

PACIFIC NORTHERN GAS LOOPING PROJECT



Project Description

July 2013

Submitted by:



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ABBREVIATIONS AND ACRONYMS

AIA	Archaeological Impact Assessment
AIR	Application Information Requirements
ALR	Agricultural Land Reserve
AOA	Archaeological Overview Assessment
AT	Alpine Tundra
BC	British Columbia
BC EAO	British Columbia Environmental Assessment Office
BC OGC	British Columbia Oil & Gas Commission
BGC	Biogeoclimatic
CEA	Cumulative Effects Assessment
CEAA	<i>Canadian Environmental Assessment Act, 2012</i>
CSA	Canadian Standards Association
CWH	Coastal Western Hemlock
DFO	Fisheries and Oceans Canada
EA	environmental assessment
EAC	Environmental Assessment Certificate
HDD	Horizontal Directional Drill
IBA	Important Bird Area
km	kilometer
LNG	Liquefied Natural Gas
LRMP	Land and Resource Management Plan
LSA	Local Study Area
MFLNRO	Ministry of Forests, Lands and Natural Resource Operations
MH	Mountain Hemlock
mm	millimeter
MMscfd	Million standard cubic feet per day
NPS	nominal pipe size
OCC	Operations Control Center
OGAA	<i>Oil & Gas Activities Act</i>
PNG	Pacific Northern Gas Ltd.
PNGL	PNG Looping Project, The Project
psig	Pounds per square inch gauge
RMZ	Resource Management Zone
ROW	right-of-way
SARA	<i>Species at Risk Act</i>
SCADA	Supervisory Control and Data Acquisition
SRMP	Sustainable Resource Management Plan
TFL	Tree Farm License
TUS	Traditional Use Studies
UWR	Ungulate Winter Range
WHMIS	Workplace Hazardous Materials Information System

1 INTRODUCTION

Pacific Northern Gas Ltd. (PNG or The Company) is proposing to upgrade its transmission pipeline capacity by looping its existing natural gas transmission system between Summit Lake, British Columbia (BC) and Kitimat, BC in order to serve new small scale Liquefied Natural Gas (LNG) Projects proposed for construction in Kitimat. The Project is referred to as the “PNG Looping Project” (PNGL or the Project) and involves the construction and operation of approximately 525km of 24” (610mm) diameter 1440 psig pipe between Summit Lake (north of Prince George) and Kitimat. Figure 1-1 illustrates the general location of the existing PNG pipe that would be looped or “twinning” by this proposed project. The Project also includes the upgrading of four existing PNG compressor stations. One new compressor station site is expected to be required due to space limitations while the remaining 3 existing compressor station sites are expected to be adequate for the upgrades although it is possible that additional land may need to be acquired adjacent to existing sites to accommodate the proposed Project.

The new pipeline will operate in parallel with the existing pipeline to increase the overall pipeline capacity of the PNG Transmission System in order to meet the requirements of its existing customers and the proposed LNG facilities.

The Project also involves the upgrading of metering facilities at the receipt and delivery points of the pipeline and upgrade of odorant injection facilities at the delivery point.

The Project will have an initial capacity of approximately 600 million standard cubic feet per day (MMscfd).

In addition to these facilities, the Project would require temporary infrastructure during construction, such as access roads, temporary bridges, stockpile sites, borrow sites, contractor yards and construction camps.

1.1 Proponent Information

Pacific Northern Gas Ltd. is the proponent of the Project and is seeking an Environmental Assessment Certificate pursuant to the BC *Environmental Assessment Act* as well as approval pursuant to the *Canadian Environmental Assessment Act, 2012* and a permit to construct and operate the Project pursuant to the BC *Oil and Gas Activities Act*.

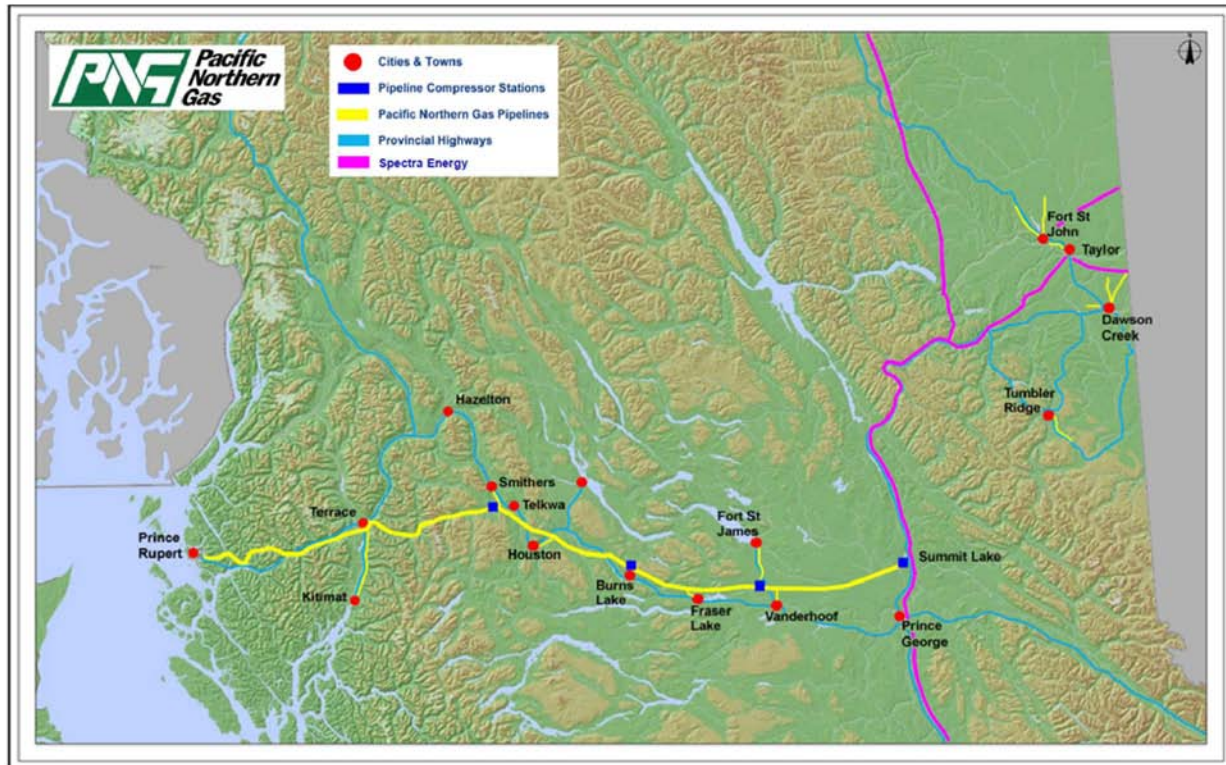
PNG is a company regulated under the *BC Utilities Commission Act* and consequently, the Project will require approval from the BC Utilities Commission.

PNG will draw on its expertise, experience and resources in the course of designing, constructing and operating the Project. PNG is a leader in the responsible development and reliable operation of natural gas infrastructure in the northeastern and west central areas of BC. PNG has been providing natural gas to residential, commercial and

industrial customers in this area of BC for over 45 years. PNG has an established track record for operational excellence and has developed and maintained relationships with landowners, Aboriginal communities and other stakeholders across its pipeline system.

PNG is committed to designing, constructing and operating the Project in a safe and environmentally responsible manner that respects the communities within which it operates. In this regard, PNG will be adopting and implementing many of the company's policies, such as the PNG Environmental, Health and Safety Policy.

Figure 1-1. General Location of the Existing PNG Natural Gas Pipeline System



1.1.1 Proponent Contact Information

The primary contact for the Project is:

Mr. Greg Weeres, P.Eng., President
 #950 – 1185 West Georgia Street
 Vancouver, BC V6E 4E6
 Tel: 604-691-5677

Email: gweeres@png.ca

Alternate contacts are:

Mr. Mark Walmsley phone 250-480-1170, email mark.walmsley@shaw.ca
 Mr. Bill Manery, P.Eng., phone 604-599-5960, email wmanery@telus.net
 Mr. Tom Leach – PNG Terrace, phone 250-638-5325, email tleach@png.ca

1.2 Website

The website for the Project will be developed in the next few months.

1.3 Regulatory Framework

The Project is wholly located within the province of BC and involves the construction of more than 40 km of pipeline that is greater than 323.9 mm in diameter. Accordingly, pursuant to Table 8, section 4 of the *Reviewable Projects Regulation*, an Environmental Assessment Certificate pursuant to the British Columbia *Environmental Assessment Act* will be required. A project description is required to initiate the provincial environmental assessment process.

Pursuant to section 14 of the schedule to the federal *Regulations Designating Physical Activities*, a project involving the construction, operation, decommissioning and abandonment of a gas pipeline more than 75 km in length of new right-of-way (ROW) is a designated project. As the Project likely meets this criteria, it is likely a designated project and is therefore subject to the provisions of the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). Under CEAA 2012, a project description is required to initiate the screening process through which the Canadian Environmental Assessment Agency will determine whether a federal environmental assessment is required.

This complete document is intended to satisfy both the provincial and federal requirements for a project description, initiating the environmental assessment process under both the BC *Environmental Assessment Act* and CEAA 2012. A concordance table for BC EAO and CEAA guidance is included in the Appendix (Appendices A and B). PNG expects that if an assessment is required under CEAA 2012, the federal and provincial assessment processes would be harmonized pursuant to the *Canada-British Columbia Agreement on Environmental Assessment Cooperation (2004)*.

PNG will also require for the Project the necessary permits to construct and operate a pipeline pursuant to section 25 of the BC *Oil and Gas Activities Act* (OGAA). Moreover, because PNG and its existing pipeline facilities are regulated under the BC *Utilities Commission Act*, a Certificate of Public Convenience and Necessity will be sought from the BC Utilities Commission.

1.3.1 Permits, Licences, Approvals and Authorizations Required

In addition to the authorizations described above, the following permits, licenses, approvals and authorizations might be required. The permits and authorizations have been grouped according to the project phase during which they will be required.

Field Programs

- Various permits and authorizations under the BC OGAA, as issued by the BC Oil and Gas Commission (BC OGC), including but not limited to:
 - an approval under the BC *Water Act* for work “in and about a stream”;
 - a Licence of Occupation under the BC *Land Act*; and

- an approval under the BC *Forests Act* for timber harvesting and disposal on Crown land.
- An approval under Section 14 of the BC *Heritage Conservation Act* for a Heritage Inspection Permit.
- Fish Research Licence and collection permits from the BC Ministry of Forests, Lands and Natural Resource Operations (BC MFLNRO).

Construction

- Approval under Section 35(2) of the federal *Fisheries Act*.
- Approval under Section 5(2) of the federal *Navigable Waters Protection Act*.
- Various permits and authorizations under the BC OGAA, as issued by the BC OGC, including but not limited to:
 - an approval under the BC *Water Act* for work “in and about a stream”;
 - a Licence of Occupation under the BC *Land Act*; and
 - an approval under the BC *Forests Act* for timber harvesting and disposal on Crown land.
- Various permits from municipal and provincial authorities pertaining to specific activities, such as burning and clearing.

2 GENERAL DESCRIPTION OF THE PROJECT

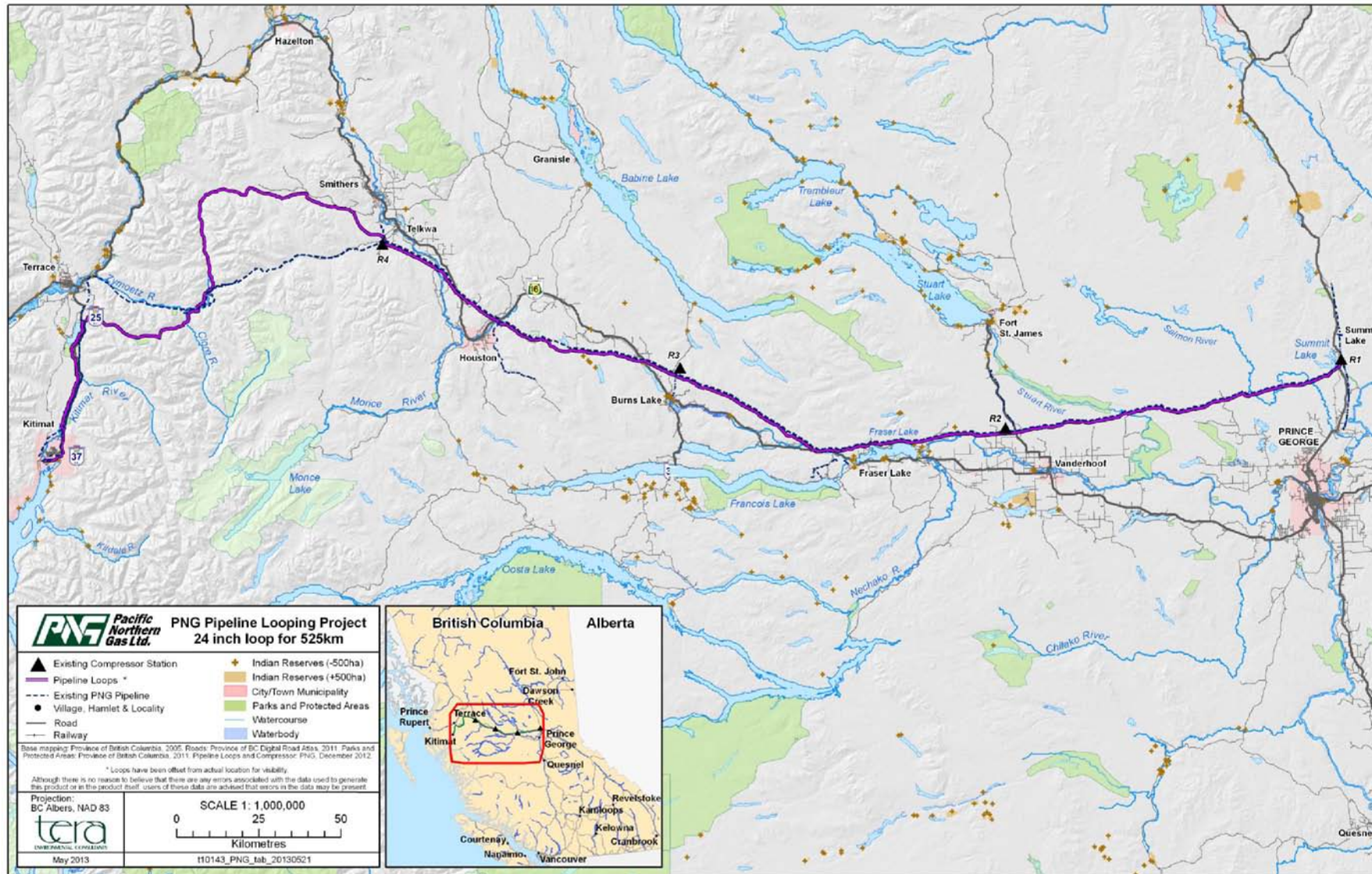
PNG is proposing to construct and operate an approximately 525km long natural gas pipeline loop of its existing natural gas transmission pipeline from Summit Lake, north of Prince George, to the community of Kitimat. The Project crosses the Fraser-Fort George, Bulkley-Nechako and Kitimat-Stikine regional districts and is within the Prince George and Prince Rupert Land Districts.

The Project also includes the upgrading or installation of new metering facilities at the receipt and delivery points and the upgrading of four existing PNG compressor stations and existing odorant injection facilities.

In addition, temporary infrastructure will be required during construction, such as access roads, stockpile sites, borrow sites, contractor yards and perhaps construction camps. New electrical power lines and facilities may be required for certain facilities, but are expected to be constructed, owned and operated by third-party power providers, if required.

At this stage, the route for the Project is a conceptual corridor (see Figure 2-1) that will be refined through continued technical, environmental and constructability assessments, as well as consideration of input from Aboriginal groups, landowners and stakeholders.

Figure 2-1. General Study Area



2.1 Project Purpose and Rationale

The purpose of the Project is to construct and operate a buried pipeline to transport natural gas from the Spectra Energy pipeline system at Summit Lake to new small scale LNG export facilities proposed to be constructed at Kitimat, BC.

The purpose of the proposed pipeline loop is driven by two key factors. Firstly, the proposed pipeline facilities will increase the capacity of the PNG system for the purpose of transporting natural gas from the Spectra Energy pipeline system at Summit Lake to the proposed LNG export facilities at Kitimat. Secondly, the proposed loop will enable PNG to provide a more secure supply of natural gas to its customers at competitive rates, including the increased delivery of natural gas to its customers in Prince Rupert, if and when required. By constructing the PNGL Project, PNG anticipates a significant reduction in natural gas transportation costs to its existing customers.

