ENVIRONMENTAL ASSESSMENT
REGISTRATION DOCUMENT
TROUSER LAKE WATER SUPPLY
NAIN, NEWFOUNDLAND AND LABRADOR

ENVIRONMENTAL ASSESSMENT
REGISTRATION DOCUMENT

Trouser Lake Water Supply

Prepared for:
Inuit Community Government
Nain, Newfoundland and Labrador

Prepared by:
Newfoundland & Labrador Consulting Engineers Ltd.
St. John's, Newfoundland and Labrador
NLCEL No. 8135
DMA No. NG200902

April 2009

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1.0 NAME OF UNDERTAKING: Trouser Lake Water Supply - NAIN

2.0 PROPONENT

2.1 Name of Corporate Body: Inuit Community Government of Nain

2.2 Address:
P.O. Box 400
2 Anaktalk Street
Nain, NL
A0P 1L0

2.3 Chief Executive Officer:
Ms. Sarah Erickson
709.922.2842
709.922.2295 (fax)

2.4 Principal Contact Person: (for purposes of environmental assessment)
Ms. Sarah Erickson
709.922.2842
709.922.2295 (fax)

3.0 THE UNDERTAKING

3.1 *Nature of Undertaking*

The proposed project involves the development of new water supply infrastructure for the Town of Nain. The work is scheduled to be completed in two phases. Phase one of the project, proposed to be completed in the 2009 construction season, will include the development and construction of approximately 2.9 km of water transmission lines and associated infrastructure (five chambers [PRV, valve and/or fire hydrant], and six fire hydrant chambers) through undeveloped woodland between Trouser Lake and the Town of Nain. The new water transmission line will be connected to the existing Town water distribution infrastructure at Harmony Road. This phase of the work will also include access road construction along the route of the main water transmission line, and to the future water storage tank site.

Phase two of the work, proposed to be completed during the 2010 construction season, will include the construction of a chlorination building/pump-house at the shore of Trouser Lake, and the construction of a water storage tank to be located approximately 1 km from the Town of Nain, at an elevation approximately 180 m above sea level.

3.2 *Purpose/Rationale/Need for the Undertaking*

The Town of Nain is an isolated community located on the coast of Labrador, with principle access by boat or plane. The Town has a population of approximately 1,034 (2006 census). Recent years have seen expansion and new development in the Town, and the installation of the new water transmission line will allow for expansion of the Town and provide a potable water supply to the growing community.

