

November 13, 2018

BY RESS & Courier

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

Dear Ms. Walli:

**Re: Union Gas Limited (“Union”)
Terminus Well Drilling Project
Board File # EB-2017-0162**

Pursuant to Condition 7 and 8 (a) i-v of the Board’s Conditions of Approval for the above-noted project, enclosed is the Post Construction Report.

Sincerely,

[original signed by]

Shelley Bechard
Administrative Analyst, Regulatory Projects

cc: Z. Crnojacki
N. Marconi
Regulatory Library

**2017 TERMINUS STORAGE POOL WELL
REPLACEMENT PROJECT**

POST CONSTRUCTION REPORT

**Prepared By: Union Gas Limited
Environmental Planning
November 2018**

TABLE OF CONTENTS

2017 Terminus Storage Pool Well Replacement Project Post Construction Report

1.0 Introduction.....	1
2.0 Background.....	5
3.0 Potential Impacts and Mitigation	6
3.1 Conditions of Licence – Well Drilling and Operation	6
3.1.1 Condition 1.....	6
3.1.2 Condition 3.....	7
3.1.3 Condition 4.....	7
3.1.4 Condition 5.....	7
3.1.5 Condition 7.....	9
3.2 Pipelines Leave to Construct – Conditions of Approval.....	12
3.2.1 Condition 1.....	12
3.2.2 Condition 4.....	12
3.2.3 Condition 5.....	12
3.2.4 Condition 7.....	12
4.0 Summary	15

Table 1 – Potential Impacts and Mitigation Measures

Appendix A – General Location Map

Appendix B – Conditions of Approval

Appendix C – Executive Certifications

Appendix D – Photograph Inventory

1.0 INTRODUCTION

This Post Construction Report is provided in compliance with the Ontario Energy Board (OEB) Decision and Order EB-2017-0162 granting Union Gas Limited (Union) approval to maintain the deliverability of the Terminus Natural Gas Designated Storage Pool (Terminus Pool) located in the Township of St. Clair in Lambton County (2017 Terminus Storage Pool Well Replacement Project). To be able to maintain the deliverability in the Terminus Pool, Union applied to the OEB for the following:

- A favourable report to the Ministry of Natural Resources and Forestry (MNRF) recommending that the licence to drill and operate one new injection/withdrawal (IW) well be granted pursuant to section 40(1) of the *Ontario Energy Board Act, 1998* (OEB Act).
- An order for leave to construct approximately 330 metres of 12 inch diameter natural gas pipelines within the Terminus Pool pursuant to section 90(1) of the OEB Act.

The requirements for and details of this report are outlined in the specific conditions issued by the OEB in its Decision and Order dated August 31, 2017 and as listed below. There are two separate sets of conditions issued by the OEB (Conditions of Licence – Well Drilling and Operation and Pipelines Leave to Construct – Conditions of Approval). The complete Conditions of Approval can be found in Appendix B. The Conditions of Approval addressed in this report are as follows:

Conditions of Licence – Well Drilling and Operation

Condition 1

Union Gas Limited (Union Gas) shall rely on the evidence filed with the OEB in the EB-2017-0162 proceeding and comply with applicable laws, regulations and codes pertaining to the construction of the proposed wells.

Condition 3

Union Gas shall construct the facilities and restore the land in accordance with its Application and evidence given to the OEB, except as modified by this licence and these Conditions.

Condition 4

Union Gas shall implement all the recommendations of the Environmental Protection Plan filed in the proceeding.

Condition 5

Union Gas shall ensure that the movement of equipment is carried out in compliance with all procedures filed with the OEB, and as follows:

- i) Union Gas shall make reasonable efforts to keep the affected landowner as well as adjacent landowners and their respective tenant farmers, or their designated representatives, informed of its plans and construction activities; and
- ii) The installation of facilities and construction shall be coordinated so as to minimize disruption of agricultural land and agricultural activities.

Condition 7

Union Gas shall, subject to the recommendation by an independent tile contractor and subject to the landowner's approval, construct upstream and downstream drainage headers adjacent to the drilling area and access roads that cross existing systematic drainage tiles, prior to the delivery of heavy equipment, so that continual drainage will be maintained.

Condition 8

Both during and after construction, Union Gas shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic (searchable PDF) version of each of the following reports:

- a) a Post Construction Report, within three months of the in-service date, which shall:
 - i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;
 - ii. describe any impacts and outstanding concerns identified during construction;
 - iii. Describe the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction;

- iv. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions; and
 - v. provide a certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licenses, and certificates required to construct, operate and maintain the proposed project.
- b) a Final Monitoring Report, no later than fifteen months after the in-service date, or, where the deadline falls between December 1 and May 31, the following June 1, which shall:
- i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;
 - ii. describe the condition of any rehabilitated land;
 - iii. describe the effectiveness of any actions taken to prevent or mitigate any identified impacts of construction;
 - iv. Include the results of analyses and monitoring programs and any recommendations arising therefrom; and
 - v. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions.