2.2 Estimated Capital Cost and Employment

Total expenditures on the Project are presently forecast to be approximately \$1.3 billion (in 2013 dollars). At this time, PNG estimates the Project will generate approximately 1800-2400 direct person years of work during construction and minimal new operating jobs as a result of PNG's existing workforce. There will be tax benefits to Kitimat and the regional districts crossed by the pipeline. Gas transmission cost benefits will also accrue to existing PNG gas customers. The specific data required to determine the number of person years of employment are not yet available. The complete Project labour requirements and economic effects will be further defined and assessed as Project planning progresses.

2.3 Project Planning Undertaken to Date

To date, PNG has undertaken the following studies to define the Project:

- conceptual corridor location studies;
- preliminary meter station location studies;
- preliminary compressor station location studies;
- environmental overview (including a review of available information about fisheries, wildlife and vegetation values);
- land use and socio-economic overview; and
- preliminary discussions with regulatory agencies, Aboriginal groups and the public.

3 AREAS OF FEDERAL INTEREST

The Project as planned does not require federal financial support, nor does the Project require an interest in federal land.

The conceptual corridor crosses the asserted traditional territories of eighteen First Nations. The potential environmental effects of the Project may affect various aspects of the livelihood and use of traditional resources of Aboriginal people in the region.

Potential effects on Aboriginal people will be considered and mitigation developed through the Project's ongoing program of Aboriginal engagement, as well as the

integration of traditional ecological knowledge and the results of traditional land use studies into the environmental assessment.

3.1 Federal Authorizations

Federal authorizations may be required pursuant to the following legislation:

Fisheries Act

The Project may require authorization(s) pursuant to the *Fisheries Act* if Fisheries and Oceans Canada determines that the Project may bring about a harmful alteration, disruption or destruction of fish habitat. The Project activities associated with the construction and operation may interact with fish and fish habitat.

Species at Risk Act

The Project may require authorization(s) pursuant to the *Species at Risk Act* if it is determined that the Project will affect a species listed on Schedule 1 of the Act, any part of its critical habitat or the residences of its individuals.

Migratory Birds Convention Act

The Project will comply with the requirements of the *Migratory Birds Convention Act*.

Navigable Waters Protection Act

The Project may require authorization(s) pursuant to the *Navigable Waters Protection Act*, if it is determined that Project activities include works built in, on, over, under, through or across any navigable water that may interfere with navigation.

4 PROJECT OVERVIEW

This section provides a description of the Project components, the schedule and activities in the various phases of the Project.

4.1 Scope of the Project

The Project scope includes the facilities and activities associated with the construction, operation and maintenance of the Project, as well as foreseeable changes to the Project. Where relevant, the Project also includes the decommissioning, abandonment and reclamation of the pipeline and its associated facilities. The Project components are described as follows:

Pipeline

The approximately 525km of NPS 24 (610mm) diameter natural gas transmission pipeline will extend from Summit Lake located north of Prince George to the proposed LNG export facilities at Kitimat BC. The Project commencement point and end point are in the general vicinity of the coordinates provided in Table 4-1. Maps showing the conceptual corridor are provided in the Appendix C.

Table 4-1 Project Location

Project Commencement Point	
Latitude/Longitude	54 17 17.409 Lat., 122 37 02.533 Long.
Universal Transverse Mercator	Zone 10, 524907.6 Easting, 6015651.7 Northing
BC Oil and Gas Grid	93J7A
Project End Point	
Latitude/Longitude	54 01 58.872 Lat., 128 41 07.956 Long.
Universal Transverse Mercator	Zone 9, 520596.7 Easting, 5987117.6 Northing
BC Oil and Gas Grid	103I2B

Meter Stations

The meter stations involve the installation of metering runs, yard piping, isolation and control valves, electrical, control and telecommunication systems. Currently, the Project includes the installation of metering facilities at:

- the commencement point of the Project at the existing Summit Lake meter station; and
- the delivery point west of the District of Kitimat in the vicinity of the existing PNG Methanex meter station site for custody transfer to the proposed LNG export facilities.

Compressor Station(s)

The Project may require the installation of one (1) new greenfield compressor station at Summit Lake due to the lack of suitable space for the new compressor at the existing PNG compressor station. The remaining three (3) facilities at the existing PNG compressor stations located near the communities of Vanderhoof, Burns Lake and Telkwa, will be replaced by new facilities on the same sites which are expected to be mostly accommodated within the property already owned by PNG for this purpose. Additional property may need to be acquired at certain existing PNG Compressor Stations for this purpose.

Mainline Valves

Mainline valves will be installed at meter stations, compressor stations and at other locations along the route, as necessary to comply with Canadian Standards Association (CSA) Z662-11 and PNG Standards, to enable isolation of pipeline sections, and to facilitate system operations.

Supervisory Control and Data Acquisition (SCADA) System

The Project will include the upgrading and operation of the existing SCADA system, linking pipeline and compressor facilities to the Control Centre for the existing system located in Vancouver, BC, which will allow for the remote monitoring of operational and measurement data.

In-Line Inspection Facilities

The Project will have facilities for launching and receiving in-line inspection tools. These tools allow for internal examination of the pipeline to monitor pipe integrity. The in-line inspection facilities are typically installed at the commencement and termination points and other locations such as compressor stations and at mainline valve sites. The facilities generally consist of valves, piping and launchers or receivers, depending on the location. The precise location of these facilities will be determined during detailed design.

Cathodic Protection

Cathodic protection is a common method used to protect the pipeline from electrochemical corrosion. A cathodic protection system, including anode beds, rectifiers and associated facilities, will be designed and installed for the proposed pipeline, compression and metering facilities.

Odorant Injection Facilities

The Project will include the upgrading of odorant injection facilities currently in-place at the Summit Lake meter station where the existing PNG pipeline system takes delivery from Spectra Energy.

Communication Links and Power Supply

The Project will include necessary communication links and power supply to service compressor stations, meter stations and other pipeline facilities. PNG expects that power and communication needs will be met through existing sources.

Operations and Maintenance Activities

Throughout the operating life of the pipeline, various operations and maintenance activities are required to ensure safe operation of the pipeline and facilities. These activities include, but are not limited to:

- monitoring and surveillance using both ground based and aerial methods;
- managing brush and vegetation;
- conducting regular site visits to the pipeline and facilities;
- ensuring pipeline maintenance programs are carried out; and
- maintaining signage.

4.2 Project Schedule

The schedule for the Project is outlined in Table 4-2.

Table 4-2 Project Schedule

Task Name		PNG Mainline Loop - 2016 In-Service																											
		2012				2013				2014				2015				2016				2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Aboriginal, Government, and Stakeholder Engagement						■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Feasibility																													
Feasibility Study (route selection)		■	■	■																									
Cost est and develop plan		■	■	■																									
Approvals																													
Submit Project Description						■	■																						
Route Confirmation/footprint						■	■	■																					
Receive Sect 10 & 11 Orders						■	■	■	■	■	■																		
draft AIR						■	■	■	■	■	■																		
Environmental research										■	■	■	■																
Detailed engineering for permits										■	■	■	■																
Prepare & file EAC Application										■	■	■	■																
Environmental Assessment Review														■	■	■	■												
OGC Permit Review														■	■	■	■												
Regulatory Approvals (EAO/OGC/BCUC)																		■	■	■	■								
Construction																													
-Pipeline																													
Detailed Engineering, & permitting										■	■	■	■	■	■	■	■												
Bid/ Contracting & Procurement										■	■	■	■	■	■	■	■												
Clearing and Right-of-Way Preparation														■	■	■	■	■	■	■	■								
Pipeline Construction														■	■	■	■	■	■	■	■								
-Compression																													
Design and procurement										■	■	■	■	■	■	■	■												
Construction										■	■	■	■	■	■	■	■												
In service																		■	■	■	■								
Restoration																													
Restoration																						■	■	■	■	■	■	■	■

Task ■ Milestone ◆

Pipeline Right-of-Way

The Project is intended to generally parallel the existing PNG pipeline between Summit Lake and Telkwa as well as between the Lakelse Lake area and Kitimat with the pipe located in a new construction easement contiguous with the existing PNG pipeline easement where feasible. Where diversion from the existing alignment is necessary, existing linear disturbances will be followed to the extent practical. For the segment between the area west of Telkwa and Lakelse Lake, the pipeline loop will be located in a new right-of-way abutting existing linear disturbances to the extent practicable. Dimensions of the pipeline construction ROW will vary depending on the ownership, terrain, construction techniques, access, and the extent and nature of existing ROWs being paralleled. Where the Project abuts existing linear disturbance easements, requests will be made to the easement holder for permission to use their easement for workspace where practical and safe, to reduce potential new disturbances.

Routing in areas that are not contiguous to the existing PNG pipeline or existing disturbances is considered where it is necessary to:

- achieve the shortest practicable route and therefore smallest overall footprint;
- accommodate pipeline watercourse crossings;
- address Aboriginal, landowner and stakeholder input;
- avoid sensitive terrain and environmental areas; and
- address potential construction issues and requirements.

It is anticipated that the disturbed ROW on level, flat terrain during construction will generally be about 30 to 35 m wide. The actual width will vary along the route taking into account the various terrain conditions encountered. Additional temporary construction workspace will be required at certain locations to facilitate construction and the width of this temporary workspace will vary depending on site characteristics and specific construction activities. In locations where temporary workspace is required, it could range to a width of more than 100 m; however, these wider locations would be localized. Examples of these locations include access roads, potential work camps, side bends, pipe and material storage areas, watercourse crossings, timber decking areas, borrow sites and equipment laydown areas. These areas will be restored and re-vegetated, where appropriate, following construction. These locations and the associated dimensions of necessary extra temporary workspace have not yet been specifically identified.

All areas disturbed by construction will be restored after construction, and a permanent easement maintained for pipeline operations. The final new permanent easement requirements following construction are expected to be 18m or less.

4.3 Project Activities

Subject to receipt of regulatory and Project approvals, construction of the Project is scheduled to commence in the fourth quarter of 2015, with completion of construction and an in-service date in late 2016. PNG proposes to commence pre-construction activities, including ROW clearing and preparation, in late 2015. The current schedule provides for the operations and maintenance phase of the Project to commence once

the Project is in service. Further description of the Project activities is provided in the tables and sections below.

Pipeline construction involves several activities that occur sequentially at any one location. These include development of access where necessary, surveying, clearing, soil conservation and grading, drainage and sediment control, pipe stringing, bending and welding, trenching, lowering-in, backfilling, testing, cleanup and post-construction reclamation. The pipeline ROW will be divided into several construction spreads, meaning that there will be multiple construction crews carrying out construction activities at the same time at multiple locations along the construction ROW.

Construction of the compressor stations and the meter stations and odorant facilities is expected to commence concurrent with pipeline construction. Site construction and equipment installation at the compressor and meter and odorant stations is expected to take several months.

In addition to the pipeline ROW and associated temporary workspace, lands will be required temporarily for staging and stockpile sites, equipment storage and possibly borrow pits (to supply fill material). Existing disturbed areas or areas already designated for such activities will be utilized wherever feasible.

Reclamation of disturbed areas will commence following construction and be completed after the Project is placed into service.

4.3.1 Construction

Pipeline Construction Activities

Standard pipeline construction activities and typical equipment requirements are outlined in Table 4-3.

Table 4-3 Pipeline Construction Activities and Equipment Requirements

Construction Phase	Associated Activities and Equipment Required
Engineering	The pipeline will be designed and constructed in accordance with all applicable CSA standards, PNG standards and specifications and BC OGC regulations.
Construction Survey	Activities include line-of-sight clearing with chain saws, flagging and staking of the boundaries of the construction ROW, temporary workspace and facility sites as well as marking trench line and existing utilities. Areas to avoid, such as protected habitats, archaeological sites or rare plant communities, will be appropriately fenced or flagged.
Clearing	Snow, trees, brush and other vegetation will be generally cleared from the construction ROW and extra temporary workspace. Salvageable timber will be cut, decked and hauled to local mills (if merchantable). Non-salvageable vegetative debris will be burned unless required for mulch, corduroy, rollback, etc. Equipment used during clearing activities will include chainsaws, feller-bunchers or other tree clearing equipment, as well as bulldozers and backhoes.

Topsoil Salvage	In agricultural lands, topsoil will be salvaged to ensure that the soil capability is maintained. The width and depth of topsoil salvage depends on the land use, soil conditions, microtopography, regulatory agency requests and grading requirements. Equipment used during topsoil handling activities includes bulldozers, graders and backhoes.
Grading	Following topsoil salvage, grading will be conducted on irregular ground surfaces (including temporary workspace) to provide a safe work surface. Graders, backhoes and bulldozers will be used for this activity. Blasting may be required where hard bedrock is encountered.
Stringing and Welding	Coated pipe will be transported by truck from the stockpile sites to the ROW. The pipe will be bent, lined up, welded, joint coated and inspected before being lowered into the trench. Equipment used during stringing and welding activities includes pipe trucks, booms, pick-up trucks, welding stations and x-ray or ultrasonic inspection equipment mounted on trucks.
Trenching	The trench will be excavated using tracked excavators to a depth sufficient to ensure the depth of cover is in accordance or in excess of applicable codes. Typical depth of cover will be a minimum of 0.8 m and may vary based on land use and soil condition from 0.6 m to 1.2 m. Trenching will generally occur after stringing, bending and welding. Major road and railway crossings will be installed by boring under the road or railway.
Lowering-In	The pipe will be lowered into the trench using sideboom tractors. Trench dewatering may be necessary at certain locations during lowering-in (e.g., to ensure acceptable bedding for pipe, to prevent the pipe from floating or for performing tie-in welds).
Backfilling	The trench will be backfilled using backhoes, graders, bulldozers or specialized backfilling equipment. Backfill material will generally consist of trench spoil material excavated during trenching. Displaced subsoils will be crowned over the trench to allow for settlement. After settlement; any excess trench spoil will be feathered out over adjacent portions of the ROW.
Testing	The completed pipeline will be pressure tested in sequential segments, using water as the test medium. The water will be drawn from suitable sources and returned to the appropriate watersheds in accordance with permit requirements.
Clean-Up and Post-Construction Reclamation	Initial clean-up and reclamation procedures will be initiated immediately following construction using bulldozers, backhoes and graders. Final reclamation will be completed once weather and soil conditions permit, likely in the year following construction. Garbage or debris remaining along the ROW will be removed regularly and disposed of in compliance with local regulations. The ROW contours will be returned to a stable and maintenance-free condition. In agricultural soils, compaction in subsoils will be relieved and the topsoil replaced. All disturbed upland areas will be seeded with an appropriate seed mix and specific land reclamation measures will be applied, as required.

Watercourse Crossings	Watercourse crossing methods will be based on engineering and environmental considerations. Crossing methods typically used during watercourse construction include trenched methods, such as open cut and isolation (e.g., dam and pump, flumes), and trenchless methods, such as boring and horizontal directional drilling (HDD).
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Compressor Station Construction Activities

Standard compressor station construction activities and typical equipment requirements are outlined in Table 4-4.

Table 4-4 Compressor Station Construction Activities and Equipment Requirements

Construction Phase	Associated Activities and Equipment Required
Engineering	The upgrading of the existing compressor station(s) will be designed and constructed in accordance with all applicable CSA standards, industry standards, PNG specifications, and BC OGC and other relevant regulations.
Site Preparation	Site preparation is expected to be minimal at all locations with the exception of the Summit Lake Compressor Station where a new site is likely required. It is expected that the three remaining compressor stations and metering and odorant facilities can be mostly accommodated within the property currently owned by PNG for this purpose. Some additional property may be required to accommodate the new compressor facilities and this requirement will be determined during the detailed design phase of the Project. Where required, initial site preparation will involve surveying, clearing, salvage and storage of topsoil, excavating and removal of unsuitable fill, grading, site drainage, placement and compaction of a gravel surface on work areas, laying of foundation and installation of building support pads. Equipment used during site preparation activities will include chainsaws, mowers, feller-bunchers and other timber clearing equipment, as well as bulldozers and backhoes.
Facility Construction	Upgrading of the existing compressor stations will entail building new structures, installing compression, pipe, valves and electronics equipment, tying new pipe into pipelines, pressure testing all piping, testing safety systems and instruments, final commissioning of new equipment and control systems, and perimeter fencing construction. Equipment used during the construction of the compressor stations includes backhoes, cranes and manlifts.