4.0 DESCRIPTION OF THE UNDERTAKING

4.1 Geographic Location

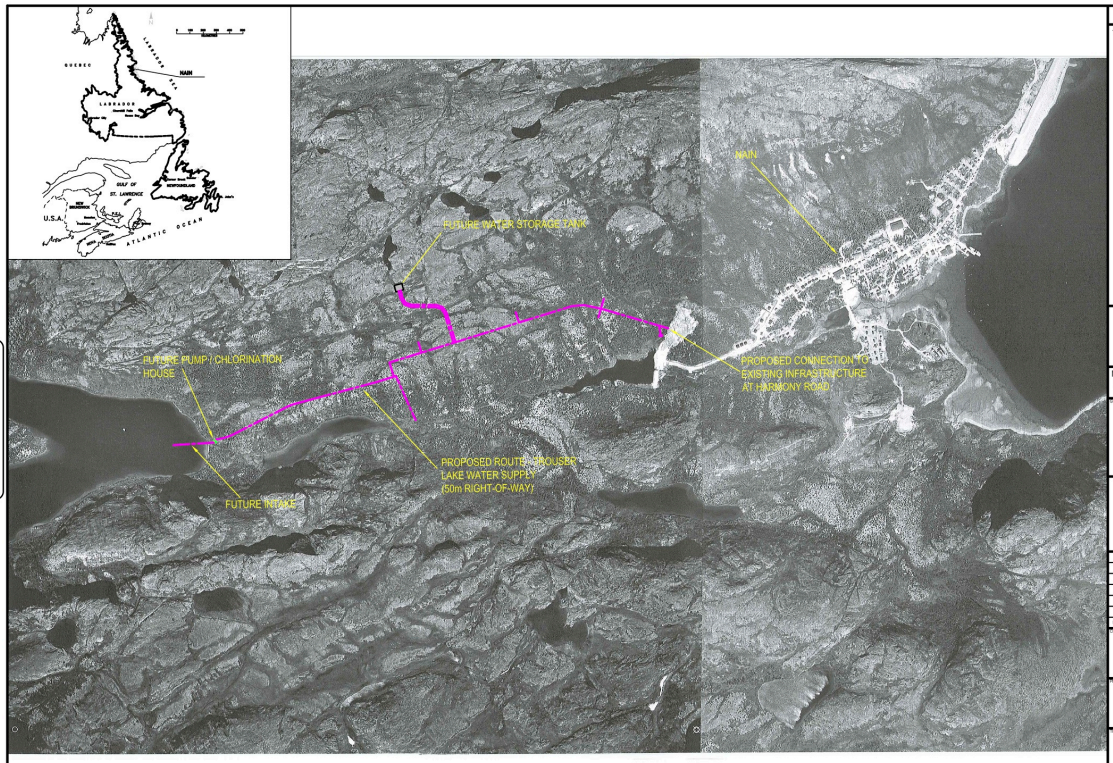
The proposed water transmission line development will be orientated in an east-to-west direction. The transmission line itself will be connected to the present Town water distribution system at Harmony Road, located at the western edge of the Town, near the current water reservoir. The proposed site is located within an area identified as *Inuit Community Lands* (under the Labrador Inuit Land Claims Agreement). Access to Trouser Lake, the location of the future water chlorination/ pump-house, will be via an approximately 2.5 km long gravel-surfaced access road, to be constructed during phase one of the project. The water storage tank will be located approximately 1 km from the town, and approximately 430 m north of the main water line. Refer to *Figure 1: Site Location* for details.

4.2 Physical Features

4.2.1 Project Site Description

The primary physical features associated with the project will be a buried 450 mm diameter water transmission line, associated chambers (five chambers [PRV, valve and/or fire hydrant], and six fire hydrant chambers), water storage tank, pump-/ chlorination house and 2.9 km access road. Property surrounding the proposed site is currently undeveloped.

The water transmission line site development will be approximately 160 ha in size. This water transmission line is through an area where there is mostly exposed bedrock and some wooded areas. Site development will require a drilling and blasting operation to develop the infrastructure. Access road construction will require processing of granular and backfill materials off-site. There will be no secondary processing of materials on site. All grubbed material will be incorporated into the water transmission line R.O.W. The proposed alignment is such that, other than the proposed new facility at Trouser Lake and the connection to the existing water supply infrastructure, the nearest water body or stream is greater than 140 m from the R.O.W for the new water transmission line.



8135-SK1
TROUSER LAKE WATER SUPPLY
NAIN, NL
PRELIMINARY

NOTES

1. DO NOT SCALE FROM DRAWINGS.

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Consulting Engineers and Project Managers St. John's & Marystown, Newfoundland and Labrador

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which is valid for the year 2009.