Pipelines Leave to Construct – Conditions of Approval

Condition 1

Union Gas Limited (Union Gas) shall construct the facilities and restore the land in accordance with the OEB's Decision and Order in EB-2017-0162 and these Conditions of Approval.

Condition 4

Union Gas shall implement all the recommendations of the Environmental Protection Plan filed in the proceeding, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee review.

Condition 5

Union Gas shall advise the OEB of any proposed change to OEB-approved construction or restoration procedures. Except in an emergency, Union Gas shall not make any such change without prior notice to and written approval of the OEB. In the event of an emergency, the OEB shall be informed immediately after the fact.

Condition 7

Both during and after construction, Union Gas shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic (searchable PDF) version of each of the following reports:

- a) a post construction report, within three months of the in-service date, which shall:
 - i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;
 - ii. describe any impacts and outstanding concerns identified during construction;
 - iii. describe the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction;
 - iv. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions; and
 - v. provide a certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licenses, and certificates required to construct, operate and maintain the proposed project.
- b) a final monitoring report, no later than fifteen months after the in-service date, or, where the deadline falls between December 1 and May 31, the following June 1, which shall:
 - i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 3;
 - ii. describe the condition of any rehabilitated land;
 - iii. describe the effectiveness of any actions taken to prevent or mitigate any identified impacts of construction;

- iv. include the results of analyses and monitoring programs and any recommendations arising therefrom; and
- v. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions.

2.0 BACKGROUND

In 2016, Union abandoned an I/W well and an observation well as part of its Integrity Management Program, and also converted an I/W well to an observation well. As a result, deliverability to the Terminus Pool was reduced by 12%. To replace this lost deliverability, Union proposed to drill a new I/W well, convert an observation well to an I/W well, and install approximately 330 m of new NPS (Nominal Pipe Size) 12 inch pipelines.

Union was granted approval to construct the Project on August 31, 2017. Construction was initiated on November 13, 2017 and the pipeline was placed into service on August 24, 2018 which completed construction. Cleanup and land restoration was completed concurrently to construction and was also completed on August 24, 2018.

The proposed well drilling, pipeline installations and associated works in the Terminus Pool occurred on Lot 23, Concession 9, Township of St. Clair (Geographical Township of Sombra) in Lambton County. Please see Appendix A for mapping of the Project Area.

All of the work was completed in accordance with the existing Storage Lease Agreement with the directly affected landowner within the Terminus Pool. In addition to the existing Storage Lease Agreement, Union obtained a signed Letter of Acknowledgement from the directly affected landowner in which they stated they had no objection to the drilling of the described well and construction of a permanent all-weather access road.

Union had the authority to install the NPS 12 inch pipelines under the existing Storage Lease Agreement, however, Union secured easements to clearly define the pipeline locations and register them on title.

In addition to the drilling of the new I/W well and installation of 330 m of new NPS 12 inch pipelines, Union completed the following activities which did not require OEB or MNRF approval:

- Converted an existing observation well to an I/W well (required MNRF notification)
- Constructed a roadway and a drilling pad to facilitate access to the new well location
- Removed approximately 340 metres of NPS 10 inch pipeline
- Abandoned an existing well and removed the existing access road to the abandoned well location

The main activities of the Project progressed as follows:

- Topsoil stripping at the locations of the proposed all-weather access road and drilling pad
- Construction of the all-weather access road and drilling pad
- Drilling the new I/W well and converting the existing observation well to an I/W well
- Connecting the new I/W wells to the existing gathering system with the installation of new NPS 12 inch pipelines
- Abandoning the existing well and removing the NPS 10 inch pipeline and access road
- Clean up and restoration

Union will return to the right-of-way in spring 2019 to perform a general overview to ensure clean-up and restoration measures were successful and all disturbed areas are stable and to the satisfaction of the landowner. Any areas that require additional restoration measures will be addressed as required.

3.0 POTENTIAL IMPACTS AND MITIGATION

3.1 Conditions of Licence – Well Drilling and Operation

3.1.1 Condition 1

Union Gas Limited (Union Gas) shall rely on the evidence filed with the OEB in the EB-2017-0162 proceeding and comply with applicable laws, regulations and codes pertaining to the construction of the proposed wells.

Union relied on the evidence filed with the OEB in EB-2017-0162 proceeding and complied with applicable laws, regulations and codes pertaining to the construction of the proposed wells.

3.1.2 Condition 3

Union Gas shall construct the facilities and restore the land in accordance with its Application and evidence given to the OEB, except as modified by this licence and these Conditions.

Union constructed the facilities and restored the land in accordance with the Application and evidence given to the OEB including the Conditions of Licence.

3.1.3 Condition 4

Union Gas shall implement all the recommendations of the Environmental Protection Plan filed in the proceeding.