Watercourse Crossing Construction Activities

The conceptual corridor crosses numerous watercourses, most of which are unnamed, minor and ephemeral drainages. However, the conceptual corridor does cross several large rivers and important watercourses. Environmental and engineering studies have not been conducted for the Project watercourse crossings; consequently, techniques for each watercourse crossing have not yet been finalized. The following criteria are being considered during this review of crossing techniques:

- fisheries, habitat and water quality issues;
- approvals, codes and regulations;
- design and constructability issues; and
- operational requirements.

A variety of crossing techniques may be used during the construction of the pipeline. They include conventional isolated trenched crossings (*e.g.*, dam and pump; flume) and trenchless crossings (*i.e.*, Horizontal Directional Drilling (HDD), tunnelling or boring). HDD crossings work best for large waterbodies in areas with exceptionally vulnerable (water quality, fisheries and habitat) ecosystems and where geotechnical and hydrological conditions are favourable. The criteria for selecting candidate crossings for HDD include:

- presence of highly sensitive fish species, life stages or habitats;
- presence of appropriate sub-surface conditions;
- exceptionally steep approach slopes in a river valley; and
- inability to construct using trenched techniques.

Isolated trenched crossing techniques are best suited for streams and rivers with narrow channels and with lower flow rates. With isolated crossing techniques, the main flow of the stream is isolated from the construction area while a trench is excavated and the pipe installed. The stream is stabilized and allowed to return to its bed. The three main methods of diverting stream flow in an isolation type crossing are:

- dam the stream and convey the water across the site by pumping;
- dam the stream and install a culvert (flume); and
- dam the stream and install a superflume for high-flow watercourses.

Appendix D lists the major watercourse crossings anticipated for the Project.

4.3.2 Operations and Maintenance

System Protection and Controls

Compressor Stations are generally unmanned during normal operations and the Project will be controlled from the control center which controls the existing facilities in Vancouver, BC. This facility is staffed 24 hours per day and uses a computer-based SCADA system to continuously monitor and control pipeline operations.

The pipeline control system will monitor pipeline flows, pressures, temperatures and equipment status on a continuous basis. The SCADA system will alert the control system operator of significant operational changes in the pipeline system. Status and control information will be received by the SCADA system and control and emergency shutdown of facilities can be initiated at the Control Centre.

Emergency Response

The Project will have emergency response plans that meet or exceed regulatory requirements during the construction and operation phases of the Project. For the operation phase, the Project will be incorporated into PNG's existing corporate emergency response plan.

PNG has operations in the Project area and PNG will work with emergency response personnel in the areas in which it operates to ensure appropriate communications, understanding and co-operation. This will continue to ensure that company emergency plans appropriately link into plans maintained by other affected agencies.

Integrated Public Awareness

The Project will follow the existing PNG Public Awareness Program which will be upgraded as required to include the new facilities.

The Program will be designed to inform the public of facility locations and operational activities to:

- protect the public from injury;
- prevent or minimize effects to the environment;
- protect the facilities from damage by the public; and
- provide an opportunity for ongoing public awareness.

Maintenance Programs

Regular preventative maintenance programs will be incorporated into the design and operation of the pipeline. These programs include:

- regular aerial patrols to monitor conditions on the ROW: the frequency is established in accordance with CSA Z662 and is based on considerations of operating pressure, pipeline size, population density, terrain, weather, and agricultural and other land use;
- in-line inspections for internal examination of the pipeline to monitor the integrity of the pipeline;
- cathodic protection monitoring to ensure corrosion protection is effectively provided on the pipeline;
- maintenance of pipeline markers along the ROW; and
- periodic clearing of brush and tree growth on the ROW to maintain access and visual awareness.

Decommissioning and Abandonment

It is difficult at this time to predict when or how the Project facilities will be decommissioned and abandoned at the end of the Project's useful life. The useful life of the Project is expected to be beyond 30+ years. Decommissioning the Project facilities would be considered at some time in the future, but cannot be meaningfully described at this time. The pipeline industry has experience with pipeline abandonment, and guidance documents are currently available. There are three categories under which pipeline decommissioning and abandonment might fall; removal, abandonment-in-place, and a combination of abandonment-in-place and removal. These would have to be considered based on conditions that prevail at the time of decommissioning.

4.4 Resource and Material Requirements

4.4.1 Energy and Water Requirements

Compressor station upgrades proposed for the Project are expected to be fuelled by natural gas although feasibility of electric drive for the Summit Lake station will be reviewed and discussed with BC Hydro. Electricity will only be required for minor utility needs, such as cooling fans, lighting and control. Water requirements at the compressor stations during operations are limited, and water is generally only required for general cleanup, landscaping and potable uses. Water will be transported by truck to the stations or accessed from wells on site or local utilities if available.

The environmental assessment (EA) will address water requirements during construction and proposed sources, as well as potential effects, cumulative effects and proposed mitigation.

Withdrawal and return of water for hydrostatic testing of the pipeline will be undertaken with the approval of appropriate regulators, including Fisheries and Oceans Canada (DFO) and the BC OGC, and in compliance with all applicable regulations, guidelines and codes of practice relating to water withdrawal and discharge.

4.4.2 Excavation and Fill Requirements

In addition to the pipeline trench, excavation for pipeline construction will include grading of steep slopes and uneven terrain. Requirements for additional excavation will be addressed in the EA. Fill may be required along the right-of-way where trench rock cannot be replaced directly over the pipeline. Grading and contouring may also be required at the upgraded compressor stations, in addition to importing gravel. The EA will address requirements for additional excavation and fill, potential fill sources and any associated environmental effects and proposed mitigation, including any particular measures that may be required in resource management areas as outlined in the Land and Resource Management Plans (LRMP).

4.4.3 Toxic and Hazardous Materials

Specific identification of hazardous substances, potential effects, spill prevention and emergency contingencies will be addressed in the EA. Hydrocarbons and hydraulic fluids are the primary toxic materials to be used during construction and operation of the Project. Activities associated with Project construction that may involve other substances of concern include welding and weld testing, hydrostatic testing and HDD or bored crossings. PNG has several systems in place (including its pipeline integrity management program, SCADA, aerial and ground patrol, and emergency response systems) to both prevent incidents and ensure rapid and effective response to spills of hazardous materials.

4.4.4 Waste Disposal

During the construction phase of the Project, typical waste includes construction materials (wood lathe, flagging tape, hydraulic fluids from equipment maintenance, and domestic products from camp operation). The pipeline construction contractor will

collect waste daily, and will dispose of it at landfill sites appropriate for the nature of the waste. During the operation phase, the facilities are expected to produce waste typical to these facilities, including used compressor and generator oil and filters, air filters and domestic wastewater. Qualified contractors will collect waste and dispose of it at appropriate facilities.

To control Project waste, PNG will apply its existing waste management plan, which meets or exceeds requirements under the BC *Environmental Management Act*. Storage and transportation of waste material will be conducted in accordance with the *Transportation of Dangerous Goods Act*, Workplace Hazardous Materials Information System (WHMIS) and any other provincial regulations.

5 ABORIGINAL ENGAGEMENT

Pursuant to a section 11 order, proponents are assigned certain responsibilities for undertaking procedural aspects of the Crown's duty to consult with potentially impacted First Nations. This includes responsibility to gather information about how First Nations' asserted Aboriginal rights including title may be impacted by their proposed project, and the consideration of ways in which potential Project effects to First Nation interests can be avoided or mitigated, or if necessary accommodated.

Also pursuant to the section 11 order, a proponent is assigned certain responsibilities for engaging with treaty First Nations in order to assist the Province to comply with its treaty obligations. This includes responsibility to gather information about how a First Nation's treaty rights, land, citizens and interests may be impacted by the proposed project, and about possible ways in which those impacts can be avoided or mitigated, or if required, accommodated. Two of the potentially affected First Nations, West Moberly and McLeod Lake, are Treaty 8 First Nations.

In compliance with BC Environmental Assessment Office (EAO) requirements, PNG will develop and submit an Aboriginal Consultation Plan for approval by the EAO.

Engagement will be tailored to the individual First Nations involved and may change over time depending on the scope or nature of potential impacts, and the willingness and ability of First Nations to engage. The goals of the Aboriginal Consultation Plan are to:

- build and maintain positive long-term relationships with Aboriginal groups potentially affected by the Project;
- ensure that Aboriginal community input and concerns are gathered, understood and integrated into Project design and execution as appropriate; and
- ensure that concerns and issues with respect to environmental or socio-economic effects related to Aboriginal communities are addressed, as appropriate.

5.1 Identified Aboriginal Groups

The Project area lies in the asserted traditional territories of 18 First Nations, as identified by a previous project (Pacific Trail Pipeline) and with the addition of two

Huwilp of the Gitxsan Hereditary Chiefs and the Kitsumkalum First Nation, whose territories may be affected by the proposed new westerly section of pipeline.

In the event the federal Minister of Environment approves a request for substitution by BC, PNG understands the Project Assessment lead may direct the company to undertake specific consultation activities with the Métis or organizations representing Métis in BC. The Project is not geographically located near a Métis community, therefore it is not anticipated that Métis groups would request consultation.

A description of the engagement to date with the Aboriginal groups is included in Section 5.2.

The following is a preliminary list of parties which PNG would anticipate engaging.

- Haisla Nation
- Gitxsan Hereditary Chiefs (Duubisxw and Haakasxw Houses)
- Lax Kw'alaams First Nation
- Office of the Wet'suwet'en Hereditary Chiefs (on behalf of Moricetown First Nation and Clans in the vicinity of the Project)
- Metlakatla First Nation
- Kitselas First Nation
- Kitsumkalum First Nation
- Stelat'en First Nation
- Nak'azdli First Nation
- Nadleh Whut'en First Nation
- Saik'uz First Nation
- Wetsuwet'en First Nation (Broman Lake Band)
- Ts'il Kaz Koh (Burns Lake Band)
- Skin Tyee Nation
- Nee-Tahi-Buhn First Nation
- Lheidli T'enneh First Nation
- McLeod Lake Indian Band
- West Moberly First Nations

Some of these First Nations are independent, while some First Nations may choose to be represented by their umbrella organizations such as the Carrier Sekani Tribal Council. These communities will advise the company and the Province how they wish to be represented. The Office of the Wet'suwet'en performs the function of representing the Wet'suwet'en hereditary clans, with the exception of the Unis'tot'en, a group of individuals, who have withdrawn. Of note, the new pipeline alignment to the west of Telkwa is outside an area about which the Unis'tot'en have previously expressed concerns about pipeline development.

Additionally, notification may be undertaken with broader affiliated groups as they may express interests in the outlying area (within 30km) of the Project. These groups may include but are not limited to the following:

- Lake Babine Nation
- Nazko First Nation
- Yekooche First Nation
- Tl'azt'en Nation
- Gitxsan Hereditary Chiefs (outside of the area of the two identified Huwilp)
- Gitga'at First Nation

5.2 Aboriginal Engagement

The company has provided the majority of Aboriginal groups along the proposed route with a letter introducing the Project, including a Project summary and sketch map. Additionally, PNG presented the Project to a meeting of the First Nations Limited Partnership (FNLP) in Vancouver on May 23, 2013. The FNLP is a limited partnership of the 15 First Nations whose traditional territories lie along the transportation corridor between Summit Lake and Kitimat. The partnership represents the pipeline component of the Kitimat LNG Project, formed to secure economic benefits for its limited partners from the Pacific Trail Pipelines (PTP) project.

PNG is in the process of arranging individual meetings with the First Nations in their communities. The purpose of the initial meetings will be to:

- Present information on the Project and the company;
- Learn about the First Nation;
- Learn what process for consultation each First Nation is seeking;
- Learn what expectations each First Nation has including capacity funding;
- Initiate understanding of interests and rights, and asserted rights; and
- Generally to assist the First Nations to be meaningfully engaged in consultation with the company and government agencies.

Future meetings will explore involvement in fieldwork and studies, including economic aspects of the Project and mutual benefit agreements once the First Nations have satisfied themselves that they wish to be associated with the Project.

As PNG has been operating in the Project area for over 45 years, the company already has a well-established and mutually respectful relationship with many of the Aboriginal communities.

As discussions with Aboriginal communities continue, there may be some that will determine that they do not have an interest in the Project. Conversely, there may be Aboriginal communities that have not yet been identified that may indicate an interest in the Project. In both cases, the Project will work with the Aboriginal communities and adjust engagement accordingly.

The draft Application Information Requirements (dAIR) and eventually aspects of the draft EA Certificate (EAC) Application will be shared with Aboriginal groups and their feedback sought and accommodated to the extent possible. Input from Aboriginal groups will also inform PNG's approach to its regulatory applications.

The potential effects of the Project on Aboriginal communities along the pipeline corridor may include various impacts on the livelihood and use of traditional resources of Aboriginal people in the region. Engagement is in early stages with Aboriginal communities. As dialogue progresses, further information will be available to contribute to identifying potential environmental and socio-economic effects, as well as to support a dialogue about effective mitigation and management measures. In addition, PNG will ask Aboriginal groups about traditional ecological knowledge and traditional land use and will fund any appropriate new studies as required.

It is also important to recognize that benefits may accrue as a result of the Project. In addition to employment, contracting and training opportunities that may arise, First Nations communities that are PNG customers will experience significant rate reductions. PNG is the local distribution utility company that for the last 45 years has been providing natural gas to communities between Prince George and Prince Rupert, including Stellaquo IR No. 5, Lake Babine Band IR No. 27, Burns Lake Band IR No. 18, Kitsumkalum IR No. 1, Kulsapai IR No. 6, Kitselas IR No. 1 (Gitaus), Necoslie IR No. 1, Sowchea IR No. 3A, Noon-La IR No. 10, Kitamaat Village IR No. 2 and Henderson Ranch IR No. 11. Off-reserve, the general Aboriginal population is as high as 36% in the Burns Lake area. In summary, the Project would be of immediate benefit to Aboriginal communities along the route by markedly reducing their winter heating costs.

PNG will provide updated Aboriginal engagement information as the Project progresses through the environmental assessment process and be transparent in its reporting on any issues and interests that may arise and PNG's initiatives to address these.

6 PUBLIC ENGAGEMENT

PNG strives to engage stakeholders early and often. This means listening, providing accurate information and responding to stakeholder interests in a prompt and consistent manner.

The objectives of the Public Engagement Plan include:

- Identify potentially interested stakeholders and the nature of their interests;
- Provide timely, honest, accurate information to allow for informed, effective and meaningful engagement with the public;
- Provide information about the need for the Project, process of approvals, construction practices and potential effects;
- Ensure that stakeholders have information on how to be involved in the regulatory process (e.g., BC EAO, CEAA, BC OGC, and BCUC approval processes);
- Ensure that all communications materials and platforms are consistent, straightforward and easy to understand;

- Ensure there is a variety of means for stakeholders to get involved in the process;
- Ensure that stakeholder issues and concerns are gathered, tracked, understood and integrated into project design and execution, as appropriate; and
- Ensure that stakeholders are aware of how their input has shaped or affected the design of the process.

Throughout the Project, PNG will engage with the public in several ways, which may include:

- Project website, printed materials and videos;
- Maintenance of a public contact telephone line and email address which would provide timely responses to questions and concerns;
- Discussions with landowners and Crown tenure holders;
- Open houses, information sessions and meetings with landowners, local governments and organizations in order to raise awareness and to identify and address issues and concerns; and
- Public notification of events, meetings, input mechanisms, and the status of the Project using methods such as newspaper advertisements, mailouts, and website and newsletter updates.

6.1 Regional and Municipal Governments Potentially Affected

Regional districts and municipal governments potentially affected by the Project are as follows:

- Regional District of Fraser-Fort George
- Regional District of Bulkley-Nechako
- Regional District of Kitimat-Stikine
- District of Kitimat

Local communities potentially affected by the project include:

- Community of Summit Lake
- City of Prince George
- District of Vanderhoof
- District of Fort St. James
- Village of Fraser Lake
- Village of Burns Lake
- District of Houston
- Village of Telkwa
- Town of Smithers
- Village of Hazelton
- City of Terrace
- District of Kitimat

6.2 Public Engagement Activities Completed To Date

The possibility of a significant project to upgrade PNG's delivery capacity was introduced to representatives from a number of the municipal governments potentially affected by the project in 2013.

Following telephone contact with many of the communities, a Project introduction package was subsequently sent out in early June 2013 to all potentially affected regional and municipal districts. The package included information about the Project, PNG and its approach to stakeholder engagement.

