.com | | | | |
| Mr. | Terry | Burrell | City of Sarnia | | Councillor | terry@terryburrell.ca | | | | |
| Mr. | Jim | Foubister | City of Sarnia | | Councillor | jimfoubister@sarnia.ca | | | | |
| Ms. | Anne Marie | Gillis | City of Sarnia | | Councillor | annemariegillis@sarnia.ca | | | | |
| Mr. | Mike | Kelch | City of Sarnia | | Councillor | mjkelch@mac.com | | | | |
| Mr. | Bev | MacDougall | City of Sarnia | | Councillor | bevmacdougall@ebtech.net | | | | |
| Mr. | Jon | McEachran | City of Sarnia | | Councillor | JonMcEachran@hotmail.com | | | | |
| Mr. | Ezio | Nadalin | Lambton County | Planning and Development Department | Planner | 789 Broadway St., PO Box 3000<br>Ezio.nadalin@county-lambton.on.ca | Wyoming | ON | N0N 1T0 | T: (519) 845-0801 X5343<br>F: (519)845-3817 |
| Mr. | Steve | Arnold | St. Clair of Township | Mayor | | 1155 Emily Street | Mooretown | ON | N0N 1M0 | T: (519) 867-3333 |
| Mr. | Peter | Gilliland | St. Clair of Township | Deputy Mayor | | 1155 Emily Street | Mooretown | ON | N0N 1M0 | (519) 862-3534 |
| Mr. | Jeff | Agar | St. Clair of Township | Ward 1 | Councillor | 1155 Emily Street | Mooretown | ON | N0N 1M0 | (519) 862-5062 |
| Mr. | Pat | Brown | St. Clair of Township | Ward 1 | Councillor | 1155 Emily Street | Mooretown | ON | N0N 1M0 | (519) 862-2050 |
| Ms. | Patricia | Carswell-Alexander | St. Clair of Township | Ward 1 | Councillor | 1155 Emily Street | Mooretown | ON | N0N 1M0 | (519) 864-4006 |
| Mr. | Steve | Miller | St. Clair of Township | Ward 2 | Councillor | 1155 Emily Street | Mooretown | ON | N0N 1M0 | (519) 677-5676 |
| Mr. | Darrell | Randell | St. Clair of Township | Ward 2 | Councillor | 1155 Emily Street | Mooretown | ON | N0N 1M0 | (519) 627-3764 |
| Ms. | Caroline | Knight | Ontario Realty Corporation | | Communications Advisor | caroline.knight@ontariorealty.ca | | | | |
| Mr. | Richard | Schveighardt | Ontario Realty Corporation | | Regional Manager | Richard.schveighardt@ontariorealty.ca | Guelph | | | |

**Dow Moore, Seckerton and Corunna Interconnect Pipeline Project, Enbridge Gas Distribution Inc.**
**File No. 160960611**

**AGENCY & ORGANIZATION CONTACTS**

**OPCC Members**

| Title | First Name | Last Name | Agency | Division | Title | Mail address | Town | Pr | Postal | Phone/Fax # |
|---|---|---|---|---|---|---|---|---|---|---|
| Ms. | Donna | Mundie | Ministry of Agriculture, Food, and Rural Affairs | Ontario Pipeline Coordinating Committee | | 1 Stone Road West | Guelph | ON | N1G 4Y2 | T: (519) 826-3120<br>F: (519) 826-3259 |
| Mr. | Oscar | Alonso | Technical Standards and Safety Authority | Ontario Pipeline Coordinating Committee | | 3300 Bloor Street West 14th Floor | Etobicoke | ON | M8X 2X4 | T: (416) 734-3353 |
| Mr. | Michael | Johnson | Ministry of Culture | Ontario Pipeline Coordinating Committee | | 400 University Avenue 4th Floor | Toronto | ON | M7A 2R9 | T: (416) 314-7144<br>F: (416) 314-7175 |
| Ms. | Zora | Crnojacki | Ontario Energy Board | Ontario Pipeline Coordinating Committee | | 2601-2300 Yonge Street, 24th Floor<br>PO Box 2319 | Toronto | ON | M4P 1E4 | T: (416) 440-8104<br>F: (416) 440-7656 |
| Mr. | Doug | Peeling | Ministry of Transportation | Ontario Pipeline Coordinating Committee | | 301 St. Paul Street 2nd Floor | St. Catharines | ON | L2R 7R4 | T:(905) 704-2916<br>F: (905) 704-2030 |
| Ms. | Sharon | Rew | Ministry of Natural Resources | Ontario Pipeline Coordinating Committee | | 300 Water Street 5th Floor North Tower<br>PO Box 7000 | Peterborough | ON | K9J 8M5 | T: (705) 755-5273<br>F: (705) 755-1971 |
| Mr. | Usman | Ahmed | Ministry of Municipal Affairs and Housing | Ontario Pipeline Coordinating Committee | | 777 Bay Street 14th Floor | Toronto | ON | M5G 2E5 | T: (416) 585-7181<br>F: (416) 585-6882 |
| Mr. | Bruce | Curtis | Ministry of Municipal Affairs and Housing | Southwestern Municipal Services | Manager | | | | | T: (519) 873-4026 |

**Dow Moore, Seckerton and Corunna Interconnect Pipeline Project, Enbridge Gas Distribution Inc.**
**File No. 160960611**

**AGENCY & ORGANIZATION CONTACTS**

**Stakeholders**

| Title | First Name | Last Name | Agency | Division | Title | Mail address | Town | Pr | Postal | Phone/Fax # |
|---|---|---|---|---|---|---|---|---|---|---|
| Mr. | Dave | McLachlin | Ducks Unlimited – Ontario | | Head of Wetland Restoration | 740 Huronia Road Unit#1 | Barrie | ON | L4N 6C6 | T: (705) 721-4444 X 231 F: (705) 721-4999 |
| Ms. | Caroline | Schultz | Federation of Ontario Naturalists | | Executive Director | 366 Adelaide St. W. Suite 201 | Toronto | ON | M5V 1R9 | T: (416) 444-8419 F: (416) 444-9866 |
| Mr. | Peter | Jeffrey | Ontario Federation of Agriculture | | Senior Researcher | 40 Eglinton Ave. E., 5th Floor | Toronto | ON | M4P 3B1 | T: (416) 485-3333 F: (416) 485-9027 |
| Mr. | Burgess | Don | Ontario Federation of Agriculture | Middlesex-Lambton | Member Service Representative | 633 Lions Park Drive, P.O. Box 639 | Mount Brydges, | ON | N0L 1W0 | T: (877) 668-3276 F: (519) 264-9091 |
| Mr. | Kevin | Forbes | Lambton Federation of Agriculture | | President | 5378 Waterworks Rd. | Sarnia | ON | N7T 7H3 | T: (519) 332-6783 |
| Mr. | Bob | Bailey | MPP | Sarnia-Lambton | | 836 Upper Canada Drive | Sarnia | ON | N7T 1A4 | T: (519) 337-0051 F: (519) 337-3246 |
| Ms. | Pat | Davidson | MP | Sarnia-Lambton | | 1000 Finch Drive, Unit 2 | Sarnia | ON | N7S 6G5 | T:(519) 383-6600 Fax:(519)383-0609 |
| Chief | Chris | Plain | Aamjiwnaang First Nation | | | 978 Tashmoo Avenue | Sarnia | ON | N7T 7H5 | |
| Chief | Tom | Bressette | Chippewas of Kettle and Stony Point | | | 6247 Indian Lane,RR#2 | Forest | ON | N0N 1J0 | Phone:519-786-2125 Fax: 519-786-2108 |
| Chief | Dean | Jacobs | Walpole Island First Nation | | | RR#3 | Wallaceburg | ON | N8A 4K9 | Tel. (519) 627-1481 |

**Dow Moore, Seckerton and Corunna Interconnect Pipeline Project, Enbridge Gas Distribution Inc.**
**File No. 160960611**

**AGENCY & ORGANIZATION CONTACTS**

| Title | First Name | Last Name | Agency | Division | Title | Mail address | Town | Pr | Postal | Phone/Fax # |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Fax. (519) 627-0440 |
| | | | Indian and Northern Affairs Canada | | E-mail: eacoordination_on@inac.gc.ca | | | | | |
| Mr. | Tony | Ierullo | Hydro One | | Manager | 483 Bay Street North Tower 15th Floor | Toronto | ON | M5G 2P5 | 416-345-5213 |

**Stantec Consulting Ltd.**
70 Southgate Drive
Guelph ON N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

October 13, 2010
File: 160960611

Agency
Address
Town, Province
Postal Code

**Attention:** **Title. F_Name L_Name, Position**

Dear Title. L_Name:

**Reference:** **Dow Moore, Seckerton and Corunna Interconnect Pipeline Project**

Stantec Consulting Ltd. ("Stantec") has been retained by Enbridge Gas Distribution Inc. (EGDI), to prepare an Environmental and Socio-Economic Assessment Report (ER) for a project involving approximately 3,500 meter (m) of buried natural gas pipeline south of Sarnia, Ontario. This project is part of the ongoing expansion of the natural gas storage system in St. Clair Township.

The project comprises three sections. One section of this pipeline project includes the construction of a gathering pipeline, 1,500 m long and 508 mm (20 inch) in diameter, within the Seckerton pool and another 400 m section of 508 mm (20 inch) diameter pipeline to replace an existing 406 mm (16 inch) section of gathering pipeline in the Seckerton pool. As well, the project includes the construction of approximately 1,500 m of 508 mm (20 inch) diameter steel pipeline to connect the existing Dow Moore gathering pipeline to the proposed gathering pipelines for the Corunna and Seckerton natural gas storage pools. The ER will meet the requirements of the Ontario Energy Board's ("OEB") Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon pipelines and facilities in Ontario ( May 2003).

A Study Area surrounding the project has been identified within the area west of Tecumseh Road, south of Petrolia Line, approximately 600 m south of Rokeby Line, and 500 m west of Ladysmith Road, as shown on the attached map. The properties being screened to locate existing environmental features are listed below.

| COUNTY | TOWNSHIP | CONCESSION | LOT |
|---|---|---|---|
| Lambton | Moore | 10 | Part of Lot 22 |
| Lambton | Moore | 10 | Lot 21 |
| Lambton | Moore | 10 | Lot 20 |
| Lambton | Moore | 10 | Lot 19 |
| Lambton | Moore | 9 | Part of Lot 22 |
| Lambton | Moore | 9 | Lot 21 |
| Lambton | Moore | 9 | Lot 20 |
| Lambton | Moore | 9 | Lot 19 |
| Lambton | Moore | 8 | Part of Lot 22 |
| Lambton | Moore | 8 | Lot 21 |
| Lambton | Moore | 8 | Lot 20 |
| Lambton | Moore | 8 | Lot 19 |

**Reference: Dow Moore, Seckerton and Corunna Interconnect Pipeline Project**

At this time, Stantec is collecting information and compiling an environmental inventory for these associated lands. We ask that you review the parcels potentially affected and provide any relevant environmental information that your Agency/Group has regarding this project. Please note that responses would be appreciated prior to October 22, 2010.

Thank you for your time in responding to our request. If you have any questions concerning the project or the ER please contact the undersigned by phone or email.

