uniongas
A Spectra Energy Company

April 6, 2010

Ms. Kristi Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 26th Floor
Toronto, Ontario
M4P 1E4

Dear Ms. Walli:

RE: Union Gas Limited ("Union")
Sudbury Replacement Exemption Request
EB-2010-0154

Union hereby requests an exemption, under Section 95 of the Act, from the requirements of Section 90 for an Order granting Leave to Construct 1,580 metres of NPS 10 and 493 metres of NPS 12 of natural gas pipeline and ancillary facilities. The replacement/relocation of the pipe is due to the City of Greater Sudbury's construction plan for Maley Road. The construction will be completed using standard construction practices.

In Union's view, there are a number of reasons why this case warrants an exemption including:

1. Union holds the Franchise and Certificate of Public Convenience and Necessity for this area.
2. There are no private landowners directly affected by the project. Union has or will obtain the necessary land rights from commercial or government agencies prior to construction.
3. Union has completed an environmental review of the Project. The Project can be completed without creating any long term significant environmental impacts.
4. Given the pending construction of a four lane extension of Maley Drive, there is a demonstrated immediate need for the pipeline construction,
5. The existing pipes will be abandoned in compliance with TSSA guidelines.
6. The landowners have no significant concerns regarding the project.

To further assist the Board in reviewing this matter, please find the attached package of supporting material.

Union respectfully requests the Board initiate the process to review this request as soon as possible. Construction is scheduled to commence in August of 2010.

If you require additional information, please contact Mark Murray, Manager, Regulatory Projects and Land Acquisition, Union Gas Limited at 519-436-4601.

Yours truly,

Dan Jones
Assistant General Counsel
:mjp
Encl.

cc: Neil McKay, Manager Facilities Applications
Zora Crnojacki, Project Advisor

SUDBURY REPLACEMENT PROJECT

INDEX

Schedules

Project Summary

1. The City of Greater Sudbury ("City" or "Sudbury") is proposing to construct a four lane extension of Maley Drive in Northern Sudbury. The City is proposing to commence this work in 2010 and be completed by 2014. In order to facilitate the construction of the roadways the City requires that Union Gas Limited ("Union") relocate those portions of its NPS 10 and NPS 12 Sudbury Laterals pipelines ("Sudbury Laterals") in areas where there are conflicts between the new location of the Maley Drive and the current location of the pipelines.

2. Union is proposing to replace relocate 1,580 metres of NPS 10 pipeline and 493 metres of NPS 12 pipeline in 2010. The location of the proposed new pipelines is shown on Schedule 1.

Background

3. The Sudbury Laterals connect the cities of North Bay and Marten River with Sudbury. They provide natural gas service along their routes from the TCPL system to Sudbury and beyond Sudbury to the Town of Espanola. The original NPS 10 lateral pipeline was constructed in 1958 and the additional NPS 12 pipeline was installed in 1986. A map showing the Sudbury Laterals can be found on Schedule 2.

4. Sudbury approached Union with plans for roadway upgrades in 2009 and has advised Union that they will serve Union with a Move Order later this year. Sudbury has provided Union with a letter, dated the 26th day of March, 2010 which provides additional details about their work schedule, a copy of which is attached as Schedule 3. When Union examined the plans, Union identified numerous locations where the road work and the Sudbury Laterals are in conflict. Based on those conflicts this proposal was developed.

Proposed Facilities

5. Schematics showing the existing and proposed pipeline systems in the area of conflict are identified on Schedules 4 and 5.

6. Union reviewed the proposed growth forecasts for the Sudbury area to determine if increasing the size of these pipelines would be a benefit to the system. Based on expected growth, in Sudbury and the surrounding area and the limited distances to be relocated, it was determined that the pipe would be replaced size for size, and that upsizing the pipelines were not required.

7. Union's preferred relocation is to replace 1,580 metres of NPS 10 pipeline and 493 metres of NPS 12 pipeline in 2010. The plan proposed is the most efficient method to relocate the pipelines in the areas of conflict.

Project Costs and Economics

8. Union's construction group reviewed the conflict areas, to determine construction costs for the Project.

9. A Discounted Cash Flow report has not been completed for this Project as the Project is underpinned by the Cities relocation requirements.

10. The estimated Project costs for the project are $ 2,595,001.00. A detailed breakdown of these costs can be found at Schedule 6.

Design and Construction

11. The design and pipe specifications are outlined in Schedule 7. All the design specifications are in 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.

12. 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 areas is Class 1, 2 and 3.

13. The proposed NPS 10 pipe has an outside diameter of 273.1 mm and a minimum wall thickness of 5.6 mm. The pipe is to be manufactured by the electric resistance weld process and will have minimum specified minimum yield strength of 290 MPa. This pipe will be manufactured to the CSA Z245.1-07 Steel Line Pipe Standard for Pipeline Systems and Materials.

14. The proposed NPS 12 pipe has an outside diameter of 323.9 mm and a minimum wall thickness of 7.1 mm. The pipe is to be manufactured by the electric resistance weld process and will have minimum specified minimum yield strength of 290 MPa. This pipe will be manufactured to the CSA Z245.1-07 Steel Line Pipe Standard for Pipeline Systems and Materials.

15. The pipeline will be hydrostatically tested in accordance with the Ontario Regulation requirements.

16. The minimum depth of cover will be in accordance with Clause 4.11 of the CSA Code Z662-07. Additional depth will be provided to accommodate existing or planned facilities.

17. Schedule 8 describes the general techniques and methods of construction that will be employed in the construction of the proposed pipelines. This schedule details the following activities; clearing, stringing of pipe, trenching, welding, backfilling and clean up. Union's

construction procedures have been continually updated and refined in order to be responsive to landowner concerns and mitigate potential environmental effects related to pipeline construction.

18. Blasting is anticipated along the route. A copy of Union's blasting specifications can be found at Schedule 9.

19. Material is readily available for this Project.

20. Schedule 10 indicates the proposed construction schedule which is scheduled to commence the middle of August, 2010 and be completed by the end of November, 2010.

21. The existing pipelines will be abandoned in compliance with TSSA guidelines. The TSSA abandonment guidelines can be found at Schedule 11. The majority of pipe will be abandoned in place with appropriate mitigation measures. Longer sections will be pigged for liquids or debris and then cut and capped at both ends. It is expected that the sections of pipe remaining in the ground will be approximately 450 metres in length. Short sections of pipe in direct conflict with the replacement pipeline will be removed to accommodate new construction. Under the roads, pipes and casings will be left in place and filled with a grouting material.

Landowners

22. There are three landowners who will be directly affected by the proposed project. A listing of these landowners can be found at Schedule 12.

City of Greater Sudbury:

For the City, Union will require two different land rights. For sections of pipeline that will be constructed within municipal road allowances, these pipelines will be constructed in accordance with Union's franchise agreement. For sections of pipe on city lands outside of

road allowance Union will obtain permanent and temporary easements from the City. Union will require one permanent easement and seven temporary easements from the City. Union and the City have agreed in principle to the proposed location of the pipeline. A copy of the letter of intent signed by the City of Greater Sudbury can be found at Schedule 13.

Nickel District Conservation Authority:

Union has discussed the project with the Nickel District Conservation Authority and they have agreed to provide Union with the easements necessary for the proposed project where it crosses Conservation Authority lands. Union will require one permanent and two temporary easements for the Conservation Authority. A copy of the letter of intent signed by the Conservation Authority can be found at Schedule 13.

Vale Inco Limited:

Union has discussed the project with Vale Inco and they have not identified any significant concerns with the project. It is Union's understanding that Vale Inco is in discussions with the City regarding the road reconstruction project and until those discussions are finalized easements will not be signed. Union will require three permanent and seven temporary easements from Vale Inco. Union does not foresee any issues with Vale Inco signing an easement once discussions with the City are completed.

23. The form of easement that Union proposes to use for this project can be found at Schedule 14.

24. Union will implement a Lands Relation Program to keep the landowners informed about the project. This program with provide the municipality, and the directly affected landowners with information about construction, and access to Union construction personnel in the event that issues arise during construction.

Environmental

25. The City has completed an environmental assessment for the proposed road work. This report identified environmental features and mitigation measures that the City proposes to complete. As Union's work will be in the zone of influence of the study, the features identified in the report will also be impacted by the work Union is required to complete.

26. For the proposed pipeline construction, Union has completed an environmental screening for the Project consistent with the requirements of E.B.O. 188. The results of this screening can be found at Schedule 15.

27. Union will obtain all necessary environmental permits prior to construction.

28. In addition, Union commissioned Stantec Consulting to review the environmental documents prepared by the City. A summary of their review and recommendations can be found at Schedule 16.

29. Stantec Consulting review did not identify any environmental issues that could not be mitigated using standard construction techniques.

30. Some of the more significant environmental features that will be encountered during pipeline construction and the proposed mitigation measures that will be implemented can be found at Schedule 17.

31. By following Union's standard construction practices, and the mitigation measures identified in the environmental checklist, the Stantec report, and the measures identified in Schedule 17 there will be no long term significant negative environmental impacts.

