

November 20, 2014

Ms. Kirsten Walli,
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: EB-2014-0350 – Bay of Quinte Replacement Pipeline Project

Attached is an Application by Union Gas Limited for an Order granting leave to construct a natural gas pipeline and ancillary facilities in Tyendinaga Township in Hastings County and Sophiasburg Township in Prince Edward County.

The construction of the proposed pipeline will allow Union to replace a portion of the existing Picton lateral on the Skyway Bridge. The Ministry of Transportation is rehabilitating the Skyway Bridge and has given Union a move order to remove the existing natural gas facilities that are currently attached to the bridge.

Should you have any questions, please do not hesitate to contact me. I look forward to receipt of your instructions.

Yours truly,

[Original signed by]

Mark Murray
Manager, Regulatory Projects
and Lands Acquisition

Attach.

c.c.: P. Duguay
Z. Crnojacki

BAY OF QUINTE REPLACEMENT PIPELINE PROJECT

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Application

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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 particular, s.90
thereof;

AND IN THE MATTER OF an Application by Union Gas
Limited for an Order granting leave to construct a natural
gas pipeline and ancillary facilities in Tyendinaga
Township in Hastings County and Sophiasburg Township
in Prince Edward County.

UNION GAS LIMITED

1. Union Gas Limited (the “Applicant”) hereby applies to the Ontario Energy Board (the “Board”), pursuant to Section 90.(1) of the Ontario Energy Board Act (the “Act”), for an Order granting leave to construct approximately 1.3 kilometres of NPS8 pipeline (the “proposed pipeline”), in Tyendinaga Township, in Hastings County and Sophiasburg Township, in Prince Edward county.
2. Attached hereto as Schedule “A” is a map showing the general location of the proposed pipeline and the municipalities, highways, railways, utility lines and navigable waters through, under, over, upon or across which the proposed pipeline will pass.
3. The construction of the proposed pipeline will allow the Applicant to replace a portion of the existing Picton lateral on the Skyway Bridge. The Ministry of Transportation is rehabilitating the Skyway Bridge and has given Union a move order to remove the existing natural gas facilities that are currently attached to the bridge.
4. The Applicant requests that this application be dealt with in accordance with Section 34 of the Board’s Rules of Practice and Procedure for written hearings.

5. The Applicant now therefore applies to the Board for an Order granting leave to construct the proposed pipeline as described above.

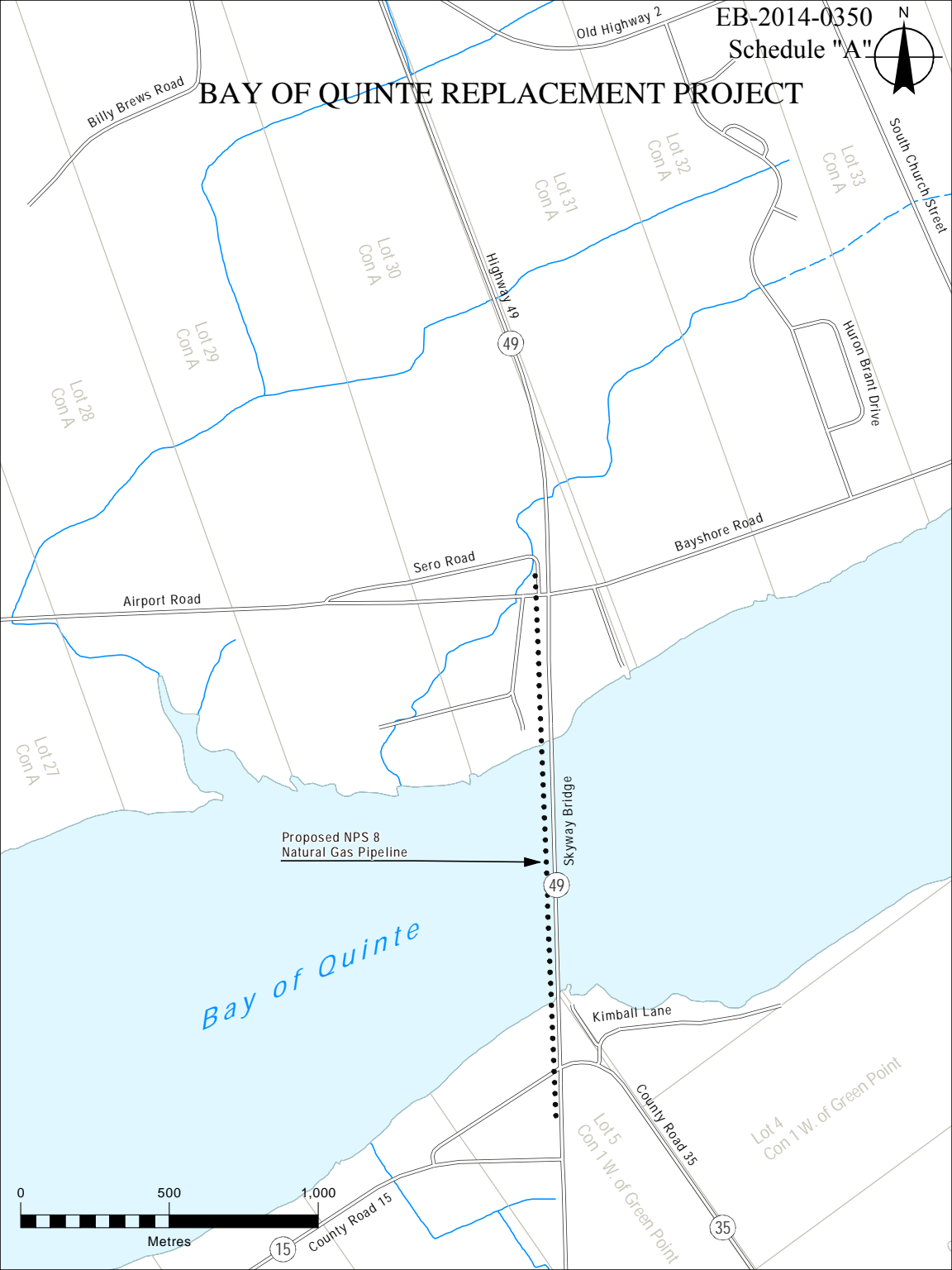
Dated at Municipality of Chatham-Kent this 20th day of November, 2014.

[Original signed by]

Per: Mark Murray
Manager, Regulatory Projects & Lands Acquisition
for Union Gas Limited

Comments respecting this Application should be directed to:

Mark Murray
Manager, Regulatory Projects & Lands Acquisition
Union Gas Limited
50 Keil Drive North
Chatham, Ontario
N7M 5M1
Telephone: 519-436-4601
Fax: 519-436-4641
Email: mmurray@spectraenergy.com



Project Summary

Union Gas Limited ("Union"), pursuant to Section 90(1) of the Ontario Energy Board Act, requests approval from the Ontario Energy Board ("OEB") for leave to construct approximately 1,300 meters of NPS8 hydrocarbon (natural gas) pipeline ("Proposed Pipeline") in order to replace approximately 1,300 metres of existing NPS6 hydrocarbon (natural gas) pipeline ("Pipeline") in Tyendinaga Township, in Hastings County and Sophiasburg Township, in Prince Edward County in the Province of Ontario, where it crosses the Bay of Quinte (the "Project"). The location of the Proposed Pipeline is shown on Schedule 1.

The affected section of the Pipeline was constructed in 1971. The Ministry of Transportation ("MTO") is proposing rehabilitation work on the Highway 49 Bridge crossing the Bay of Quinte ("Skyway Bridge"). The Pipeline is currently attached to the Skyway Bridge structure and MTO has requested that Union move the Pipeline.

Union is proposing to remove the Pipeline from the Skyway Bridge structure and complete a directional drill of the Bay of Quinte. The Proposed Pipeline will be constructed adjacent to the supports of the Skyway Bridge and will require new land rights.

The estimated costs of the Project are \$8.9MM.

1 Union has discussed the Project with MTO, the Mohawks of the Bay of Quinte, and directly
2 affected landowners along the route of the Proposed Pipeline. Union is in the process of obtaining
3 the necessary rights from MTO to complete the crossing. The landowners adjacent to Highway 49
4 have not identified any concerns with the Project and have agreed to sign the necessary Temporary
5 Land Use Agreements to complete the Project.

6
7 Union has completed an environmental review for the Project. This review did not identify any
8 long term significant environmental impacts as a result of the Project.

9
10 Union is proposing to construct the Proposed Pipeline commencing in June 2015. Union requests
11 Ontario Energy Board approval by end of April 2015.

12
13 **Background**

14 The Proposed Pipeline is part of the Picton lateral. It was constructed in 1971 and serves the
15 Tyendinaga Mohawk Community, Deseronto and eastern Prince Edward County. The pipeline also
16 serves one large industrial customer, Essroc. A photo showing the Skyway Bridge crossing the Bay
17 of Quinte and Union's existing pipeline can be found at Schedule 2.

18
19 In August, 2013 the MTO gave Union a move order which can be found at Schedule 3. This order
20 requires Union to remove its pipeline from the Skyway Bridge by 2016.

Union has worked with MTO to determine a new location for the Proposed Pipeline. Union considered a number of alternative locations for the Proposed Pipeline. Alternatives considered included: attaching the Proposed Pipeline to the other side of the Skyway Bridge, laying the Proposed Pipeline on the bottom of the Bay of Quinte, and directionally drilling the Proposed Pipeline from a number of different landfall locations.

Union in consultation with MTO determined the preferred location for the Proposed Pipeline was to directional drill the Proposed Pipeline adjacent to the Skyway Bridge within the MTO Right of Way. This location is preferred for the following reasons:

- 1) Lower operating and maintenance costs over the life of the pipeline;
- 2) Easier and safer from a construction standpoint;
- 3) Reduces the number of high risk activity hours for future maintenance work;
- 4) Allows for in-line inspection.

In order to tie in the directional drill into the existing pipeline it is necessary to for Union to complete some conventional open trench pipeline construction from the end of the directional drill to the tie-in locations on the existing pipeline.

Proposed Facilities

After reviewing the proposed growth and current operation of the Picton Lateral, it was established that NPS8 pipe is the correct design for the Bay of Quinte crossing.

Historic growth in this area has averaged 2% growth annually, and this number was used as a projection over the next 20 years. In the near future, it has been identified that 205 additional

1 residential attachments will be made to the system. There is also the potential to serve additional
2 demands to the Mohawks of the Bay of Quinte. This growth suggests that some looping of the
3 system will be required in the near future.

4
5 In order to ensure that there is not a bottle neck at the bridge when this future looping occurs
6 upsizing to NPS8 is recommended. Using NPS8 pipe for the crossing will not only delay any future
7 reinforcement, but also lessen the amount required.

8 9 **Project Costs and Economics**

10 The estimated costs for the Project are \$8.9MM. A detailed breakdown of these costs can be found
11 at Schedule 4.

12
13 A Discounted Cash Flow report has not been completed as the Project is underpinned by the MTO's
14 relocation requirements.

15 16 **Design and Construction**

17 The Proposed Pipeline will have a Maximum Operating Pressure ("MOP") of 6895 kPa.

18
19 The design and pipe specifications are outlined in Schedule 5. All the design specifications are in
20 accordance with the *Ontario Regulations 210/01* under the *Technical Standards and Safety Act*

2000, *Oil and Gas Pipeline Systems*. This is the regulation governing the installation of pipelines in the Province of Ontario.

In consideration for future potential development along the route, the Proposed Pipeline is designed to meet Class 3 location requirements. The actual current class location of the area is Class 3.

To determine Class Location, CSA Z662-11 uses a classification system that takes into account land use and population density. The classifications are as follows:

- 1) Class 1 areas consist of 10 or fewer dwellings;
- 2) Class 2 areas consist of 11 to 45 dwellings, or a building occupied by 20 or more persons during normal use such as playgrounds, recreational areas, or other places of public assembly as well as industrial installations;
- 3) Class 3 areas consist of 46 or more dwellings.
- 4) Class 4 contains a prevalence of buildings intended for human occupancy with 4 or more stories above ground.

The Proposed Pipeline will have an outside diameter of 219.1 mm and a wall thickness of 8.2 mm. The pipe will have specified minimum yield strength of 359 MPa.

1 The Proposed Pipeline will be hydrostatically tested in accordance with the Ontario Regulation
2 requirements.

3
4 The minimum depth of cover will be in accordance with Clause 4.11 of the CSA Code Z662-11.

5
6 The minimum depth of cover will be approximately 1.2 metres in accordance with policies.

7
8 The majority of the Proposed Pipeline will be constructed using a horizontal directional drill.
9 Schedule 6 describes the General Techniques and Methods of Construction that will be employed in
10 the construction of the Proposed Pipeline. This schedule details the following activities; clearing,
11 stringing of pipe, trenching, welding, backfilling and clean up. Union continuously updates and
12 refines its construction procedures to minimize potential impacts to lands and has since seen many
13 improvements as a result of better construction practices.

14
15 The southbound lane of Highway 49 is required as temporary working space during the stringing,
16 welding and pullback activities. Union is working with MTO to determine the required traffic
17 control plan for this lane closure.

18
19 Union is currently in negotiations with the MTO to abandon in-place the existing NPS6 pipeline
20 attached to the Skyway Bridge. If Union is required to remove the pipeline, an additional lane
21 closure will be required across the Skyway Bridge using the southbound lane. If Union abandons

1 the pipeline in-place, the MTO will assume ownership of the pipeline and remove as part of the
2 Skyway Bridge rehabilitation.

3
4 Schedule 7 indicates that construction will commence in June and be completed by the beginning of
5 November and included a project schedule.

6
7 **Landowners**

8 Union will require an Encroachment Permit from MTO. MTO has informed Union they have no
9 objections to the Project. Correspondence with MTO can be found at Schedule 8.

10
11 Union will not require any fee simple purchases of land to complete the Project.

12
13 Temporary Land Use Agreement from the landowner to the south of the crossing has been obtained.

14
15 Schedule 9 is an aerial photo that shows the running line and the land rights required for the
16 Proposed Pipeline.

17
18 Schedule 10 is a table that identifies the land rights Union has obtained for the construction of the
19 Proposed Pipeline.

20

1 At the conclusion of construction, Union will seek a Release Agreement from the affected
2 landowner. This Release Agreement will include compensation for any damages caused or
3 attributed to the Project.

4
5 Union has implemented a comprehensive program to provide landowners, tenants, and other
6 interested persons with information regarding the Proposed Pipeline. Project information was
7 distributed through correspondence and meetings with the landowners.

8
9 After construction, negotiations with landowners will continue, where necessary, to settle any
10 damages that were not foreseen or compensated for, prior to construction.

11
12 **Environmental**

13 Union retained the services of Neegan Burnside to review the route of the Proposed Pipeline, and
14 identify the environmental features that could be impacted by Proposed Pipeline's construction.

15 The Environmental Report ("ER") can be found at Schedule 11.

16
17 The results of the ER indicate that if the mitigation measures identified in the ER are followed there
18 will be no long term significant environmental impacts. It is Neegan Burnside's opinion that the
19 implementation of the recommended mitigation and protective measures outlined within the ER will
20 adequately protect the sensitive environmental features throughout the construction process

1 Union will implement a program dealing with environmental inspection. This program will ensure
2 that the recommendation in the ER is followed. An inspector trained in environmental issues will
3 monitor construction activities and ensure that all activities comply with the mitigation measures
4 found in the ER.

5
6 An open house to give the First Nations, Métis Nation, the general public and government agencies
7 an opportunity to review and provide comments on the Project was held on September 3, 2014 at
8 the at the 59ers Hall, 8011 Old Hwy 2, in Deseronto, Ontario. Twelve people attended the open
9 house and asked general questions concerning the location of the new pipeline within road
10 allowance and under the Bay of Quinte, abandonment of the existing pipeline and general
11 construction methods.

12
13 Union has discussed the Project with the Quinte Region Conservation Authority and the Mohawks
14 of the Bay of Quinte and will continue to work with them throughout the project to secure any
15 necessary permits. Union expects to obtain the necessary permits and authorizations prior to
16 construction.

17
18 The ER was submitted to the Ontario Pipeline Coordinating Committee ("OPCC") on November
19 18, 2014. Copies were also submitted to local municipalities, government agencies, First Nations
20 and Métis. Summaries of the report were provided to all directly affected landowners and copies
21 were also submitted to anyone who requested a copy. A summary of the comments and Union's
22 response will be provided in Schedule 12 as they are received.

The total estimated environmental mitigation costs associated with the construction of the proposed facilities are \$377,000. A breakdown of these costs can be found at Schedule 13. The environmental costs are included in the Projects costs.

First Nations and Métis

Union has a long standing practice of consulting with First Nations and Métis Nation, and has programs in place whereby Union works with them to ensure they are aware of Union's projects and have the opportunity to participate in both the planning and construction phases of the Project.

Union has an extensive data base and knowledge of First Nations and Métis Nation in Ontario and consults with the Tribal organizations and the data bases of the Ministry of Natural Resources, Ministry of Aboriginal Affairs and Aboriginal Affairs and Northern Development Canada to ensure consultation is carried out with the most appropriate groups.

Union has signed a General Relationship Agreement with the Métis Nation of Ontario which describes Union's commitments to the Métis Nation when planning and constructing pipeline projects.

1 Union has determined that the project will be partially in the Mohawks of the Bay of Quinte reserve
2 lands (north side of the Project) and their traditional territory (south side of the Project) and
3 therefore the Consultation efforts are specifically focused with the Mohawks of the Bay of Quinte.

4
5 Union has had ongoing communications with Mohawks of the Bay of Quinte about this Project
6 since August 26, 2013.

7
8 Union formally discussed the need for the Project on August 26, 2013 and December 17, 2013 with
9 Dan Brant CAO and Todd Kring Director of Infrastructure for the Mohawks of the Bay of Quinte.

10
11 Union met with Todd Kring Director of Infrastructure of the Mohawks of the Bay of Quinte March
12 5, 2014 to tour the proposed project and gather feedback on the Project.

13
14 Union sent a letter notifying the Métis Nation and Mohawks of the Bay of Quinte of the start of the
15 Environmental Report of the Project on June 9, 2014.

16
17 Mohawks of the Bay of Quinte provided comments on the Report to Union on July 10, 2014.

18
19 Union provided a response to Mohawks of the Bay of Quinte's comments on August 5, 2014.

20

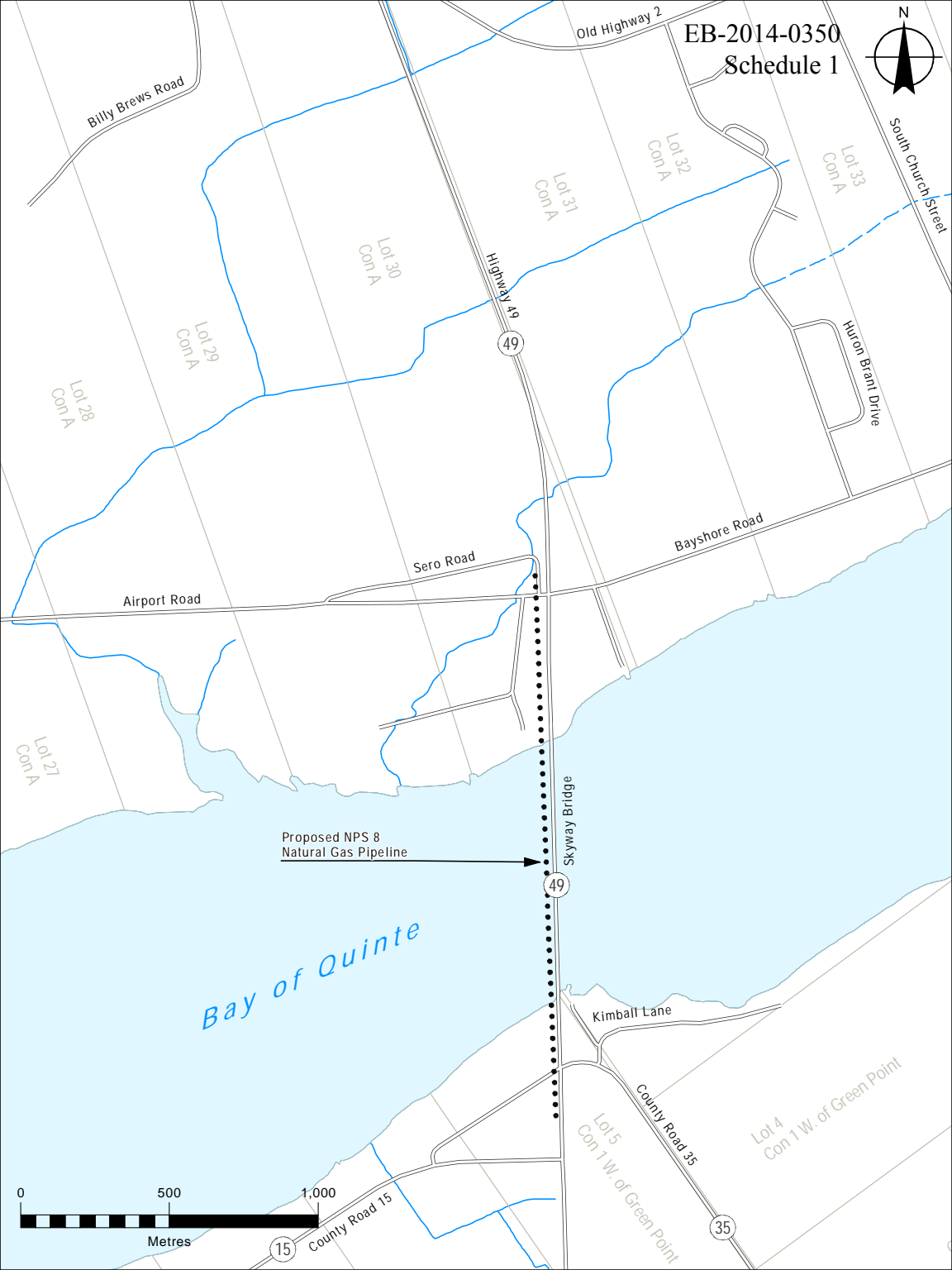
1 Union presented its Emergency Preparedness Plan and an overview of the Project to Chief and
2 Council and Staff of the Mohawks of the Bay of Quinte on September 3, 2014.

3
4 Union held an information session for the Mohawks of the Bay of Quinte community on
5 September 3, 2014.

6
7 On September 30, 2014 the Mohawks of the Bay of Quinte requested further clarification on the
8 effects of a natural gas leak on the water supply in the bay. Through the Environmental Service
9 provider, Union provided a response on October 24 2014 to the concerns raised by the Mohawks of
10 the Bay of Quinte in their letter of October 3 2014.

11
12 Copies of all correspondence with Mohawks of the Bay of Quinte can be found in Schedule 14.

13
14 During construction, Union has inspectors in the field who are available to First Nation's and Métis
15 Nation as a primary contact to discuss and review any issues that may arise during construction.



EB-2014-0350
Schedule 2



Ministry of Transportation

Corridor Management Section
347 Preston Street
Ottawa, Ontario K1S 3J4
Tel.: 613-748-5280
Fax: 613-748-5297
Louis.Tay@ontario.ca

Ministère des Transports

Section de gestion des couloirs routiers
347 rue Preston
Ottawa (Ontario) K1S 3J4
Tél.: 613-748-5280
Télé.: 613-748-5297



August 14, 2013

Union Gas Limited
50 Keil Drive North,
Chatham, Ontario
N7M 5M1

Attention: Joel O'Connor, Land Agent, Lands Dep't
via e-mail: Joconnor@Uniongas.com and Canada Post

**Re: Union Gas 6" Pipeline from Highway 49 Bay Bridge
Lot 5, Con 1, West of Green Point, Sophiasburg Twp, Prince Edward
County, & Lot 30, Con A, Tyendinaga Twp, Tyendinaga Mohawk Territory,
Hastings County**

Dear Mr. O'Connor:

A major rehabilitation of the Bay Bridge (MTO GWP #4071-10-00) is scheduled for construction in 2016. The scope of work necessitates the permanent removal of the 6" gas pipeline from the structure. This letter provides formal notice to Union Gas Limited (UnionGas), that the Ministry of Transportation (MTO) requires the 6" gas pipeline, attached to the Highway 49 Bridge over the Bay of Quinte, to be removed from the structure by 2016.

The previous 10-year agreements permitting the gas pipeline have expired, and this letter is to provide formal notice that MTO will not be renewing the encroachment permit for the gas pipeline placed on the bridge. The expired legal agreement identifies the encroachment limits as, "Beginning at the south side of Quinte Bridge proceeding northerly on Highway #49 crossing the Quinte Bridge and to the northerly limit of Indian Reserve No. 38 in the Township of Tyendinaga, County of Hastings." Please note that MTO has no concern regarding the portion of gas pipeline north of the bridge, through the Mohawks of the Bay of Quinte Reserve.

It is our understanding that UnionGas has scheduled the removal of the gas pipeline from the structure in 2015. Given the extensive planning, design, and legislated requirements for this undertaking, MTO agrees that this schedule is appropriate to accommodate the MTO bridge rehabilitation scheduled for 2016.

MTO requests written confirmation of receipt of this notification and that Union Gas has indeed scheduled removal of the gas line from the structure in 2015. MTO would also appreciate any further details regarding project timing, and proposed location for the relocated plant.

Joel Toth is the MTO Project Engineer for GWP 4071-10-00. Please contact Joel at (613) 545-4825, joel.toth@ontario.ca, to commence our cooperative efforts to ensure the success of both UnionGas and MTO scheduled projects.

Yours truly,

A handwritten signature in black ink, appearing to read 'Louis Tay'.

Louis Tay, P. Eng.
Head, Corridor Management

cc. Joel Toth
Stacy Sweezey

TOTAL ESTIMATED PIPELINE CAPITAL COSTS

BAY OF QUINTE REPLACEMENT

Pipeline and Equipment

NPS 8 Steel Pipe with Abrasion Coating and Fittings	\$ 315,000
Miscellaneous Material	72,000
Sub-Total	\$387,000

Total Pipeline and Equipment	\$387,000
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Construction and Labour

To HDD 1350 metres of 219.1 mm O.D. Pipe	\$5,279,500
Stopping & Tapping, X-Ray, Survey, Miscellaneous Outside Services & Consultants	1,680,000
Company Expenses & Labour	110,000
Regulatory & Legal	200,000
Easements, Lands & Damages	<u>30,000</u>

Total Construction and Labour	<u>7,299,500</u>
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Total Pipeline and Equipment and Construction and Labour	\$7,686,500
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Escalation	26,500
Contingencies	1,087,000
Interest During Construction	<u>100,000</u>

Total Estimated Pipeline Capital Costs – 2015 Construction	<u>\$8,900,000</u>
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Includes the Estimated Environmental Costs Identified in Schedule 13.

**BAY OF QUINTE REPLACEMENT PROJECT
DESIGN AND PIPE SPECIFICATIONS**

Design Specifications: NPS 8

Actual Class Location	-	Class 3
Design Class Location	-	Class 3
Design Factor	-	0.80
Location Factor	-	0.625 (General)
Maximum Design Pressure	-	6895 kPa
Test Medium	-	Water
Test Pressures	-	Min: 9653 kPa, Max: 10342 kPa
Valves / Fittings	-	PN 100, M45C above grade; Min Grade 290, 4.8 mm wall, Cat I below grade
Minimum Depth of Cover	-	1.2 m

Pipe Specifications: NPS 8

Nominal Wall Thickness	-	Min: 8.2 mm
Grade	-	Min: 359 MPa
Type	-	Electric Resistance Weld
Description	-	C.S.A. Standard Z245.1 (Latest Edition)
Category	-	Cat. I, M5C, M45C above grade
Coating	-	FBE
% SMYS at Design Pressure	-	25.6%

GENERAL TECHNIQUES AND METHODS OF CONSTRUCTION

1. Pipeline construction is divided into several crews that create a mobile assembly line. Each crew performs a different function, with a finished product left behind when the last crew has completed its work.
2. Union Gas (Union) will provide its own inspection staff to ensure the contractor meets its contractual obligations.
3. Union establishes the location where the pipeline is to be installed (“the running line”). For pipelines within road allowances, the adjacent property lines are identified and the running line is set at a specified distance from the property line. For pipelines located on private easement, the easement is surveyed and the running line is set at the specified distance from the edge of the easement. The distance from the start of the pipeline (or other suitable point) is marked on the pipeline stakes and the drawings.
4. Where possible, trees are cleared on the easement, and if required, on road allowance. This work occurs before construction to avoid avian nesting concerns. If the land cannot be accessed prior to the avian nesting season, incomplete easement negotiations or other reason, an ornithologist will inspect the site and direct any avian mitigation needed. Logs are stacked at the side of the easement for landowner use, if requested.
5. The contractor’s clearing crew braces and cuts all fences crossing the easement and installs any required temporary gates. This crew clears small brush and crops on the easement, temporary working areas.
6. The grading crew constructs approaches through road, highway, and railway ditches to allow equipment onto the working side of the easement. This crew also builds roads through wet areas to allow heavy equipment operation. The grading crew strips a certain width of topsoil with bulldozers and graders so that it will not be mixed with the subsoil later removed from the trench, if working in agricultural areas. In hilly terrain, the grade is levelled to provide a stable working surface. When working on road allowance, minimal grading is required.

7. Union's contract specifications require the contractor to erect safety barricades, fences, signs or flashers, around any excavation across or along a road. Flagmen and signs are used for traffic control. The easement is fenced nightly at all access points.
8. The stringing crew then lays pipe on wooden skids or plastic pipe cones on the working side of the easement and on road allowance. The stringing trucks will use the southbound lane of Highway 49 for access.
9. Next, the pipe between roads, accesses, laneways, and streams is welded into one continuous length. All welds are radiographically inspected and then coated with abrasion resistant coating.
10. Prior to the pull back of the continuous welded section, a 4-hr hydrostatic strength test is completed to confirm the integrity of the pipeline prior to installation.
11. When ready for the pull back, the pull section shall be inspected for 100 % of its length for holidays in the pipe coating before entering the hole.

The pull back section shall be installed in one continuous length with no tie-in welds, if possible. If this is not possible, tie-in welds shall be minimized. Each girth weld shall be radiographically inspected before installation.

Anti-corrosion and abrasion-resistant coating shall be applied to the tie-in welds and inspected. Sufficient time for curing the field joint coating shall be allowed prior to installation of the pipe section into the drilled hole.

The maximum tensile load imposed on the pipe pull section shall not exceed the load that would produce a stress of 85% or more of the specified minimum yield strength (SMYS) of the pipe.

A swivel shall be used to connect the pipe pull section to the reaming assembly in order to minimize torsional stress imposed on the pipe pull section.

The pull section shall be supported on elevated rollers or shall be carried by equipment during pull-back in order to provide straight entry into the drilled hole, and so that it moves freely in order to avoid damaging the pipe coating. Once the Contractor has

commenced the pull-back operations, the Work shall proceed continuously until installation is complete.