Sincerely,

**STANTEC CONSULTING LTD.**

**Steve Thurtell**
Project Manager
Tel: (519) 836-6050
Fax: (519) 836-2493
steve.thurtell@stantec.com

Attachment: Location Map

384800

389800

HILL ST

HWY 40

PETROLIA LINE

Existing Dow Moore Gathering Line

Existing Corunna Gathering Line

Existing Corunna Gathering Line

Corunna Tie-in

Dow Moore Tie-in

Existing Seckerton Gathering Line

ROKEBY LINE

LADYSMITH RD

TECUMSEH RD

KIMBALL RD

0 250 500 m

1:17,000

384800

389800

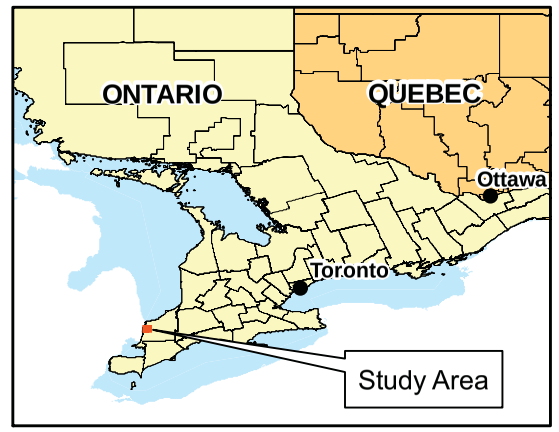
W:\active\60960611\drawing\GIS\MXD\60960611_LocationMap_20100923_DH.mxd

## Legend

- Study Area
- Tie-in Points
- Existing Gathering Line*
- Highway
- Road
- Railway
- Watercourse
- Waterbody
- Provincially Significant Wetland

**Well Mode**

- Abandoned Well
- Active Well
- Plugged back and Whipstocked




## Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N).
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009; © ESRI, 2008.
3. Image Sources: © St. Clair Region Conservation Authority, 2006 - Imagery Date: 2006.

* Locations of existing pipelines are approximate

Stantec

September 2010
160960611

Client/Project
ENBRIDGE GAS DISTRIBUTION INC.
NEXUS PROJECT

Figure No.
1

Title
**LOCATION MAP**

| AGENCY RESPONSES FOR THE PROPOSED ENBRIDGE DOW MOORE, CORUNNA AND SECKERTON PIPELINE PROJECT | | |
|---|---|---|
| **Agency** | **Comment** | **Response** |
| St. Clair Region Conservation Authority – Chris Durand, October 26, 2010, Letter | Portions of the property are within the "Development, Interference with Wetlands and Alterations to Shorelines and Watercourses" Regulation<br>Also, may be affected by County tree-cutting by-law | Not Required |
| Ministry of Natural Resources – Mary-Jo Tait, (519) 773-9241 ext. 4786, October 26, 2010<br>Telephone correspondence<br>(original letter mailed Oct. 13, 2010) | Please forward results of your NHIC search and site map (she was forwarded the package internally and cannot read the map).<br>No response to-date | Map and NHIC results were emailed on October 26, 2010 |
| Township of St. Clair - Gary De Pooter, October 28, 2010<br>Questionnaire response | Pipeline crossing agreement c/w fees for road and municipal drain crossings | EGDI to contact Twp. to obtain permits |
| County of Lambton – Ezio Nadalin, November 4, 2010<br>Telephone correspondence<br>Subsequent follow up calls | Please resend project information<br>Tree cutting permit required<br>No further response to-date | EGDI will comply with the intent of the tree cutting by-law |
| Ministry of Transportation –Conor Byrne, November 15, 2010<br>Telephone correspondence | No MTO roads are affected. There will likely be no further comment | Not Required |

# Appendix C

## Stage 1 Archaeology Report

# The 2010 Stage 1 Archaeological Assessment of the Proposed Dow Moore, Corunna and Seckerton Pipeline Project, Township of St. Clair, Lambton County, Ontario

Submitted to

**Stantec Consulting Ltd.,**
Suite 1,
70 Southgate Drive,
Guelph, Ontario
N1G 4P5
Telephone – (519) 836-6050
Fax (519) 836-2493

and

**The Ontario Ministry of Tourism and Culture**

Prepared by

**D.R. Poulton & Associates Inc.**
69 Langarth Street West, London, Ontario, N6J 1P5
Telephone – 519 434-0319 Facsimile – 519 434-0517
E-mail - drpoulton@rogers.com.

PIF # P316-093-2010

November 22, 2010

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## List of Plates

## Project Personnel

| | |
|---|---|
| Consulting Archaeologist | Dana R. Poulton |
| Project Archaeologists | Sherri H. Pearce<br>Nancy VanSas |
| Report Preparation | Dana R. Poulton<br>Nancy VanSas |
| Visual Examination | Nancy VanSas |
| Photography | Nancy VanSas |
| Draughting | Christine F. Dodd |

## Acknowledgments

This assessment was facilitated by the following individuals and their agencies:

- ***Terry Chupa,*** Lands Agent and Lands Contract Manager; Enbridge Gas Distribution Inc.;
- ***Steve Thurtell,*** M.Sc., P. Ag., Project Manager, Environmental Assessment, Stantec Consulting Ltd.;
- ***Shari Prowse***, Archaeological Review Officer, Culture Programs Unit, Ontario Ministry of Tourism and Culture; and
- ***Robert von Bitter***, Archaeological Data Coordinator, Culture Services Unit, Ontario Ministry of Tourism and Culture.

## Executive Summary

Stantec Consulting Ltd. (Stantec) has been retained by Enbridge Gas Distribution Inc. (EGDI) to prepare an Environmental and Socio-Economic Assessment Report for a project involving approximately 3,500 metres of buried natural gas pipelines south of Sarnia, Ontario. The construction project proposed by EGDI is named the Dow Moore, Corunna and Seckerton Pipeline Project. It is part of the ongoing expansion of the gas storage system in St. Clair Township and is required to meet increasing demand for natural gas service in the area. On November 5, 2010, Stantec contracted D.R. Poulton & Associates Inc. to carry out a Stage 1 archaeological background study of the proposed undertaking.

The archaeological assessment considered data for two alternative alignments, designated Potential Route 1A and Potential Route 1B. In addition to constructing either Potential Route 1A or Potential Route 1B, the Dow Moore, Corunna and Seckerton Pipeline Project will include the construction of Proposed Route 2. It was also considered by the archaeological assessment.

One objective of the assessment was to obtain information on the presence or absence of past investigations and previously documented sites within the study area. A second was to determine the relative potential of the study area and the three pipeline routes to contain as-yet undiscovered archaeological resources that could represent potential constraints for the proposed construction.

The report is divided into six sequential sections. The present section provides a general introduction to the assessment. The location and description of the study area and the routes under consideration are detailed in Section 2.0 of the report. Section 3.0 is a cultural synthesis of the region within which the study area is situated. Section 4.0 describes the methods and results of the Stage 1 background study. Section 5.0 details the recommendations that arose from the assessment. Finally, Section 6.0 presents the references cited in this report.

The check of the Archaeological Sites Database of the Ministry of Tourism and Culture confirmed that no registered archaeological sites were located within a two kilometre radius surrounding the study area defined by Stantec for purposes of the Environmental and Socio-Economic Assessment Study. However, the results of the background study also determined that the lands involved in the Dow Moore, Corunna and Seckerton Pipeline Project have a moderate potential for Native and Euro-Canadian archaeological remains. In view of that, it is recommended that a Stage 2 survey be carried out once the exact alignments for the proposed pipelines have been finalized.

The survey will have two objectives. One will be to effect a field-based assessment of the lands subject to impact from the proposed pipeline construction. The other will be to confirm the presence or absence of archaeological sites subject to potential impact from the construction.

Based on the results of the Stage 1 archaeological background study, it is recommended that the Ministry of Tourism and Culture issue a letter accepting the present report into the Provincial registry of archaeological reports. It is also recommended that the letter include a statement of concurrence with the findings of the Stage 1 archaeological assessment. Finally, it is requested that a copy of the letter be forwarded to Steve Thurtell, Project Manager, Environmental Management, Stantec Consulting Ltd. His e-mail address is steve.thurtell@stantec.com.

# 1.0 INTRODUCTION

Stantec Consulting Ltd. (Stantec) has been retained by Enbridge Gas Distribution Inc. (EGDI) to prepare an Environmental and Socio-Economic Assessment Report (ER) for a project involving approximately 3,500 metres of buried natural gas pipelines south of Sarnia, Ontario. The construction project proposed by EGDI is named the Dow Moore, Corunna and Seckerton Pipeline Project. The project is part of the ongoing expansion of the gas storage system in St. Clair Township and is required to meet increasing demand for natural gas service in the area. On November 5, 2010, Stantec contracted D.R. Poulton & Associates Inc. to carry out an archaeological assessment of the proposed undertaking.

The technical guidelines for archaeological assessment formulated by the Ontario Ministry of Culture, Tourism and Recreation (now Ministry of Tourism and Culture) (MCTR 1993) define up to four sequential stages in an archaeological assessment. The same applies to new standards and guidelines formulated by the Ministry of Tourism and Culture (2010), which will come into effect on January 1, 2011. Stage 1 consists of background research to identify any past archaeological investigations or known sites. The background study also identifies the potential for as-yet undiscovered sites. Stage 2 consists of a field survey to confirm the presence or absence of archaeological sites. Stage 3 consists of a more detailed assessment of any sites that are of demonstrable or potential significance as heritage resources and planning concerns. Finally, Stage 4 consists of the mitigation by salvage excavation of any significant sites that are subject to impact from a potential development and cannot be mitigated by preservation and avoidance. The present assessment of the Dow Moore, Corunna and Seckerton Pipeline Project consisted of a Stage 1 background study as defined by the standards and guidelines.

The report is divided into six sequential sections. The present section provides a general introduction to the assessment. The location and description of the study area and the three routes under consideration for the proposed pipelines are detailed in Section 2.0 of the report. Section 3.0 is a cultural synthesis of the region within which the study area is situated. Section 4.0 describes the methods and results of the Stage 1 background study. Section 5.0 details the recommendations that arose from the assessment. Finally, Section 6.0 presents the references cited in this report.

One objective of the assessment was to obtain information on the presence or absence of past investigations and previously documented sites within the study area. A second was to determine the relative potential of the study area and the three pipeline routes to contain as-yet undiscovered archaeological resources that could represent potential constraints for the proposed pipelines.

The Stage 1 archaeological assessment of the Dow Moore, Corunna and Seckerton Pipeline Project was carried out under Archaeological Consulting Licence # P316, issued by the Ontario Ministry of Tourism and Culture to Sherri Pearce of DPA. The Ministry designated the project as PIF # P316-093-2010.

The archaeological assessment was carried out in accordance with the provisions of the Ontario Heritage Act (Government of Ontario 1990), and with the draft technical standards and guidelines for archaeological assessments formulated by the Ministry of Tourism and Culture (2010).

Permission for access to conduct a visual examination of the pipeline routes was granted by the landowners. The records pertaining to this project are currently housed in the corporate offices of D.R. Poulton & Associates Inc. In the event the opportunity arises, however, the project archive will be transferred to a suitable long-term repository. Potential repositories include local and other museums and the archaeological repository maintained by the London office of the Ontario Ministry of Tourism and Culture.

# 2.0 LOCATION AND DESCRIPTION

The project comprises two pipelines with two small tie-in sections. One pipeline involves the construction of a gathering pipeline, approximately 1,500 m long and 508 mm (20 inches) in diameter, within the Seckerton pool. The other project includes the construction of approximately 1, 900 m of 20 inch (50.8 cm) diameter steel pipeline to connect the existing Dow Moore gathering line to two new meter stations to be built at the Corunna and Seckerton natural gas storage pools. Also, the first tie-in is approximately 50 m in from the 20 inch diameter steel pipeline to tie-in the Seckerton pool line to the new metering station to be built at the Seckerton natural gas storage pool. Finally, the second tie-in is approximately 50 m of 16 inch diameter steel pipeline to tie-in the Corunna pool line to the new metering station to be built at the Corunna natural gas storage pool. The Stantec ER was created to meet the requirements of the Ontario Energy Board's ("OEB") Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon pipelines and facilities in Ontario ( May 2003).

For purposes of the Environmental and Socio-Economic Assessment, Stantec Consulting Ltd. defined a study area surrounding the project. It is located in the area west of Tecumseh Road, south of Petrolia Line, and contained within the area approximately 600 m south of Rokeby Line and 500 m west of Ladysmith Road. The properties screened to locate existing environmental features are located in Lambton County. They involve parts of Lots 19, 20, 21 and 22 in Concessions 8, 9 and 10 of Moore Township.