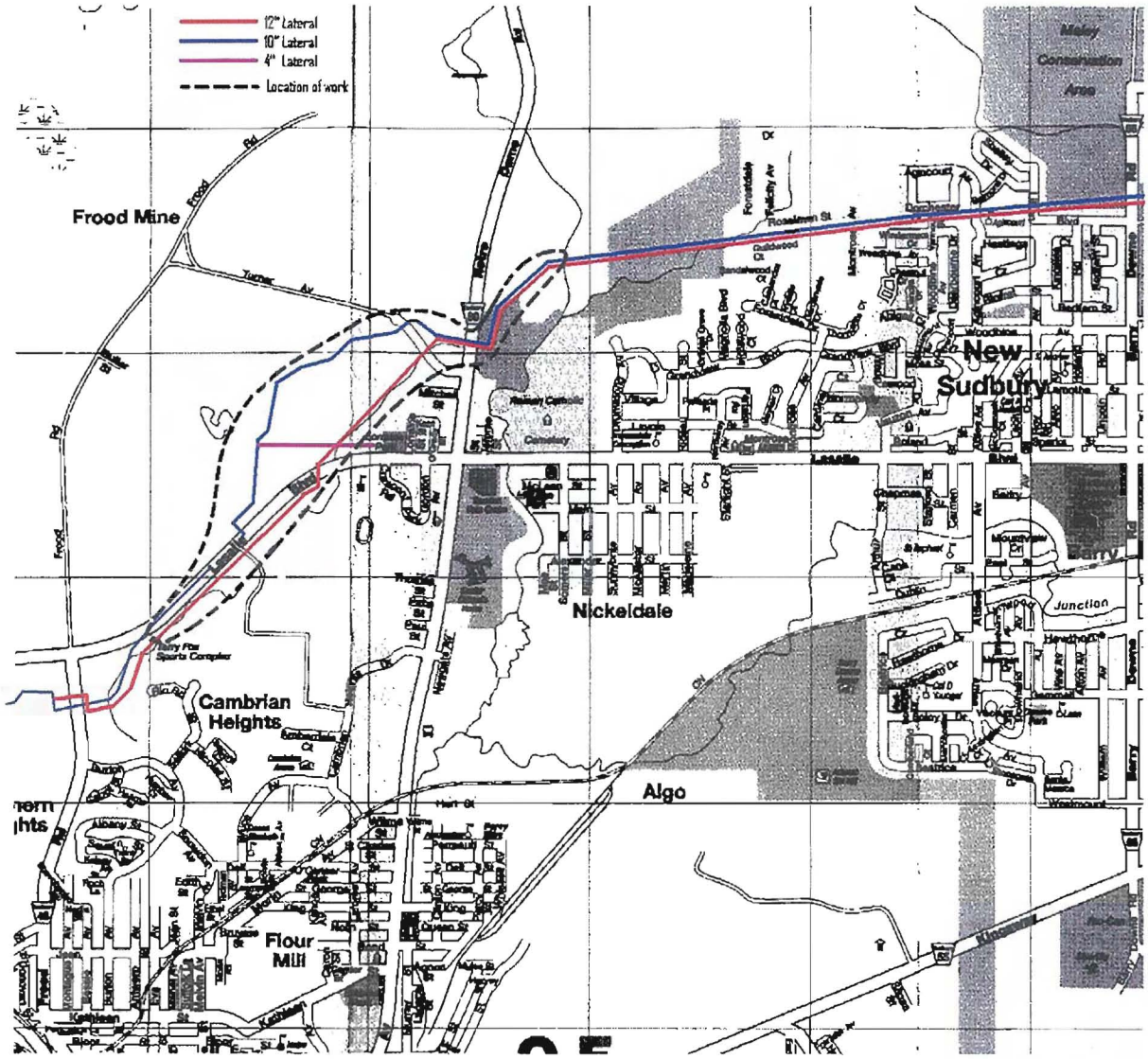
Summary

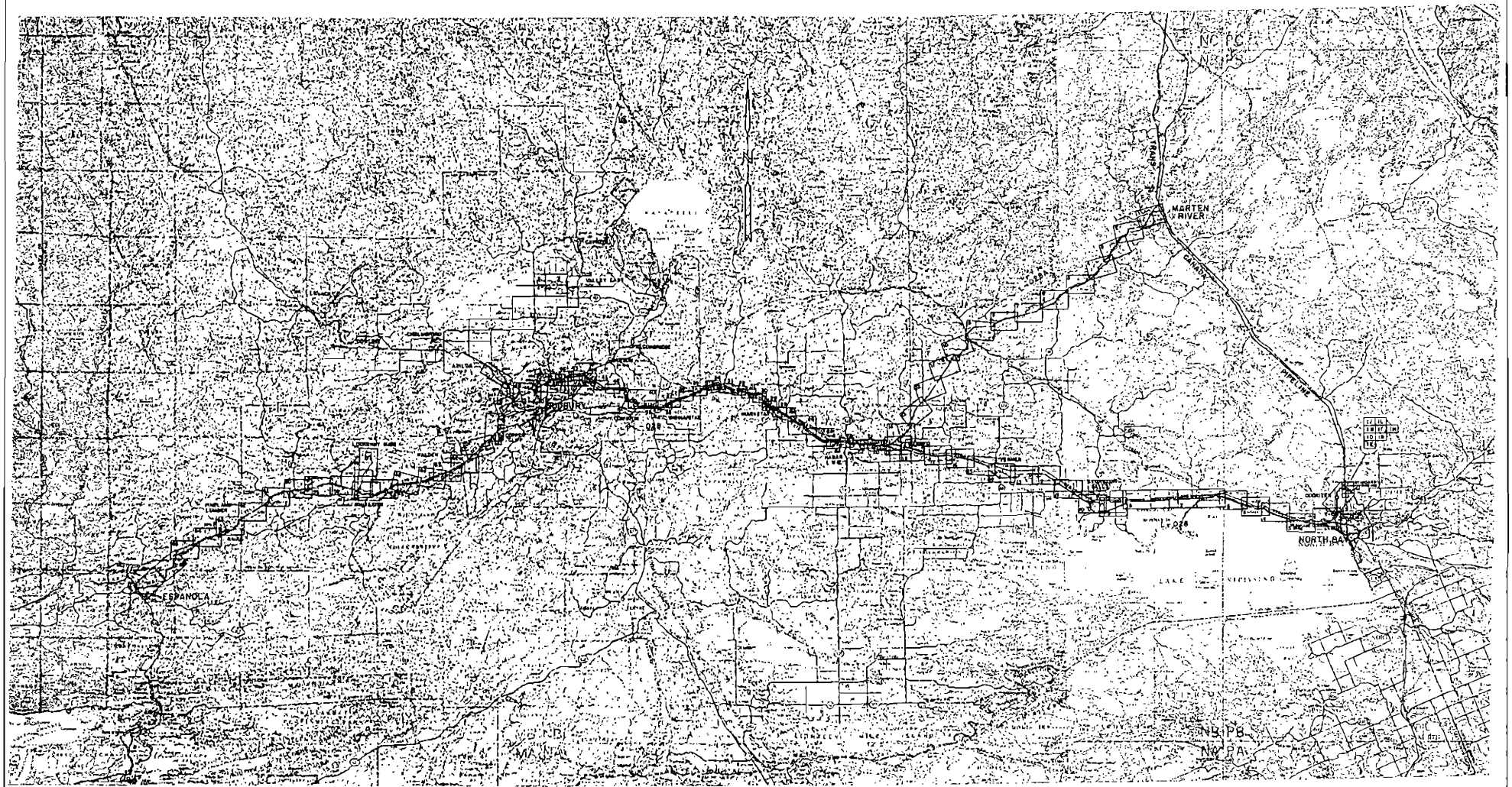
32. Due to Sudbury's construction plan for Maley Road, Union is proposing to replace 2,073 metres of NPS 10 pipeline and NPS 12 pipeline in Sudbury.

33. Union proposes to complete the construction of the Project using standard construction practices.

34. Union has or will obtain the necessary land rights prior to construction.

35. Union has completed an environmental review of the Project. The Project can be completed without creating any long term significant environmental impacts.


12" Lateral
10" Lateral
4" Lateral
Location of work
Frood Mine
New Sudbury
Nickeldale
Cambrian Heights
Algo
Flour Mill
Junction



CENTRA GAS ONTARIO INC.

SUDBURY LATERAL

DRAWN M.S. MCDONALD	SCALE 1:250,000	SIZE AD
CHECKED	DATE 1996-07-04	L-028-INDEX
APPROVED	REVISION	

EB-2010-0154
Schedule 2

Greater Grand Sudbury
Infrastructure Services
Roads and Transportation

March 26, 2010

Via Fax: 705 474-4717

Union Gas
36 Charles Street East
North Bay ON P1A 1E9

Attention: Mr. Jeff Peroff, Mapping Team Lead.

Dear Mr. Peroff:

PO BOX 5000 STN A
1800 FROBISHER STREET
SUDBURY ON P3A 5P3

CP 5000 SUCC A
1800, RUE FROBISHER
SUDBURY ON P3A 5P3

311
705.671.2489

www.greatersudbury.ca
www.grandsudbury.ca

RE: Maley Drive Extension and Widening Project
Union Gas Utility Relocations

As you are aware, Union Gas has requested that the City of Greater Sudbury (City) provide information on our Capital Construction Program in support of their current application before the Board to relocate/upgrade gas lines within the limits of the Maley Drive Extension and Widening Project.

It is the City's intent to request a utility relocation once this project has advanced to an appropriate level of design and the necessary funding is secured. Union Gas and the City have been working cooperatively in advance of the formal utility relocation request to ensure that the timelines for our respective projects are coordinated to allow the successful execution of the work.

This Municipal Class Environmental Assessment (EA) Schedule C project has received Environmental Clearance. Union Gas has been involved in the project since the Class EA. The consulting engineering firm AECOM has since been retained by the City to complete the detailed design.

The Maley Drive Extension and Widening Project involves the construction of 8.7 kilometers of widening/twinning and 4.6 kilometers of a new four lane road, which includes an interchange at Notre Dame Avenue.

During the preliminary design, impacts were identified to underground Union Gas plant from east of Notre Dame Avenue to LaSalle Boulevard. Relocation of gas plant will require the completion of property acquisition, although sections of the plant can be relocated in areas where property is not required. Union Gas has proposed to relocate their line to the south side of the proposed Maley Drive.

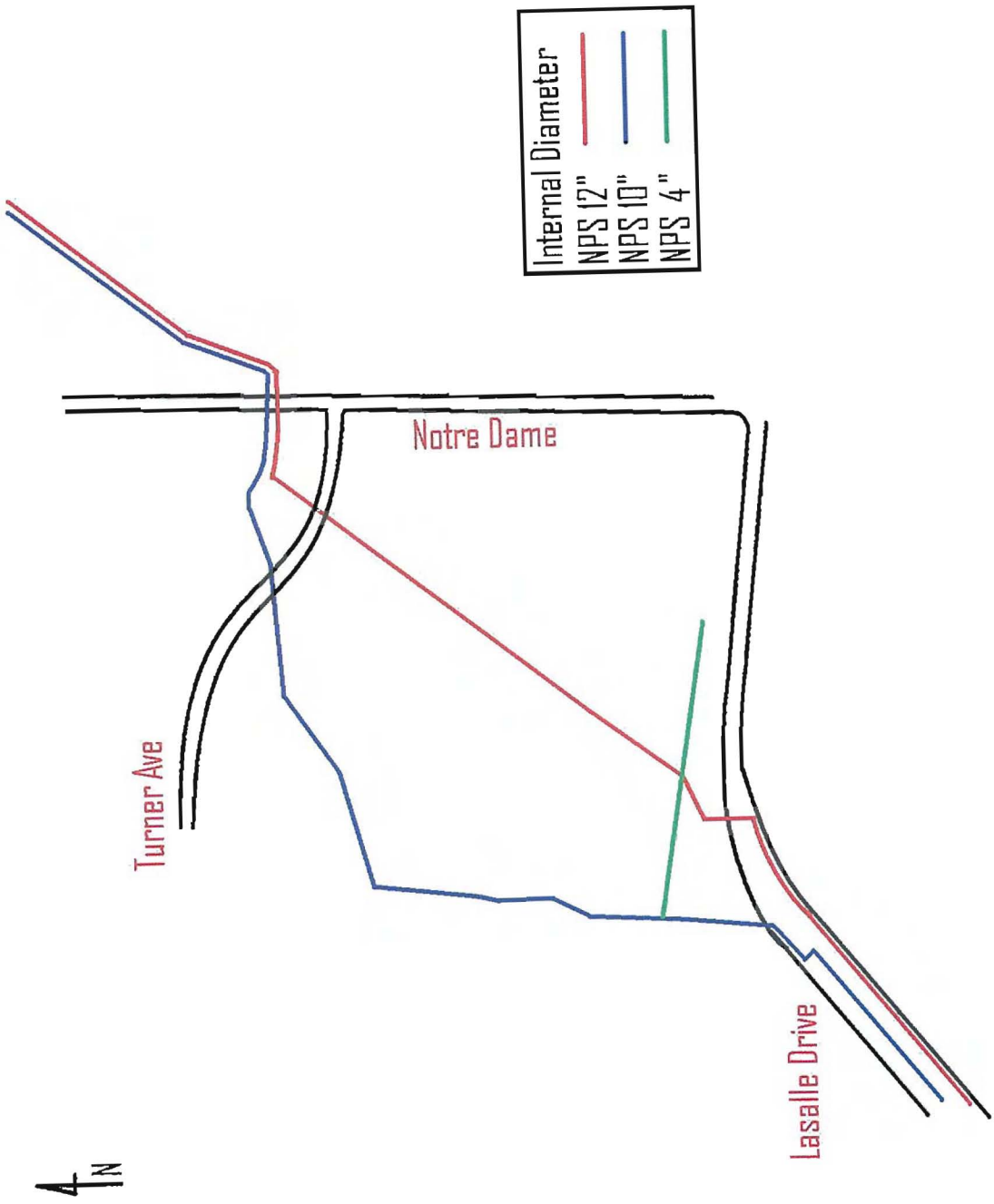
The City has committed to start the Maley Drive Extension and Widening Project in 2010 in the City's Building Canada Funding Application. Specific project timing is subject to change based on funding, planning, design, environmental approval, property acquisition and construction requirements.