After successful completion of the pull back, hydrostatic test and gauge tool run, the pipe section ends shall be capped with steel plate.

12. The tie-in crew is responsible for the installation of pipe across accesses and laneways to minimize the length of time that these accesses are out of service to the landowner. The tie-in crew is also responsible for the pipeline installation at most river and stream crossings.
13. The pipe is filled with water and hydrostatically tested to prove its integrity for a 24-hr period. After the test water is removed and the line dried, an electronic sizing tool may be run through the pipeline to check for ovality and dents. Cathodic protection is applied to the completed pipeline.
14. The clean-up crew is the last crew on the property. On farmland, it prepares the subsoil on the stripped portion of the easement by subsoiling or deep chisel ploughing to break up compaction and picking all stones down to 100 millimetres in diameter. The trench line is crowned with enough subsoil to allow for trench settlement. Excess subsoil is removed to an acceptable location on the landowner's property or hauled to a disposal site. Topsoil is then replaced using a backhoe and small bulldozers to minimize compaction. The working side of the easement is then chisel ploughed and stone picked. The entire easement may be cultivated and stone picked again if requested by the landowner. The clean-up crew will also repair fences, pick up debris, replace sod in landscaped areas and reseed sensitive areas such as woodlots, ditch banks and stream crossings.
15. When the clean-up is completed, the landowner is asked by a Company representative to sign a clean-up acknowledgement form if satisfied with the clean-up. This form, when signed, allows release of payment for the clean-up to the contractor. This form in no way releases the Company from its obligation for tile repairs, compensation for damages and/or further clean-up as required due to erosion or subsidence directly related to pipeline construction.

2015 BAY OF QUINTE REPLACEMENT PROJECT
PROJECT SCHEDULE

PHASE	2014												2015												2016											
	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
OEB																																				
PREPARE MATERIAL																																				
ENVIRONMENTAL ASSESSMENT																																				
FILING										*					*																					
DECISION																																				
MATERIAL																																				
DESIGN																																				
MATERIAL ORDER																																				
LAND/LAND RIGHTS																																				
TITLE SEARCH																																				
SURVEY																																				
NEGOTIATIONS																																				
PERMITS																																				
CONTRACT TENDERING																																				
CONSTRUCTION																																				
SURVEY																																				
CLEARING / GRADING																																				
STRINGING																																				
WELDING																																				
HDD																																				
TESTING																																				
TIE-INS																																				
BACKFILL																																				
CLEANUP																																				
ABANDONMENT																																				
IN SERVICE																						*														
YEAR AFTER CLEANUP																																				
	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	

November 11, 2014

Ministry of Transportation
138 Hope Street North
Port Hope, ON
L1A 3W3

Attention: Mr. Joel Toth, Project Engineer

**Re: Bay of Quinte Replacement Project (Highway 49)
Lot 5, Concession 1, West of Green Point, Sophiasburg Twp,
Prince Edward County, & Lot 30, Con A, Tyendinaga Twp, Tyendinaga
Mohawk Territory, Hastings County**

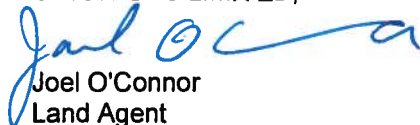
Dear Mr. Toth,




Union Gas Limited ("Union Gas") received a letter dated August 14th, 2013 from Louis Tay, Head, Corridor Management advising that Union Gas' existing NPS 6 (168.3mm O.D.) natural gas pipeline would need to be removed from the bridge structure.

Based on several discussions with your office, it is Union Gas' understanding that the MTO supports the newly proposed pipeline route within the MTO corridor, on the west side of the bridge structure, provided all technical requirements are met and an MTO Encroachment Permit is obtained prior to construction.

Should you have any questions, please do not hesitate to contact the undersigned at your convenience.

Yours Truly,
UNION GAS LIMITED,


Joel O'Connor
Land Agent
Lands Department
Union Gas Limited

 Phone: 1-800-571-8446 Ext. 5002951
 Fax: 519-436-5353
 E-Mail: Joconnor@Uniongas.com

BAY OF QUINTE REPLACEMENT PROJECT

Property Sketch
Showing Approximate Location of
Proposed Temporary Land Use Rights
for Pipe Stringing Area
within County Road 49
LOT 30 - LOT 31, CONCESSION "A",
TYENDINAGA MOHAWK TERRITORY
COUNTY OF HASTINGS

EB-2014-0350
Schedule 9
Page 1 of 8



OWNER: MINISTRY OF TRANSPORTATION AND COMMUNICATIONS



PART	APPROX. SIZE (metres)		APPROX. AREA		PART	APPROX. SIZE (metres)		APPROX. AREA	
	(width)	(length)	(hectares)	(acres)		(width)	(length)	(hectares)	(acres)
1 (TEMP)	14.7	95.0	0.14	0.35					
2 (TEMP)	10.0	365.0	0.365	0.90					
PIN: 405860051			SCALE: 1:2500		*ALL DISTANCES ARE APPROXIMATE.			DATE: JULY/21/2014	

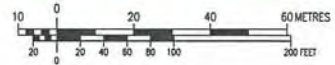
BAY OF QUINTE REPLACEMENT PROJECT

Property Sketch
Showing Approximate Location of
Proposed Temporary Land Use Rights
within Seros Road
LOT 30, CONCESSION "A",
TYENDINAGA MOHAWK TERRITORY
COUNTY OF HASTINGS

EB-2014-0350
Schedule 9
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OWNER: MOHAWK BAY OF QUINTE LAND



PART	APPROX. SIZE (metres)		APPROX. AREA		PART	APPROX. SIZE (metres)		APPROX. AREA	
	(width)	(length)	(hectares)	(acres)		(width)	(length)	(hectares)	(acres)
1 (TEMP)	14.2	92.1	0.13	0.32					
PIN:		SCALE: 1:1500		*ALL DISTANCES ARE APPROXIMATE.		DATE: JULY/21/2014			

BAY OF QUINTE REPLACEMENT PROJECT

Property Sketch
Showing Approximate Location of
Proposed Temporary Land Use Rights
for Abandonment Pipe to be Removed
within County Road 49
LOT 30 - LOT 31, CONCESSION "A",
TYENDINAGA MOHAWK TERRITORY
COUNTY OF HASTINGS

EB-2014-0350
Schedule 9
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OWNER: MINISTRY OF TRANSPORTATION AND COMMUNICATIONS



PART	APPROX. SIZE (metres)		APPROX. AREA		PART	APPROX. SIZE (metres)		APPROX. AREA	
	(width)	(length)	(hectares)	(acres)		(width)	(length)	(hectares)	(acres)
1 (TEMP)	13.89	302.7	0.42	1.04					
PIN: 405860051			SCALE: 1:2500		*ALL DISTANCES ARE APPROXIMATE.			DATE: JULY/21/2014	

BAY OF QUINTE REPLACEMENT PROJECT

Property Sketch
Showing Approximate Location of
Proposed Temporary Land Use Rights
for Abandonment Pipe to be Removed
within County Road 49
BAY OF QUINTE BRIDGE
TYENDINAGA MOHAWK TERRITORY
PRICE EDWARD COUNTY

EB-2014-0350
Schedule 9
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OWNER: MINISTRY OF TRANSPORTATION AND COMMUNICATIONS



PART	APPROX. SIZE (metres)		APPROX. AREA		PART	APPROX. SIZE (metres)		APPROX. AREA	
	(width)	(length)	(hectares)	(acres)		(width)	(length)	(hectares)	(acres)
1 (TEMP)	7.0	850.0	0.6	1.47					

PIN: BRIDGE

SCALE: 1:4000

*ALL DISTANCES ARE APPROXIMATE.

DATE: JULY/21/2014

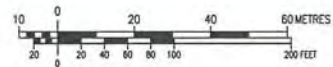
BAY OF QUINTE REPLACEMENT PROJECT

Property Sketch
Showing Approximate Location of
Proposed Temporary Land Use Rights
for Abandonment Pipe to be Removed
LOT 5, CONCESSION 1 WEST OF GREEN POINT,
PRINCE EDWARD COUNTY
(GEOGRAPHICAL TOWNSHIP OF SOPHIASBURGH)

EB-2014-0350
Schedule 9
Page 5 of 8



OWNER: MINISTRY OF TRANSPORTATION AND COMMUNICATIONS



PART	APPROX. SIZE (metres)		APPROX. AREA		PART	APPROX. SIZE (metres)		APPROX. AREA	
	(width)	(length)	(hectares)	(acres)		(width)	(length)	(hectares)	(acres)
1 (TEMP)	12.9	126.6	0.16	0.40					
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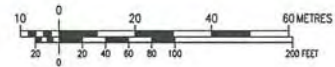
BAY OF QUINTE REPLACEMENT PROJECT

Property Sketch
Showing Approximate Location of
Proposed Temporary Land Use Rights
for Abandonment Pipe to be Removed
LOT 5, CONCESSION 1 WEST OF GREEN POINT,
PRINCE EDWARD COUNTY
(GEOGRAPHICAL TOWNSHIP OF SOPHIASBURGH)

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OWNER: UNION GAS LIMITED



PART	APPROX. SIZE (metres)		APPROX. AREA		PART	APPROX. SIZE (metres)		APPROX. AREA	
	(width)	(length)	(hectares)	(acres)		(width)	(length)	(hectares)	(acres)
1 (TEMP)									
PIN:			SCALE: 1:1500		*ALL DISTANCES ARE APPROXIMATE.			DATE: JULY/21/2014	

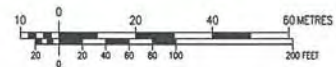
BAY OF QUINTE REPLACEMENT PROJECT

Property Sketch
Showing Approximate Location of
Proposed Temporary Land Use Rights
for Abandonment Pipe to be Removed
LOT 5, CONCESSION 1 WEST OF GREEN POINT,
PRINCE EDWARD COUNTY
(GEOGRAPHICAL TOWNSHIP OF SOPHIASBURGH)

EB-2014-0350
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OWNER: SOUTH SIDE TEMPORARY AND ACCESS PROPERTY



PART	APPROX. SIZE (metres)		APPROX. AREA		PART	APPROX. SIZE (metres)		APPROX. AREA	
	(width)	(length)	(hectares)	(acres)		(width)	(length)	(hectares)	(acres)
1 (ACCESS)	15.2	59.5	0.09	0.22					
1 (TEMP)	60.0	IRREGULAR	0.26	0.65					
PIN:		SCALE: 1:1500		*ALL DISTANCES ARE APPROXIMATE.		DATE: JULY/21/2014			

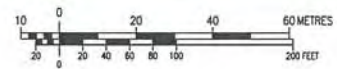
BAY OF QUINTE REPLACEMENT PROJECT

Property Sketch
Showing Approximate Location of
Proposed Temporary Access Laneway
Located South Side of County Road 15
LOT 5, CONCESSION 1 WEST OF GREEN POINT,
PRINCE EDWARD COUNTY
(GEOGRAPHICAL TOWNSHIP OF SOPHIASBURGH)

EB-2014-0350
Schedule 9
Page 8 of 8



OWNER: PRINCE EDWARD COUNTY ACCESS



PART	APPROX. SIZE (metres)		APPROX. AREA		PART	APPROX. SIZE (metres)		APPROX. AREA	
	(width)	(length)	(hectares)	(acres)		(width)	(length)	(hectares)	(acres)
1 (ACCESS)	15.2	8.0	0.01	0.03					
PIN:			SCALE: 1:1500		*ALL DISTANCES ARE APPROXIMATE.			DATE: JULY/21/2014	

Quinte Land Rights Table

File #	PIN	NAME & ADDRESS	PROPERTY DESCRIPTION	PERMANENT EASEMENT Dimensions (Metres) Area Length Width (Hectares)	TEMPORARY EASEMENT Dimensions (Metres) Area Length Width (Hectares)	MORTGAGE, LIEN/LEASE &/OR ENCUMBRANCES
1	5504-30168	[REDACTED]	PT LT 5 WEST OF GREEN POINT, PT RDAL BTWN CON 1 SOUTHWEST OF GREEN POINT AND CON 1 WEST OF GREEN POINT AND PT OF THE BED OF BAY OF QUINTE BTWN LT 5 CON 1 WEST OF GREEN POINT AND THE TWNHP BOUNDARY LINE WITH TYENDINAGA PT 1 EC26634; SOPHIASBURGH; PRINCE EDWARD	PERMIT	PERMIT	N/A
2	5504-20317	[REDACTED]	PT LT 5-6 CON 1 WEST OF GREEN POINT SOPHIASBURGH AS IN PE116413; S/T PE49649; PRINCE EDWARD	N/A	0.35 ha 0.87 ac	(a) Union Gas Limited 50 Keil Drive North Chatham, ON N7M 5M1
3	N/A	[REDACTED]	N/A	PERMIT	N/A	N/A

**Bay of Quinte, Ontario
Highway 49 Pipeline Relocation
Environmental Report**

**Neegan Burnside Ltd.
292 Speedvale Avenue West Unit 20
Guelph ON N1H 1C4 CANADA**

**November 2014
300035014.0001**



Neegan Burnside Ltd.

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Project Manager



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	B2 – First Nations Correspondence
	B3 – Mailouts
	B4 – Newspaper Notice and Information Session Invitation
	B5 – Newsletter and Display Board Copies
	B6 – Comment – Response Matrix

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1.0 Background and Introduction

Neegan Burnside Ltd. (Neegan Burnside) has been retained by Union Gas Limited (Union Gas) to conduct an Environmental Report (ER) for the proposed replacement and realignment of an existing Union Gas pipeline along the Ministry of Transportation (MTO) right-of way (ROW) of the Highway 49 Skyway Bridge crossing in Hastings and Prince Edward County, Ontario. It is Neegan Burnside's understanding that this ER will form part of Union Gas' application to the Ontario Energy Board (OEB) for the construction of the project.

This project is proposed to be located in the MTO Highway 49 road allowance and property owned by Union Gas, on and between Lots 30 and 31, Concession A in Tyendinaga Township of Hastings County and Lot 5, Concession 1 West of Green Point in Sophiasburgh Township of Prince Edward County (the subject lands), shown on Figure 1. The subject lands north of the Bay of Quinte are located within Tyendinaga Mohawk Territory in the Township of Tyendinaga. The community north of the Bay of Quinte is inhabited by the Mohawks of the Bay of Quinte First Nation. The First Nation lands adjacent to the subject lands are predominantly comprised of vacant forested land, and residential and commercial properties.

The proposed project consists of the replacement and relocation of approximately 1.3 km of the aboveground existing natural gas pipeline that currently traverses the Bay of Quinte via the Ontario Highway 49 bridge crossing. Union Gas has proposed to replace the existing NPS 6-inch (168.3 mm) above-ground natural gas pipeline with an 8" (219.1 mm) diameter underground pipeline, beneath the Bay of Quinte through the utilization of horizontal directional drilling (HDD).

It is Neegan Burnside's understanding that this project is being undertaken as a result of an MTO "Move Order" issued to Union Gas to allow for a full rehabilitation of the Skyway Bridge. This existing linear pipeline is currently attached to the western side of the bridge. The proposed linear pipeline is to be constructed adjacent to the existing bridge within the MTO Highway 49 ROW corridor. It should be noted that the majority of the northernmost section of the MTO road allowance will be used for pipeline material storage and no sub-surface activities or impacts to adjacent lands are anticipated. Construction activities are proposed to begin in the summer of 2015.

The material storage is to take place along the western shoulder and/or western lane of Highway 49 while maintaining accessibility to residential and commercial properties. The proposed plan involves the use of HDD to drill a hole from the south to the north, beneath the Bay of Quinte where a connection with the stored pipeline will occur. The pipeline is then planned to be pulled back south, through the drilled hole where it will then be connected at its ends with the existing NPS 6-inch diameter pipeline at the north, and southern ends.

HDD is a trenchless method of installing piping underground while minimizing the environmental impact on the surrounding area, including noise. Neegan Burnside notes that during the construction process, it will be necessary to excavate entry and exit pits at the south and north end of the pipeline respectively, in order to connect the new pipeline to the existing underground pipeline. Figure 2 shows the general proposed development plan.

The use of HDD along with the implementation of proper mitigation measures will minimize the disturbance to the Bay of Quinte and the impact to adjacent lands.

This report documents the route selection undertaken by Union Gas to identify the preferred route alignment and the detailed impact mitigation study along the preferred route. The ER is being undertaken in compliance or meeting the intent of the Ontario Energy Board's Environmental Guidelines for the Location, Construction and operation of Hydrocarbon Pipelines and Facilities in Ontario, 2011. The rationale for the selection of the preferred route, and the proposed impact mitigation along the preferred route will be subject to approval by the Ontario Energy Board under the Ontario Energy Act.

The document was also prepared in accordance with Section 2.1, Natural Heritage of the Provincial Policy Statement (Natural Heritage) (2014), Ministry of Transportation Corridor Management and Environmental Requirements Guide (2010), the Natural Heritage Reference Manual (2005) and the Significant Wildlife Habitat Technical Guide (2000).

Tyendinaga Social Profile Summary

The Mohawks of the Bay of Quinte Nation is comprised of 9,242 members, of which a reported 2,169 live on the reserve (AANDC - Mohawks of Bay of Quinte, online). As previously mentioned, the majority of the adjacent lands are comprised of vacant, forested land and residential properties. However, some small commercial enterprises were also identified along the east side of Highway 49 at the intersection of Highway 49 and Airport Road.

The Mohawks of the Bay of Quinte has a diverse economic base, much of which is designed around the Highway 49 Bridge that connects the reserve with Prince Edward County. The Bay of Quinte is a very important part of their history and culture and is also heavily relied upon for economic stimulation through tourism.

During construction activities, the ease of access along Highway 49 will be temporarily affected. However, access to the residential and commercial properties will be maintained to the greatest extent. Vehicular access across the bridge or through Mohawks of the Bay of Quinte land is not expected to be completely restricted during the various stages of construction.

The Mohawks of the Bay of Quinte are part of the Mohawk Nation within the Six Nations Iroquois Confederacy and are situated in the Tyendinaga Township. The Mohawks of the Bay of Quinte own the lands adjacent to the subject lands, north of the Bay of Quinte.

Neegan Burnside is not aware of any Traditional Harvesting Territories, significant portage routes, trapping lines, or any filed and outstanding land claims in the area of the subject lands, or adjacent properties.

1.1 Environmental Report Process

The ER study process was divided into various steps that are described below. Union Gas provided engineering expertise throughout the Project, including the identification of the preferred pipeline route, thus exempting the preliminary route selection process from this report.

- A review of applicable environmental policies and regulations affecting the subject lands.
- A review of existing secondary source data to identify any known natural features.
- Pre-submission consultation with various agencies including Tyendinaga First Nation representatives and the public.
- Field studies and a natural resources inventory to confirm the presence, significance and sensitivity of any natural features.
- A characterization of the subject lands.
- Assessment of potential impacts resulting from the proposed undertaking.
- Recommended mitigating measures that will allow the undertaking to proceed in a manner that is consistent with local, regional, provincial and federal policies and regulations.

The ER is organized according to this approach. Each of the following report Sections corresponds with the above objectives.

2.0 Review of Secondary Source Information

The following documents were reviewed to assess the environmental constraints to, and opportunities for, the development of an underground pipeline on the subject lands:

- Aerial imagery (2009).
- The Natural Heritage Information Centre (NHIC) database to identify records of rare wildlife species on, and in the vicinity of, the subject lands.
- Quinte Conservation Authority Mapping.
- Bay of Quinte Fisheries Management Plan (July, 2010).
- The County of Prince Edward Official Plan (January 2011).
- The Hastings County Official Plan (February 2009).
- Drinking Water Source Protection - Quinte Region (2014).

- The Ontario Breeding Bird Atlas for records of birds breeding in the area.

2.1 Summary of Background Data Review Results

The results of the background data review are presented in Table 1. Based on the review, the following features may be present within 120 m of the subject lands:

- Significant habitat of Endangered and Threatened Species
- Significant Wildlife Habitat, including:
 - Seasonal Concentration Areas of Animals
 - Rare Vegetation Communities or Specialized Habitat for Wildlife
 - Habitat for Species of Conservation Concern (not including Endangered or Threatened Species)
- Unevaluated wetlands

Table 1: Potential Natural Heritage Features within Vicinity of Subject Lands

Feature	Existing Records	Data Source
Features of Provincial Significance		
Significant Habitat of Endangered and Threatened Species	Potentially present due to records for: <ul style="list-style-type: none"> • Atlantic Salmon (<i>Salmo salar</i>) - Extirpated • Shortnose Cisco (<i>Coregonus reighardi</i>) - END • Channel Darter (<i>Percina copelandi</i>) - THR • Spotted Gar (<i>Lepisosteus oculatus</i>) - THR • Bigmouth Buffalo (<i>Ictiobus cyprinellus</i>) - SC • Bridle Shiner (<i>Notropis bifrenatus</i>) - SC • River Redhorse (<i>Moxostoma carinatum</i>) - SC • American Eel (<i>Anguilla rostrata</i>) - END • Lake Sturgeon (<i>Acipenser fulvescens</i>) - SC • Grass Pickerel (<i>Esox americanus</i>) – SC • Blanding's Turtle (<i>Emydoidea blandingii</i>) – THR, S3 • Gray Ratsnake (<i>Pantherophis spiloides</i> pop. 1) – THR, S3 • Ogden's Pondweed (<i>Potamogeton ogdenii</i>) – END, SH 	OBBA (square 18UP39), square 18UP39), NHIC (squares 18UP3292, 18UP3293, 18UP3294, 18UP3295, 18UP3392, 18UP3393, 18UP3394, 18UP3395), Bay of Quinte Fisheries Management Plan
Significant Woodlands	<ul style="list-style-type: none"> • Several significant woodlands located on east and west side of Highway 49 adjacent to subject lands north of Bay of Quinte. 	Aerial Photography, Tyendinaga Mohawk Territory Natural Heritage Report mapping (2006)
Significant	Seasonal Concentrations of Animals	OBBA, NHIC

Feature	Existing Records	Data Source
Wildlife Habitat Ecoregion Lake Simcoe- Rideau; Eco- District #6E-15	<ul style="list-style-type: none"> Colonial bird nesting sites Waterfowl stopover and staging areas Waterfowl nesting Landbird migratory stopover areas Raptor winter feeding and roosting areas Wild turkey winter range Turkey vulture summer roosting areas Reptile hibernacula Bat hibernacula Bullfrog concentration areas Migratory butterfly stopover areas 	
	<p>Rare Vegetation Communities</p> <ul style="list-style-type: none"> Alvars Tall-grass prairies Savannahs Rare forest types Talus slopes Rock barrens Sand barrens Specialized Habitat for Wildlife Habitat for area-sensitive species Forests providing a high diversity of habitats Amphibian woodland breeding ponds Turtle nesting habitat Specialized raptor nesting habitat Mink, otter, marten, and fisher denning sites Highly diverse areas Seeps and springs 	<p>OBBA, NHIC</p> <p>Use the SWHTG as your reference here</p>
	<p>Habitats for Species of Conservation Concern (Not Including Endangered or Threatened Species)</p> <p>Woodland Areas-Sensitive Bird Breeding Habitat Potentially present due to records of:</p> <ul style="list-style-type: none"> Golden-winged Warbler (<i>Vermivora chrysoptera</i>) -THR Wood Thrush (<i>Hylocichla mustelina</i>) -THR Yellow-breasted Chat, <i>Virens</i> Subspecies (<i>Icteria virens virens</i>) - SC/END Eastern Wood-pewee (<i>Contopus virens</i>) -SC Open County Bird Breeding Habitat 	OBBA, NHIC

Feature	Existing Records	Data Source
	<p>Potentially present due to records of:</p> <ul style="list-style-type: none"> Barn Swallow (<i>Hirundo rustica</i>) - THR Bobolink (<i>Dolichonyx oryzivorus</i>) -THR Eastern Meadowlark (<i>Sturnella magna</i>) -THR Henslow's Sparrow (<i>Ammodramus henslowii</i>) - END Loggerhead Shrike, Migrants Subspecies (<i>Lanius ludovicianus migrans</i>) -END <p>Special Concern and Rare Wildlife</p> <p>Potentially present due to records of:</p> <p>SAR (see above)</p>	
	<p>Animal Movement Corridors</p> <p>The Bay of Quinte shoreline acts as a movement corridor for some species of wildlife including waterfowl and shorebirds and some species of mammals.</p> <p>Airport Creek and Airport Creek PSW also act as a movement corridor, located west of the Subject Lands.</p>	NHIC, Quinte CA
Fish Habitat	Bay of Quinte	Quinte CA, Bay of Quinte Fisheries Management Plan
Features of Other Significance		
Unevaluated Wetlands	Small wetland pockets on both sides of Highway 49 have been identified through field investigations which are connected to areas designated as "Significant Woodland"	Quinte CA

END= Endangered

THR= Threatened

SC= Special Concern

SRank= Species ranked S1-S3 are considered to be rare in the province. Species ranked S4-S5 are considered to be common and secure. Species ranked SH are considered to be possibly extinct or extirpated.

2.2 Summary of Significant Natural Heritage Features

2.2.1 Significant Habitat of Endangered and Threatened Species

The background data review indicated the potential presence of the following species in the general vicinity of the subject lands and in the Bay of Quinte (OBBA 2001-2005, NHIC 2014, Bay of Quinte Fisheries Management Plan):

- Blanding's Turtle (*Emydoidea blandingii*) , THR
- Gray Ratsnake (Frontenac Axis population) (*Pantherophis spiloides*), THR
- Ogden's Pondweed (*Potamogeton ogdenii*) , END
- Atlantic Salmon (*Salmo salar*) – Extirpated
- Shortnose Cisco (*Coregonus reighardi*) – END
- Channel Darter (*Percina copelandi*) – THR
- Spotted Gar (*Lepisosteus oculatus*) – THR
- Bigmouth Buffalo (*Ictiobus cyprinellus*) – SC
- Bridle Shiner (*Notropis bifrenatus*) – SC
- River Redhorse (*Moxostoma carinatum*) – SC
- American Eel (*Anguilla rostrata*) – END
- Lake Sturgeon (*Acipenser fulvescens*) – SC
- Grass Pickerel (*Esox americanus*) – SC
- Barn Swallow (*Hirundo rustica*) – THR
- Bobolink (*Dolichonyx oryzivorus*) -THR
- Canada Warbler (*Cardellina Canadensis*) –THR
- Chimney Swift (*Chaetura pelagica*) –THR
- Common Nighthawk (*Chordeiles minor*) – THR
- Eastern Meadowlark (*Sturnella magna*) –THR
- Golden-winged Warbler (*Vermivora chrysoptera*) -THR (historic record)
- Least Bittern (*Ixobrychus exilis*) –THR
- Red-headed Woodpecker (*Melanerpes erythrocephalus*) –THR
- Whip-poor-will (*Caprimulgus vociferous*) –THR
- Wood Thrush (*Hylocichla mustelina*) –THR
- Henslow's Sparrow (*Ammodramus henslowii*) -END (historic record)
- King Rail (*Rallus elegans*) –END
- Loggerhead Shrike, Migrans Subspecies (*Lanius ludovicianus migrans*) –END
- Yellow-breasted Chat, Virens Subspecies (*Icteria virens virens*) - SC/END (historic record)
- Eastern Wood-pewee (*Contopus virens*) –SC
- Peregrine Falcon *Falco (peregrinus anatum/tundrius)* –SC
- Short-eared Owl (*Asio flammeus*) –SC

None of these species have been observed by Neegan Burnside to date on the subject lands or within 120 m of the subject lands during field data collection completed for this

project. As no aquatic monitoring, fish survey or breeding bird surveys were completed for this report, the potential presence of aquatic species at risk or breeding birds in the area of the subject lands is unknown. Since these species have previously been identified in the study area and have the potential to be using the subject lands as habitat, mitigation measures will be employed during and throughout the construction process to minimize or prevent any potential negative effects.

However, as the proposed pipeline development is planned to be located within the Highway 49 ROW and Union Gas property, and completed using HDD no direct interactions into the footprints of significant woodlands or wetlands are anticipated. Potential impacts and proposed mitigation measures, and a cumulative effects assessment are discussed in Sections 5 and 6, respectively.

As described in the Natural Heritage Reference Manual (Ministry of Natural Resources and Forestry, MNRF, 2010) and as shown in Map 15 of the Quinte Region Watershed Characterization Report (2008) and Figure 2 of the Mohawks of the Bay of Quinte Natural Heritage Report (August 2006), several significant woodlands have been identified within the subject lands north of Bayshore Road on the east and west sides of Highway 49 and south of the Bay of Quinte, on the east side of Highway 49.

These woodlands are locally and regionally significant and provide habitat for various species of wildlife. Through the use of mitigation measures as outlined in Section 5.6, none are anticipated to be harmed.

Woodland areas were identified and mapped during field data collection for this project. A more detailed description of the vegetation communities, their species composition and location is included in Section 2.5.3.

2.2.2 Significant Wildlife Habitat

According to the Natural Heritage Reference Manual (MNRF, 2010) and Significant Wildlife Habitat Technical Guide (MNRF, 2000), there are four types of Significant Wildlife Habitat (SWH), as follows:

- Habitats of Seasonal Concentrations of Animals
- Rare Vegetation Communities/Specialized Habitats
- Habitats of Species of Conservation Concern
- Animal Movement Corridors

Significant Wildlife Habitat (SWH) must be identified at the local planning level (i.e., municipality). This is because conditions and features vary widely between municipalities and what is important and unique in one area may be common and secure in another. Neither the County of Hastings Official Plan (January 2002) nor the Township of Prince Edward County Official Plan (May 2012) include mapping of any significant wildlife habitat in the area of the subject lands. However, according to the

Quinte Region Drinking Water Source Protection Plan (2014) two occurrences of rare species were identified in the subject lands, although no further information was available. The Mohawks of the Bay of Quinte National Heritage Report (August 2006) also notes the presence of significant species occurrences in the area of the subject lands, although no indication of species or dates were provided.

None of the subject lands were identified as significant wildlife habitat within their respective Official Plans or through field data collection completed for this project.

In the absence of defined areas of habitat use and significance, for the purposes of this report the assessment will use broad habitat descriptions from the Significant Wildlife Habitat Technical Guide (SWHTG, 2000) and the SWHTG Ecoregion 7E Criterion Schedule (MNR, February 2012), as well, professional judgment will be used to determine whether any habitats may potentially be present within, or in close proximity to, the subject lands.

A discussion of each type of wildlife habitat is presented in the following Sections.

2.2.2.1 Seasonal Concentration Areas

These are habitats for species which congregate at certain times of the year, typically during migration, breeding or hibernation periods. The background data review identified one type of seasonal habitat potentially present on or within 120 m of the subject lands: Colonially Nesting Bird Breeding Habitat. During the field investigations two additional habitat types were also identified: Snake Hibernaculum and Turtle Wintering Areas. Each is described below.