NO.	REVISIONS	BY	DATE

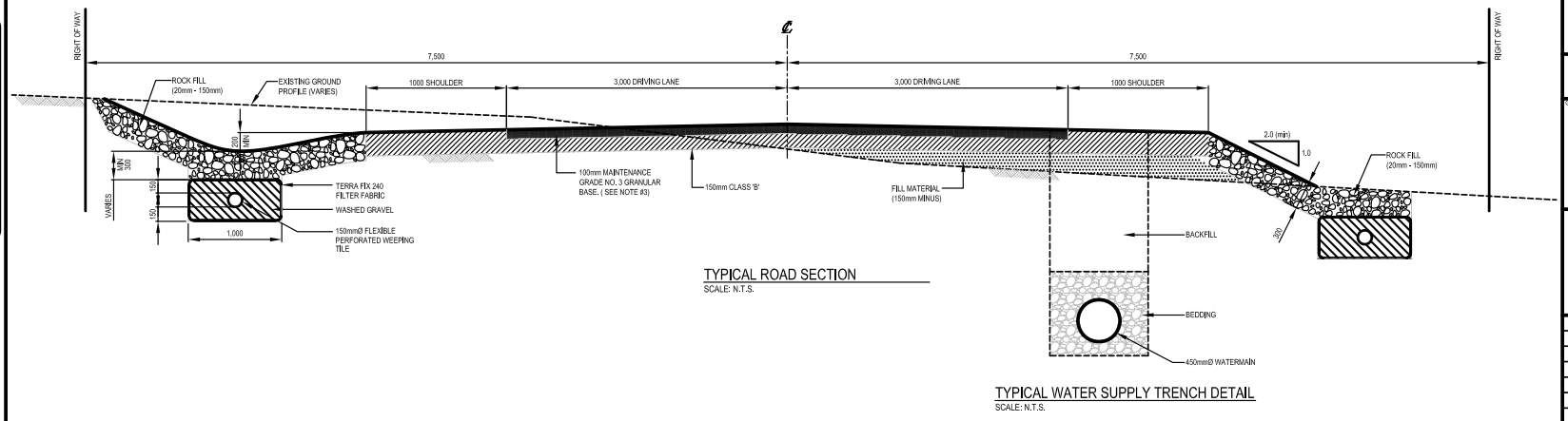
CLIENT: INUIT COMMUNITY OF NAIN
NAIN, NL

PROJECT: TROUSER LAKE WATER SUPPLY
EA REGISTRATION

TITLE: SITE LOCATION PLAN

DESIGNED:	W.G.M.	CHECKED:	R.C.A.
DRAWN:	S.R.N.	PICKED:	W.G.M.
SCALE:	N.T.S.	DATE:	APRIL, 2009
PROJECT NO.	8135	DRAWING NO.	FIGURE 1
CADD NO.			

8135-SK1
TROUSER LAKE WATER SUPPLY
NAIN, NL
PRELIMINARY



TYPICAL ROAD SECTION
SCALE: N.T.S.

TYPICAL WATER SUPPLY TRENCH DETAIL
SCALE: N.T.S.

NOTES

1. DO NOT SCALE FROM DRAWINGS.

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GRID NORTH

STAMP

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NO.	REVISIONS	BY	DATE

CLIENT
INUIT COMMUNITY OF NAIN
NAIN, NL

PROJECT
TROUSER LAKE WATER SUPPLY
EA REGISTRATION

TITLE
TYPICAL ROAD CROSS SECTION

DESIGNED	W.G.M.	APPROVED	R.C.A.
DRAWN	S.R.N.	CHECKED	W.G.M.
SCALE	N.T.S.	DATED	APRIL, 2009
PROJECT NO.	8135	DRAWING NO.	FIGURE 2
CAN NO.			

The access road will extend from the end of Harmony Road a distance of 2.5 km, over a mixed landscape consisting of barren rock, sparse with very local dense vegetation and some wet boggy areas. Bedrock is exposed over much of the proposed access road route. There is currently no access along the proposed route, nor is there any streams or intermittent stream crossing along this route.

4.2.2 Existing Biophysical Environment

The project site is located within the *Coastal Barrens Eco-region*, which extends from Napaktok Bay in the north, to the Straight of Bell Isle to the south. This eco-region is characterized by moist, sheltered valleys with spruce forests and a moss understory. Coastal heath exists along headlands and ridges. Marine terraces are suitable for salt marshes and plateau bogs. High areas have exposed bedrock, with lichens and mosses growing on sheltered lee slopes and in small cracks. Scrubland consisting of alder, dwarf birch, and Labrador tea, dominate in areas subjected to fires. Deeply-incised U-shaped valleys occur in conjunction with steep-sided, rounded mountains and fjords extending well inland. Permafrost occurs in isolated patches. Climatic conditions in the region are characterized by short, moist, cool summers, and long cold winters. The mean summer temperature is 7°C and the mean winter temperature is -13.5°C. The mean annual temperature is around -3.5°C. The mean annual precipitation ranges from 600 mm to1000 mm.