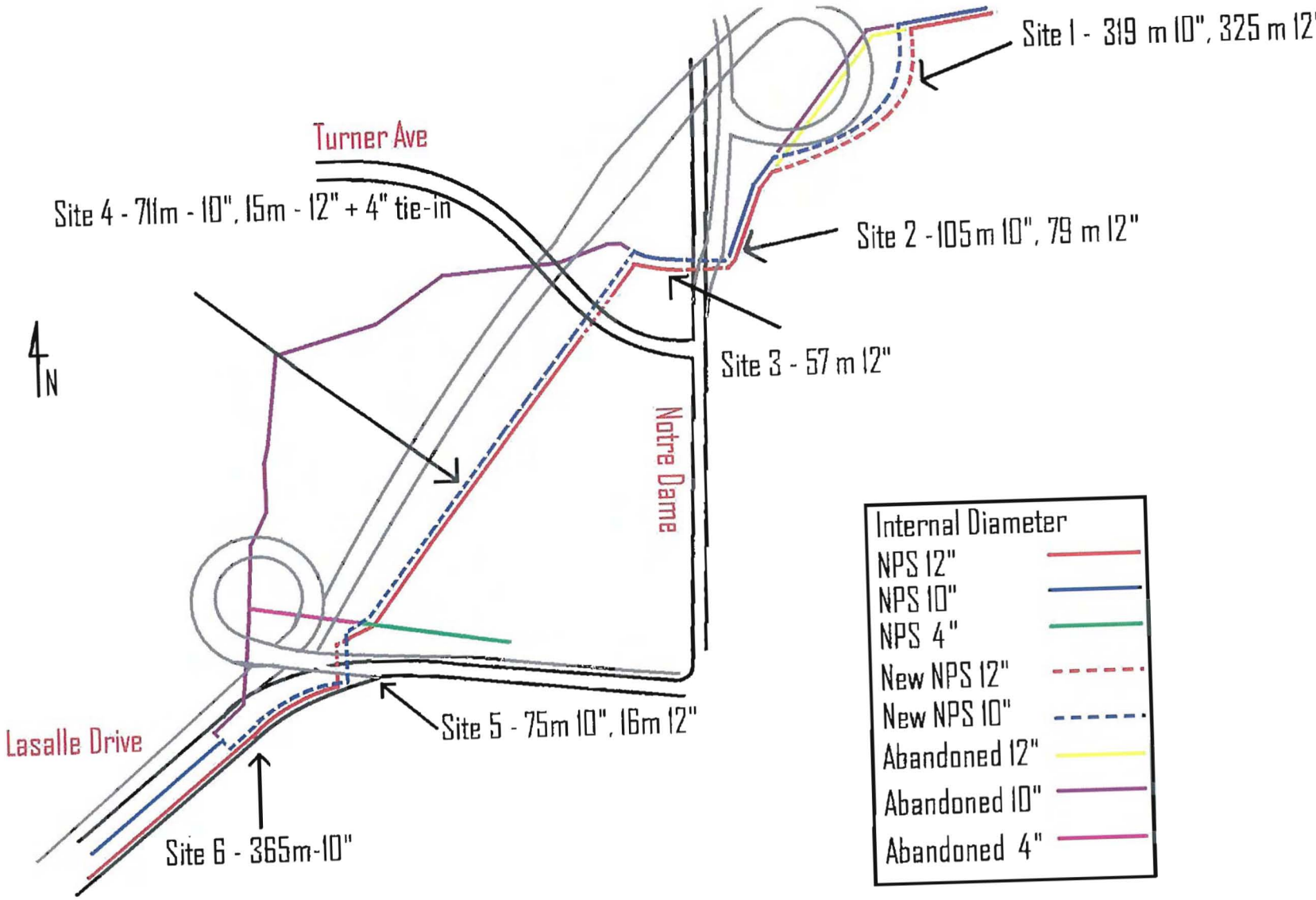
Should you have any questions and/or concerns, please do not hesitate to contact me.

Yours truly,

David Shelsted, MBA P.Eng,
Roads Engineer.

DS/fc
c.c. Robert Falcioni


Internal Diameter
NPS 12"
NPS 10"
NPS 4"
Notre Dame
Turner Ave
Lasalle Drive
N



EB-2010-0154
Schedule 5

Schedule 6

MALEY EXTENESION REPLACEMENT

TOTAL ESTIMATED PROJECT COSTS

Pipeline and Equipment		
Pipe Nps 10 & 12	$221,857	
Valve, Fitting, misc.	$19,328	
Stores Overhead	$19488	
Total Pipeline and Equipment		**$260,673**
Construction and Labour		
Prime Contract	$2,081,308	
Ancillary Contracts	$51,000	
Company Labour	$83,100	
Land Rights	$22,500	
Total Construction and Labour		**$2,237,908**
Total Pipeline and Equipment and Construction and Labour		**$2,498,581**
Contingencies		$96,420
Total Estimated Project Costs		**$2,595,001**

SUDBURY REPLACEMENT PROJECT
DESIGN AND PIPE SPECIFICATIONS

Design Specifications

Class Location	-	Class 3
Design Factor	-	0.800
Location Factor (General)	-	0.700
Location Factor (Roads)	-	0.625
Maximum Design Pressure	-	4940 kPa
Maximum Operating Pressure	-	3723 kPa
Test Medium	-	Water
Minimum Test Pressure	-	6920 kPa
Valves/Flanges	-	PN 50
Minimum Depth of Cover (General)	-	0.9 m
Minimum Depth of Cover (Roads)	-	1.2 m

Pipe Specifications

Size	-	273.1 mm
Minimum wall thickness	-	5.6 mm
Type	-	Electric Resistance Weld
Description	-	C.S.A. Standard Z245.1-07
Minimum grade	-	290 MPa
Category	-	I
Coating	-	Extruded Polyethylene (Yellow Jacket)
	-	SPC 2888 abrasion resistant (location dependant)

Size	-	323.9 mm
Minimum wall thickness	-	7.1 mm
Type	-	Electric Resistance Weld
Description	-	C.S.A. Standard Z245.1-07
Minimum grade	-	290 MPa
Category	-	I
Coating	-	Extruded Polyethylene (Yellow Jacket)
	-	SPC 2888 abrasion resistant (location dependant)

GENERAL TECHNIQUES AND METHODS OF CONSTRUCTION

1. Union Gas Limited ("Union") will provide its own inspection staff to enforce Union's construction specifications and Ontario Regulation 210/01 under the *Technical Standards and Safety Act 2000, Oil and Gas Pipeline Systems*.
2. 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.
3. Union's contract specifications require the contractor to erect safety barricades, fences, signs or flashers, or to use flag persons as may be appropriate, around any excavation across or along a road.
4. It is Union's policy to restore the areas affected by the construction of the pipeline to "as close to original condition" as possible. As a guide to show the "original condition" of the area, photos and/or a video will be taken before any work commences. When the clean-up is completed, the approval of the landowner or appropriate government authority is obtained.
5. Construction of the pipeline includes the following activities.

Locating Running Line

6. 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.

Clearing and Grading

7. The right-of-way is prepared for the construction of the pipeline. When required, bushes, trees and crops are removed and the ground leveled. When required, the topsoil is stripped and stored, and/or sod is lifted.

Stringing

8. The pipe is strung adjacent to the running line. The joints of pipe are laid end-to-end on supports that keep the pipe off the ground to prevent damage to the pipe coating.

Welding

9. The pipe is welded into manageable lengths. The steel pipe welds are radiographically inspected, if required, and the welds are coated.

Burying

10. Pipe may be buried using either the trench method or the trenchless method. All utilities that will be crossed or paralleled by the pipeline are located by the appropriate utility prior to installing the pipeline. Prior to trenching, all such utilities will be hand-located or hydro-vacuumed.

Trench Method: Trenching is done by using a trenching machine or hoe excavator depending upon the ground conditions. Provisions are made to allow residents access to their property, as required. All drainage tiles that are cut during the trench excavation are flagged to signify that a repair is required. All tile are measured and recorded as to size, depth, type and quality. This information is kept on file with Union. If a repair is necessary in the future, Union will have an accurate method of locating the tile. Next, the pipe is lowered into the trench. For steel pipe, the pipe coating is tested using a high voltage electrical tester (Jeep) as the pipe is lowered into the trench. All defects in the coating are repaired before the pipe is lowered in. Next, if the soil that was excavated from the trench is suitable for backfill, it is backfilled. If the soil is not suitable for backfill (such as rock), it is hauled away and the trench is backfilled with suitable material such as sand. After the trench is backfilled, drainage tile is repaired. Tile repairs are made by excavating back into the bank along the tile run and placing clear stone as a foundation for a perforated steel or high strength plastic drainage pipe. A new drainage tile is cut to the appropriate length and installed between the two exposed tile ends. Prior to the actual setting of the perforated drainage tile, the existing tile run is checked to ensure that it is clear and undamaged within the limits of the work area. If it is not, further tile is excavated

and the damaged tile is replaced to the edge of the work area. A company inspector inspects each tile repair and acts as a liaison between the contractor and the landowner or municipality. If required, the landowner or municipal representative is requested to inspect tile repairs prior to backfill completion. Union undertakes that it is responsible for the tile repair and will be accountable for the tile repairs at any future date after construction of the pipeline.

Rock Excavation: Rock in solid beds or masses will be removed by "Hoe Ram", where practical. Where rock that is too hard to "Hoe Ram" is encountered, blasting will be permitted in accordance to Union's construction procedures and the *Canadian Explosives Act.* The contractor shall obtain all necessary permits and shall comply with all legal requirements in connection with the use, storage and transportation of explosives.

Trenchless Method: Trenchless methods are alternate methods used to install pipelines under railways, roads, sidewalks, trees and lawns. There are two trenchless methods that could be used for the proposed NPS 10 and NPS 12 pipelines, depending on the soil conditions, and the length and size of the installation. These methods are boring (auguring) and directional drilling.

Tie-Ins

11. The sections of pipelines that have been buried using either the trench or trenchless method are joined together (tied-in).

Cleaning and Testing

12. To complete the construction, the pipeline is cleaned and tested in accordance with Union's specifications using water.