The aerial photograph presented as Figure 1 of this report shows the location of the study area that was defined by Stantec for purposes of the Environmental and Socio-Economic Assessment Study. It also shows the routes that are under consideration for the proposed pipelines. As illustrated in Figure 1, an east-west oriented woodlot complex is located within the study area; it straddles the line between Concession 9 and Concession 10. Natural gas storage wells are located in clearings within the central portion of the woodlot and in the agricultural fields that flank it to the north and south. Two additional wells are located in the south-central portion of the study area, south of Rokeby Road. There are some 36 active natural gas wells in the storage pool. There is also one plugged back and whipstocked well.

Potential Route 1A and Potential Route 1B both extend from the Dow Moore Tie-In on the east side of Ladysmith Road east and north to the Corunna Tie-In. Potential Route 1A is the preferred route. It is colour-coded yellow in Figure 1. As illustrated, the alignment for Potential Route 1A extends from the Dow Moore Tie-In eastward a distance of approximately 500 metres following the south edge of the woodlot. The eastern part of this segment also follows the east-west segment of an existing Enbridge Gas gravel access road that originates on Rokeby Line. In addition, the remainder of the alignment of Potential Route 1A also parallels existing Enbridge Gas gravel access roads. At a point where the main access road bends north the alignment of Potential Route 1A also turns north, following the alignment of the existing Seckerton Gathering Line and the access road to the north edge of the woodlot. From that point it extends eastward, with a northward jog, following the edge of the woodlot. It then bends north, following the access road and the boundary between two agricultural fields, before turning eastward. As stated above, it terminates at the Corunna Tie-In, at a point adjacent to the existing Corunna Gathering Line.

Potential Route 1B is colour-coded pink in Figure 1. As illustrated, the alignment of Potential Route 1B extends from the Dow Moore Tie-In eastward a distance of approximately 1430 metres. It generally follows the south edge of the woodlot but also includes a segment approximately 170 metres long that transects a southern extension of the woodlot. A segment of this east-west alignment approximately 280 metres long also parallels the east-west segment of the existing Enbridge Gas gravel access road that originates on Rokeby Line. At the east end of the east-west segment Potential Route 1B turns north, following a gap in the woodlot that contains a hydro transmission line with a single row of steel towers. The last two segments of the route continue to follow the hydro transmission corridor, first along the west edge of a northern extension of the woodlot, then along the access road and the boundary between two agricultural fields to the terminus at the Corunna Pipeline.

In addition to constructing either Potential Route 1A or Potential Route 1B, the Dow Moore, Corunna and Seckerton Pipeline Project will include the construction of Proposed Route 2. Proposed Route 2 is colour-coded green in Figure 1. It follows the alignment of the existing Seckerton Gathering Line. The southernmost segment of Proposed Route 2 extends in a northwesterly direction from a point in an agricultural field approximately 170 metres south of Rokeby Line. The alignment crosses Rokeby Line, then bends in a north-northwesterly direction, extending across country through agricultural fields and then through the woodlot. The segment through the woodlot follows the existing Enbridge Gas gravel access road that originates on Rokeby Line. Proposed Route 2 terminates at the point where the access road intersects the north edge of the woodlot.

The archaeological assessment was informed by a visual examination of the three pipeline routes. It was carried out by Nancy VanSas of D.R. Poulton & Associates Inc. on November 11, 2010. The visual examination was assisted by Terry Chupa, Lands Agent and Lands Contract Manager; Enbridge Gas Distribution Inc., who met with VanSas to show her the alignments under consideration.

Plates 1-6 inclusive illustrate existing conditions along the proposed and alternative pipeline alignments. Plate 1 is a view of the western segment of Potential Routes 1A and 1B looking west, with the woodlot to the right and the field in winter wheat to the left. Plate 2 is a view of the segment of Potential Route 1A looking north along the segment of the route that follows the access road through the woodlot, with the row of wooden hydro poles to the right. Plate 3 is a view of the segment of Potential Route 1A looking west along the access road, with the woodlot to the right and the ploughed field to the left. Plate 4 is a view of the segment of Potential Route 1B that follows the row of the steel hydro transmission tower through the weed-covered gap in the woodlot, looking north. Plate 5 is a view of the east end of Potential Route 1A, looking east toward Tecumseh Road. Finally, Plate 6 is a view of Proposed Route 2 looking south-southeast across the field toward Rokeby Line.

The topography in the study area is flat. The closest stream course to the alternative pipeline routes is Baby Creek. It is a tributary of the St. Clair River and is situated 2.5 kilometres west of the study area. The St. Clair River itself is situated 4.5 kilometres west of the study area. The study area for the proposed Dow Moore, Corunna and Seckerton Pipeline Project forms part of the St. Clair Clay Plains physiographic region (Chapman and Putnam 1984: 147). As described by Chapman and Putnam, it covers a surface area of 2,270 square miles, was flooded by glacial Lakes Whittlesey and Warren and is characterized by little relief.

# 3.0 STAGE 1 BACKGROUND RESEARCH

## 3.1 Methods

The first stage of the assessment consisted of background research. This was conducted in order to:

- *amass all of the readily available information on any previous archaeological surveys in the area;*
- *determine the locations of any registered and unregistered sites within and adjacent to the property;*
- *identify areas of archaeological potential which represented concerns for Stage 2 field survey; and*
- *develop an historical framework for assigning levels of potential significance to any new sites discovered during fieldwork.*

The framework for assigning levels of potential archaeological significance is drawn from provincial environmental assessment guidelines (Weiler 1980). It includes the identification and evaluation of any feature that has one or more of the following attributes:

> *it has the potential through archaeological exploration, survey, or fieldwork to provide answers to substantive questions (i.e. relate to particular times and places) about events and processes that occurred in the past and therefore add to our knowledge and appreciation of history;*
>
> *it has the potential through archaeological exploration, survey and fieldwork to contribute to testing the validity of general anthropological principles, cultural change and ecological adaptation, and therefore to the understanding and appreciation of our man-made heritage; or*
>
> *it is probable that various technical, methodological, and theoretical advances are likely to occur during archaeological investigation of a feature, alone or in association with other features, and therefore contribute to the development of better scientific means of understanding and appreciating our man-made heritage (Weiler 1980:8).*

Two collective sources were examined during the Stage 1 assessment. The first was the Archaeological Sites Database of the Ministry of Tourism and Culture. It houses site record forms for registered sites as well as published and unpublished reports on past surveys, assessments and excavations. D.R. Poulton & Associates submitted a site data request to the Ministry of Tourism and Culture. In the interests of context, the site data request included a two kilometre radius surrounding the study area defined by Stantec for purposes of the Environmental and Socio-Economic Assessment Study.

The second collective source for the Stage 1 research was the library/archives of D.R. Poulton & Associates Inc. It includes an extensive inventory of published and unpublished reports, as well as inventories of registered and unregistered archaeological sites in the area.

In addition to the above, other sources were examined to identify the potential for Euro-Canadian sites. They included the reprint of the Illustrated Historic Atlas of Lambton County (Belden & Co. 1880).

The above sources included some documentation on potential Euro-Canadian archaeological planning concerns. They were supplemented by reference to two other sources that contain information on the historic cultural resources of area. One is the history of Lambton County by Elford (1982). The other is the reprint of the Illustrated Historic Atlas of the County of Lambton Ontario 1880 (Phelps 1973).

## 3.2 Results

The background research obtained information of relevance to the potential for historic and prehistoric sites within the study area containing the alternative pipeline routes. For reference purposes, a cultural chronology of the region is presented in Table 1.

The results of the Stage 1 study may be divided into two separate but related categories: information on past archaeological investigations and known sites in the study area; and information on the history of land use in the area. These will be considered in turn.

### *Past Archaeological Investigations and Known Sites*

The check of the Archaeological Sites Database of the Ministry of Tourism and Culture confirmed that no registered archaeological sites were located within a two kilometre radius surrounding the study area defined by Stantec for purposes of the Environmental and Socio-Economic Assessment Study.

The Ministry of Tourism and Culture does not maintain a database of properties that have had past archaeological investigations. In consequence, the only way a consulting archaeologist will know that a past assessment has been conducted in a given area is if he or she has personal knowledge of it, or if the assessment resulted in the discovery and registration of one or more archaeological sites.

In the present case, the personnel of D.R. Poulton & Associates have knowledge of two related past archaeological assessments in the immediate area of the Dow Moore, Corunna and Seckerton Pipeline Project. The first consisted of a 2006 Stage 1 background study of the proposed St. Clair Energy Centre, which was located directly north of Petrolia Line, just east of Ladysmith Line. It was conducted by Timmins Martelle Heritage Consultants Inc. (2006).

The second archaeological assessment that was carried out in the immediate area of the proposed Dow Moore, Corunna and Seckerton Pipeline consisted of a 2006 Stage 1 background study and 2007 survey of the proposed Invenergy Natural Gas Pipeline. This proposed pipeline was

required to provide natural gas to the aforementioned proposed St. Clair Energy Centre. The Stage 1-2 assessment of the proposed Invenergy Pipeline was undertaken on behalf of Stantec Consulting Ltd. by D.R. Poulton & Associates Inc. (2006, 2007). The alignment of the proposed pipeline in question extended a distance of four kilometres, from the Petrostar Station north and east to the Dow Station. As such, the study area for the 2006-2007 assessment was north of and directly adjacent to Stantec's study area for the Environmental and Socio-Economic Assessment. In addition, it overlapped the expanded study area for the present archaeological assessment of the proposed Dow Moore, Corunna and Seckerton Pipeline Project.

**Table 1 Cultural Chronology for Southwestern Ontario**

| PERIOD | GROUP | TIME RANGE | COMMENT |
|---|---|---|---|
| PALEO-INDIAN | | | |
| | Fluted Point | 9500 - 8500 B.C. | Big game hunters small nomadic groups |
| | Hi-Lo | 8500 - 7800 B.C. | |
| ARCHAIC | | | |
| Early | Nettling | 7800 - 7000 B.C. | Nomadic hunters and gatherers |
| | Bifurcate Base | 6800 - 6000 B.C. | |
| Middle | Laurentian | 6000 - 2000 B.C. | Transition to territorial settlements |
| Late | Lamoka | 2500 - 1700 B.C. | Polished/ground stone tools |
| | Broad Point | 1800 - 1400 B.C. | |
| | Crawford Knoll | 1500 - 500 B.C. | |
| | Glacial Kame | *ca*. 1000 B.C. | Burial ceremonialism |
| WOODLAND | | | |
| Early | Meadowood | 1000 - 400 B.C. | Introduction of pottery |
| | Red Ochre | 1000 - 500 B.C. | |
| Middle | Couture | 300 B.C. - A.D. 500 | Long distance trade networks |
| Late | Rivière au Vase | A.D. 500 - 900 | Incipient horticulture |
| | Younge Tradition | A.D. 900 - 1300 | Transition to village life and agriculture |
| | Springwells | A.D. 1300 - 1400 | Large village sites |
| | Wolf | A.D. 1400 - 1550 | Tribal differentiation and warfare |
| HISTORIC | | | |
| Early | Historic Native | A.D. 1700 - 1875 | Social displacement |
| Late | Euro-Canadian | A.D. 1800 - present | European settlement |

### *19th Century Land Use in the Vicinity of the Study Area*

Figure 2 illustrates the location of the study area relative to a composite of the 1880 Historic Atlas maps of Sarnia Township and Moore Township (Phelps 1973). Although there was some Euro-Canadian settlement in the vicinity of the study area prior to the negotiation of treaties with the First Nations, concerted Euro-Canadian settlement in this part of Lambton County did not

begin until after 1825, when the British negotiated a major land treaty with the Chippewa who lived in southwestern Ontario. As a result of that treaty, 2,200,000 acres were surrendered to the British Crown. The area surrendered included the present study area as well as almost all of the rest of the northern part of Lambton County. It also included all of Perth County and parts of Waterloo, Wellington and Oxford Counties. This treaty was confirmed in a detailed survey of 1827, which also created four Native reserves, all of which were situated within Lambton County.