Union implemented all the recommendations of the Environmental Protection Plan filed in the proceeding. Please refer to Table 1 to confirm Union's adherence to the recommendations and mitigation measures identified in the Environmental Protection Plan.

3.1.4 Condition 5

Union Gas shall ensure that the movement of equipment is carried out in compliance with all procedures filed with the OEB, and as follows:

- i) *Union Gas shall make reasonable efforts to keep the affected landowner as well as adjacent landowners and their respective tenant farmers, or their designated representatives, informed of its plans and construction activities; and*

All movement of equipment was carried out in compliance with all procedures filed with the OEB. Union's Lands Relations Agent kept the affected landowner as well as adjacent landowners and their respective tenant

farmers/designated representatives informed of its plans and construction activities and was available by phone throughout the duration of construction.

- ii) *The installation of facilities and construction shall be coordinated so as to minimize disruption of agricultural land and agricultural activities.*

Union coordinated the installation of facilities and construction so as to minimize disruption of agricultural land and agricultural activities by:

- Testing the agricultural field for Soybean Cyst Nematodes (SCN) to prevent the spread of SCN to fields not impacted by SCN.
- Ensured the landowner agreed to the locations of all of the project facilities.
- Pre-construction tiling was undertaken prior to the start of construction where required.
- Disrupted or broken tile was repaired following Union's documented procedures for tile repair.
- Grading and any other work on wet soils was prohibited and wet soils shutdown practices were adhered to.
- Stripping topsoil prior to the construction of the all-weather access road, temporary drilling pad, pipeline, and pipeline removal to maintain soil integrity and prevent topsoil/subsoil mixing during restoration.
- Areas disrupted by drilling and pipeline construction were restored by re-grading followed by chisel ploughing and disking
- The Lands Relations Agent reviewed and discussed site restoration measures with the landowners prior to implementation to obtain any concerns or suggestions with regard to such measures.
- Upon completion, the Lands Relations Agent reviewed the areas with the landowners to ensure restoration was completed to the landowner's satisfaction.

3.1.5 Condition 7

Union Gas shall, subject to the recommendation by an independent tile contractor and subject to the landowners approval, construct upstream and downstream drainage headers adjacent to the drilling area and access roads that cross existing systematic drainage tiles, prior to the delivery of heavy equipment, so that continual drainage will be maintained.

Prior to the excavation of the trench for the new pipeline, a header tile was installed to maintain continual drainage. A drainage tile was also installed at this time and ran along the abandoned access road and tied into the header tile. Drainage was effectively maintained during construction.

3.1.6 Condition 8

Both during and after construction, Union Gas shall monitor the impacts of construction and shall file with the OEB one paper copy and one electronic (searchable PDF) version of each of the following reports:

- a) a Post Construction Report, within three months of the in-service date, which shall:
 - i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;**

One paper copy and one electronic (searchable PDF) version of this Post Construction Report are provided to the Board. This report is certified by Mike Shannon, P. Eng., Vice President, Distribution Operations, that Union has relied on the evidence filed with the OEB in EB-2017-0162 proceeding and complied with applicable laws, regulations and codes pertaining to the construction of the proposed wells and is confirmed by the signed letter of approval found in Appendix C.

- ii. describe any impacts and outstanding concerns identified during construction;*

Table 1 summarizes the impacts identified during construction and the measures implemented to mitigate such impacts. There are no outstanding concerns as a result of construction.

- iii. *describe the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction;*

Table 1 summarizes the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction.

- iv. *Include a log of all complaints received by Union, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions; and*

Union's Complaint Tracking System, which identifies the current status of complaints received as a result of pipeline construction, was in effect. A complaint is identified as a concern raised by a landowner or member of the public that has not been resolved to their satisfaction within three (3) working days. No complaints were received during construction therefore a complaints log was not created.

Union will continue to monitor the state of the land and will address any landowner or public concerns should they arise.

- v. *provide a certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licenses, and certificates required to construct, operate and maintain the proposed project.*

Mike Shannon, P. Eng., Vice President, Distribution Operations, has certified that the company has obtained all other approvals, permits, licences, and certificates required to construct, operate and maintain the project and is confirmed by the signed letter of approval in Appendix C.

Union obtained the following environmental permits for construction:

Ministry of Tourism, Culture and Sport

- Archaeology clearance under the MTCS File Number 0006848

Project Information Form Number	Stage	Location
P256-0505-2017	1 - 2	Lot 23, Concession 9, Geographic Township of Sombra

b) a Final Monitoring Report, no later than 15 months after the in-service date, or, where the deadline falls between December 1 and May 31, the following June 1, which shall:

- i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;*
- ii. describe the condition of any rehabilitated land;*
- iii. describe the effectiveness of any actions taken to prevent or mitigate any identified impacts of construction;*
- iv. include the results of analyses and monitoring programs and any recommendations arising therefrom; and*
- v. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions.*

One paper copy and one electronic (searchable PDF) version of the final monitoring report will be filed with the Board no later than fifteen months after the in-service date

3.2 Pipelines Leave to Construct – Conditions of Approval

3.2.1 Condition 1

Union Gas Limited (Union Gas) shall construct the facilities and restore the land in accordance with the OEB's Decision and Order in EB-2017-0162 and these Conditions of Approval.