Restoration

13. The final activity is the restoration. The work area is leveled, the sod is replaced in lawn areas and other grassed areas are re-seeded. Where required, concrete, asphalt and gravel are replaced to return the areas to as close to the original conditions as possible.

Specification for Rock Excavation

3.10.1 Application

This specification applies to all solid rock (in its original formation) encountered in trenching for pipelines and which must be removed. Throughout this specification, all sections applicable to rock excavation using the Swartklip Boulder Buster are identified with the statement "applicable to the Swartklip Boulder Buster."

3.10.2 EHS References

- Construction Regulations, Sections 196-206

3.10.3 General Requirements

Exercise great care to prevent damage to underground structures such as cables, conduits, and pipelines, water wells, springs and other underground water courses. Consult Environmental Construction Permitting when blasting near water courses. If the techniques of the Contractor appear to be injurious to these installations or formations, the Company maintains the right to require the cessation of work.

Solid rock, as classified by the Engineer, will be removed to a depth of 100 mm below the standard ditch depth to allow for padding between the rock and the pipe. The excavated ditch will be padded to a minimum thickness of 100 mm with earth, sand (free from rock), or other protective material approved by the Engineer. The padding material is to be placed in the trench in such a manner as to protect the pipe and the pipe coating from any hard points of rock. Use rockshield in locations designated by the Engineer.

Applicable to the Swartklip Boulder Buster - All Boulder Buster Operators must be certified and must carry proof of such certification while operating this equipment.

3.10.4 Use of Explosives

3.10.4.1 General

The Engineer will be notified of the Contractor's intention to use any explosive and may give consent to such use only after careful examination of the particular site of such use. After a careful inspection of the site, if there is an existing pipeline within 30 m of any proposed blasting, Form 2707, Blasting Information Request is to be filled out for blasting approval. When it is necessary to use explosives, blasting will not be done until occupants of nearby buildings, stores, houses, places of business and landowners have been notified in writing by the Contractor sufficiently in advance to protect property and livestock. The Qualified Individual will be present during blasting.

Take every precaution to protect the public and its workers from any injury or harm which might arise from the use of explosives. Only thoroughly experienced workers in handling explosives will be permitted to supervise, handle, haul, load or detonate explosives.

Blasting is not permitted within 5 m of an existing operating pipeline without a consultant's recommendation and Pipeline and Station Operations Engineering written approval. However, in no event will any explosives be used at a point where, in the opinion of the Engineer, the use of such explosives would be dangerous to the existing pipeline(s) of the Company. A minimum of 48 hours notice must be given to the Company so that mainline valves may be inspected for accessibility and operability before blasting.

Where specified by the Engineer, furnish the necessary equipment to employ air bubble curtains at water crossings for the protection of fish and wildlife during blasting operations.

3.10.4.2 Blasting Consultant

The Contractor will employ, at his expense, the services of a blasting specialist to advise on drilling, loading patterns, and vibration levels as necessary.

3.10.4.3 Storage and Handling

Under no circumstances will detonating caps be stored with explosives. Store detonating caps in a separate place according to applicable codes and regulations. Do not prime or fuse explosives until just before use. Under no circumstances are loaded and fused holes to be left overnight.

3.10.4.4 Flyrock and Matting

Blanket all shots using heavy duty rubber blasting mats in good condition (e.g., joined tires). Do not use mats that have suffered a significant loss of rubber laminations. Do not use overburden material and sandfill as matting material.

Keep all flyrock to an absolute minimum and do not allow flyrock to be deposited outside the right-of-way. If flyrock is scattered over the right-of-way or adjacent property, clean up such flyrock to the satisfaction of the landowner and his tenants. Haul the flyrock to a location satisfactory to the Engineer for disposal. If, in the opinion of the Qualified Individual, the amount of rock scattered over the right-of-way or adjacent property is unwarranted, the Company maintains the right to require the cessation of work.

Notwithstanding the above requirements, place the mats over the blast area with the following minimum laps:

1. Within 50 metres of any house, building, structure, hydro tower, overhead wire or parked car, the mats will be double layered with lapped joints.
2. Use a 25% (minimum) lap at each abutting mat elsewhere.

Lay additional mats, as necessary, to control flyrock and to protect seismographic equipment at blast monitoring locations.

3.10.4.5 Warning Signals

Give distinct warning signals with an air horn during all blasting.

- Give five short signals to warn of pending detonation and need to clear the area.
- Give three short signals immediately before the blast.
- Give one long signal after the blast to indicate the safe completion of the blast.

3.10.4.6 Blasting

Do not blast before 8:00 am or after 7:00 pm, nor on Sundays and Statutory Holidays. In addition, do not start loading for any blast unless the loading can be completed and the blast matted and detonated no later 7 pm.

3.10.4.7 Vibration Limits

During all blasting operations, the Contractor will limit the ground vibration operated by each blast to the following limits:

- Where blasting is occurring within 30 m of an existing operating pipeline, the vibration will be controlled to a maximum peak particle velocity (PPV) of 50 mm/s above the pipeline.
- Where blasting is occurring within 200 m of any structure and any other sites as required by the Company, the peak particle velocity will not exceed 50 mm/s.
- In ground adjacent to concrete or grout in place less than 60 hours, the peak particle velocity will not exceed 10 mm/s.

The above limits refer to the intensity of the ground vibrations generated by blasting in any of the three mutually perpendicular planes, measured at the nearest point above a line to the location of the blasting. Vibration monitoring shall be supplied by the contractor at his expense.

The Contractor must submit revised blasting patterns to the Company, and as set out in this specification, if unable to maintain satisfactory levels of vibration during blasting.

3.10.4.8 Monitoring Procedures for Blasting Near Existing Pipeline

The Blasting Contractor will retain the services of a Blasting Consultant to monitor vibration levels on existing Company pipelines during each blast if:

- The pipeline is greater than NPS 12; or
- The pipeline, at the time of blasting, is operating at a pressure greater than 1,723 kPa; or
- The maximum explosive charge per delay values exceed those given in Table 3.10.1.

The blasting consultant will also monitor the vibration and air overpressure levels at any nearby houses and structures within a minimum of 200 m from the blast and any other sites as required by the Company.

The monitoring equipment will consist of a portable seismograph capable of producing on-site printouts that include the following information:

- Ground vibrations up to 200 millimetres per second (mm/s) of peak particle velocity (PPV) in the three mutually perpendicular directions.
- Frequency of all three mutually perpendicular directions.

Set up the transducers at the nearest point above a line to the location of the blasting.

The Contractor will assist the blasting consultant in setting up the equipment, in the event that monitoring is required on an existing pipeline. All excavation in the vicinity of existing pipelines will be carried out in the presence of a Qualified Individual and only after the pipe location has been established by electronic means.

The printout of each seismographic reading will be given to the Qualified Individual immediately after each blast.

Table 3.10.1

Stand-off distance from facility (m)	Maximum Explosive Charge (kg per delay)
5	1.00
6	1.44
7	1.96
8	2.56
9	3.24
10	4.00
12	5.76
14	7.84
16	10.24
18	12.96
20	16.00
22	19.36
24	23.04
26	27.04
28	31.36
30	36.00

3.10.4.9 Excessive Vibration Readings

If there is any one seismographic reading in excess of the limits set out above, the following will apply:

1. Should any two consecutive seismographic readings fall between 50 and 80 mm/s PPV, the Blasting Contractor will cease all further blast hole loading other than those required for a third reading. The pipe will be exposed and a third reading will be taken on the pipe.
   - **If this third reading is below 50 mm/s PPV,** blasting may continue.
   - **If the third reading exceeds 50 mm/s PPV,** the Blasting Contractor will cease all blasting in the area and move to a new area and continue blasting. The Blasting Contractor will then submit a revised loading pattern to the Company for review in the area where blasting has been discontinued.
2. Should any one seismographic recording be in excess of 80 mm/s PPV, the Contractor will cease all further blast hole loading other than those required for one subsequent reading. The pipe will be exposed and the subsequent reading will be taken on the pipe.
   - ***If this reading is below 50 mm/s PPV,*** *blasting may continue.*
   - ***If this reading exceeds 50 mm/s PPV,*** *the Contractor will cease all blasting in* the area and move to a new area and continue blasting. The Contractor will then submit a revised loading pattern to the Company for review in the area where blasting has been discontinued.
3. In any area where blasting has been discontinued, blasting may only be resumed when permitted by the Qualified Individual.

3.10.4.10 Excavating and Backfill

When excavating loose rock from the trench after blasting, the Contractor must keep loose rock separate from any overburden that has previously been stripped. This can either be done by piling the overburden on the "spoil" side of the trench and the loose rock on the "work" side of the trench to be hauled out, or by piling both the overburden and the loose rock separately on the spoil side of the trench. The method to be used will depend upon the amount of overburden, width of the trench, and the type of terrain. The Qualified Individual will decide the preferred method and the material to haul away.

After backfilling operation is complete, the Contractor will remove excess material *from the right-of-way. The material will be disposed of at a location satisfactory to* the Engineer. This is also applicable to the Swartklip Boulder Buster.

3.10.4.11 Permits

Any permits necessary for blasting will be obtained by and at the expense of the Contractor, unless specified in the work description in the construction contract. Comply with all legal requirements in connection with the use, storage and transportation of explosives, including but not limited to the Canadian Explosives Act. Proper notification will be made to the authority having jurisdiction when *required and conformance with all legal requirements will be made.*

3.10.5 Damages

The Contractor will take all necessary precautions not to damage any structure owned by others. If damage should occur, the owner of the damaged structure will be contacted jointly by representatives of the Company and the Contractor and the repairs will be made at the Contractor's expense under the direction and to the satisfaction of the owner. This also includes damage to Company pipelines. This is also applicable to the Swartklip Boulder Buster.

3.10.6 Measurements

Rock removed for the clearing of right-of-way will not be considered as rock excavation.

A record of the location and quantities of all trench excavation classified as solid rock will be made for each property by the Inspector. This record will be submitted to the Contractor for acceptance and signature, after acceptable trench has been completed across the property. When signed by authorized representatives for both parties, this record will form the basis for calculating the compensation due to the Contractor for trenching in solid rock.

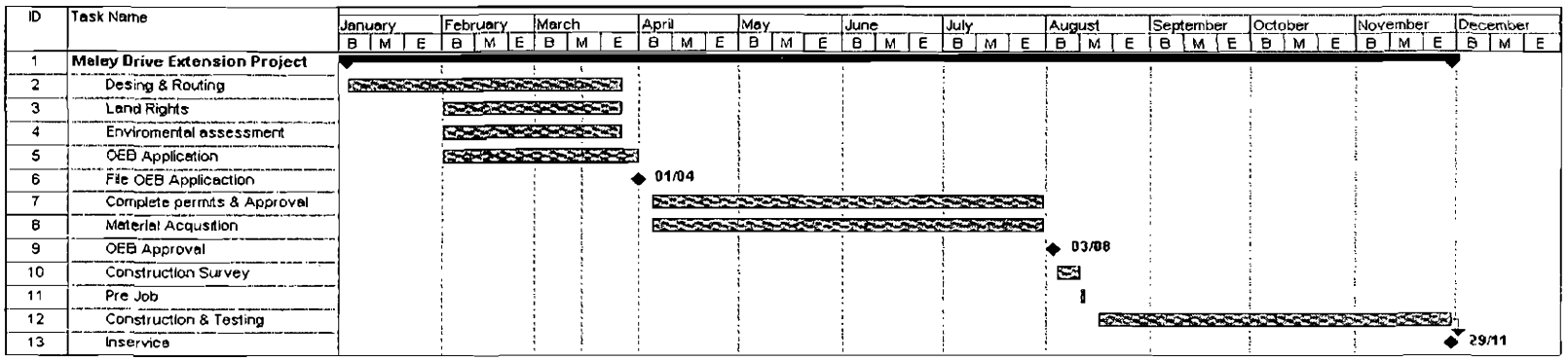
All areas to be considered as loose rock requiring removal by backhoe must be authorized by the Qualified Individual at the time the trench is being dug. No other areas will be considered as loose rock excavation. This is also applicable to the Swartklip Boulder Buster.