The access road site is dominated by scrub vegetation with abundant Labrador tea, bedrock exposures, and some poorly-drained boggy areas. The *Species at Risk Act* (*SARA*) was developed in 2003 by *Environment Canada* - Canadian Wildlife Services Division. The purpose of the act is to protect species and their habitat from extinction. The *SARA* is an on-line tool that has been designed to assist the public in accessing *SARA*-related documents, including lists of species at risk for a given geographical area.

A search of the Canadian *Species at Risk* registry was completed at which time five species at risk were identified as potentially occurring within the general project area:

- Blue Whale (Atlantic Population)
- Wolverene (Eastern Population)
- Barrow's Goldeneye (Eastern population)
- Peregrine Falcon anatum subspecies
- Northern Wolffish.

The presence of any of these species within the area of the subject property was not determined. No significant impacts to the terrestrial and neighbouring freshwater/ marine environment are expected as a result of this project.

Site topography along the centre-line of the proposed access road ranges from five to seven percent, with ground surface elevations at the Harmony Road connection - 53 m (Station 0+000); high point at the main water transmission line - 134 m (Station 1+100); and at Trouser Lake - 67 m (Station 2+475). The approximate surface elevation in the area of the proposed water storage tank is 180 m.

Bedrock is exposed at or very near surface over much of the surrounding area. Bedrock in the area is reported to consist of foliated leuconoritic and anorthositic northern zone of the Unity Bay intrusion (Ryan, B., 2001 - Preliminary Geological Map of the Nain Map Sheet 14C/12).

4.3 *Construction*

The construction phase of site development will consist of the following main components:

Phase 1 Construction

- project survey and layout
- clearing and grubbing along R.O.W. as required
- blasting, excavation and backfilling associated with the installation of water transmission line and associated chambers
- blasting, excavation and backfilling associated with the construction of the access road and associated ditching.

Phase 2 Construction

- project survey and layout (treatment building and water storage tank)
- clearing and grubbing along R.O.W. as required
- blasting, excavation and backfilling associated with the installation of water treatment building and water storage tank
- construction of treatment building and water storage tank.

4.3.1 *Site Access*

Access to the site will be from the existing Harmony Road, a distance of 2.5 km, to Trouser Lake. The site access will be a 6 m wide, gravel-surfaced road with appropriate drainage, capable of supporting heavy equipment associated with the proposed undertaking.

4.3.2 *Salvageable Timber (Clearing) and Grubbing*

Merchantable timber, if any, requiring removal in the process of water transmission line and associated infrastructure construction and site development will be salvaged.

4.3.3 *Project Development*

The proposed development covers an area of approximately 160 ha. Initial site construction activities will involve the removal of the vegetative cover (wherever present) from the proposed access road access road route, drilling and blasting activities as required for the installation of the 450 mm diameter water transmission line, and associated valve chambers. Surficial organics and topsoil (where present) will be set aside for re-use at a later date.

4.3.4 *Potential Sources of Pollution During the Construction Phase*

The construction phase of the development will consist of earth-moving activities. The potential sources of pollution during these activities include site drainage, waste and litter, noise, air emissions, and potential release of petroleum hydrocarbons.

Site run-off water will be contained/directed, as necessary, to vegetated areas which will filter suspended solids. In addition, and where required, silt screens will be installed at appropriate locations to prevent siltation of water bodies.

The handling of petroleum products on site will comply with the *Storage and Handling of Gasoline and Associated Products Regulations*. Note that petroleum products will not be stored on the site during the construction stage, or the operating stage of the infrastructure.