While there has been no formal engagement with the public to-date, the following meetings between PNG representatives and local governments have occurred:

November 20, 2012

- District of Vanderhoof, Mayor and City Administrator
- Village of Burns Lake, Mayor and City Administrator

November 21, 2012

- Smithers Municipality, Mayor and City Administrator
- Kitimat Municipality, Mayor and City Administrator

November 22, 2012

- City of Terrace, Mayor and City Administrator

May 28, 2013

- District of Taylor, Mayor and City Administrator
- City of Ft. St. John, Mayor

May 29, 2013

- City of Dawson Creek, Mayor
- District of Tumbler Ridge, Mayor and City Administrator

In addition to these meetings, information packages describing the PNG Looping Project were sent in June 2013, to all of the above-noted local governments as well as MLA's for: Nechako Lakes; Peace River North; Peace River South; Skeena; Stikine; and North Coast

6.3 Regulatory Engagement Conducted to Date

PNG commenced its regulatory engagement following the Project commencement in early April 2013. PNG has introduced the Project and discussed the regulatory process with the following agencies:

- Province of British Columbia:

- BC Environmental Assessment Office
- BC Oil & Gas Commission
- Federal:
 - Canadian Environmental Assessment Agency

6.4 Key Discussion Topics and Comments

To date the majority of discussions have been introductory in nature, serving to introduce the Project and provide information related to implications of the Project. As such, substantive input has not been elicited from communities potentially affected by the Project.

However initial consultation with communities potentially affected by the Project has indicated varying levels of interest in the Project. Many of these communities have expressed interest in having access to economic opportunities related to the planning and construction of the Project and are interested in learning more as the Project develops.

Over the continued course of the Project's development, all concerns and issues raised will be tracked by PNG and responded to in follow-up communications and in issue tracking tables.

7 PROJECT SETTING

This section provides an overview of the conceptual corridor, and describes the potential physical, biological and socio-economic environment constraints within the conceptual corridor being considered by the Project, based on existing information. This information will be supplemented, as necessary, by Aboriginal and stakeholder engagement, research, and field studies being undertaken by PNG to support the EA.

Figure 7-1 shows the existing PNG right-of-way in the Vanderhoof area and Figure 7-2 shows the existing right-of way in the area south of Terrace.

Figure 7-1. Existing PNG right-of-way in the Vanderhoof area



Figure 7-2. Existing PNG right-of-way south of Terrace, BC

7.1 Conceptual Corridor Overview

The conceptual corridor begins at Summit Lake, north of Prince George, immediately north of the continental drainage divide between the Arctic and Pacific drainages. This central plateau area, extending generally as far west as Burns Lake along the conceptual corridor is characterized by extensive and generally thick glacial till and lacustrine deposits expressed as a rolling and undulating landscape surface. These glacial deposits are a result of the extensive glacial lake that occupied the entire area, including the Prince George area during the latter stages of the last glaciation about 12,000 years ago. Today, these soils are extensively used for farming and ranching purposes where drainage and topography are conducive. Due to restricted drainage and basin topography in some areas, this landscape is also characterized by extensive accumulations of organic soils represented by poorly drained bogs. The continental climate of this interior area of the province results in these soils often being frozen in winter.

West of Burns Lake, the terrain crossed by the conceptual corridor is represented by thinner deposits of glacial drift materials and a greater extent of bedrock outcrops and dissected topography. West of Telkwa, after crossing the Bulkley River, the conceptual

corridor enters the Coastal Mountain range which exhibits steep slopes, thin soils, and deeply eroded river valleys. Drainages followed by the conceptual corridor through the Hazelton Mountains includes minor drainages associated with Aldrich Lake, Dennis lake and Mcdonell Lake as well as the upper reaches of the Zymoetz River and Williams Creek.

The conceptual corridor enters the Kitimat River valley near the mouth of Williams Creek and then follows the east side of the Kitimat valley following the existing pipeline ROW to its terminus west of the District of Kitimat. The Kitimat valley is characterized by extensive fluvial and glacio-fluvial deposits of sands and gravels as well as marine and glacio-marine silts and clays, often at depth. Accumulations of poorly drained organic soils occur throughout the landscape. These soils generally remain un-frozen in winter due to the influence of the moderate pacific climate in the Kitimat valley.

7.2 Land Use Overview

The conceptual corridor crosses private land and Crown land. No Indian Reserves are crossed by the conceptual corridor. Primary land uses are forestry, agriculture, grazing, tourism, hunting, trapping, recreation, mineral exploration and development and rural residential. The conceptual corridor crosses the Prince George, Vanderhoof, Nadina, Skeena Stikine and Kalum Forest Districts as well as lands in the Agricultural Land Reserve. Provincial Parks with various management and recreational intentions are located in the vicinity of the conceptual corridor. No Provincial Parks, Protected Areas, Conservancy Areas, Ecological Reserves or Wildlife Management Areas are crossed by the conceptual corridor

With the exception of the existing Summit Lake compressor station, the upgrading of the remaining three existing compressor stations is expected to be undertaken wholly on the existing land owned by PNG at these sites. Should additional land be necessary for the upgrading, it will likely be on Crown Land. At the existing Summit Lake compressor station, the necessary upgrading is expected to require an entirely new site on Crown land, due to space limitations at the existing site. The new site would be located as close to the existing compressor station as reasonably possible.

The conceptual corridor crosses land use guided by Land and Resource Management Plans (LRMP), including the Prince George, Vanderhoof, Lakes District, Morice, Bulkley, and Kalum LRMPs. Sustainable Resource Management Plans (SRMP) are also crossed by the conceptual corridor and include the Lakes North, Bulkley Valley, and Kalum South SRMPs.

The following regional districts are crossed by the conceptual corridor:

- Regional District of Fraser-Fort George
- Regional District of Bulkley-Nechako
- Regional District of Kitimat-Stikine

The following municipalities are located on or near the conceptual corridor:

- City of Prince George
- District of Vanderhoof
- District of Fort St. James
- Village of Fraser Lake
- Village of Burns Lake
- District of Houston
- Village of Telkwa
- Town of Smithers
- Village of Hazelton
- City of Terrace
- District of Kitimat

8 POTENTIAL PROJECT EFFECTS

The following provides a brief overview of key physical, biological and socio-economic potential effects, as they are currently understood, that may arise from construction and operation of the Project. These issues, and others that are identified through further study and engagement, will be addressed in the environmental assessment.

Valued components (VCs) are specific attributes within the broader categories of environmental, health, heritage, economic and social matters that may be affected by the proposed Project. They are generally selected having regard to their importance to people and ecosystems, and the potential for the proposed Project to interact with them. The selected VCs and associated indicators provide useful categories on which to evaluate potential impacts of the proposed Project and inform the baseline data collection and analysis.

VCs to be considered in the preparation of an application for an environmental assessment certificate will be approved by the EAO, having regard to the requirements of the BC *Environmental Assessment Act* to assess for potentially significant adverse environmental, health, heritage, economic and social effects.

In developing its proposed VCs for consideration and approval by the EAO, PNG will use information and views obtained through engagement and consultation with Aboriginal groups, government agencies, local government, stakeholders and the public, as well as land use plans, species recovery plans, VCs used in similar projects, information gathered through route reconnaissance and preliminary assessment, and other relevant information. PNG will also ensure that the process and rationale for selecting the VCs is documented in its VC Selection document and application for an Environmental Assessment Certificate.

8.1 Physical, Biological

The potential effects of pipeline construction on aquatic species and habitat as well as terrestrial ecosystems are well known and understood. These potential effects include the deposition of sediment into watercourses, the temporary disturbance of species at

watercourse crossings, the disturbance of fish habitat, soil erosion and loss of soil capability.

The limited loss of forest cover and the exposure of bare soil can create conditions favourable for invasive weeds on both agricultural land as well as the habitat for wildlife.

Effects on wildlife and wildlife habitat can occur as a result of construction activities resulting in changes in mortality risk, sensory disturbance and habitat availability. Creating new access into presently inaccessible areas can potentially effect wildlife and fish species due to over-hunting and over-fishing as well as disturbance. Effects on migratory birds and their nests can result due to logging and clearing activities.

Mitigation measures will be developed and tailored to specific locations to address these potential impacts. These measures will be described in the environmental assessment and in environmental protection plans.

8.2 Socio-economic

Potential effects of the Project on the socio-economic environment include social, economy, land and resource use, infrastructure and services, and health aspects.

From a social and community perspective, potential effects relate to cultural and livelihood implications as well as regional population and demographic changes resulting from a temporary increase in workers. A temporary increase in workers could lead to social issues as well as an upward pressure on community and regional infrastructure and services, such as water or waste management.

During Project construction, land that will be physically disturbed could have resource use or infrastructure implications. Physical disturbance to infrastructure such as roads could occur as a result of the Project. Effects to land used for resource purposes or human occupancy, such as recreational use, forestry, and hunting and trapping could occur during construction.

Construction of the Project can potentially result in sensory disturbance to residents and land users including noise and viewshed alteration. Other potential health effects include an upward pressure on health service providers as a result of the temporary increase in construction workers.

It is anticipated that the Project will result in a range of economic benefits and opportunities locally, regionally, provincially and nationally.

Potential land use issues, including positive economic benefits will be identified and where necessary, mitigation measures will be developed to avoid or reduce Project-related negative effects.

8.3 Aboriginal Communities' Traditional Use, Knowledge and Wisdom

Section 5 identifies the Aboriginal communities whose traditional territory is crossed by the conceptual corridor that is being considered by the Project. PNG expects to work with directly affected Aboriginal communities to prepare Traditional Use Studies (TUS) for their respective traditional territories. In some cases, these Aboriginal communities will have already prepared such documentation.

While these data and information may be considered confidential by the Aboriginal communities and, therefore, details of which may not be included in the environmental assessment application, the information will be used in the development of mitigation plans and environmental protection plans as developed through discussions between PNG and the Aboriginal parties.

8.4 Heritage and Archaeological Resources

As part of the environmental assessment, an Archaeological Overview Assessment (AOA) will be undertaken with the involvement of affected Aboriginal communities and under permit to the Heritage Conservation Branch. An Archaeological Impact Assessment (AIA) will be undertaken at sites identified in the AOA. The results of the archaeological assessment will be used to develop effective protection measures for heritage resource values through mitigation and avoidance techniques.

The anticipated key issues associated with the Project regarding heritage resources include direct and indirect impacts on archaeological sites, paleontological sites and historical sites. Areas of particular interest at this time include areas of high or moderate archaeological potential identified by resource proximity and access, traditional, ethnographic, and historical land use characteristics, and known archaeological site proximity.

All identified sites will be mapped, photographed, recorded, and the sites' relationship to the proposed development's impact zone determined. Based on the results of the initial testing stage, recommendations regarding the mitigation options will be reviewed with affected Aboriginal communities and provided to the appropriate regulatory authority.

8.5 Public Health Effects

The construction of the Project will result in short-term increases in noise levels, air emissions from construction equipment operation, and dust from vehicle use of access roads and the pipeline ROW. Operation of the compressor stations will result in noise and air emissions but will be within applicable regulatory requirements.

The environmental assessment will identify water wells and licensed points of diversion. Where necessary, mitigation measures will be implemented to avoid effects on this water infrastructure.

The environmental assessment will undertake noise and air quality assessments and modelling to understand the potential effects of the Project on air quality and the

acoustic environment, and to ensure that appropriate mitigation is undertaken to avoid or reduce those potential effects.

8.6 Accidents and Malfunctions

The potential effects of accidents and malfunctions that may occur during the construction and operation of the Project will be considered in the environmental assessment. This assessment will include the potential effects on the biophysical and the human environment leading to the development of effective management and mitigation measures and programs. These measures and programs will be appropriately linked into plans maintained by other affected local agencies (e.g., emergency response plans).

8.7 Potential Cumulative Effects

A Cumulative Effects Assessment (CEA) will be undertaken for the Project. The CEA will evaluate the residual environmental and socio-economic effects directly associated with the Project, in combination with the likely residual effects arising from other projects and activities that have been or will be carried out in the Project study areas. The other projects and activities to be included in the CEA will be identified as the environmental assessment progresses.

Detailed methodology and rationale used to determine if the proposed Project is expected to have significant adverse cumulative effects and how the other projects will be identified will be provided in PNG's application for an Environmental Assessment Certificate. The environmental assessment and the cumulative effects assessment will be informed by:

- approved land use plans that designate the most appropriate activities on the land base;
- baseline studies and historical data that factor in the effects of past development and set out the current conditions; and
- potential overlapping impacts due to present developments.

9 CONCLUSION

PNG is pleased to submit this Project description to initiate the approval process for the PNG Looping Project (PNGL). PNG has a proven track record in dealing honestly and effectively with Aboriginal Communities and Stakeholders on its projects and is well respected in the communities it serves along the pipeline loop. This reputation will ensure that its activities will be carried out in a manner that is respectful of the environment and social values.

Appendix A

Concordance with the BC Environmental Assessment Office Guidance for a Project Description

Concordance with the BC Environmental Assessment Office Guidance for a Project Description

BC EAO Guidance	Section of PD
Proponent Information	
<ul style="list-style-type: none"> - The proponent's name and the representative managing the project. - Contact information, including a mailing address, phone and fax numbers, and email addresses. - Corporate information, including a website address, particulars of company incorporation, and partners' names (if applicable). 	1
General Background Information	
<ul style="list-style-type: none"> - The type and size of the project, with specific reference to the thresholds set out in the Reviewable Projects Regulation. 	1
<ul style="list-style-type: none"> - Project purpose and rationale. - Estimated capital cost. - Number of construction jobs (in person years) and operating jobs (actual number). 	2
<ul style="list-style-type: none"> - Location (latitude and longitude). 	4
Project Overview	
<ul style="list-style-type: none"> - A brief description of the major on-site and off-site project components, including options if the final site selections are not yet available. 	4
<ul style="list-style-type: none"> - A conceptual site plan and map(s) at sufficient scale to allow for clear location of all major components of the project (proponents may wish to include photographs if these would be helpful to understanding the nature and location of the proposed project). 	Appendix C
<ul style="list-style-type: none"> - The project's duration, including decommissioning if appropriate. 	4
<ul style="list-style-type: none"> - The project's potential environmental, economic, social, heritage and health effects (in general terms). 	8
Land Use Setting	
<ul style="list-style-type: none"> - A general description of existing land use in the vicinity of the project site. - Whether the project and its components are situated on private or Crown land. 	7
<ul style="list-style-type: none"> - Information about First Nations interests where asserted claims to rights or title are known. 	5
Consultation Activities	
<ul style="list-style-type: none"> - A summary of consultation activities that have been carried out with First Nations, the public and local governments. 	5 and 6
Proposed Development Schedule	
<ul style="list-style-type: none"> - A tentative schedule for submitting an application for an environmental assessment certificate and developing the project (should a certificate be issued). 	4

BC EAO Guidance Required Permits	Section of PD
– A list of required permits, if known.	1 and 3

Appendix B

Concordance with the Federal Prescribed Information for the Description of a Designated Project Regulation