3.10.7 Basis of Payment

Solid rock excavation will be paid for at the unit price per linear metre as covered in Item 18 (a) (b) or (c) of the Schedule of Unit Prices. Loose shale rock that must be removed by backhoe will be paid for at the price per linear metre as given in item 18 (d), or (e) but will not include rock already paid for in item 18 (a), (b), or (c). Earth or sand padding in bottom of trench salvaged from spoil and disposal of rock spoils, will be considered as part of the cost of rock excavation.

2010 Construction Schedule
Maley Extension Project - Sudbury
nps 10 & 12 Relocation

Schedule 10



PIPELINE ABANDONMENT CHECKLIST

PLANNING

1. Has subsidence been considered for pipelines having a diameter greater than 323.9 mm (12 inches)?
2. Has the pipeline company notified the landowners and proper authorities (municipalities, MOE, MTO, MNR, etc.) of the abandonment?
3. Have abandonment procedures for crossings been agreed upon by utilities (road, railway, pipelines, etc.) and authorities responsible for rivers and streams crossed by the pipeline?
4. Has consideration been given to the effect of drainage in the area surrounding the abandoned pipeline , which may act as a conduit for ground water after the pipe is perforated by corrosion?
5. Has consideration been given to the removal of all the aboveground facilities?
6. Has consideration been given to any hazards posed to people, equipment, wildlife or livestock by any apparatus left in place above or underground?

IMPLEMENTATION

1. Has the abandoned pipeline been physically isolated from the live pipeline?
2. Has the pipeline been drained of all fluids and adequately cleaned to prevent ground water contamination from hydrocarbon residue on the pipe wall after the pipe is perforated by corrosion?
3. Have all aboveground facilities been removed and has consideration been given to removing underground facilities such as anode beds and tanks?

LIABILITY/RISK MANAGEMENT

1. Does the pipeline company have a contingency plan to remedy any contamination caused by the abandoned pipeline?
2. Has consideration been given to conducting post-abandonment surveillance programs?
3. Has consideration been given to maintaining signage after the pipeline is abandoned?
4. Has consideration been given to providing a locate service after the pipeline is abandoned?

Name & Address	Legal Description	PERMANENT EASEMENT (Number of Easements) (Total hectares)	TEMPORARY EASEMENT (Number of Easements) (Total hectares)
Vale Inco Limited 18 Rink Street, Copper Cliff, Ontario P0M 1N0	PIN: 736010190 LT 4-6 CON 6 MCKIM, GREATER SUDBURY	3 Easements 1.31346522 ha	7 Easements 0.49380570 ha
City of Greater Sudbury P.O. Box 5000, Stn. A 200 Brady Street, Sudbury, Ontario P3A 5P3	PIN: 736010117 LT 37-38, 40 RCP 78S MCKIM, GREATER SUDBURY	1 Easements 0.06453540 ha	7 Easements 0.46133820 ha
Nickel District Conservation Authority 200 Brady Street, 1st Flr, Tom Davies Square, Sudbury, Ontario P3E 5K3	PIN: 736010146 LT 30, 36 RCP 78S MCKIM, GREATER SUDBURY	1 Easements 0.06743250 ha	2 Easements 0.14235750 ha

LETTER OF INTENT

Between

NICKEL DISTRICT CONSERVATION AUTHORITY
(herein called the "Owner")

and

UNION GAS LIMITED
(herein called the "Company")

It is understood and agreed that I/we, NICKEL DISTRICT CONSERVATION AUTHORITY, the owner(s) of PIN 73601-0146 (LT), LT 30, 36 RCP 78S MCKIM SRO, EXCEPT PT 1, 53R16162 & PT 1, 53R16242; S/T MM1077, S96069; GREATER SUDBURY

grant to Union Gas Limited, the right to construct a natural gas pipeline and/or any other necessary plant in a location mutually agreed upon by both parties for the above described lands.

Type of Development: Transmission Line

It is understood and agreed that upon the request of Union Gas Limited, I/we the owners will execute an agreement confirming the granting of these rights to Union Gas Limited.

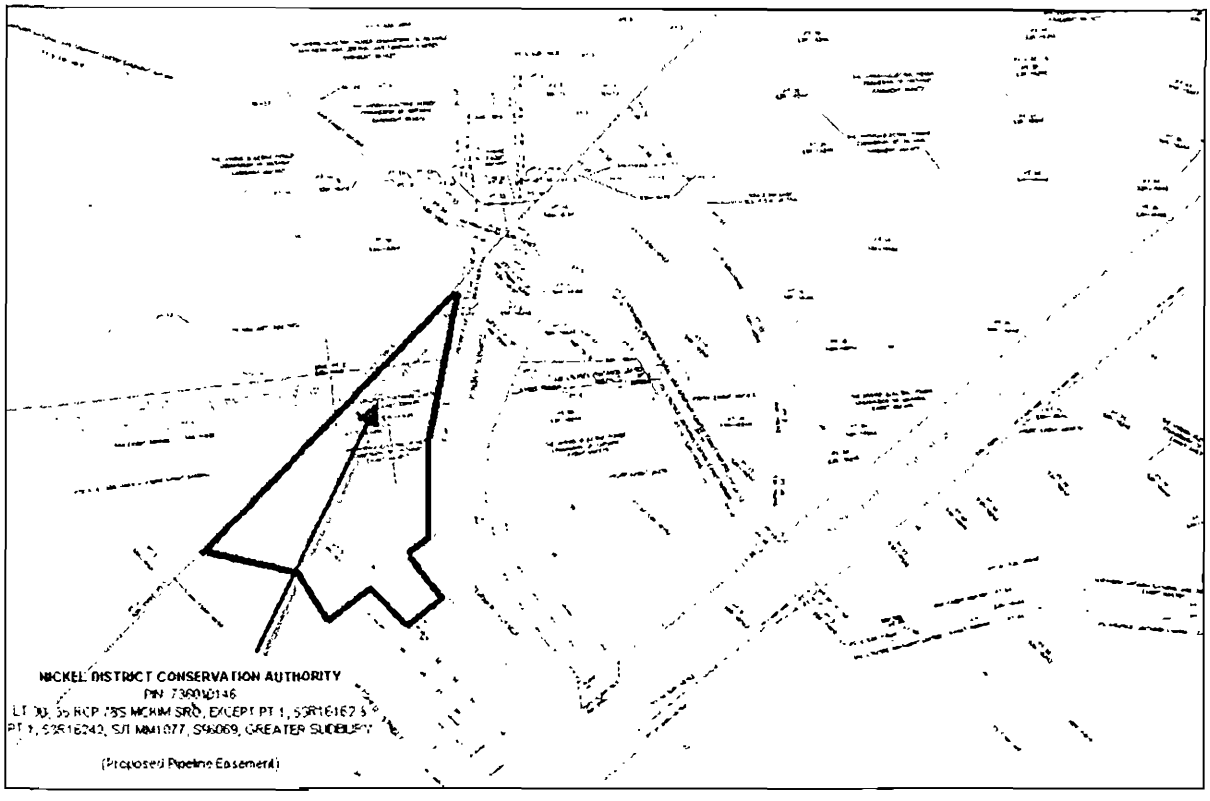
The Company and the Owner agree to perform the covenants on its part herein contained.

March 29, 2010 Date	March 26, 2010 Date
Michel Aimé Guillemette, Senior Lands Agent Name & Title (Union Gas Limited)	Nickel District Conservation Authority Name & Title (Owner)
M Guillemette Signature (Union Gas Limited)	Paul N. Sajatovic, General Manager Signature(s) (Owner)
705.475.7916 Telephone Number (Union Gas Limited)	705-674-5249 Telephone Number (Owner)

GST Number: _____

Address: 200 Brady Street,
1st Floor, Tom Davies Square
Sudbury, ON P3E 5K3

Site No. 3


NICKEL DISTRICT CONSERVATION AUTHORITY
PIN 73601-0146
LT 30, 35 RCP 78S MCKIM SRO, EXCEPT PT 1, 53R16162 &
PT 1, 53R16243, S/T M41077, S96069, GREATER SUDBURY
(Proposed Pipeline Easement)

uniongas
A Spectra Energy Company

For Internal Use Only	
Lands File No :	L3073
Cheque No.:	
Project:	
Account No :	

LETTER OF INTENT

Between

CITY OF GREATER SUDBURY
AS SUCCESSOR TO THE REGIONAL MUNICIPALITY OF SUDBURY
(herein called the "Owner")

and

UNION GAS LIMITED
(herein called the "Company")

It is understood and agreed that I/we, the City of Greater Sudbury as successor to the Regional Municipality of Sudbury, the owner(s) of PIN 73601-0117 (LT); LT 37-38, 40 RCP 78S MCKIM SRO; PT LT 3 RCP 78S MCKIM SRO PT 7, 8, 11, 13, 14, 16, 19, 53R16162 & PT 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 28, 29, 30, 56, 57, 58 53R16242; S/T MM1075, MM1106, MM1382, MM1384, MM1387, MM1388, MM1407, S95770, S96069; GREATER SUDBURY

grant to Union Gas Limited, the right to construct a natural gas pipeline and/or any other necessary plant in a location mutually agreed upon by both parties for the above described lands.

Type of Development: Transmission Line

It is understood and agreed that upon the request of Union Gas Limited, I/we the owners will execute an agreement confirming the granting of these rights to Union Gas Limited.