One of the reserves was the Sarnia (or St. Clair) Indian Reserve #45, which is located just north of the study area. This reserve was established by the Treaty of July 10, 1827. As stated in the Historic Atlas, it originally contained 10,280 acres, but through numerous surrenders to accommodate the southward industrial and residential expansion of Sarnia it had been reduced in size to 4,130 acres by 1973 (Phelps 1973:63). The original reserve fronted on the St. Clair River; the lands fronting on the river were among those that were eventually surrendered.

The Sarnia Reserve and the other reserves in Lambton County were initially occupied by solely by Chippewa; over time their populations were augmented by Pottawatamies, Ottawa and Shawnees. The townships that were also established by the 1827 survey were named in 1829. Moore Township, which contains the present study area, was named in honour of Sir John Moore, a British officer who was killed at the Battle of Corunna in 1809, during the Peninsular War.

The study area is located well north of the Detroit Frontier. Although what is now the Canadian side of the Detroit River was settled by the French in 1750, the Euro-Canadian settlement of the St. Clair River did not occur until some decades later. In the decades that preceded and followed the War of 1812 several French and British settlers established homesteads along the east bank of the St. Clair River in what is now Moore Geographic Township, renting land from the local Native population. They included John Courtney who settled on what is now Lot 39 north of Mooretown in 1804; he was the first English-speaking settler in all of Lambton County.

The earliest white settlers in Sarnia Township were a French-Canadian family by the name of La Forge. According to the Historic Atlas (Phelps 1973:8), they may have arrived as early as 1800, long before the Town of Sarnia came into being. Following the establishment of the Sarnia Reserve in 1827 an Indian agent, a clergyman and a school teacher lived on the reserve. In the 1820s these individuals and the La Forge family were the only non-Natives living in what was to become the City of Sarnia.

In the early 1830s the publication of a book by Dr. Tiger Dunlop of the Canada Company resulted in a wave of settlement in Sarnia Township by retired officers of the British army and navy. The first of these to arrive in the township was a ex-lieutenant of the British Royal Navy named Vidal; in 1832 he settled a 200-acre parcel in what by 1880 had become downtown Sarnia. Initially, the settlement was known as The Rapids; in 1836 it was renamed Port Sarnia.

Soon after he arrived in 1832, Vidal opened a tavern on his property; it was the first tavern on the St. Clair frontier. By 1835 Sarnia had a wharf, two stores and two inns, a frame house, several log houses and several log shanties. One of the commercial establishments was a two-storey log inn. It had a sign which read “INN” and came to be known as the “double N-I” as the person who put up the sign was illiterate and had nailed it to the building upside down (Phelps 1973:9).

Growth in Sarnia proceeded slowly in the first few decades but by 1853 the town had a population of 800.

Reference to Figure 2 shows that by the third quarter of the 19th century agricultural settlement had been established through the present study area. The area which contains the proposed Dow Moore, Corunna and Seckerton Pipeline Project was rural as of the third quarter of the 19th century. With the exception of petro-chemical facilities and underground natural gas storage pools and transmission lines, much of the study area remains rural to this day.

As illustrated in Figure 2, reference to the 1880 Historic Atlas maps shows that the study area was not located in close proximity to any 19th century communities. The closest community to the study area by the third quarter of the 19th century was Corunna. Located on the St. Clair River, the east edge of the community was situated 3.5 kilometres west of the study area as of 1880.

The genesis of Corunna dates back to 1823 when Viscount Beresford, a veteran of the Napoleonic War, selected it as the proposed site for the joint capitol of Upper and Lower Canada (Elford 1982:61). Beresford named it for the 1809 Battle of Corunna in which he had fought. The plans for the joint capitol were soon scrapped. A town site was laid out at Corunna in 1836 but as late as the mid 1840s there were few settlers. John C. Geike, who lived in nearby Mooretown from 1841 to 1849, wrote a description of early Corunna in his book "*Life in the Woods*". He noted that Corunna stood on the west side of a swampy belt, and that a man had excavated a broad ditch from the swamp to the river to provide water power for his mill. Over time the swamp dried up and became good land (Elford 1982:61). It was not until the 1850s and 1860s that Corunna really developed as a community of any size. By 1869 it had a population of 200.

It should be noted that the township maps in the 1880 Historic Atlas only illustrate the locations of the homes of subscribers. In consequence, they are potentially misleading as a visual indication of the extent of rural settlement in the third quarter of the 19th century. That said, the 1880 Historic Atlas map of Moore Township map depicts four farmsteads within the limits of the study area defined by Stantec for the proposed Dow Moore, Corunna and Seckerton Pipeline Project (Figure 2). One was the Peter Gallogley farmstead in the north end of Lot 22, Concession 9. A second and third are W. J. Courtney and Jas. Cruikshank farmsteads in the north end of Lot 20, Concession 8. Jno Robinson is also identified as having a farm in Lot 22, Concession 8 and Henry McGurk is identified as having a farm in the south half of Lot 22, Concession 9. However, no farmstead is depicted for the Robinson property and the farmstead for the McGurk property was located in Lot 23, outside of the present study area.

The 1880 Historic Atlas map of Moore Township also shows three institutional buildings within the study area for the proposed pipelines. Two are schools: one located in the northeast corner of Lot 21, Concession 10; the other in the southwest corner of Lot 21, Concession 9. The third institutional building is a Templars Hall. It was located in the northeast corner of Lot 19, Concession 8 and was one of two Templars halls in this area to service the local population of Freemasons. Other commercial and institutional buildings were located in Corunna, to the west of the study area, but they are not depicted on the 1880 Historic Atlas map of Moore Township. By the 1860s they included four churches, five carpenters' shops, three general stores, three shoemakers, two blacksmith shops, two tailors, two taverns, a brewery and a grist mill and saw mill (Elford 1982:61-64). Still other businesses were added to the community in the 1870s.

# 4.0 EVALUATION OF ARCHAEOLOGICAL POTENTIAL

There are two basic categories of archaeological resources for any given property. The first consists of known sites that are of demonstrable or potential significance as cultural resources and planning concerns. The second consists of the potential for as-yet undiscovered sites. These two categories will be addressed in turn.

## 4.1 Known Sites of Demonstrable or Potential Significance

The original framework for assigning levels of archaeological significance in Ontario was drawn from Provincial environmental assessment guidelines (Weiler 1980). The information included the identification and evaluation of any site that met one or more of the following criteria:

> *it has the potential through archaeological exploration, survey, or fieldwork to provide answers to substantive questions (i.e. relate to particular times and places) about events and processes that occurred in the past and therefore add to our knowledge and appreciation of history;*
>
> *it has the potential through archaeological exploration, survey, and fieldwork to contribute to testing the validity of general anthropological principles, cultural change and ecological adaptation, and therefore to the understanding and appreciation of our man-made heritage; or*
>
> *it is probable that various technical, methodological, and theoretical advances are likely to occur during archaeological investigation of a feature, alone or in association with other features, and therefore contribute to the development of better scientific means of understanding and appreciating our man-made heritage (Weiler 1980:8).*

The document quoted above was prepared a quarter of a century ago and while the principles it was based upon are still current, some of the language is now dated, including phrases such as "*man-made*". The issue of archaeological site significance is also covered in a more recent publication entitled *Conserving a Future for Our Past: Archaeology, Land Use & Development in Ontario* (Ministry of Citizenship, Culture and Recreation 1997). As stated in that document, the key factors an archaeologist considers in evaluating the significance of an archaeological site include the following:

1. The Integrity of the site (e.g. is it in pristine or near pristine condition; despite past disturbances; can important data still be recovered from it?).

2. The Rarity or Representativeness of the site (e.g. is it one of a kind, locally, regionally or provincially; is it a good comparison to similar sites from other regions, etc?).

3. The Productivity of the site (e.g. does it have the potential to contain large quantities of artifacts or exceptionally detailed data about what occurred there; etc?).

4. The Age of the site.

5. The Potential for Human Remains within the site.

6. The Geographic or Cultural Association (e.g., does the site have a clear and distinct relationship with the surrounding area or to a particular geographic feature, such as a unique rock formation, historic transportation corridor, etc.; is the site associated with a distinctive cultural event, ceremony or festival, etc.?).

7. The Historic Significance of the site (i.e., is the site associated with a renowned event, person or community?).

8. Community Interest (e.g., is the site important to a particular part of the community; does it represent a significant local event; etc.?).

In the present case, and as previously described, the background study determined that no archaeological sites have been registered within a two-kilometre radius surrounding the study area that Stantec defined for purposes of the Environmental and Socio-Economic Assessment. Accordingly, possible archaeological planning concerns for the proposed Dow Moore, Corunna and Seckerton Pipeline Project were limited to the potential for as-yet undiscovered sites. That potential is discussed below.

## 4.2 Potential for as-yet Undiscovered Sites

Since the mid 1980s several models have been generated in an attempt to quantify archaeological potential in southern Ontario (e.g., Peters 1986, Pihl 1986). The results consistently show that distance to water is the single most reliable indicator of pre-contact and historic land use and settlement. The degree of inferred archaeological potential varies somewhat with the significance of the water course. Accordingly, the land use primer developed by the Ministry of Citizenship, Culture and Recreation (1997:12-13) identifies a high potential for First Nations sites within 300 metres of a primary water source, including relic shorelines, and within 200 metres of a secondary water source. The primer also includes other site potential criteria, as follows:

- The presence of a known archaeological site within 250 metres of a proposed development;

- The presence of knolls, ridges or other elevated topography within a property;

- The presence of well-drained sandy soils;

- The presence of distinctive or unusual landforms such as waterfalls, rock outcrops, rock faces, caverns, glacial erratics, etc. which often represented special or spiritual places to First Nations peoples;

- The presence of particular resource-specific features that would have attracted past subsistence or extractive land use, such as chert outcrops important to First

Nations peoples and of white pine stands important to early Euro-Canadian logging;

- The presence of initial non-Aboriginal (primarily but not exclusively Euro-Canadian) military or pioneer settlement;

- The presence of early transportation routes such as a trail, pass, road, rail, portage route or canal;

- The presence of one or more properties designated under the Ontario Heritage Act.

- The association of the property or site with historic events, activities or occupations.

The requirement for an archaeological assessment of a proposed development is triggered by one or more of the above criteria. In the present case, two of them apply to the subject lands. One is the fact that the tablelands of the study area formed part of farms as of 1880, when the Historic Atlas was published. As such, they consist of soils that would have been suitable to both Aboriginal and Euro-Canadian agriculture.

A second positive archaeological criterion is that Proposed Route 2 transects Rokeby Line, which formed part of the historic road network in this township, and 19$^{th}$ century farmsteads and other structures were often closely oriented to the road network.

All things considered, the background study indicated that the lands involved in the proposed undertaking have moderate potential for as-yet undiscovered archaeological remains. Given the lack of topographic relief and of stream courses in the immediate area, the potential for First Nations sites in the study area primarily applies to less substantial sites such as lithic scatters and isolated finds.

The potential for Euro-Canadian sites is inferred to be highest for homesteads and farmsteads rather than for commercial, institutional and industrial sites. The reason is that the subject lands are somewhat removed from crossroads, and commercial, institutional and industrial sites have a tendency to be concentrated on crossroads.

# 5.0 RECOMMENDATIONS

As detailed in Section 4.0 of this report, the results of the background study indicate that the lands involved in the Dow Moore, Corunna and Seckerton Pipeline Project have a moderate potential for Native and Euro-Canadian archaeological remains. In view of that, it is recommended that a Stage 2 survey be carried out once the exact alignments for the proposed pipelines have been finalized.