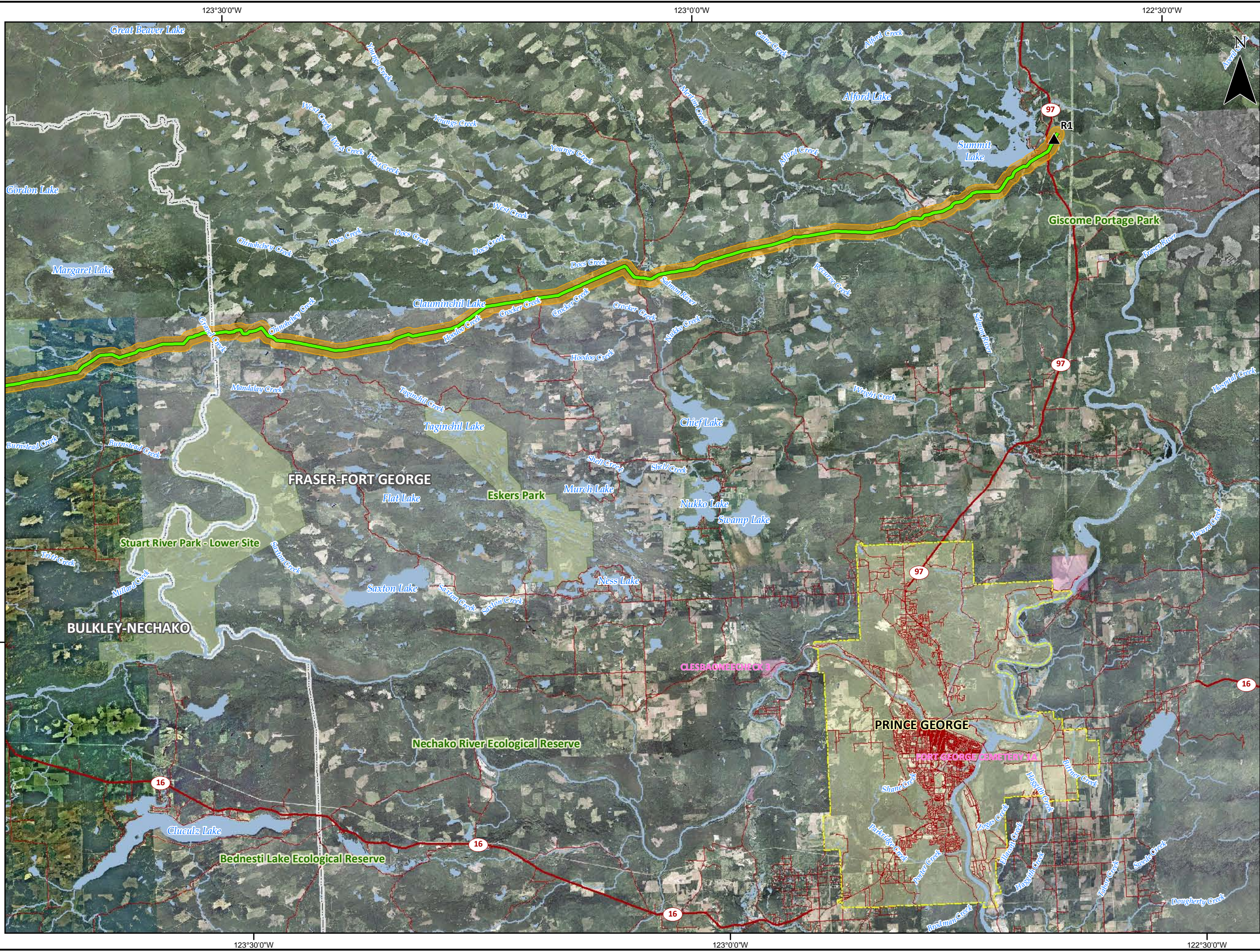
Concordance with the Federal Prescribed Information for the Description of a Designated Project Regulation

CEAA Guidance	Section of PD
General Information	
1. The project's name, nature and proposed location.	1 and 2
2. The proponent's name and contact information and the name and contact information of their primary representative for the purpose of the description of the project.	1
3. A description of and the results of any consultations undertaken with any jurisdictions and other parties including Aboriginal peoples and the public.	5 and 6
4. Other relevant information, including (a) the environmental assessment and regulatory requirements of other jurisdictions; and (b) information concerning any environmental study that is being or has been conducted of the region where the project is to be carried out.	1 and 2
Project Information	
5. A description of the project's context and objectives. 6. The provisions in the schedule to the Regulations Designating Physical Activities describing the project in whole or in part.	1
7. A description of the physical works that are related to the project including their purpose, size and capacity. 8. The anticipated production capacity of the project and a description of the production processes to be used, the associated infrastructure and any permanent or temporary structures. 9. A description of all activities to be performed in relation to the project.	2 and 4
10. A description of any solid, liquid, gaseous or hazardous waste that is likely to be generated during any phase of the project and of plans to manage those wastes. 11. A description of the anticipated phases of and the schedule for the project's construction, operation, decommissioning and abandonment.	4
Project Location Information	
12. A description of the project's location, including (a) its geographic coordinates; (b) site maps produced at an appropriate scale in order to determine the project's overall location and the spatial relationship of the project components; (c) the legal description of land to be used for the project, including the title, deed or document and any authorization relating to a water lot;	4, 5 and 8 Appendix C

<p>(d) the project's proximity to any permanent, seasonal or temporary residences;</p> <p>(e) the project's proximity to reserves, traditional territories as well as lands and resources currently used for traditional purposes by Aboriginal peoples; and</p> <p>(f) the project's proximity to any federal lands.</p>	
Federal Involvement	
<p>13. A description of any financial support that federal authorities are, or may be, providing to the project.</p> <p>14. A description of any federal land that may be used for the purpose of carrying out the project.</p>	3
Environmental Effects	
<p>15. Any federal legislative or regulatory requirements that may be applicable including a list of permits, licences or other authorizations that may be required in order to carry out the project.</p>	1
<p>16. A description of the physical and biological setting.</p> <p>17. A description of any changes that may be caused, as a result of carrying out the project, to</p> <ul style="list-style-type: none"> (a) fish as defined in section 2 of the <i>Fisheries Act</i> and fish habitat as defined in subsection 34(1) of that Act; (b) aquatic species, as defined in subsection 2(1) of the <i>Species at Risk Act</i>; and (c) migratory birds, as defined in subsection 2(1) of the <i>Migratory Birds Convention Act, 1994</i>. <p>18. A description of any changes to the environment that may occur, as a result of carrying out the project, on federal lands, in a province other than the province in which the project is proposed to be carried out or outside of Canada.</p> <p>19. Information on the effects on Aboriginal peoples of any changes to the environment that may be caused as a result of carrying out the project, including effects on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes or on any structure, site or thing.</p>	7 and 8
Summary	
A summary of the information required under sections 1 to 19.	Appendix E

Appendix C

Conceptual Corridor Maps



July 2013

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PNG LOOPING PROJECT

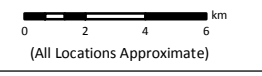
PROPOSED PIPELINE CORRIDOR

10143

- Compressor Station
- Proposed Pipeline Corridor*
- Existing PNG Pipeline Network
- Highway
- Road
- Railway
- Watercourse
- Waterbody
- Regional District
- City/Town
- First Nations Land
- Park/Protected Area

*Total swath width of proposed pipeline corridor is equal to one kilometre where corridor closely follows existing pipeline route, and two kilometres in all other areas.

SCALE: 1:250,000



(All Locations Approximate)



Projection: BC Albers. Datum: NAD 1983.
 Pipeline Routes, Compressor Stations: IPP, 2013; Roads: IHS Inc. 2013; Railways: Natural Resources Canada 2012; Hydrography: IHS Inc. 2004 OR Natural Resources Canada 2007-2011; Municipal Boundaries, Settlements: BC Forests, Lands and Natural Resource Operations 2007; Regional Districts: BC Forests, Lands and Natural Resource Operations 2007; First Nations Land: Government of Canada 2013; Parks: Natural Resources Canada 2013 OR BC Forests, Lands and Natural Resource Operations 2008; Imagery: Government of British Columbia 1997-2004.

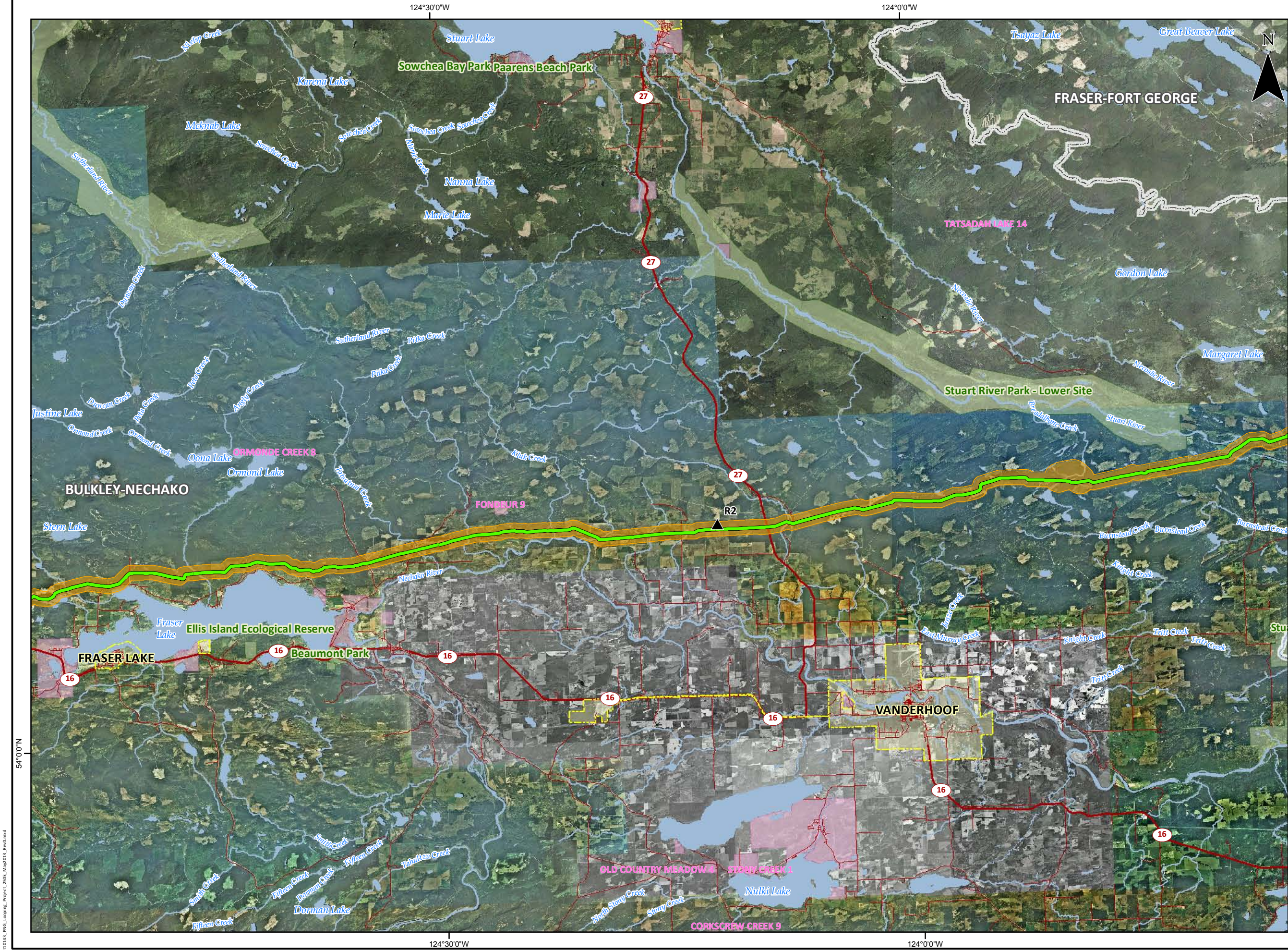
Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.

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PNG LOOPING PROJECT

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PNG LOOPING PROJECT

PROPOSED PIPELINE CORRIDOR

10143

- Compressor Station
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SCALE: 1:250,000

(All Locations Approximate)

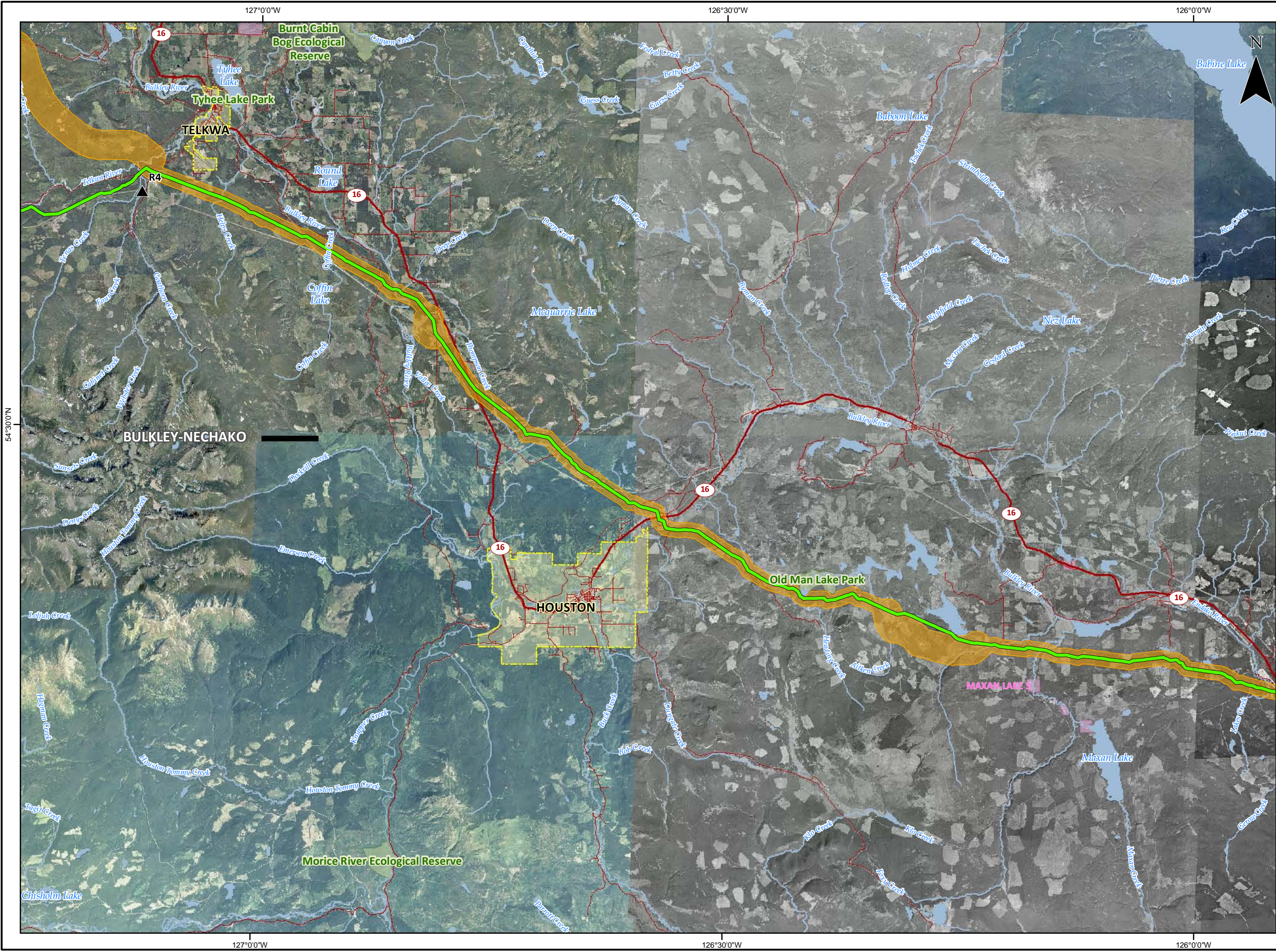


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PNG LOOPING PROJECT

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(All Locations Approximate)



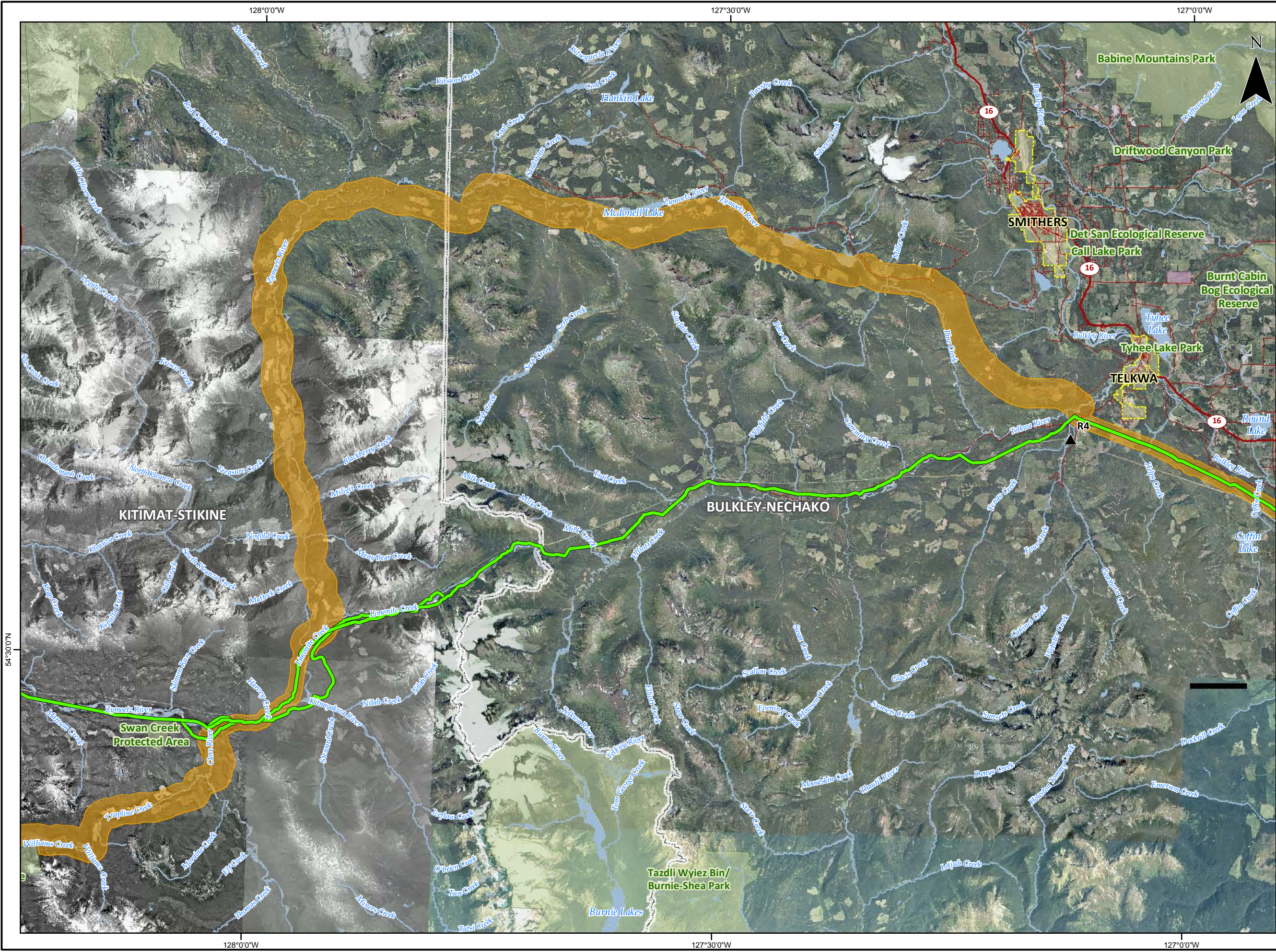
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PNG LOOPING PROJECT