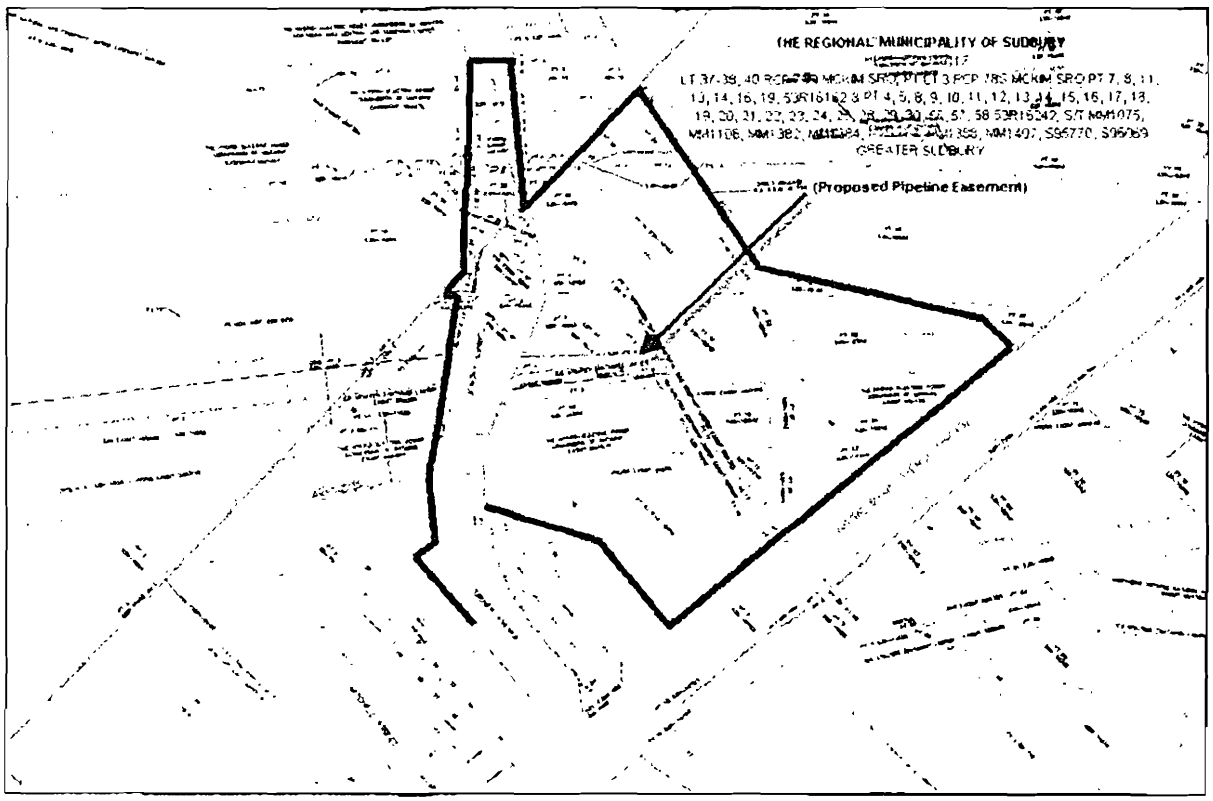
The Company and the Owner agree to perform the covenants on its part herein contained.

March 30, 2010 (Date)	March 24, 2010 (Date)
Michel Aimé Guillemette, Senior Lands Agent (Name & Title (Union Gas Limited))	Danielle Braney, Director of Asset Services (Name & Title (Owner))
(Signature (Union Gas Limited))	(Signature(s) (Owner))
705.475.7916 (Telephone Number (Union Gas Limited))	705.671.2489 (Telephone Number (Owner))

GST Number: _____

Address: 200 Brady St., Box 5000, Stn 'A', Sudbury, On P3A-5P3

Site No. 3


(HE REGIONAL MUNICIPALITY OF SUDBURY
(Proposed Pipeline Easement)
GREATER SUDBURY

For Internal Use Only
Lands File No.:
Cheque No.:
Project:
Acct No.:

PIPELINE EASEMENT

(the "Easement")

Between **[Insert Name]**
(herein called the "Transferor")

and

UNION GAS LIMITED
(herein called the "Transferee")

This Easement is an easement in Gross

WHEREAS the Transferor is the owner in fee simple of those lands and premises more particularly described as: *"insert full legal description here"* (hereinafter called the "Transferor's Lands").

The Transferor does hereby GRANT, CONVEY, TRANSFER AND CONFIRM unto the Transferee, its successors and assigns, to be used and enjoyed as appurtenant to all or any part of the lands of the Transferee's lands the right, liberty, privilege and easement on, over, in, under and/or through a strip of the Transferor's Lands more particularly described as being *"insert legal description here"* PIN: (hereinafter referred to as the "Lands") to survey, lay, construct, maintain, inspect, patrol, alter, remove, replace, reconstruct, repair, move, keep, use and/or operate one Pipe line for the transmission of pipeline quality natural gas as defined in The Ontario Energy Board Act S.O. 1998 (hereinafter referred to as the "Pipeline") including therewith all such buried attachments, equipment and appliances for cathodic protection which the Transferee may deem necessary or convenient thereto, together with the right of ingress and egress at any and all times over and upon the Lands for its servants, agents, employees, those engaged in its business, contractors and subcontractors on foot and/or with vehicles, supplies, machinery and equipment for all purposes necessary or incidental to the exercise and enjoyment of the rights, liberty, privileges and easement hereby granted. The Parties hereto mutually covenant and agree each with the other as follows:

1. In consideration of the sum of *"insert amount here"* DOLLARS ($) of lawful money of Canada (hereinafter called the "Consideration"), which sum is payment in full for the rights and interest hereby granted and for the rights and interest, if any, acquired by the Transferee by expropriation, including in either or both cases payment in full for all such matters as injurious affection to remaining lands and the effect, if any, of registration on title of this document and where applicable, of the expropriation documents, subject to Clause 12 hereof to be paid by the Transferee to the Transferor within 90 days from the date of these presents or prior to the exercise by the Transferee of any of its rights hereunder other than the right to survey (whichever may be the earlier date), the rights, privileges and easement hereby granted shall continue in perpetuity or until the Transferee, with the express written consent of the Transferor, shall execute and deliver a surrender thereof . Prior to such surrender Transferee shall remove all debris as may have resulted from the Transferee's use of the Lands from the Lands and in all respects restore the Lands to it's previous productivity and fertility so far as is reasonably possible , save and except for items in respect of which compensation is due under Clause 2. hereof. Transferor and Transferee hereby agree that nothing herein shall oblige Transferee to remove the Pipeline from the Lands as part of Transferee's obligation to restore the Lands.

2. The Transferee shall make to the Transferor (or the person or persons entitled thereto) due compensation for any damages to the Lands resulting from the exercise of any of the rights herein granted, and if the compensation is not agreed upon by the Transferee and the Transferor, it shall be determined by arbitration in the manner prescribed by the Expropriations Act, R.S.O. 1990, Chapter E-26 or any Act passed in amendment thereof or substitution therefore. Any gates, fences and tile drains curbs, gutters, asphalt paving, lockstone, patio tiles interfered with by the Transferee shall be restored by the Transferee at its expense as closely as reasonably possible to the condition and function in which they existed immediately prior to such interference by the Transferee and in the case of tile drains, such restoration shall be performed in accordance with good drainage practice and applicable government regulations.

3. The Pipeline (including attachments, equipment and appliances for cathodic protection but excluding valves, take-offs and fencing installed under Clause 9 hereof) shall be laid to such a depth that upon completion of installation it will not obstruct the natural surface run-off from the Lands nor ordinary cultivation of the Lands nor any tile drainage system existing in the Lands at the time of installation of the Pipeline nor any planned tile drainage system to be laid in the Lands in accordance with standard drainage practice, if the Transferee is given

at least thirty (30) days notice of such planned system prior to the installation of the pipeline; provided that the Transferee may leave the Pipeline exposed in crossing a ditch, stream, gorge or similar object where approval has been obtained from the Ontario Energy Board or other Provincial Board or authority having jurisdiction in the premises. The Transferee agrees to make reasonable efforts to accommodate the planning and installation of future tile drainage systems following installation of the pipeline so as not to obstruct or interfere with such tile installation.

4. As soon as reasonably possible after the construction of the Pipeline, the Transferee shall level the Lands and unless otherwise agreed to by the Transferor, shall remove all debris as may have resulted from the Transferee's use of the Lands *therefrom and in* all respects restore the Lands to its previous productivity and fertility so far as is reasonably possible, save and except for items in respect of which *compensation* is due under Clause 2 hereof.

5. The Transferee shall indemnify the Transferor for any and all liabilities, damages, costs, claims, suits and actions which are directly attributable to the exercise of the rights hereby granted, except to the extent of those resulting from the gross negligence or willful misconduct of the Transferor.

6. In the event that the Transferee fails to comply with any of the requirements set out in Clause 2, 3, or 4 hereof within a reasonable time of the receipt of notice in writing from the Transferor setting forth the failure complained of, the Transferee shall compensate the Transferor (or the person or persons entitled thereto) for any damage, if any, necessarily resulting from such failure and the reasonable costs if any, incurred in the recovery of those damages.

7. Except in case of emergency, the Transferee shall not enter upon any of the Transferor's Lands, other than the Lands, without the consent of the Transferor. In case of emergency the right of entry upon the Transferor's Lands for ingress and egress to and from the Lands is hereby granted. The determination of what circumstances constitute an emergency, for purposes of this paragraph is within the absolute discretion of the Transferee, but is a situation in which the Transferee has a need to access the pipeline in the public interest without notice to the Transferor, subject to the provisions of paragraph 2 herein. The Transferee will, within 72 hours of entry upon such lands, advise the Transferor of the said emergency circumstances and thereafter provide a written report to Transferor with respect to the resolution of the emergency situation. The Transferee shall restore the lands of the Transferor at its expense as closely as reasonably practicable to the condition in which they existed immediately prior to such interference by the Transferee and in the case of tile drains, such restoration shall be performed in accordance with good drainage practice.

8. The Transferor shall have the right to fully use and enjoy the Lands except for planting trees over the lessor of the Lands or a six (6) metre strip centered over the Pipeline, and except as may be necessary for any of the purposes hereby granted to the Transferee, provided that without the prior written consent of the Transferee, the Transferor shall not excavate, drill, install, erect or permit to be excavated, drilled, installed or erected in, on, over or through the Lands any pit, well, foundation, pavement, building, mobile homes or other structure or installation. Notwithstanding the foregoing the Transferee *upon request* shall consent to the Transferor erecting or repairing fences, hedges, pavement, lockstone constructing or repairing tile drains and domestic sewer pipes, *water pipes*, and utility pipes and constructing or repairing lanes, roads, driveways, pathways, and walks across, on and in the Lands or any portion or portions thereof, provided that before commencing any of the work referred to in this *sentence the Transferor shall (a) give the Transferee at least (30) clear days notice in writing describing the work* desired so as to enable the Transferee to evaluate and comment on the work proposed and to have a representative inspect the site and/or be present at any time or times during the performance of the work, (b) shall follow the instructions of such representative as to the performance of such work without damage to the Pipeline, (c) shall exercise a high degree of care in carrying out any such work and, (d) shall perform any such work in such a manner as not to endanger or damage the Pipeline as may be required by the Transferee.

9. The rights, privileges and easement herein granted shall include the right to install, keep, use, operate, service, maintain, repair, remove and/or replace in, on and above the Lands any valves and/or take-offs subject to additional agreements and to fence in such valves and/or take-offs and to keep same fenced in, but for this right the Transferee shall pay to the Transferor (or the person or persons entitled thereto) such additional compensation as may be agreed upon and in default of agreement as may be settled by arbitration under the provisions of The Ontario Energy Board Act, S.O. 1998, or any Act passed in amendment thereof or substitution therefore. The Transferee shall keep down weeds on any lands removed from cultivation by reason of locating any valves and/or take-offs in the Lands.

10. Notwithstanding any rule of law or equity and even though the Pipeline and its appurtenances may become annexed or affixed to the realty, title thereto shall nevertheless remain in the Transferee.