The survey will have two objectives. One will be to effect a field-based assessment of the lands that will be subject to impact from the proposed pipeline construction. The other will be to confirm the presence or absence of archaeological sites subject to potential impact from the construction. If sites are confirmed to be present, the survey will include an assessment of their significance as archaeological resources, and the extent to which they could represent potential constraints to the proposed construction.

If the survey is to be carried out in the spring of 2011 and if some of the segments fall within fields that were planted in winter wheat in the fall of 2010, it is further recommended that the survey be conducted early in the field season, before the winter wheat grows too thick and high to permit a proper examination of the ground surface.

Under the Ontario Heritage Act (1990), it is a requirement of archaeological consulting licences that consultants prepare and submit assessment reports to the Ontario Ministry of Tourism and Culture. Archaeological Review Officers of the Ministry then review each report to ensure that the assessment and the report satisfy consulting licence requirements under the Act and other pertinent legislation, and that they conform to current archaeological standards and guidelines. If the report and the assessment do so conform, the pertinent Archaeological Review Officer then issues a letter confirming that and accepting the report into the Provincial registry of archaeological reports.

In the present case, it is recommended that the Ministry of Tourism and Culture issue a letter accepting the present report into the Provincial registry of archaeological reports. It is also recommended that the letter include a statement of concurrence with the findings of the Stage 1 archaeological assessment. Finally, it is requested that a copy of the letter be forwarded to Steve Thurtell, Project Manager, Environmental Management, Stantec Consulting Ltd. His e-mail address is steve.thurtell@stantec.com.

The above concludes the general and site-specific recommendations of this report. Nevertheless, it should be emphasized that no archaeological survey can be considered to totally negate the potential for deeply buried cultural remains, including human burials. In recognition of that fact, the archaeological assessment technical guidelines formulated by the Province of Ontario require that all reports on archaeological assessments include recommendations to address the possibility that deeply buried remains may be encountered during construction (MCTR 1993:12).

In accordance with the above, it is recommended that archaeological staff of the Ontario Ministry of Tourism and Culture be notified immediately if any deeply buried archaeological remains should be discovered during the construction of the pipelines. In the event that human remains

should be encountered, it is similarly recommended that Stantec Consulting Ltd., Enbridge Gas Distribution Inc. and/or the contractor immediately contact Shari Prowse, Archaeological Review Officer with the London office of the Ontario Ministry of Tourism and Culture (telephone #519 675-6898, e-mail address Shari.Prowse@ontario.ca) and Michael D'Mello, the Registrar of the Cemeteries Regulation Unit of the Ontario Ministry of Ontario Ministry of Consumer Services (telephone #416 326-8404, e-mail address Michael.D'Mello@ontario.ca).

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# FIGURES

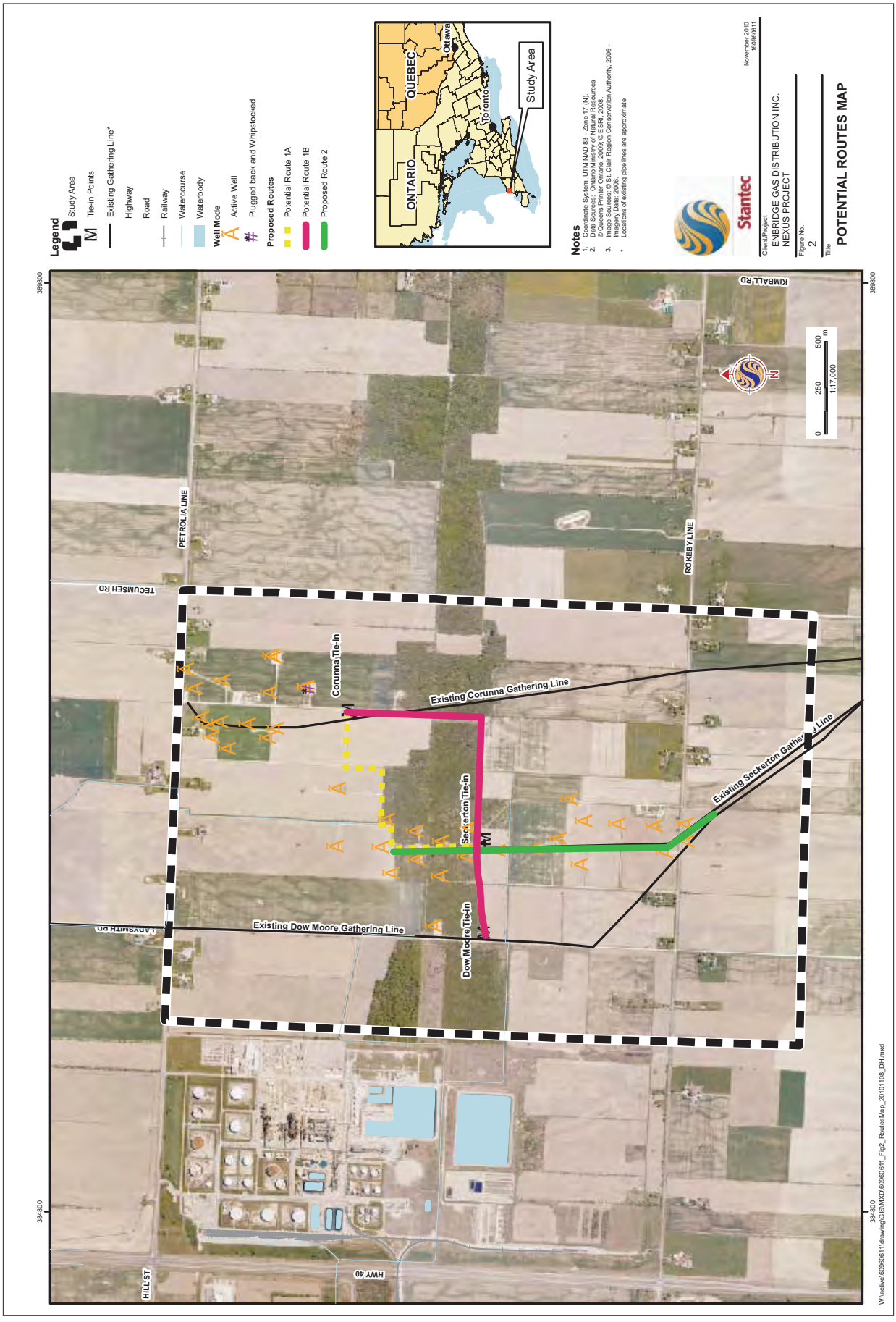


**Figure 1** Detail of the Preferred and Alternative Pipeline Routes

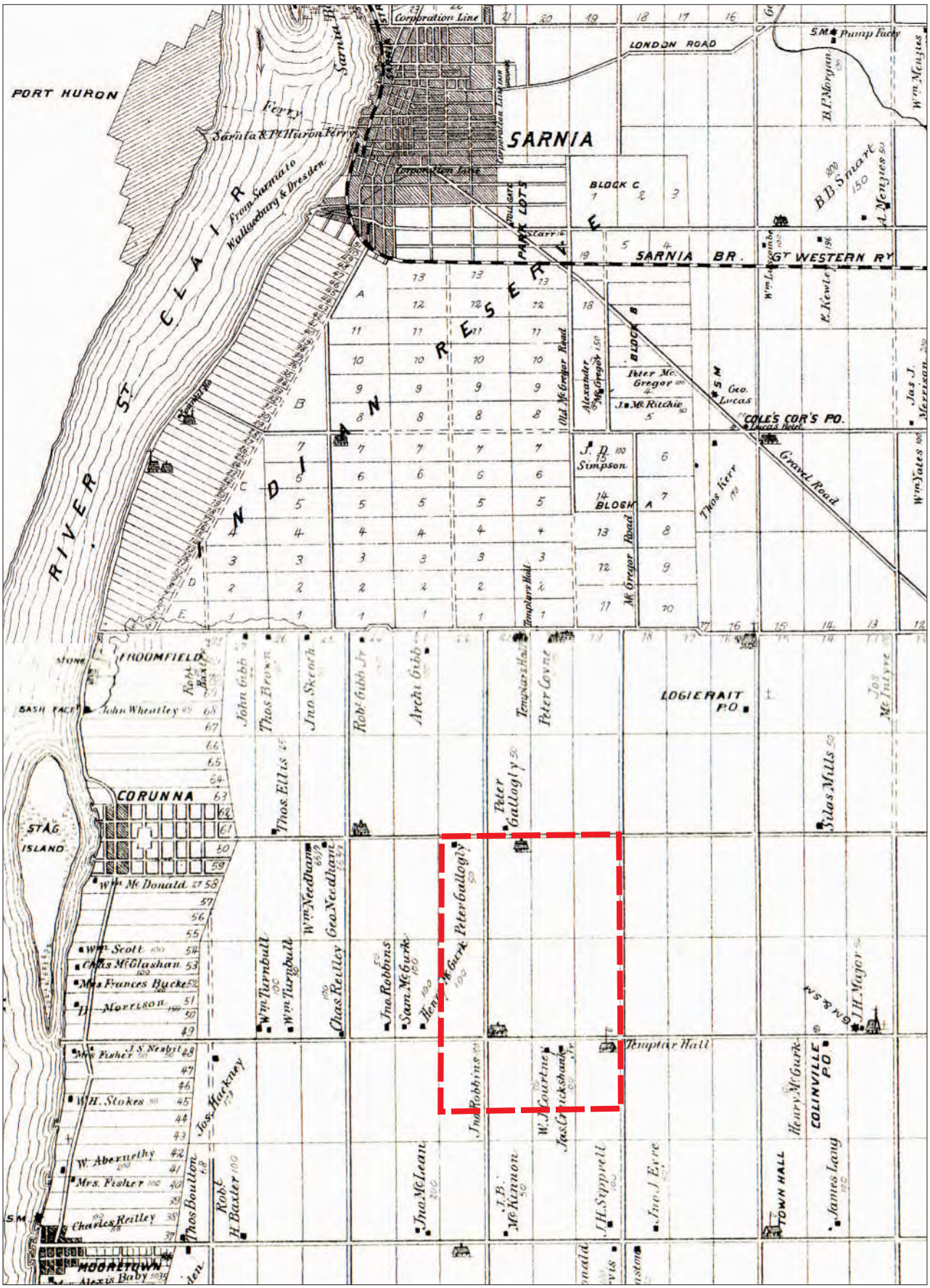


**Figure 2** Facsimile of the 1880 Historical Atlas Map of Moor & Sarnia Townships

# PLATES

**Plate 1**

**Plate 2**

**Plate 3**

**Plate 4**

**Plate 5**

**Plate 6**

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December 16, 2010
File: 160960611

Enbridge Gas Distribution Inc.
500 Consumers Road
North York, ON M2J 1P8

**Attention: Edwin Makkinga**

Dear Edwin:

**Reference: Dow Moore, Corunna and Seckerton Pipeline Project Environmental Report Addendum**

This letter provides an addendum to the recently completed Environmental Report (ER), Dow Moore, Corunna and Seckerton Pipeline Project as proposed by Enbridge Gas Distribution Inc. (EGDI), dated November, 2010. The addendum is necessary to incorporate relevant environmental information concerning the study area which was received from the Ontario Ministry of Natural Resources (MNR) after finalizing the ER.

Stantec initiated contact with all agencies, including the MNR, on October 13, 2010. The contact letter requested that agencies responses be provided prior to October 22, 2010. All data received by November 26, 2010 was incorporated into the Final ER which is when it was finalized.

The review and collection of published environmental information incorporated into the ER identified 22 species of conservation concern that could potentially occur in the Study Area. To address the protection of wildlife populations, the ER states that vehicle movement and equipment storage should be confined to access roads and pipeline easements/work areas and that every effort should be taken to not harm local wildlife and to minimize any impact to wildlife. As well, the Migratory Bird Act was recognized and incorporated into the ER restricting clearing activities from occurring between within April 15$^{th}$ and August 15$^{th}$. In the event that clearing during this time is unavoidable, the ER recommends that a qualified ornithologist conduct a nesting survey prior to the construction.