PROPOSED PIPELINE CORRIDOR

10143

- Compressor Station
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SCALE: 1:250,000

(All Locations Approximate)



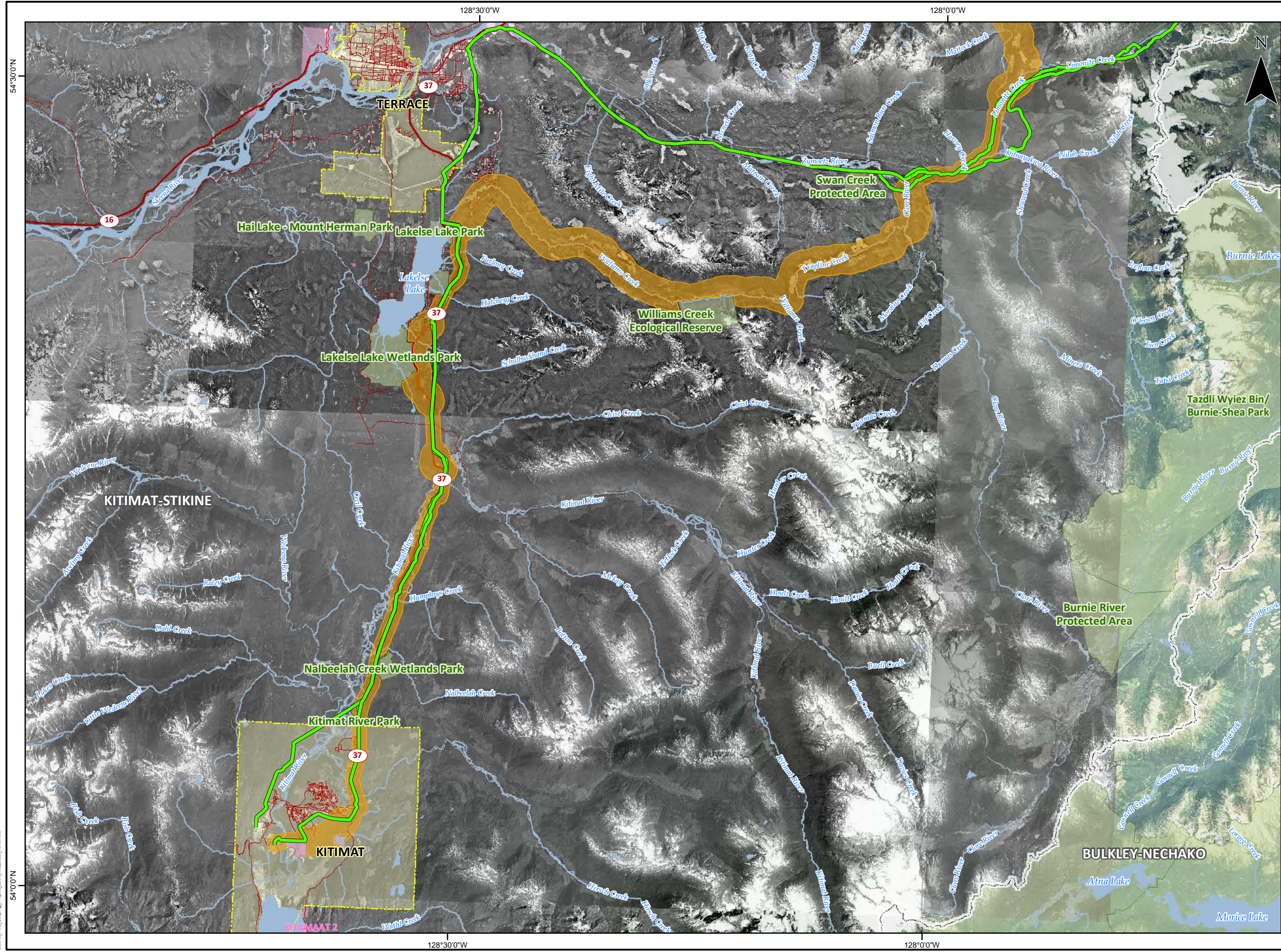
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PNG LOOPING PROJECT

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Appendix D

Major Watercourse Crossings

Major Watercourse Crossings

Major Watershed	Secondary Watershed	Watercourse Name	Stream Class	Likely Fish Species Present
Peace	Crooked River	Thorps Creek	S3	Brassy Minnow, Lake Chub, Longnose Sucker, Northern Pikeminnow, Peamouth Chub, Redside Shiner, White Sucker
Peace	Crooked River	Echo Creek	S3	Peamouth Chub
Fraser	Fraser River	Salmon River ¹	S1	Burbot, Brassy Minnow, Prickly Sculpin, Sculpin (General), Chinook Salmon, Dace (General), Dolly Varden, Kokanee, Leopard Dace, Longnose Sucker, Mountain Whitefish, Northern Pikeminnow, Pink Salmon, Rainbow Trout, Redside Shiner, Sucker (General), Whitefish (General)
Fraser	Fraser River	Crocker Creek ¹	S3	Expected to be fish bearing.
Fraser	Stuart River	Chinohchey Creek	S3	Chinook Salmon, Rainbow Trout
Fraser	Stuart River	Gravel Creek	S1	No information.
Fraser	Stuart River	Stuart River	S1	Burbot, Bridgelip Sucker, Prickly Sculpin, Chinook Salmon, Coho Salmon, Largescale Sucker, Dolly Varden, Kokanee, Longnose Dace, Longnose Sucker, Northern Pikeminnow, Peamouth Chub, Rainbow Trout, Redside Shiner, Sockeye Salmon, Whitefish (General), White Sturgeon
Fraser	Stuart River	Breadalbane Creek	S3/S4	Chinook Salmon, Northern Pikeminnow
Fraser	Nechako River	Clear Creek	S4	Lake Chub, Longnose Sucker
Fraser	Nechako River	Redmond Creek	S4	No information.
Fraser	Nechako River	Trankle Creek	S4	No information.
Fraser	Nechako River	Hasley Creek	S3/S4	No information.
Fraser	Nechako River	Kluk Creek	S2/S3	Rainbow Trout
Fraser	Nechako River	Nine Mile Creek	S3/S4	No information.
Fraser	Nechako River	Tatsutnai Creek	S3	Expected to be fish bearing.
Fraser	Nechako River	Ormond Creek	S3	Chinook Salmon, Dolly Varden, Kokanee, Rainbow Trout, Sockeye Salmon
Fraser	Nechako River	Stern Creek	S3	Expected to be fish bearing.
Fraser	Nechako River	Perry Creek ¹	S3/S4	Expected to be fish bearing.
Fraser	Nechako River	Tatin Creek	S3/S4	No information.

Fraser	Nechako River	Four Mile Creek	S3	Expected to be fish bearing.
Fraser	Nechako River	Cheskwa Creek	S3	No information.
Fraser	Nechako River	Shovel Creek	S3	No information.
Fraser	Nechako River	Sheraton Creek	S3	No information.
Fraser	Nechako River	Tintagel Creek	S3/S4	Rainbow Trout
Fraser	Nechako River	Decker Creek	S4	Rainbow Trout
Fraser	Nechako River	Powder House Creek	S2/S3	Rainbow Trout
Fraser	Nechako River	Endako River	S1	Burbot, Prickly Sculpin, Chinook Salmon, Kokanee, Leopard Dace, Lake Chub, Longnose Dace, Longnose Sucker, Mountain Whitefish, Northern Pikeminnow, Rainbow Trout, Redside Shiner, Sockeye Salmon
Fraser	Nechako River	Lakes Creek	S4	Rainbow Trout
Skeena	Bulkley River	Maxan Creek	S2/S3	Chinook Salmon, Coho Salmon, Dolly Varden, Longnose Sucker, Mountain Whitefish, Rainbow Trout, Sockeye Salmon
Skeena	Bulkley River	Crow Creek	S2/S3	Coho Salmon, Pacific Lamprey, Rainbow Trout
Skeena	Bulkley River	Heading Creek	S2/S3	No information.
Skeena	Bulkley River	Bulkley River ¹	S1	Cutthroat Trout (Anadromous), Burbot, Bull Trout, Prickly Sculpin, Sculpin (General), Slimy Sculpin, Chinook Salmon, Coho Salmon, Largescale Sucker, Cutthroat Trout, Dolly Varden, Lamprey (General), Lake Chub, Longnose Dace, Longnose Sucker, Lake Trout, Lake Whitefish, Mountain Whitefish, Pink Salmon, Rainbow Trout, Redside Shiner, Sockeye Salmon, Steelhead, Sucker (General), Threespine Stickleback
Skeena	Bulkley River	Thompson Creek	S2/S3	Cutthroat Trout
Skeena	Bulkley River	Deep Creek	S2/S3	Minnow (General), Rainbow Trout
Skeena	Bulkley River	Coffin Creek	S2/S3	Cutthroat Trout, Dolly Varden, Rainbow Trout
Skeena	Bulkley River	Hubert Creek	S2/S3	No information.
Skeena	Bulkley River	Helps Creek	S2/S3	Burbot, Chinook Salmon, Coho Salmon, Cutthroat Trout, Dolly Varden, Longnose Dace, Rainbow Trout, Steelhead
Skeena	Bulkley River	Tenas Creek	S2/S3	Bull Trout, Dolly Varden, Mountain Whitefish, Rainbow Trout, Steelhead

Skeena	Bulkley River	Telkwa River	S1	Chinook Salmon, Coho Salmon, Dolly Varden, Mountain Whitefish, Pink Salmon, Steelhead
Skeena	Bulkley River	Pine Creek ¹	S2	Coho Salmon, Cutthroat Trout, Dolly Varden, Mountain Whitefish, Pink Salmon
Skeena	Zymoetz River	Spruce Camp Creek	S2	No information.
Skeena	Zymoetz River	Henderson Creek	S2	Cutthroat Trout
Skeena	Zymoetz River	Silvern Creek	S2/S3	Coho Salmon, Dolly Varden, Socheye Salmon, Steelhead
Skeena	Zymoetz River	Zymoetz River ¹	S2	Burbot, Prickly Sculpin, Sculpin (General), Chinook Salmon, Chum Salmon, Coho Salmon, Cutthroat Trout, Dolly Varden, Kokanee, Longnose Dace, Mountain Whitefish, Peamouth Chub, Pink Salmon, Rainbow Trout, Sockeye Salmon, Steelhead
Skeena	Zymoetz River	Sandstone Creek	S2	Cutthroat Trout, Dolly Varden, Rainbow Trout
Skeena	Zymoetz River	Coal Creek	S2	Coho Salmon, Cutthroat Trout, Dolly Varden, Rainbow Trout, Steelhead
Skeena	Zymoetz River	Treasure Creek	S2	Dolly Varden, Rainbow Trout, Steelhead
Skeena	Zymoetz River	Many Bear Creek	S2	Dolly Varden
Skeena	Zymoetz River	Limonite Creek ¹	S2	Chinook Salmon, Coho Salmon, Dolly Varden, Rainbow Trout
Skeena	Zymoetz River	Kitnayakwa River	S2	No information.
Skeena	Zymoetz River	Clore River	S1	Burbot, Chinook Salmon, Coho Salmon, Cutthroat Trout, Dolly Varden, Kokanee, Mountain Whitefish, Rainbow Trout, Steelhead
Skeena	Zymoetz River	Trapline Creek ¹	S2	Coho Salmon, Dolly Varden, Steelhead
Skeena	Lakelse River	Williams Creek	S1	Sculpin (General), Chinook Salmon, Chum Salmon, Coho Salmon, Cutthroat Trout, Dolly Varden, Mountain Whitefish, Rainbow Trout, Sockeye Salmon, Steelhead
Skeena	Lakelse River	Furlong Creek	S2	Coho Salmon, Cutthroat Trout
Skeena	Lakelse River	Hatchery Creek	S2	Coastrange Sculpin, Sculpin (General), Coho Salmon, Cutthroat Trout, Dolly Varden,

				Pink Salmon, Sockeye Salmon, Westslope (Yellowstone) Cutthroat Trout
Skeena	Lakelse River	Schulbuckhand Creek	S3	Sculpin (General), Chum Salmon, Coho Salmon, Cutthroat Trout, Dolly Varden, Pink Salmon, Sockeye Salmon
Kitimat	North Coast Rivers	Kitimat River ¹	S1	Cutthroat Trout (Anadromous), Coastrange Sculpin, Prickly Sculpin, Chinook Salmon, Staghorn Sculpin, Chum Salmon, Coho Salmon, Cutthroat Trout, Dolly Varden, Eulachon, Kokanee, Lamprey (General), Pink Salmon, Pacific Lamprey, Rainbow Trout, Stickleback (General), Sockeye Salmon, Steelhead, Threespine Stickleback
Kitimat	North Coast Rivers	Humphreys Creek	S3	No information.
Kitimat	North Coast Rivers	Nalbeelah Creek	S2	Coastrange Sculpin, Prickly Sculpin, Chinook Salmon, Chum Salmon, Coho Salmon, Cutthroat Trout, Dolly Varden, Lamprey (General), Pink Salmon, Rainbow Trout, Stickleback (General), Steelhead, Threespine Stickleback
Kitimat	North Coast Rivers	Anderson Creek	S2	Chum Salmon, Coho Salmon, Pink Salmon

Notes: Unnamed watercourses are crossed by the proposed route and have not been identified above.

List of fish species is from the BC Ministry of Environment database and lists all known species in the watershed. Site-specific information was not collected.

Stream classification determination is preliminary.

¹ Watercourse crossing occurs at more than one location.

Appendix E

Executive Summary

PACIFIC NORTHERN GAS LOOPING PROJECT



Executive Summary

July 2013

Submitted by:



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1 INTRODUCTION

Pacific Northern Gas Ltd. (PNG or The Company) is proposing to loop its existing natural gas transmission system between Summit Lake, BC and Kitimat, BC in order to serve new small scale LNG projects proposed to be constructed in Kitimat. The Project is referred to as the “PNG Looping Project” (PNGL or Project) and involves the construction and operation of approximately 525km of 24” (610mm) diameter 1440 psig pipe between Summit Lake (north of Prince George) and Kitimat. Figure 1-1 illustrates the general location of the existing PNG pipe that would be looped or “twinning” by this proposed project. The Project also includes the upgrading of four existing PNG compressor stations. One new compressor station site is expected to be required due to space limitations while the remaining 3 existing compressor stations are expected to be adequate for the upgrades although it is possible that additional land will need to be acquired adjacent to the existing sites to accommodate the proposed Project.

The new pipeline will operate in parallel with the existing pipeline to increase the overall transmission capacity of the PNG transmission system in order to meet the requirements of its existing customers and the proposed LNG facilities.

The Project also involves the upgrading of metering facilities at the receipt and delivery points of the pipeline and upgrade of odorant injection facilities at the delivery point

The Project will have an initial capacity of approximately 600 million standard cubic feet per day (MMscfd).