11. Neither this Agreement nor anything herein contained nor anything done hereunder shall affect or prejudice the Transferee's rights to acquire the Lands or any other portion or portions of the Transferor's lands under the provisions of The Ontario Energy Board Act, S.O. 1998, or any other laws, which rights the Transferee may exercise at its discretion in the event of the Transferor being unable or unwilling for any reason to perform this Agreement or give to the Transferee a clear and unencumbered title to the easement herein granted.

12. The Transferor covenants that he has the right to convey this easement notwithstanding any act on his part, *that he will execute* such further assurances of this easement as may be requisite and which the Transferee may at its expense prepare and that the Transferee, *performing and observing* the covenants and conditions on its part to be performed, shall have quiet possession and enjoyment of the rights, privileges and easement hereby granted. If it shall appear that at the date hereof the Transferor is not the sole owner of the Lands, this Indenture

shall nevertheless bind the Transferor to the full extent of his interest therein and shall also extend to any after-acquired interest, but all moneys payable hereunder shall be paid to the Transferor only in the proportion that his interest in the Lands bears to the entire interest therein.

13. In the event that the Transferee fails to pay the consideration as hereinbefore provided, the Transferor shall have the right to declare this easement canceled after the expiration of 15 days from personal service upon the Secretary, Assistant Secretary or Manager, Lands Department of the Transferee at its Executive Head Office in Chatham, Ontario, (or at such other point in Ontario as the Transferee may from time to time specify by notice in writing to the Transferor) of notice in writing of such default, unless during such 15 day period the Transferee shall pay the said consideration; upon failing to pay as aforesaid, the Transferee shall forthwith after the expiration of 15 days from the service of such notice execute and deliver to the Transferor at the expense of the Transferee, a valid and registerable release and discharge of this easement.

14. All payments under these presents may be made either in cash or by cheque of the Transferee and may be made to the Transferor (or person or persons entitled thereto) either personally or by mail. All notices and mail sent pursuant to these presents shall be addressed to the Transferor at *"insert mailing address here"* and to the Transferee at Union Gas Limited, P.O.Box 2001,50 Keil Drive North, Chatham, Ontario N7M 5M1. Attention: Manager, Lands or to such other address in either case as the Transferor or the Transferee respectively may from time to time appoint in writing.

15 The rights, privileges and easement hereby granted are and shall be of the same force and effect as a covenant running with the land and this Indenture, including all the covenants and conditions herein contained, shall extend to, be binding upon and enure to the benefit of the heirs, executors, administrators, successors and assigns of the Parties hereto respectively; and, wherever the singular or masculine is used it shall, where necessary, be construed as if the plural, or feminine or neuter had been used, as the case may be.

16. The Transferor hereby acknowledges that this transfer will be registered electronically and the Transferor hereby authorizes the Transferee to complete the registration of this transfer.

DATED *this* *day of* 20XX.

_____

[Name]

_____

[Name]

Address: _____

_____

GST: _____

UNION GAS LIMITED

_____

[Name]
Senior Lands Agent
I have authority to bind the Corporation

Additional Information: (if applicable)

Solicitor:_____

Telephone: _____

Municipality of Chatham-Kent

Province of Ontario

DECLARATION REQUIRED UNDER
SECTION 50 OF THE PLANNING
ACT, R.S.O. 1990, as amended

I, of the City of , in the Province of Ontario.

DO SOLEMNLY DECLARE THAT

1. I am, Department of Union Gas Limited, the Transferee in the attached Grant of Easement and as such have knowledge of the matters herein deposed to.

2. The use of or right in the land described in the said Grant of Easement is being acquired by Union Gas Limited for the purpose of a hydrocarbon transmission line within the meaning of part VI of the Ontario Energy Board Act , 1998.

AND I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath, and by virtue of The Canada Evidence Act.

DECLARED before me at the
Municipality of Chatham-Kent,
in the Province of Ontario

this ____day of _____ ,20XX

A Commissioner, etc.

Environmental Checklist

The Project Originator is responsible for reviewing and completing the following checklist to determine if the project should be forwarded to EH&S Planning for their review. **When completing this form, please ensure that a Description of Feature is given and that the Proposed Mitigation is identified for those features marked YES in the Impacted column.**

Project Name: Maley Extension Project - Sudbury **Project Number:**
Date: 2010-04-01
Project Originator:
Project Description:

Feature and Description	Impacted Yes/No	Proposed Mitigation
Water Course Crossings **Description:** Crossings see attached drawings for locations Three watercourse crossings required.	Yes	See sections 3.44 and 3.45 C&M Manual for mitigation. Adhere to SCR and permit requirements Watercourse crossings to be completed using either horizontal directional drill or dam and pump method. Watercourse crossings to be completed within allowable fisheries window.
Social Impacts **Description:** Construction in road allowance Noise, dust, traffic	Yes	See sections 18.7 and 18.8 of the C&M manual for mitigation Noise - will be controlled to the greatest extent possible to minimize disruption to nearby residents. (i.e. ensure equipment is properly muffled). Dust - use water to control dust as required. Traffic - adhere to MTO traffic control plans.
Land use Designations **Description:**	No	N/A
Agricultural Resources **Description:**	No	See sections 3.46 and 3.25 C&M Manual for mitigation
Vegetation and Wildlife Habitat **Description:** shrubs and vegetation in road allowance	Yes	Minimal shrub and vegetation removal required. Vegetation will be cleared in late summer/fall of 2010 thus avoiding any avian nesting concerns.
Water Wells and Hydrology **Description:** blasting; water wells	Yes	Blasting will be required along the pipeline route. Adhere to UG blasting specification.
Heritage Resources **Description:** Archaeology	Yes	Archaeological review (stage 1) to be completed prior to construction. The review may be completed in conjunction with the road work.

Geological Resources and Minerals **Description:**	Yes	Possibility of encountering acid generating rock. Mitigation measures to be developed as required.
Additional Concerns **Description:**	No	N/A

8034 –2002/01

April 1, 2010
File: 160960578

Union Gas Limited
Attention: Mr. Tony Vadlja
109 Commissioners Road West
London, ON N6J 1X7

Reference: Environmental Review – Sudbury Replacement Project

Dear Mr. Vadlja:

The following analysis identifies potential environmental and socio-economic impacts that may occur as a result of the Sudbury Replacement Project. Pipeline relocation is required to accommodate the Maley Drive extension/Lasalle Boulevard widening road works being undertaken by the City of Greater Sudbury. Environmental and socio-economic features potentially impacted by the proposed pipeline relocation were identified through a review of the two existing environmental reports, *Maley Drive Extension Class Environmental Assessment* (MMM, October 1995) and *Maley Drive Extension Lasalle Boulevard Widening Municipal Class EA Addendum* (EarthTech, May 2008). The presence of the identified features was confirmed through a pipeline relocation route survey conducted by Stantec Consulting Ltd. on March 3, 2010.

Background

The *Maley Drive Extension Class Environmental Assessment* (MMM, October 1995) was completed to assess a proposed east-west arterial road along the northerly edge of the developed areas of the City of Sudbury. The Extension would function as a truck bypass of Lasalle Boulevard and the Kingsway in order to reduce truck and auto conflicts on these roads, improve traffic operations, and minimize the degradation of the structure of both roadways. In 2005 the City of Greater Sudbury undertook a Transportation Background Study as part of a comprehensive review of its existing official plans that were developed for the former municipalities. The Study confirmed the findings of the 1995 Class Environmental Assessment, and included additional reconstruction and widening of Lasalle Boulevard. The subsequent recommendations in the *Maley Drive Extension Lasalle Boulevard Widening Municipal Class EA Addendum* (EarthTech, May 2008) are:

- The reconstruction and widening of Lasalle Boulevard from just east of the CPR Overhead to 0.3 km west of Notre Dame Avenue, from two lanes to four lanes;
- The extension of Maley Drive westerly from its existing western terminus at Barrydowne Road to the Lasalle Boulevard Extension, west of Notre Dame Avenue. This segment would be constructed as a four-lane road; and,
- The reconstruction and widening of the existing Maley Drive, east of Barrydowne Road to Falconbridge Highway, as a four-lane road.

Road construction activities will necessitate the relocation of portions of two natural gas pipelines owned and operated by Union Gas Limited where there are conflicts between the new locations of the roads and the current pipeline locations. As road construction is anticipated to commence in 2010, pipeline relocation is anticipated to occur during Summer/Fall of 2010.

Environmental Constraints

Bedrock

The study area contains an extensive amount of exposed bedrock, with glacial till deposits present throughout.

Pipeline Review

Pipeline relocation activities will require bedrock blasting in several locations. Blasting activities will adhere to *Union Gas Specification 3.10: Specification for Rock Excavation*. Blasting will also occur in proximity to several watercourses; to avoid contravention of the *Fisheries Act* (1985) setback distances from the centre of detonation should be adhered to as outlined in Tables 1 and 2 of the *Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters* (DFO, 1998).

Personal correspondence with staff at the Ontario Ministry of Northern Development, Mines and Forestry indicates that sulphide rich bedrock may be encountered within the area of pipeline relocation. Additional studies will need to occur to confirm the presence of acid generating rock. Mitigation measures, as applicable, will follow standard management practices of Union Gas Limited.

Soil Erosion & Sediment Control

Soil erosion is a possibility for road construction activities due to shallow soils over bedrock, vegetation clearing activities and landscape gradients.

Pipeline Review

Pipeline relocation activities will face similar soil erosion potential as road work activities. Efforts to minimize erosion and sedimentation will follow applicable Union Gas Limited standards and procedures, including the use, inspection and maintenance of sediment barriers, erosion control measures and revegetation practices. Sediment and erosion control for watercourse crossings will follow plans outlined in the agreement letter between Union Gas Limited and Fisheries and Oceans Canada, Ontario Great Lakes Area (*DFO-OGLA/UGL Agreement 2008*).

Watercourses

Road construction activities include ten watercourse crossings. While all watercourses are considered fish habitat, no rare species or species at risk have been identified.

Pipeline Review

Pipeline relocation will involve crossing three watercourses (see attached map):

- SC#1 – Lasalle Tributary Upstream
- SC#2 – Lasalle Tributary Upstream
- SC#3 – Unnamed Watercourse

All three stream crossings are situated on Junction Creek; SC#1 and SC#2 are situated on the main branch of the watercourse, and SC#3 is on an unnamed first order tributary to Junction Creek. Based on fieldwork conducted for the existing environmental reports, the pipeline relocation route survey, and aerial photography interpretation, Junction Creek is a small, meandering urban watercourse that is typical of degraded warmwater systems. The fish community includes tolerant baitfish species, such as Brook Stickleback, Central Mudminnow, and Northern Redbelly Dace. No rare species or species at risk have been identified in the existing environmental reports or DFO's Species at Risk mapping.

Stream crossings #1 and #2 are anticipated to be crossed via trenchless method, and stream crossing #3 via dam and pump. For any dry crossings in-water works are prohibited April 1 to June 30. Watercourse crossings will follow applicable Union Gas Limited standard practices and procedures, and the agreement letter between Union Gas Limited and Fisheries and Oceans Canada, Ontario Great Lakes Area (*DFO-OGLA/UGL Agreement 2008*).