Sewage will be handled by approved portable facilities during construction. Holding tanks will be pumped on an as-required basis.

Domestic waste generated during construction will be collected and disposed of at *Town of Nain MSWDS*, per the *Waste Material Disposal Act*.

Equipment on site will have appropriate emission-control equipment. Dust control measures, such as application of water, will be provided on an as-required basis. Noise levels associated with the work is not expected to increase over typical operations in the area.

4.4 *Operation*

Typical operations of the water transmission line, once completed, will entail the general maintenance of the access roads to the pump/chlorination building and water storage tank; delivery of chemicals for water treatment; monitoring/quality control of the pump/chlorination treatment process; and, general infrastructure maintenance.

Equipment on site associated with infrastructure operations will include vehicles for site transportation and delivery, and various small tools and equipment as required for facility operations.

4.5 *Occupations*

Development of the Trouser Lake water supply will include the following occupations, classified per *National Occupational Classification 2001*:

<u>Construction Phase 1</u>

1 - Engineering manager (0211)
1 - Construction Manager (0711)
1 - Construction Estimator/Surveyor (2234)
1 - Construction Inspector (2264)
3 - Site Foreman/Supervisor (7217)
3 - Drillers and Blasters (7372)
3 - Pipefitting Trades (7213)
3 - Carpentry Trades (7215)
6 - Construction Trades Labourers/Flagpersons (7611)
4 - Heavy Equipment Operators (7421)
3 - Truck Drivers (7411)

<u>Construction Phase 2</u>

1 - Engineering manager (0211)
1 - Construction Manager (0711)
1 - Construction Estimator/Surveyor (2234)
1 - Construction Inspector (2264)
1 - Site Foreman/Supervisor (7217)
1 - Drillers and Blasters (7372)
2 - Pipefitting Trades (7213)
2 - Carpentry Trades (7215)
6 - Construction Trades Labourers/Flagpersons (7611)
2 - Heavy Equipment Operators (7421)
1 - Truck Drivers (7411)

Operations Phase
1 - Engineering manager (0211)
1 - Water and Waste Water Operators (9424)

4.6 *Project Related Documents*

There are no project related reports.

5.0 APPROVAL OF THE UNDERTAKING

Approvals, permits, and licences that may be required for the undertaking, are as follows:

Department	Approval/Permit
Municipal	
Town of Nain	• *Development and Building Permits*
Provincial	
Department of Environment & Conservation	• *Approval of the Undertaking* • *Construction Site Drainage* • *Permit for Culvert Installation* • *Environmental Approval for Water Supply and Distribution* • *Permit to occupy Crown Land* • *Easement Rights for Pole Line* • *Water Use Licence* • *Storage and Handling of Gasoline and Associated Products Regulation*
Government Service Centre	• *National Building Code Approval* • *National Fire Code Approval* • *Building Accessibility Design Registration* • *Protected Road Zoning and Development and Control Regulations* • *Certificate of Approval for a Water Supply System* • *Certificate of Approval for Septic System* • *Approval to Occupy Crown Lands*
Department of Natural Resources - Forest Resources	• *Operating Permit* • *Permit to Burn* • *Commercial Cutting Permit*
Federal	
Department of Fisheries & Oceans	• *Approval for Works and Undertakings Affecting Fish Habitat*

6.0 SCHEDULE

Registration Document Submission	April 24, 2009
Government Review and Decision	June 5, 2009
Phase 1 Construction (access road development, water transmission line installation)	June 2009 - October 2009
Phase 2 Construction (pump house/chlorination building/ water storage tank construction)	Spring 2010
Operations	October 2009

7.0 FUNDING

The *Trouser Lake Water Supply* will be providing funding for the undertaking through the 2009/2010 Nunatsiavut Government Capital Works Program.

8.0 SUBMISSION

23 Apr 09
Date

Name: Sarah Erickson
Position: Angajukkâk Kitk