The ER recognizes the significance of the woodlands in the area and includes: avoidance to the extent possible by routing within agriculture fields; a comparison of the amount of tree cutting required; and a 2 to 1 replacement of trees removed. As well, the ER recognizes the presence of oil and gas infrastructure in the area and states that the proposed pipelines do not have any impact on other petroleum resources.

To help expedite the receipt of data, the results of Stantec's search of the MNR Natural Heritage Information Centre (NHIC) database were forwarded to the MNR on October 26, 2010 in response to their request made during a follow-up conversation.

**Reference: Dow Moore, Corunna and Seckerton Pipeline Project Environmental Report Addendum**

Since finalization of the ER, information relevant to the Study Area has been provided by the MNR (see attachment). Similar to the above discussion, the MNR stated the NHIC information that was forwarded identified species of conservation concern potentially in or near the study area. The NHIC search identified 22 species of conservation concern, 5 of which are protected under the provincial Endangered Species Act (2007). The Common Five-lined Skink (endangered) was recorded in the vicinity of the Study Area in 1934 and the Massasauga (threatened) in 1962. Both are considered historical records; recent reports suggest these species are not anticipated to occur in the vicinity of the Study Area (COSEWIC 2002, COSEWIC 2007). Records of three vascular plant species at risk were more recent, suggesting they may occur in the vicinity of the Study Area. These species include colicroot (threatened), American columbo (endangered) and dense blazing star (threatened). One additional species at risk, the Butler's Gartersnake (threatened) was identified in MNR's consultation as a species that may occur within the Study Area.

The MNR has indicated that there is a need for field level studies to be conducted to investigate the potential for the presence of these species. Stantec and EGDI are currently communicating with the MNR to confirm the species requiring study and indentify appropriate methodologies and timelines for the studies. If the studies confirm the presence of a specific species or identifies significant wildlife habitat that requires special attention, mitigation measures will be developed and employed to address the protection of the individuals and/or the habitat.

The MNR recommends that site investigations be conducted by a qualified person to confirm potentially inaccurate or incomplete published information regarding petroleum infrastructure. The MNR also stated that further comments will come from the Petroleum Resources Centre, MNR. Stantec and EGDI will work to address any petroleum resource related comments when they are received.

Sincerely,

**STANTEC CONSULTING LTD.**

**Steve Thurtell, B.Sc. Agr., M.Sc.**
Project Manager, Environmental Assessment
Tel: (519) 836-6050
Fax: (519) 836-2493
sthurtell@stantec.com

Attachment: Ministry of Natural Resources email letter dated December 9, 2010.

**From:** Tait, Maryjo (MNR) [mailto:Maryjo.Tait@ontario.ca]
**Sent:** Thursday, December 09, 2010 4:17 PM
**To:** Thurtell, Steve
**Cc:** McCloskey, Amanda (MNR); Tait, Maryjo (MNR); Cairns, Melody (MNR)
**Subject:** RE: Dow Moore to Seckerton and Corunna Pipeline project

Good afternoon Steve,

We have received the information request for the Dow More, Seckerton and Corunna Interconnect Pipeline Project, south of Sarnia, Township of St. Clair, County of Lambton. We would like to provide the following in addition to the information provided in your NHIC search.

Species at Risk:
The *Endangered Species Act*, 2007 (ESA 2007) came into force on June 30, 2008 and provides both individual protection (section 9) and habitat protection (section 10) to species listed as endangered or threatened on the Species at Risk in Ontario (SARO) List. The current version of the SARO List (Ontario Regulation 230/08), issued under the ESA 2007, can be found on e-laws (http://www.e-laws.gov.on.ca/navigation?file=home&lang=en).

If an activity or project will result in adverse effects to species and/or habitat protected under the ESA 2007, an authorization under that Act would be required. Please note that authorizations are not guaranteed and that the review timelines for Authorization Request Packages can be lengthy.

The NHIC information that was forwarded identified SAR and S1 to S3 species, so there is a need to undertake field level surveys. This includes a 2 – 3 season vegetation survey and potentially cover board surveys for Butlers Gartersnake.

Site-specific investigation within and adjacent to the study area may find additional species and/or habitat location on or adjacent to the site.

Significant wildlife habitats
Significant wildlife habitat has may be present within the study area. Please consult the *Significant Wildlife Habitat Technical Guide,* (OMNR, 2000). Significant wildlife habitat is identified by planning authorities using the criteria and processes recommend in the Significant Wildlife Habitat Technical Guide (OMNR, 2000). Link to the guide:
http://www.mnr.gov.on.ca/en/Business/FW/Publication/MNR_E001285P.html The Natural Heritage Reference Manual (please see below) also provides guidance in section 9.0.

Significant woodlands:
It appears there are woodlands within the study area. Any assessments should consider the significant woodland, and should avoid natural heritage features first. The Natural Heritage Reference Manual contains information on significant woodlands that might be useful to your ER.

Significant wetlands:
The MNR has no identified wetlands within the study area. Site-specific investigation within the study areas may find existing wetlands that have not yet been evaluated or designated.

Significant valleylands:
The MNR does not possess significant valleylands mapping. We suggest you contact the Upper

Thames River Conservation Authority to find out if they have information pertaining to significant valleylands. The Natural Heritage Reference Manual (below) also provides guidance on evaluation criteria for determining significant valleylands that may be useful to this ER.

Petroleum Resources:

As you are aware, there are many records of wells within the study area. I have forwarded this project onto the Petroleum Resources Centre, MNR for a review. We will provide further comments.

The Oil, Gas and Salt Resources (OGSR) Library can be accessed for information about known well and pool locations (www.ogsrlibrary.com). However, the information above reflects only know wells. There is potential that wells may exist for which no records are held by the Petroleum Resources Centre or the information may be historically, inaccurate or incomplete.

Site investigations should be conducted to determine the status of the wells identified and any associated works. The investigation should be conducted by a person knowledgeable about the oil and gas industry. The proponent may be referred to the Ontario Petroleum Institute (OPI) to assist in locating such a person. The well locations should be examined for signs of an existing well or any associated works (e.g. wellhead, or well casing visible at surface, evidence of leaking fluids, gas odour, dead vegetation, etc ) In addition, the study are should be examined for signs of any unrecorded wells.

Additional Information:

The MNR has released the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 Second Edition on April 22, 2010.
Link: http://www.mnr.gov.on.ca/en/Business/LUEPS/Publication/249081.html

The second edition of the Natural Heritage Reference Manual (the manual) provides technical guidance for implementing the natural heritage policies of the Provincial Policy Statement, 2005 (PPS). The manual represents the Province's recommended technical criteria and approaches for being consistent with the PPS in protecting natural heritage features and areas and natural heritage systems in Ontario. The manual provides guidance and criteria on natural heritage features, and on addressing impacts of development and site alteration. The criteria for determining significant features may be useful to your project.

I understand that you have accessed NHIC, I would also suggest you check LIO. Land Information Ontario (LIO) manages geographic information for use in maps and Geographic Information Systems (GIS). LIO has a web-accessible data warehouse that contains more than 250 different layers of geographic data. The data ranges from the location of underground wells to satellite imagery. LIO can be reached at (705) 755-1878.

Other areas where you may find information includes the Conservation Authority, and the Township of St. Clair Official Plan, County of Lambton Official Plan.

I hope the above is useful to you, please let me know if you require any additional information.

Have a great day,
Maryjo

***Maryjo Tait***
*Planning Intern – Aylmer District*
Ministry of Natural Resources
615 John Street North
Aylmer, ON N5H 2S8
Phone: (519) 773-4786
email: maryjo.tait@ontario.ca

**From:** Thurtell, Steve [mailto:steve.thurtell@stantec.com]
**Sent:** October 26, 2010 1:53 PM
**To:** Tait, Maryjo (MNR)
**Subject:** Dow Moore to Seckerton and Corunna Pipeline project

Hi Mary-Jo,
As discussed, Please find the NHIC search and the location map files attached.
I look forward to your response as a key component of the EA.
Thank you.
Sincerely, Steve.

Steve Thurtell, M.Sc., P. Ag.
Project Manager, Environmental Management
Stantec
Ph: (519) 836-6050 Ext. 208
Fx: (519) 836-2493
Cell: (519) 820-4237
steve.thurtell@stantec.com
stantec.com

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# C-FACILITIES

1

# DESIGN SPECIFICATIONS

## Description

1. The proposed 1,900 metres of NPS 20 steel pipeline for the Interconnect Pipeline will be installed within Lots 19, 20 and 21, Concessions 9 and 10 of the former Township of Moore, in St. Clair Township, in Lambton County. The preferred route for this pipeline passes through a woodlot, and a laneway previously installed by Enbridge, in Lot 21. Certain portions of the pipeline can be installed on either side of the exiting laneway. Prior to installation of the pipeline, the landowners and other interested parties will be consulted to determine the most practical location with regard to general farming operations, drainage tile systems and other relevant factors.

2. The proposed 1,500 metres of NPS 20 steel pipeline for the Seckerton Gathering Line will be installed within Lots 20 and 21, Concessions 8 and 9, in the former Township of Moore, in St. Clair Township, in Lambton County.

3. The proposed 50 metres of NPS 20 steel pipeline for the Seckerton Pool Line Station Tie-In will be installed within Lots 21, Concession 9, in the former Township of Moore, in St. Clair Township, in Lambton County.

4. The proposed 50 metres of NPS 16 steel pipeline for the Corunna Pool Line Station Tie-In will be installed within Lots 19 or 20, Concession 10 in the former Township of Moore, in St. Clair Township, in Lambton County, and passes through a laneway.

Design and Construction

5. The pipeline and facilities will be designed, constructed and operated in compliance with O. Reg. 210/01 *Oil and Gas Pipeline Systems* and Enbridge's design, construction and operating standards. The primary design standard adopted by O. Reg. 210/01 is CSA Z662-07 *Oil and Gas Pipeline Systems.*

Materials

6. All pipeline material will meet the requirements of the applicable CSA standards:
   - Z245.1-02, Steel Pipe
   - Z245.11-01, Steel Fittings
   - Z245.12-01, Steel Flanges
   - Z245.15-01, Steel Valves
   - Z245.20-02, External Fusion Bond Epoxy Coating
   - Z245.21-02, External Polyethylene Coating for Pipe

Corrosion Protection

7. External corrosion protection will be provided by a combination of external coating and cathodic protection. No special internal corrosion protection is required since the natural gas will be of transmission quality.

Design Criteria

8. Table 1 below outlines the design criteria for the NPS 20 steel pipeline for the Interconnect Pipeline, Seckerton Gathering Line and the Seckerton Pool Line Station Tie-In. A portion of the Interconnect Pipeline may cross a laneway, where the design criteria would differ slightly; this is also outlined in Table 1 below.

Table 1

DESIGN CRITERIA FOR NPS 20 STEEL PIPELINES

| Description | Application CSA Z662-07 Table 4.2 Location Class 1 General | Application CSA Z662-07 Table 4.2 Location Class 1 Road Crossing |
|---|---|---|
| Combined Design & Location Factor | 0.8 | 0.6 |
| Nominal Pipe Diameter (mm) | 508 | 508 |
| Design Pressure (kPa) | 11 730 | 11 730 |
| Maximum Operating Pressure (kPa) | 11 730 | 11 730 |
| Operating Pressure Range (kPa) | 2 240 – 11 030 | 2 240 – 11 030 |
| Grade (MPa) | 414 | 414 |
| Minimum Wall Thickness (mm) | 9.5 | 12.7 |
| Fracture Category | II | II |
| Minimum Design Temperature (degC) Above Grade / Buried | M30 / M5 | M30 / M5 |
| Maximum Design Temperature (degC) | 120 | 120 |
| Hydrostatic Test Pressure (kPa) | 14 660 | 14 660 |
| Estimated Length (m) | 3400 | < 100 |

9. Table 2 below outlines the design criteria for the NPS 16 steel pipeline for the Corunna Pool Line Station Tie-In. A portion of this pipeline may cross a laneway, where the design criteria would differ slightly; this is also outlined in Table 2 below.