Colonial Nesting Bird Sites

No records for colonial nesting species were identified in the vicinity of the property through Ontario Breeding Bird Atlas ("OBBA") records. In addition, no colonially nesting bird species were observed during field investigations conducted during the spring 2014 season. Furthermore, site investigations did not identify any large stick nests or other remnants of other colonial nesting sites. The Airport Creek PSW may provide suitable habitat for colonial nesting species, however this feature is outside of the project study area.

As such, this type of habitat is not present and will not be assessed further in this report.

Snake Hibernaculum

No specific rock or debris piles were observed throughout the subject lands during the field investigations. No specific snake surveys were determined to be necessary for this location as the subject lands do not contain preferred habitat for any significant species of snakes that could be expected to be located in the area. However, it is likely that the

subject lands provide habitat for snake species that are habituated to human land use and are common and widespread throughout the province.

As such, this type of habitat will not be assessed further in this report.

Turtle Wintering Areas

Turtle wintering areas may be present within the wetland habitat (MAS) adjacent to Highway 49, as shown in Figure 6. The wetland features are outside of the subject lands and therefore will not be directly impacted by the proposed construction.

According to the Draft Significant Wildlife Habitat Ecoregion 7E Criterion Schedule (February 2012), the presence of 5 over-wintering Midland painted turtles is considered significant. In addition, the presence of 1 or more snapping turtles over wintering within a wetland is considered significant. While basking surveys were not conducted during the post hibernation emergence window (i.e., early spring), 1 midland painted turtle was observed crossing the road during the June 2014 site visit. However, it is not expected that the lands adjacent to the highway provide suitable habitat for 5 or more painted turtles or one snapping turtle based on their limited size.

As such, this type of habitat will not be assessed further in this report.

2.2.2.2 Rare Vegetation Communities/Specialized Habitats for Wildlife

There are no rare vegetation communities present on the subject lands. All of the communities described in Section 2.5.3 are common in southern Ontario. No significantly old or uniquely diverse habitats are present.

While the background data review did not identify records of any Specialized Habitats, both turtle and amphibian species were documented within the subject lands during the site visit. As discussed above, the painted turtle record would be considered incidental as it was crossing the road. Amphibian species were documented in wetland/watercourse features located immediately adjacent to Highway 49; however these habitat features were limited to open aquatic environments, not woodland breeding ponds.

Turtle Nesting Areas

According to the Draft Significant Wildlife Habitat Ecoregion 7E Criterion Schedule (February 2012), the presence of 5 or more nesting Midland painted turtles is considered significant. In addition, the presence of 1 or more nesting snapping turtles is considered significant. Nesting sites are defined as exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within shallow marsh ecosites.

No nesting turtles were observed during the site visit and no suitable habitat was observed within close proximity to the open water or wetland areas within the site.

As such, this type of habitat is not present and will not be assessed further in this report.

Amphibian Breeding Habitat (Woodland)

According to the Draft Significant Wildlife Habitat Ecoregion 7E Criterion Schedule (February 2012), a marsh may be considered significant if studies confirm the presence of breeding population of 1 or more of the listed salamander species or 2 or more of the listed frog species with at least 20 individuals. Habitat criteria include the presence of a wetland, lake or pond within or adjacent (within 120 m) to a woodland. Woodlands with permanent ponds or those containing water in most years are more likely to be used as breeding habitat (MNR, 2012).

While open water breeding species of frogs were documented during the field data collection in the study area, no woodland breeding habitat was documented. The habitat features located within the study area do not provide suitable woodland breeding habitat for salamanders or woodland frogs.

As such, this type of habitat is not present and will not be assessed further in this report.

2.2.2.3 Habitat for Species of Conservation Concern

The background records review identified woodlands, wetlands, watercourses, open areas, cultural communities and developed lands as being potentially present within the subject lands. During the field investigation it was determined that all of these areas are present in the lands adjacent to Highway 49 in the right-of-way. These areas have been mapped and are discussed in more detail in Section 2.5.

Woodland Area-Sensitive Bird Breeding Habitat

These are habitats for species which require large tracts of habitat away from edges in order to carry out important life functions, such as breeding. Records from the Ontario Breeding Bird Atlas (Square Number 18UP39 identified a number of woodland area-sensitive species which have been recorded in the vicinity of the subject lands including:

- American Redstart (*Setophaga ruticilla*)
- Black-and-white Warbler (*Mniotilta varia*)
- Black-throated Blue Warbler (*Dendroica caerulescens*)
- Blue-gray Gnatcatcher (*Polioptila caerulea*)
- Broad-winged Hawk (*Buteo platypterus*)
- Brown Creeper (*Certhia americana*)
- Canada Warbler (*Cardellina canadensis*)

- Cooper's Hawk (*Accipiter cooperii*)
- Hairy Woodpecker (*Picoides villosus*)
- Least Flycatcher (*Empidonax minimus*)
- Magnolia Warbler (*Dendroica magnolia*)
- Ovenbird (*Seiurus aurocapillus*)
- Pileated Woodpecker (*Dryocopus pileatus*)
- Pine Warbler (*Dendroica pinus*)
- Red-breasted Merganser (*Mergus serrator*)
- Red-breasted Nuthatch (*Sitta Canadensis*)
- Red-shouldered Hawk (*Buteo lineatus*)
- Scarlet Tanager (*Piranga olivacea*)
- Sharp-shinned Hawk (*Accipiter striatus*)
- Veery (*Catharus fuscescens*)
- Whip-poor-will (*Caprimulgus vociferous*)
- White-breasted Nuthatch (*Sitta carolinensis*)
- Yellow-bellied Sapsucker (*Sphyrapicus varius*)
- Yellow-throated Vireo (*Vireo flavifrons*)

The forested communities which were identified and mapped during the field data collection for the study area (as shown in Figure 6), would not be considered large enough to provide habitat for interior forest species. Specific breeding bird surveys were not completed as part of this project; therefore, none of the above species were identified as using the forested habitats within the study area. In addition, there will be no disruption of forested habitats as part of the proposed pipeline construction and therefore no effects to potential forest interior habitat are predicted. As such, this type of habitat is not present and will not be assessed further in this report.

Open Country Bird Breeding Habitat

Records from the Ontario Breeding Bird Atlas (Square Number 18UP39) identified 8 grassland area-sensitive species which have been recorded in the vicinity of the subject lands including:

- Bobolink (*Dolichonyx oryzivorus*)
- Eastern Meadowlark (*Sturnella magna*)
- Grasshopper Sparrow (*Ammodramus savannarum*)
- Henslow's Sparrow (*Ammodramus henslowii*)
- Loggerhead Shrike, Migrants Subspecies (*Lanius ludovicianus migrans*)
- Savannah Sparrow (*Passerculus sandwichensis*)
- Sharp-tailed Grouse (*Tympanuchus phasianellus*)
- Upland Sandpiper (*Bartramia longicauda*)

Upon further investigation within and adjacent to the subject lands, it was determined that no suitable grassland habitat was present. Thus, the likelihood of these species existing in the area is very low and will not be considered further in the report.

Shrub/Early Successional Bird Breeding Habitat

Records from the Ontario Breeding Bird Atlas (Square Number 18UP39) identified 7 Marsh/Water area-sensitive species which have been recorded in the vicinity of the subject lands including:

- American Coot (*Fulica americana*)
- Black Tern (*Chlidonias niger*)
- Common Loon (*Gavia immer*)
- King Rail (*Rallus elegans*)
- Least Bittern (*Ixobrychus exilis*)
- Northern Pintail (*Anas acuta*)
- Short-eared Owl (*Asio flammeus*)

The wetland areas that were delineated within the study area are dominated by shrub and tall herbaceous vegetation. These habitats may provide suitable breeding conditions for species that prefer shrub and early successional growth, however the proposed construction will not result in any negative effects to these vegetation communities.

Special Concern and Rare Wildlife Species

There were no species of special concern or rare species documented as part of the field data collection completed for this project. As discussed above, the natural habitat features mapped along the road right-of-way may have the potential to provide habitat for species that fall into these categories, however the proposed activities associated with the project are not predicted to have any negative effects to the natural heritage system.

2.2.2.4 Animal Movement Corridors

The natural areas to the west and east of Highway 49, north of airport road within the subject lands could potentially be used as corridors for animal movement. These significant woodlots are not directly linked due to the presence of Highway 49, though there are no barriers to restrict the movement across the ROW. In addition, the Bay of Quinte shoreline may also act as a natural corridor for wildlife movement, but somewhat limited on the south shore due to very steep slopes. In the greater project area, the Airport Road PSW and Airport Creek function as a larger scale animal movement corridor. Tributaries of Airport Creek traverse the subject lands, however there will be no negative effects to the functions or features of these watercourse corridors. The proposed works and activities associated with the project are not predicted to affect the

natural heritage system within the subject lands. Mitigation measures will be employed in order to prevent any minor adverse effects to culturally influenced habitats within the subject lands and are discussed in Section 5.

2.2.3 Fish Habitat

As previously mentioned, 2 watercourses traverse the subject lands north of the Bay of Quinte, south of York Road/Highway 2. These 2 branches of Airport Creek flow through the study area from east to west across Highway 49 and drain into the Bay of Quinte, approximately 700 m west of the subject lands.

The Bay of Quinte is a large body of fresh water that provides lacustrine habitat to many fish species including several sport fish species and aquatic SAR. The Bay of Quinte watershed is also characterized by large river and creek features that discharge into it and generally provide spawning habitat for fish and water quality to the Bay of Quinte. It is well known as a world-class walleye (*Sander vitreus*) recreational fishery and is the venue for many sport-fishing tournaments.

The fish community that resides in the Bay of Quinte is diverse and consists of warm, cool, and cold water species. Nearshore habitats provide spawning, nursery, and foraging for a number of the Bay of Quinte fish species targeted by commercial, recreational, and Aboriginal fisheries (CRA fisheries). The Bay of Quinte also provides migratory routes for many fish species that are common to and reside in Lake Ontario.

Section 35 of the Fisheries Act states that “no person shall carry on any work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery.” It also prohibits “serious harm to fish” which is defined in the Act as “the death of fish or any permanent alteration to, or destruction of, fish habitat.”

“Serious harm to fish” will be avoided through suitable mitigation measures (including HDD) as described in Section 5. A DFO Self-Assessment, as described in the Fisheries Act, will be prepared prior to commencing construction activities and should be conducted by qualified professionals.

Known and potential fish habitat were identified in both watercourses though both were obstructed shortly downstream of the subject lands by vegetation. These watercourses do not provide habitat for any fish species at risk, however fish habitat (and habitat for aquatic species at risk) exists in the Bay of Quinte. As previously mentioned, the use of HDD and proper mitigation techniques as described in Section 5 will negate any potential impacts to the aquatic environments within and adjacent to the subject lands.

2.3 Natural Heritage Features of Other Significance

2.3.1 Unevaluated Wetlands

As described in Section 2.5.2, several unevaluated wetlands are located within the subject lands, adjacent to Highway 49. In most instances the boundaries of the wetland features are well defined as they are located in areas with low lying topography and surrounding natural drainage features. The defined boundary can be seen on Figure 3. A full evaluation of the wetland was not completed.

2.3.2 Migratory Birds

The Migratory Bird Convention Act prohibits the killing or harming of migratory birds. Several migratory species were observed during field investigations. A full list provided by the OBBA of birds observed on the subject lands is provided in Appendix A.

Potential impacts to these species are assessed in Section 5.11 of this report.

2.4 Fieldwork Methodology

2.4.1 Field Studies and Natural Resources Inventory

Field investigations were conducted by Neegan Burnside staff, Nicholle Smith and Devin Soeting, on June 10, 2014. The field investigation team was accompanied by Nicole Storms (Mohawks of the Bay of Quinte Environmental Clerk), who provided detailed knowledge of the area including local flora and fauna, fish spawning areas, and historic changes and impacts to wetlands and watercourses. The purpose of the field investigation was to confirm whether the features identified in the background data review are, in fact, present on the subject lands and whether any additional natural heritage features may be present.

The field study methodology is summarized in Table 2 below.

Table 2: Field Study Methodology

Field Study	Methodology	Staff Involved	Date(s)	Time of Day (hrs)	Weather Conditions		
					Precipitation/ Cloud Cover	Temperature (°C)	Wind (Beaufort Wind Scale) ¹
Ecological Land Classification	Ecological Land Classification for Southern Ontario (Lee et. al., 1998)	Nicholle Smith, Terrestrial Ecologist	June 10, 2014	1230 – 1530	No precipitation Overcast	24°C on arrival 27°C on departure	0 - none
Wetland Identification	Field verification of wetland boundaries	Nicholle Smith, Terrestrial Ecologist	June 10, 2014	1230 – 1530	No precipitation Overcast	24°C on arrival 27°C on departure	0 - none
Nearshore and watercourse observations	MTO Environmental Guide for Fish and Fish Habitat, Visual observations of nearshore environments	Devin Soeting, Aquatic Scientist/ Environmental Technician Nicole Storms, Mohawks of the Bay of Quinte Environmental Clerk	June 10, 2014	1230-1530	No precipitation Overcast	24°C on arrival 27°C on departure	0 - none
Search for potential wildlife habitats	Roadside survey for potential and identified wildlife habitat <ul style="list-style-type: none"> • Amphibian breeding • Turtle basking or nesting • Breeding birds • Mammals • Wild turkey • Waterfowl Colonial nesting birds 	Nicholle Smith, Terrestrial Ecologist Devin Soeting, Aquatic Scientist/ Environmental Technician Nicole Storms, Mohawks of the Bay of Quinte Environmental Clerk	June 10, 2014	1230 – 1530	No precipitation Overcast	24°C on arrival 27°C on departure	0 - none
Incidental flora and fauna observations	Visual observations of animals, tracks or scat; compilation of a plant inventory	Nicholle Smith, Terrestrial Ecologist Devin Soeting, Aquatic Scientist/Envir. Tech. Nicole Storms, Mohawks of the Bay of Quinte Environmental Clerk	June 10, 2014	1230 – 1530	No precipitation Overcast	24°C on arrival 27°C on departure	0 - none
Wildlife Inventory	Incidental observations during all site visits.	Nicholle Smith, Terrestrial Ecologist Devin Soeting, Aquatic Scientist/ Environmental Technician Nicole Storms, Mohawks of the Bay of Quinte Environmental Clerk	June 10, 2014	1230 – 1530	No precipitation Overcast	24°C on arrival 27°C on departure	0 - none

¹ Beaufort Wind Scale 0 = calm, smoke rises vertically (0-2 km/hr.); 1 = light air movement, smoke drifts (3-5); 2 = gentle breeze, wind felt on face; leaves rustle (6-11); 3 = moderate breeze, small branches moving, raises dust & loose paper (12-17); 4 = fresh breeze, small trees begin to sway (18-24); 5 = strong breeze, large branches in motion (25-31); 6 = very strong breeze, trees in full leaf, loose objects blown about (32-39); 7 = gale, small trees broken (40-50)

2.5 Site Characterization

The following Section provides a summary of the background information and observations made during the field investigations (June 10, 2014).

2.5.1 Physical Features

2.5.1.1 Bedrock and Hydrogeology

According to the local bedrock mapping and Ministry of Environment (MOE) well records, the subject lands adjacent to the Bay of Quinte are underlain by a grey Paleozoic aged limestone. Near the northern extent of the subject lands, the overburden is underlain by a sandy, silty, or gravelly till. It should be noted that the local water well records generally show that bedrock is encountered at very shallow depths both north and south of the Bay of Quinte in the area of the subject lands (variable between approximately 0.5 m to 2 m below ground surface). A map of the local bedrock characteristics in the area of the subject lands is shown in Figure 5.

As excavation and HDD is proposed to be employed as part of the construction process, bedrock drilling will be necessary to complete the underground pipeline. Where bedrock drilling is implemented, potential impacts could include noise and/or vibration. The mitigation measures to minimize potential impacts from noise and vibration are discussed in Section 5.

Groundwater levels in the area of the subject lands are expected to fluctuate related to the Bay of Quinte water levels, being lower during extended dry periods and higher during periods of high precipitation and spring freshet. Based on the local MOE water well records near the area of the subject lands, groundwater in the bedrock north of the Bay of Quinte is typically found at depths from 6 m to 9 m below ground surface. While groundwater south of the Bay of Quinte near the subject lands were stated to be found at depths between 9 m to 17 m below ground surface. Bedrock groundwater in the area of the subject lands both north and south of the Bay of Quinte is expected to flow towards the Bay of Quinte. It is expected that groundwater will be encountered during drilling activities. The mitigation measures to avoid impacts to the local groundwater quality are discussed in Section 5.

2.5.1.2 Physiography and Soils

The subject lands are located near the borders of two physiographic regions known as the Napanee Plain and the Prince Edward Peninsula.

The Napanee Plain is a flat-to-undulating plain of limestone that is typically overlain by a thin layer of overburden and drumlins are scattered across the region. The Napanee Plain contains a relatively high proportion of agricultural land uses, although the subject

lands are not used for those purposes. Soils north of the Bay of Quinte, on Tyendinaga First Nation lands are characterized by Farmington series loam that has variable drainage properties (imperfect to very well drained). The soils within the subject lands in this area are described as having a high agricultural capacity (Chapman and Putnam, 1984).

The soil material in the Prince Edward Peninsula physiographic region in the area of the subject lands are similar to those north of the Bay of Quinte in that they are described as shallow soil over limestone bedrock. The soils were also described as the Farmington series loam but with excessive drainage. The soils within the subject lands in this area are also described as having a high agricultural capacity. A portion of land in the northern section of the project is noted as being predominantly clay, although no excavations are anticipated within these areas.

Neegan Burnside notes that the preferred route does not intersect with agricultural lands and no impacts to agricultural lands are anticipated.

The effects to local soils within the subject lands potentially include surficial soil erosion, slumping, and sedimentation, specifically in the areas where excavation is necessary. The proposed mitigation measures are discussed in Section 5. The soils in the area of the subject lands are shown on Figure 4.

2.5.2 Aquatic Features

2.5.2.1 Hydrology and Drainage

Several surface water features are present within the subject lands. The upper reaches of Airport Creek cross Highway 49 through 2 slow-moving watercourses north of Airport Road, flowing from east to west. Both watercourses discharge to the Bay of Quinte through a Provincially Significant Wetland, approximately 750 m west of the subject lands.

Based on the topography in the region, it is anticipated that runoff and shallow groundwater would drain towards the Bay of Quinte. Several wetlands are also present within the subject lands, adjacent to Highway 49, north of the Bay of Quinte. According to mapping available from Quinte Conservation and the Drinking Water Source Protection plan (2014), none of these wetlands have been formally evaluated or classified as provincially significant.

The wetlands located adjacent to Highway 49 include shallow marsh, thicket swamp and some lowland forested communities. Surface water draining in the communities includes both defined channels in the riparian habitats and diffuse flow corresponding to locations where the poorly defined channels cross the Highway corridor. The habitat units are relatively small and isolated from other wetland features within the regional area.

These watercourses and wetlands will not be infringed upon as part of the construction activities since pipeline laydown and storage is proposed along the road shoulder and paved areas within the Highway 49 ROW. However, the proposed mitigation measures to avoid impacts to these watercourses during construction activities are discussed in Section 5.

2.5.2.2 Fish and Fish Habitat

As previously mentioned, 3 water features were identified within the subject lands. Two branches of Airport Creek traverse the subject lands (flowing east to west) in the area of the proposed pipe laydown, north of Airport Road, and south of York Road/Highway 2. The third is the Bay of Quinte which is habitat for many ecologically and culturally critical fish species. Neegan Burnside notes that no construction activities are to be conducted below the high water mark in any of these 3 water features.

The northernmost branch of Airport Creek was vegetated on the west side of the culvert and was flowing slowly into a shallow, heavily vegetated wetland (not considered to be fish habitat). Although no fish were observed, potential fish habitat was observed on the east side of the subject lands in the form of a relatively deep, slow-moving flat. This part of the watercourse could potentially contain fish, but would not be considered to support fish or fish habitat that is part of a CRA fishery as fish migration to the Bay of Quinte is not possible due to water depth and vegetation obstructions. This section of watercourse is not anticipated to be impacted as pipe laydown in this area is proposed within the Highway 49 ROW.

The more southern branch of Airport Creek was also heavily vegetated though several small (<30 mm length) cyprinids were observed during field investigations. The fish were observed only within the length of the concrete, open-foot culvert and a small, shallow pool just upstream of the culvert. This section of watercourse appeared to originate from a wetland area east of the culvert. Fish passage was obstructed downstream and upstream of the culvert as the watercourse was highly vegetated with in-stream emergent grasses and an intermittent presence of shallow water and dry conditions outside the culvert. Similar to the more northern branch of Airport Creek, it would not be considered to support fish or fish habitat that is part of a CRA fishery as fish migration to the Bay of Quinte is not possible due to water depth and vegetation obstructions. Also, this section of watercourse is not anticipated to be impacted as pipe laydown in this area is proposed within the Highway 49 ROW. However, mitigation measures to ensure the avoidance of any impact are discussed in Section 5.

As previously discussed, the Bay of Quinte is considered a CRA fishery and is habitat for several aquatic SAR. As such, "serious harm to fish" as described in the Fisheries Act must be avoided. As part of the site investigations, nearshore environments along the Bay of Quinte within the subject lands were observed. The substrate was primarily comprised of cobble and eroded bedrock and no fish were observed spawning within the

immediate area. However, during the site investigations Ms. Nicole Storms noted that there are known smallmouth bass spawning areas along the northern shoreline of the Bay of Quinte, adjacent east of the subject lands.

No in-water works or work below the high water mark are anticipated as part of the construction activities, though HDD beneath the Bay of Quinte has the potential to effect fish and fish habitat from potential frac-out of high pressure drilling fluids. As a result, the HDD process will voluntarily adhere to the cold water construction timing window of July 1 to September 30 to avoid interference with potential spawning species. These potential effects and respective mitigation measures to ensure "serious harm to fish" is avoided are discussed in Section 5.

As previously mentioned, a Self-Assessment (as described in the Fisheries Act) will be conducted by qualified professionals prior to the commencement of construction activities.

2.5.3 Terrestrial Features

2.5.3.1 Vegetation Communities

The subject lands included a variety of human influenced or cultural communities as well as forest and wetland features. The existing road ROW has been managed through both mowing and brushing activities, which limits the potential vegetation communities within the study area corridor. However, the roadside drainage, including areas where there are watercourse crossings provide the opportunity for more diverse vegetation communities, including wetland habitats. As previously mentioned, Neegan Burnside staff conducted a site investigation on June 10, 2014. Results of the field data collection are summarized below.

Based on Lee et. al, 1998, 15 vegetation community types were located on, or proximal to, the subject lands. All of the communities identified are considered to be relatively common in Ontario. A summary of these units is provided in Table 3.

Table 3: Vegetation Communities

ELC Code	Vegetation Type	Species Association	Comments
	Forest Communities		
FOD	Deciduous Forest		
FODM 7-6	Fresh-Moist Black Ash-Hardwood Lowland Deciduous Forest Type	<p>Canopy: black ash, white elm, trembling aspen, Manitoba maple, balsam poplar, white cedar</p> <p>Understory: red osier dogwood, willow species, alternate leaved dogwood</p> <p>Ground Cover: grass species, horsetail species</p>	<p>Tree cover >60%</p> <p>Dominant species included: Black ash</p> <p>Mixed lowland forest with varying levels of soil moisture</p> <p>Mineral Soil</p>
FODM 7-2	Fresh-Moist Ash Lowland Deciduous Forest Type	<p>Canopy: Black ash, green ash, Manitoba maple, trembling aspen, white cedar, silver maple, balsam poplar</p> <p>Understory: poison ivy, staghorn sumac, white cedar, ash, maples</p> <p>Ground Cover: young ash and maple, poison ivy, grass sp. horsetail</p>	<p>Tree cover >60%</p> <p>Dominant species included: ash species, silver maple, poplar sp.</p> <p>Diverse community with a variety of trees in canopy and subcanopy and understory layers</p> <p>Mineral Soil</p>

ELC Code	Vegetation Type	Species Association	Comments
FOM	Mixed Forest		
FOMM 7-2	Fresh-Moist White Cedar-Hardwood Mixed Forest	<p>Canopy: sugar maple, Manitoba maple, eastern white cedar, trembling aspen, green ash</p> <p>Understory: ash and white cedar, glossy buckthorn, staghorn sumac</p> <p>Ground Cover: grass sp.</p>	<p>Tree cover >60%</p> <p>Dominant species included: eastern white cedar, balsam poplar, trembling aspen, green ash in a mixed layer canopy and subcanopy layer. Groundcover layer is dominated by grass sp.</p> <p>Patchy canopy and mixed age community</p> <p>Mineral Soil.</p>
Wetland Communities			
SWD	Deciduous Swamp		
SWDM 2-1	Black Ash Mineral Deciduous Swamp	<p>Canopy: black ash, balsam poplar, trembling aspen, Manitoba maple</p> <p>Understory: ash and poplar</p> <p>Ground Cover: narrow leaved cattail. Spotted jewelweed, water horsetail, grass sp.</p>	<p>Tree cover >60%</p> <p>Dominant species included: black ash and balsam poplar</p> <p>Large forested community that accounts for the majority of the study area</p> <p>Mineral Soil</p>

ELC Code	Vegetation Type	Species Association	Comments
SWT	Thicket Swamp		
SWTO 5-10	Spirea Organic Deciduous Thicket Swamp Type	<p>Canopy: none</p> <p>Understory: white meadowsweet, red-osier dogwood</p> <p>Ground Cover: water horsetail, spotted jewelweed, narrow leaved cattail</p>	<p>Tree cover >60%</p> <p>Dominant species included: white meadowsweet</p> <p>Small community located adjacent to an ephemeral watercourse features</p> <p>Mineral Soil</p>
SWTM 2-5	Red-Osier Dogwood Mineral Deciduous Thicket Swamp	<p>Canopy: none</p> <p>Understory: red-osier dogwood, ash species</p> <p>Ground Cover: water horsetail, spotted jewelweed, narrow leaved cattail</p>	<p>Tree cover >60%</p> <p>Dominant species included: red-osier dogwood</p> <p>Small communities scattered along drainage features</p> <p>Mineral Soil</p>
Meadow Communities			
MEMM 4	Fresh-Moist Mixed Meadow		
MEMM 4	Fresh-Moist Mixed Meadow Ecosite	<p>Canopy: ash species and Manitoba maple</p> <p>Understory: red-osier dogwood and glossy buckthorn</p> <p>Ground Cover: grass species, reed-</p>	<p>Tree cover and shrub cover <25%</p> <p>Mixture of reed-canary grass, goldenrod and grass species</p> <p>Mineral Soil</p>

ELC Code	Vegetation Type	Species Association	Comments
		canary grass, aster species, goldenrod species	
Talus Communities			
TATN 1	Non-Calcareous Treed Talus		
THAT 1	Non-Calcareous Treed Talus Ecosite	Canopy: Manitoba maple, white ash, sugar maple, trembling aspen Understory: red-osier dogwood, glossy buckthorn Ground Cover: grass sp., old field type species	Tree cover and shrub cover <25% Mineral soil with exposed rock
Thicket Communities			
THD	Deciduous Shrub Thicket Ecosite		
THDM 2-1	Sumach Deciduous Shrub Thicket	Canopy: white spruce Understory: staghorn sumac Ground Cover: grass species, graminoids	Tree cover and shrub cover <25% This community is within the managed pipeline corridor and is actively brushed which limits both the age and density of the vegetation Mineral Soil
Woodland Communities			
WOM	Mixed Woodland		

ELC Code	Vegetation Type	Species Association	Comments
WOMM	Dry-Fresh Mixed Woodland	Canopy: bur oak, ash species, white elm, poplar species Understory: red cedar Ground Cover: grass species, forbs	Tree cover and shrub cover <25% Community is dominated by both bur oak and red cedar in both the canopy and understorey Mineral Soil
Plantation Communities			
TAG 1	Plantation		
TAG 1-2	Mixed Plantation	Canopy: Red pine, mixed hardwoods Understory: staghorn sumac Ground Cover: grass sp.	Tree cover and shrub cover <25% Communities adjacent to the managed pipeline right-of way. Mixed community of varying age Mineral Soil

2.5.3.2 Avifauna

Preliminary background data was compiled by Neegan Burnside staff using the Ontario Breeding Birds Atlas (OBBA) online Square Summaries. The area encompassing the proposed site falls into the Prince Edward Region, which is Region 20. The specific OBBA square for the site was determined to be 18UP39 using downloadable topographical maps from OBBA. A site specific breeding bird survey was not completed for the study area as the proposed activities have very little potential to disrupt breeding birds. In areas where some vegetation removal is required, appropriate mitigation measures will be employed including avoidance during certain portions of the year and pre-construction nest surveys.

Results indicated evidence of 202 breeding birds within the proposed site area. Those species observed under the second atlas (2001-2005) which have been given federal designation by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) are summarized in the table below. Data summaries including provincial and federal status and preferred habitat of the species observed through OBBA are provided in Appendix A.

Table 4: COSEWIC Designated Species Summary

Species	Scientific Name	COSEWIC Status	S-Rank	SARA Status
Barn Swallow	<i>Hirundo rustica</i>	THR	S4B	No Status
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	S4B	No Status
Canada Warbler	<i>Cardellina Canadensis</i>	THR	S4B	THR
Chimney Swift	<i>Chaetura pelagica</i>	THR	S4B, S4N	THR
Common Nighthawk	<i>Chordeiles minor</i>	THR	S4B	THR
Eastern Meadowlark	<i>Sturnella magna</i>	THR	S4B	No Status
Golden-winged Warbler (Historical)	<i>Vermivora chrysoptera</i>	THR	S4B	THR
Least Bittern	<i>Ixobrychus exilis</i>	THR	S4B	THR
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	THR	S4B	THR
Whip-poor-will	<i>Caprimulgus vociferous</i>	THR	S4B	THR
Wood Thrush	<i>Hylocichla mustelina</i>	THR	S4B	No Status

Species	Scientific Name	COSEWIC Status	S-Rank	SARA Status
Henslow's Sparrow (Historical)	<i>Ammodramus henslowii</i>	END	SHB	END
King Rail	<i>Rallus elegans</i>	END	S2B	END
Loggerhead Shrike, Migrants Subspecies	<i>Lanius ludovicianus migrans</i>	END	S2B	END
Yellow-breasted Chat, Virens Subspecies (Historical)	<i>Icteria virens virens</i>	SC/END	S2B	SC
Eastern Wood-pewee	<i>Contopus virens</i>	SC	S4B	No status
Peregrine Falcon	<i>Falco peregrinus anatum/tundrius</i>	SC	S3B	SC
Short-eared Owl	<i>Asio flammeus</i>	SC	S2N,S4B	SC

Three species observed in the 1st atlas (between 1981-1985) but not in the second atlas, held federal designations: The Golden-Winged Warbler, *Vermivora chrysoptera* (COSEWIC: Threatened), the Henslow's Sparrow *Ammodramus henslowii* (COSEWIC: Endangered) and the Yellow-breasted Chat, *Icteria virens virens* (COSEWIC: Endangered/Special Concern). These will most likely not be present on the project site, as they have not been observed in recent years.