As per the *Agreement 2008*, provided that crossings are carried out as specified by the DFO-OGLA/UGL approved generic sediment control plans, dry and trenchless crossings are not likely to contravene the *Fisheries Act* (1985). Prior to watercourse crossings notification should occur to DFO as per the *Agreement 2008*, and a permit from the Nickel District Conservation Authority should be obtained as per Section 28 of the *Conservation Authorities Act* (1990).

Preliminary borehole information indicates that blasting will not be necessary for watercourse crossings. Should blasting be necessary for watercourse crossings, the *Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters* (DFO, 1998) and section 5.2.7 of *Pipeline Associated Watercourse Crossings* (CAPP/CEPA/CAG, 2005) will be followed where applicable.

Vegetation Cover

The dominant vegetation community within the study area for road construction is White Birch Heathland, with additional areas of Wet Shrub Thicket, Shrub-Sedge Meadow, Poplar-Birch Woodland, Poplar-Field, Dry Shrub Thicket, Red Oak-Heath Woodland, Heath Barrens, Rock Barrens and Man-Centred Vegetation. No species of conservation concern have been identified.

Pipeline Review

Pipeline relocation will occur within areas identified as Shrub-Sedge Meadow, White Birch Heathland, Rock Barrens and Man-Centred Vegetation. It is understood that clearing and revegetation will follow standard Union Gas Limited practices and procedures. To avoid impacts to migratory birds, tree cutting should be avoided May 1 – July 31. Where unavoidable, a nest search should be undertaken by qualified individuals 48 hours prior to clearing to ensure no active nests are destroyed.

Species of Conservation Concern

No species of conservation concern are noted as occurring within the road construction study area.

Pipeline Review

A search of the Ministry of Natural Resources' Natural Heritage Information Centre identified Blanding's Turtle (*Emydoidea blandingii*) as existing in the vicinity of pipeline relocation; Blanding's Turtle is characterized as threatened under Ontario's *Endangered Species Act* (2007). To-date, protection is provided for individual Blanding's Turtles, with habitat protection anticipated by 2013.

Prior to pipeline relocation activities a Blanding's Turtle Response Protocol should be developed to ensure construction activities are compliant with the *Endangered Species Act* (2007). The Protocol should be reviewed by the Ministry of Natural Resources and should at a minimum provide direction on avoiding Blanding's Turtles, measures to be taken upon encountering Blanding's Turtles, and associated education and communication activities to convey the Protocol to project personnel.

A search of the Ministry of Natural Resources' Natural Heritage Information Centre also identified the Purplish Copper butterfly (*Lycaena helloides*) as existing in the vicinity of pipeline relocation; Purplish Copper is designated as S3 by the Ontario Ministry of Natural Resources, indicating that it is vulnerable. Purplish Copper is not regulated by federal or provincial legislation.

Land Use

Road construction will occur within a study area containing a variety of land uses.

Pipeline Review

Pipeline relocation will require the temporary closure of a paved trail associated with Collège Boréal; consultation should occur with the college regarding signage to re-direct trail traffic.

Archaeology

No archaeological assessment has been conducted to-date for the road construction.

Pipeline Review

As portions of pipeline relocation will occur within previously undisturbed lands, and pipeline relocation will occur within close proximity to watercourses, a Stage 1 assessment of archaeological potential is required. The assessment may be completed in conjunction with City road work. Based on the findings of the Stage 1 assessment, further archaeological investigations may be recommended.

Summary

Based on the above review, and provided that all referenced mitigation measures are properly implemented, pipeline relocation activities are not anticipated to have significant adverse environmental or socio-economic impacts.

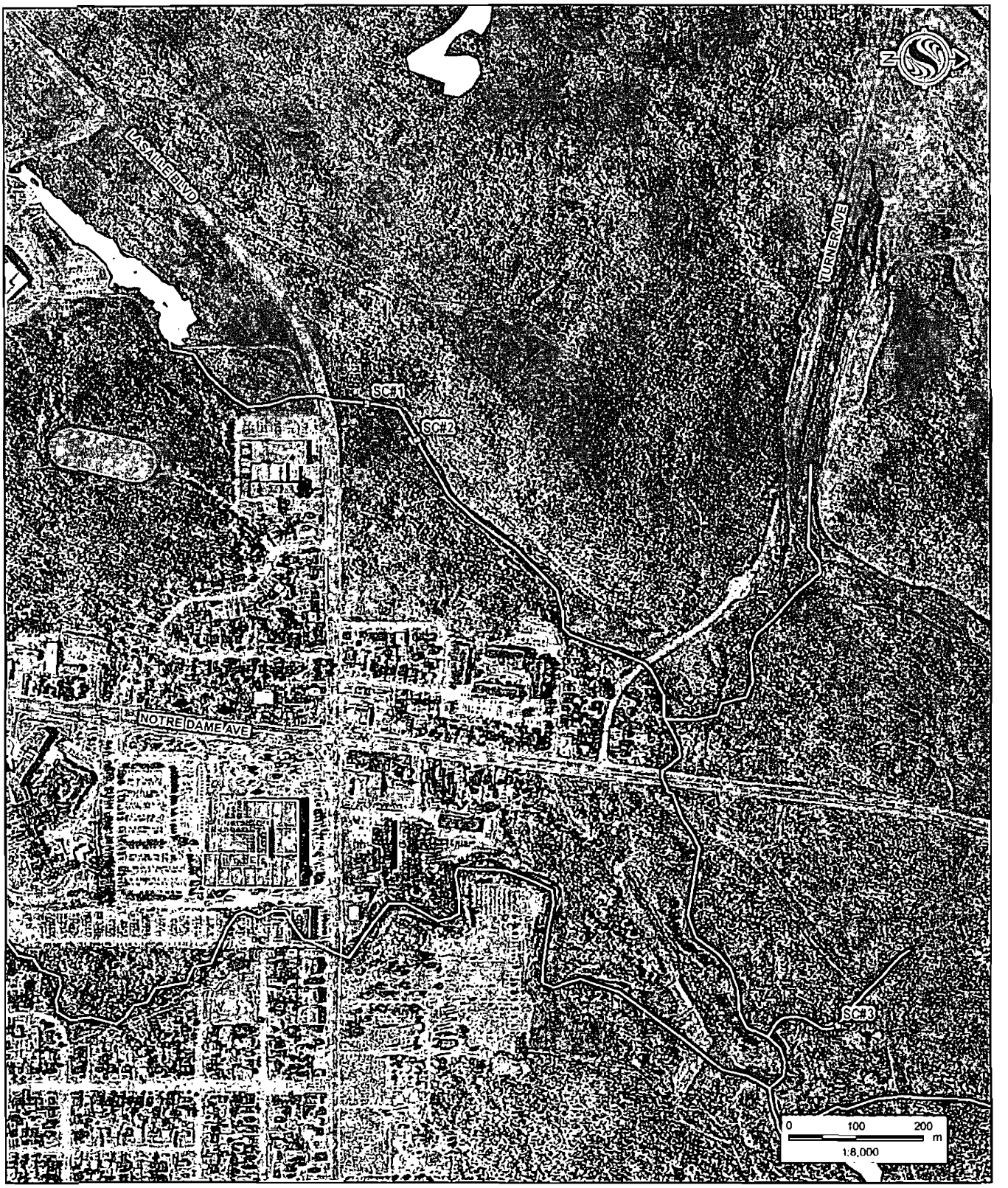
Sincerely,

STANTEC CONSULTING LTD.

Mark Knight, MA
Environmental Planner
Tel: (519) 836-6050
Fax: (519) 836-2493
mark.knight@stantec.com

Attachment: Stream Crossing Locations

Cc: Bill Wachsmuth, Union Gas Limited



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March 31, 2010
160960578

Legend

- Approximate Stream Crossing Location
- Watercourse
- Waterbody

Notes

1. Coordinate System: UTM NAD 83 - Zone 17 (N)
2. Data Sources: Ontario Ministry of Natural Resources © Queens Printer Ontario, 2009.
3. Image Source: © Google Earth Pro, 2010 (© GeoEye, 2010) - Imagery Date: October 2, 2006.

Stantec

Client/Project

UNION GAS LIMITED

Figure No.

1

Title

STREAM CROSSING LOCATIONS

SCHEDULE 17: MITIGATION SUMMARY

Issue	Potential Impact	Proposed Mitigation
a) Archaeology	Disturbance to cultural heritage resources	• Prior to construction activities, an archaeological assessment will be completed. The assessment may be completed in conjunction with the planned road work. • Should deeply buried archaeological finds be discovered or suspected of being discovered during construction, the Ministry of Culture (MCL) shall be notified. • In the event that human remains are discovered or suspected of being discovered, the local police will be notified immediately followed by the MCL.
b) Trees/Shrubs	Removal	• The majority of the construction area will require tree/ shrub removal. Only those trees/shrubs necessary will be removed. • To protect nesting birds, tree/shrub removal will be avoided May 1st to July 31st . Where unavoidable, a nest search will be undertaken by qualified individuals 48 hours prior to removal.
c) Wildlife	Disturbance to species under the *Endangered Species Act (2007)*	• A Blanding's Turtle Response Protocol will be developed prior to construction and reviewed with construction site personnel.
d) Water Wells	Disruption to water supply	• All water in the area is supplied by a municipal source, therefore a water well monitoring program will not be necessary.
e) Watercourses	Three (3) watercourses to cross. Water quality concerns	• Union will comply with all conditions imposed by the regulatory agencies. • Union will obtain a watercourse crossing permit from the Nickel District Conservation Authority.
f) Soils: Slopes/Erosion	Movement of sediments	• Sediment control measures (silt fence, straw bales, erosion control matting) will be in place. • Restore disturbed soils as soon as possible following construction.
g) Rock Removal	Disruption to landowners	• Blasting will follow Union specification 3.10 for Rock Excavation. • Blasting near water will follow the *Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (DFO, 1998).* • Possibility of encountering acid generating rock will be investigated prior to construction.
h) Landowner Concerns	Disruption to landowners and tenants	• Union will provided landowners with the telephone numbers of Company personnel.

i) Roadways	Disruption to local traffic	• All paved roadways and driveways will be bored if practical. • If it is not possible to bore driveways and roads, steel plates will be on-site to provide access.
j) Public Safety	Public safety concerns	• Company inspectors will ensure public safety on construction site. • Ensure proper signage and flag persons if required.
k) Commercial & Retail Businesses	Disruption to businesses	• Will ensure access at all times. • Will schedule construction with owners or managers.
l) Construction Noise	Disturbance to landowners and tenants	• Construction will be carried out during daylight hours whenever possible. • Construction outside of daylight hours will conform to local noise bylaws as appropriate. • Will ensure equipment is properly muffled.
m) Construction Equipment	Disruption to landowners and traffic	• Equipment will be stored off road shoulders when not in use.
n) Traffic	Disruption to local citizens	• 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.
o) Fuel Storage and Handling	Improper fuel storage and handling may cause spillage and possible contamination	• Fuel will not be stored near watercourses. • Refuelling will not occur near watercourses. • Spill clean-up materials will be stored on site and available in the event of an incident. Spills will be reported to the appropriate authority immediately (Ministry of the Environment Spills Action Centre 1-800-268-6060).