Union constructed the facilities and restored the land in accordance with the Board's Decision and Order in EB-2017-0162 and the Conditions of Approval.

3.2.2 Condition 4

Union Gas shall implement all the recommendations of the Environmental Protection Plan filed in the proceeding, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee review.

Union implemented all the recommendations of the Environmental Protection Plan filed in the proceeding, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee review. Please refer to Table 1 to confirm Union's adherence to the recommendations and mitigation measures identified in the Environmental Protection Plan.

3.2.3 Condition 5

Union Gas shall advise the OEB of any proposed change to OEB-approved construction or restoration procedures. Except in an emergency, Union Gas shall not make any such change without prior notice to and written approval of the OEB. In the event of an emergency, the OEB shall be informed immediately after the fact.

There were no changes to OEB-approved construction or restoration procedures during the project.

3.2.4 Condition 7

Both during and after construction, Union Gas shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic (searchable PDF) version of each of the following reports:

a) a post construction report, within three months of the in-service date, which shall:

- i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;*

One paper copy and one electronic (searchable PDF) version of this Post Construction Report are provided to the Board. This report is certified by Mike Shannon, P. Eng., Vice President, Distribution Operations, that Union has constructed the facilities and restored the land in accordance with the OEB's Decision and Order in EB-2017-0162 and these conditions of Approval and is confirmed by the signed letter of approval found in Appendix C.

- ii. describe any impacts and outstanding concerns identified during construction;*

Table 1 summarizes the impacts identified during construction and the measures implemented to mitigate such impacts. There are no outstanding concerns as a result of construction.

- iii. describe the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction;*

Table 1 summarizes the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction.

- iv. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions; and*

Union's Complaint Tracking System, which identifies the current status of complaints received as a result of pipeline construction, was in effect. A complaint is identified as a concern raised by a landowner or member of the public that has not been resolved to their satisfaction within three (3) working

days. No complaints were received during construction therefore a complaints log was not created.

Union will continue to monitor the state of the land and will address any landowner or public concerns should they arise.

- v. *provide a certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licenses, and certificates required to construct, operate and maintain the proposed project.*

Mike Shannon, P. Eng., Vice President, Distribution Operations, has certified that the company has obtained all other approvals, permits, licences, and certificates required to construct, operate and maintain the project and is confirmed by the signed letter of approval in Appendix C.

Please see section 3.1.6 (v) for the environmental permits obtained for the Project.

- b) *a final monitoring report, no later than 15 months after the in-service date, or, where the deadline falls between December 1 and May 31, the following June 1, which shall:*
 - i. *provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 3;*
 - ii. *describe the condition of any rehabilitated land;*
 - iii. *describe the effectiveness of any actions taken to prevent or mitigate any identified impacts of construction;*
 - iv. *include the results of analyses and monitoring programs and any recommendations arising therefrom; and*
 - v. *include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions.*

One paper copy and one electronic (searchable PDF) version of the final monitoring report will be filed with the Board no later than fifteen months after the in-service date.

4.0 SUMMARY

This Post Construction Report has been prepared as per conditions in the Board Decision EB-2017-0162. The report provides confirmation that Union has complied with the Conditions of Approval, and provides a description of the identified impacts of construction and the actions taken to mitigate such impacts. It is anticipated that these actions will effectively eliminate any long-term impacts to the environment.

Union will return to the right-of-way in spring 2019 to perform a general overview to ensure clean-up and restoration measures were successful and all disturbed areas are stable and to the satisfaction of the landowner. Any areas that require additional restoration measures will be addressed as required.

A Final Monitoring Report will be prepared to evaluate the success of the restoration measures and identify any areas that require additional restoration, if necessary.