Due to the variable natural environment in the proposed site and adjacent lands, many breeding bird habitats are supported including wetland, open field, forest and urban environments. A breeding bird survey should be conducted prior to construction activities to ensure the habitat of any observed species are protected through mitigation measures.

Of the 202 species of birds observed in this square in either the first or second atlas (1st atlas: 1981-1985, 2nd atlas: 2001-2005), 85 held provincial S-Ranks of 1-4 indicating they provincially rare. These species are not protected through the Endangered Species Act, though they should be considered in mitigation measures to ensure their habitats are preserved.

The nature of the proposed activities does not have a high potential to disrupt breeding birds within the majority of the study area. Laydown of pipes within the roadway and/or shoulder area will not require vegetation removal and thus should not disturb nests. The small area which has the potential to be disrupted during the drilling process will include the recommended mitigation measures for completing a pre-construction nesting survey to further minimize any potential effects to breeding birds.

2.5.3.3 Mammals

A beaver was observed during Neegan Burnside's field investigations, as well as evidence of muskrat, white-tailed deer and raccoon. Specific surveys for mammals were not completed, however the following mammals are expected given the habitats present (see Section 2.5.3): eastern grey squirrel (*Sciurus carolinensis*), eastern chipmunk (*Tamias minimus*), raccoon (*Procyon lotor*), eastern cottontail (*Sylvilagus floridanus*), white-tailed deer (*Odocoileus virginianus*), striped skunk (*Mephitis mephitis*). None of these species are considered at risk either federally or provincially, and are widespread generally in Ontario.

It should be noted that Ms. Nicole Storms of the Mohawks of the Bay of Quinte, notified Neegan Burnside staff of the potential presence of a family of fishers (*Martes pennanti*) located within the subject lands, south of Bayshore Road, adjacent to the east of the Highway 49 Bridge. No evidence of the presence of fishers was observed during the field investigations, and no significant or preferential habitat for fishers was identified within the subject lands.

2.5.3.4 Reptiles and Amphibians

Several frog species were observed within several wetlands adjacent to the subject lands, north of Airport Road, as well as one painted turtle (*Chrysemys picta*). The frog species observed were green frog (*Lithobates clamitans*), northern leopard frog (*Lithobates pipiens*), and American bullfrog (*Lithobates catesbeianus*). The painted turtle was observed migrating from east to west across Highway 49, near the northern extent of the subject lands. None of these species are considered at risk either federally or provincially, and are widespread generally in Ontario.

Neegan Burnside notes that the habitat of these species will not be impacted by construction activities, as the construction activities that are proposed to occur within the subject lands, adjacent to wetlands is to be done within the extent of the ROW and are non-intrusive (pipeline laydown/storage). As previously mentioned, no impacts to reptile and amphibian species are anticipated.

2.5.4 Socio-Economic Assessment

2.5.4.1 Property Access

As previously discussed, the preferred route involves approximately 1.3 km of the northernmost section of the subject lands. The lands are proposed to be used for pipeline storage prior to pulling it into place beneath the Bay of Quinte. This area along the Highway 49 corridor contains a very high potential interaction to numerous residential landowners and businesses.

The affirmation of the proposed preferred route will involve the closing of the western lane of Highway 49 in the area between south of the York Road/Highway 2 intersection and the Highway 49 Bridge for pipeline storage. Access to residential and commercial properties is not anticipated to be closed, though interruptions may occur due to the lane closure. Noise will be generated by the operation of equipment and associated vehicular traffic, as well as equipment exhaust. These potential effects and respective mitigation measures are further discussed in Section 5.

2.5.4.2 Cultural Heritage Resources

With the majority of the subject lands located adjacent to the Mohawks of the Bay of Quinte lands, the preferred route has the potential to directly impact archaeological resources during the construction activities. Prior to the initiation of the construction process, an archaeological assessment of the preferred route has been completed as well as a Built Cultural Heritage Review which will be submitted to the Ministry of Tourism, Culture, and Sport (MTCS) for review and input. An archaeological assessment includes a cultural heritage resource review (existing houses, etc.). During field investigations a Tyendinaga First Nation representative will be on-site to provide local insight.

The consultation program is further discussed in Section 4.

3.0 Routing

As previously mentioned, the preferred route is to install the pipeline within the Highway 49 ROW, following nearly the same alignment as the existing above-ground pipeline. The pipeline is planned to be installed beneath the Bay of Quinte and connect to the existing NPS 6-inch diameter pipeline.

The Ontario Energy Board (OEB) guidelines requires proponents to follow a decision making process for the identification and evaluation of routes, and to have regard for environmental, land use socio-economics, heritage and pipeline engineering and construction requirements.

A number of criteria were developed by Union to determine and identify the specific alignment of the pipeline replacement which include:

- Attempt to parallel or occupy existing easements, road allowances and follow property boundaries to minimize creating new severances on affected properties.
- Attempt to minimize effect on the environment and cultural heritage
- Routes should follow a reasonably direct path between the end points thus minimizing length.
- Existing linear infrastructure should be utilized to the greatest extent possible in order to minimize effects to previously undisturbed land.

Following preliminary investigations of possible routes having regard for the above criteria and the direction given by the OEB guidelines, Union decided the most logical preferred route would be along the Highway 49 corridor as well as utilizing Union Gas owned property on the south side of the bay.

The proposed northern pipeline connection is to occur within the existing Highway 49 ROW, just north of Airport Road on the west side of Highway 49. The southern proposed pipeline connection will be made to the existing NPS 6-inch pipeline on existing Union Gas property. Borehole drilling is planned to occur south of the Bay of Quinte in the area of the southern pipeline connection. The construction footprint will require the temporary use of adjacent private land. This private land is currently comprised of forest and rural grassed areas.

Pipe laydown is planned to occur on the north side of the Bay of Quinte along the Highway 49 ROW. No laydown is planned to occur south of the Bay of Quinte. No existing underground infrastructure is anticipated to be impacted through the construction of the proposed facilities.

4.0 Consultation Program

The consultation process is an important requirement of the OEB process and allows for the identification of potentially affected parties and interested residents, and allows for the opportunity to inform them about the project. It is also an opportunity to inquire about the local environmental and socio-economic values and concerns, and to receive advice prior to finalizing important project decisions.

The consultation program consisted of:

- Identifying interested and affected parties.
- Informing these parties about the nature, potential effects, and how to participate throughout the process of the project.
- Engaged Mohawks of the Bay of Quinte representatives to participate in fieldwork surveys.
- Provided a forum for identification of issues and public and agency consultations.
- Revised the program to address concerns and questions of those being consulted, where practical.
- Maintained communication throughout the ER process and continue communication throughout the construction and operation phases of the project.

4.1 Agency Communication and Consultation

The Table attached in Appendix B1 outlines the agencies that were contacted and informed of the project through mailouts. In many cases, records regarding the project

were requested. A brief summary of the relevant agency inputs and records reviewed are discussed below.

4.1.1 Provincial Agencies

- Quinte Conservation provided several comments related to regulated areas within the study area and permit requirements prior to any work within the floodplain. They also stated that they do not have any natural heritage reports, mapping, or inventories for the study area.
- The Ministry of Transportation indicated that they require an encroachment application as the pipeline is to be relocated within the MTO ROW, and an EA that meets the guidelines set out in the MTO EA Guideline that addresses the construction and operation of new pipelines as well as the removal of the existing pipeline from the bridge structure. They also indicated that an archaeological assessment was being completed in the area as a part of the proposed Highway 49 Bridge work.
- The Technical Standards and Safety Authority (TSSA) acknowledged that they received the letter regarding the project and requested further clarification regarding the proposed pipe location.
- The MNRF provided information regarding wetlands and areas of natural and scientific interest, species at risk, significant wildlife habitat, potential approval requirements and general sources of information.

4.1.2 First Nations Consultation

As previously described, the northern study area is within Tyendinaga Mohawk Territory (Mohawks of the Bay of Quinte). Representatives of the Tyendinaga First Nation have been engaged throughout the process of the project and have been solicited for their input related to the socioeconomic and environmental characteristics of the area.

Union Gas representatives formally discussed the need for the project on August 26, 2013 and December 17, 2013 with Mr. Daniel Brant (CAO) and Mr. Todd Kring (Director of Infrastructure) of the Mohawks of the Bay of Quinte. Union Gas representatives again met with Mr. Kring on March 5, 2014 to tour the proposed project area and gather feedback on the project. Union Gas sent a letter on June 9, 2014 notifying the Métis Nation and the Mohawks of the Bay of Quinte of the initiation of the Environmental Report of the Project. The Mohawks of the Bay of Quinte then provided comments on the Report to Union Gas on July 10, 2014 and Union Gas issued their response on August 5, 2014. Union Gas presented its Emergency Preparedness Plan and an overview of the project to Chief and Council and Staff of the Mohawks of the Bay of Quinte on September 3 2014.

As noted in Section 2.1.1, Neegan Burnside was accompanied by Ms. Nicole Storms (technologist for the Mohawks of the Bay of Quinte) while performing natural heritage fieldwork. She was able to provide insight into local traditions, the local socioeconomic and environmental conditions of the study area and adjacent lands.

A letter dated July 4, 2014 was received from Daniel Brant of the Mohawks of the Bay of Quinte. The letter provided environmental insight related to the Bay of Quinte area and requested information regarding the Best Management Practices that would be utilized throughout the full scope of the construction, operation, and maintenance phases of the project, as well as a written Contingency Plan related to a potential pipeline leak. The letter also expressed concerns regarding the potential interruption of service to the businesses and emergency vehicles along Highway 49.

A response by Union Gas to the letter received from Daniel J. Brant was provided in a letter dated August 25, 2014. This response letter addressed the requests for:

- Best Management Practices during the construction, operation, and maintenance phases of the project.
- Emergency Response Plan during the construction phase of the project.
- Traffic control during the construction phase of the project.
- Disruption to local businesses during the construction phase of the project.

To date, no further response related to this string of correspondence has been obtained. A full summary of correspondence is available in Appendix B5. Should Neegan Burnside receive additional correspondence during the review period, the ER will be updated and reissued.

4.2 Consultation and Communication Methods

4.2.1 Mailouts

Letters were mailed to the initial First Nations and Agency Contact List (shown in Appendix B1) on June 13, 2014. The letters contained information about the project including a map of the study area and the environmental study process, and solicited the recipient to provide comments and/or information on existing principals and guidelines, background environmental and socioeconomic information, and other developments relevant to the project and process.

A copy of the mailout letter is shown in Appendix B2.

4.2.2 Public Information Session, Newsletters, and Display Boards

Prior to the Information Session, public advertising for the upcoming Information Session was displayed on August 28, 2014 in two local newspapers (Picton Gazette and Napanee Beaver). A letter invitation (dated August 20) was also sent out to each person

on the Agency Contact List to ensure their knowledge of the upcoming Information Session. A copy of the advertisement and Information Session invitation are shown in Appendix B3.

The Information Session was held on Tuesday September 3, 2014 at the 59er's Club in Tyendinaga. The event ran from 5:00 to 8:00 p.m. The purpose of the Information Session was to provide and solicit information from the general public, interested and affected parties, and to identify and address issues and provide the public an opportunity to provide meaningful input into the planning process.

Union Gas and Neegan Burnside representatives were present to provide information, answer questions, and receive comments during the Information Session. A newsletter and display boards (as discussed below) were provided for the visitors at the Information Session. The Information Session was attended by 12 stakeholders who were comprised of indirectly affected landowners, local residents, and Mohawks of the Bay of Quinte municipal staff. Attendees were asked to provide their contact information. Those who complied were added to the appropriate contacts lists to ensure receipt of future notices related to the project. A comment form was also available for attendees to provide comments or questions related to the project. Comment forms were to be received until September 26, 2014. Verbal questions were also fielded during the Information Session regarding potential environmental impacts related to natural gas in an aquatic environment, residual impacts from past Union Gas pipelines, and the study area. Following the Information Session, one email was received by the project team.

A newsletter was prepared for distribution at the Information Session to provide a summarized description of the content provided on the display boards and the project itself. The newsletter provided a general project overview, a map of the study area, information regarding the OEB approval process, project timeline, next steps, and project team contact information.

Display boards were also created and were shown at the Information Session. Similar to the newsletter, the display boards provided relevant information related to the purpose of the information session, a project overview, the OEB approval process, the project timeline, and the next steps of the project.

Copies of the newsletter and display boards can be found in Appendix B4.

4.2.3 Summary of Consultations

Information received and reviewed as a part of the consultation process of the project involved concerns regarding potential impacts to the Bay of Quinte and the local socioeconomic environment. The concerns received to date have been resolved to the extent practical through clarification by project team members. Received information and/or concerns will continue to be addressed throughout the detailed design phase.

The proposed pipeline development has the potential to impact and be impacted by the following features:

- Socio-economic environments
- Cultural heritage resources
- First Nations and Métis Nation interests
- Soils and bedrock
- Potential impacts from natural hazards
- Aquatic environments in Bay of Quinte
- Designated and sensitive natural areas
- Vegetation communities
- Wildlife species and habitat

5.0 Potential Impacts and Recommended Mitigation

5.1 Potential Impacts and Mitigation to Socioeconomic Environments

Potential Impacts

As previously mentioned, the access to residential and commercial properties are not anticipated to be closed though temporary interruptions may occur due to the Highway 49 southbound lane closure during pipeline layout and welding. Airborne noise will be generated by the operation of equipment and associated vehicular traffic, and HDD activities as well as dust and equipment exhaust. Litter generated during construction may also become a nuisance to adjacent properties if not appropriately contained.

Recommended Mitigation

Motorized construction equipment should be equipped with mufflers or silencers as necessary and should avoid idling machinery. Sources of continuous noise (i.e., generators, drill rigs, etc.) should be appropriately shielded to minimize disturbance to nearby residents and should be included in the drilling plan. Noise-making activities should be restricted to daytime hours. Noise bylaws will be consulted to ensure conformance and avoid unnecessary disturbance monitoring of noise levels to residents, ensure compliance will be a necessity. The construction contractor should also implement a site-specific waste collection and disposal management plan.

A complaint tracking systems and landowner agreements which describe environmental management commitments by Union Gas should be used to manage potential impacts to local residents and business owners.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to the socio-economic environment are anticipated.

5.2 Potential Impacts and Mitigation to Cultural Heritage Resources

Potential Impacts

The proposed preferred pipeline route and related construction activities have the potential to directly impact archaeological resources during the construction process. No impacts to the existing grade, existing structures, and no above-ground facilities are required, no mitigation or protective measures are required for above-ground cultural heritage resources.

Recommended Mitigation

As previously mentioned, an archaeological assessment of the preferred route has been completed and submitted to the Ministry of Tourism, Culture and Sport (MTCS) for their review. The results and recommendations of the assessment should be followed in order to avoid impacting potential archaeological resources.

If unforeseen archaeological sites/artifacts are encountered, construction activities will cease immediately to avoid damage to the site until a licensed archaeologist has assessed it.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to potential Cultural Heritage Resources are anticipated.

5.3 Potential Impacts and Mitigation to First Nations and Métis Nation Interests

Potential Impacts

As previously mentioned, the majority of the preferred route is located within Tyendinaga Mohawk Territory. The proposed pipeline has the potential to impact traditional territory and the current and future interests of the community.

Recommended Mitigation

Union Gas has sought First Nations input throughout the Project (as described in Section 4) and will continue communications and engagements with First Nations communities as the project continues to progress, to identify potential impacts to traditional land uses and the local economy. Union Gas will also continue to work with the Tyendinaga community and representatives to identify and provide opportunities for their participation in providing goods and services during construction, including potential archaeological and environmental monitoring prior to and during the construction process.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to First Nations and Métis Nation interests are anticipated.

5.4 Potential Impacts to Soil and Bedrock

Potential Impacts

The preferred route is located in an area with relatively shallow bedrock and will encounter bedrock through the use of HDD. The bedrock encountered during pipeline construction will be excavated during the drilling process. Potential impacts from bedrock drilling include noise and/or vibration.

Potential impacts to physiographic features and soil will potentially occur in the areas of the launch and receiving pits that will be created to facilitate the HDD. Potential impacts could include surface soil erosion, sedimentation, and trench slumping.

No interactions with contaminated soils or buried waste materials are anticipated during construction, though project activities have the potential to produce these substances.

Recommended Mitigation

Mitigation and protective measures for noise and vibration are outlined in Section 5.1. Bedrock blasting is not anticipated to be required and, as such will not be discussed in this report.

Where topsoil is planned to be stripped (areas of launch and receiving pits), topsoil and subsoil should be removed and stockpiled separately to avoid soil mixing. Soil stockpiles should be located at least 30 m away from wetlands and watercourses and should be protected from erosion. However, if the distances are not possible, appropriate erosion and sedimentation techniques should be employed (silt fences, plastic sheets, etc.) to prevent erosion and deposition of soil into the adjacent sensitive lands. Landowner requests, including preferences for additional stripping or stripping restrictions should be accommodated where practicable.

Excavated soil that requires removal and offsite disposal should be analyzed for potential contamination to ensure its disposal at the appropriate location. Samples should be obtained by a professional consultant and analyzed at an accredited laboratory.

If previously unknown contaminated soils are encountered, construction in the location of the potential contamination should immediately cease. Union Gas should retain professional advice on assessing and developing a soil sampling, handling, and remediation program. All contaminated materials should be managed and disposed of in accordance with Ontario Regulation 347. Potential contamination of soil and

groundwater will be avoided and minimized through the use of proper drilling and construction techniques and mitigation measures (as described in Sections 5.4 and 5.8, respectively).

Sediment and erosion control measures (such as silt fence barriers, etc.) should be installed and maintained during the work phase and until the site has been stabilized. Control measures will be inspected daily to ensure they are functioning and are maintained as required. Additional inspections should occur during and following periods of rainfall. If control measures are not functioning properly, no further work will occur until the problem is resolved. All temporary erosion and sediment control measures will be installed in accordance with recognized provincial standards. Extra mitigation materials (silt fence, etc.) will be stored on site, should additional sediment control be required.

All disturbed areas of the work site should be stabilized immediately and re-vegetated as soon as conditions allow. Any stockpiled material will be stored and stabilized away from environmentally sensitive areas. All materials and equipment used for the purpose of site preparation and project completion should be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) from entering the environmentally sensitive areas. Construction should attempt to be conducted during the driest period of the year to avoid high soil moisture levels.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to soil and bedrock are anticipated.

5.5 Potential Impacts from Natural Hazards and Mitigation

Potential Impacts

Significant seismic activity in the area in and around the preferred route is relatively low, though it should be noted that earthquakes in the areas of Kingston and Belleville have been recorded in 2007 and 2002, respectively. In each case, the earthquake magnitude did not exceed 3.0 and the depth of the earthquakes were each reported as 5 km. According to Natural Resources Canada, 3 moderate sized (magnitude 5) events have occurred in the 250 years of European settlement of this region, all of them in the United States and have caused no damage in Ontario. As a result of the low potential of seismic activity in the area of the project, no potential effects are anticipated.

A flooding event during pipeline construction could result in construction delays, increased sedimentation, and potential discharge from the construction areas to the Bay of Quinte.

Recommended Mitigation

When online, the pipeline is electronically monitored 24 hours a day by Union Gas. Any disturbance or disruption of flow would be identified and gas flow can be stopped within minutes of recognizing an issue.

Where possible, workspaces should be located above the floodplain as designated by Quinte Conservation. Appropriate sediment and erosion control measures should be employed and maintained throughout the construction process. Additional inspections should occur during and following periods of rainfall and in advance of potential rain events that could lead to site flooding. Where necessary, increased mitigation measures should be employed if potential of flooding is thought to be high.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to soil and bedrock are anticipated.

5.6 Potential Impacts and Mitigation to Woodland Habitat

Potential Impacts

Due to the necessity to clear land on the south side and excavate areas at both the north and south sides of the Bay of Quinte as part of the HDD process, cultural thicket and a relatively small amount of woodland habitat will be temporarily impacted. The land in the immediate areas of the drilling pits will be cleared of vegetation which could potentially include disruption of bird nests and local woodland habitat. As part of this, excavated soil will require stockpiling and could potentially impact surrounding areas if not properly contained and handled.

Recommended Mitigation

Appropriate sediment and erosion control methods should be employed around the excavation sites to ensure that sediment is not able to migrate to surrounding woodland habitat. In addition to this, equipment laydown and refueling areas will be excluded from more naturally vegetated areas, including woodlands. As the habitat in these areas are suitable for birds regulated under the Migratory Bird Convention Act, a preconstruction nest survey will be completed by a qualified ecologist if disturbance is scheduled within the breeding bird nesting season (May 1 to July 31). However it is our understanding that tree removal is tentatively scheduled in early 2015, outside of the nesting window. Where tree removal is planned, landowners will be eligible to participate in Union Gas' Tree Replacement Program which will replace trees on a 2:1 area basis.

Sediment and erosion control measures (such as silt fence barriers, etc.) should be installed and maintained during the work phase and until the site has been stabilized. Control measures will be inspected daily to ensure they are functioning and are maintained as required. If control measures are not functioning properly, no further work

will occur until the problem is resolved. All temporary erosion and sediment control measures will be installed in accordance with recognized provincial standards. Extra mitigation materials (silt fence, etc.) will be stored on site, should additional sediment control be required.

All disturbed areas of the work site should be stabilized immediately and re-vegetated as soon as conditions allow. Any stockpiled material will be stored and stabilized away from significant woodlands. All materials and equipment used for the purpose of site preparation and project completion should be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) from entering the woodlands.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to woodland habitat are anticipated.

5.7 Potential Impacts and Mitigation for Aquatic Environments

Potential Impacts

Since the HDD is proposed to tunnel beneath the entire width of the Bay of Quinte at the west side of the Highway 49 crossing, an impact to the waterbody could potentially exist. As previously discussed, this waterbody provides habitat for both warm and coldwater fish species, including several species at risk. Potential impacts on fish and fish habitat include reduced water quality resulting from sedimentation and/or spills adjacent to a watercourse or wetland, siltation and sedimentation due to HDD fluid fracturing into the Bay of Quinte. Construction of the pipeline will not change the habitat conditions within the Bay of Quinte.

Numerous wetlands and two watercourses also exist north of the Bay of Quinte, adjacent to the subject lands. The western lane of Highway 49, adjacent to these wetlands and watercourses will be used for pipe laydown prior to being installed as part of the subterranean pipeline. Although the potential for impact to these natural areas is low, staging areas adjacent to the laydown locations could be impacted by construction accidents including improper refueling of vehicles and improper placement of piping, and construction litter.

Recommended Mitigation

Appropriate sediment and erosion control methods should be employed around the excavation sites to ensure that sediment is not capable of eroding and migrating into adjacent wetlands or watercourses. As previously mentioned, work beneath the Bay of Quinte will be performed during the coldwater timing window between July 1 and September 30 to avoid disruptions to fish during spawning periods.

Sediment and erosion control measures (such as silt fence barriers, etc.) are outlined in Section 5.4 and should be employed to mitigate potential effects to aquatic environments. Any stockpiled material will be stored and stabilized away from aquatic environments. All materials and equipment used for the purpose of site preparation and project completion should be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) from entering the water.

All equipment fueling and maintenance will be done a safe distance from the edge of the water to ensure that no deleterious substances enter an aquatic environment. Refueling of construction machinery should be performed in a designated area at least 50 m away from a wetland or waterbody.

The Contractor will be required to develop Spill Prevention and Contingency Plans for construction (including potential emergency HDD situations i.e., Emergency Bedrock Fracturing Plan) and operational phases of the project. Personnel will be trained in how to apply the plans and the plans will be reviewed to strengthen their effectiveness and ensure continuous improvement. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. A hydrocarbon spill response kit will be on site at all times during the work. Spills will be reported to the Ontario Spills Action Center at 1-800-268-6060.

Pipe will be secured during laydown to ensure no movement will occur. The construction site will be kept in a tidy manner and waste will be disposed of in appropriate locations for delivery to local accredited landfill.

The pipeline will be monitored electronically on a 24 hour basis by Union Gas, who has the capability to turn off the pipeline within minutes of recognizing an issue and Union Gas' Emergency Response Plan would be put into effect immediately. The sections of pipe will be welded together and "jeeped" (the process of checking for external corrosion coating for pinholes-sized holes) prior to its situation beneath the Bay of Quinte. The pipeline will also be cathodically protected to minimize potential pipeline corrosion that can lead to pipeline leakage.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to aquatic environments are anticipated.

5.8 Potential Impacts and Mitigation for Hydrostatic Testing, Surficial Hydrology, and Groundwater

Potential Impacts

The potential exists that an impact to surficial hydrology and groundwater is possible from the construction activities.

The potential exists that impacts could occur through the hydrostatic testing of the entire length of the proposed pipeline prior to commissioning. The water that will be used for the testing could potentially be obtained from a local source. Should the volume be withdrawn from a natural source that exceeds 50,000 L/day, a Permit to Take Water (PTTW) will be required from the MOE. Uncontrolled and improper discharge could result in down-gradient erosion and sedimentation, disruption to fish and fish habitat, and impact local properties. It could also cause the introduction of hazardous materials or pollutants to the down-gradient receptor.

Due to the use of HDD, the potential exists that groundwater could be impacted through improper drilling techniques, though no direct impacts are anticipated. Several domestic and small-capacity water wells are located near the subject lands; however no impacts to these wells are anticipated as part of the construction activities. Since the local wells are a sufficient distance from the HDD area and are completed at a shallower depth than the HDD hole, they are not anticipated to be directly connected through geological links. However, this will be verified through geologic assessments before the commencement of the HDD drilling program.

Should dewatering be necessary as part of the HDD process, it may require water taking at a rate of more than 50,000 L a day. In which case, a PTTW will be required from the MOE.

Recommended Mitigation

Following the hydrostatic testing (and potential dewatering), the water discharge will have regard for energy dissipater systems (i.e. dissipation tubs, ponding water prior to discharge into watercourse) that will provide adequate erosion and sediment controls. Erosion and sediment control measures were discussed in Section 5.4 and should be employed in the areas of surficial water bodies and watercourses. No uncontrolled discharge of water used for hydrostatic testing or withdrawn as part of dewatering (if necessary) should occur as it could cause down-gradient erosion and sedimentation, disruption to fish and fish habitat, and impact domestic properties.

A well monitoring program is also planned to be initiated for nearby wells. Union Gas will implement its standard water well monitoring program which will be developed by a qualified hydrogeologist.

5.9 Potential Impacts and Mitigation for Designated and Sensitive Natural Areas

Potential Impacts

As previously mentioned, a field investigation conducted in June of 2014 confirmed the presence of several unevaluated wetlands that are located within the subject lands,

adjacent to Highway 49, north of the Bay of Quinte. As discussed, pipe laydown, welding, and jeeping are proposed to take place along the southbound (western) lane and shoulder of Highway 49. As there are no construction activities proposed within the wetlands and sensitive natural areas, no impact to the form or function of these wetland communities from pipeline construction is anticipated. However, the above-noted works taking place adjacent to these wetlands could impact them through improper material storage.

Recommended Mitigation

Storage areas for hazardous materials, including fuels, oils, and chemicals, should be located away from sensitive and natural areas. Refueling will be conducted at least 30 m from any watercourse or wetland and will occur in designated areas only. These materials should also be located in an area equipped with proper spill containment. Work near designated and sensitive areas should be avoided to the extent practical and no work is anticipated or planned to take place in any of the designated or sensitive areas within the preferred route.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to designated and sensitive areas are anticipated.

5.10 Potential Impacts and Mitigation for Vegetation

Potential Impacts

The preferred route crosses vegetated areas and will impact vegetated areas north and south of the Bay of Quinte in the areas needed for the launch and receiving pits. Potential impacts to vegetation include the removal of vegetation, fragmentation of habitat, dust, and erosion and sedimentation.

Recommended Mitigation

Though an initial vegetation survey was conducted in June 2014, an additional vegetation survey should be completed in the spring of 2015, prior to construction activities to confirm 2014 results.

Mitigation measures to minimize impacts to vegetation include minimizing the clearing to the extent practical, and should ensure that no construction disturbance occurs beyond the proposed construction limits and maximum slash width. All clearing will be done within the breeding bird timing window and should be conducted during dry soil conditions.

Union Gas also employs a tree replacement program that provides landowners with tree planting replacements on a 2:1 area basis. Replacement trees will be native trees, local

to the area. Following construction, planted vegetation should be inspected for survival and in certain instances, dead vegetation should be replaced.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to vegetation are anticipated.

5.11 Potential Impacts and Mitigation for Wildlife and Wildlife Habitat

Potential Impacts

As previously mentioned, background data searches indicated the potential presence of several SAR that could have habitat within, and adjacent to, the subject lands. Potential effects on wildlife habitat from pipeline construction include species mortality through construction vehicles, habitat degradation through spills and/or sedimentation, habitat destruction through vegetation removal, and disturbance of wildlife during construction activities (noise and vibration).

Recommended Mitigation

The mitigation measures for spills, sedimentation, and vegetation removal that have been previously described in the Sections above should be employed to protect wildlife and wildlife habitat. Additional mitigation measures that should be employed during construction activities to protect wildlife and wildlife habitat include:

- Land clearing activities should take place outside the migratory bird nesting period (May 1 to July 31). If necessary, the advice of a licensed ornithologist should be sought to ensure no breeding birds are affected. If a pre-construction nest survey confirms the presence of breeding birds, construction setbacks would be required (dependent on species) while the nest(s) is active.
- Field surveys should be conducted in the spring prior to drilling, to determine the presence/absence of wildlife species in the areas where construction is proposed. Should a SAR be identified, consultation with the MNR regarding site-specific advice should occur.
- Wildlife deaths as a result of project-related activities should be reported to appropriate staff at Union Gas, who will report as necessary to the MNR and aid in determining the need for additional mitigation measures.

With the implementation of the above-noted mitigation and protective measures, no significant adverse residual effects to wildlife and wildlife habitat are anticipated.

5.12 Indirect Impacts Associated with Construction

Potential Impacts

No development or site alteration is proposed within the unevaluated wetlands or watercourses, waterbodies, and the wildlife habitat encompassed within it. This includes the turtle nesting/overwintering habitat, potential habitat for blanding's turtle and gray ratsnake, amphibian woodland breeding habitat, and potential fish spawning areas. No direct loss or disturbance is expected. No changes to the zoning of the areas are proposed.