In addition to these facilities, the Project would require temporary infrastructure during construction, such as access roads, temporary bridges, stockpile sites, borrow sites, contractor yards and construction camps.

1.1 Proponent Information

Pacific Northern Gas Ltd. is the proponent of the Project and is seeking an Environmental Assessment Certificate pursuant to the BC *Environmental Assessment Act* as well as approval pursuant to the *Canadian Environmental Assessment Act, 2012* and a permit to construct and operate the Project pursuant to the BC *Oil and Gas Activities Act*.

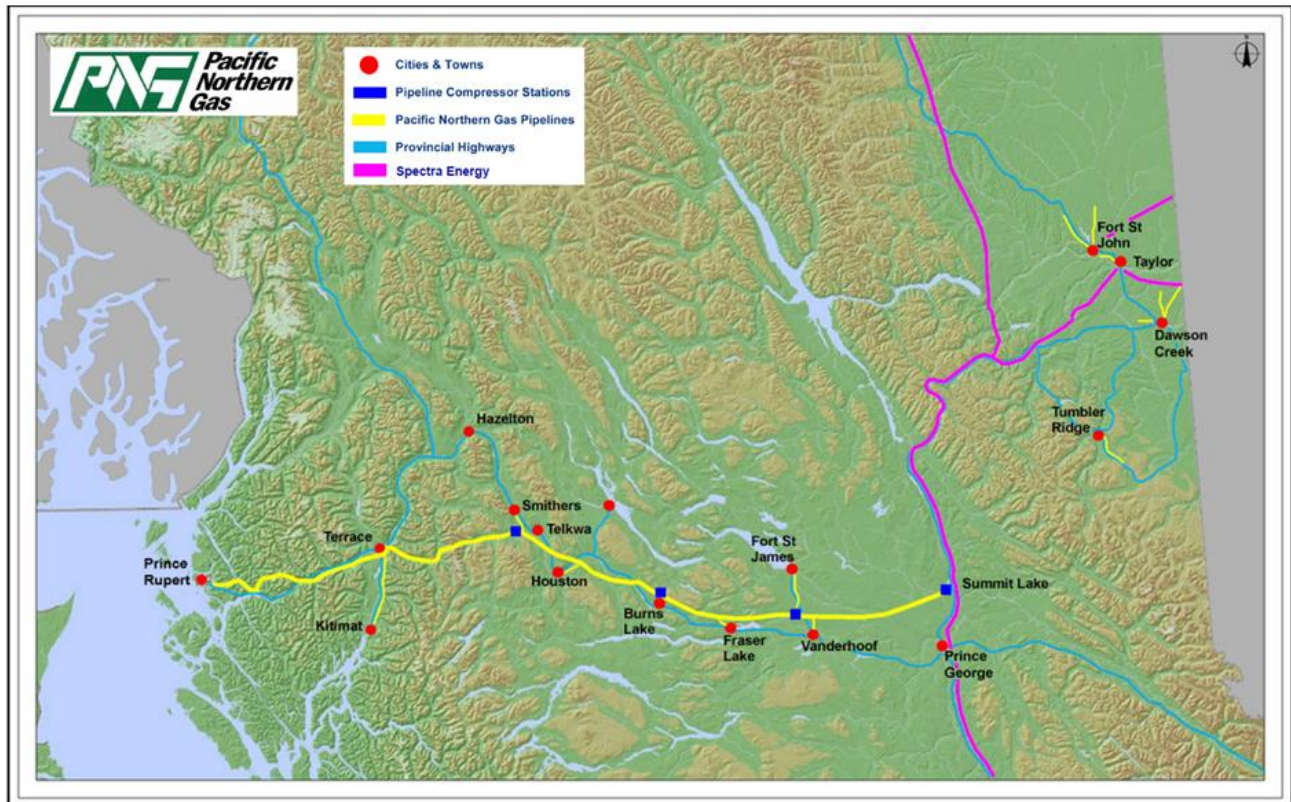
PNG is a company regulated under the *BC Utilities Commission Act* and consequently, the Project will require approval from the BC Utilities Commission.

PNG will draw on its expertise, experience and resources in the course of designing, constructing and operating the Project. PNG is a leader in the responsible development and reliable operation of natural gas infrastructure in the northeastern and west central areas of BC. PNG has been providing natural gas to residential, commercial and industrial customers in this area of BC for over 45 years. PNG has an established track

record for operational excellence and has developed and maintained relationships with landowners, Aboriginal communities and other stakeholders across its pipeline system.

PNG is committed to designing, constructing and operating the Project in a safe and environmentally responsible manner that respects the communities within which it operates. In this regard, PNG will be adopting and implementing many of the company's policies, such as the PNG Environmental, Health and Safety Policy.

Figure 1-1. General Location of the Existing PNG Natural Gas Pipeline System



1.1.1 Proponent Contact Information

The primary contact for the Project is:

Mr. Greg Weeres, P.Eng., President
 #950 – 1185 West Georgia Street
 Vancouver, BC V6E 4E6
 Tel: 604-691-5677

Email: gweeres@png.ca

Alternate contacts are:

Mr. Mark Walmsley phone 250-480-1170, email mark.walmsley@shaw.ca
 Mr. Bill Manery, P.Eng. phone 604-599-5960, email wmanery@telus.net
 Mr. Tom Leach – PNG Terrace, phone 250-638-5325, email tleach@png.ca

1.2 Regulatory Framework

The Project is wholly located within the province of BC and involves the construction of more than 40 km of pipeline that is greater than 323.9 mm in diameter. Accordingly, pursuant to Table 8, section 4 of the *Reviewable Projects Regulation*, an Environmental Assessment Certificate pursuant to the British Columbia *Environmental Assessment Act* will be required. A project description is required to initiate the provincial environmental assessment process.

Pursuant to section 14 of the schedule to the federal *Regulations Designating Physical Activities*, a project involving the construction, operation, decommissioning and abandonment of a gas pipeline more than 75 km in length of new right-of-way (ROW) is a designated project. As the Project likely meets this criteria, it is likely a designated project and is therefore subject to the provisions of the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). Under CEAA 2012, a project description is required to initiate the screening process through which the Canadian Environmental Assessment Agency will determine whether a federal environmental assessment is required.

This complete document is intended to satisfy both the provincial and federal requirements for a project description, initiating the environmental assessment process under both the BC *Environmental Assessment Act* and CEAA 2012. A concordance table for BC EAO and CEAA guidance is included in the Appendix (Appendices A and B of the Project Description). PNG expects that if an assessment is required under CEAA 2012, the federal and provincial assessment processes would be harmonized pursuant to the *Canada-British Columbia Agreement on Environmental Assessment Cooperation (2004)*.

PNG will also require for the Project the necessary permits to construct and operate a pipeline pursuant to section 25 of the BC *Oil and Gas Activities Act* (OGAA) and because PNG and its existing pipeline facilities are regulated under the BC Utilities Commission Act, a Certificate of Public Convenience and Necessity will be sought from the British Columbia Utilities Commission.

1.2.1 Permits, Licences, Approvals and Authorizations Required

In addition to the authorizations described above, the following permits, licenses, approvals and authorizations might be required. The permits and authorizations have been grouped according to the project phase during which they will be required.

Field Programs

- Various permits and authorizations under the BC OGAA, as issued by the BC Oil and Gas Commission (BC OGC), including but not limited to:
 - o an approval under the BC *Water Act* for work “in and about a stream”;
 - o a Licence of Occupation under the BC *Land Act*; and
 - o an approval under the BC *Forests Act* for timber harvesting and disposal on Crown land.

- An approval under Section 14 of the BC *Heritage Conservation Act* for a Heritage Inspection Permit.
- Fish Research Licence and collection permits from the British Columbia Ministry of Forests, Lands and Natural Resource Operation (BC MFLNRO).

Construction

- Approval under Section 35(2) of the federal *Fisheries Act*.
- Approval under Section 5(2) of the federal *Navigable Waters Protection Act*.
- Various permits and authorizations under the BC OGAA, as issued by the BC OGC, including by not limited to:
 - o An approval under the BC *Water Act* for work “in and about a stream”;
 - o a Licence of Occupation under the BC *Land Act*; and
 - o an approval under the BC *Forests Act* for timber harvesting and disposal on Crown land.
- Various permits from municipal and provincial authorities pertaining to specific activities, such as burning and clearing.

2 PROJECT OVERVIEW

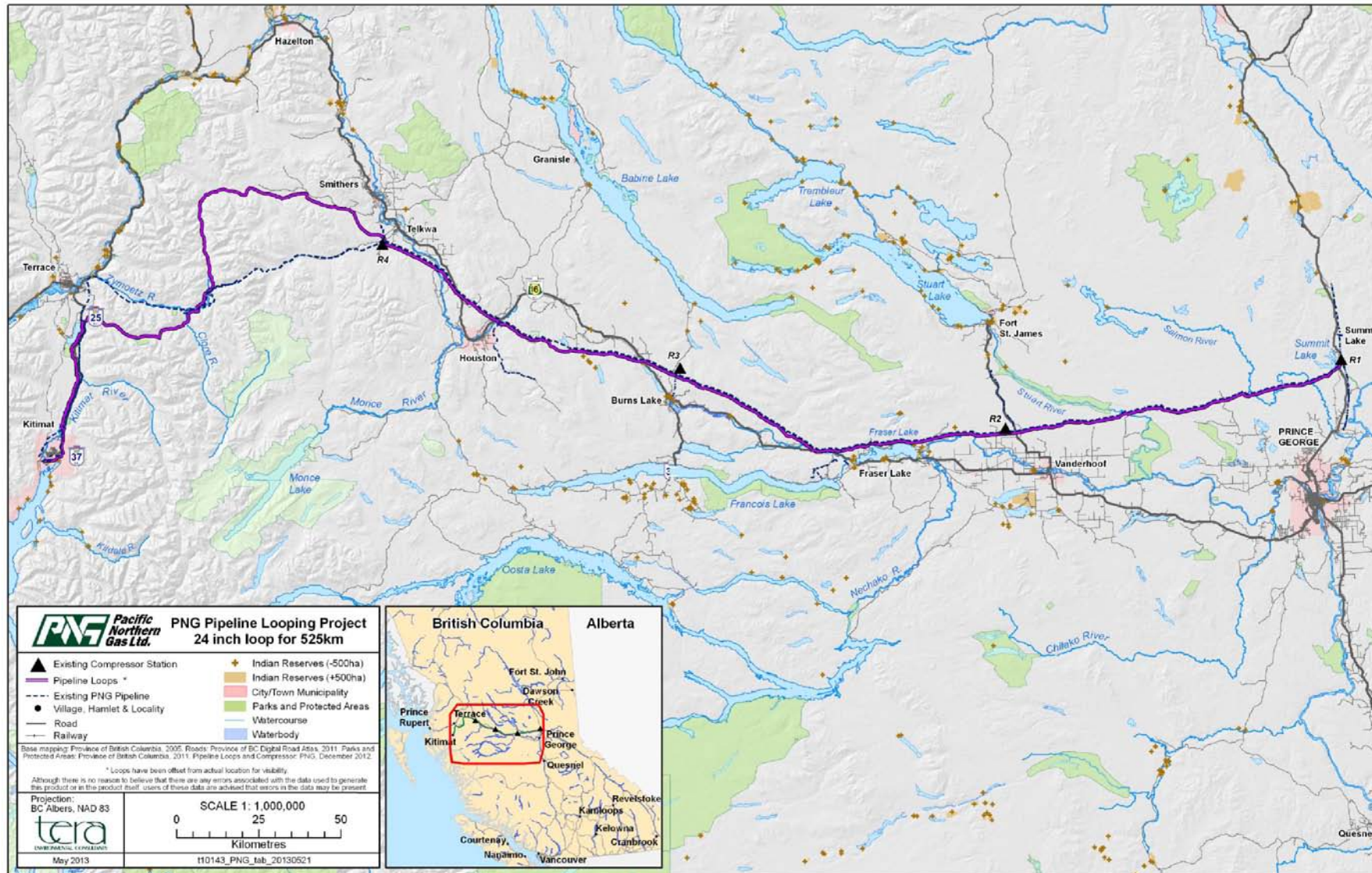
PNG is proposing to construct and operate an approximately 525 km long natural gas pipeline loop of its existing natural gas transmission pipeline from Summit Lake north of Prince George to the community of Kitimat. The Project crosses the Fraser-Fort George, Bulkley-Nechako and Kitimat-Stikine regional districts and is within the Prince George and Prince Rupert Land Districts.

The Project also includes the upgrading or installation of new metering facilities at the receipt and delivery points and the upgrading of four existing PNG compressor stations and existing odorant injection facilities.

In addition, temporary infrastructure will be required during construction, such as access roads, stockpile sites, borrow sites, contractor yards and perhaps construction camps. New electrical power lines and facilities may be required for certain facilities, but are expected to be constructed, owned and operated by third-party power providers, if required.

At this stage, the route for the Project is a conceptual corridor (see Figure 2-1) that will be refined through continued technical, environmental and constructability assessments, as well as consideration of input from Aboriginal groups, landowners and stakeholders.

Figure 2-1. General Study Area



2.1 Project Purpose and Rationale

The purpose of the Project is to construct and operate a buried pipeline to transport natural gas from the Spectra Energy pipeline system at Summit Lake to new small scale LNG export facilities proposed to be constructed at Kitimat, BC.

The purpose of the proposed pipeline loop is driven by two key factors. Firstly, the proposed pipeline facilities will increase the capacity of the PNG system for the purpose of transporting natural gas from the Spectra Energy pipeline system at Summit Lake to the proposed LNG export facilities at Kitimat. Secondly, the proposed loop will enable PNG to provide a more secure supply of natural gas to its customers at competitive rates, including the increased delivery of natural gas to its customers in Prince Rupert, if and when required. By constructing the PNG Looping Project, PNG anticipates a significant reduction in natural gas transportation costs to its existing customers.

Estimated Capital Cost and Employment

Total expenditures on the Project are presently forecast to be approximately \$1.3 billion (in 2013 dollars). At this time, PNG estimates the Project will generate approximately 1800 – 2400 direct person-years of work during construction and minimal new operating jobs as a result of PNG's existing work force.. There will be tax benefits to Kitimat and the regional districts crossed by the pipeline. Gas transmission cost benefits will also accrue to existing PNG gas customers. The specific data required to determine the number of person years of employment are not yet available. The complete Project labour requirements and economic effects will be further defined and assessed as Project planning progresses.

2.2 Project Planning Undertaken to Date

To date, PNG has undertaken the following studies to define the Project:

- conceptual corridor location studies;
- preliminary meter station location studies;
- preliminary compressor station location studies;
- environmental overview (including a review of available information about fisheries, wildlife and vegetation values);
- land use and socio-economic overview; and
- preliminary discussions with regulatory agencies, Aboriginal groups and the public.

2.3 Areas of Federal Interest

The Project as planned does not require federal financial support, nor does the Project require an interest in federal land.

The conceptual corridor crosses the asserted traditional territories of 18 First Nations. The potential environmental effects of the Project may affect various aspects of the livelihood and use of traditional resources of Aboriginal people in the region. Potential effects on Aboriginal people will be considered and mitigation developed through the Project's ongoing program of Aboriginal engagement and the integration of traditional

ecological knowledge and the results of traditional land use studies into the environmental assessment.

2.3.1 Federal Authorizations

Federal authorizations may be required pursuant to the following legislation:

Fisheries Act

The Project may require authorization(s) pursuant to the *Fisheries Act* if Fisheries and Oceans Canada determines that the project may bring about a harmful alteration, disruption or destruction of fish habitat. The Project activities associated with the construction and operation may interact with fish and fish habitat.

Species at Risk Act

The Project may require authorization(s) pursuant to the *Species at Risk Act* if it is determined that the Project will affect a species listed on Schedule 1 of the Act, any part of its critical habitat or the residences of its individuals.

Migratory Birds Convention Act

The Project will comply with the requirements of the *Migratory Birds Convention Act*.

Navigable Waters Protection Act

The Project may require authorization(s) pursuant to the *Navigable Waters Protection Act*, if it is determined that the Project activities include works built in, on, over, under, through or across any navigable water that may interfere with navigation.

3 PROJECT SCOPE

This section provides a description of the Project components, the schedule and activities in the various phases of the Project.

3.1 Scope of the Project

The Project scope includes the facilities and activities associated with the construction, operation and maintenance of the Project, as well as foreseeable changes to the Project. Where relevant, the Project also includes the decommissioning, abandonment and reclamation of the pipeline and its associated facilities. The Project components are described as follows:

Pipeline

The approximately 525 km of NPS 24 (610 mm) diameter natural gas transmission pipeline will extend from Summit Lake located north of Prince George to the proposed LNG export facilities at Kitimat BC. The Project commencement point and end point are in the general vicinity of the coordinates provided in Table 3-1. Maps showing the conceptual corridor are provided in the Appendix C of the Project Description.