Table 1

Potential Impacts and Mitigation Measures

Table 1: Potential Impacts and Mitigation Measures

Issue	Potential Impact	Mitigation Measure
Location of facilities	Ancillary facilities such as wellheads and access roads may be an inconvenience to the landowner and farming operations.	<ul style="list-style-type: none">- Prior to any activity associated with the development, the Lands Relations Agent met with the directly affected landowner and reviewed items such as the drilling schedule, as well as the location of the wellheads. Pipelines and permanent access roads.- The facilities were located so as to minimize any inconvenience to farming operations and as agreed to by the landowner.
Surveying	Surveying may be disruptive to the landowners.	<ul style="list-style-type: none">- The landowner was notified of the intent to enter their property.
Access Roads	Vehicular traffic during and after drilling and pipeline installation (i.e. well operations and maintenance vehicles) may cause soil rutting, compaction or mixing, particularly if soils are wet.	<ul style="list-style-type: none">- The location of the access road was reviewed with the landowner. The road was constructed in such a way to minimize disruption to farm operations.- Existing laneways were utilized where possible.- The access road and granular work areas were limited in size to the greatest extent possible.- All traffic was limited to the access roads or granular work areas to the greatest extent possible.- Culverts were used in the construction of access roads to ensure existing drainage patterns were maintained where required.- Geotextile fabric was used for access roads and work areas to provide additional stability, minimize compaction and eliminate soil mixing with granular material.
Grading	Grading was necessary for the construction of the access road, drilling pads and pipeline work areas. On Agricultural land, grading	<ul style="list-style-type: none">- Pre-construction tiling was undertaken prior to the start of any drilling operations, if necessary.- Disrupted or broken tile was repaired following the Company's documented

Table 1: Potential Impacts and Mitigation Measures

Issue	Potential Impact	Mitigation Measure
	has the potential to impact soil productivity by disrupting tile drains and causing soil mixing, rutting and compaction, particularly during wet soil conditions.	<ul style="list-style-type: none">- procedures for tile repair.- Grading was not conducted on wet soils and wet soils shutdown practices were adhered to.- In drilling and pipeline work areas where land would be returned to its former use (agricultural), topsoil was stripped and stockpiled along the edges of the work area following documented Company procedures.- An Environmental Inspector was onsite at a regular basis to observe operations such as topsoil stripping, trenching, dewatering and any other procedures that may have had an impact on the environment.
Noise	Noise from the drilling rig, pipeline equipment and/or service vehicles may disrupt nearby residents.	<ul style="list-style-type: none">- Noise was controlled to the greatest extent possible to minimize the disruption to nearby residents.- All equipment was properly muffled.
Site Restoration	Improper site restoration may have permanently affected soil productivity.	<ul style="list-style-type: none">- Areas disrupted by drilling and pipeline construction were restored by re-grading followed by chisel ploughing and disking.- The Lands Relations Agent reviewed and discussed site restoration measures with the landowners prior to implementation to obtain any concerns or suggestions with regard to the proposed measures.
Fuel Storage and Handling	Improper fuel storage and handling may have caused spilling and possible soil contamination.	<ul style="list-style-type: none">- Fuel was not stored near watercourses (i.e. within 50 m).- Fuel storage areas were clearly marked.- Containment dykes and protective plastic ground matting were used in fuel storage areas to protect against spillage and leakage.- Spill clean-up materials were stored onsite and were available in the event of a spill. If necessary, spills or leaks

Table 1: Potential Impacts and Mitigation Measures		
Issue	Potential Impact	Mitigation Measure
		were to be reported to the appropriate authority immediately (Ministry of the Environment, Conservation and Parks Spills Action Centre at 1-800-268-6060).
Liquid and Solid Waste	Drilling fluids, solid wastes and lubricants must be properly handled, stored and disposed of to avoid the possible contamination of surrounding soil or water.	<ul style="list-style-type: none"> - Liquid and solid wastes were properly stored, handled and disposed of in an approved location. - Drilling fluids were properly contained in waste tanks and disposed of after drilling in an appropriate location. - The level of drilling fluids was frequently monitored to avoid possible overflows of the tanks.
Landowner Concerns	Disruption to landowners and tenants.	<ul style="list-style-type: none"> - Union provided the landowner and tenant with the telephone numbers of Company personnel. - A Landowner Relations Program was established to track complaints during construction.
Roadside Ditches	Water quality concerns.	<ul style="list-style-type: none"> - Ditches were returned to pre-construction conditions or better as quickly as possible.
Nuisance Dust	Disturbance to landowners and tenants.	<ul style="list-style-type: none"> - Dust was controlled as required.
Fences	<p>Disruption to landowners and tenants.</p> <p>Loss of control of animals inside fenced areas.</p>	<ul style="list-style-type: none"> - The landowner and tenant were contacted before any fences were disturbed. - Temporary fencing was erected if requested by the landowner or tenant. - Fences were replaced as soon as possible.
Underground Utilities	Disruption of services.	<ul style="list-style-type: none"> - Locates were obtained from all utilities. - Any damages to utilities were repaired as soon as possible.
Archaeology,	Disturbance of heritage	<ul style="list-style-type: none"> - An Archaeological Assessment was