Features associated with the designated areas could potentially be impacted indirectly during construction from erosion/sedimentation, refueling spills, and encroachment beyond the approved development area.

Recommended Mitigation

- A 10 m buffer should be applied to the dripline of the forest and the edges of wetland features, wherever possible. The adjacent land is disturbed to the edge of the vegetation features. Trees have thus become tolerant of edge effects and a wider buffer is not required. Limiting development to land outside of the 10 m will sufficiently protect the roots of edge trees, herbaceous vegetation and minimize impacts to wildlife habitat associated with these features.
- Sediment fencing should be placed along the buffer line prior to any grading or earth works. Fencing should be maintained in place and regularly monitored for the duration of construction and until such time as lands are re-vegetated and stabilized. All stockpiles, equipment and work areas should be maintained outside of the fenced area. Any refueling will be conducted at least 30 m from any watercourse or wetland and will occur in designated areas only.
- Wildlife and wildlife habitat not previously identified in either field assessments or reporting should be reported to the appropriate staff at Union Gas, who will report as necessary to the MNR and aid in determining the need for additional mitigation measures.
- Wildlife fencing should be erected around excavations to prevent wildlife entrapment.
- All construction activities should be conducted in a quick manner to minimize potential hazards to wildlife.

A more detailed erosion and sediment control plan and emergency contingency plans should be developed during the detailed design phase.

6.0 Cumulative Effects Assessment

The cumulative effects assessment refers to effects associated with construction and operation of the pipeline. The OEB Environmental Guidelines (2011) specify that effects that are additive or interact with the effects that have been identified as resulting from the project works are to be considered under cumulative effects. In instances where cumulative effects are anticipated to occur, a determination of whether the effects necessitate mitigation measures will be required such as changes to construction timing or routing, or additional measures that could mitigate and/or minimize the cumulative effect.

The cumulative effects assessment evaluates and manages the sum and interactive effects from sources such as existing infrastructure, facilities and activities, the proposed project itself, and future activities that are likely to occur in the area of the project. Unexpected or rare occurrences such as accidents or emergencies are not addressed within this assessment as they are typically extreme in nature and require individual response plans (e.g., bedrock fracturing during drilling emergency plans). Pipeline decommissioning and abandonment is also beyond the scope of this cumulative effects assessment.

A boundary of 100 m around the terrestrial regions of the study area and a 500 m boundary within the Bay of Quinte were used for the purposes of the cumulative effects assessment.

6.1 Analysis of Cumulative Effects

The analysis of the cumulative effects evaluates the significance of residual effects that could potentially exist after mitigation of the pipeline along with the effects of other unrelated projects.

Local municipal resources (Mohawks of Bay of Quinte, County of Hastings, and County of Prince Edward) were reviewed to identify upcoming and planned projects in the area of the preferred route that will likely be proceeding around the time of the subject pipeline relocation project. Aside from the known upcoming MTO Highway 49 Bridge upgrades that are planned to occur after the pipeline has been constructed and put online, no other projects were identified in the review.

6.1.1 Cumulative Effects in Construction Phase

As discussed in Section 5, potential significant effects that are associated with construction of the pipeline replacement will be minimized through the implementation of mitigation and protective measures. By limiting this potential, the interaction of the subject project effects with unrelated projects will be reduced.

However, despite the employment of mitigation and protective measures, the potential for residual effects associated with construction exists.

Potential socioeconomic and cultural cumulative effects should be minimized if mitigation measures as described in Section 5.1 are conducted. However, the possibility exists that a minimal cumulative effect to the local socioeconomic environment could occur as a result of subsequent construction projects involving the Highway 49 roadway. A minimal cumulative effect to local residents, businesses, and commuters that use Highway 49 is potentially possible as construction timelines, that likely include lane closures, are proposed to occur in consecutive years. The anticipated construction timeline for this Project is proposed to commence and end in 2015, while the Highway 49 bridge repair/reconstruction project conducted by MTO is anticipated to occur in 2016. However, as the respective project timelines are not anticipated to overlap and are temporary in nature, any potential cumulative effects are anticipated to be minimal.

Potential residual effects on air quality associated with project construction activities are an increase in air quality pollutants from the increased operation of vehicles and equipment, and dust increases related to construction activities. However, the cumulative effects on air quality associated from construction activities and local traffic and everyday activities are anticipated to be of low magnitude and short duration, and are not persistent and are reversible. Thus, residual cumulative effects on air quality are not anticipated to be significant.

As no other projects are known to be occurring in the area of the Site during the construction of the subject project, no other cumulative effects are anticipated during the construction phase of the project.

6.1.2 Cumulative Effects During Operation and Maintenance Phases

However, despite the employment of mitigation and protective measures, the potential for residual effects associated with construction exists. Potential residual effects on fish and fish habitat in the Bay of Quinte associated with construction activities exist from potential erosion and resulting sedimentation. Should erosion and sedimentation control measures fail at the project and potential adjacent construction projects due to an unforeseen event, the Bay of Quinte could experience sedimentation that could affect aquatic species.

During the operational and maintenance phases of the project, there is a high probability that the previously-mentioned Highway 49 Bridge upgrades will occur, along with other potential infrastructure upgrades. The operational phase of the project is not anticipated to create cumulative effects based on the potential infrastructure or Highway 49 Bridge upgrades. However, pipeline maintenance in combination with the construction activities related to these potential future projects are likely to create cumulative residual effects.

Potential residual effects on air quality associated with the maintenance phases of the project are a potential increase in air quality pollutants including noise from the operation of vehicles and equipment, and dust increases related to a combination of pipeline maintenance activities and the potentially concurrent infrastructure projects. However, if the potential projects implement mitigation measures similar to the ones described in this ER, the cumulative effects are expected to be of low magnitude and short duration, are not persistent, and are reversible. Thus, residual cumulative effects on air quality and noise during the operations and maintenance phases are not anticipated to be significant.

Future concurrent maintenance activities and potential future projects have the potential to initiate safety concerns. In such cases, communication between Union Gas and future construction contractors would be necessary to alleviate concerns to implement a safe coordination of respective project activities. As communication between the respective contractors is expected to occur, cumulative effects to safety are not anticipated to be significant.

6.2 Cumulative Effects Summary

The cumulative effects assessment determined that potential cumulative effects are not anticipated to be significant if the mitigation and protective measures outlined in this ER are implemented.

Post-construction and subsequent final monitoring reports as described in the OEB Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario will be completed and submitted to the OEB.

7.0 Conclusion

The replacement and realignment of the existing Union Gas pipeline along the corridor of the Highway 49 bridge crossing in Hastings and Prince Edward County, Ontario, beneath the Bay of Quinte, is proposed to be conducted using HDD. This project is proposed to be located along the Union Gas right-of-way (ROW), the Ministry of Transportation (MTO) road allowance, on and between Lots 30 and 31, Concession A in Tyendinaga Township of Hastings County and Lot 5, Concession 1, West of Green Point in Sophiasburgh Township of Prince Edward County.

This document contains the investigated data of the physical, terrestrial, aquatic, and socio-economic environments within, and adjacent to, the subject lands. It is Neegan Burnside's opinion that the implementation of the recommended mitigation and protective measures outlined within this ER will adequately protect the sensitive environmental features throughout the construction process. The sufficient use of monitoring and contingency programs, continued communication and consultation, and the following of regulatory requirements will ensure the effectiveness of the mitigation

and protective measures throughout the construction, operational, and maintenance phases of the proposed relocated pipeline.

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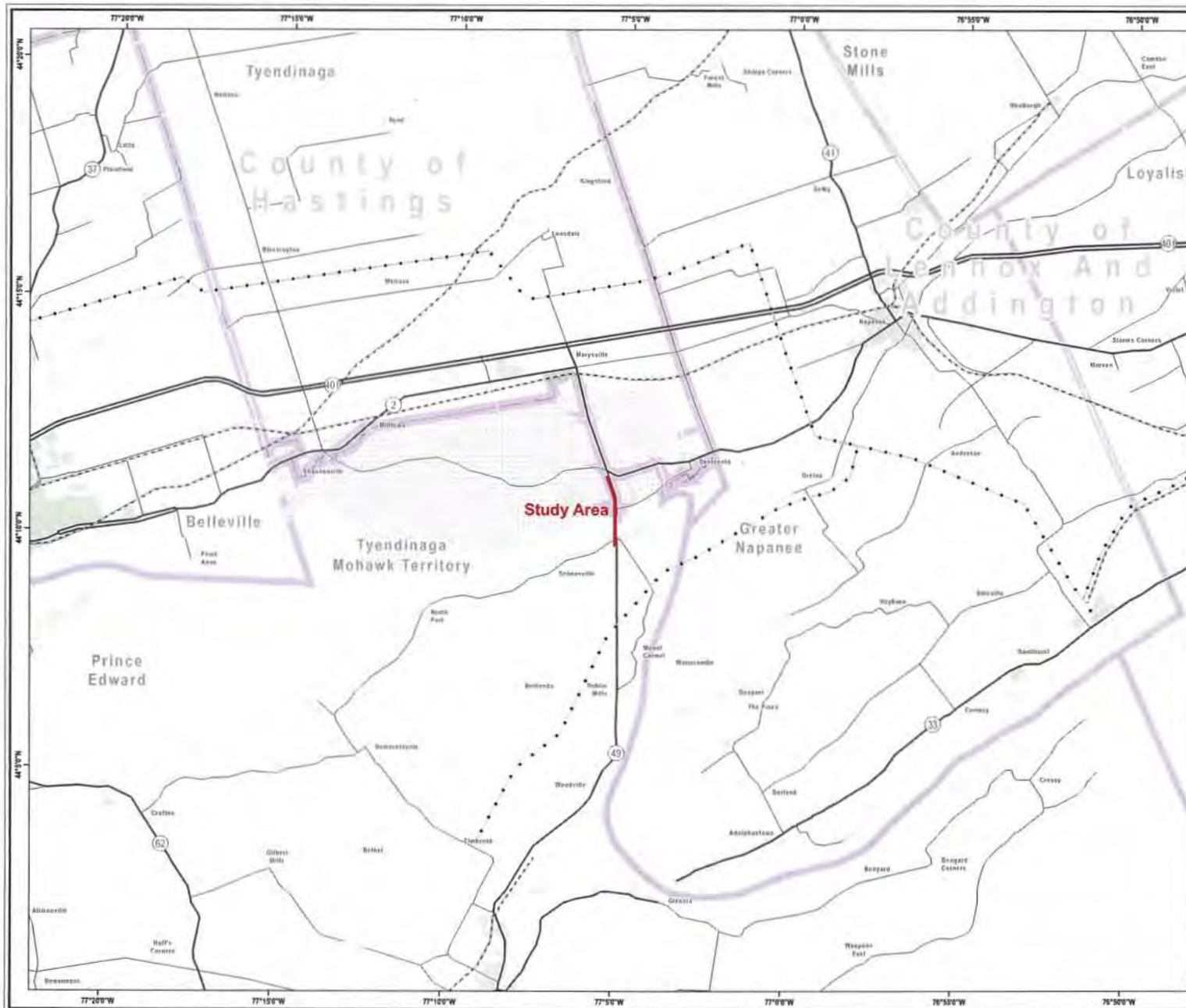
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Figures






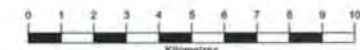
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Coord. System: NAD 1983 CSRS UTM Zone 18N	
Projection: Transverse Mercator	
Central Meridian: 75°00.00'W	
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 Grid North


 Kilometres

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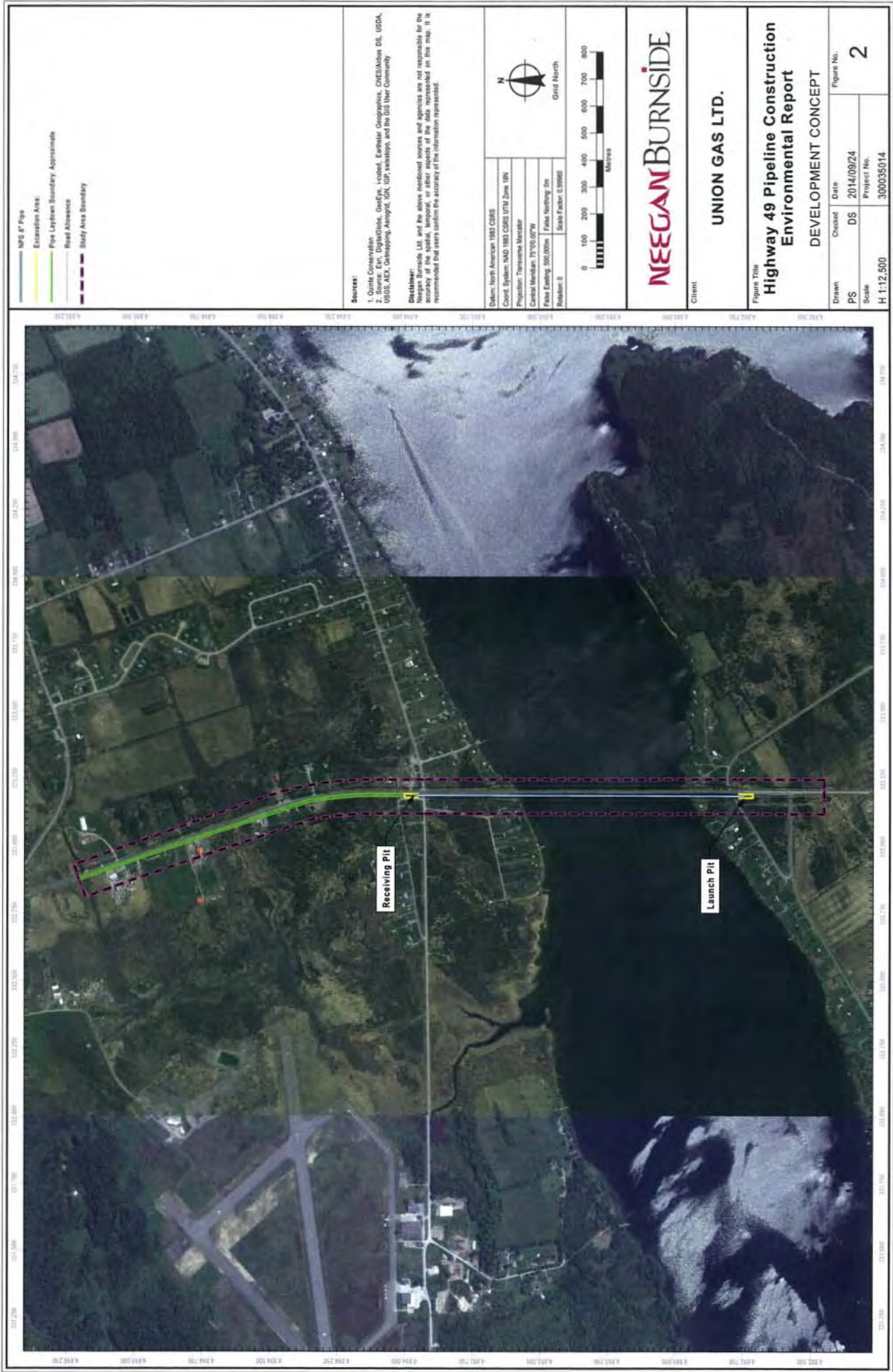
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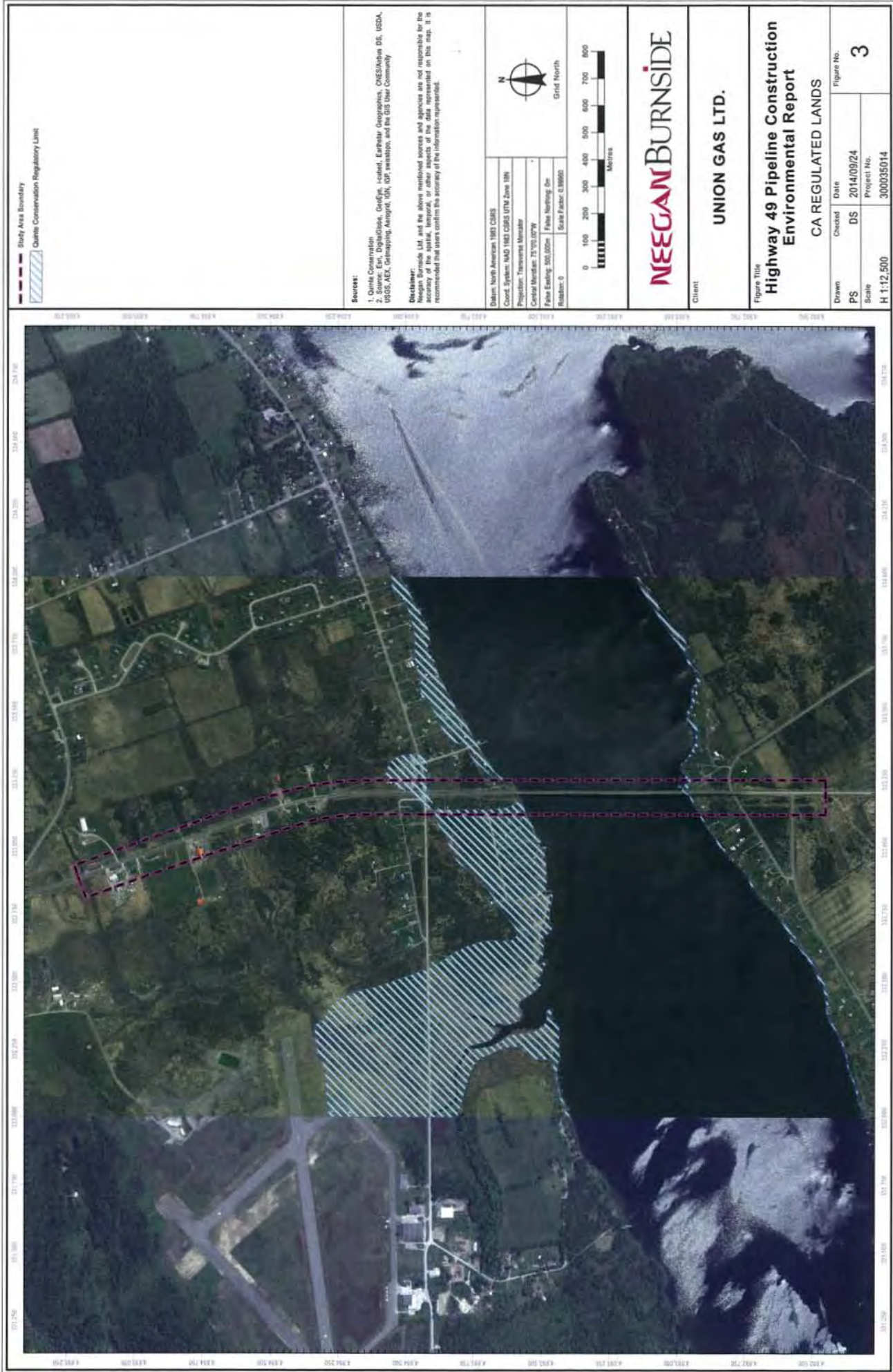
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Highway 49 Pipeline Construction Environmental Report

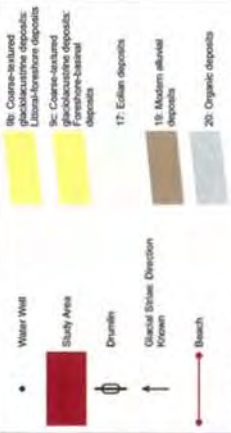
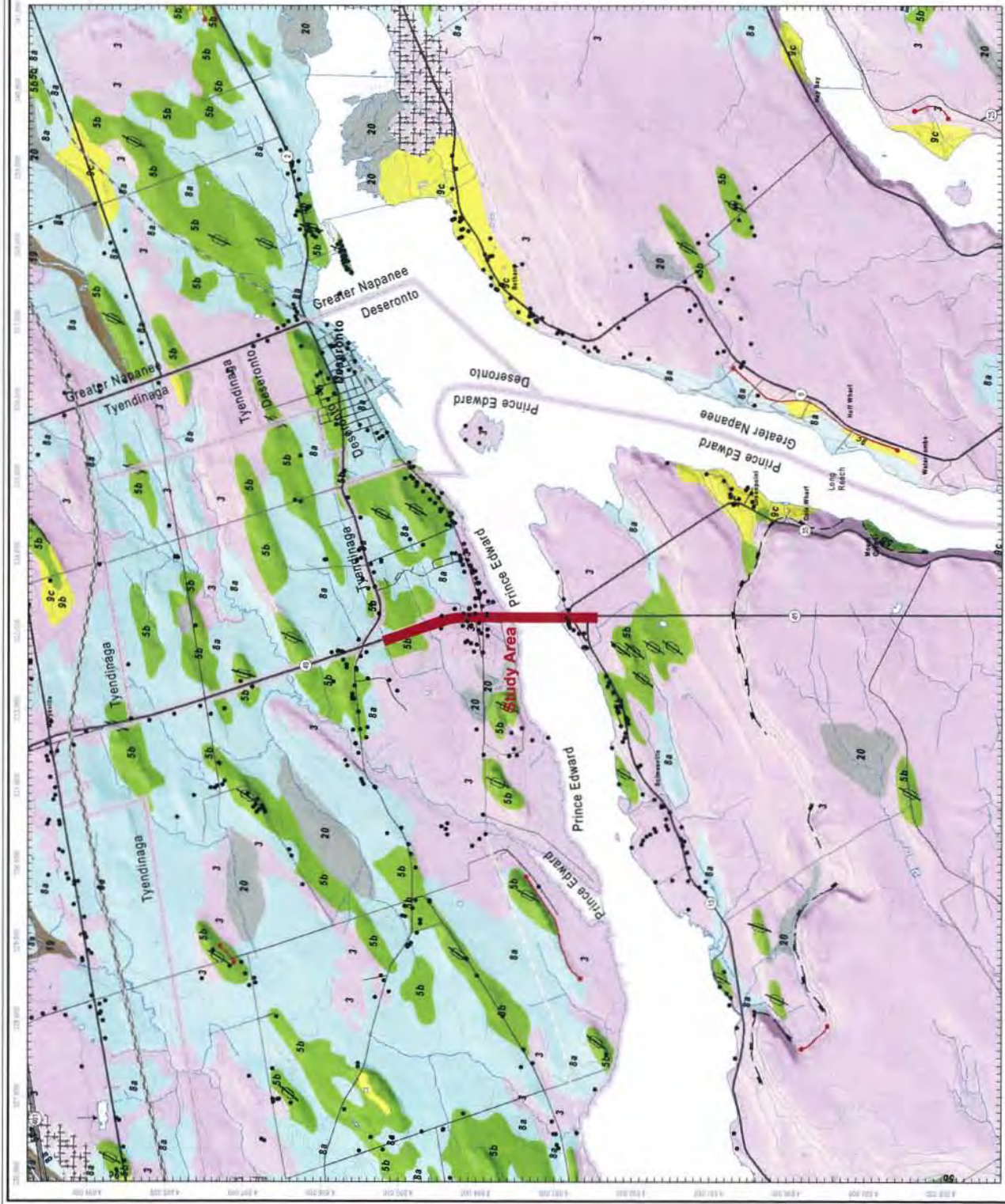
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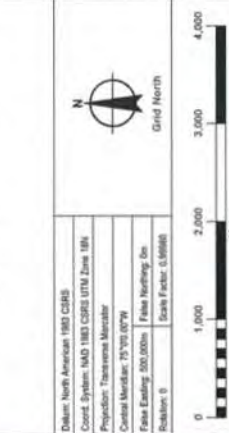


Sources:

1. Surface Geology Data: Ontario Geological Survey 2010, Surface Geology of Southern Ontario, Ontario Geological Survey, Miscellaneous Release-Data 124-RV
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**Highway 49 Pipeline Construction
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SURFICIAL GEOLOGY

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Scale	Project No.		
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- Study Area Boundary
 ELC Boundary: Definite
 ELC Boundary: Indefinite
- ELC Codes**
- (CVC) Commercial and Institutional
 - (CVR_1) Transportation
 - (CVR_4) Rural Property
 - (FODM7-2) Fresh - Moist Green Ash - Hardwood Lowland Deciduous Forest
 - (FODM7-6) Fresh - Moist Black Ash - Hardwood Lowland Deciduous Forest
 - (FODM7-4) Fresh - Moist White Cedar - Hardwood Mixed Forest
 - (IAG) Agricultural Infrastructure
 - (MAMM1-16) Mixed Grassland Grassland Mineral Meadow Marsh
 - (MASM1-1) Cattail Mineral Shallow Marsh
 - (MEMB4) Fresh - Moist Mixed Meadow
 - (OAG) Open Agriculture
 - (SWDM2-1) Black Ash Mineral Deciduous Swamp

Sources:

1. Surficial Geology Data: Ontario Geological Survey 2016. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release-Data 128-REV
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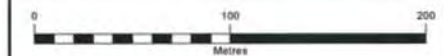
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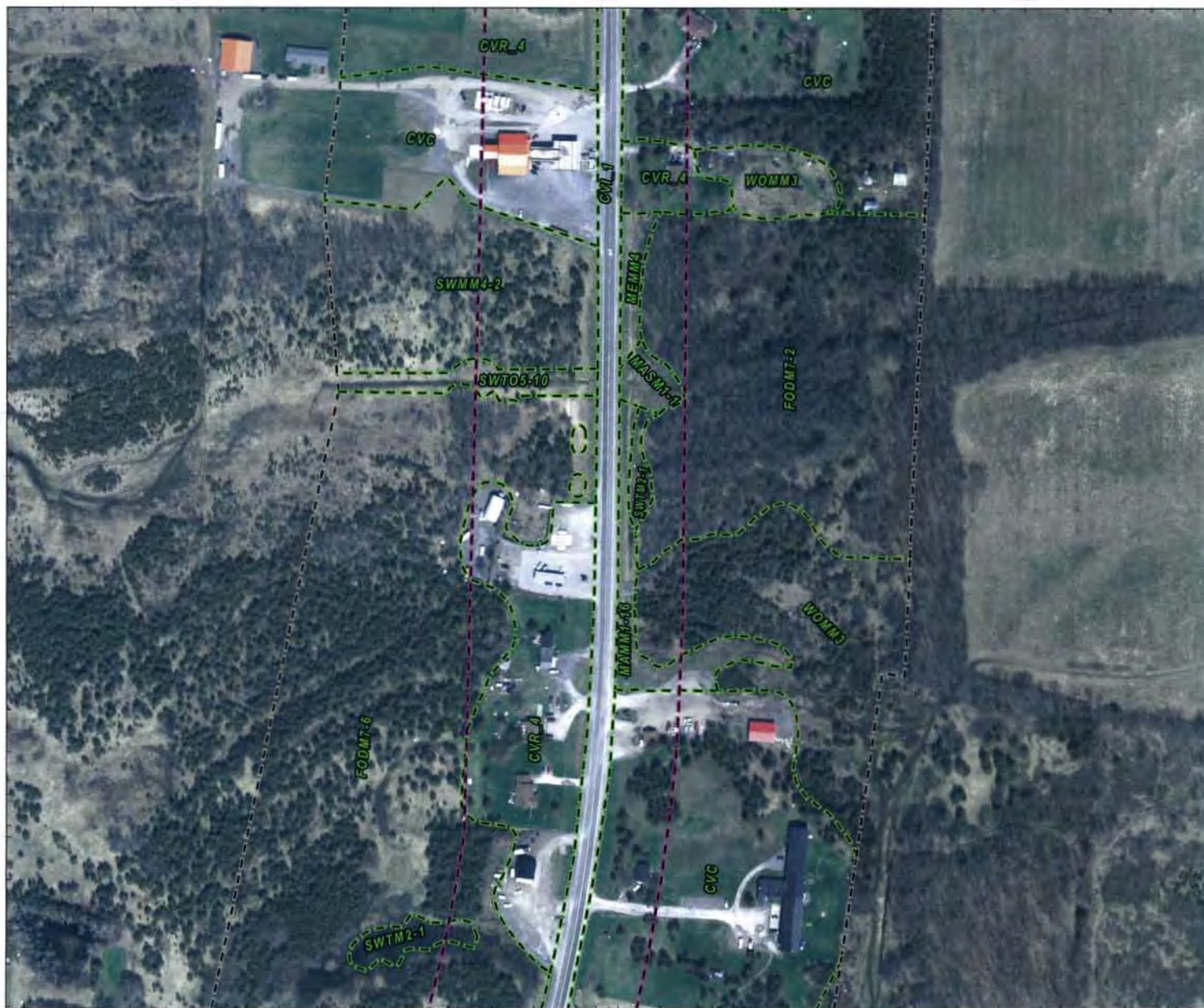
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Figure Title:

**Highway 49 Pipeline Construction
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ECOLOGICAL LAND CLASSIFICATION

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Study Area Boundary

ELC Boundary: Definite

ELC Boundary: Indefinite

ELC Codes

(CVC) Commercial and Institutional
(CVR_1) Transportation
(CVR_4) Rural Property
(FODMT-2) Fresh - Moist Green Ash - Hardwood Lowland Deciduous Forest
(FODMT-6) Fresh - Moist Black Ash - Hardwood Lowland Deciduous Forest
(MAMM1-16) Mixed Graminoid Graminoid Mineral Meadow Marsh
(MAMM1-1) Cattail Mineral Shallow Marsh
(MEMM4) Fresh - Moist Mixed Meadow
(SWMM4-2) Black Ash - Conifer Mineral Mixed Swamp
(SWTM2-1) Red-osier Dogwood Mineral Deciduous Thicket Swamp
(SWTOS-10) Spires Organic Deciduous Thicket Swamp
(WOMM3) Dry - Fresh Mixed Woodland

Sources:

1. Surficial Geology Data: Ontario Geological Survey 2010, Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release-Data 128-REV
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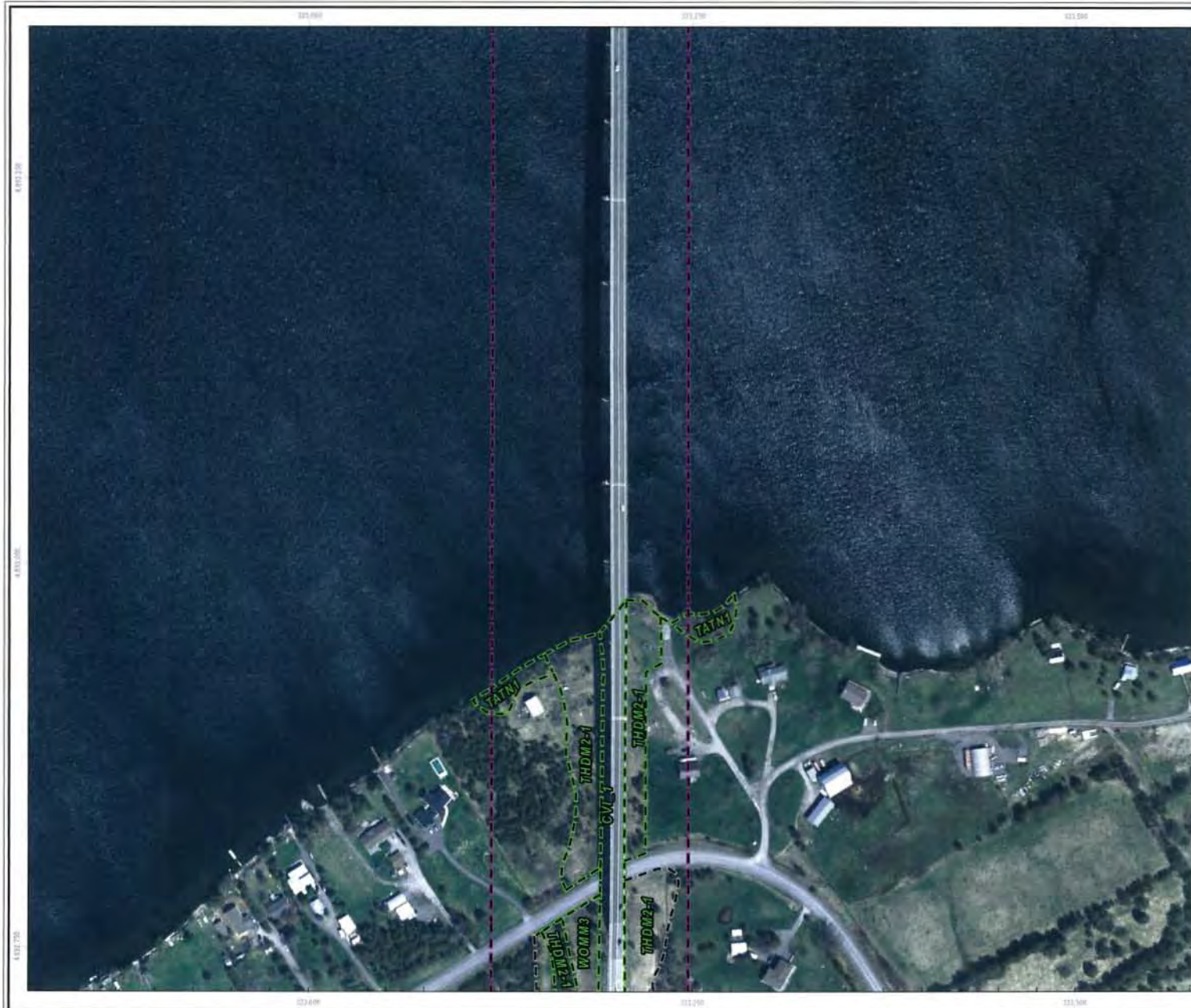
**Highway 49 Pipeline Construction
Environmental Report**

ECOLOGICAL LAND CLASSIFICATION

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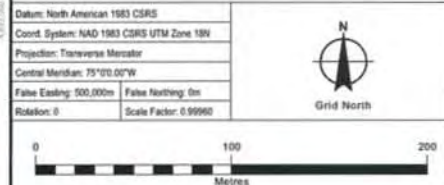
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<p>Sources:</p> <p>1. Surficial Geology Data: Ontario Geological Survey 2010, Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release-Data 128-REV</p> <p>2. Ministry of Natural Resources, © Queen's Printer for Ontario</p> <p>3. Natural Resources Canada © Her Majesty the Queen in Right of Canada</p>			
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 (TATN1) Non-Calcareous Treed Talus
 (THDM2-1) Sumach Deciduous Shrub Thicket
 (WOMM3) Dry - Fresh Mixed Woodland

- Sources:**
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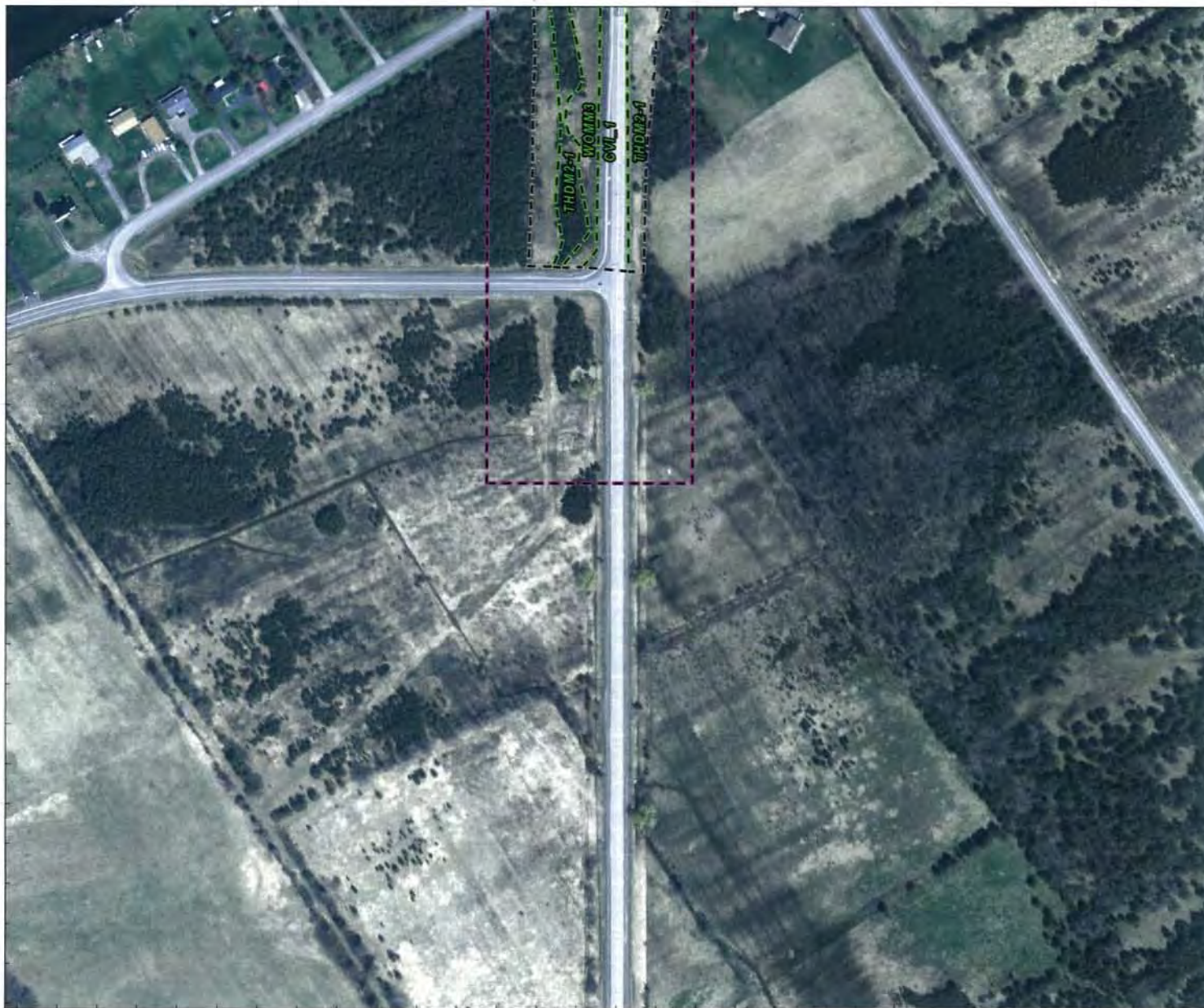
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**Highway 49 Pipeline Construction
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ECOLOGICAL LAND CLASSIFICATION

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<p>Sources:</p> <p>1. Surficial Geology Data: Ontario Geological Survey 2010, Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release-Data 128-REV</p> <p>2. Ministry of Natural Resources, © Queen's Printer for Ontario</p> <p>3. Natural Resources Canada © Her Majesty the Queen in Right of Canada</p> <p>Disclaimer:</p> <p>Neegan Burnside Ltd. and the above mentioned sources and agencies are not responsible for the accuracy of the spatial, temporal, or other aspects of the data represented on this map. It is recommended that users confirm the accuracy of the information represented.</p>	
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<p>Figure No.</p> <p>6F</p>	

Appendix A
Natural Heritage Review Results (MHIC and OBBA)

OBJECTID	Grid ID	EO ID	Element TY	Element ID	Scientific Name	Common Name	S Rank	COSEWIC	MNR Status	Last Observation	Exterpated	URL_FOLLOW	LatitudeDD	LongitudeDD
1	18UP3292		NATURAL AREA									http://nhic.mnr.gov.on.ca/	44.16649922	-77.09505654
2	18UP3292	32393	SPECIES	180752	Emydoidea blandingii	Blanding's Turtle	S3	THR	THR	1990-05-25	N		44.16649922	-77.09505654
3	18UP3292	5250	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1974-05-25	N		44.16649922	-77.09505654
4	18UP3292	103879	SPECIES	17153	Pantherophis spiloides pop. 1	Gray Ratsnake (Frontenac Axis population)	S3	THR	THR	1975-00-00	Y		44.16649922	-77.09505654
5	18UP3292	2814	SPECIES	24008	Peltandra virginica	Green Arrow-arum	S2			1877-06-17	N		44.16649922	-77.09505654
6	18UP3292	23324	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1978-06-03	N		44.16649922	-77.09505654
7	18UP3292	22990	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1994-06-05	N		44.16649922	-77.09505654
8	18UP3293		NATURAL AREA									http://nhic.mnr.gov.on.ca/	44.17549641	-77.09537521
9	18UP3293	32393	SPECIES	180752	Emydoidea blandingii	Blanding's Turtle	S3	THR	THR	1990-05-25	N		44.17549641	-77.09537521
10	18UP3293	1977	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1983-06-14	N		44.17549641	-77.09537521
11	18UP3293	5250	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1974-05-25	N		44.17549641	-77.09537521
12	18UP3293	64831	SPECIES	23112	Carex conoidea	Field Sedge	S3			1994-06-14	N		44.17549641	-77.09537521
13	18UP3293	103879	SPECIES	17153	Pantherophis spiloides pop. 1	Gray Ratsnake (Frontenac Axis population)	S3	THR	THR	1975-00-00	Y		44.17549641	-77.09537521
14	18UP3293	2814	SPECIES	24008	Peltandra virginica	Green Arrow-arum	S2			1877-06-17	N		44.17549641	-77.09537521
15	18UP3293	23324	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1978-06-03	N		44.17549641	-77.09537521
16	18UP3293	22990	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1994-06-05	N		44.17549641	-77.09537521
17	18UP3293	12155	SPECIES	180063	Ixobrychus exilis	Least Bittern	S4B	THR	THR	1985-07	N		44.17549641	-77.09537521
18	18UP3293	32895	SPECIES	22214	Dichanthelium leibergii	Leiberg's Panicgrass	S2			1995-09-19	N		44.17549641	-77.09537521
19	18UP3293	93486	SPECIES	201107	Potamogeton ogdenii	Ogden's Pondweed	SH	END	END	1873-07-15	N		44.17549641	-77.09537521
20	18UP3293	22286	SPECIES	22820	Sporobolus heterolepis	Prairie Dropseed	S3			1994-06-14	N		44.17549641	-77.09537521
21	18UP3293	34288	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.17549641	-77.09537521
22	18UP3293	64096	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.17549641	-77.09537521
23	18UP3293	95897	SPECIES	180745	Chelydra serpentina	Snapping Turtle	S3	SC	SC	2009-07-31	N		44.17549641	-77.09537521
24	18UP3293	6067	SPECIES	17394	Dichanthelium praecocius	White-haired Panicgrass	S3			1993-08-02	N		44.17549641	-77.09537521
25	18UP3294		NATURAL AREA									http://nhic.mnr.gov.on.ca/	44.18449364	-77.095694
26	18UP3294	32393	SPECIES	180752	Emydoidea blandingii	Blanding's Turtle	S3	THR	THR	1990-05-25	N		44.18449364	-77.095694
27	18UP3294	1977	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1983-06-14	N		44.18449364	-77.095694
28	18UP3294	5250	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1974-05-25	N		44.18449364	-77.095694
29	18UP3294	64831	SPECIES	23112	Carex conoidea	Field Sedge	S3			1994-06-14	N		44.18449364	-77.095694
30	18UP3294	103879	SPECIES	17153	Pantherophis spiloides pop. 1	Gray Ratsnake (Frontenac Axis population)	S3	THR	THR	1975-00-00	Y		44.18449364	-77.095694
31	18UP3294	2814	SPECIES	24008	Peltandra virginica	Green Arrow-arum	S2			1877-06-17	N		44.18449364	-77.095694
32	18UP3294	22990	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1994-06-05	N		44.18449364	-77.095694
33	18UP3294	23324	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1978-06-03	N		44.18449364	-77.095694
34	18UP3294	12155	SPECIES	180063	Ixobrychus exilis	Least Bittern	S4B	THR	THR	1985-07	N		44.18449364	-77.095694
35	18UP3294	32895	SPECIES	22214	Dichanthelium leibergii	Leiberg's Panicgrass	S2			1995-09-19	N		44.18449364	-77.095694
36	18UP3294	93486	SPECIES	201107	Potamogeton ogdenii	Ogden's Pondweed	SH	END	END	1873-07-15	N		44.18449364	-77.095694
37	18UP3294	22286	SPECIES	22820	Sporobolus heterolepis	Prairie Dropseed	S3			1994-06-14	N		44.18449364	-77.095694
38	18UP3294	22286	SPECIES	22820	Sporobolus heterolepis	Prairie Dropseed	S3			1873-06-15	Y		44.18449364	-77.095694
39	18UP3294	64096	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.18449364	-77.095694
40	18UP3294	34288	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.18449364	-77.095694
41	18UP3294	95897	SPECIES	180745	Chelydra serpentina	Snapping Turtle	S3	SC	SC	2009-07-31	N		44.18449364	-77.095694
42	18UP3294	6067	SPECIES	17394	Dichanthelium praecocius	White-haired Panicgrass	S3			1993-08-02	N		44.18449364	-77.095694
43	18UP3295		NATURAL AREA									http://nhic.mnr.gov.on.ca/	44.19349084	-77.09601297
44	18UP3295	32393	SPECIES	180752	Emydoidea blandingii	Blanding's Turtle	S3	THR	THR	1990-05-25	N		44.19349084	-77.09601297
45	18UP3295	5250	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1974-05-25	N		44.19349084	-77.09601297
46	18UP3295	1977	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1983-06-14	N		44.19349084	-77.09601297
47	18UP3295	64831	SPECIES	23112	Carex conoidea	Field Sedge	S3			1994-06-14	N		44.19349084	-77.09601297
48	18UP3295	103879	SPECIES	17153	Pantherophis spiloides pop. 1	Gray Ratsnake (Frontenac Axis population)	S3	THR	THR	1975-00-00	Y		44.19349084	-77.09601297
49	18UP3295	2814	SPECIES	24008	Peltandra virginica	Green Arrow-arum	S2			1877-06-17	N		44.19349084	-77.09601297
50	18UP3295	22990	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1994-06-05	N		44.19349084	-77.09601297
51	18UP3295	23324	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1978-06-03	N		44.19349084	-77.09601297

52	18UP3295	93486	SPECIES	201107	Potamogeton oregonii	Ogden's Pondweed	SH	END	END	1873-07-15	N		44.19349084	-77.09601297
53	18UP3295	22286	SPECIES	22820	Sporobolus heterolepis	Prairie Dropseed	S3			1994-06-14	N		44.19349084	-77.09601297
54	18UP3295	64096	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.19349084	-77.09601297
55	18UP3295	34288	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.19349084	-77.09601297
56	18UP3295	6067	SPECIES	17394	Dichanthelium praecocius	White-haired Panicgrass	S3			1993-08-02	N		44.19349084	-77.09601297
57	18UP3392		NATURAL AREA									http://nhic.mnr.gov.on.ca/	44.16672786	-77.08255696
58	18UP3392	32393	SPECIES	180752	Emydoidea blandingii	Blanding's Turtle	S3	THR	THR	1990-05-25	N		44.16672786	-77.08255696
59	18UP3392	5250	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1974-05-25	N		44.16672786	-77.08255696
60	18UP3392	33496	SPECIES	23332	Carex oligocarpa	Eastern Few-fruited Sedge	S3			2005-07-07	N		44.16672786	-77.08255696
61	18UP3392	64828	SPECIES	23112	Carex conoidea	Field Sedge	S3			1994-06-13	N		44.16672786	-77.08255696
62	18UP3392	103879	SPECIES	17153	Pantherophis spiloides pop. 1	Gray Ratsnake (Frontenac Axis population)	S3	THR	THR	1975-00-00	Y		44.16672786	-77.08255696
63	18UP3392	2814	SPECIES	24008	Peltandra virginica	Green Arrow-aram	S2			1877-06-17	N		44.16672786	-77.08255696
64	18UP3393		NATURAL AREA									http://nhic.mnr.gov.on.ca/	44.17572514	-77.08287372
65	18UP3393	32393	SPECIES	180752	Emydoidea blandingii	Blanding's Turtle	S3	THR	THR	1990-05-25	N		44.17572514	-77.08287372
66	18UP3393	1977	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1983-06-14	N		44.17572514	-77.08287372
67	18UP3393	5250	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1974-05-25	N		44.17572514	-77.08287372
68	18UP3393	64831	SPECIES	23112	Carex conoidea	Field Sedge	S3			1994-06-14	N		44.17572514	-77.08287372
69	18UP3393	103879	SPECIES	17153	Pantherophis spiloides pop. 1	Gray Ratsnake (Frontenac Axis population)	S3	THR	THR	1975-00-00	Y		44.17572514	-77.08287372
70	18UP3393	22990	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1994-06-05	N		44.17572514	-77.08287372
71	18UP3393	32895	SPECIES	22214	Dichanthelium leibergii	Leiberg's Panicgrass	S2			1995-09-19	N		44.17572514	-77.08287372
72	18UP3393	93486	SPECIES	201107	Potamogeton oregonii	Ogden's Pondweed	SH	END	END	1873-07-15	N		44.17572514	-77.08287372
73	18UP3393	22286	SPECIES	22820	Sporobolus heterolepis	Prairie Dropseed	S3			1994-06-14	N		44.17572514	-77.08287372
74	18UP3393	34288	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.17572514	-77.08287372
75	18UP3393	64096	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.17572514	-77.08287372
76	18UP3393	6067	SPECIES	17394	Dichanthelium praecocius	White-haired Panicgrass	S3			1993-08-02	N		44.17572514	-77.08287372
77	18UP3394		NATURAL AREA									http://nhic.mnr.gov.on.ca/	44.18472241	-77.08319063
78	18UP3394	32393	SPECIES	180752	Emydoidea blandingii	Blanding's Turtle	S3	THR	THR	1990-05-25	N		44.18472241	-77.08319063
79	18UP3394	5250	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1974-05-25	N		44.18472241	-77.08319063
80	18UP3394	1977	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1983-06-14	N		44.18472241	-77.08319063
81	18UP3394	9181	PLANT COMMUNITY	183583	Dry Tallgrass Prairie Type	Dry Tallgrass Prairie Type	S1			1995-09-19	N		44.18472241	-77.08319063
82	18UP3394	64831	SPECIES	23112	Carex conoidea	Field Sedge	S3			1994-06-14	N		44.18472241	-77.08319063
83	18UP3394	103879	SPECIES	17153	Pantherophis spiloides pop. 1	Gray Ratsnake (Frontenac Axis population)	S3	THR	THR	1975-00-00	Y		44.18472241	-77.08319063
84	18UP3394	23324	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1978-06-03	N		44.18472241	-77.08319063
85	18UP3394	22990	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1994-06-05	N		44.18472241	-77.08319063
86	18UP3394	32895	SPECIES	22214	Dichanthelium leibergii	Leiberg's Panicgrass	S2			1995-09-19	N		44.18472241	-77.08319063
87	18UP3394	32811	SPECIES	32002	Allium tricoccum var. burdickii	Narrow-leaved Wild Leek	S1?			1996-05-13	N		44.18472241	-77.08319063
88	18UP3394	93486	SPECIES	201107	Potamogeton oregonii	Ogden's Pondweed	SH	END	END	1873-07-15	N		44.18472241	-77.08319063
89	18UP3394	22286	SPECIES	22820	Sporobolus heterolepis	Prairie Dropseed	S3			1994-06-14	N		44.18472241	-77.08319063
90	18UP3394	64096	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.18472241	-77.08319063
91	18UP3394	34288	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.18472241	-77.08319063
92	18UP3394	6067	SPECIES	17394	Dichanthelium praecocius	White-haired Panicgrass	S3			1993-08-02	N		44.18472241	-77.08319063
93	18UP3395		NATURAL AREA									http://nhic.mnr.gov.on.ca/	44.19371969	-77.08350767
94	18UP3395	32393	SPECIES	180752	Emydoidea blandingii	Blanding's Turtle	S3	THR	THR	1990-05-25	N		44.19371969	-77.08350767
95	18UP3395	5250	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1974-05-25	N		44.19371969	-77.08350767
96	18UP3395	1977	SPECIES	73172	Draba reptans	Carolina Whitlow-grass	S3			1983-06-14	N		44.19371969	-77.08350767
97	18UP3395	64831	SPECIES	23112	Carex conoidea	Field Sedge	S3			1994-06-14	N		44.19371969	-77.08350767
98	18UP3395	103879	SPECIES	17153	Pantherophis spiloides pop. 1	Gray Ratsnake (Frontenac Axis population)	S3	THR	THR	1975-00-00	Y		44.19371969	-77.08350767
99	18UP3395	22990	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1994-06-05	N		44.19371969	-77.08350767
100	18UP3395	23324	SPECIES	180952	Callophrys gryneus	Juniper Hairstreak	S2			1978-06-03	N		44.19371969	-77.08350767
101	18UP3395	32895	SPECIES	22214	Dichanthelium leibergii	Leiberg's Panicgrass	S2			1995-09-19	N		44.19371969	-77.08350767
102	18UP3395	93486	SPECIES	201107	Potamogeton oregonii	Ogden's Pondweed	SH	END	END	1873-07-15	N		44.19371969	-77.08350767
103	18UP3395	22286	SPECIES	22820	Sporobolus heterolepis	Prairie Dropseed	S3			1994-06-14	N		44.19371969	-77.08350767
104	18UP3395	34288	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.19371969	-77.08350767
105	18UP3395	64096	SPECIES	22078	Bouteloua curtipendula	Side-oats Grama	S2			1995-09-19	N		44.19371969	-77.08350767
106	18UP3395	6067	SPECIES	17394	Dichanthelium praecocius	White-haired Panicgrass	S3			1993-08-02	N		44.19371969	-77.08350767

OBJECTID	UNIT_TYPE	EVAL_IND	NAME	SIGNIF	EVAL_ID	GNL_CMT	GUNT_DES	LOCATION	Site Description	FREQUENCY	COUNT_UNIT_TYPE	COUNT_NAME
1	Marsh	Yes	Airport Creek	Provincial	1251549481				Highway 49 Crossing	14	14	14
2	Open Water	Yes	Airport Creek	Provincial	1251549481				Highway 49 Crossing	3	3	3
3	Swamp	Yes	Airport Creek	Provincial	1251549481				Highway 49 Crossing	16	16	16

Appendix B Correspondence



Appendix B-1
Agency Correspondence

Government Agency Contacts (including OPCC members) June 13, 2014

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	State	PostalCode
Ms.	Zora	Crojacki	OPCC Member	Ontario Energy Board Ministry of Agriculture,	2300 Yonge St. 26 th Floor		Toronto	ON	M4P 1E4
Ms.	Linda	Pim	OPCC Member	Food and Rural Affairs	1 Stone Road West, 3 rd Floor SE		Guelph	ON	N1G 4Y2
Mr.	Chris	Schiller	OPCC Member	Ministry of Culture	400 University Ave, 4 th Floor		Toronto	ON	M7A 2R9
Mr.	Tony	Difabio	OPCC Member	Ministry of Transportation	301 St. Paul Street, 2 nd Floor		St. Catherines	ON	L2R 7R4
Mr.	Oscar	Alonso	OPCC Member	Technical Standards and Safety Authority	3300 Bloor St W., 14 th Floor, Center Tower		Toronto	ON	M8X 2X4
Ms.	Sally	Renwick	OPCC Member	Ministry of Natural Resources	300 Water St.		Peterborough	ON	K9J 8M5
Mr.	Tim	Trustham	Regional Planner	Quinte Conservation	2061 Old Highway #2		Belleville	ON	K8N 4Z2
Mr.	Clarence	Zieman	Deputy Mayor, Public Works & Water/Sewer Committee	Town of Deseronto	331 Main St.		Deseronto	ON	K0K 1X0
Mr.	Joe	Carter	Public Works Supervisor	Town of Deseronto	100 Prince St.		Deseronto	ON	K0K 1X0
Mr.	Todd	Harvey	Water/Sewer Operations Manager	Town of Deseronto	331 Main St.		Deseronto	ON	K0K 1X0

Government Agency Contacts (including OPCC members) June 13, 2014

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	State	PostalCode
Mr.	Andrew	Redden	Economic Development Manager	Hastings County	15 Victoria Ave.		Belleville	ON	K8N 1Z5
Mr.	Brian	McComb	Director of Planning	Hastings County	15 Victoria Ave., Box 2, 2 nd Floor		Belleville	ON	K8N 1Z5
Mr.	Jim	Pine	Chief Administrative Officer	Hastings County	235 Pinnacle St.		Belleville	ON	K8N 1Z5
Mr.	John	Nicholas	Communications/Project Co-ordinator	Hastings County	235 Pinnacle St.		Belleville	ON	K8N 3A9
Mr.	Don	Caza	Water and Wastewater Operations Director	Prince Edward County	332 Main St.		Picton	ON	K0K 2T0
Ms.	Jo-Anne	Egan	Manager of Planning Services	Prince Edward County	332 Main St.		Picton	ON	K0K 2T0
Mr.	Joe	Angelo	Engineering Services Project Manager	Prince Edward County	332 Main St.		Picton	ON	K0K 2T0
Mr.	Merlin	Dewing	Chief Administrator Officer	Prince Edward County	332 Main St.		Picton	ON	K0K 2T0
Mr.	Preston	Parkinson	Engineering Services Director of Operations	Prince Edward County	332 Main St.		Picton	ON	K0K 2T0
Mr.	Robert	McAuley	Commissioner of Engineering, Development and Works	Prince Edward County	332 Main St.		Picton	ON	K0k 2T0
Mr.	Drew	Crinklaw	Rural Planner Southwestern Ontario	Ministry of Agriculture, Food and Rural Affairs	667 Exeter Road		London	ON	N6E 1L3

Government Agency Contacts (including OPCC members) June 13, 2014

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	State	PostalCode
Mr.	Sing-Gin	Louie	Advisor	Ministry of Energy	880 Bay St. 3 rd Floor		Toronto	ON	M7A 2C1
Ms.	Elizabeth	Spang	District Planner	Ministry of Natural Resources	300 Water St. South Tower 1 st Floor		Peterborough	ON	K9J 8M5
Mr.	Rick	Topping	Lands & Waters Technical Specialist	Ministry of Natural Resources	51 Heakes Lane		Kingston	ON	K7M 9B1
Ms.	Tamara	Dolan	Lands & Waters Technical Specialist	Ministry of Natural Resources	300 Water St.		Peterborough	ON	K9J 8M5
Mr.	Jon	Orpana	Environmental Planner	Ministry of the Environment	345 College St. E		Belleville	ON	K8N 5S7
Mr.	Trevor	Dagilis	District Manager	Ministry of the Environment	345 College St. E		Belleville	ON	K8N 5S7
Mr.	Darwin	Spoule	Head of Planning and Design	Ministry of Transportation	1355 John Counter Boulevard		Kingston	ON	K7L 5A3
Mr.	Doug	Peeling	Senior Planner & Policy Advisor	Ministry of Transportation	301 St Paul St. 2 nd Floor		St. Catherines	ON	L2R 7R4
Ms.	Shari	Prowse	Archaeology Review Officer	Ministry of Tourism, Culture and Sport Environmental Unit	900 Highbury Ave.		London	ON	N5Y 1A4

Appendix B-2
First Nations Correspondence

First Nation Agency Contacts June 13, 2014

Title	First Name	Last Name	Job Title	Company	Address 1	City	State	Postal Code
Mr.	Dan	Brant	CAO	Tyendinaga Mohawks	13 Old York Road	Tyendinaga Mohawk	ON	K0K 1X0
				of the Bay of Quinte		Territory		
Chief	R. Donald	Maracle	Chief	Tyendinaga Mohawks	13 Old York Road	Tyendinaga Mohawk	ON	K0K 1X0
				Of the Bay of Quinte		Territory		



Appendix B-3 Mailouts



Date

Name of Addressee

["Title"]

["Company Name"]

["Street Address"]

[City] [Province] ["Postal Code"]

Dear "[Name]" :

Re: Union Gas Limited – Picton Lateral Pipeline Replacement Project Environmental Study
Project No.: Project Number (FULL)

To ensure the continued reliable, safe delivery of natural gas and serve the growing demand in the Prince Edward County area, Union Gas is proposing to replace approximately 1.5 km of an existing NPS 6" diameter natural gas pipeline with a new NPS 8" pipeline. The project will include the replacement of a portion of the existing NPS 6" Picton Lateral natural gas pipeline, which crosses the Bay of Quinte attached to the Skyway Bridge on Highway 49. The Ministry of Transportation is proposing to replace the entire road surface of the bridge and has requested that Union relocate the existing pipeline, which presently hangs on the west underside of the bridge. The pipeline will be located within a Study Area in the southern portion of Hastings County near the town of Deseronto, extending south into Prince Edward County. Please see attached map Figure 1.

As part of the planning process, Union Gas has retained the services of Neegan Burnside Ltd. (Neegan) to undertake an environmental study of the construction and operation of the natural gas pipeline. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) "Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2011)."

The environmental study process will include consultation and engagement with landowners, First Nations, the Métis Nation of Ontario, government agencies and other local parties. Consultation and engagement will be instrumental in various aspects of the environmental study including Unions' selection of the preferred pipeline route; and the various protection and mitigation measures used to minimize the effects of constructing and operating the proposed pipeline.

It is anticipated that the Environmental Study will be completed in the summer of 2014 at which time Union Gas will file an application for the proposed pipeline to the OEB. The OEB's review and approval is required before the proposed natural gas pipeline project can proceed. If approved, construction of the pipeline would begin in the spring of 2015.

Date

Project No.: Project Number (FULL)

Neegan is presently compiling an environmental and socio-economic inventory of the pipeline Study Area. As an agency with jurisdiction or a potential interest in developments in the study area you are invited to provide comments regarding the proposed pipeline. Specifically, Neegan is seeking information that may affect construction and operation of the proposed pipeline, including: background environmental and socioeconomic information, planning principles or guidelines implemented by your agency, and other proposed developments to assess potential cumulative effects. Please contact us to discuss the most efficient way to obtain this information.