Table 2

DESIGN SPECIFICATIONS FOR NPS 16 STEEL PIPELINE

| Description | Application CSA Z662-07 Table 4.2 Location Class 1 General | Application CSA Z662-07 Table 4.2 Location Class 1 Road Crossing |
|---|---|---|
| Combined Design & Location Factor | 0.8 | 0.6 |
| Nominal Pipe Diameter (mm) | 406.4 | 406.4 |
| Design Pressure (kPa) | 11 730 | 11 730 |
| Maximum Operating Pressure (kPa) | 11 730 | 11 730 |
| Operating Pressure Range (kPa) | 2 240 – 11 030 | 2 240 – 11 030 |
| Grade (MPa) | ≥ 359 | 448 |
| Minimum Wall Thickness (mm) | 9.5 | 9.5 |
| Fracture Category | II | II |
| Minimum Design Temperature (degC) Above Grade / Buried | M30 / M5 | M30 / M5 |
| Maximum Design Temperature (degC) | 120 | 120 |
| Hydrostatic Test Pressure (kPa) | 14 660 | 14 660 |
| Estimated Length (m) | 50 | ≤ 50 |

# HYDROSTATIC TEST REQUIREMENTS

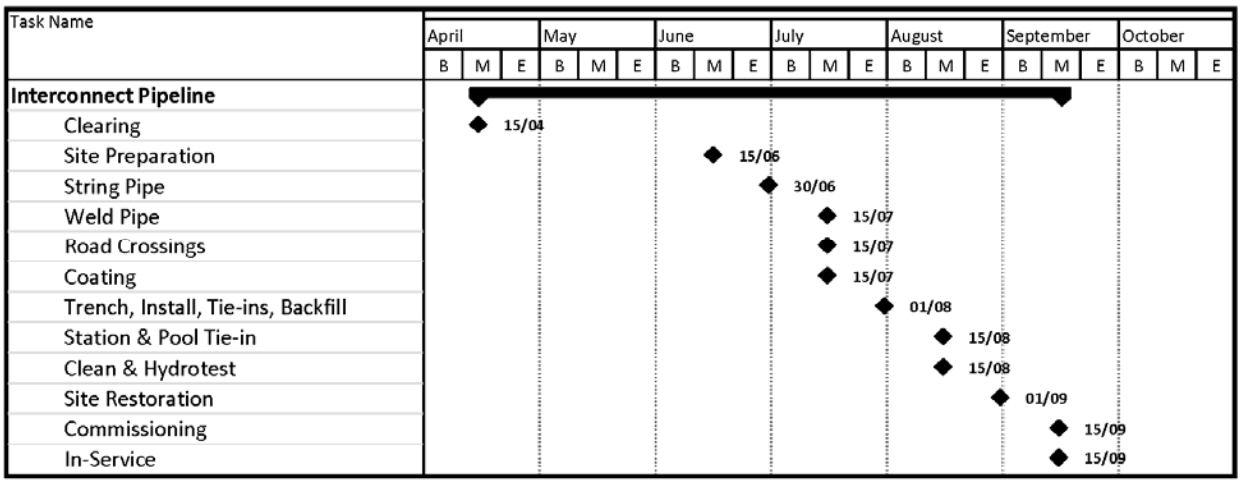
1. The pipelines will be hydrostatically pressure tested according to CSA Z662-07.

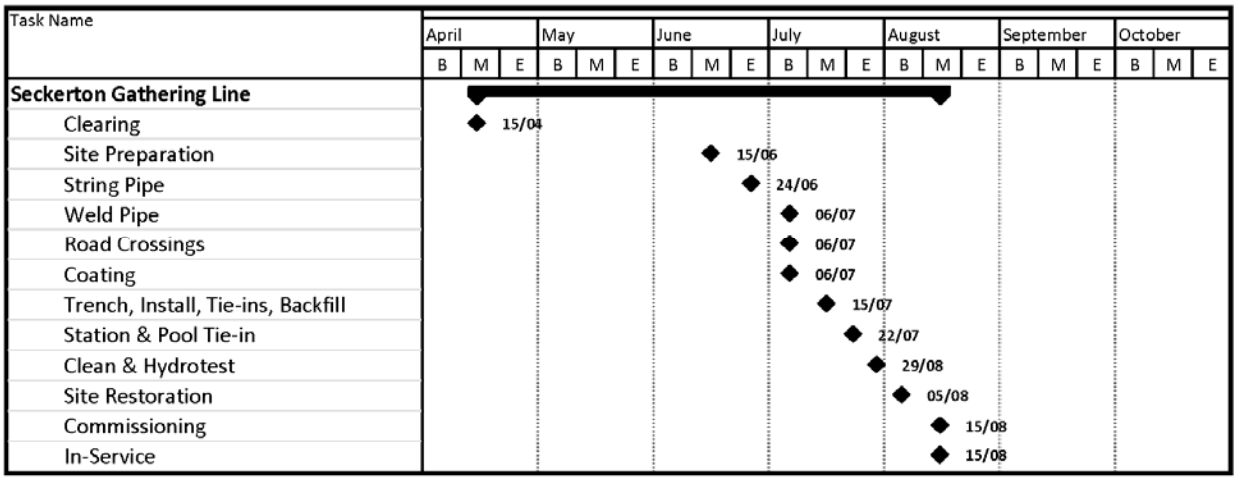
2. Enbridge is proposing to use municipal water for the pressure test, and if necessary will supplement this source with water from the Corunna Compressor Station's fire-pond, located at 3595 Tecumseh Road East, Mooretown, Ontario.

3. Enbridge intends to adhere to the requirements described in the November 2010 Dow Moore, Corunna and Seckerton Pipeline Project Environmental Assessment, Section 4.5 Hydrostatic Testing, prepared by Stantec found at Exhibit B, Tab 2, Schedule 2. Permits will be obtained as necessary to take and discharge water.

# PROPOSED CONSTRUCTION SCHEDULE

1. The proposed construction milestones for 2011 are shown in the following Gantt Charts:




The Seckerton Station Meter Station Tie-In and the Corunna Meter Station Tie-In will be constructed within the construction schedule of the Interconnect Pipeline and Seckerton Gathering Line and will be completed by August 15, 2011.

2. The construction schedule (June to September 2011) is set up to allow Enbridge to carry on its regular storage operation activities and meet contractual obligations.

3. Enbridge has initiated discussion with Stantec and plans to engage the Ministry of Natural Resources ("MNR") to address the concerns as indicated in the MNR's December 10, 2010 note to Stantec, filed in the addendum to the Environmental Report, Exhibit B, Tab 2, Schedule 3. If mitigative or protective measures cannot be developed to allow construction per schedule above, the construction time-table will be adjusted. Enbridge will inform the Board should that happen.

4. Restoration monitoring will continue post construction, following the recommendations in the ER prepared by Stantec and will comply with the conditions of the OEB's Decision and Order for this proceeding.

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# PERMITS REQUIRED

| Authority | Purpose of Permit |
|---|---|
| St. Clair Region Conservation Authority<br>205 Mill Pond Crescent<br>Strathroy, ON N7G 3P9 | Fill, Construction, and Alteration to Waterways Permit |
| The Corporation of the Township of St. Clair<br>1155 Emily Street<br>Mooretown, ON N0N 1MO | Permit to Cross Municipal Drain<br>Permit to Cross Township Road<br>Fire Permit<br>Tree Clearing Permit |
| Ministry of Natural Resources<br>659 Exeter Road<br>London, ON N6E 1L3 | Construction Permit<br>Under the Lakes and Rivers Improvement Act |
| Ministry of the Environment<br>1094 London Road<br>Sarnia, ON N7S 1P1 | Permit to Take Water |
| Ministry of Transportation<br>301 St. Paul Street, 2nd Floor<br>Garden City Tower<br>St. Catharines, ON L2R 7R4 | Haul Routes Permit |
| Technical Standards and Safety Authority<br>3300 Bloor St. W., 14th Floor, Centre Tower<br>Toronto, ON M8X 2X4 | Permit |

# NEGOTIATIONS TO DATE

1. The proposed preferred route for the proposed Dow Moore, Corunna and Seckerton Pipeline Project are on lands owned by Enbridge or are on lands where Enbridge holds current and valid gas storage lease agreements and/or are within designated gas storage pools whereby Enbridge holds the right to install pipelines for gas storage operations as provided by OEB Order E.B.O. 5, December 2, 1963 and thus, easements or land acquisitions are not required.

2. All properties in the proposed Dow Moore, Corunna and Seckerton Pipeline Project are located in the former Township of Moore, in the Township of St. Clair, in the County of Lambton and the landowners and property locations for the preferred route are shown in table below.

3. As noted, new lease rights or acquisitions are not required. Enbridge has met and will continue to engage the affected landowners along the preferred route regarding the construction and operational matters related to the Project.

Table 1

PROPERTY OWNERS ON THE PREFERRED ROUTE

| Location of Property<br>(within the former Township of Moore) | Landowner |
|---|---|
| Lot 19, Concession 8<br>PIN 43295-0098 &<br>PIN 43295-0099 | Robert James McClemens and<br>Mary Patrice McClemens<br>944 Rokeby Line, R.R. 1<br>Mooretown, ON N0N 1M0 |
| Lot 19, Concession 8<br>PIN 43295-0071 &<br>PIN 43295-0097<br>And Encumbrancer | 912176 Ontario Limited,<br>A subsidiary of Enbridge Gas Distribution Inc. |
| Lot 21, Concession 10<br>(Surface Rights),<br>Lot 22, Concession 10 &<br>Lot 22, Concession 9<br>PIN 43295-0107 &<br>PIN 43295-0082 | Nova Chemicals (Canada) Ltd.<br>c/o Doug Mathany<br>201 North Front Street<br>P.O. Box 3054<br>Sarnia, ON N8T 7V1 |
| Lot 20, Concession 10<br>PIN 43295-0087 | Robert Large and Gail Elizabeth Large<br>1366 Blackwell Road<br>Sarnia, ON N7S 5M4 |
| Lot 20, Concession 10<br>PIN 43295-0088/89 | Joseph William Wellington,<br>Margaret Ruth Wellington, and<br>Richard James Wellington<br>1073 Petrolia Line, R.R. 1<br>Corunna, ON N0N 1G0 |
| Lot 19, Concession 8<br>PIN 43295-0071 &<br>PIN 43295-0097 | 912176 Ontario Limited<br>c/o Enbridge Gas Distribution Inc.<br>3595 Tecumseh Road<br>Mooretown, ON N0N 1M0 |

# AFFIDAVIT OF ANN L. GRAY REGARDING SEARCH OF TITLE

I, ANN L. GRAY, of the City of Sarnia, MAKE OATH AND SAY AS FOLLOWS:

1. I am a Title Searcher in the County of Lambton. I have been retained by Enbridge Gas Distribution Inc. to search the title to the property in this Application and as such I have knowledge of the matters hereinafter deposed to.

2. I was informed by the Land Agent/Land Contracts Manager of Enbridge Gas Distribution Inc. of the properties through/upon which the proposed pipeline would be located. Accordingly, I conducted searches of title to these properties within the months of November and December, 2010.

3. As a result of my searches of title, I determined the owners and encumbrancers with land, or registered interests in land which would be affected by the construction of the proposed pipeline and to the best of my knowledge and belief all such owners and encumbrancers are set out in Exhibit "A" to this my affidavit.