Table 1: Potential Impacts and Mitigation Measures

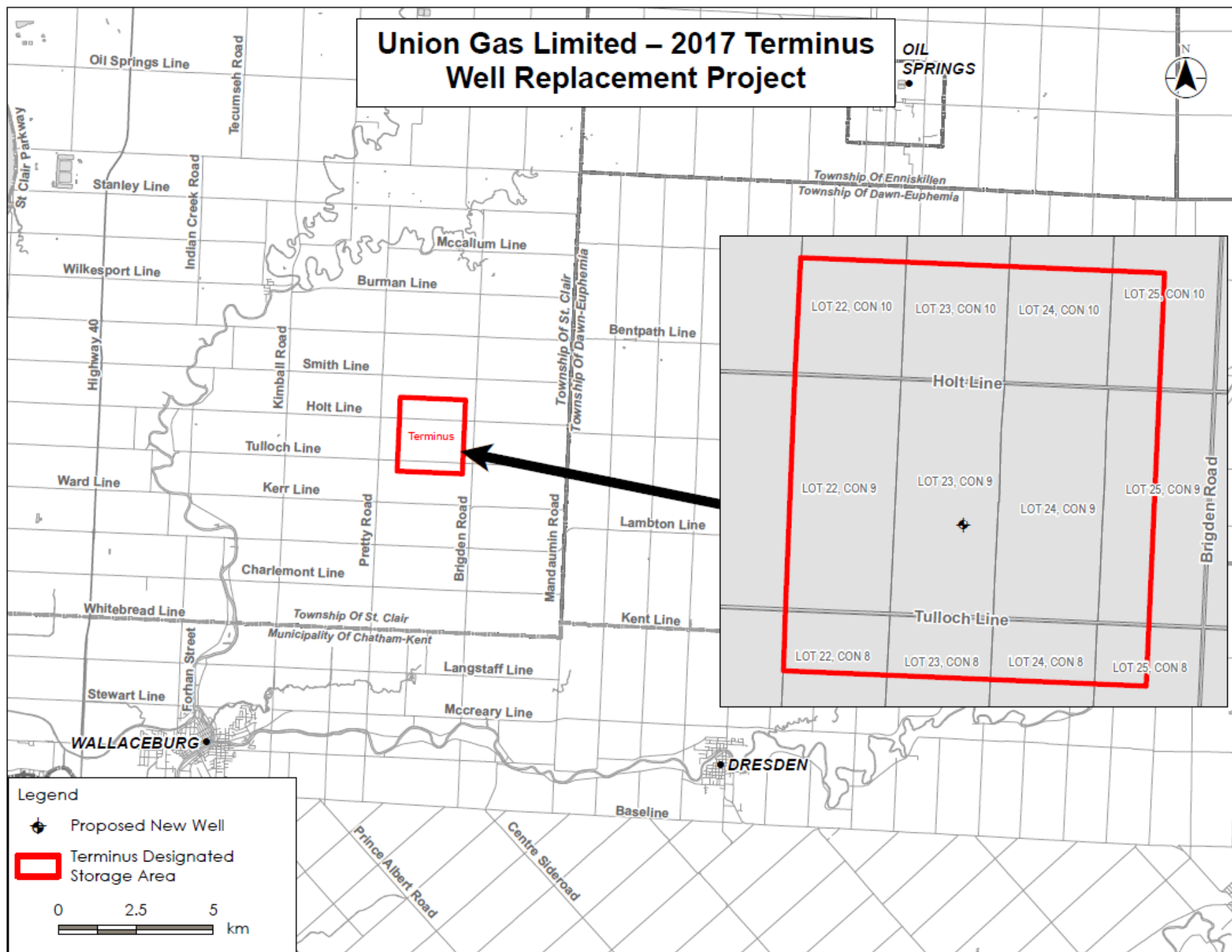
Issue	Potential Impact	Mitigation Measure
Cultural Heritage Landscapes and Built Heritage Resources	resources.	<ul style="list-style-type: none"> - completed prior to construction. - Direction was given to stop construction if artifact were encountered and to notify the Ministry of Tourism, Culture and Sport. - A Cultural Heritage consultant was retained to determine if impacts to cultural heritage landscapes and/or built heritage resources were anticipated and to develop a mitigation plan if required.
Water Wells	Disruption to water supply.	<ul style="list-style-type: none"> - Union implemented its standard well monitoring program. - If water quality/quantity concerns occurred as a result of construction activities, the Company would supply potable water until the situation was corrected.
Trees	Damage to trees and disturbance to wildlife.	<ul style="list-style-type: none"> - Tree removal did not occur as part of construction.
Natural Areas	Sedimentation run-off.	<ul style="list-style-type: none"> - Sediment barriers such as straw bales/sediment fencing were used where there was potential for runoff.
Vegetative cover	Loss of vegetative cover leading to soil erosion.	<ul style="list-style-type: none"> - Where necessary, cover was restored by means of seeding or hydro-seeding as soon as possible.
Soils: Erosion	Introduction of sediment/silt to adjacent lands.	<ul style="list-style-type: none"> - Disturbed soils were restored as soon as possible after construction as per Company procedures and to the satisfaction of the Landowner.
Contaminated Soils	<p>Dealing with contaminated materials.</p> <p>Public safety issue.</p>	<ul style="list-style-type: none"> - No contaminated soils were anticipated, however; if suspect soils were uncovered, direction was provided to stop work immediately, contact the Union Environmental Department, and clean up contaminated material following Company and Ministry of the

Table 1: Potential Impacts and Mitigation Measures		
Issue	Potential Impact	Mitigation Measure
		Environment, Conservation and Parks procedures.