For any questions or concerns regarding the environmental study process or this project, please do not hesitate to contact the undersigned.

Yours truly,

Neegan Burnside Ltd.

Lawrence Fogwill, P.Eng.
Project Manager
Neegan Burnside Ltd.
15 Townline
Orangeville, Ontario L9W 3R4
Lawrence.Fogwill@neeganburnside.com
tel: 519-938-3042
fax: 519-941-8120
www.neeganburnside.com

Enclosure(s)

Agency Letter FINAL.docx
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Appendix B-4

Newspaper Notice and Information Session Invitation

Appendix B-4
Newspaper Notice and Information Session Invitation

NOTICE OF INFORMATION SESSION

Union Gas Limited Highway 49 Pipeline Replacement Project

Union Gas is working on preliminary plans for the replacement of an existing 6-inch diameter natural gas transmission pipeline that runs along Highway 49 with a new 8-inch diameter pipeline. As the Ministry of Transportation of Ontario is reconstructing the Highway 49 Bridge crossing the Bay of Quinte in the near future, they have directed Union Gas to relocate the existing 6 inch pipeline that is currently attached to the bridge. The proposed project will ensure the continued safe and reliable delivery of natural gas. Union Gas has engaged Neegan Burnside Ltd. to undertake an Environmental Report for the proposed pipeline works. The report will detail the location for the replacement and the environmental impact and mitigation measures associated with the construction and operation of the proposed facilities.

Neegan Burnside and Union Gas invite you to an information session on **September 3, 2014** at the **59ers Hall, 8011 Old Hwy 2 (just east of Hwy 49) from 5 – 8 p.m.**

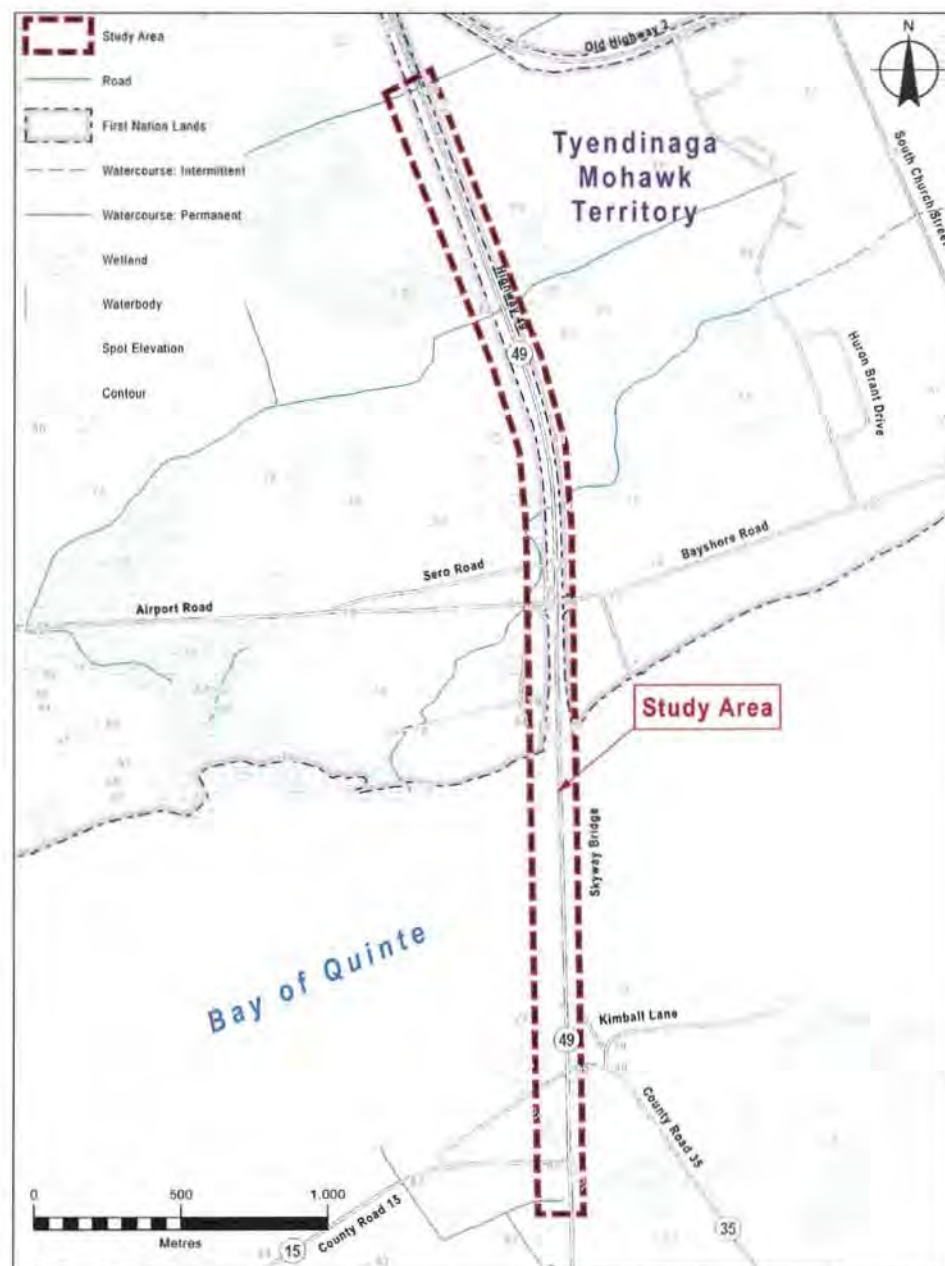
The purpose of the Information Session is to present all aspects of the project to affected landowners, the public, members of the Mohawk of the Bay of Quinte community, Métis Nation and government agencies to provide the opportunity for comment on this proposal. Representatives from Neegan Burnside and Union Gas will be present to answer questions.

The final Environmental Report will be included in an application to the Ontario Energy Board whose approval is required before this project can proceed. If approved, construction is proposed to take place in the summer of 2015.

For further information about the information session or specific details contact:

Lawrence Fogwill, P.Eng.
Project Manager
Neegan Burnside Ltd.
lawrence.fogwill@neeganburnside.com
Phone: 519-938-3042

The replacement location for the pipeline has been identified and is pictured on the map.



STUDY AREA



Date

Name of Addressee

["Title"]

["Company Name"]

["Street Address"]

[City] [Province] ["Postal Code"]

Dear "[Name]" :

**Re: Information Session - Union Gas Limited
Project No.: Project Number (FULL)**

Neegan Burnside Ltd. (Neegan Burnside) has been retained by Union Gas Limited (Union) to prepare an Environmental Report (ER) for the proposed Bay of Quinte Crossing Pipeline Project. The project will include the replacement of an existing 6" diameter natural gas transmission pipeline that runs along Highway 49 with a new 8" diameter pipeline. As the Ministry of Transportation of Ontario is reconstructing the Highway 49 Bridge crossing the Bay of Quinte in the near future, they have directed Union Gas to relocate the existing 6" pipeline that is currently attached to the bridge. The proposed project will ensure the continued safe and reliable delivery of natural gas.

The proposed project will install the new NPS 8" pipeline beneath the Bay of Quinte using the Horizontal Directional Drill method ensuring the continued safe operation of Union Gas' natural gas pipeline system.

The purpose of the Information Session is to present all aspects of the project and to provide you with an opportunity for comment on this proposal. Representatives from Union Gas and Neegan Burnside will be present to answer questions.

The study area is located in the southern area of Hastings County and Prince Edward County. Please see attached map Figure 1.

Neegan Burnside and Union Gas invite you to an Information Session on September 3, 2014 at the 59ers Hall, 8011 Old Hwy 2 (just east of Hwy 49) from 5 to 8 p.m.

If you have any specific concerns you want addressed as part of the environmental and engineering studies please contact the undersigned.

Date

Project No.: Project Number (FULL)

Yours truly,

Neegan Burnside Ltd.

Lawrence Fogwill, P.Eng.
Project Manager
Neegan Burnside Ltd.
15 Townline
Orangeville, Ontario L9W 3R4
Lawrence.Fogwill@neeganburnside.com
tel: 519-938-3042
fax: 519-941-8120
www.neeganburnside.com

Enclosure(s)

Agency letter notification of info session.docx
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Appendix B-5

Newsletter and Display Board Copies

Union Gas Limited

Highway 49 Pipeline Replacement Project

The Project

Union Gas is working on preliminary plans for the replacement of an existing 6-inch diameter natural gas transmission pipeline that runs along Highway 49 with a new 8-inch diameter pipeline. As the Ministry of Transportation of Ontario is reconstructing the Highway 49 Bridge crossing the Bay of Quinte in the near future, they have directed Union Gas to relocate the existing 6 inch pipeline that is currently attached to the bridge. The proposed project will ensure the continued safe and reliable delivery of natural gas. Union Gas has engaged Neegan Burnside Ltd. to undertake an Environmental Report (ER) for the proposed pipeline works, which will be included in an application for project approval for submission to the Ontario Energy Board (OEB) in the fall of 2014. The OEB is the governing body that regulates the energy sector in the province. Their review and approval is required before this project can proceed. Union Gas intends to have the new pipeline constructed in the summer of 2015.

The ER will detail the location for the replacement and the environmental impact and mitigation measures associated with the construction and operation of the proposed facilities.

Union Gas is consulting with the public, government agencies, First Nations, Metis Nation and affected municipalities to obtain their input.

Information Session

The purpose of this Information Session is to present all aspects of the project to affected landowners, the public, and members of the Mohawks of the Bay of Quinte – Tyendinaga Mohawk Territory community, Métis Nation and government agencies to provide the opportunity for comment on this proposal. Representatives from Neegan Burnside and Union Gas will be present to answer questions. Input received will be used to complete the ER along with site-specific protection and mitigation measures. The final ER will be included in an application to the Ontario Energy Board whose approval is required before this project can proceed. If approved, construction is proposed to take place in the summer of 2015.

Environmental Assessment Process

The OEB sets out guidelines for completing an ER in the document entitled Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines (2003). The ER process is a study designed to:

Collect natural environmental, socio-economic and archeological information as it pertains to the study area.

Consult with directly affected landowners, stakeholders, and the public to ensure awareness of the project and to address issues.

Consult with all relevant provincial and municipal agencies for information and comments.

Use the above information (along with consultation with public and regulatory authorities) to confirm the location of required facilities as well as assess potential impacts and develop proposed mitigation requirements.

Prepare an ER that meets the current OEB guideline mentioned above.

Let Us Know What You Are Thinking

We are interested in hearing your comments, addressing your questions and working with the communities and residents to address your concerns regarding the proposed pipeline project.

Our ongoing approach to public communications and consultations includes a mix of providing information on the project plans and receiving input from interested people through the Information Session. One-on-one meetings can be arranged with individual property owners or groups who may be directly affected by the proposed project to discuss project related details or concerns.

At the Information Session, we particularly want your input on the study progress and any other interests you might have regarding this project. You may provide comments at any point in the ER process.

What Happens After the Information Session?

After the information session, Neegan Burnside and Union Gas will review your comments and other input and use this information to help confirm the location of the preferred pipeline route.

Directly affected landowners will be contacted by Union Gas to obtain Information about individual properties and their concerns related to the project.

The ER will outline the construction activities and mitigation measures that will be undertaken to reduce and control effects of the pipeline on the environment during and after construction.

What's Next?

- Complete the Environment Report (fall 2014)
- Union Gas to file application with the Ontario Energy Board (fall 2014)
- Ontario Energy Board review and decision (spring 2015)
- Pre-engineering field studies (2014-2015)
- Pipeline construction and cleanup (spring / summer 2015)
- Pipeline in service (fall 2015)

Contact the Project Team

For further information about the information session or specific details contact:

Neegan Burnside Limited

Lawrence Fogwill, P.Eng.

15 Townline Orangeville, Ont. L9W 3R4

Project Manager

Neegan Burnside Ltd.

Phone: 519-938-3042

Lawrence.Fogwill@Neeganburnside.com

Lands Department

Joel O'Connor, Lands Agent

Union Gas Limited

50 Keil Drive, Chatham, ON, N7M 5M1

Phone: (800)571-8446 (ext. 5002951)

Email: jocconnor@uniongas.com

Environmental Approvals

Norm Dumouchelle, Environmental Planner

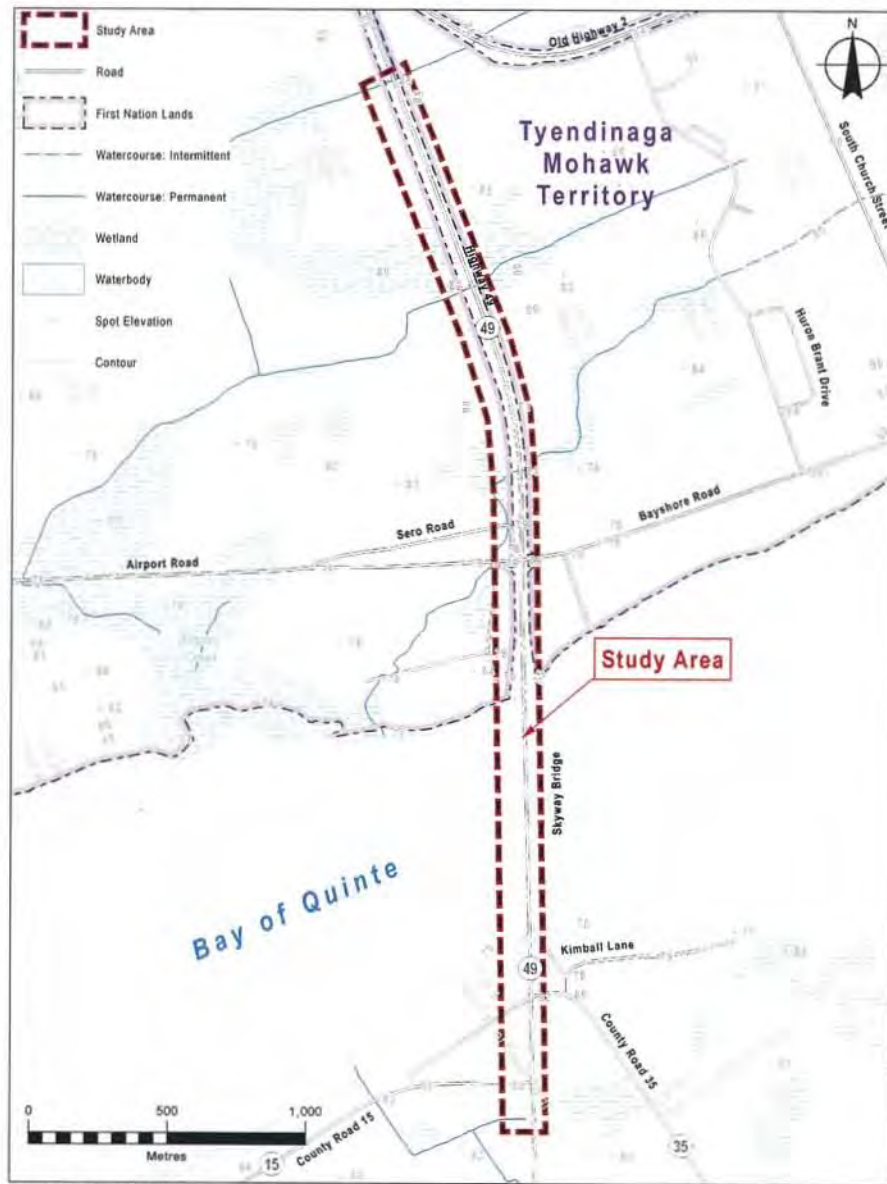
Union Gas Limited

750 Richmond Street, Chatham, ON, N7M 5J5

Phone: (800) 949-1595 (ext. 5236955)

Email: npdumouchelle@uniongas.com

The replacement location for the pipeline has been identified and is pictured on the map below.



STUDY AREA

Union Gas : Bay of Quinte Pipeline
Replacement Project

Welcome
to the
Union Gas Limited
**Bay of Quinte Pipeline
Replacement Project**

Information Session

September 3, 2014

Information Session Purpose

- Provide information on the proposed natural gas pipeline including where the facilities would be located.
- Outline potential construction impacts and mitigation techniques that can be applied to minimize potential impacts.
- Outline the approvals needed from the Ontario Energy Board and other government agencies before the project can progress.
- Provide the public with an opportunity to ask Union Gas, Michel's Canada, and Neegan Burnside questions on all aspects of the project.
- Gather public feedback.



Project Overview

- Pipeline replacement and realignment of Union Gas' existing NPS 6 inch natural gas pipeline that is currently attached to the Highway 49 bridge, with a new NPS 8 inch diameter pipeline.
- Replacement due to planned MTO bridge maintenance/ construction.
- Approximately 1.3 km of the new NPS 8 inch diameter pipeline will be installed underground, along Highway 49 and beneath Bay of Quinte.
- Subject to OEB approval.
- Proposed construction – spring/summer 2015, 6 months to complete.
- Neegan Burnside to prepare an Environmental Report for the OEB approval.

Ontario Energy Board Review & Approval Process

- The Ontario Energy Board (OEB) is the body that regulates the natural gas industry in Ontario, in the public's interest. The OEB's approval is required before this pipeline can be constructed.
- Union Gas is proposing to submit its application to the OEB in the fall of 2014. This application will include comprehensive information on the project including: the need for the project, facility alternatives, cost, pipeline design, pipeline construction, environmental mitigation measures, land requirements, and aboriginal consultation and engagement.
- The OEB will then hold a public hearing to review the project. This will include notices in local newspapers, letters to directly affected landowners, the opportunity for the general public and landowners to ask questions and submit questions regarding the project, a formal hearing, and a written decision regarding the project.
- If after this review the OEB finds the project is in the public interest it will approve construction of the pipeline. If the project is approved the OEB normally attaches conditions to the approval which Union Gas will comply with during the construction and restoration process.
- Additional information about the OEB process and information about how to participate in the OEB hearing process can be found <http://www.ontarioenergyboard.ca>

Proposed Facilities

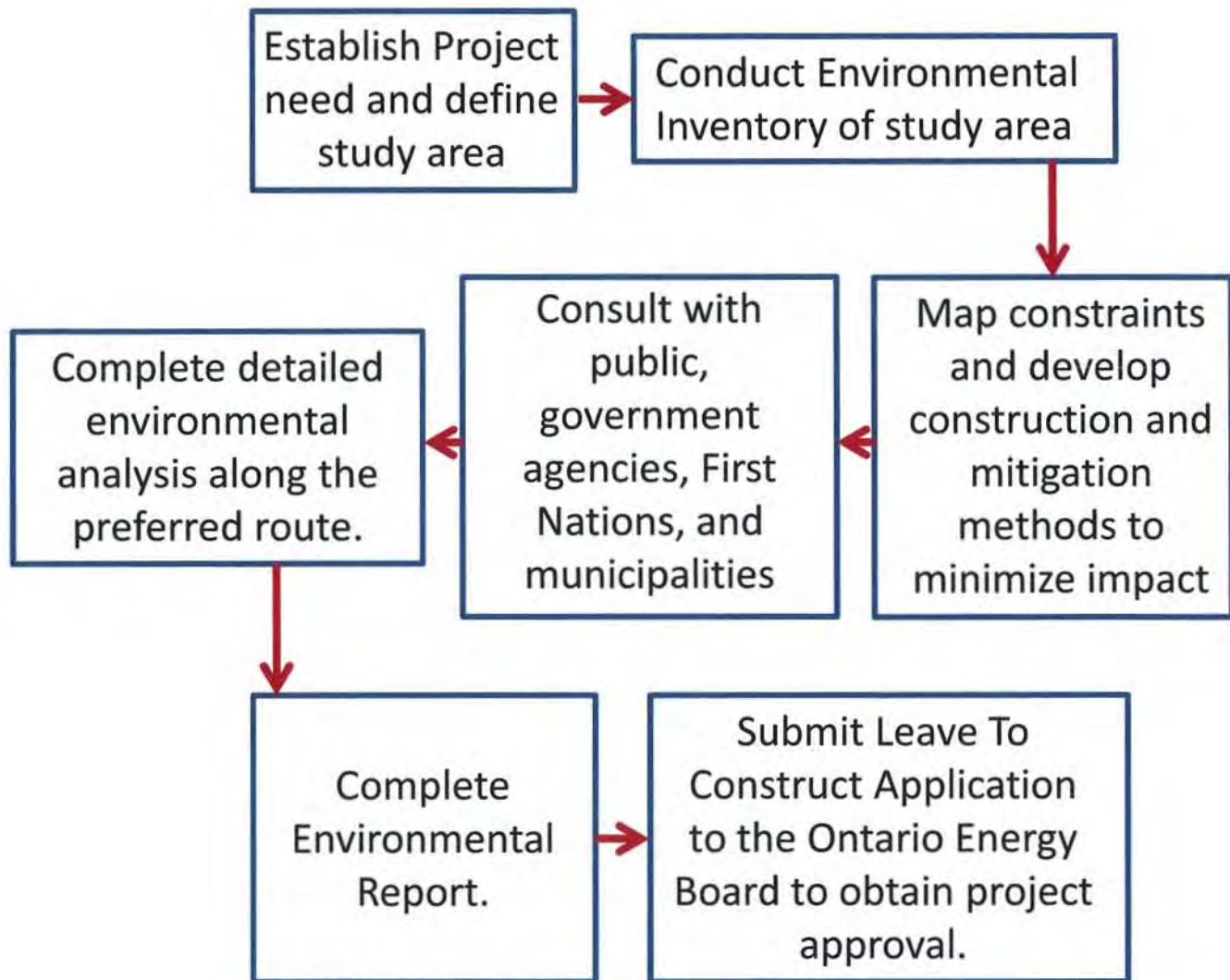
- Approximately 1.3 km of 8-inch diameter pipeline to be installed within the west road allowance of Highway 49 both north and south of the bridge.
- Pipeline will be directionally drilled beneath Bay of Quinte within Highway 49 Bridge ROW.



Land Use

- Union Gas will replace the proposed pipeline within the confines of Union Gas owned property and Highway 49 Right of Way.
- Temporary land rights will be needed during construction activities.
- Union Gas plans to approach individual landowners for additional easements and temporary land use as required.

Planning Selection Process



Municipal, Agency, and First Nations Consultation

- Consideration for Natural Heritage features and Species at Risk.
- Requirement for agency approvals/permits (Quinte Conservation Authority, Hastings and Prince Edward County, etc.).
- Consult with Tyendinaga Mohawk Territory Community Members.
- Ensure public and agency awareness.
- Adhere to Ontario Energy Board's Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario.

Project Schedule



- Completion of Environmental Report (Fall 2014)
- File an application with the Ontario Energy Board (Fall 2014)
- Ontario Energy Board review and decision (Spring 2015)
- Pre-engineering field studies (2014 - 2015)
- Pipeline construction (Summer-Fall 2015)
- Project in service (Fall-Winter 2015)

Landowner Relations Program

Union Gas has a comprehensive Landowner Relations Program that uses a dedicated **Landowner Relations Agent** and a **Complaint Resolution System**.

Land Relations Agent:

- Provides direct contact and liaison between landowners and Union Gas contractor and engineering personnel.
- Addresses landowner questions and concerns during construction.

Complaint Resolution System:

- Is used to record, monitor, and ensure follow-up on any complaint or issue received by Union Gas to any construction activities.
- Assists in resolving complaints and tracking the fulfillment of commitments.

Safety is Union Gas' Highest Priority

- Pipelines are designed, constructed and operated according to strict safety standards and regulations.
- Highly trained employees and daily safety briefings are an integral part of the construction process.
- During construction, all workers and inspectors are vigilant in ensuring unauthorized people are kept out of the work area.
- Security fences and signage erected around construction zones and near road crossings.
- Extensive monitoring and mitigation will be employed throughout the construction process.
- The new pipeline is extensively tested prior to being placed in-service.
- Once construction is complete a comprehensive maintenance and integrity program will ensure the pipeline remains in safe operating condition - includes regular monitoring for corrosion, leaks or any other potential damage.
- Pipelines monitored 24/7 by Gas Control centres.
- Pipeline location is marked with above ground "pipeline marker" sign.
- Landowners near the pipeline will be contacted regarding pipeline safety and emergency preparedness through the ongoing public awareness program.

Natural Environment

Union Gas is committed to minimizing the effects of its projects and operations on the environment. An integral part of this project is the completion of an Environmental Report for the natural gas pipeline. The Environmental Report will be included in the OEB application and outlines the steps we will take to protect the natural environment.

These include:

- Timing construction to avoid potential harm to nesting migratory birds, spawning fish and species listed under Ontario's Endangered Species Act.
- Erosion and sedimentation control measures to avoid impacts to adjacent lands during construction.
- Extensive inspection and monitoring during Horizontal Directional Drilling program.
- Detailed Fluid Fracturing Response Plan to be undertaken in the event of bedrock fracturing during HDD.
- Spill Response Plan, outlining measures to be undertaken in the event of an accidental spill.
- Tree Replacement Program.
- All environmental mitigation and protection measures, including those noted above, will be outlined in an Environmental Report. During construction an Environmental Inspector will ensure compliance with these measures, environmental permits, approvals, laws, policies and other commitments.



Photo Source: Ontario Nature

Natural Environmental Surveys

The pipeline route is reviewed by an independent environmental firm in order to identify potentially significant or sensitive natural features.

If natural or heritage features could be affected the following studies are undertaken prior to construction:

Breeding birds, aquatic, wildlife, and vegetation:

- These surveys would involve terrestrial and aquatic ecologists recording their observations.

Bay of Quinte:

- The use of HDD will allow the pipeline to cross beneath the Bay of Quinte to avoid any disturbance to the aquatic habitat. Department of Fisheries and Oceans [DFO] guidelines and the Fisheries Act Self-Assessment process will be strictly followed and enforced throughout the process.

Construction Practices

Minimizing Environmental Impacts

- Construction will be scheduled during daylight hours from Mon. – Sat. where practical.
- Construction equipment will be equipped with appropriate mufflers.
- Dust control measures will be implemented through monitoring and water application when necessary.
- Efforts will be made to avoid disturbing or removing vegetation and landowner trees. If a tree(s) is removed the landowner will be consulted regarding replacement.
- Monitoring of the effects during and after construction to ensure environmental protection measures were effective.

Construction Methods

To minimize potential impacts to soil and the Bay of Quinte area of concern resulting from the construction of the proposed facilities we will:

- On private lands, strip topsoil as required and stockpile during dry conditions.
- Maintain access to driveways and roads along Highway 49 corridor.
- Temporary closure of south bound lane on Highway 49 from Airport Road north 500 metres .
- Use horizontal directional drill (HDD) to drill and install pipeline beneath Bay of Quinte to minimize disturbance and impacts to the waterbody.
- Avoid interference with wetlands and adjacent properties.
- Employ effective monitoring, inspection, and contingency programs.

Traffic Control

- The pipeline will be strung along the west shoulder of Hwy 49 during construction.
- For worker safety, approximately 1km of the south bound lane to Prince Edward County will be closed during construction.
- At least one lane of traffic will be maintained at all times.
- Flag persons and warning devices will be used to notify traffic of the construction zone in accordance with Ministry of Transportation standards.



Union Gas : Bay of Quinte Pipeline Replacement Project

Horizontal Directional Drilling (HDD)

- The pipeline will be installed using the HDD method.
- A steerable trenchless method commonly used for installing utilities under watercourses, railroad tracks and roads.
- Minimum impact to the watercourse and surrounding environment.



Next Steps

- Respond to questions or information requests on Comment Forms or emails after the Information Session.
- Review comments received from the municipal, public, First Nations, and agency stakeholders.
- Complete the Environmental Report for submission to the Ontario Energy Board.
- Continue pre-engineering field studies and directly affected landowner consultation.



Appendix B-6

Comment – Response Matrix

Bay of Quinte Highway 49 Pipeline Relocation Environmental Report
Appendix B5: Comment – Response Matrix
October 2014

Correspondent	Medium	Date	Subject Matter	Responder and Date	Response	Follow-up
Vicki Mitchell Regional Environmental Assessment Coordinator Ministry of Environment and Climate Change	Email	October 28, 2014	<ul style="list-style-type: none"> Requested two copies of the finalized Environmental Report. 	Devin Soeting, Environmental Technologist Neegan Burnside October 28, 2014	<ul style="list-style-type: none"> Added Vicki Mitchell to the mailing list for delivery of the Environmental Report. 	NA
R. Donald Maracle, Chief Mohawks of the Bay of Quinte	Email	September 30, 2014	<ul style="list-style-type: none"> Requested a copy of the Archaeology Report and any comments or review from the Ministry of Culture for their records. Also requested a response to the question in regards to the impact on municipal water quality in the event of a leak was vague in nature. 	Devin Soeting, Environmental Technologist Neegan Burnside October 27, 2014	<ul style="list-style-type: none"> Added Chief Maracle to the mailing list for delivery of the Archaeology Report. A letter was prepared to address the potential impact on municipal water quality in the event of a natural gas leak from the pipeline and was sent via email to Chief Maracle on October 27, 2014. 	NA
Andy Margetson, District Planner Peterborough District Ontario MNR	Email	July 22, 2014	<ul style="list-style-type: none"> Provided follow up information for the Site regarding wetlands and areas of natural and scientific interest, species at risk, significant wildlife habitat, potential approval requirements and general sources of information. A map of local Alvar Formations and a list of fish species in the Bay of Quinte were also provided. 	NA	<ul style="list-style-type: none"> Comments were noted and no response was required. 	NA

Bay of Quinte Highway 49 Pipeline Relocation Environmental Report
Appendix B5: Comment – Response Matrix
October 2014

Daniel J. Brant, Mohawks of the Bay of Quinte	Letter	July 4, 2014	<ul style="list-style-type: none"> • Provided information on Bay of Quinte remedial process and cultural importance to the MBQ. • Requested to be informed of Best Management Practices to be used in construction, operation, and maintenance of pipeline. • Requested information on how Union Gas intends to mitigate the interruption of services to businesses and emergency vehicles during construction. 	Jeff Cadotte, Project Engineer Union Gas August 25, 2014	<ul style="list-style-type: none"> • Thanked Mr. Brant for their letter • Provided Best Management Practices for construction, operation, and maintenance phases. • Provided a discussion on the Emergency Response Plan and outlined what it documents. • Provided a discussion on Traffic Control during the construction process. • Provided insight on perceived disruption to local businesses. • Looked forward to seeing Mr. Brant on September 3rd (Information Session) to discuss further if desired. 	NA
Brenda Johnston, Corridor Management Officer MTO	Email	June 26, 2014	<ul style="list-style-type: none"> • Provided MTO permitting requirements and requirement for an EA that meets the guidelines set out in the MTO EA Guideline. • Also requested four sets of drawings of pipeline plan. • Stated that MTO Traffic Section will review project timing. • Advised that Union Gas contact appropriate agencies and that an archaeological study for the ROW has been initiated by the MTO 	NA	<ul style="list-style-type: none"> • Comments were noted and no response was required. 	NA
Tim Trustham, Planner/Ecologist Quinte Conservation	Email	June 25, 2014	<ul style="list-style-type: none"> • Provided several comments related to regulated areas within the study area and permit requirements prior to any work within the floodplain. • Noted that they do not have any natural heritage reports, mapping, or inventories for the study area. • Asked for a copy of the ER for their records when completed 	NA	<ul style="list-style-type: none"> • Comments were noted and no response was required. 	NA

Bay of Quinte Highway 49 Pipeline Relocation Environmental Report
Appendix B5: Comment – Response Matrix
October 2014

Oscar Alonso, Fuels Safety Engineer TSSA	Email	June 17, 2014	<ul style="list-style-type: none"> Requested clarification regarding the location of the replacement pipeline. 	Lawrence Fogwill Project Engineer Neegan Burnside June 20, 2014	<ul style="list-style-type: none"> Clarified that the pipeline is proposed to be directionally drilled underneath the Bay of Quinte, west of the existing bridge. 	NA
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OPCC Review Comments Summary

RECORD	STAKEHOLDER	COMMENT SUMMARY	RESPONSE SUMMARY
1	<ul style="list-style-type: none">••		
2	<ul style="list-style-type: none">••		

TOTAL ESTIMATED ENVIRONMENTAL COSTS
BAY OF QUINTE REPLACEMENT PIPELINE PROJECT

Pre-Construction

Environmental Assessment	\$	70,000
Archaeology		250,000
Hearing Costs (Environmental Consultant)		5,000
Permits		<u>15,000</u>

Total Pre-Construction	\$	<u>340,000</u>
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Construction

Environmental Inspection	\$	12,000
Water Well Monitoring		<u>15,000</u>

Total Construction	\$	<u>27,000</u>
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Post Construction

Tree Replacement	\$	<u>10,000</u>
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Total Post Construction	\$	<u>10,000</u>
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Total Estimated Environmental Costs	\$	<u>377,000</u>
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MOHAWKS OF THE BAY OF QUINTE

KENHTEKE KANIENKEHA

COMMUNITY INFRASTRUCTURE / TECHNICAL SERVICES / ENVIRONMENT

13 Old York Rd., Tyendinaga Mohawk Territory, ON K0K 1X0

Phone 613-396-3424 Fax 613-396-3627

July 4th, 2014

Norm Sumouchelle
Union Gas Limited
P.O. Box 2001
50 Keil Drive North
Chatham, Ont.
N7M 5M1
JBonin@uniongas.com

Re: Union Gas Limited – Picton Lateral Pipeline Replacement Project Environmental Study

Dear: Mr. Sumouchelle

We acknowledge and appreciate your invitation to participate in the environmental assessment process and environmental and the socio-economic inventory as it relates to the Picton Lateral Pipeline Replacement Project. We will do our best to provide the environmental and socio-economic information you are seeking; and, in the spirit of consultation, The Mohawks of the Bay of Quinte also would appreciate some feedback to help us determine our level of interest.