Table 3-1 Project Location

Project Commencement Point	
Latitude/Longitude	54 17 17.409 Lat., 122 37 02.533 Long.
Universal Transverse Mercator	Zone 10, 524907.6Easting, 6015651.7 Northing
BC Oil and Gas Grid	93J7A
Project End Point	
Latitude/Longitude	54 01 58.872 Lat., 128 41 07.956 Long.
Universal Transverse Mercator	Zone 9, 520596.7 Easting, 5987117.6 Northing
BC Oil and Gas Grid	103I2B

Meter Stations

The meter stations involve the installation of metering runs, yard piping, isolation and control valves, electrical, control and telecommunication systems. Currently, the Project includes the installation of metering facilities at:

- the commencement point of the Project at the existing Summit Lake meter station; and
- the delivery point at the existing PNG Methanex meter station site at Kitimat, for custody transfer to the proposed LNG export facilities.

Compressor Station(s)

The Project may require the installation of one (1) new greenfield compressor station at Summit Lake due to the lack of suitable space for the new compressor at the existing PNG Compressor Station. The remaining three (3) facilities at the existing PNG compressor stations located near the communities of Vanderhoof, Burns Lake and Telkwa, will be replaced by new facilities on the same sites which are expected to be mostly accommodated within the property already owned by PNG for this purpose. Additional property may need to be acquired at certain existing PNG Compressor Stations for this purpose.

Mainline Valves

Mainline valves will be installed at meter stations, compressor stations and at other locations along the route, as necessary to comply with Canadian Standards Association (CSA) Z662-11 and PNG standards, to enable isolation of pipeline sections, and to facilitate system operations.

Supervisory Control and Data Acquisition (SCADA) System

The Project will include the upgrading and operation of the existing SCADA system, linking pipeline and compressor facilities to the Control Centre for the existing system located in Vancouver, BC, which will allow for the remote monitoring of operational and measurement data.

In-Line Inspection Facilities

The Project will have facilities for launching and receiving in-line inspection tools. These tools allow for internal examination of the pipeline to monitor pipe integrity. The in-line inspection facilities are typically installed at the commencement and termination points and other locations such as compressor stations and at mainline valve sites. The facilities generally consist of valves, piping and launchers or receivers, depending on the location. The precise location of these facilities will be determined during detailed design.

Cathodic Protection

Cathodic protection is a common method used to protect the pipeline from electrochemical corrosion. A cathodic protection system, including anode beds, rectifiers and associated facilities, will be designed and installed for the proposed pipeline, compression and metering facilities.

Odorant Injection Facilities

The Project will include the upgrading of odorant injection facilities currently in-place at the Summit Lake meter station where the existing PNG pipeline system takes delivery from Spectra Energy.

Communication Links and Power Supply

The Project will include necessary communication links and power supply to service compressor stations, meter stations and other pipeline facilities. PNG expects that power and communication needs will be met through existing sources.

Operations and Maintenance Activities

Throughout the operating life of the pipeline, various operations and maintenance activities are required to ensure safe operation of the pipeline and facilities. These activities include, but are not limited to:

- monitoring and surveillance using both ground based and aerial methods;
- managing brush and vegetation;
- conducting regular site visits to the pipeline and facilities;
- ensuring pipeline maintenance programs are carried out; and
- maintaining signage.

3.2 Project Schedule

The schedule for the Project is outlined in Table 3-2.

Table 3-2 Project Schedule

		PNG Mainline Loop - 2016 In-Service																											
Task Name		2012				2013				2014				2015				2016				2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Aboriginal, Government, and Stakeholder Engagement						■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Feasibility																													
Feasibility Study (route selection)		■	■	■																									
Cost est and develop plan																													
Approvals																													
Submit Project Description						■	■																						
Route Confirmation/footprint						■	■	■																					
Receive Sect 10 & 11 Orders						■	■	■	■	■	■																		
draft AIR										■	■	■																	
Environmental research										■	■	■	■																
Detailed engineering for permits										■	■	■	■																
Prepare & file EAC Application													◆																
Environmental Assessment Review														■	■	■													
OGC Permit Review														■	■	■													
Regulatory Approvals (EAO/OGC/BCUC)																	◆												
Construction																													
-Pipeline																													
Detailed Engineering, & permitting										■	■	■	■	■	■	■	■												
Bid/ Contracting & Procurement														■	■	■	■	■	■										
Clearing and Right-of-Way Preparation																		■	■										
Pipeline Construction																		■	■	■	■								
-Compression																													
Design and procurement														■	■	■	■	■	■										
Construction																		■	■										
In service																					◆								
Restoration																													
Restoration																						■	■	■	■	■	■	■	■

Task ■ Milestone ◆

Pipeline Right-of-Way

The Project is intended to generally parallel the existing PNG pipeline between Summit Lake and Telkwa as well as between the Lakelse lake area and Kitimat with the pipe located in a new construction easement contiguous with the existing PNG pipeline easement where feasible. Where diversion from the existing alignment is necessary, existing linear disturbances will be followed to the extent practical. For the segment between the area west of Telkwa and Lakelse Lake, the pipeline loop will be located in a new right-of-way abutting existing linear disturbances to the extent practicable. Dimensions of the pipeline construction ROW will vary depending on the ownership, terrain, construction techniques, access, and the extent and nature of existing ROWs being paralleled. Where the project abuts existing linear disturbance easements, requests will be made to the easement holder for permission to use their easement for workspace where practical and safe, to reduce potential new disturbances.

Routing in areas that are not contiguous to the existing PNG pipeline or existing disturbances is considered where it is necessary to:

- achieve the shortest practicable route and therefore smallest overall footprint;
- accommodate pipeline watercourse crossings;
- address Aboriginal, landowner and stakeholder input;
- avoid sensitive terrain and environmental areas; and
- address potential construction issues and requirements.

It is anticipated that the disturbed ROW on level, flat terrain during construction will generally be about 30 to 35 m wide. The actual width will vary along the route taking into account the various terrain conditions encountered. Additional temporary construction workspace will be required at certain locations to facilitate construction and the width of this temporary workspace will vary depending on site characteristics and specific construction activities. In locations where temporary workspace is required, it could range to a width of more than 100 m; however, these wider locations would be localized. Examples of these locations include access roads, potential work camps, side bends, pipe and material storage areas, watercourse crossings, timber decking areas, borrow sites and equipment laydown areas. These areas will be restored and re-vegetated, where appropriate, following construction. These locations and the associated dimensions of necessary extra temporary workspace have not yet been specifically identified.

All areas disturbed by construction will be restored after construction, and a permanent easement maintained for pipeline operations. The final new permanent easement requirements following construction are expected to be 18m or less.

3.3 Project Activities

Subject to receipt of regulatory and Project approvals, construction of the Project is scheduled to commence in the fourth quarter of 2015, with completion of construction and an in-service date in late 2016. PNG proposes to commence pre-construction activities, including ROW clearing and preparation, in late 2015. The current schedule provides for the operations and maintenance phase of the Project to commence once

the Project is in service. Further description of the project activities is provided in the tables and sections below.

Pipeline construction involves several activities that occur sequentially at any one location. These include development of access where necessary, surveying, clearing, soil conservation and grading, drainage and sediment control, pipe stringing, bending and welding, trenching, lowering-in, backfilling, testing, cleanup and post- construction reclamation. The pipeline ROW will be divided into several construction spreads, meaning that there will be multiple construction crews carrying out construction activities at the same time at multiple locations along the construction ROW.

Construction of the compressor stations, meter stations and odorant facilities is expected to commence concurrent with pipeline construction. Site construction and equipment installation at the compressor and meter and odorant stations is expected to take several months.

In addition to the pipeline ROW and associated temporary workspace, lands will be required temporarily for staging and stockpile sites, equipment storage and possibly borrow pits (to supply fill material). Existing disturbed areas or areas already designated for such activities will be utilized wherever feasible.

Reclamation of disturbed areas will commence following construction and be completed after the Project is placed into service.

4 ABORIGINAL ENGAGEMENT

Pursuant to a section 11 order, proponents are assigned certain responsibilities for undertaking procedural aspects of the Crown's duty to consult with potentially impacted First Nations. This includes responsibility to gather information about how First Nations' asserted Aboriginal rights including title may be impacted by their proposed project, and the consideration of ways in which potential project effects to First Nation interests can be avoided or mitigated, or if necessary, accommodated.

Also pursuant to the section 11 order, proponents are assigned certain responsibilities for engaging with treaty First Nations in order to assist the Province to comply with its treaty obligations. This includes responsibility to gather information about how a First Nation's treaty rights, land, citizens and interests may be impacted by the proposed project, and about possible ways in which those impacts can be avoided or mitigated, or if required, accommodated. Two of the potentially affected First Nations, West Moberly and McLeod Lake, are Treaty 8 First Nations.

In compliance with BC Environmental Assessment Office (EAO) requirements, PNG will develop and submit an Aboriginal Consultation Plan for approval by the EAO.

Engagement will be tailored to the individual First Nations involved and may change over time depending on the scope or nature of potential impacts, and the willingness

and ability of First Nations to engage. The goals of the Aboriginal Consultation Plan are to:

- build and maintain positive long-term relationships with Aboriginal groups potentially affected by the Project;
- ensure that Aboriginal community input and concerns are gathered, understood and integrated into Project design and execution as appropriate; and
- ensure that concerns and issues with respect to environmental or socio-economic effects related to Aboriginal communities are addressed, as appropriate.

4.1 Identified Aboriginal Groups

The Project area lies in the asserted traditional territories of 18 First Nations, as identified by a previous project (Pacific Trails Pipeline) and with the addition of two Huwilp of the Gitxsan Hereditary Chiefs and the Kitsumkalum First Nation, whose territories may be affected by the proposed new westerly section of pipeline.

In the event the federal Minister of Environment approves a request for substitution by BC, PNG understands the Project Assessment Lead may direct the company to undertake specific consultation activities with the Métis or organizations representing Métis in BC. The project is not geographically located near a Métis community, therefore it is not anticipated that Métis groups would request consultation.

A description of engagement to date with the Aboriginal groups is included in Section 4.2.

These groups are:

- o Haisla Nation
- o Lax Kw'alaams First Nation
- o Gitxsan Hereditary Chiefs (Duubisxw and Haakasxw Houses)
- o Metlakatla First Nation
- o Kitselas First Nation
- o Kitsumkalum First Nation
- o Stelat'en First Nation
- o Nak'azdli First Nation
- o Nadleh Whut'en First Nation
- o Saik'uz First Nation
- o Wetsuwet'en First Nation (Broman Lake Band)
- o Ts'il Kaz Koh (Burns Lake Band)
- o Skin Tyee Nation
- o Office of the Wet'suwet'en Hereditary Chiefs (on behalf of Moricetown First Nation and Clans in the vicinity of the Project)
- o Nee-Tahi-Buhn First Nation
- o Lheidli T'enneh First Nation
- o McLeod Lake Indian Band

- West Moberly First Nations

Some of these First Nations are independent, while umbrella organizations such as the Carrier Sekani Tribal Council may represent some of the First Nations. These communities will advise the company and the Province how they wish to be represented. The Office of the Wet'suwet'en performs the function of representing the Wet'suwet'en hereditary clans, with the exception of the Unis'tot'en, a group of individuals, who have withdrawn. Of note, the new pipeline alignment to the west of Telkwa is outside an area about which the Unis'tot'en have previously expressed concerns about pipeline development.

Additionally, notification may be undertaken with broader affiliated groups as they may express interests in the outlying area (within 30km) of the Project. These groups may include but are not limited to the following:

- Lake Babine Nation
- Nazko First Nation
- Yekooche First Nation
- Tl'azt'en Nation
- Gitxsan Hereditary Chiefs (outside the area of the two identified Huwilp)
- Gitga'at First Nation

4.2 Aboriginal Engagement

The company has provided the majority of Aboriginal groups along the proposed route with a letter introducing the Project, including a project summary and sketch map. Additionally, PNG presented the project to a meeting of the First Nations Limited Partnership (FNLP) in Vancouver on May 23, 2013. The FNLP is a limited partnership of the 15 First Nations whose traditional territories lie along the transportation corridor between Summit Lake and Kitimat. The partnership represents the pipeline component of the Kitimat LNG Project, formed to secure economic benefits for its limited partners from the Pacific Trail Pipeline (PTP) project.

PNG is in the process of arranging individual meetings with the First Nations in their communities. The purpose of the initial meetings will be to:

- Present information on the project and the company;
- Learn about the First Nation;
- Learn what process for consultation each First Nation is seeking;
- Learn what expectations each First Nation has including capacity funding;
- Initiate understanding of interests and rights, and asserted rights; and
- Generally to assist the First Nations to be meaningfully engaged in consultation with the company and government agencies.

Future meetings will explore involvement in fieldwork and studies, including economic aspects of the project and mutual benefit agreements once the first nations have satisfied themselves that they wish to be associated with the Project.

As PNG has been operating in the project area for over 45 years, the company already has a well-established and mutually respectful relationship with many of the Aboriginal communities.

As discussions with Aboriginal communities continue, there may be some that will determine that they do not have an interest in the Project. Conversely, there may be Aboriginal communities that have not yet been identified that may indicate an interest in the Project. In both cases, the Project will work with the Aboriginal communities and adjust engagement accordingly.

The draft Application Information Requirements (AIR) and eventually aspects of the draft EA Certificate (EAC) Application will be shared with Aboriginal groups and their feedback sought and accommodated to the extent possible. Input from Aboriginal groups will also inform PNG's approach to its regulatory applications.

The potential effects of the Project on Aboriginal communities along the pipeline corridor may include various impacts on the livelihood and use of traditional resources of Aboriginal people in the region. Engagement is in early stages with Aboriginal communities. As dialogue progresses, information will be available to contribute to identifying potential environmental and socio-economic effects, as well as to support a dialogue about effective mitigation and management measures. In addition, PNG will ask Aboriginal groups about traditional ecological knowledge and traditional land use and will fund any appropriate new studies as required.

It is also important to recognize that benefits may accrue as a result of the Project. In addition to employment, contracting and training opportunities that may arise, First Nations communities that are PNG customers will experience significant rate reductions. PNG is the local distribution utility company that for the last 45 years has been providing natural gas to communities between Prince George and Prince Rupert, including Stellaquo IR No. 5, Lake Babine Band IR No. 27, Burns Lake Band IR No. 18, Kitsumkalum IR No. 1, Kulspai IR No. 6, Kitselas IR No. 1 (Gitaus), Necoslie IR No. 1, Sowchea IR No. 3A, Noon-La IR No. 10, Kitamaat Village IR No. 2 and Henderson Ranch IR No. 11. Off-reserve, the general Aboriginal population is as high as 36% in the Burns Lake area. In summary, the Project would be of immediate benefit to Aboriginal communities along the route by markedly reducing their winter heating costs.

PNG will provide updated Aboriginal engagement information as the Project progresses through the environmental assessment process and be transparent in its reporting on any issues and interests that may arise and PNG's initiatives to address these.

5 PUBLIC ENGAGEMENT

5.1 Regional and Municipal Governments Potentially Affected

Regional districts and municipal governments potentially affected by the Project are as follows:

- Fraser-Fort George Regional District

- Bulkley-Nechako Regional District
- Kitimat-Stikine Regional District
- District of Kitimat

Local communities potentially affected by the project include:

- Community of Summit Lake
- City of Prince George
- District of Vanderhoof
- District of Fort St. James
- Village of Fraser Lake
- Village of Burns Lake
- District of Houston
- Village of Telkwa
- Town of Smithers
- Village of Hazelton
- City of Terrace
- District of Kitimat

5.2 Public Engagement Activities Completed To Date

The possibility of a significant project to upgrade PNG's delivery capacity was introduced to the municipal governments potentially affected by the Project in 2013.

Following telephone contacts a Project introduction package was sent out to all potentially affected regional and municipal districts in early June 2013. This same information package was also sent out to all MLA's in the region of the Project.

6. CONCLUSION

PNG is pleased to submit this Executive Summary of the Project Description to initiate the approval process for the PNG Looping Project (PNGL). PNG has a proven track record in dealing honestly and effectively with Aboriginal Communities and Stakeholders on its projects and is well respected in the communities it serves along the pipeline loop. This reputation will ensure that its activities will be carried out in a manner that is respectful of the environment and social values.