Appendix A

General Location Map

**OIL
SPRINGS**



Appendix B

Conditions of Approval

Appendix A
Proposed Conditions of Licence - Well Drilling and Operation

1. Union Gas Limited (Union Gas) shall rely on the evidence filed with the OEB in EB-2017-0162 proceeding and comply with applicable laws, regulations and codes pertaining to the construction of the proposed wells.
2. The authority granted under this licence to Union Gas is not transferable to another party without leave of the OEB. For the purpose of this condition another party is any party except Union Gas Limited.
3. Union Gas shall construct the facilities and restore the land in accordance with its Application and evidence given to the OEB, except as modified by this licence and these Conditions.
4. Union Gas shall implement all the recommendations of the Environmental Protection Plan filed in the proceeding.
5. Union Gas shall ensure that the movement of equipment is carried out in compliance with all procedures filed with the OEB, and as follows:
 - i) Union Gas shall make reasonable efforts to keep the affected landowner as well as adjacent landowners and their respective tenant farmers, or their designated representatives, informed of its plans and construction activities; and
 - ii) The installation of facilities and construction shall be coordinated so as to minimize disruption of agricultural land and agricultural activities.
6. Union Gas shall file, in the proceeding where the actual capital costs of the project are proposed to be included in rate base, a Post Construction Financial Report, which shall indicate the actual capital costs of the project and shall provide an explanation for any significant variances from the cost estimates filed in this proceeding.
7. Union Gas shall, subject to the recommendation by an independent tile contractor and subject to the landowner's approval, construct upstream and downstream drainage headers adjacent to the drilling area and access roads that cross existing systematic drainage tiles, prior to the delivery of heavy equipment, so that continual drainage will be maintained.
8. Both during and after construction, Union Gas shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic (searchable PDF) version of each of the following reports:
 - a) A Post Construction Report, within three months of the in-service date,

which shall:

- i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;
 - ii. describe any impacts and outstanding concerns identified during construction;
 - iii. Describe the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction;
 - iv. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions; and
 - v. provide a certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project.
- b) A Final Monitoring Report, no later than fifteen months after the in-service date, or, where the deadline falls between December 1 and May 31, the following June 1, which shall:
- i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;
 - ii. describe the condition of any rehabilitated land;
 - iii. describe the effectiveness of any actions taken to prevent or mitigate any identified impacts during construction;
 - iv. Include the results of analyses and monitoring programs and any recommendations arising therefrom; and
 - v. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions.

9. For the purposes of these conditions, conformity of Union Gas with CSA Z341.1-14 "Storage of Hydrocarbons in Underground Formations" shall be to the satisfaction of the Ministry of Natural Resources and Forestry.

10. Union Gas shall provide a report to the MNRF if the conversion from an Observation well to Injection/Withdrawal well changes the parameters of the Terminus Pool with respect to capacity.^[1]
11. Union Gas shall provide 30 days advance notification to the MNRF of any conversion works for wells within the Terminus Pool.^[2]

^[1] The MNRF may alternatively remove this condition and establish an Undertaking for Union Gas

^[2] *ibid*

Leave to Construct
Conditions of Approval

1. Union Gas Limited (Union Gas) shall construct the facilities and restore the land in accordance with the OEB's Decision and Order in EB-2017-0162 and these Conditions of Approval.
2. Authorization for leave to construct is conditional on the MNRF issuing a licence for the UT.15 well.
3. (a) Authorization for leave to construct shall terminate 18 months after the decision is issued, unless construction has commenced prior to that date.

(b) Union Gas shall give the OEB notice in writing:
 - i. of the commencement of construction, at least ten days prior to the date construction commences;
 - ii. of the planned in-service date, at least ten days prior to the date the facilities go into service;
 - iii. of the date on which construction was completed, no later than 10 days following the completion of construction; and
 - iv. of the in-service date, no later than 10 days after the facilities go into service.
4. Union Gas shall implement all the recommendations of the Environmental Protection Plan filed in the proceeding, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee review.
5. Union Gas shall advise the OEB of any proposed change to OEB-approved construction or restoration procedures. Except in an emergency, Union Gas shall not make any such change without prior notice to and written approval of the OEB. In the event of an emergency, the OEB shall be informed immediately after the fact.
6. Union Gas shall file, in the proceeding where the actual capital costs of the project are proposed to be included in rate base, a Post Construction Financial Report, which shall indicate the actual capital costs of the project and shall provide an explanation for any significant variances from the cost estimates filed in this proceeding.
7. Both during and after construction, Union Gas shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic (searchable PDF) version of each of the following reports:

- (a) A post construction report, within three months of the in-service date, which shall:
 - i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;
 - ii. describe any impacts and outstanding concerns identified during construction;
 - iii. describe the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction;
 - iv. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions; and
 - v. provide a certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project.
- b) A final monitoring report, no later than fifteen months after the in-service date, or, where the deadline falls between December 1 and May 31, the following June 1, which shall:
 - i. provide a certification, by a senior executive of the company, of Union Gas' adherence to Condition 3;
 - ii. describe the condition of any rehabilitated land;
 - iii. describe the effectiveness of any actions taken to prevent or mitigate any identified impacts construction;
 - iv. include the results of analyses and monitoring programs and any recommendations arising therefrom; and
 - v. include a log of all complaints received by Union Gas, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions.

Appendix C

Executive Certifications

2017 Terminus Storage Pool Well Replacement Project

EB-2017-0162

Decision and Order

August 31, 2017

I hereby certify that Union Gas Limited has constructed the facilities and restored the land in accordance with the OEB's Decision and Order in EB-2017-0162 and the Conditions of Approval, as per Condition 7 (a) (i) of the *Pipelines – Leave to Construct Conditions of Approval*.



Senior Executive

Michael P. Shannon

VP, Distribution Operations

2018 Nov 12

Date

Condition 7 (a) (i)

7. Both during and after construction, Union Gas shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic copy (searchable PDF) version of each of the following reports:
 - a) a post construction report, within three months of the in-service date, which shall:
 - i. provide certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;

Condition 1

Union Gas Limited (Union Gas) shall construct the facilities and restore the land in accordance with the OEB's Decision and Order in EB-2017-0162 and these Conditions of Approval.

2017 Terminus Storage Pool Well Replacement Project

EB-2017-0162

Decision and Order

August 31, 2017

I hereby certify that Union Gas Limited has obtained all other approvals, permits, licenses, and certificates required to construct, operate, and maintain the project as per Condition 7 (a) (v) of the *Pipelines – Leave to Construct Conditions of Approval*.



Senior Executive

Michael P. Shannon

VP, Distribution Operations

2018 Nov 12

Date

Condition 7 (a) (v)

7. Both during and after construction, Union Gas shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic copy (searchable PDF) version of each of the following reports:
 - a) a post construction report, within three months of the in-service date, which shall:
 - v. provide certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licenses, and certificates required to construct, operate and maintain the proposed project.

2017 Terminus Storage Pool Well Replacement Project

EB-2017-0162

Decision and Order

August 31, 2017

I hereby certify that Union Gas Limited has relied on the evidence filed with the OEB in EB-2017-0162 proceeding and complied with applicable laws, regulations and codes pertaining to the construction of the proposed wells, as per Condition 8 (a) (i) of the *Conditions of Licence – Well Drilling and Operations*.



Senior Executive

Michael P. Shannon

VP, Distribution Operations

2018 Nov 12

Date

Condition 8 (a) (i)

8. Both during and after construction, Union Gas shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic copy (searchable PDF) version of each of the following reports:
 - a) a Post Construction Report, within three months of the in-service date, which shall:
 - i. provide certification, by a senior executive of the company, of Union Gas' adherence to Condition 1;

Condition 1

Union Gas Limited (Union Gas) shall rely on the evidence filed with the OEB in EB-2017-0162 proceeding and comply with the applicable laws, regulations and codes pertaining to the construction of the proposed wells.

2017 Terminus Storage Pool Well Replacement Project

EB-2017-0162

Decision and Order

August 31, 2017

I hereby certify that Union Gas Limited has obtained all other approvals, permits, licenses, and certificates required to construct, operate, and maintain the project as per Condition 8 (a) (v) of the *Conditions of Licence – Well Drilling and Operation*.



Senior Executive

Michael P. Shannon

VP, Distribution Operations

2018 Nov 12

Date

Condition 8 (a) (v)

8. Both during and after construction, Union Gas shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic copy (searchable PDF) version of each of the following reports:
 - a) a Post Construction Report, within three months of the in-service date, which shall:
 - v. provide certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licenses, and certificates required to construct, operate and maintain the proposed project.

Appendix D

Photograph Inventory



1. Topsoil is stripped from the area where the temporary gravel pad will be located and geotextile material is laid out and overlain with gravel.



2. Typical well drilling set up on a temporary gravel pad.



3. When well drilling has been completed, the gravel pads are reduced in size to approximately 12 m by 12 m.



4. Topsoil was stripped and stockpiled next to the work area prior to removing the existing pipeline.



5. The new pipeline was welded and strung out on supports prior to being lowered in the trench.



6. Once the pipeline was installed the trench was backfilled and the stockpiled topsoil was spread over the work area.