In 1987, the Bay of Quinte was designated as an Area of Concern under the Canada- United States Great Lakes Water Quality Agreement. The Bay of Quinte is a narrow inlet, about 100km in length, on the north shore of Lake Ontario. The Area of Concern encompasses the Bay and its 18000km² drainage basin. The shoreline of the bay includes 19 provincially significant wetlands and approximately 500 000 people live in the area. Environmental concerns and remedial action plans in the Bay are focused on excess nutrients, persistent toxic contamination, bacterial contamination and the loss or destruction of fish and wildlife habitats. Through combined efforts of the Mohawks of the Bay of Quinte (MBQ) and stakeholders in and around the Bay, significant accomplishments have been realized. It is anticipated that the Bay of Quinte will be delisted by 2019¹.

To attain consent of The Mohawks of the Bay of Quinte, we wish to be informed of the Best Management Practices that will be utilized in the full scope of the construction, operation, and

¹ <http://www.ec.gc.ca/raps>

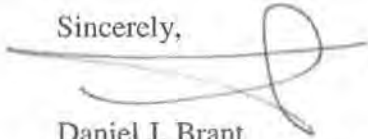
maintenance of the project. Furthermore, the Mohawks of the Bay of Quinte would like, in writing, a Contingency Plan in the event of a leak.

The King's Highway 49 is one of Tyendinaga Mohawk Territories' busiest corridors. A number of our businesses, including gas stations and drive-thru conveniences, are located within the project area. The Bay of Quinte is also one of the largest sport fishing "hot spots" in the province and our tourist and guests rely on the services we provide along Highway 49. The Mohawks of the Bay of Quinte are now considering whether surveys should be conducted to examine the level of traffic/ business volume that will be impacted. The Mohawks of the Bay of Quinte wish to be informed of how Union Gas intends to mitigate the interruption of services to the businesses along the highway; and, more importantly, access and thorough way for emergency vehicles.

We appreciate your participation in our endeavors to determine proper use of lands of interest to the community, the prevention or mitigation of anticipated and non-anticipated effects of the proposed project, and efforts to ensure maximum benefit to our community and generations to come. We hope this satisfies the information that you are seeking.

The above shall not be construed so as to derogate from or abrogate any inherent, Aboriginal, treaty, constitutional, or legal rights of the Mohawks of the Bay of Quinte.

Sincerely,



Daniel J. Brant
Mohawks of the Bay of Quinte
Email: danb@mbq-tmt.org

Cc: File

August 5, 2014

Daniel J. Brant, CAO
Mohawks of the Bay of Quinte
13 Old York Road
Tyendinaga Mohawk Territory, ON
K0K 1X0

Re: Response to 'Union Gas Limited – Picton Lateral Pipeline Replacement Project Environmental Study'

Mr. Brant,

Thank you for your letter dated July 4, 2014 outlining the areas of interest of the Mohawks of the Bay of Quinte regarding the Picton Lateral Pipeline Replacement Project, also known as the Bay of Quinte Replacement Project. Union Gas appreciates the environmental remediation accomplishments of the federal, provincial and local agencies, local industries and others in improving water quality and ecosystem health within the Bay of Quinte Area of Concern. As you are aware, we have retained an Environmental Consultant, Neegan Burnside to complete an environmental assessment of the proposed project area. The environmental report will include a review of significant natural heritage features including physical, terrestrial and aquatic features along with potential impacts and proposed mitigation measures for construction.

Please see below for our response to your specific comments on Best Management Practices, Emergency Response Plan, Traffic Control and Disruption to Local Businesses.

Best Management Practices

1. Construction, Operation and Maintenance

Union adheres to the CSA Standards Z662 – Oil and gas pipeline systems code for design, installation, construction, operating, maintenance and upgrading of all natural gas pipelines. Best construction practices include all proposed mitigation measures identified in the environmental report along with an environmental construction plan, environmental and lands permits, landowner/roads special requirements, wet soils shutdown practice, HDD mitigation plan and welding/joining program. Construction efforts also include oversight from an inspection staff with respect to safety, quality, code compliance and records keeping.

To ensure a safe and reliable pipeline system, Union's operations and maintenance focus includes a comprehensive Integrity Management Plan and an on-going surveillance of its pipelines.

2. Emergency Response Plan

Union's Emergency Response Plan (ERP) is a comprehensive document that meets or exceeds the requirements of the governing pipeline standards, namely the CSA Z662 requirements. The ERP document outlines the roles and responsibilities of various Union personnel including management and field personnel. For security reasons, Union's ERP is a controlled internal document and is not distributed publicly.

Union has an emergency response training program focused on external agencies and is currently planning a training session with the Mohawks of the Bay of Quinte in the near future.

Gas Control at Union Gas monitors its transmission pipeline system 24/7, including the NPS 6 Picton lateral using a SCADA system. If a pressure loss is detected, Union's personnel from Gas Control would notify and dispatch Union's local field personnel to site to determine the cause of the suspected drop in pressure. External emergency personnel would be contacted in the event of an emergency.

All Union Gas responders are trained and have the licenses required to work on a pipeline system. In terms of response time, Union Gas responds within 60 minutes of an incident 98% of the time, with an average response time of 29 minutes.

3. Traffic Control

The southbound lane of Kings Highway 49 is required as working room to string out and weld the new NPS 8 pipeline from a distance approximately 460m north of Airport Road. The road was chosen for working room to eliminate the disturbance of significant environmental and archaeological features that may be found working to the west of the roadway in the ditch line. The southbound lane is also the most suitable working room area from a safety and constructability standpoint.

A second and separate traffic control plan is required for pipe abandonment from the Skyway bridge using the southbound lane of Kings Highway 49 from Airport Road south to County Road 15.

The traffic control plans will be in accordance with the latest Ministry of Labour Occupational Health and Safety Act (OSHA) and construction regulations provisions for traffic control and worker protection. Traffic control plans will be developed with reference to Book 7 for the Picton Lateral Pipeline Replacement project.

The Ministry of Transportation – Ontario will approve traffic control plans for the Picton Lateral Pipeline Replacement Project based on considerations including traffic volume/flow and egress for emergency vehicles.

4. Disruption to Local Businesses

Union is currently planning the stringing and welding of the new NPS 8 pipeline along the west side of Kings Highway 49 to start north of Airport road and end south of the first residential property thus allowing no interruption to traffic flow on Airport Road and not affecting access to any residential or business operation for the duration of the project.

With the 2014 MBQ Business Directory provided, we anticipate that local business will see an increase in the volume of visitors throughout the project from construction and inspection staff.

Please do not hesitate to contact me or John Bonin should you wish to further discuss any aspect of this project. We look forward to seeing you September 3rd to deliver more information and answer more questions at the open house.

Respectfully yours,

Jeff Cadotte
Project Engineer
Email: jcadotte@uniongas.com
Phone: 226 229 0935

Cc: John Bonin, Manager Aboriginal Affairs
Norm Dumouchelle, Environmental Planner



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EB-2014-0350

Schedule 14

Page 6 of 15

June 9, 2014

Métis Nation of Ontario
500 Old St. Patrick St
Ottawa, Ontario, K1N 9G4

Attention: Director of Lands Resource and Consultation

**Re: Union Gas Limited – Picton Lateral Pipeline Replacement Project
Environmental Study**

To ensure the continued reliable, safe delivery of natural gas and serve a growing demand for natural gas in the Prince Edward County area, Union Gas is proposing to replace approximately 1.5 kilometers of an existing 6-inch diameter steel natural gas pipeline with a new 8-inch diameter steel pipeline.

A section of pipeline to be replaced currently crosses the Bay of Quinte along the underside of the Skyway Bridge on Hwy 49. The Ministry of Transportation is proposing to replace the entire road surface of the bridge and has requested that Union Gas remove the existing pipeline from the bridge. The proposed location for the new section of pipeline is within a Study Area in the southern portion of Hastings County near the town of Deseronto, extending south into Prince Edward County. Please see attached map Figure 1.

As part of the planning process, Union Gas has retained the services of Neegan Burnside Ltd.(Neegan) to undertake an environmental study of the construction and operation of the natural gas pipeline. The environmental study will fulfill the requirements of the Ontario Energy Board's (OEB) *"Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2011)"*.

The environmental study process will include consultation and engagement with landowners, First Nations, the Métis Nation of Ontario, government agencies and other local parties. Consultation and engagement will be instrumental in various aspects of the environmental study including the selection of the preferred pipeline route; and the protection and mitigation measures used to minimize the effects of constructing and operating the proposed pipeline.

It is anticipated that the environmental study will be completed in the summer of 2014 at which time Union Gas will file an application for the proposed pipeline to the OEB. The OEB's review and approval is required before the proposed natural gas pipeline project can proceed. If approved, construction of the pipeline would begin in the spring of 2015.

Neegan is presently compiling an environmental and socio-economic inventory of the pipeline Study Area. With potential interest in developments in the study area you are invited to provide comments regarding the proposed pipeline. Specifically, Neegan is seeking information that may affect construction and operation of the proposed pipeline, including: background environmental and socioeconomic information, planning principles or guidelines implemented by your Community, and other proposed developments to assess potential cumulative effects. Please contact us to discuss the most efficient way to obtain this information. Your response would be appreciated by June 30, 2014.

A Public Information Session regarding the proposed project is planned to be held in July 2014. A notice will be placed in local newspapers and First Nations, Métis Nation, interested agencies and directly affected landowners will be informed by mail.

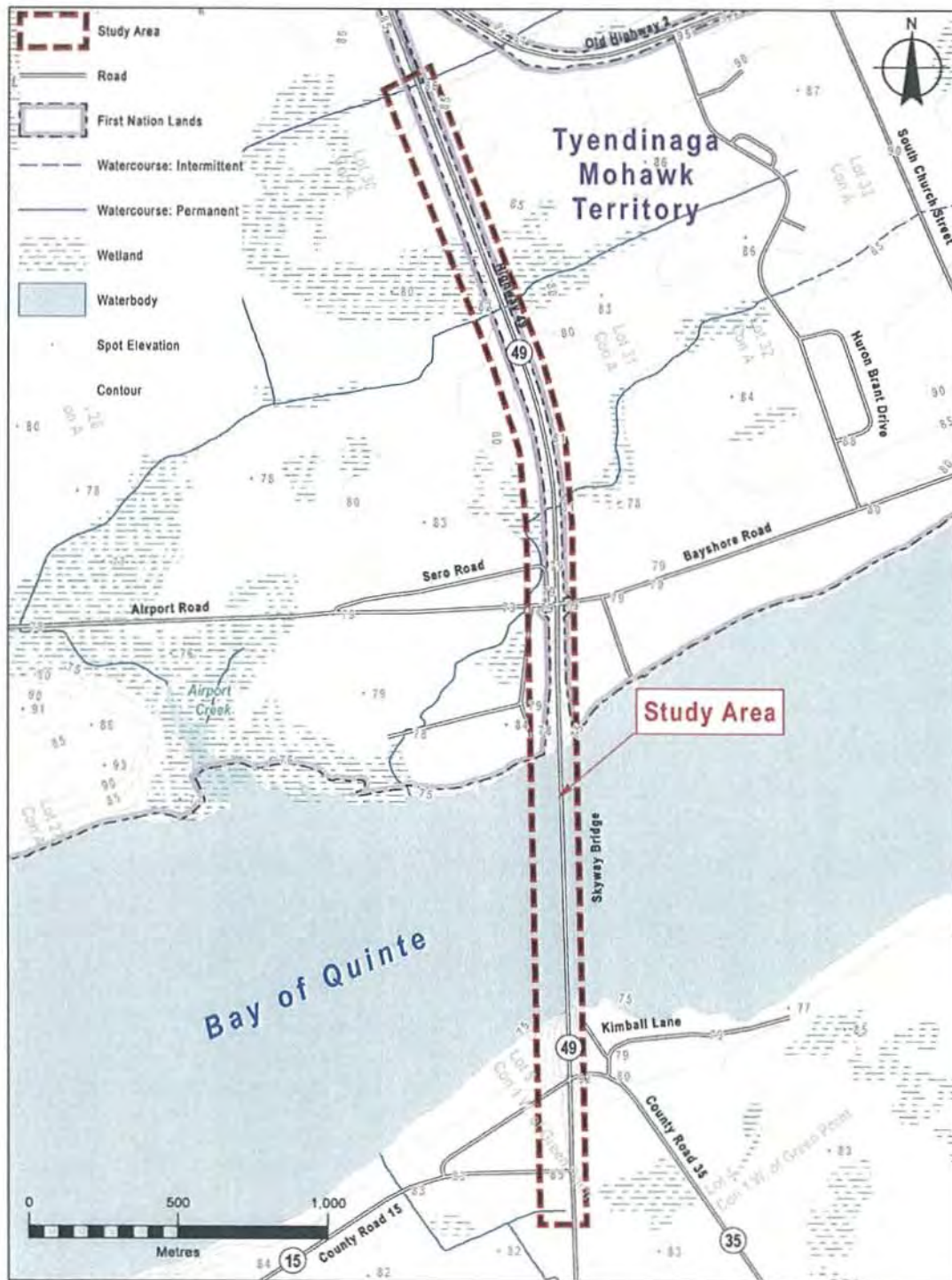
For any questions or concerns regarding the environmental study process or this project, please do not hesitate to contact the undersigned at JBonin@uniongas.com 519-539-8509, extension 5021063. Thank you for your cooperation.

Sincerely,

Norm Dumouchelle
Environmental Planner
Union Gas Limited

P.O. Box 2001, 50 Keil Drive North, Chatham, ON, Canada N7M 5M1 tel. 352 3100

Union Gas Limited



STUDY AREA



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EB-2014-0350

Schedule 14

Page 8 of 15

June 9, 2014

Tyendinaga Mohawks of the Bay of Quinte
13 Old York Road
Tyendinaga Mohawk Territory, Ontario, K0K 1X0

Attention: Dan Brant - CAO

Re: Union Gas Limited – Picton Lateral Pipeline Replacement Project
Environmental Study

Dear: Mr Brant

To ensure the continued reliable, safe delivery of natural gas and serve a growing demand for natural gas in the Prince Edward County area, Union Gas is proposing to replace approximately 1.5 kilometers of an existing 6-inch diameter steel natural gas pipeline with a new 8-inch diameter steel pipeline.

A section of pipeline to be replaced currently crosses the Bay of Quinte along the underside of the Skyway Bridge on Hwy 49. The Ministry of Transportation is proposing to replace the entire road surface of the bridge and has requested that Union Gas remove the existing pipeline from the bridge. The proposed location for the new section of pipeline is within a Study Area in the southern portion of Hastings County near the town of Deseronto, extending south into Prince Edward County. Please see attached map Figure 1.

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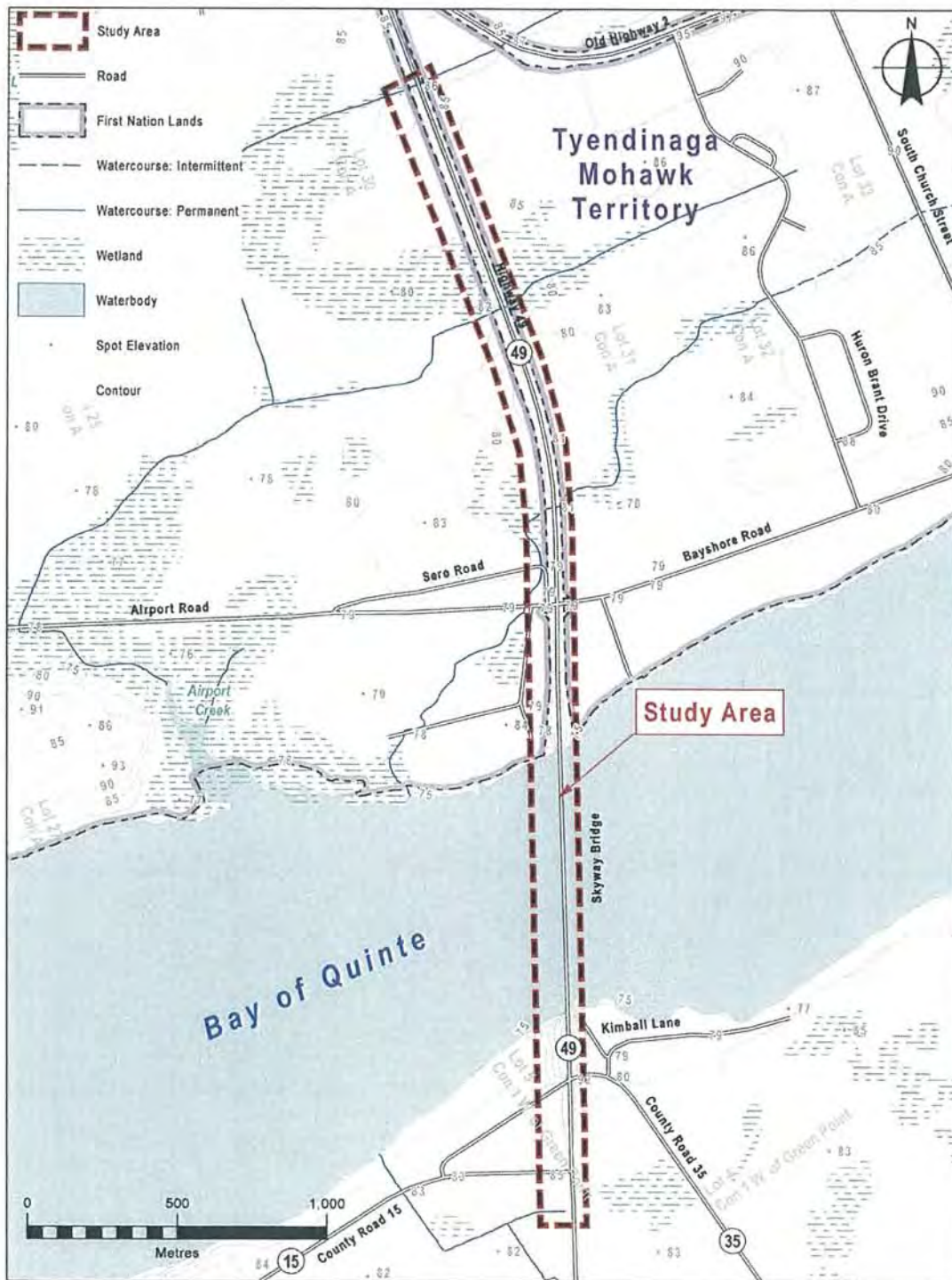
Thank you for your cooperation.

Sincerely,

Norm Dumouchelle
Environmental Planner
Union Gas Limited

P.O. Box 2001, 50 Keil Drive North, Chatham, ON, Canada N7M 5M1 tel. 352 3100

Union Gas Limited



STUDY AREA



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June 9, 2014

Tyendinaga Mohawks of the Bay of Quinte
13 Old York Road
Tyendinaga Mohawk Territory, Ontario, K0K 1X0

Attention: Chief R. Donald Maracle

Re: Union Gas Limited – Picton Lateral Pipeline Replacement Project
Environmental Study

Dear: Chief Maracle

To ensure the continued reliable, safe delivery of natural gas and serve a growing demand for natural gas in the Prince Edward County area, Union Gas is proposing to replace approximately 1.5 kilometers of an existing 6-inch diameter steel natural gas pipeline with a new 8-inch diameter steel pipeline.

A section of pipeline to be replaced currently crosses the Bay of Quinte along the underside of the Skyway Bridge on Hwy 49. The Ministry of Transportation is proposing to replace the entire road surface of the bridge and has requested that Union Gas remove the existing pipeline from the bridge. The proposed location for the new section of pipeline is within a Study Area in the southern portion of Hastings County near the town of Deseronto, extending south into Prince Edward County. Please see attached map Figure 1.

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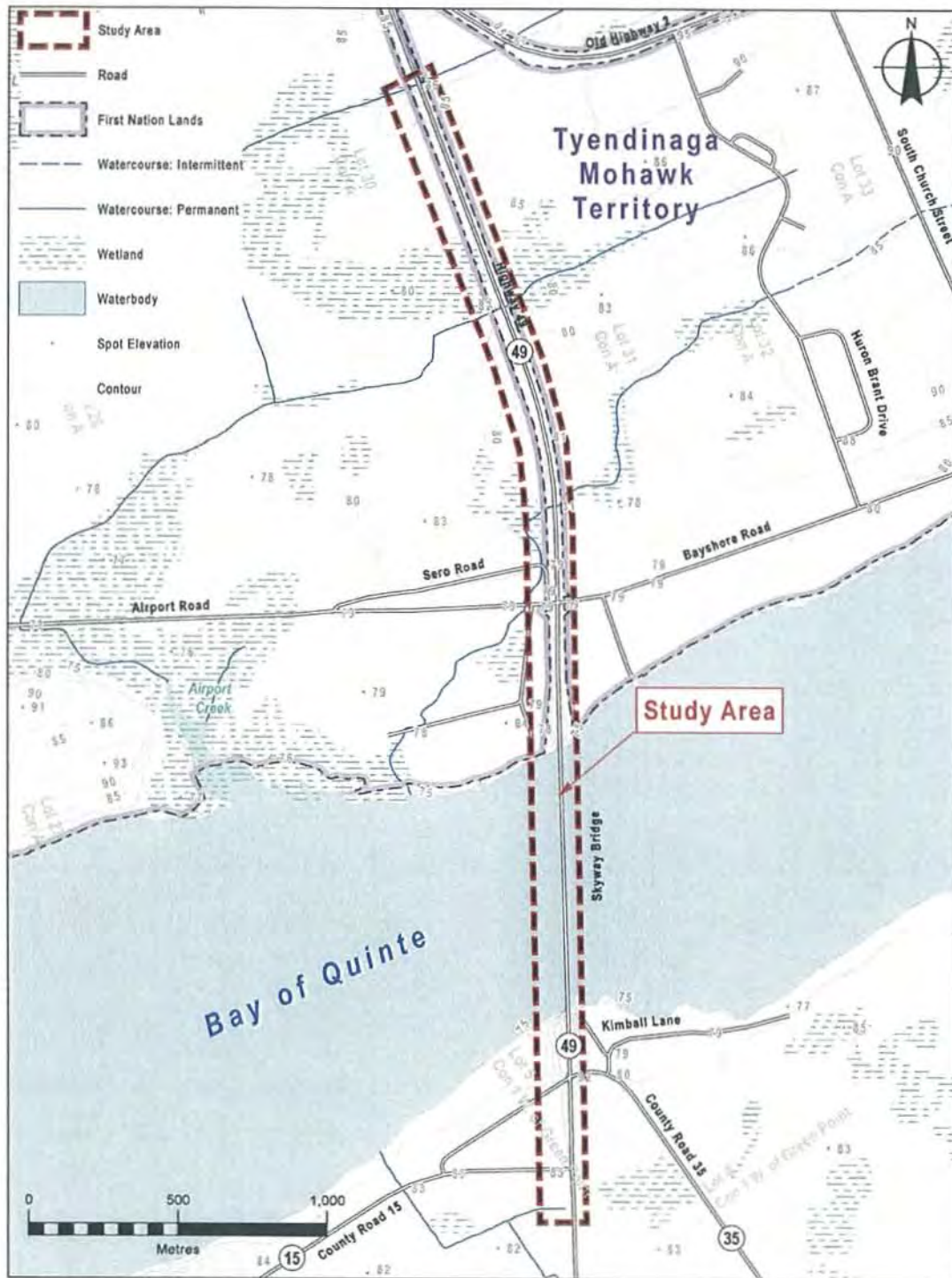
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Sincerely,

Norm Dumouchelle
Environmental Planner
Union Gas Limited



STUDY AREA



MOHAWKS OF THE BAY OF QUINTE

KENHTEKE KANYEN'KEHÀ:KA

COMMUNITY INFRASTRUCTURE / TECHNICAL SERVICES / ENVIRONMENT

24 Meadow Drive., Tyendinaga Mohawk Territory, ON K0K 1X0

Phone 613-396-3424 Fax 613-396-3627

September 30th, 2014

John Bonin
Manager Economic Development
First Nations and Metis Affairs
Union Gas Ltd.
JBonin@uniongas.com

Norm P. Dumouchelle
Environmental Planner
Union Gas Ltd.
npdumouchelle@uniongas.com

Re: Highway 49 Pipeline Replacement Project

Dear Mr. Bonin and Mr. Dumouchelle,

I am writing you this letter to request a copy of the Archaeology Report and any comments or review from the Ministry of Culture, for our records. Also, your response to the question in regards to the impact on the municipal water quality in the event of a leak was vague in nature. Could you please expand or provide any other information.

We appreciate your participation in our endeavors to determine proper use of lands of interest to the community, the prevention or mitigation of anticipated and non-anticipated effects of the proposed project, and efforts to ensure maximum benefit to our community and generations to come.

The above shall not be construed so as to derogate from or abrogate any inherent, Aboriginal, treaty, constitutional, or legal rights of the Mohawks of the Bay of Quinte.

Sincerely,

R. Donald Maracle, Chief
Mohawks of the Bay of Quinte
Email: rdonm@mbq-tmt.org

Cc: File
Dan Brant, CAO, Mohawks of the Bay of Quinte
Todd Kring, Director of Infrastructure, MBQ

Neegan Burnside Ltd. 292 Speedvale Avenue West Unit 20 Guelph ON N1H 1C4 CANADA
telephone (519) 823-4995 fax (519) 836-5477 web www.neeganburnside.com



October 24, 2014

Via: Email

Chief R. Donald Maracle
Mohawks of the Bay of Quinte
24 Meadow Drive
Tyendinaga Mohawk Territory, ON K0K 1X0

Dear Chief Maracle:

**Re: Summary of Potential Effects of Natural Gas Leaks to Desoronto Municipal
Surface Water Intake
Project No.: 300035014.0001**

Through an extensive search of background data sources, not much available information exists regarding the effect of an underground, refined natural gas pipeline leak on a downstream municipal surface water intake. However, information does exist regarding the effect of natural gas leaks to aquatic environments.

As discussed in a previous response sent to the MBQ, some of the natural gas within the pipeline would most certainly bubble to the water's surface and evaporate into the atmosphere. A portion of the natural gas would dissolve in the water and potentially threaten fish and aquatic life. The severity of the environmental consequences are largely based on the volume of leaked natural gas, the proximity of receptors, the temperature and oxygen content of the water, the rate of water circulation, and the water treatment capabilities at the Desoronto intake station. The environmental effects of natural gas leaks/spills in aquatic environments are typically more intense or severe in settings where there is shallow, slow-moving warm water with low oxygen content. However, natural gas is not persistent and at low concentrations is not toxic to fish.

The pipeline is proposed to be located approximately 50 m beneath the floor of the Bay of Quinte in confined bedrock. Mitigation measures and safety response mechanisms have been developed for the pipeline during both construction and operational phases, including the pipeline being "jeeped" and cathodically protected, along with electronic shut off within minutes of a leak being realized. The Desoronto municipal surface water intake is located approximately three kilometers away from the proposed pipeline location and has emergency response plans in place, further reducing the potential for impacts to the water quality in the area of the intake.

As mentioned, the magnitude of an effect of a spill is dependent on a number of variables; however, considering mitigation including leak and spill prevention along with emergency response planning to be in place, the potential for large scale and/or frequent accidents is expected to be very low.

Chief R. Donald Maracle
October 24, 2014
Project No.: 300035014.0001

The potential for impacts to the aquatic environment from a natural gas pipeline that is 50 m within confined bedrock below the bottom of the river bed is also considered to be very low.

References:

<http://www.watershedsentinel.ca/content/impact-natural-gas-marine-environment>
https://www.ceaa-acee.gc.ca/050/documents_staticpost/pdfs/23818-10E.pdf

Yours truly,

Neegan Burnside Ltd.



Devin Soeting, B.A.
Environmental Technologist
DS:sd

Enclosure(s)

cc: Norm Dumouchelle, Union Gas Limited (enc.) (Via: Email)

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