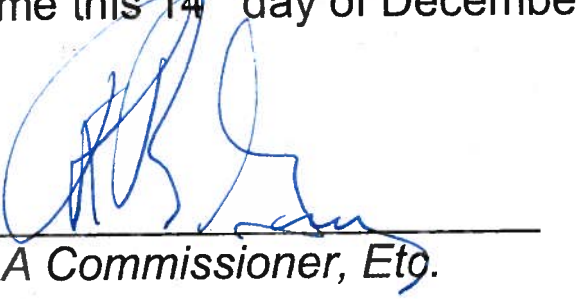
SWORN BEFORE ME at the City of Sarnia, in the County of Lambton and Province of Ontario.
This 14th day of December, 2010

)
)
)

ANN L. GRAY

*A Commissioner, Etc.*

This is Exhibit "A" to the Affidavit of Ann L. Gray,
sworn before me this 14th day of December, 2010



A Commissioner, Etc.

## LIST OF INTERESTED PARTIES

| Party | Role |
|---|---|
| 1031052 Ontario Limited<br>c/o James R. Elliott<br>1918 LaSalle Road<br>Sarnia, ON N7T 7H5 | Landowner<br>Lot 19, Concession 8<br>PIN 43298-0068 |
| Blackburn Radio Inc.<br>1415 London Road<br>Sarnia, ON N7S 1P6 | Landowner<br>Lot 22, Concession 9<br>PIN 43295-0101 |
| James William DeGurse and<br>Stephanie Phyllis DeGurse<br>1421 Petrolia Line, R.R. 1<br>Corunna, ON N0N 1G0 | Landowner<br>Lots 20 & 21, Concession 8<br>PIN 43298-0065 |
| Matthew Philip Hergott<br>1685 Petrolia Line<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 19, Concession 10<br>PIN 43295-0092 |
| Antonio Fracalanza and Carla Fracalanza<br>1366 Blackwell Road<br>Sarnia, ON N7S 5M4 | Landowner<br>Lot 21, Concession 8<br>PIN 43298-0064 |
| Bruce Floyd Knight and<br>Kathleen Sarah Knight<br>1163 Petrolia Line, R.R. 1<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 19, Concession 10<br>PIN 43295-0091 |
| Robert Large and Gail Elizabeth Large<br>1025 Petrolia Line, R.R. 1<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 20, Concession 10<br>PIN 43295-0087 |
| Jeffrey Kent Larsen and<br>Tracey Ann Larsen<br>3765 Ladysmith Road, R.R. 1<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 22, Concession 8<br>PIN 43298-0063 |

| | |
|---|---|
| Clifford Wayne Lennan<br>3263 Petrolia Line<br>Petrolia, ON N0N 1R0 | Landowner<br>Lot 22, Concession 8<br>PIN 43298-0061 |
| Lori Jeannette Maidment<br>1171 Rokeby Line<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 19, Concession 8<br>PIN 43298-0070 |
| Robert James MClemens and<br>Mary Patrice McClemens<br>944 Rokeby Line, R.R. 1<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 21, Concession 9<br>PIN 43295-0098 &<br>PIN 43295-0099 |
| Joseph William Wellington,<br>Margaret Ruth Wellington and<br>Richard James Wellington<br>1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Landowner (Surface Rights)<br>Lot 20, Concession 10<br>PIN 43295-0088 |
| Henry Edwin Wellington,<br>Joseph William Wellington,<br>Margaret Ruth Wellington and<br>Richard James Wellington<br>1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Landowner (Mineral Rights)<br>Lot 20, Concession 10<br>PIN 43295-0089 |
| Ann McLaughlin and<br>Thomas Edward McLaughlin<br>620 Secretariate Drive, Paddock Green<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 19, Concession 8<br>PIN 43298-0067 |
| Thomas Joseph McLaughlin and<br>Joyce Elaine McLaughlin<br>855 Petrolia Line<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 22, Concession 10<br>PIN 43295-0083 |

| | |
|---|---|
| James Moore Jr.<br>1148 Rokeby Line, R.R. 1<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 19, Concession 9<br>PIN 43295-0094 |
| 1375525 Ontario Limited,<br>c/o Allan and Diane Murray<br>1067 Rokeby Line<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 20, Concession 8<br>PIN 43298-0066 |
| Nova Chemicals (Canada) Ltd.<br>c/o Doug Mathany<br>201 North Front Street<br>P.O. Box 3054<br>Sarnia, ON N8T 7V1 | Landowner<br>Lot 21, Concession 10 (Surface Rights),<br>Lot 22, Concession 10 &<br>Lot 22, Concession 9<br>PIN 43295-0107 &<br>PIN 43295-0082<br>and<br>Encumbrancer |
| Virginia Reutiman<br>305 East Rice Street<br>P.O. Box 367<br>Wayzata, MN 55391 | Landowner<br>Lot 20, Concession 9<br>PIN 43295-0096 |
| Linda Louise Valline<br>11719 S700E,<br>Draper, Utah 84020 | Landowner<br>Lot 20, Concession 9<br>PIN 43295-0096 |
| Garry Arthur Robbins and<br>Mary Patricia Robbins<br>855 Rokeby Line, R.R. 1<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 22, Concession 8<br>PIN 43298-0062 |
| Gary Scott Robinson and<br>Rebecca Lynn Campbell<br>823 Rokeby Line,<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 22, Concession 8<br>PIN 43298-0060 |

| | |
|---|---|
| Kenneth W. Smith and Dorothy Smith<br>1191 Rokeby Line<br>Mooretown, ON N0N 1M0 | Life Interest in<br>Lot 19, Concession 8<br>PIN 43298-0071 |
| Harold Walter Taylor and<br>Gail Dianne Taylor<br>904 Rokeby Line<br>Mooretown, ON N0N 1M0 | Landowner<br>Lot 21, Concession 9<br>PIN 43295-0100 |
| Joseph William Wellington,<br>Margaret Ruth Wellington and<br>Robert Scott Wellington<br>1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Landowner (Mineral Rights)<br>Lot 21, Concession 10<br>PIN 43295-0086 |
| Pauline Mary Wellington<br>1020 Petrolia Line, R.R. 1<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 21, Concession 10<br>PIN 43295-0085 |
| Keith William Wilson,<br>Charlotte Irene Wilson and<br>Thomas William Wilson<br>894 Petrolia Line<br>Corunna, ON N0N 1G0 | Landowner<br>Lot 22, Concession 10<br>PIN 43295-0084 |
| 912176 Ontario Limited<br>c/o Enbridge Gas Distribution Inc.<br>3595 Tecumseh Road<br>Mooretown, Ontario N0N 1M0 | Landowner<br>Lot 19, Concession 8 &<br>Lots 20 & 21, Concession 9<br>PIN 43295-0097,<br>PIN 43298-0071 &<br>PIN 43298-0097<br>And Encumbrancer |
| Robert Young and Gertrude Young<br>790 Tudor Close<br>Sarnia, ON N7V 2Z5 | Landowner<br>Lot 19, Concession 9<br>PIN 43295-0093 |

| | |
|---|---|
| Union Gas Limited<br>Attn: Lands Department<br>50 Keil Drive North,<br>Chatham, Ontario N7M 5M1 | Landowner<br>Lot 19, Concession 9<br>PIN 43295-0095<br>And Encumbrancer |
| 923726 Ontario Limited<br>c/o Enbridge Gas Distribution Inc.<br>3595 Tecumseh Road<br>Mooretown, Ontario N0N 1M0 | Encumbrancer |
| The Corporation of the County of Lambton<br>789 Broadway Street,<br>P.O.Box 3000,<br>Wyoming, Ontario N0N 1T0 | Landowner Roads |
| 3305911 Canada Inc.<br>c/o Fraser & Beatty (Attn Victor Y. Hum)<br>P.O.Box 100, 1 First Canadian Place,<br>100 King Street West,<br>Toronto, Ontario M5X 1B2 | Encumbrancer |
| Helen Margaret Wellington<br>c/o 1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Life Interest in Lot 21,<br>Concession 10<br>PIN 43295-0086 &<br>PIN 43295-0107 |
| Dome NGL Pipeline Ltd. | Encumbrancer |
| Interprovincial Pipe Line Inc.<br>c/o Eastern Division, Box 128,<br>Sarnia, Ontario N7T 7H8 | Encumbrancer |
| The Bank of Nova Scotia<br>4184 Petrolia Line,<br>Petrolia, Ontario N0N 1R0 | Mortgagee<br>PIN 43298-0065 |
| Scotia Mortgage Corporation<br>10 Wright Blvd.,<br>Stratford, Ontario N5A 7X9 | Mortgagee<br>PIN 43298-0060 |

| | |
|---|---|
| Bank of Montreal<br>First Canadian Place, 11th Floor,<br>Toronto, Ontario M5X 1A1 | Mortgagee<br>PIN 43295-0101 |
| Royal Bank of Canada<br>180 Wellington Street West,<br>Toronto, Ontario M5J 1J1 | Mortgagee<br>PIN 43298-0060<br>PIN 43295-0083<br>PIN 43298-0070 |
| The Toronto-Dominion Bank<br>196 N. Christina Street,<br>Sarnia, Ontario N7T 7H8 | Mortgagee<br>PIN 43295-0094 |
| Lambton Financial Credit Union Limited<br>1295 London Road,<br>Sarnia, Ontario<br>N7S 5A1 | Mortgagee<br>PIN 43295-0092<br>PIN 43298-0063 |
| The Toronto-Dominion Bank<br>4201 Petrolia Line,<br>Petrolia, Ontario N0N 1R0 | Mortgagee<br>PIN 43298-0061 |
| Bank of Montreal<br>1362 Lambton Mall Road<br>Sarnia, Ontario N7S 5A1 | Mortgagee<br>PIN 43295-0091 |
| Lambton Financial Credit Union Limited<br>2394 Jane Street,<br>Brigden, Ontario N0N 1B0 | Mortgagee<br>PIN 43298-0066 |
| Lambton Cartage & Warehousing Limited<br>c/o 2 Ferry Dock Hill,<br>Sarnia, Ontario N7T 7L8 | Mortgagee<br>PIN 43298-0064 |
| Dancy Broadcasting Limited<br>c/o Blackburn Radio Inc.<br>1415 London Road<br>Sarnia, ON N7S 1P6 | Encumbrancer |

| | |
|---|---|
| Patricia Newell<br>1143 Petrolia Line<br>Corunna, Ontario N0N 1G0 | Encumbrancer |
| Arthur Battle and Jeanette Battle,<br>c/o 1073 Petrolia Line, R.R.1,<br>Corunna, ON N0N 1G0 | Life Interest in Lot 21,<br>Concession 10<br>PIN 43295-0086 &<br>PIN 43295-0107 |
| The Corporation of the Township of St. Clair<br>1155 Emily Street,<br>Mooretown, Ontario N0N 1M0 | Landowner Roads<br>And Encumbrancer |
| Citibank Canada<br>c/o Gowling Lafleur Henderson<br>Attn John M. Whyte,<br>123 Front Street,<br>Toronto, Ontario M5J 2M3 | Mortgagee<br>PIN 43295-0082 |
| Hydro One Networks<br>Attn. Mr. Tony Lerullo<br>483 Bay Street, North Tower, 15th Floor<br>Toronto, ON M5G 2P5 | Encumbrancer |

1

# ABORIGINAL CONSULTATION

1. To minimize the potential for impacts to existing or asserted Aboriginal treaty rights within the study area, Stantec notified First Nations and related agencies. This process was consistent with the OEB proposed Aboriginal Consultation Policy proceeding, EB-2007-0617.

2. Indian and Northern Affairs Canada ("INAC") and the Ministry of Aboriginal Affairs were notified of the commencement of the Environmental Assessment on October 14, 2010. No response was received to date.

3. Stantec identified the following First Nations and related agencies which are located within 100 kilometers (km) of the study area as having a potential interest in the project. These groups were notified of the commencement of the Environmental Assessment on October 14, 2010:
   - Aamjiwnaang First Nation
   - Chippewas of Kettle and Stony Point
   - Walpole Island First Nation

   No response was received to date.

4. All written correspondence is provided in the ER found in Exhibit B, Tab 2, Schedule 2, specifically Appendix A1.

5. Enbridge will be providing the above mentioned First Nations with a copy of the Application, and will further contact them to discuss the project.